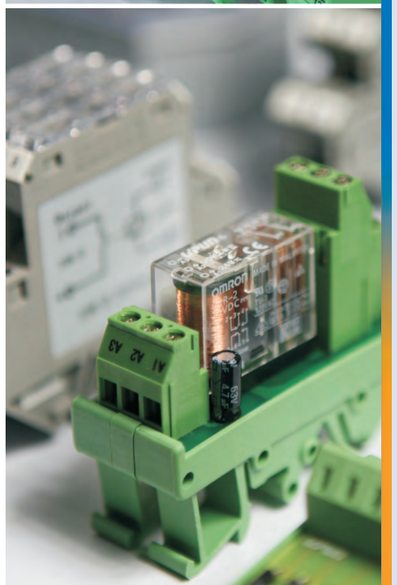
Data and specifications are subject to change without notice.
2016. 08. 08

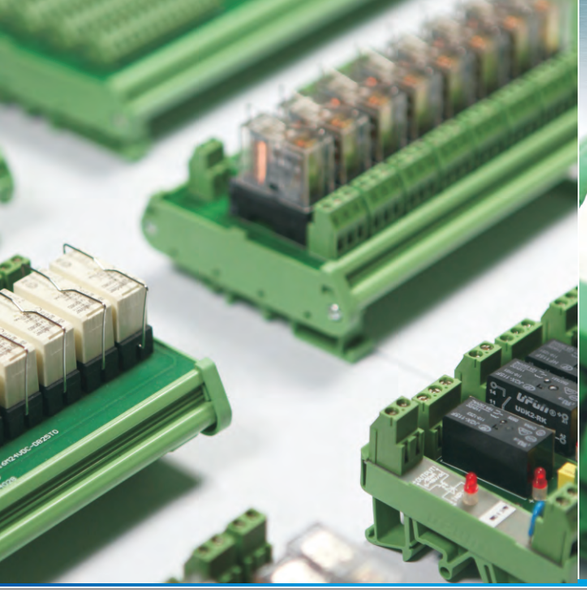


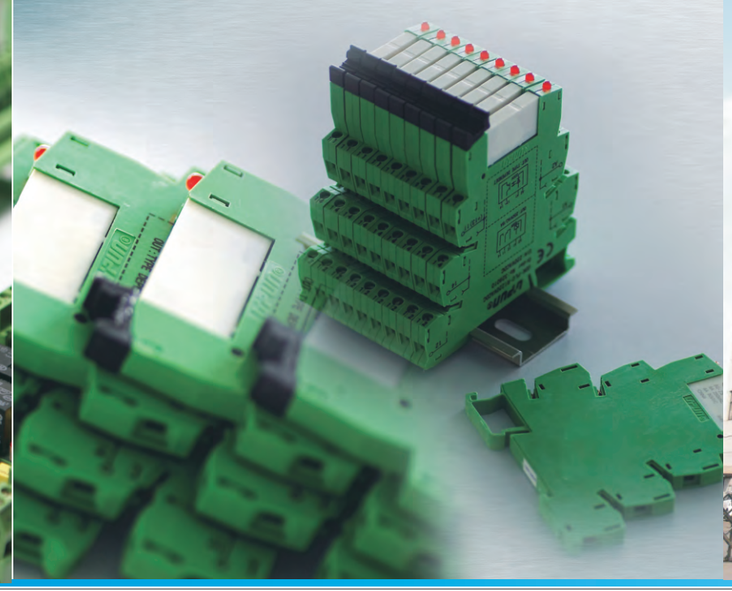




Isolator
Relay module and optocoupler
Switching power supply

SHANGHAI UPUN ELECTRIC GROUP CO., LTD.
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ISO9001	ISO9001 Quality system certification
ISO14001	ISO14001 Environment system certification
RoHS	RoHS certification
CE	CE certification
IECEx	Explosion-proof certification
TUV	TUV certification
	Certification of china classification society
c UL us	UL certification
	TUV certification
CQC	China quality certification
	Certification of international standard product
DVE	VDE certification
INMETRO	INMETRO certification
	Shanghai excellent brand
	Shanghai famous brand

Who we are

Based in Shanghai of China, UPUN started building terminal blocks since 1995, and to date we has grown into one of top world-famous brands in this field.

Besides the traditional terminal blocks business, in recent years UPUN has expanded its product line into industrial automation & control parts such as signal light, push button, signal splitter isolator, optical coupling relay, surge protection device (SPD), switching power supply, etc.

UPUN is one of the first Chinese companies in the industry to pass systems of ISO9001, ISO14001, and we strictly follow these systems in our daily management and production. Most of our products have gained professional certification like CCC, CE, UL, INMETRO, CFE, ROHS, etc.

Our products range has been widely used in many fields like electric transmission & distribution, industry control & automation, etc. We have 800 distributors in China and 30 abroad.

We look forward to cooperate with you!

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Switching power supply

USP Switching power supply	C01-C72

Type no.

U GL □-□/□/□-□/ 2 (HART)

HART: With HART protocol

Output channels
1 or no letter:1-channel
2:2-channel

Input channels
1 or no letter:1-channel
2:2-channel

Power supply
No letter: Loop-powered
S:3-way isolation(24V)
SP:3-way isolation(90-265V)

Output signal
C:Current
V:Voltage
R:Relay
J:Transistor
S:Switching
P:Solenoid driver
RS2:RS232 digital signal
RS4:RS485 digital signal
M:Pneumatic convertor/ valve positioner

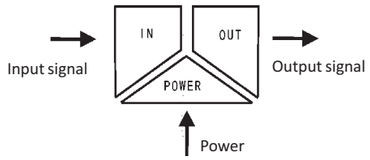
Input signal
C:Current
V:Voltage
F:Frequency
S:Switching
RS232:RS232 digital signal
RS485:RS485 digital signal

Sensor type
E:Economical series of isolator
B:2-wire transducer
B2:2/3-wire transducer
Q:Multi-duplex transducer
H:High voltage

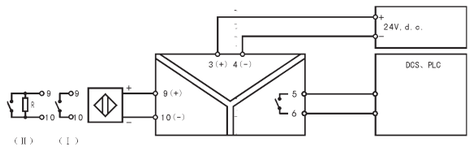
Signal isolator

Company code

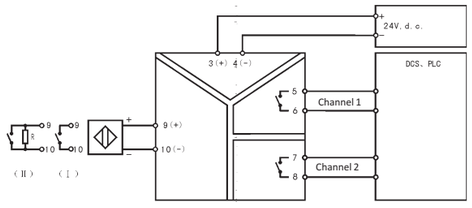
Basic circuit diagram



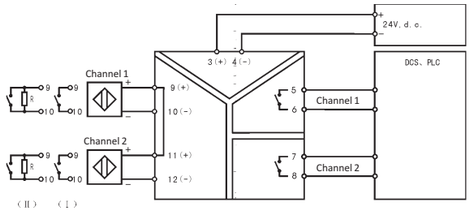
Wiring diagram



UGL-S/R/S



UGL-S/R/S-1/2



UGL-S/R/S-2/2

Isolator
UGL-S/R/S



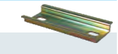
Switching in, relay out

Ordering data	Type	Order no.
	UGL-S/R/S	451042
	UGL-S/R/S-1/2	451046
	UGL-S/R/S-2/2	451043

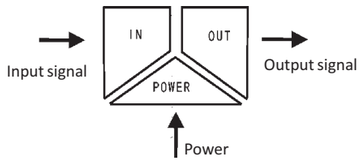
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Output voltage as suppy	≈8V(open)
Short-circuit current	≈8mA
Switching points	Conductive:＞2.1mA The yellow indicator turns on when output relay closed
	Blocking:＜1.2mA
	The yellow indicator turns on when output relay open
Output data	
Relay output	Step response:≤20ms
Max. switching voltage and current	250Vac、2A/30Vdc、2A
Load type	Resistive load
Switching behavior (see the accompanying instructions)	Set K1 and K2
Alarm setting (see the accompanying instructions)	Set K3

General data	UGL-S/R/S	UGL-S/R/S-1/2	UGL-S/R/S-2/2
Supply voltage range	20～35Vdc	20～35Vdc	20～35Vdc
Current consumption(24V)	≤50mA	≤75mA	≤80mA
Test voltage (Input /Output/Supply)	1500Vac/1min		
Insulation resistance (Input /Output/Supply)	≥100MΩ		
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)		
Ambient temperature	-20～+60℃		

Mounting		
TH35 rails 	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

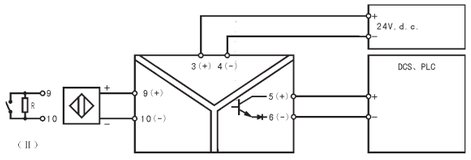


Isolator
UGL-S/J/S

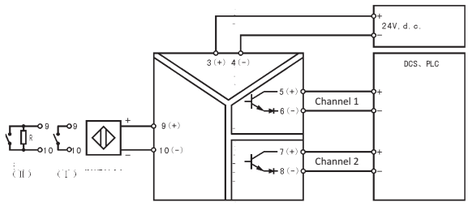


Switching in, transistor out

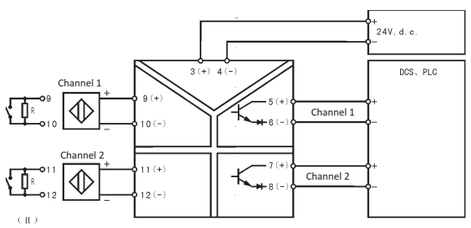
Wiring diagram



UGL-S/J/S



UGL-S/J/S-1/2



UGL-S/J/S-2/2

Ordering data	Type	Order no.
	UGL-S/J/S	451044
	UGL-S/J/S-1/2	451047
	UGL-S/J/S-2/2	451045

Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	UGL-S/J/S	UGL-S/J/S-2/2	UGL-S/J/S-1/2
Input data			
Output voltage as suppy	≈8V		
Short-circuit current	≈8mA		
Switching frequency	≤5KHZ		
Switching points	Conductive:＞2.1mA		
	The yellow indicator turns on		
	Blocking:＜1.2mA		
	The yellow indicator turns on		
Output data			
Switching voltage Vcc	≤40V		
Switching current	≤40mA(short-circuit resistant)		
Collector output(see diagram 1)	Voh:Vcc；Vol：≤2.5V		
Emitter output(see diagram 2)	Voh:Vcc-2.5V；Vol：≤0.5V		
Switching behavior (see the accompanying instructions)	Set K1		
Alarm setting (see the accompanying instructions)	Set K3	Without	

General data	
Supply voltage range	20～35Vdc
Current consumption(24V)	≤40mA
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Application example

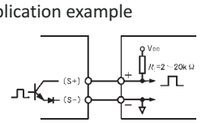


Diagram 1: Collector output

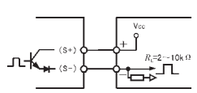
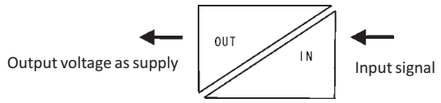


Diagram 2: Emitter output

Basic circuit diagram

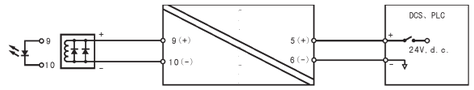


Isolator
UGL-S/P

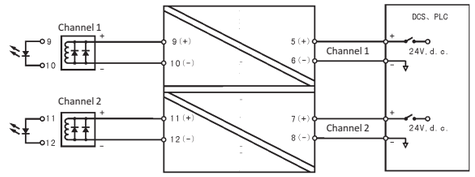


Switching out

Wiring diagram



UGL-S/P



UGL-S/P-2/2

Ordering data	Type	Order no.
	UGL-S/P	451048
	UGL-S/P-2/2	451049

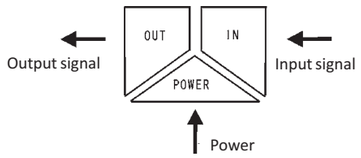
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data		
Input data		
Switching	Closed: power is supplied	
	Open: no power is supplied	
Output data		
Output voltage as supply	22～24V,d.C	
Current	≤45mA	

General data	UGL-S/P	UGL-S/P-2/2
Supply voltage range	20～35Vdc	
Current consumption(24V)	≤80mA	≤160mA
Step response	≤5ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20～+60℃	

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

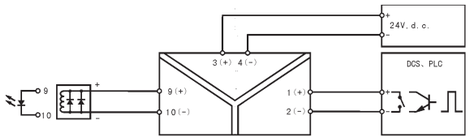


Isolator
UGL-S/P/S



Switching out

Wiring diagram



UGL-S/P/S

Ordering data	Type	Order no.
	UGL-S/P/S	451050

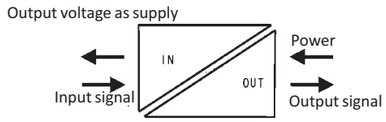
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Switching	Closed/conductive transistor: power is supplied
	Open/blocking transistor: no power is supplied
Output data	
Output voltage as supply	22～24Vdc
Current	≤45mA

General data	
Supply voltage range	20～35Vdc
Current consumption（24V，45mA）	≤85mA
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

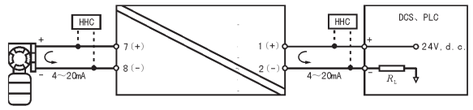


Isolator
UGLB-C/C(HART)

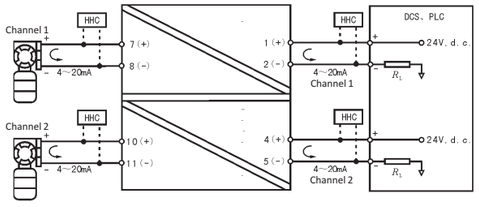


2-wire transducer input

Wiring diagram

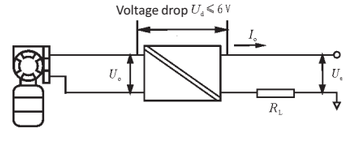


UGLB-C/C(HART)
Bidirectional transmission of digital
HART communication signals is supported



UGLB-C/C-2/2(HART)
Bidirectional transmission of digital
HART communication signals is supported

Transmitter supply voltage



Transmitter supply voltage: $U_o \geq U_e - R_L \times I - U_d$

Ordering data	Type	Order no.
	UGLB-C/C(HART)	451052
	UGLB-C/C-2/2(HART)	451053

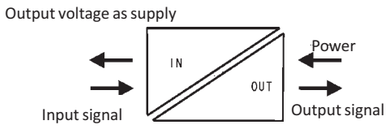
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	4～20mA (digital HART communication signals)
Voltage drop(Ud)	≤6V
Transmitter supply voltage(U_o)	≥Ue-R_L×0.02-6
Output data	
Output current	4～20mA (digital HART communication signals)
Load resistance(R_L)	≥250Ω

General data	
Supply voltage range (Ue)	20～30Vdc.
Transmission error（20℃，4～20mA）	0.4%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268 (IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

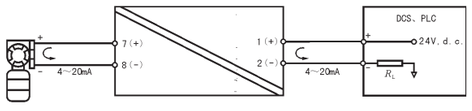


Isolator
UGLB-C/C

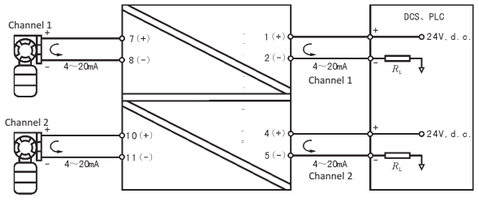


2-wire transducer input

Wiring diagram

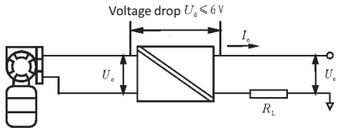


UGLB-C/C



UGLB-C/C-2/2

Transmitter supply voltage



Transmitter supply voltage: $U_o \geqslant U_e - R_L \times I - U_d$

Ordering data	Type	Order no.
	UGLB-C/C	451054
	UGLB-C/C-2/2	451055

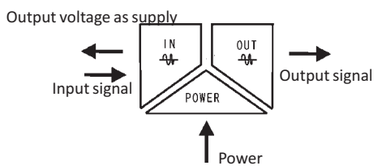
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	4 ~ 20mA
Voltage drop (Ud)	≤6V
Transmitter supply voltage (Uo)	≥Ue-RL×0.02 - 6
Output data	
Output current	4 ~ 20mA

General data	
Supply voltage range (Ue)	20 ~ 30Vdc.
Transmission error（20℃，4～20mA）	0.4%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268 (IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

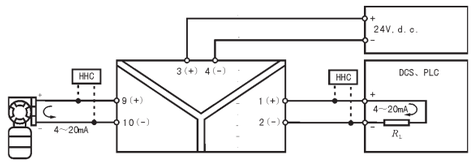


Isolator
UGLB-C/C/S(HART)

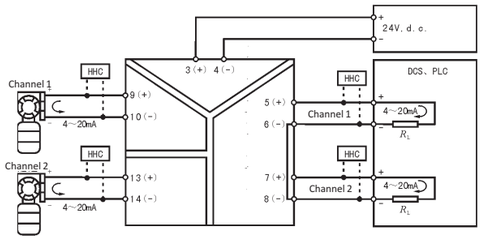


2-wire transducer input

Wiring diagram



UGLB-C/C/S(HART)



UGLB-C/C/S-2/2(HART)

Ordering data	Type	Order no.
	UGLB-C/C/S(HART)	451063
	UGLB-C/C/S-2/2(HART)	451064

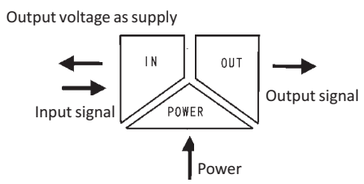
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	UGLB-C/C/S(HART)	UGLB-C/C/S-2/2(HART)
Input data		
Input signal	4～20mA (digital HART communication signals)	
Load resistance(RL)	17.5 ~ 25Vdc	16 ~ 25Vdc
Output data		
Output current	4～20mA (digital HART communication signals)	
Load resistance(RL)	≤800Ω	≤300Ω (550Ω, optional)
Output voltage	1～5V (digital HART communication signals)	
Load resistance(RL)	≥250KΩ	
Load resistance with HART signal(RL)	≥250Ω	

General data		
Supply voltage range(Ue).	20 ~ 35Vdc	
Current consumption（24V，20mA）	≤75mA	≤110mA
Transmission error（20℃，4～20mA）	0.1%F.S.	
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃	
Step response	≤5ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20 ~ +60℃	

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

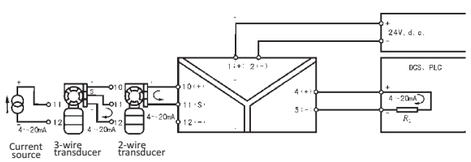


Isolator
UGLB2-C/CV/S

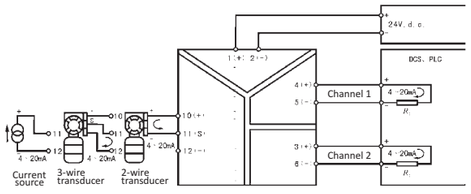


Transducer and current input

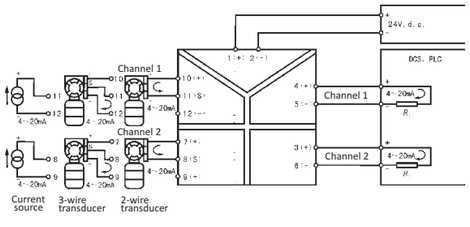
Wiring diagram



UGLB2-C/CV/S



UGLB2-C/CV/S-1/2



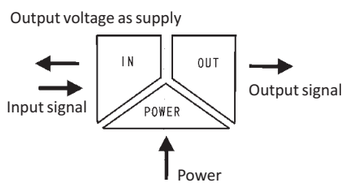
UGLB2-C/CV/S-2/2

Ordering data	Type	Order no.
	UGLB2-C/CV/S	451065
	UGLB2-C/CV/S-1/2	451056
	UGLB2-C/CV/S-2/2	451058

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	UGLB2…/S	UGLB2…/S-1/2	UGLB2…/S-2/2
Input data			
Current	4 ~ 20mA ; 0 ~ 20mA		
Output voltage as supply	17.5 ~ 25V		
Output data			
Output current	4 ~ 20mA ; 0 ~ 20mA		
Load resistance（RL）	≤800Ω	≤300Ω	≤300Ω
		500Ω, optional	500Ω, optional
Output voltage	1 ~ 5V;0 ~ 5V		
Load resistance（RL）	≥250KΩ		
General data			
Supply voltage range	20 ~ 30Vdc.		
Current consumption（24V，20mA）	≤70mA	≤90mA	≤110mA
Transmission error（20℃，4～20mA）	0.1%F.S		
Temperature coefficient（-20~+60℃）	0.05%F.S./10℃		
Step response	≤5ms		
Test voltage (Input /Output/Supply)	1500Vac;1min		
Insulation resistance (Input /Output/Supply)	≥100MΩ		
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)		
Ambient temperature	-20 ~ +60℃		
Mounting			
TH35 rails	TH35 -7.5	102001	
	TH35 -15	102005	

Basic circuit diagram

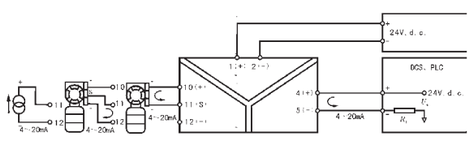


Isolator
UGLB2-C/C/O

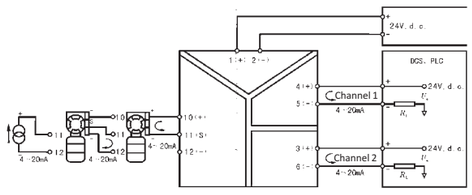


Transducer input,
output loop-powered

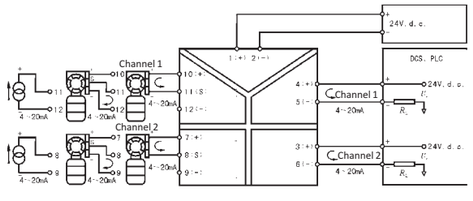
Wiring diagram



UGLB2-C/C/O



UGLB2-C/C/O-1/2



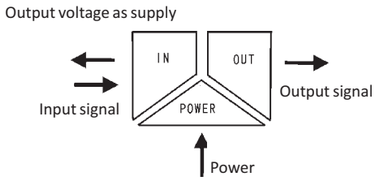
UGLB2-C/C/O-2/2

Ordering data	Type	Order no.
	UGLB2-C/C/O	451066
	UGLB2-C/C/O-1/2	451057
	UGLB2-C/C/O-2/2	451059

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data			
Input data			
Input signal	4 ~ 20mA ; 0 ~ 20mA		
Output voltage as supply	17.5 ~ 25V		
Output data			
Output current(I_o)	4 ~ 20mA ; 0 ~ 20mA		
Output loop-powered (Ue)	12 ~ 30V		
Voltage drop(U_d)	≤5V		
Load resistance(R_L)	≤(Ue-5)/0.02		
General data	UGLB2-C/C/O	UGLB2-C/C/O-1/2	UGLB2-C/C/O-2/2
Supply voltage range	20 ~ 35Vdc		
Current consumption（24V，20mAI	≤40mA	≤45mA	≤80mA
Transmission error（20℃，4～20mA）	0.1%F.S.		
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃		
Step response	≤5ms		
Test voltage (Input /Output/Supply)	1500Vac;1min		
Insulation resistance (Input /Output/Supply)	≥100MΩ		
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)		
Ambient temperature	-20 ~ +60℃		
Mounting			
TH35 rails	TH35 -7.5	102001	
	TH35 -15	102005	

Basic circuit diagram

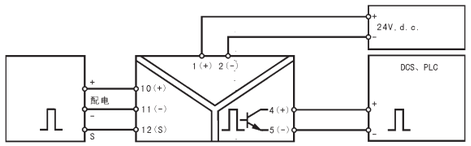


Isolator
UGL-F/J/S

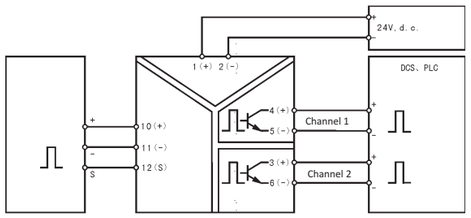


Frequency input

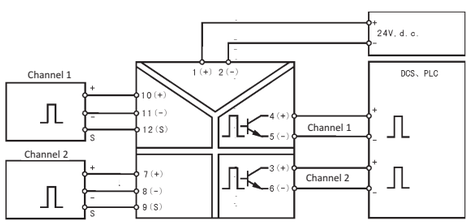
Wiring diagram



UGL-F/J/S



UGL-F/J/S-1/2



UG-F/J/S-2/2

Ordering data	Type	Order no.
	UGL-F/J/S	451067
	UGL-F/J/S-1/2	451069
	UGL-F/J/S-2/2	451068

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	V_H:≥24V:V_L:≤1V
Frequency range	≤10KHZ,Amplitude≤12V,Duty ratio≥30%
Output voltage as supply (Please indicate when ordering)	5V,12V,24V,or without
Current	≤20mA
Output data	
Switching voltage V_{CC}	≤30V
Switching current	≤10mA
Collector output(see diagram 1)	V_H:Vcc;V_L:≤2.5V
Emitter output(see diagram 2)	V_H:Vcc-2.5V;V_L:≤0.5V
Level signal output(see diagram 3)	V_H:4.5V≤V_H≤12V;V_L≤0.5V
Load resistance(RL)	≥1kΩ

General data	UGL-F/J/S	UGL-F/J/S-1/2	UGL-F/J/S-2/2
Supply voltage range	20 ~ 35Vdc.		
Current consumption （24V)	≤25mA	≤40mA	≤35mA
Test voltage (Input /Output/Supply)	1500Vac;lmin		
Insulation resistance (Input /Output/Supply)	≥100MΩ		
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)		
Ambient temperature	-20～+60℃		

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Application example

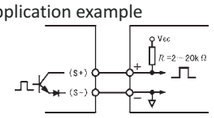


Diagram 1: Collector output

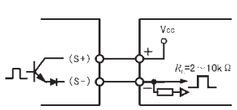


Diagram 2: Emitter output

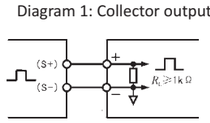
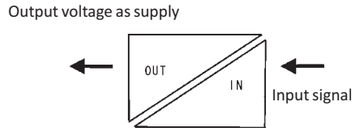


Diagram 3: Level signal output

Basic circuit diagram

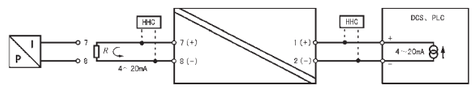


Isolator
UGL-C/CM(HART)

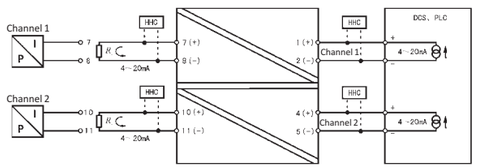


Current output

Wiring diagram

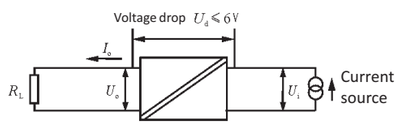


UGL-C/CM(HART)



UGL-C/CM-2/2(HART)

Load resistance



Load resistance: $R_L \leqslant (U_i - U_d) / I_o$

Ordering data	Type	Order no.
	UGL-C/CM(HART)	451073
	UGL-C/CM-2/2(HART)	451074

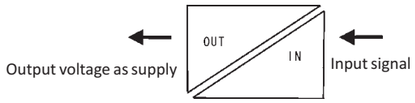
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input signal	4 ~ 20mA
	Bidirectional transmission of digital HART communication signals
Output data	
Output signal(I_o)	4～20mA (digital HART communication signals)
Load resistance(R_L)	≤(Ui-6)/0.02
Load resistance(R_L)	≥250Ω

General data	
Transmission error(20℃,4～20mA)	0.2% F.S.
Temperature coefficient(-20～+60℃)	0.05% F.S/10℃
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

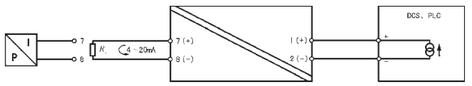


Isolator
UGL-C/CM

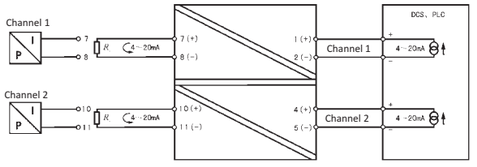


Current output

Wiring diagram

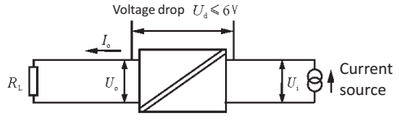


UGL-C/CM



UGL-C/CM-2/2

Load resistance



Load resistance: $R_L \leqslant (U_i - U_d) / I_o$

Ordering data	Type	Order no.
	UGL-C/CM	451075
	UGL-C/CM-2/2	451076

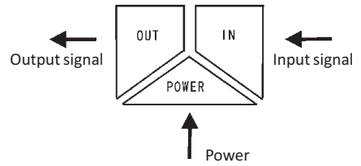
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input signal	4 ~ 20mA
Output data	
Output signal(IO)	4 ~ 20mA
Load resistance(RL)	≤(Ui-6)/0.02

General data	
Transmission error(20℃,4～20mA)	0.2% F.S.
Temperature coefficient(-20～+60℃)	0.05% F.S/10℃
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

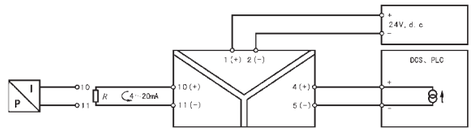


Isolator
UGL-C/CM/S

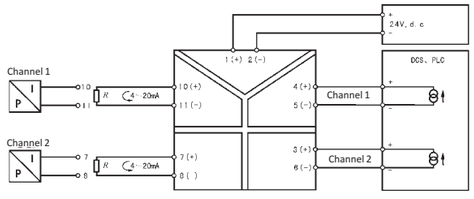


Current output

Wiring diagram



UGL-C/CM/S



UGL-C/CM/S-2/2

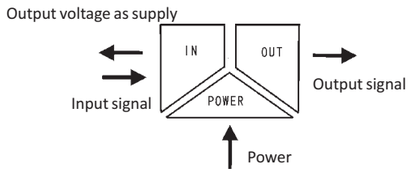
Ordering data	Type	Order no.
	UGL-C/CM/S	451081
	UGL-C/CM/S-2/2	451060

Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data		
Input data		
Input signal	4 ~ 20mA;0 ~ 20mA	
Input impedance	≤50Ω	
Output data		
Output signal	4 ~ 20mA;0 ~ 20mA	
Load resistance(RL)	≤680Ω	
General data	UGL-C/CM/S	UGL-C/CM/S-2/2
Supply voltage range(Ue)	20 ~ 35Vdc.	
Current consumption(24V,20mA)	≤40mA	≤70mA
Transmission error(20℃,4～20mA)	0.1% F.S	
Temperature coefficient(-20～+60℃)	0.05% F.S/10℃	
Step response	≤5ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC61326-1)	
Ambient temperature	-20 ~ +60℃	

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

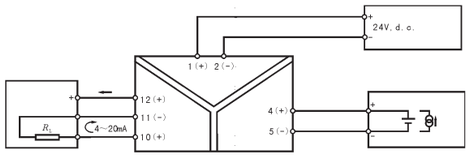


Isolator
UGL-VC/CV/S

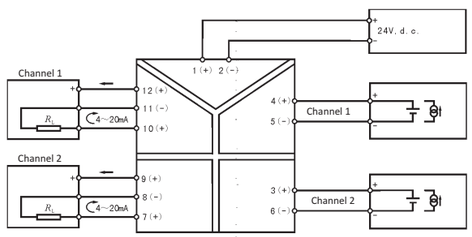


Multi-signal input/output

Wiring diagram



UGL-VC/CV/S



UGL-VC/CV/S-2/2

Input/output signal

Input signal	Output signal
0~10V	0~20mA
0~10V	0~10V
0~10V	0~5V
0~5V	0~20mA
0~5V	0~10V
0~5V	0~5V
0~20mA	0~20mA
0~20mA	0~5V
0~20mA	0~10V

Note: Other specifications , please contact us.

Ordering data

Type	Order no.
UGL-VC/CV/S	451098
UGL-VC/CV/S-2/2	451099

Dimension

Width/Thickness/Depth	99/17.5/114mm

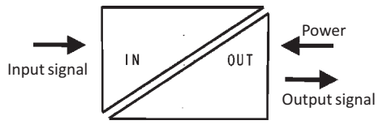
Technical data

	UGL-VC/CV/S	UGL-VC/CV/S
Input data		
Input signal	See left-hand table	
Input impedance	≥1MΩ	
Current	0 ~ 20mA	
Output data		
Output voltage	See left-hand table	
Load resistance（RL）, voltage output	RL≥10KΩ	
Output current	See left-hand table	
Load resistance（RL）, current output	RL≤550Ω	RL≤300Ω
		550Ω， optional
Output voltage as supply	10V，50mA;15V,50mA	
General data		
Supply voltage range(Ue)	20 ~ 30Vdc	
Current consumption（24V,50mA）	≤110mA	
Transmission error（20℃）	0.1%F.S.	
Temperature coefficient（-20~+60℃）	0.01%F.S./10℃	
Step response	≤100ms	
Test voltage (Input /Output/Supply)	1500Vac.;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20 ~ +60℃	

Mounting

TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

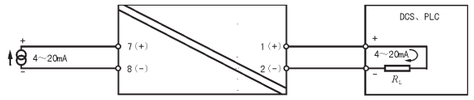


Isolator
UGL-C/C

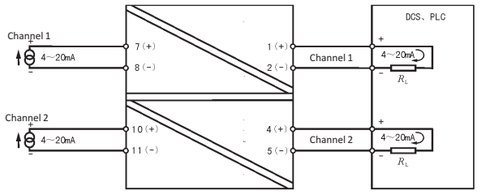


Current input

Wiring diagram

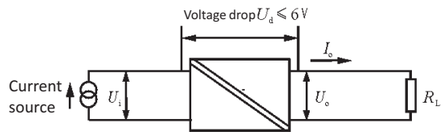


UGL-C/C



UGL-C/C-2/2

Load resistance



Load resistance: $R_L \leqslant (U_i - U_d) / I_o$

Ordering data

Type	Order no.
UGL-C/C	451077
UGL-C/C-2/2	451078

Dimension

Width/Thickness/Depth	99/17.5/114mm

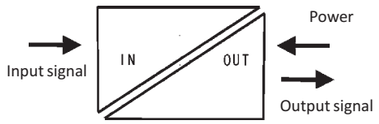
Technical data

Input data	
Current	4 ~ 20mA
Output data	
Output current（I_o）	4 ~ 20mA
Voltage drop（Ud）	
Load resistance(RL)	≤(Ui-6)/0.02
General data	
Supply voltage range (Ue)	20 ~ 30Vdc
Transmission error（20℃，4~20mA）	0.2%F.S
Temperature coefficient（-20~+60℃）	0.1%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting

TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

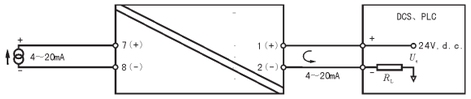


Isolator
UGLH-C/C



Current input

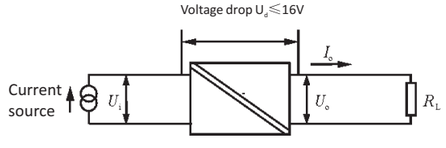
Wiring diagram



UGLH-C/C

UGLH-C/C-2/2

Load resistance



Load resistance: $R_L \leqslant (U_i - U_d) / I_o$

Ordering data	Type	Order no.
	UGLH-C/C	451079
	UGLH-C/C-2/2	451080

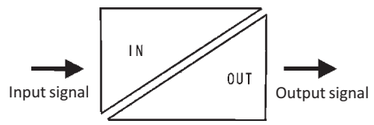
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Current	4 ~ 20mA、0 ~ 20mA
Output data	
Output current（IO）	4 ~ 20mA
Voltage drop（Ud)	≤16V
Load resistance（RL）	≤(Ue-16)/0.02

General data	
Supply voltage range(Ue)	20 ~ 30Vdc
Transmission error（20℃，4~20mA）	0.2%F.S
Temperature coefficient（-20~+60℃）	0.1%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

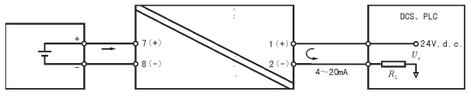


Isolator
UGL-V/C



Voltage input

Wiring diagram



UGL-V/C

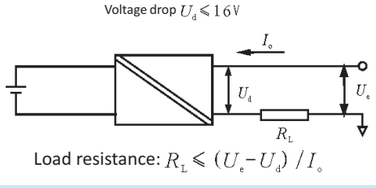
UGL-V/C-2/2

Input/output signal

Input signal	Output signal
0~5V	4~20mA
0~10V	4~20mA
1~5V	4~20mA

Note: Other specifications , please contact us.

Load resistance



Load resistance: $R_L \leqslant (U_e - U_d) / I_o$

Ordering data	Type	Order no.
	UGL-V/C	451096
	UGL-V/C-2/2	451097

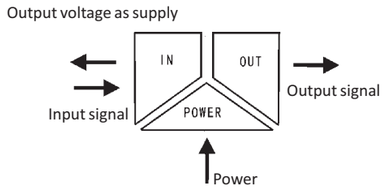
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	See left-hand table
Input impedance	≥20KΩ
Output data	
Output current（I_o）	See left-hand table
Voltage drop（U_d）	≤16V
Load resistance(R_L)	≤(Ui-16)/0.02

General data	UGL-V/C	UGL-V/C-2/2
Supply voltage range (Ue)	20 ~ 30Vdc	
Transmission error（20℃，4~20mA）	0.1%F.S.	
Temperature coefficient（-20~+60℃）	0.05%F.S./10℃	0.1%F.S./10℃
Step response	≤5ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20 ~ +60℃	

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

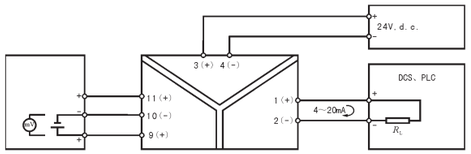


Isolator
UGL-V/C/S



Voltage input

Wiring diagram



UGL-V/C/S

Input/output signal

Input signal	Output signal
0 ~ 60mV	4 ~ 20mA
0 ~ 100mV	4 ~ 20mA
0 ~ 500mV	4 ~ 20mA
0 ~ 1V	4 ~ 20mA
0 ~ 2V	4 ~ 20mA

Note: Other specifications , please contact us.

Ordering data	Type	Order no.
	UGL-V/C/S	451094

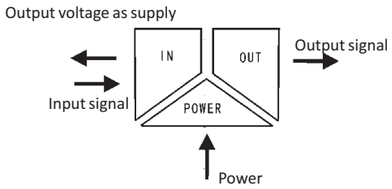
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input voltage	See left-hand table
	Min input impedance: 300K Ω
Output voltage as supply (Please indicate when ordering)	5V、12V、24V、without
Current	≤50mA
Output data	
Output power supply	4 ~ 20mA
	RL≤550Ω
Output voltage	1 ~ 5V
	RL≥10KΩ

General data	
Supply voltage range	20 ~ 35Vdc.
Current consumption（24V，20mA）	≤100mA(5V,50mA)
Transmission error(20℃,4～20mA)	0.1%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

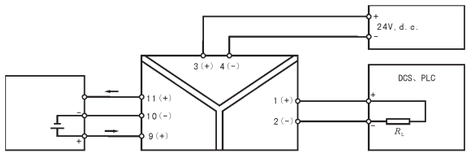


Isolator
UGL-V/CV/S

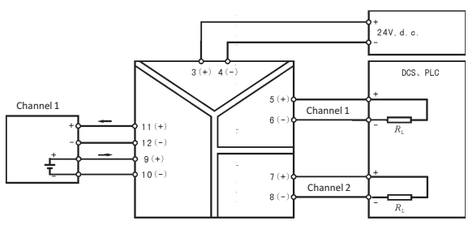


Voltage input

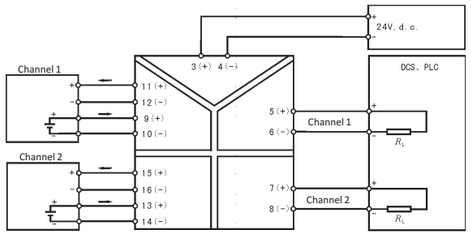
Wiring diagram



UGL-V/CV/S



UGL-V/CV/S-1/2



UGL-V/CV/S-2/2

Ordering data	Type	Order no.
	UGL-V/CV/S	451095
	UGL-V/CV/S-1/2	451101
	UGL-V/CV/S-2/2	451100

Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input signal	See the table
Input impedance	≥300KΩ
Output voltage as supply (Please indicate when ordering)	5V，12，24，Without
Current	≤50mA
Output data	
Output current	See the table
Load resistance(RL)	≤550Ω
Output voltage	See the table
Load resistance(RL)	≥10KΩ

General data	UGL-V/CV/S	UGL-V/CV/S-1/2	UGL-V/CV/S-2/2
Supply voltage range（Ue）	20 ~ 35Vdc		
Current consumption（24V，50mA）	≤110mA	≤110mA	≤140mA
	(Each channel)		
Transmission error（20℃）	0.1%F.S.		
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃		
Step response	≤5mS	≤100mS	≤100mS
Test voltage (Input /Output/Supply)	1500Vac;1min		
Insulation resistance (Input /Output/Supply)	≥100MΩ		
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)		
Ambient temperature	-20 ~ +60℃		

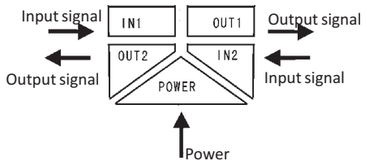
Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Input/output signal

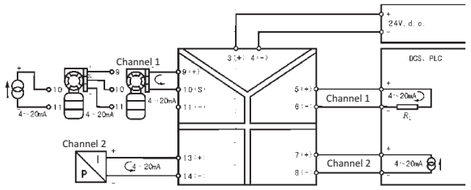
Input signal	Output signal
0 ~ 10V	0 ~ 20mA
0 ~ 10V	0 ~ 10V
0 ~ 10V	0 ~ 5V
0 ~ 10V	4 ~ 20mA
0 ~ 5V	0 ~ 20mA
0 ~ 5V	0 ~ 10V
0 ~ 5V	0 ~ 5V
1 ~ 5V	4 ~ 20mA
1 ~ 5V	1 ~ 5V

Note: Other specifications , please contact us.

Basic circuit diagram



Wiring diagram



UGLB-C/CM/S

Isolator
UGLB-C/CM/S



Current input, multi-signal output

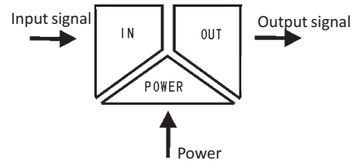
Ordering data	Type	Order no.
	UGLB-C/CM/S	451061

Dimension	
Width/Thickness/Depth	99/22.5/114mm

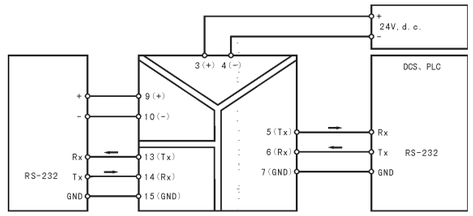
Technical data	
Input (channel 1)	
Current	4 ~ 20mA ; 0 ~ 20mA
Output voltage as supply	17.5 ~ 25V
Output (channel 1)	
Current	4 ~ 20mA ; 0 ~ 20mA
Load resistance（RL）	≤550Ω
Output voltage	1 ~ 5V ; 0 ~ 5V
Load resistance（RL）	≥10KΩ
Input (channel 2)	
Current	4 ~ 20mA ; 0 ~ 20mA
Input impedance	≤50Ω
Output (channel 2)	
Current	4 ~ 20mA ; 0 ~ 20mA
Load resistance（RL）	≤680Ω
General data	
Supply voltage range	20 ~ 35Vdc
Current consumption（24V，20mA）	≤100mA
Transmission error（20℃,4～20mA）	0.1%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram



Wiring diagram



UGL-RS232/R2/S

Isolator
UGL-RS232/R2/S



RS-232 Output

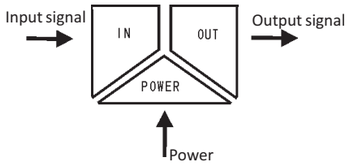
Ordering data	Type	Order no.
	UGL-RS232/R2/S	451103

Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input signal	RS-232 Digital signal
Power supply	5V，6V，I≤100mA
(Customised)	8V，9V,12V，I≤50mA
	无配电
Output data	
Output signal	RS-232 Digital signal
Signal feature	RS-232
	Signal level: Logic level
	Transmission delay：≤10 u S
	Data transmission rate：≤56kbps
General data	
Supply voltage range	20 ~ 35Vdc
Current consumption（24V，6V，100mA）	≤120mA
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	0.05%F.S./10℃
Electromagnetic compatibility	≥100MΩ
Ambient temperature	GB/T 18268(IEC 61326-1)
	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

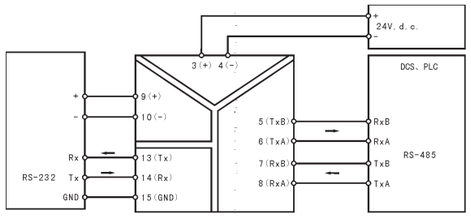


Isolator
UGL-RS232/R4/S



RS-485 Full duplex output

Wiring diagram



UGL-RS232/R4/S

Ordering data	Type	Order no.
	UGL-RS232/R4/S	451106

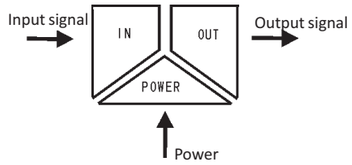
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input signal	RS-232 Digital signal
Power supply	5V，6V，I≤100mA
（Customised）	8V，9V,12V，I≤50mA
	Without output voltage as supply
Output data	
Output signal	RS-485 Full duplex digital signal
Signal feature	RS-485
	Signal level: Differential level
	Transmission delay：≤10 u S
	Data transmission rate：≤56kbps

General data	
Supply voltage range	20 ~ 35Vdc
Current consumption（24V，6V，100mA）	≤120mA
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	0.05%F.S./10℃
Electromagnetic compatibility	≥100MΩ
Ambient temperature	GB/T 18268(IEC 61326-1)
	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

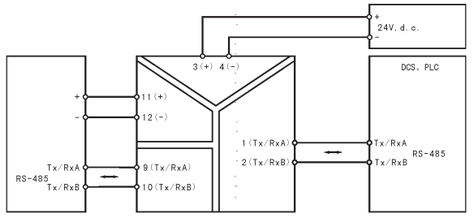


Isolator
UGL-RS485/R4/S



RS-485 Half duplex output

Wiring diagram



UGL-RS485/R4/S

Ordering data	Type	Order no.
	UGL-RS485/R4/S	451104

Dimension	
Width/Thickness/Depth	99/22.5/114mm

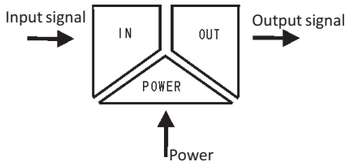
Technical data	
Input data	
Input signal	RS-485 Half duplex digital signal
Power supply	5V、6V，I≤100mA
(Customised)	8V，9V,12V，I≤50mA
	Without output voltage as supply
Output data	
Output signal	RS-485 Half duplex digital signal
Signal feature	RS-485
	Signal level: Differential level
	Transmission delay：≤10 u S
	Data transmission rate：≤56kbps

General data	
Supply voltage range	12 ~ 35Vdc
Current consumption（220Vac, 20mA）	≤100mA
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Isolator UGL-RS485/R2/S

Basic circuit diagram

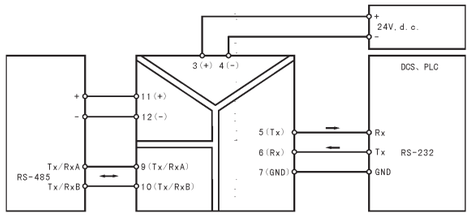


Isolator
UGL-RS485/R2/S



RS-232 Output

Wiring diagram



UGL-RS485/R2/S

Ordering data	Type	Order no.
	UGL-RS485/R2/S	451107

Dimension	
Width/Thickness/Depth	99/22.5/114mm

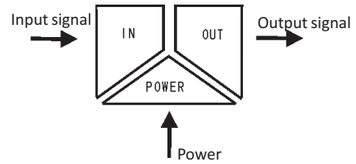
Technical data	
Input data	
Input signal	RS-485 Half duplex digital signal
Power supply	5V、6V，I≤100mA
（Customised）	8V，9V,12V，I≤50mA
	Without output voltage as supply
Output data	
Output signal	RS-232 Digital signal
Signal feature	RS-232
	Signal level: Differential level
	Transmission delay：≤10 u S
	Data transmission rate：≤56kbps

General data	
Supply voltage range	12～35Vdc
Current consumption（220Vac.，20mA）	≤100mA
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Isolator UGL-QRS485/R4/S

Basic circuit diagram

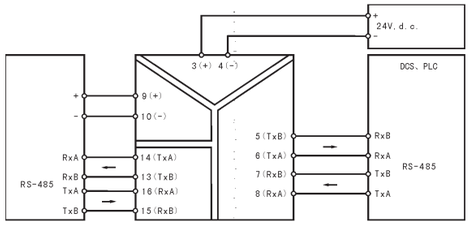


Isolator
UGL-QRS485/R4/S



RS−485 Full duplex output

Wiring diagram



UGLQ-RS485/R4/S

Ordering data	Type	Order no.
	UGLQ-RS485/R4/S	451105

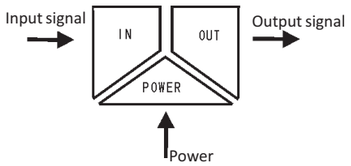
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input signal	RS−485 Full duplex digital signal
Power supply	Voltage：9V±10%
	Current:≤50mA
Output data	
Output signal	RS−485 Full duplex digital signal
Signal feature	RS-485
	Signal level: Differential level
	Transmission delay：≤10 u S
	Data transmission rate：≤56kbps

General data	
Supply voltage range	20～35Vdc
Current consumption(24V,20mA,relay driving）	≤90mA
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

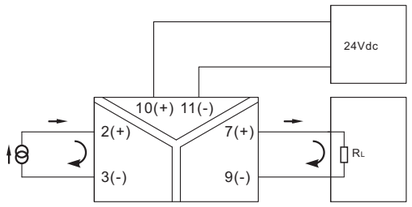
Basic circuit diagram



Isolator
UGLE-VC/VC/S 0-20mA 0-20mA



Wiring diagram



UGLE-VC/VC/S

Ordering data

Type	Order no.
UGLE-VC/VC/S 0-20mA 0-20mA	451118

Dimension	
Width/Thickness/Depth	99/17.5/114mm

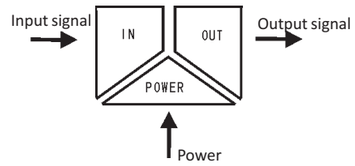
Technical data	
Input data	
Input signal	0-20mA
Input impedance	≤100Ω
Output data	
Output signal	0-20mA
Load resistance	RL≤300Ω

General data	
Supply voltage range	24Vdc±10%.
Current consumption（24V）	≤60mA
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤100ms
Test voltage (Input /Output/Supply)	1000Vac.;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting

TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

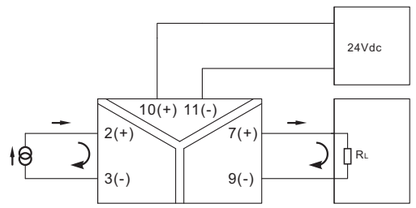
Basic circuit diagram



Isolator
UGLE-VC/VC/S 4-20mA 4-20mA



Wiring diagram



UGLE-VC/VC/S

Ordering data

Type	Order no.
UGLE-VC/VC/S 4-20mA 4-20mA	451119

Dimension	
Width/Thickness/Depth	99/17.5/114mm

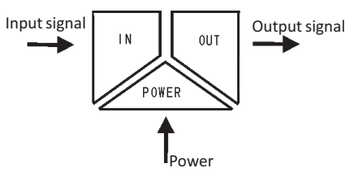
Technical data	
Input data	
Input signal	4-20mA
Input impedance	≤100Ω
Output data	
Output signal	4-20mA
Load resistance	RL≤300Ω

General data	
Supply voltage range	24Vdc±10%.
Current consumption (24V)	≤60mA
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤100ms
Test voltage (Input /Output/Supply)	1000Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting

TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

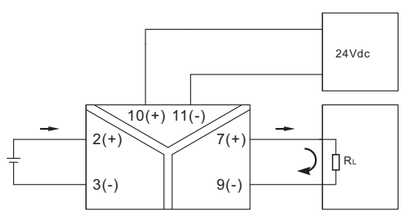
Basic circuit diagram



Isolator
UGLE-VC/VC/S 0-10V 4-20mA



Wiring diagram



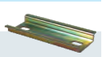
UGLE-VC/VC/S

Ordering data	Type	Order no.
	UGLE-VC/VC/S 0-10V 4-20mA	451120

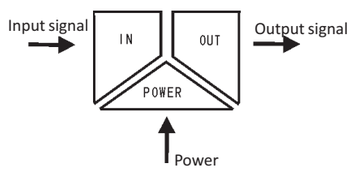
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	0-10V
Input impedance	≥1MΩ
Output data	
Output signal	4-20mA
Load resistance	RL≤300Ω

General data	
Supply voltage range	24Vdc±10%.
Current consumption（24V）	⩽60mA
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	⩽100ms
Test voltage (Input /Output/Supply)	1000Vac.;1min
Insulation resistance (Input /Output/Supply)	⩾100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails		TH35 -7.5 102001
		TH35 -15 102005

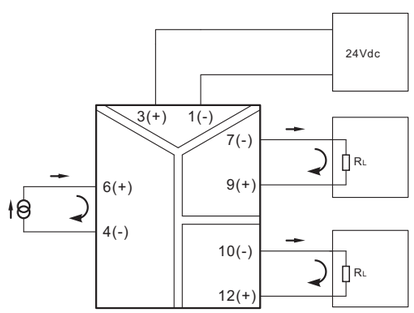
Basic circuit diagram



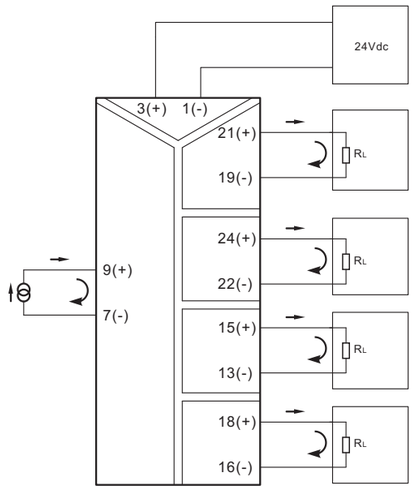
Isolator
UGLE-VC/VC/S



Wiring diagram



UGLE-VC/VC/S-1/2



UGLE-VC/VC/S-1/4

Input/output signal

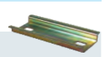
Input signal	Output signal
4～20mA	4～20mA
0～10V	4～20mA

Ordering data	Type	Order no.
	UGLE-VC/VC/S-1/2 4-20mA 4-20mA	451124
	UGLE-VC/VC/S-1/4 4-20mA 4-20mA	451141

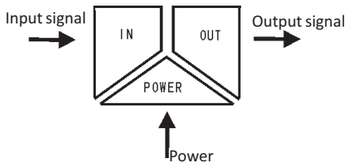
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	See left-hand table
I input impedance	≤100Ω
U input impedance	≥1MΩ
Output data	
Output signal	4-20mA
Load resistance	RL≤300Ω

General data	
Supply voltage range	24Vdc±10%.
Current consumption(24V)	⩽60mA
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	⩽100ms
Test voltage (Input /Output/Supply)	1000Vac;1min
Insulation resistance (Input /Output/Supply)	⩾100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails		TH35 -7.5 102001
		TH35 -15 102005

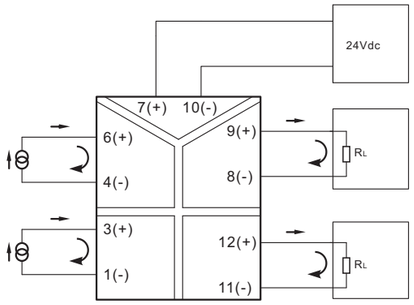
Basic circuit diagram



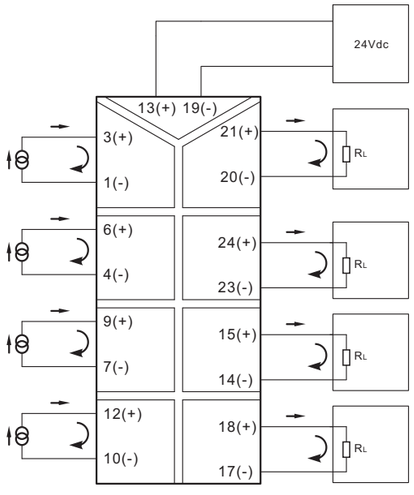
Isolator
UGLE-VC/VC/S



Wiring diagram



UGLE-VC/VC/S-2/2



UGLE-VC/VC/S-4/4

Input/output signal

Input signal	Output signal
4～20mA	4～20mA
0～10V	4～20mA

Ordering data	Type	Order no.
	UGLE-VC/VC/S-2/2 4-20mA 4-20mA	451125
	UGLE-VC/VC/S-4/4 4-20mA 4-20mA	451142

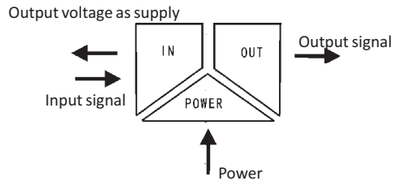
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	See left-hand table
I input impedance	≤100Ω
U input impedance	≥1MΩ
Output data	
Output signal	4-20mA
Load resistance	RL≤300Ω

General data	
Supply voltage range	24Vdc±10%.
Current consumption（24V）	≤60mA
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤100ms
Test voltage (Input /Output/Supply)	1000Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

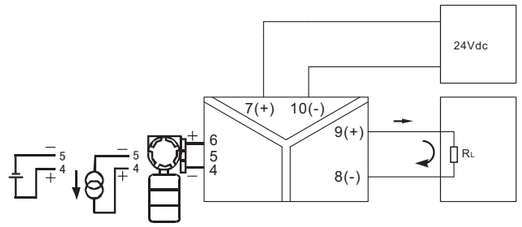
Basic circuit diagram



Isolator
UGLE-VCP/VC/S



Wiring diagram



UGLE-VCP/VC/S

Input/output signal

Input signal	Output signal
0～20mA	0～10V
4～20mA	4～20mA
0～10V	0～20mA
0～10V	0～10V

Note: Other specifications , please contact us.

Ordering data	Type	Order no.
	UGLE-VCP/VC/S	451126

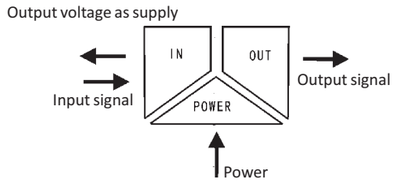
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Input signal	See left-hand table
Output voltage as supply	18.5-28.5V
Output data	
Output signal	See left-hand table
I load resistance	RL≤300Ω
U load resistance	RL≥500KΩ

General data	
Supply voltage range	24Vdc±10%.
Current consumption(24V)	≤130mA
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤100ms
Test voltage (Input /Output/Supply)	1000Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

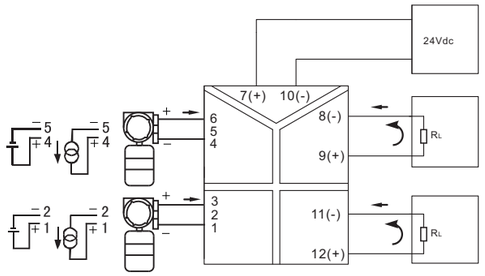
Basic circuit diagram



Isolator
UGLE-VCP/VC/S-2/2



Wiring diagram



UGLE-VCP/VC/S-2/2

Input/output signal

Input signal	Output signal
0～20mA	0～10V
4～20mA	4～20mA
0～10V	0～20mA
0～10V	0～10V

Note: Other specifications , please contact us.

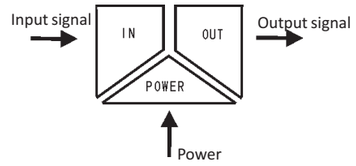
Ordering data	Type	Order no.
	UGLE-VCP/VC/S-2/2	451127

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input 1	
Input signal	See left-hand table
Output voltage as supply	18.5-28.5V
Input 2	4-20mA
Input signal	See left-hand table
Output voltage as supply	18.5-28.5V
Output 1	
Output signal	See left-hand table
I load resistance	RL≤300Ω
U load resistance	RL≥500KΩ
General data	
Supply voltage range	24Vdc±10%.
Current consumption（24V）	≤130mA
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤100ms
Test voltage (Input /Output/Supply)	1000Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

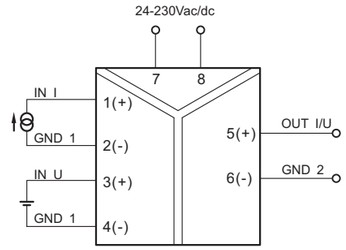
Basic circuit diagram



MINI Isolator
UGLM-VC/CV/S



Wiring diagram



UGLM-VC/CV/S

Input/output signal

Default	Range		DIP S1			DIP S2
	Input data		1	2	3	1
	0～10V	0～20mA	OFF	OFF	OFF	Frequency
●	2～10V	4～20mA	OFF	OFF	ON	
	+/-10V	+/-20mA	ON	OFF	OFF	8KHz OFF
	0～5V	0～10mA	OFF	ON	OFF	30Hz ON
	1～5V	2～10mA	OFF	ON	ON	
	+/-5V	+/-10mA	ON	ON	OFF	

	Range		DIP S2				
	Output data		2	3	4	5	6
		0～10V	OFF	OFF	OFF	ON	ON
		2～10V	OFF	OFF	ON	ON	ON
		+/-10V	OFF	ON	OFF	ON	ON
		0～5V	ON	OFF	OFF	ON	ON
		1～5V	ON	OFF	ON	ON	ON
		+/-5V	ON	ON	OFF	ON	ON
		0～20mA	OFF	OFF	OFF	OFF	OFF
●		4～20mA	OFF	OFF	ON	OFF	OFF
		+/-20mA	OFF	ON	OFF	OFF	OFF
		0～10mA	ON	OFF	OFF	OFF	OFF
		2～10mA	ON	OFF	ON	OFF	OFF
		+/-10mA	ON	ON	OFF	OFF	OFF

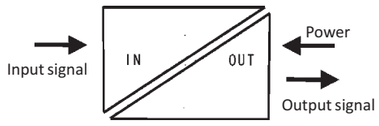
Ordering data	Type	Order no.
	UGLM-VC/CV/S	451128

Dimension	
Width/Thickness/Depth	99/12.5/114mm

Technical data	
Input data	
Input signal	0-20mA/4-20mA/0-10V
	Preset 0-20mA
Maximum input signal Current/Voltage	≈22mA/11V
Maximum input current	≤100mA
I input impedance	25Ω
Maximum input voltage	≤30V
U input impedance	≥1MΩ
Output data	
Output signal	0-20mA/4-20mA/0-10V
	Preset 0-20mA
Maximum output voltage	15V
Maximum output current	35mA
U output impedance	>10KΩ
I output impedance	≤600Ω
General data	
Supply voltage range	24V--220Vac/dc
Current consumption	≤60mA(No-load current)
Transmission error（20℃）	0.2%F.S.
Temperature coefficient（-20～+60℃）	0.01% / K
Frequency range	48-62Hz
Zero adjustment	±15%
Span adjustment	±15%
Step response(10%-90%)	30 μs (bei 8 kHz)
	15 ms (bei 30 Hz)
Ambient temperature	-20～+60℃
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

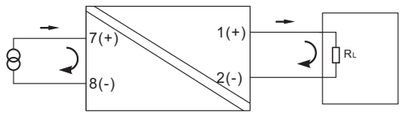


Isolator
UGLE-C/C

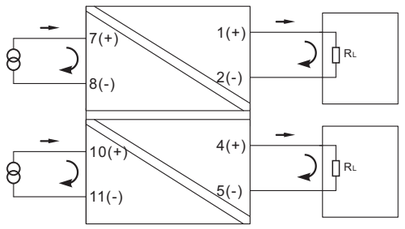


Current input

Wiring diagram

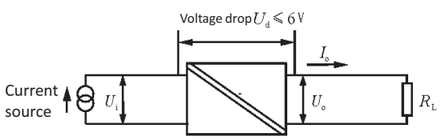


UGLE-C/C



UGLE-C/C-2/2

Load resistance



Load resistance: $R_L \leqslant (U_i - U_d) / I_o$

Ordering data	Type	Order no.
	UGLE-C/C	451129
	UGLE-C/C-2/2	451130

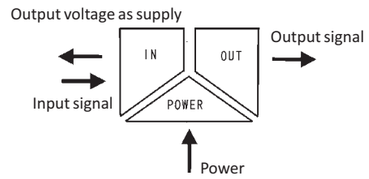
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Current	4 ~ 20mA
Output data	
Output current（IO）	4 ~ 20mA
Voltage drop（Ud）	
Load resistance（RL）	≤(Ui-6)/0.02

General data	
Supply voltage range(Ue)	20 ~ 30Vdc
Transmission error（20℃，4～20mA）	0.2%F.S
Temperature coefficient（-20～+60℃）	0.1%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

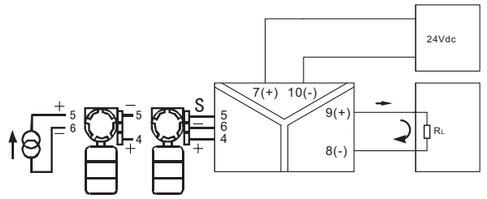


Isolator
UGLBE-C/CV/S

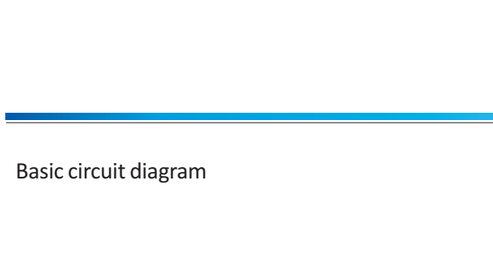


Transducer/current input

Wiring diagram



UGLBE-C/CV/S



UGLBE-C/CV/S-1/2

UGLBE-C/CV/S-2/2

Ordering data	Type	Order no.
	UGLBE-C/CV/S	451136
	UGLBE-C/CV/S-1/2	451145
	UGLBE-C/CV/S-2/2	451137

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Current	4 ~ 20mA ; 0 ~ 20mA
Input signal	17.5 ~ 25V
Output data	
Output current	4 ~ 20mA ; 0 ~ 20mA
Load resistance（R_L）	≤800Ω
Output voltage	1 ~ 5V;0 ~ 5V
Load resistance（R_L）	≥250KΩ

General data	UGLBE-C/CV/S	UGLBE-C/CV/S-2/2
Supply voltage range	20 ~ 30Vdc.	
Current consumption（24V, 20mA）	≤70mA	≤110mA
Transmission error（20℃，4～20mA）	0.1%F.S	
Temperature coefficient（-20~+60℃）	0.05%F.S./10℃	
Step response	≤5ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20 ~ +60℃	

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Transducer

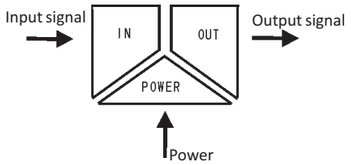


Type no.

U BS □-□/□/□-□/2 (HART)

- HART: With HART protocol
- Output channels
  1 or no letter:1-channel
  2:2-channel
- Input channels
  1 or no letter:1-channel
  2:2-channel
- Power supply
  No letter: Loop-powered
  S:3-way isolation
- Output signal
  C:Current
  V:Voltage
  R:Cold joints
- Input signal
  4TR:4 kinds of resistance thermometers
  8TL:8 kinds of thermocouples
  D:Resistor
- Sensor type
  E:Economical series of transducer
  Z: Smart
- BS: Transducer
- U:Company code

Basic circuit diagram

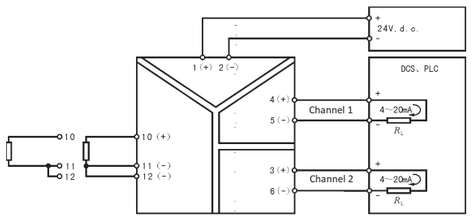


Transducer
UBSZ-4TR/CV/S

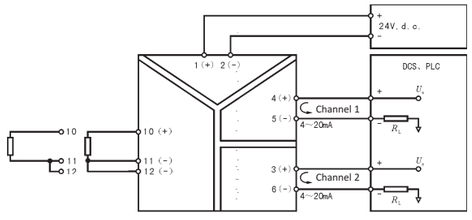


Resistance thermometer input

Wiring diagram



UBSZ-4TR/CV/S-1/2



UBS-4TR/C/S-1/2

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
RTD	PT100	-200～850℃	20℃	0.4℃/0.2%
	PT1000	-200～250℃	20℃	0.6℃/0.3%
	Cu50	-50～150℃	20℃	0.4℃/0.2%
	Cu100	-50～250℃	20℃	0.4℃/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

Ordering data

Type	Order no.
UBSZ-4TR/CV/S-1/2	451088
UBS-4TR/C/S-1/2	451089

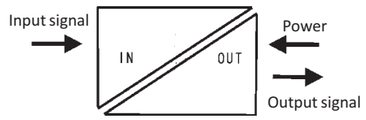
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	UBSZ-4TR/CV/S-1/2	UBS-4TR/C/S-1/2
Input data	Resistance thermometer	
Sensor type and measuring range	See left-hand table, programmable	See left-hand table, please indicate them when ordering
Output data		
Output current	4～20mA ,RL≤550Ω	4～20mA
Output voltage	1～5V,RL≥10KΩ	
Protection cut−off current	IL≤3.5mA, L light is on;	IL≤3mA or IH≥22mA
Output loop-powered voltage	IH≤22mA, H light is on;	12～30V
Voltage drop (Ud)	I≥22mA,L and H lights are on	≤5V
Load resistance (RL)		≤(Uo-5)/0.02

General data		
Supply voltage range	20～35Vdc	
Current consumption（24V, 20mA）	≤85mA	≤55mA
Transmission error(20℃,4～20mA)	See left-hand table	
Temperature coefficient（-10～+60℃）	0.05%F.S./10℃	
Step response	≤5ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20～+60℃	

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

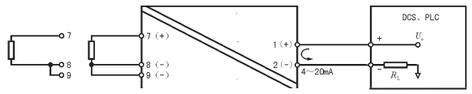


Transducer
UBSZ-4TR/C

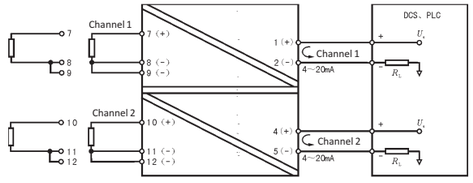


Resistance thermometer input

Wiring diagram



UBSZ-4TR/C



UBSZ-4TR/C-2/2

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
RTD	PT100	-200～850℃	20℃	0.4℃/0.2%
	PT1000	-200～250℃	20℃	0.6℃/0.3%
	Cu50	-50～150℃	20℃	0.4℃/0.2%
	Cu100	-50～250℃	20℃	0.4℃/0.2%
Resistance		20～400Ω	20Ω	0.2Ω/0.2%
		20～2000Ω	100Ω	2Ω/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

Ordering data

Type	Order no.
UBSZ-4TR/C	451090
UBSZ-4TR/C-2/2	451091

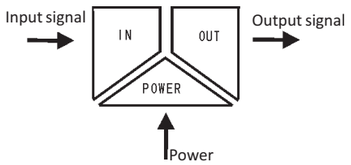
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	Resistance thermometer
Sensor type and measuring range	See left-hand table, programmable
Cold junction compensation range	
Compensation accuracy	
Output data	
Output current	4～20mA
Load resistance (RL)	≤(Ue-12)/0.022
Alarm output	IL=3.8mA;IH=21mA
Protection cut−off current	22mA

General data	
Supply voltage range(Ue)	20～35Vdc
Transmission error(20℃,4～20mA)	See left-hand table
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤2s
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

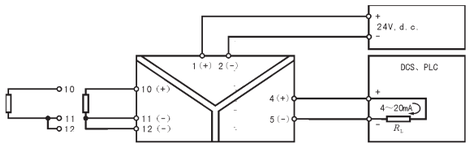


Transducer
UBS-4TR/CV/S

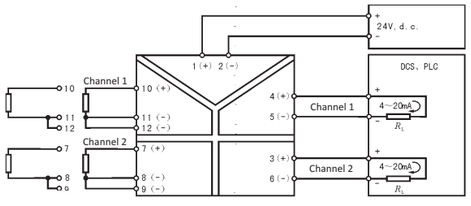


Resistance thermometer input

Wiring diagram



UBS-4TR/CV/S



UBS-4TR/CV/S-2/2

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
RTD	PT100	-200～850℃	20℃	0.4℃/0.2%
	PT1000	-200～250℃	20℃	0.6℃/0.3%
	Cu50	-50～150℃	20℃	0.4℃/0.2%
	Cu100	-50～250℃	20℃	0.4℃/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

Ordering data

Type	Order no.
UBS-4TR/CV/S	451082
UBS-4TR/CV/S-2/2	451092

Dimension

Width/Thickness/Depth	99/17. 5/114mm

Technical data

Input data	Resistance thermometer
Sensor type and measuring range	See left-hand table, please indicate them when ordering
Output data	
Output current	4～20mA ,RL≤550Ω
Output voltage	1～5V,RL≥10KΩ
Protection cut-off current	IL ≤3mA or IH≥22mA

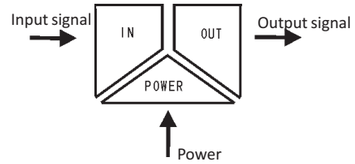
General data

	UBS-4TR/CV/S	UBS-4TR/CV/S-2/2
Supply voltage range	20～35Vdc	
Current consumption（24V，20mA）	≤60mA	≤100mA
Transmission error(20℃,4～20mA)	See left-hand table	
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃	
Step response	≤5ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20～+60℃	

Mounting

TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

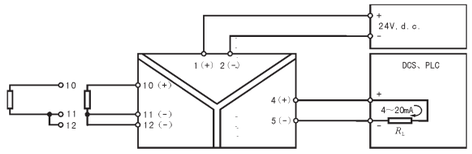


Transducer
UBSZ-4TR/CV/S



Resistance thermometer input

Wiring diagram



UBSZ-4TR/CV/S

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
RTD	PT100	-200～850℃	20℃	0.4℃/0.2%
	PT1000	-200～250℃	20℃	0.6℃/0.3%
	Cu50	-50～150℃	20℃	0.4℃/0.2%
	Cu100	-50～250℃	20℃	0.4℃/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

Ordering data

Type	Order no.
UBSZ-4TR/CV/S	451085

Dimension

Width/Thickness/Depth	99/17.5/114mm

Technical data

Input data	Resistance thermometer
Sensor type and measuring range	See left-hand table, programmable
Output data	
Output current	4～20mA ,RL≤550Ω
Output voltage	1～5V,RL≥10KΩ
Protection cut-off current	IL ≤3.5mA,uderrange, L light is on; IH ≥22mA,overrange H light is on; I=22mA,L and H lights are on

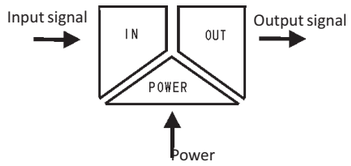
General data

Supply voltage range	20～35Vdc
Current consumption（24V，20mA）	≤65mA
Transmission error(20℃,4～20mA)	See left-hand table
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤200ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting

TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

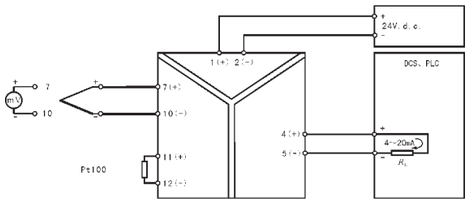


Transducer
UBSZ-8TL/CV/S

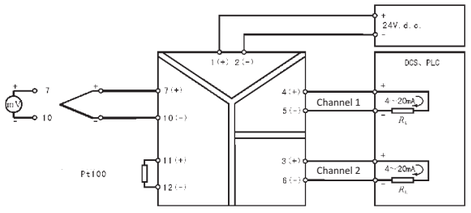


Thermocouple input

Wiring diagram



UBSZ-8TL/CV/S



UBSZ-8TL/CV/S-1/2

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
T/C	T	-200～400℃	50℃	1℃/0.2%
	E	-200～900℃	50℃	1℃/0.2%
	J	-200～1200℃	50℃	1℃/0.2%
	K	-200～1372℃	50℃	1℃/0.2%
	N	-200～1300℃	50℃	1℃/0.2%
	R	0～1768℃	500℃	3℃/0.2%
	S	0～1768℃	500℃	3℃/0.2%
	B	320～1820℃	500℃	3℃/0.2%
Millivolt		-10～100mV	10mV	40uV/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

Ordering data

Type	Order no.
UBSZ-8TL/CV/S	451083
UBSZ-8TL/CV/S-1/2	451086

Dimension

Width/Thickness/Depth	99/17.5/114mm

Technical data

Input data

Sensor type and measuring range	Thermocouple See left-hand table, programmable
Cold junction compensation range	-20～+75℃)
Compensation accuracy	±1℃

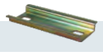
Output data

Output current	4～20mA，Load resistance,Rl≤550Ω
Output voltage	1～5V,Load resistanceRL≥250KΩ
Alarm output	I_L ≤3.5mA,uderrange, L light is on;
	I_H ≥22mA,overrange H light is on;
Protection cut−off current	I=22mA,L and H lights are on

General data

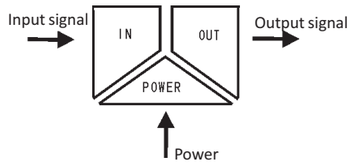
	UBSZ-8TL/CV/S	UBSZ-8TL/CV/S-1/2
Supply voltage range	20～35Vdc	
Current consumption（24V, 20mA）	≤60mA	≤90mA
Transmission error（20℃,4～20mA）	See left-hand table (cold junction error is not included)	
Temperature coefficient（-20～+60℃）	0.1%F.S./10℃	
Step response	≤200ms	
Test voltage (Input /Output/Supply)	1500Vac;1min	
Insulation resistance (Input /Output/Supply)	≥100MΩ	
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)	
Ambient temperature	-20～+60℃	

Mounting



TH35 rails	
TH35 -7.5	102001
TH35 -15	102005

Basic circuit diagram

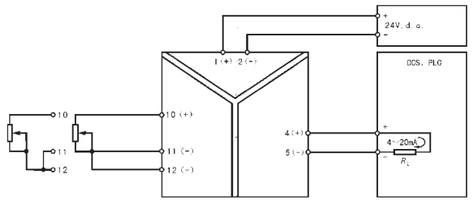


Transducer
UBS-D/CV/S



Potentiometer input

Wiring diagram



UBS-D/CV/S

Note:
1.Input a 3-wire potentiometer signal: make sure that the resistance of 3 wires is equal.
2.Input a 2-wire potentiometer signal: make sure that the terminals of 11 and 12 has been short connected.

Ordering data

Type	Order no.
UBS-D/CV/S	451087

Dimension

Width/Thickness/Depth	99/22.5/114mm

Technical data

Input data

Sensor type	Potentiometer
Signal range	0～5,KΩ Please indicate if different setting when ordering.
Connection technology	2-wire, 3-wire

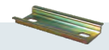
Output data

Output current	4～20mA,Rl≤550Ω
Output voltage	1～5V,RL≥250KΩ
Alarm output	I_L ≤3.5mA,uderrange, L light is on;
	I_H ≥22mA,overrange H light is on;
Protection cut−off current	I=22mA,L and H lights are on

General data

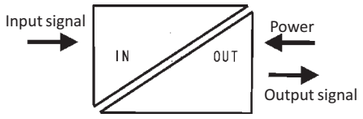
Supply voltage range	20～35Vdc
Current consumption（24V, 20mA）	≤60mA
Transmission error(20℃,4～20mA)	0.1%F.S.（Measuring range≥0.5KΩ）
Temperature coefficient（-10～+60℃）	0.05%F.S./10℃
Step response	≤200ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting



TH35 rails	
TH35 -7.5	102001
TH35 -15	102005

Basic circuit diagram

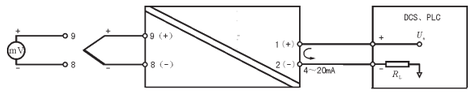


Transducer
UBSZ-8TL/C

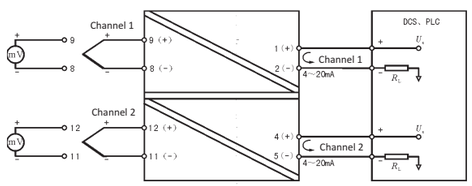


Thermocouple input

Wiring diagram



UBSZ-8TL/C



UBS-8TL/C-2/2

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
T C	T	-200 ~ 400℃	50℃	1℃/0.2%
	E	-200 ~ 900℃	50℃	1℃/0.2%
	J	-200 ~ 1200℃	50℃	1℃/0.2%
	K	-200 ~ 1372℃	50℃	1℃/0.2%
	N	-200 ~ 1300℃	50℃	1℃/0.2%
	R	0 ~ 1768℃	500℃	3℃/0.2%
	S	0 ~ 1768℃	500℃	3℃/0.2%
	B	320 ~ 1820℃	500℃	3℃/0.2%
Millivolt		-10 ~ 100mV	10mV	40uV/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

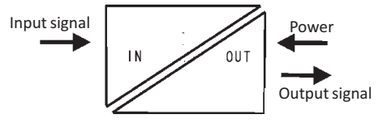
Ordering data	Type	Order no.
	UBSZ-8TL/C	451110
	UBSZ-8TL/C-2/2	451111

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	Thermocouple
Sensor type and measuring range	See left-hand table, programmable
Cold junction compensation range	-40 ~ +85℃
Compensation accuracy	±1℃
Output data	
Output current	4 ~ 20mA
Load resistance(RL)	≤(Ue-12)/0.022
Alarm output	I_L =3.8mA;I_H=21mA
Protection cut-off current	22mA
General data	
Supply voltage range(Ue)	12 ~ 35Vdc
Transmission error(20℃,4～20mA)	See left-hand table (cold junction error is not included)
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤2s
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

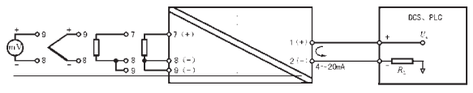


Transducer
UBSZ-4TR/8TL/C

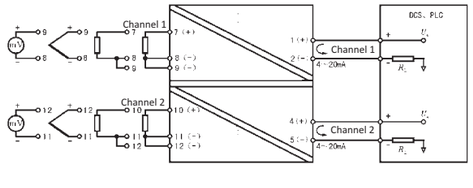


Resistance thermometer/ thermocouple input

Wiring diagram



UBSZ-4TR8TL/C



UBSZ-4TR8TL/C-2/2

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
T C	T	-200 ~ 400℃	50℃	1℃/0.2%
	E	-200 ~ 900℃	50℃	1℃/0.2%
	J	-200 ~ 1200℃	50℃	1℃/0.2%
	K	-200 ~ 1372℃	50℃	1℃/0.2%
	N	-200 ~ 1300℃	50℃	1℃/0.2%
	R	0 ~ 1768℃	500℃	3℃/0.2%
	S	0 ~ 1768℃	500℃	3℃/0.2%
	B	320 ~ 1820℃	500℃	3℃/0.2%
Millivolt		-10 ~ 100mV	10mV	40uV/0.2%
R T D	PT100	-200 ~ 850℃	20℃	0.4℃/0.2%
	PT1000	-200 ~ 250℃	20℃	0.6℃/0.3%
	Cu50	-50 ~ 150℃	20℃	0.4℃/0.2%
	Cu100	-50 ~ 250℃	20℃	0.4℃/0.2%
Resistance		20 ~ 400Ω	20Ω	0.2Ω/0.2%
		20 ~ 2000Ω	100Ω	2Ω/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

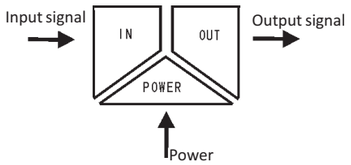
Ordering data	Type	Order no.
	UBSZ-4TR8TL/C	451112
	UBSZ-4TR8TL/C-2/2	451113

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	Resistance thermometer/Thermocouple
Sensor type and measuring range	See left-hand table, programmable
Cold junction compensation range	-40 ~ +85℃
Compensation accuracy	±1℃
Output data	
Output current	4 ~ 20mA
Load resistance(RL)	≤(Ue-12)/0.022
Alarm output	I_L =3.8mA;I_H=21mA
Protection cut-off current	22mA
General data	
Supply voltage range（Ue）	12 ~ 35Vdc
Transmission error(20℃,4～20mA)	See left-hand table (cold junction error is not included)
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤2s
Test voltage (Input /Output)	1500Vac;1min
Insulation resistance (Input /Output)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

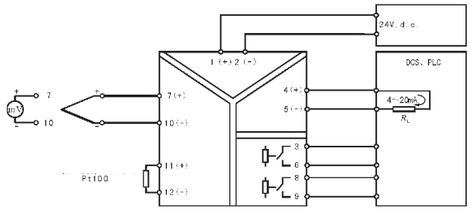


Transducer
UBSZ-8TL/CVR/S



Thermocouple input, alarm setting

Wiring diagram



UBSZ-8TL/CVR/S

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
T C	T	-200～400℃	50℃	1℃/0.2%
	E	-200～900℃	50℃	1℃/0.2%
	J	-200～1200℃	50℃	1℃/0.2%
	K	-200～1372℃	50℃	1℃/0.2%
	N	-200～1300℃	50℃	1℃/0.2%
	R	0～1768℃	500℃	3℃/0.2%
	S	0～1768℃	500℃	3℃/0.2%
	B	320～1820℃	500℃	3℃/0.2%
Millivolt		-10～100mV	10mV	40uV/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

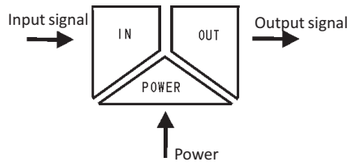
Ordering data	Type	Order no.
	UBSZ-8TL/CVR/S	451108

Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	Thermocouple
Sensor type and measuring range	See left-hand table, programmable
Cold junction compensation range	-20～+75℃
Compensation accuracy	±1℃
Output data	
Output current	4～2mA,load resistance R_L≤550Ω
Output voltage	1～5V,load resistanceR_L≥250KΩ
Alarm output	I_L ≤3.5mA,uderrange, L light is on;
	I_H ≥22mA,overrange H light is on;
Protection cut-off current	I=22mA,L and H lights are on
Alarm method setting	Can be separately set at NC/NO and under or over the range
Relay output	250Vac,2A or 30Vdc,2A
General data	
Supply voltage range	20～35Vdc
Current consumption（24V,20mA）	≤85mA
Transmission error(20℃,4～20mA)	See left-hand table (cold junction error is not included)
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤200ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

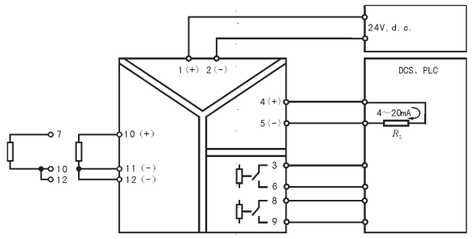


Transducer
UBS-4TR/CVR/S



Thermocouple input, alarm setting

Wiring diagram



UBS-4TR/CVR/S

Sensor types and measuring ranges

Sensor type		Measuring range	Min measuring span	Transmission error
R T D	PT100	-200～850℃	20℃	0.4℃/0.2%
	PT1000	-200～250℃	20℃	0.6℃/0.3%
	Cu50	-50～150℃	20℃	0.4℃/0.2%
	Cu100	-50～250℃	20℃	0.4℃/0.2%

Note: The output accuracy is relative to the measuring range, the bigger value of range error and absolute error should be taken when applied.

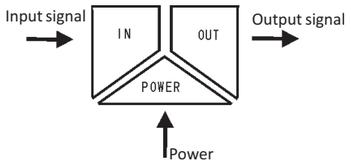
Ordering data	Type	Order no.
	UBS-4TR/CVR/S	451109

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	Resistance thermometer
Sensor type and measuring range	See left-hand table, please indicate them when ordering
Cold junction compensation range	
Compensation accuracy	
Output data	
Output current	4～2mA,load resistance R_L≤550Ω
Output voltage	1～5V,load resistanceR_L≥250KΩ
Alarm output	I_L ≤3.5mA,uderrange, L light is on;
	I_H ≥21mA,overrange H light is on;
Protection cut-off current	I=22mA,L and H lights are on
Alarm method setting	Can be separately set at NC/NO and under or over the range
Relay output	250Vac.,2A or 30Vdc.,2A
General data	
Supply voltage range	20～35Vdc
Current consumption（24V,20mA）	≤85mA
Transmission error(20℃,4～20mA)	See left-hand table (cold junction error is not included)
Temperature coefficient（-20～+60℃）	0.05%F.S./10℃
Step response	≤200ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

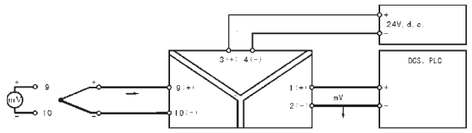


Transducer
UBS-V/V/S



Voltage signal

Wiring diagram



UBS-V/V/S

Ordering data	Type	Order no.
	UBS-V/V/S	451093

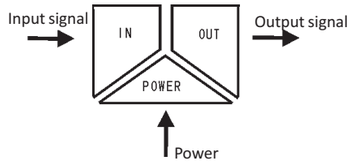
Dimension	
Width/Thickness/Depth	99/22.5/114mm

Technical data	
Input data	
Input signal	-5 ~ +60mV
Input impedance	> 20MΩ
Output data	
Output signal	-5～+60mV（1：1）
Output impedance	

General data	
Supply voltage range	20 ~ 35Vdc
Current consumption（24V, 20mA）	≤25mA
Transmission error（20℃）	0.03%F.S. or .10u V
Temperature coefficient（-20～+60℃）	0.03%F.S./10℃
Step response	≤5ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

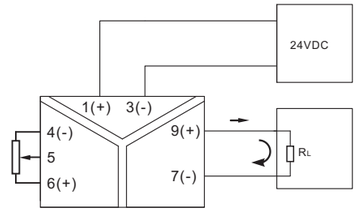


Transducer
UBSE-D/CV/S

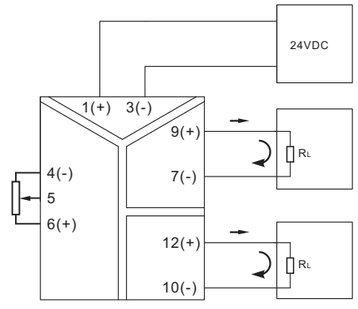


Potentiometer input

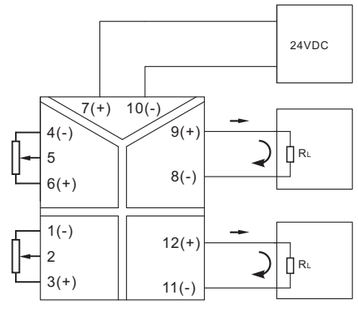
Wiring diagram



UBSE-D/CV/S



UBSE-D/CV/S-1/2



UBSE-D/CV/S-2/2

Note:
1.Input a 3-wire potentiometer signal: make sure that the resistance of 3 wires is equal.

Ordering data	Type	Order no.
	UBSE-D/CV/S	451131
	UBSE-D/CV/S-1/2	451132
	UBSE-D/CV/S-2/2	451133

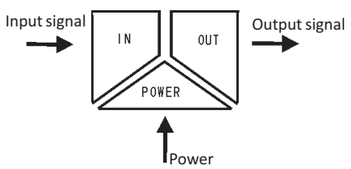
Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data	
Input data	
Signal type	Potentiometer
Signal range	0 ~ 20,KΩ Please indicate if different setting when ordering.
Connection technology	3-wire
Output data	
Output current	4 ~ 20mA ,Rl≤300Ω
Output voltage	1 ~ 5V,RL≥500KΩ

General data	
Supply voltage range	24Vdc±10%
Current consumption（24V, 20mA）	≤70mA
Transmission error（20℃,4～20mA）	0.1%F.S.
Temperature coefficient（-10～+60℃）	0.05%F.S./10℃
Step response	≤200ms
Test voltage (Input /Output/Supply)	1500Vac;1min
Insulation resistance (Input /Output/Supply)	≥100MΩ
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

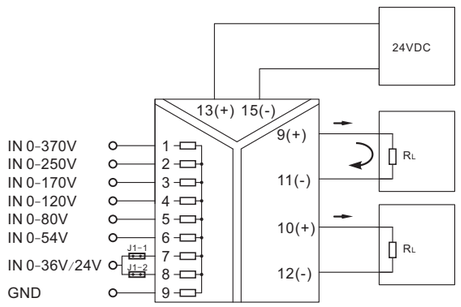


ACV transducer
UBS-VAC/CV/S



Voltage signal

Wiring diagram



UBS-VAC/CV/S

Ordering data	Type	Order no.
	UBS-VAC/CV/S	451134

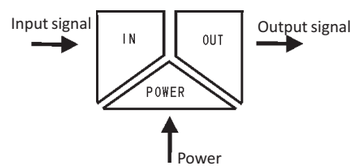
Dimension		
Width/Thickness/Depth		99/22.5/114mm

Technical data				
Input data				
Input voltage	V(AC)	0...(370/250/170/120/80/54/35/24)		
Input resistance	KΩ	0...(370/250/170/120/80/54/35/24)		
Frequency range		45...400Hz		
Output data				
Output signal		0 ~ 10V	0 ~ 20mA	4 ~ 20mA
Load resistance（R_L）		> 10KΩ	< 500Ω	< 500Ω

General data	
Supply voltage range	19 ~ 30Vdc
Current consumption（24V, 20mA）	≤45mA
Max. transmission error	< 1.5%
Temperature coefficient, typical	0.02%/K（50Hz/60Hz）
Step response	≤250ms
Zero adjustment	±20%
Span adjustment	±20%
Test voltage(Input/Output)	3KVac;50Hz;1min
Test voltage(Input/Supply)	3KVac;50Hz;1min
Test voltage(Output/Supply)	1KVac;50Hz;1min
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20～+60℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Basic circuit diagram

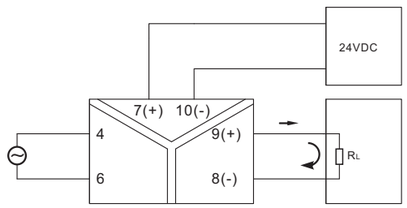


ACA transducer
UBS-IAC/CV/S

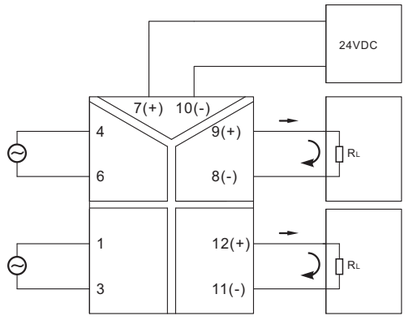


Current signal

Wiring diagram



UBS-IAC/CV/S



UBS-IAC/CV/S-2/2

Ordering data	Type	Order no.
	UBS-IAC/CV/S	451135
	UBS-IAC/CV/S-2/2	451138

Dimension	
Width/Thickness/Depth	99/17.5/114mm

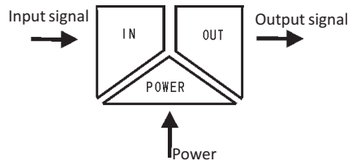
Technical data		
Input data		
Current	A(AC)	0...5A
Frequency range		40-60Hz
Output data		
Output signal		4 ~ 20mA
Load resistance(R_L)		< 500Ω

General data	
Supply voltage range	24Vdc±10%
Current consumption（24V, 20mA）	≤45mA
Transmission error（20℃,4～20mA）	0.5%F.S.
Temperature coefficient（-10～+60℃）	≤150ppm/℃
Step response	≤200ms
Test voltage (Input /Output/Supply)	1000Vac;1min
Electromagnetic compatibility	GB/T 18268(IEC 61326-1)
Ambient temperature	-20 ~ +55℃

Mounting		
TH35 rails	TH35 -7.5	102001
	TH35 -15	102005

Transducer UBS-IAC/CV/SP

Basic circuit diagram

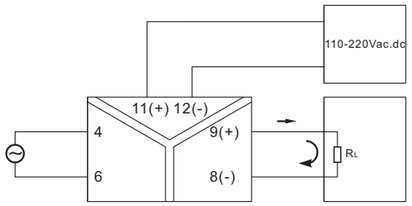


ACA transducer
UBS-IAC/CV/SP

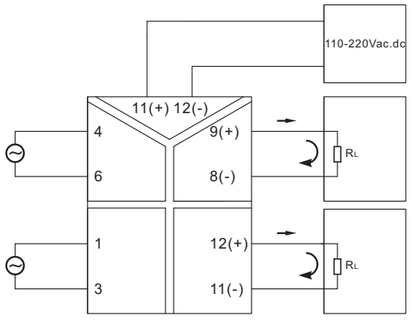


Current signal

Wiring diagram



UBS-IAC/CV/SP

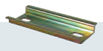


UBS-IAC/CV/SP-2/2

Ordering data	Type	Order no.
	UBS-IAC/CV/S	451135
	UBS-IAC/CV/S-2/2	451138

Dimension	
Width/Thickness/Depth	99/17.5/114mm

Technical data		
Input data		
Current	A(AC)	0...5A
Frequency range		40-60Hz
Output data		
Output signal		4 ~ 20mA
Load resistance（R_L）		< 500Ω
General data		
Supply voltage range		110-220Vac.dc
Current consumption（24V, 20mA）		≤60mA
Transmission error（20℃,4～20mA）		0.5%F.S.
Temperature coefficient（-10～+60℃）		≤150ppm/℃
Step response		≤200ms
Test voltage (Input /Output/Supply)		1000Vac;1min
Electromagnetic compatibility		GB/T 18268(IEC 61326-1)
Ambient temperature		-20 ~ +55℃

Mounting			
TH35 rails		TH35 -7.5	102001
		TH35 -15	102005

UGA Ex i signal conditioner



UGA Ex i signal conditioner

Type no.

U GA □-□ □/□-□/ 2-EX (HART)

HART	HART: With HART protocol
Output channels	No letter:1-channel 2:2-channel
Input channels	1 or no letter:1-channel 2:2-channel
Power supply	No letter: Loop-powered S:3-way isolation I:Input signal powered O:Output signal powered
Output signal	C:Current V:Voltage R:Relay P:Solenoid driver,alarm J:Transistor
Input signal	S:Switching C:Current 3:3 kinds of sensor 8:8 kinds of sensor TL: Thermocouple F:Frequency I:Safety zone to danger zone W:"+"busbar
Sensor type	B:2-wire transducer B2:2/3-wire transducer BZ:Transducer,programmable
Ex i signal conditioner	
Company code	

1.3-way electrical isolation
2.Independent power supply

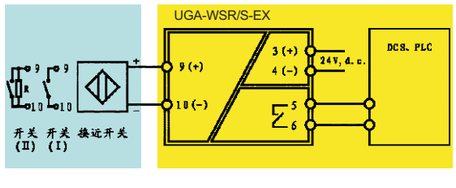
Ex i signal conditioner
UGA-WSR/S-EX

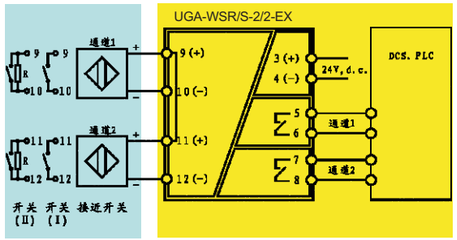


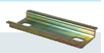
Switching in, relay out

Ordering data	Type	Order no.
	UGA-WSR/S-EX	451019
	UGA-WSR/S-2/2-EX	380229

Danger zone | Safety zone





Technical data	UGA-WSR/S-EX	UGA-WSR/S-2/2-EX
Width/Thickness/Depth	114/99/22.5mm	
Supply voltage	20～35Vdc	20～35Vdc
Current consumption(24V, contact closed)	≤50mA	≤75mA
Danger zone		
Input	Switch, proximity sensors	
Output voltage as supply	≈8V(open circuit)	
Short-circuit current	≈8mA	
Safety zone		
Step response	≤20ms	
Max. switching voltage and current(resistive load)	250VAC、2A/30VDC、2A	
Switching points	Conductive:＞2.1mA The yellow indicator turns on when output relay closed	
	Blocking:＜1.2mA The yellow indicator turns on when output relay open	
Switching behavior （see the accompanying instructions）	Set K1 and K2	
Open-circuit detection	Set K3	
	A resistor of 10KΩ must be connected between the two switches (see switch II)	
General data		
Test voltage	2500Vac/1min	
Electromagnetic compatibility	GB/T18268	
	(The same as IEC61326-1)	
Ambient temperature	-20～+60˚C	
Field devices and installation zone	Field devices that according to DIN 19234 standards, such as NAMUR switch, proximity switch, etc.	
	Zone 0/1/2, II A/ II B/ II C,T4-T6	
Mounting		
TH35 rails 	TH35-7.5	102001
	TH35-15	102005

1.3-way electrical isolation
2.Independent power supply

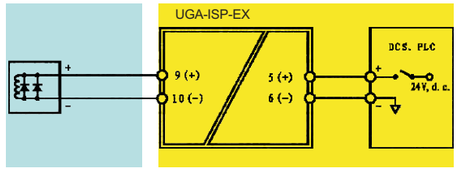
Ex i signal conditioner
UGA-ISP-EX

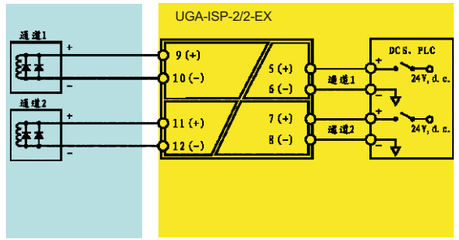


12V/45mA switching input

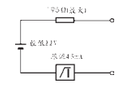
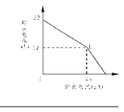
Ordering data	Type	Order no.
	UGA-ISP-EX	451023
	UGA-ISP-2/2-EX	451024

Danger zone | Safety zone





Dimension	
Width/Thickness/Depth	114/99/22.5mm

Technical data	UGA-WSR/S-EX	UGA-WSR/S-2/2-EX
Supply voltage	20～35Vdc	20～35Vdc
Current consumption(24V, 45mA)	≤80mA	≤160mA
Danger zone	Output signal Internal equivalent circuit diagram	Feature
		
Output voltage(open circuit)	22～24V	
Output voltage(45mA)	≥12V	
Safety zone		
	Conductive: the device in danger zone is powered	
	Blocking: the device in danger zone is not powered	
General data		
Test voltage	2500Vac/1min	
Electromagnetic compatibility	GB/T18268	
	(The same as IEC61326-1)	
Ambient temperature	-20～+60˚C	
Field devices and installation zone	Intrinsically safe devices, such as solenoid valve, audible and visual alarm, etc	
	Zone 0/1/2, II A/ II B/ II C,T4-T6	
Mounting		
TH35 rails 	TH35-7.5	102001
	TH35-15	102005

1.3-way electrical isolation
2.Independent power supply

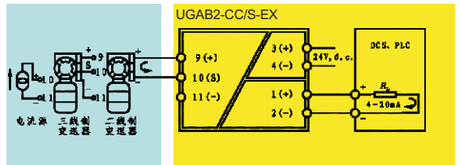
Ex i signal conditioner
UGAB2-CC/S-EX

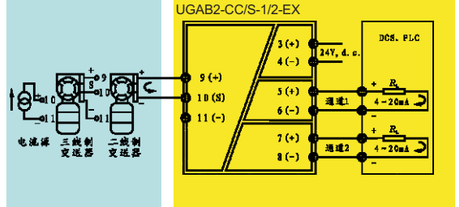


Transducer/current input

Ordering data	Type	Order no.
	UGAB2-CC/S-EX	451029
	UGAB2-CC/S-1/2-EX	451030

Danger zone | Safety zone





Dimension	
Width/Thickness/Depth	114/99/22.5mm

Technical data	UGAB2-CC/S-EX	UGAB2-CC/S-1/2-EX
Supply voltage	20～35Vdc	20～35Vdc
Current consumption(24V, contact closed)	≤70mA	≤100mA
Danger zone		
Input signal	4～20mA(or 0～20mA)	
Output voltage as supply	Open-circuit voltage：≤26V	
	Voltage（20mA）：≥16V	
Safety zone		
Current output	4～20mA(or 0～20mA)	
load resistance R_L	≤800Ω	≤550Ω
Voltage output	1～5V(or 0～5V)	
load resistance R_L	≥250kΩ	

The default output signal is current, please indicate it if a voltage signal is required when ordering.

General data	
Transmission error（20˚C,4～20mA）	0.1% F.S.（Typ：0.05%F.S.）
Temperature coefficient（-20～＋60˚C）	0.05% F.S./10˚C
Test voltage	2500Vac/1min
Electromagnetic compatibility	GB/T18268
	(The same as IEC61326-1)
Ambient temperature	-20～+60˚C
Field devices and installation zone	2/3-wire transducer, current source
	Zone 0/1/2, ⅡA/ⅡB/ⅡC,T4-T6

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

1.3-way electrical isolation
2.Independent power supply

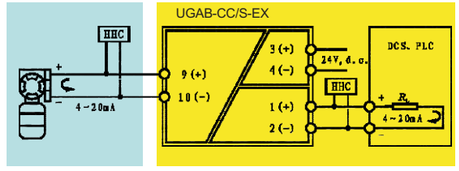
Ex i signal conditioner
UGAB-CC/S-EX



2–wire transducer input

Ordering data	Type	Order no.
	UGAB-CC/S-EX	451027

Danger zone | Safety zone



Dimension	
Width/Thickness/Depth	114/99/22.5mm

Technical data	
Supply voltage	20～35Vdc
Current consumption(24V, 20mA)	≤75mA
Danger zone	
Input signal	4～20mA (digital HART communication signals)
Output voltage as supply	Open-circuit voltage：≤26V
	Voltage（20mA）：≥16V
Safety zone	
Current output	4～20mA (digital HART communication signals)
load resistance R_L	≤800Ω
Load resistance(ART communication) RL	≥250Ω

General data	
Transmission error（20˚C,4～20mA）	0.1% F.S.（Typ：0.05%F.S.）
Temperature coefficient（-20～＋60˚C）	0.05% F.S./10˚C
Test voltage	2500Vac/1min
Electromagnetic compatibility	GB/T18268
	(The same as IEC61326-1)
Ambient temperature	-20～+60˚C
Field devices and installation zone	2-wire transducer(HART)
	Zone 0/1/2, ⅡA/ⅡB/ⅡC,T4-T6

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

1.3-way electrical isolation
2.Independent power supply

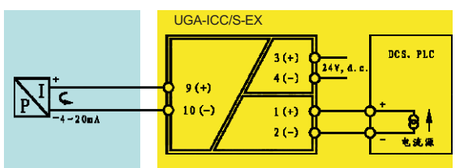
Ex i signal conditioner
UGA-ICC/S-EX



Current output

Ordering data	Type	Order no.
	UGA-ICC/S-EX	451034

Danger zone | Safety zone



Dimension	
Width/Thickness/Depth	114/99/22.5mm

Technical data	
Supply voltage	20～35Vdc
Current consumption(24V, 20mA)	≤60mA
Danger zone	
Current output	4～20mA(or 0～20mA)
load resistance R_L	≤750Ω
Voltage output	1～5V（or 0～5V）
load resistance R_L	≥250kΩ

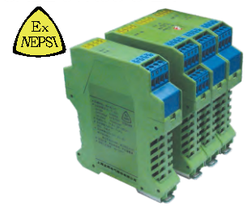
The default output signal is current, please indicate it if a voltage signal is required when ordering.

Safety zone	
Input signal	4～20mA(or 0～20mA)
Input impedance	≤50Ω
General data	
Transmission error（20˚C,4～20mA）	0.1% F.S. （Typ：0.05%F.S.）
Temperature coefficient（-20～＋60˚C）	0.05% F.S./10˚C
Test voltage	2500Vac/1min
Electromagnetic compatibility	GB/T18268
	(The same as IEC61326-1)
Ambient temperature	-20 ~ +60˚C
Field devices and installation zone	2-wire valve positioner, electrical converter
	Zone 0/1/2, ⅡA/ⅡB/ⅡC,T4-T6

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

1.3-way electrical isolation
2.Independent power supply

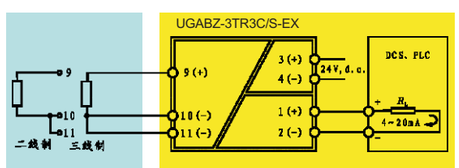
Ex i signal conditioner
UGABZ-3TR3C/S-EX



Thermocouple input, programmable

Ordering data	Type	Order no.
	UGABZ-3TR3C/S-EX	451038

Danger zone | Safety zone



Sensor type	Measuring range	Min measuring span
Pt100	-199 ~ +60˚C	50˚C
Cu50	-50 ~ +150˚C	50˚C
Cu100	-50 ~ +150˚C	50˚C

Dimension	
Width/Thickness/Depth	114/99/22.5mm

Technical data	
Supply voltage	20～35Vdc
Current consumption(24V, 20mA)	≤70mA
Danger zone	
Input signal	See left-hand table
Please choose the type of signal when ordering, or you can program by yourself	

Safety zone	
Current output	4～20mA
load resistance R_L	≤550Ω
Voltage output	1～5V
load resistance R_L	≥250kΩ
Alarm indicator	I_L ≈3.5mA,uderrange, L light is on;
	IH ≈22mA,overrange H light is on;
	I≈22mA,L and H lights are on

General data	
Transmission error（20˚C,4～20mA）	0.1% F.S.（Min measuring span:100˚C）
Temperature coefficient（-20～＋60˚C）	0.05% F.S./10˚C
Test voltage	2500Vac/1min
Electromagnetic compatibility	GB/T18268
	(The same as IEC61326-1)
Ambient temperature	-20 ~ +60˚C
Field devices and installation zone	2/3-wire thermal resistance
	Zone 0/1/2, ⅡA/ⅡB/ⅡC,T4-T6

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

1.3-way electrical isolation
2.Independent power supply

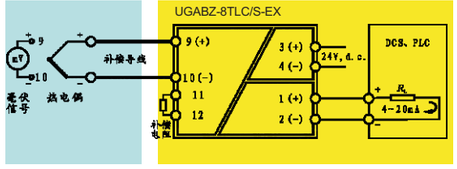
Ex i signal conditioner
UGABZ-8TLC/S-EX



Thermocouple input, programmable

Ordering data	Type	Order no.
	UGABZ-8TLC/S-EX	451039

Danger zone | Safety zone



Sensor type		Measuring range	Min measuring span
Thermocouple	R	-40 ~ +1700˚C	600˚C
	S	-40 ~ +1700˚C	600˚C
	K	-150 ~ +1370˚C	120˚C
	J	-80 ~ +900˚C	100˚C
	T	-160 ~ +390˚C	100˚C
	B	320 ~ +1820˚C	780˚C
	E	-80 ~ +700˚C	500˚C
mV		-90 ~ +60mV	10mV

Dimension	
Width/Thickness/Depth	114/99/22.5mm

Technical data	
Supply voltage	20 ~ 35Vdc
Current consumption(24V, 20mA)	≤70mA
Danger zone	
Input signal	See left-hand table
Please choose the type of signal when ordering, or you can program by yourself	
Safety zone	The output current/voltage is linear to the temperature
Current output	4 ~ 20mA
load resistance R_L	≤550Ω
Voltage output	1 ~ 5V
load resistance R_L	≥250kΩ
Alarm indicator	
	$I_L \approx 3.5$mA,uderrange, L light is on;
	IH ≈22mA,overrange H light is on;
	I≈22mA,L and H lights are on

General data	
Transmission error（20˚C）	0.2% F.S. (the cold junction error is not included）
Temperature coefficient（-20～＋60˚C）	0.2% F.S./10˚C
Test voltage	2500Vac/1min
Electromagnetic compatibility	GB/T18268
	(The same as IEC61326-1)
Ambient temperature	-20 ~ +60˚C
Field devices and installation zone	Thermocouple(J/K/T/E/S/B), mV sensor
	Zone 0/1/2, ⅡA/ⅡB/ⅡC,T4-T6

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

1.3-way electrical isolation
2.Independent power supply

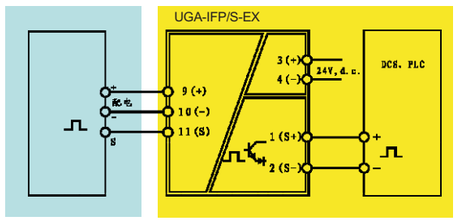
Ex i signal conditioner
UGA-IFP/S-EX



Frequency input

Ordering data	Type	Order no.
	UGA-IFJ/S-EX	451032

Danger zone | Safety zone



Dimension	
Width/Thickness/Depth	114/99/22.5mm

Technical data	
Supply voltage	12 ~ 25Vdc
Current consumption(12V, 20mA)	≤40mA
Danger zone	
Output voltage as supply	Open-circuit voltage：≤14V
	Voltage（20mA)：≥9V
Input signal	Voh：VI≥4.5V，Vol：VI≤1V
	Frequency≤20kHz, Amplitude≤12V, Duty ratio＞30%
Safety zone	
Switching voltage Vcc	≤30V(transistor)
Collector output	（see diagram 1）
	Voh：Vcc
	Vol：≤2.5V
	Switching current：≤10mA
Emitter output	（see diagram 2）
	Voh：Vcc−2. 5V
	Vol：≤0.5V
	Switching current：≤10mA
Level output	（see diagram 3）
High level amplitude（VH）：	24V PLC, DCS：Voh 18V≤VH≤24V
	12V PLC, DCS：Voh 10V≤VH≤12V
	5V PLC,DCS：Voh 4V≤VH≤5V

General data	
Test voltage	2500Vac/1min
Electromagnetic compatibility	GB/T18268
	(The same as IEC61326-1)
Ambient temperature	-20 ~ +60˚C
Field devices and installation zone	2/3-wire frequency signal source
	Zone 0/1/2, ⅡA/ⅡB/ⅡC,T4-T6

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

Application example

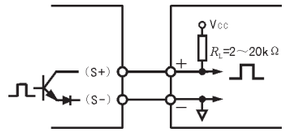


Diagram 1：Collector output

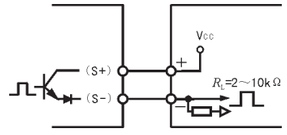


Diagram 2：Emitter output

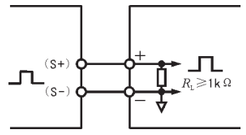


Diagram 2: Level output

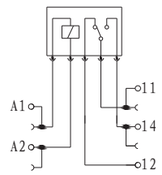
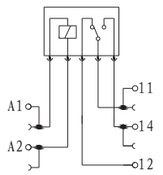
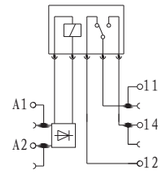
Relay module and optocoupler

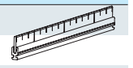


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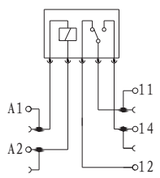
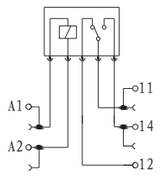
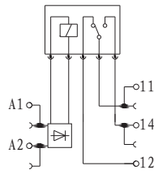
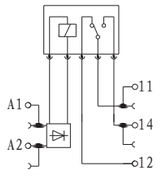
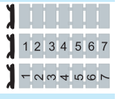
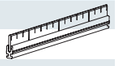
U DK □-□-□ □/□

Input voltage	5V, 12V, 24V、48V, 110V, 220V AC or DC AC/DC,eg:220Vac/dc
	No letter: triode output K:1 normally open I:1 change-over II:2 change-over
	O:Optocoupler R:Relay module
	PLC interface
	Design no.
	Electronics
	Company code

Relay module	UDK-PLC-RI 12Vdc	UDK-PLC-RI 24Vdc	UDK-PLC-RI 24Vac/dc
			
Electrical schematic			
			

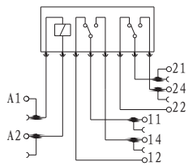
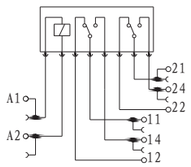
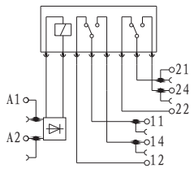
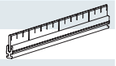
Ordering data	Type	Order no.	Type	Order no.	Type	Order no.
	UDK-PLC-RI 12Vdc	328001	UDK-PLC-RI 24Vdc	328002	UDK-PLC-RI 24Vac/dc	328003
Technical data						
Input voltage(U_N)	12Vdc±10%		24Vdc±10%		24Vac/dc±10%	
Input current	Approx 14mA		Approx 8mA		Approx 11/8mA	
Typ. response time at U_N	8ms		8ms		8ms	
Typ. release time at U_N	4ms		4ms		4ms	
Max. switching voltage	250Vac		250Vac		250Vac	
Min. switching voltage	12Vac/dc		12Vac/dc		12Vac/dc	
Max. output current	6A		6A		6A	
Contact material	AgSnO		AgSnO		AgSnO	
Mechanical life	1×10^7		1×10^7		1×10^7	
Max. rated power, resistive load						
24Vdc	140W		140W		140W	
250Vac	1500VA		1500VA		1500VA	
General data						
Test voltage(winding/contact)	4000Vac		4000Vac		4000Vac	
Test voltage(contact/contact), normally open	1000Vac		1000Vac		1000Vac	
Pollution degree	2		2		2	
Cross section(AWG)	AWG26～14		AWG26～14		AWG26～14	
Cross section	0.14mm²～2.5mm²		0.14mm²～2.5mm²		0.14mm²～2.5mm²	
Dimension						
Thickness	6.2mm		6.2mm		6.2mm	
Width(vertically mounted on the rails)	80mm		80mm		80mm	
Height TH35×7.5 G32×15	94mm		94mm		94mm	
Accessories						
Marker strip	UZB6(Blank)	014002	UZB6(Blank)	014002	UZB6(Blank)	014002
	UZB6(Horizontally)	014007	UZB6(Horizontally)	014007	UZB6(Horizontally)	014007
	UZB6(vertically)	014008	UZB6(vertically)	014008	UZB6(vertically)	014008
Jumper						
	UFBST-500RD	318001	UFBST-500RD	318001	UFBST-500RD	318001
	UFBST 500BU	318002	UFBST 500BU	318002	UFBST 500BU	318002
	UFBST-500GY	318003	UFBST-500GY	318003	UFBST-500GY	318003

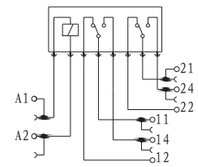
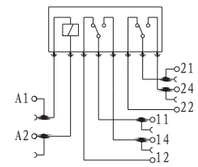
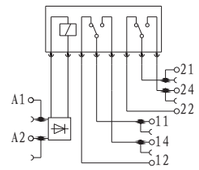
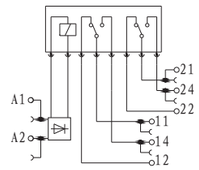
Relay module

	UDK-PLC-RI 48Vdc	UDK-PLC-RI 60Vdc	UDK-PLC-RI 120Vac/dc	UDK-PLC-RI 230Vac/dc
				
Electrical schematic				
				
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-PLC-RI 48Vdc 328004	UDK-PLC-RI 60Vdc 328005	UDK-PLC-RI 120Vac/dc 328007	UDK-PLC-RI 230Vac/dc 328010
Technical data				
Input voltage(U_N)	48Vdc±10%	60Vdc±10%	120Vac/120Vdc±10%	230Vac/220Vdc±10%
Input current	Approx 8.4mA	Approx 3.5mA	Approx 3.5mA/Approx 3.2mA	Approx 3.5mA/Approx 3.2mA
Typ. response time at U_N	8ms	8ms	8ms	8ms
Typ. release time at U_N	4ms	4ms	4ms	4ms
Max. switching voltage	250Vac	250Vac	250Vac	250Vac
Min. switching voltage	12Vac/dc	12Vac/dc	12Vac/dc	12Vac/dc
Max. output current	6A	6A	6A	6A
Contact material	AgSnO	AgSnO	AgSnO	AgSnO
Mechanical life	1×10^7	1×10^7	1×10^7	1×10^7
Max. rated power, resistive load				
24Vdc	140W	140W	140W	140W
250Vac	1500VA	1500VA	1500VA	1500VA
General data				
Test voltage(winding/contact)	4000Vac	4000Vac	4000Vac	4000Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2
Cross section(AWG)	AWG26～14	AWG26～14	AWG26～14	AWG26～14
Cross section	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²
Dimension				
Thickness	6.2mm	6.2mm	6.2mm	6.2mm
Width(vertically mounted on the rails)	80mm	80mm	80mm	80mm
Height TH35×7.5 G32×15	94mm	94mm	94mm	94mm
Accessories				
Marker strip 	UZB6(Blank) 014002	UZB6(Blank) 014002	UZB6(Blank) 014002	UZB6(Blank) 014002
	UZB6(Horizontally) 014007	UZB6(Horizontally) 014007	UZB6(Horizontally) 014007	UZB6(Horizontally) 014007
	UZB6(vertically) 014008	UZB6(vertically) 014008	UZB6(vertically) 014008	UZB6(vertically) 014008
Jumper				
	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001
	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002
	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003

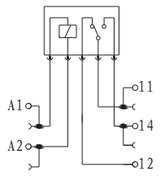
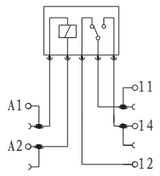
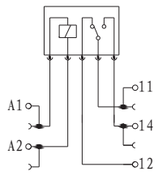
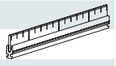
UDK-PLC Relay module

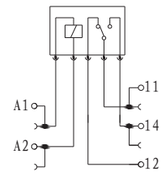
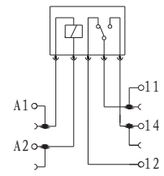
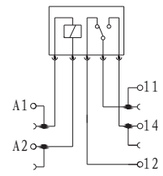
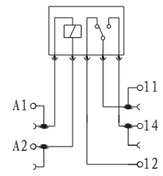
Relay module

	UDK-PLC-RII 12Vdc	UDK-PLC-RII 24Vdc	UDK-PLC-RII 24Vac/dc
			
Electrical schematic			
			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-PLC-RII 12Vdc 328011	UDK-PLC-RII 24Vdc 328012	UDK-PLC-RII 24Vac/dc 328013
Technical data			
Input voltage(U_N)	12Vdc±10%	24Vdc±10%	24Vac/dc±10%
Input current	Approx 35mA	Approx 18mA	Approx 18mA
Typ. response time at U_N	15ms	15ms	15ms
Typ. release time at U_N	8ms	8ms	8ms
Max. switching voltage	250Vac	250Vac	250Vac
Min. switching voltage	5V	5V	5V
Max. output current	6A	6A	6A
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7
Max. rated power, resistive load			
24Vdc	140W	140W	140W
250Vac	1500VA	1500VA	1500VA
General data			
Test voltage(winding/contact)	4000Vac	4000Vac	4000Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Cross section(AWG)	AWG26～14	AWG26～14	AWG26～14
Cross section	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²
Dimension			
Thickness	14mm	14mm	14mm
Width(vertically mounted on the rails)	80mm	80mm	80mm
Height TH35×7.5 G32×15	94mm	94mm	94mm
Accessories			
Marker strip 	UZB10(Blank) 014001	UZB10(Blank) 014001	UZB10(Blank) 014001
	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005
	UZB10(vertically) 014006	UZB10(vertically) 014006	UZB10(vertically) 014006
Jumper			
	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001
	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002
	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003

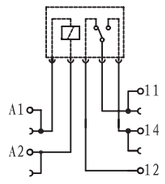
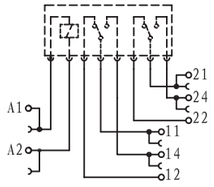
	UDK-PLC-RII 48Vdc	UDK-PLC-RII 60Vdc	UDK-PLC-RII 120Vac/dc	UDK-PLC-RII 230Vac/dc
				
Electrical schematic				
				
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
UDK-PLC-RII 48Vdc 328014	UDK-PLC-RII 60Vdc 328015	UDK-PLC-RII 120Vac/dc 328017	UDK-PLC-RII 230Vac/dc 328019	
48Vdc±10%	60Vdc±10%	120Vac/110Vdc±10%	230Vac/220Vdc±10%	
Approx 16mA	Approx 16mA	Approx 4.5mA	Approx 4.5mA	
15ms	15ms	15ms	15ms	
8ms	8ms	8ms	8ms	
250Vac	250Vac	250Vac	250Vac	
5V	5V	5V	5V	
6A	6A	6A	6A	
AgCdo	AgCdo	AgCdo	AgCdo	
1×10^7	1×10^7	1×10^7	1×10^7	
140W	140W	140W	140W	
1500VA	1500VA	1500VA	1500VA	
4000Vac	4000Vac	4000Vac	4000Vac	
1000Vac	1000Vac	1000Vac	1000Vac	
		2	2	
AWG26～14	AWG26～14	AWG26～14	AWG26～14	
0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	
14mm	14mm	14mm	14mm	
80mm	80mm	80mm	80mm	
94mm	94mm	94mm	94mm	
UZB10(Blank) 014001	UZB10(Blank) 014001	UZB10(Blank) 014001	UZB10(Blank) 014001	
UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	
UZB10(vertically) 014006	UZB10(vertically) 014006	UZB10(vertically) 014006	UZB10(vertically) 014006	
UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	
UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	
UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	

Relay module

	UDK-PLC-RI 12Vdc-HC	UDK-PLC-RI 24Vdc-HC	UDK-PLC-RI 24Vac/dc-HC
			
Electrical schematic			
			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-PLC-RI 12Vdc-HC 328050	UDK-PLC-RI 24Vdc -HC 328051	UDK-PLC-RI 24Vac/dc-HC 328052
Technical data			
Input voltage(U_N)	12Vdc±10%	24Vdc±10%	24Vac/dc±10%
Input current	Approx 35mA	Approx 18mA	Approx 18mA
Typ. response time at U_N	15ms	15ms	15ms
Typ. release time at U_N	8ms	8ms	8ms
Max. switching voltage	250Vac	250Vac	250Vac
Min. switching voltage	5V	5V	5V
Max. output current	10A	10A	10A
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7
Max. rated power, resistive load			
24VDC	140W	140W	140W
250VAC	1500VA	1500VA	1500VA
General data			
Test voltage(winding/contact)	4000Vac	4000Vac	4000Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Cross section(AWG)	AWG26～14	AWG26～14	AWG26～14
Cross section	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²
Dimension			
Thickness	14mm	14mm	14mm
Width(vertically mounted on the rails)	80mm	80mm	80mm
Height TH35×7.5 G32×15	94mm	94mm	94mm
Accessories			
Marker strip 	UZB10(Blank) 014001	UZB10(Blank) 014001	UZB10(Blank) 014001
	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005
	UZB10(vertically) 014006	UZB10(vertically) 014006	UZB10(vertically) 014006
Jumper			
	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001
	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002
	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003

	UDK-PLC-RI 48Vdc-HC	UDK-PLC-RI 60Vdc-HC	UDK-PLC-RI 120Vac/dc-HC	UDK-PLC-RI 230Vac/dc-HC
				
Electrical schematic				
				
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	
UDK-PLC-RI 48Vdc-HC 328053	UDK-PLC-RI 60Vdc-HC 328054	UDK-PLC-RI 120Vac/dc-HC 328055	UDK-PLC-RI 230Vac/dc-HC 328056	
48Vdc±10%	60Vdc±10%	120Vac/110Vdc±10%	230Vac/220Vdc±10%	
Approx 16mA	Appr16mA	Approx 4.5mA	Approx 4.5mA	
15ms	15ms	15ms	15ms	
8ms	8ms	8ms	8ms	
250Vac	250Vac	250Vac	250Vac	
5V	5V	5V	5V	
10A	10A	10A	10A	
AgCdo	AgCdo	AgCdo	AgCdo	
1×10^7	1×10^7	1×10^7	1×10^7	
140W	140W	140W	140W	
1500VA	1500VA	1500VA	1500VA	
4000Vac	4000Vac	4000Vac	4000Vac	
1000Vac	1000Vac	1000Vac	1000Vac	
		2	2	
AWG26～14	AWG26～14	AWG26～14	AWG26～14	
0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	
14mm	14mm	14mm	14mm	
80mm	80mm	80mm	80mm	
94mm	94mm	94mm	94mm	
UZB10(Blank) 014001	UZB10(Blank) 014001	UZB10(Blank) 014001	UZB10(Blank) 014001	
UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	UZB10(Horizontally) 014005	
UZB10(vertically) 014006	UZB10(vertically) 014006	UZB10(vertically) 014006	UZB10(vertically) 014006	
UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	
UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	
UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	

Relay module-Base

	UDK-PLC-ZI	UDK-PLC-ZII
		
Electrical schematic		
		

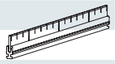
Ordering data	Type	Order no.	Type	Order no.
Z: Relay base(without relay)	UDK-PLC-ZI 12Vdc	328021	UDK-PLC-ZII 12Vdc	328028
	UDK-PLC-ZI 24Vdc	328022	UDK-PLC-ZII 24Vdc	328029
	UDK-PLC-ZI 24Vac/dc	328023	UDK-PLC-ZII 24Vac/dc	328030
	UDK-PLC-ZI 48Vdc	328024	UDK-PLC-ZII 48Vdc	328031
	UDK-PLC-ZI 60Vdc	328025	UDK-PLC-ZII 60Vdc	328032
	UDK-PLC-ZI 120Vac/dc	328026	UDK-PLC-ZII 120Vac/dc	328033
	UDK-PLC-ZI 230Vac/dc	328027	UDK-PLC-ZII 230Vac/dc	328034

Technical data		
Input voltage(U_N)	12Vdc、24Vdc、24Vac/dc、48Vdc、120Vac/dc、230Vac/dc	12Vdc、24Vdc、24Vac/dc、48Vdc 120Vac/dc、230Vac/dc
Typ. response time at U_N	8ms	8ms
Typ. release time at U_N	4ms	4ms

General data		
Test voltage(winding/contact)	4000Vac	4000Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac
Pollution degree	2	2
Cross section(AWG)	AWG26～14	AWG26～14
Cross section	0.14mm²～2.5mm²	0.14mm²～2.5mm²

Dimension		
Thickness	6.2mm	14mm
Width(vertically mounted on the rails)	80mm	80mm
Height TH35×7.5 G32×15	94mm	94mm

Accessories				
Marker strip	UZB6(Blank)	014002	UZB6(Blank)	014002
	UZB6(Horizontally)	014007	UZB6(Horizontally)	014007
	UZB6(vertically)	014008	UZB6(vertically)	014008

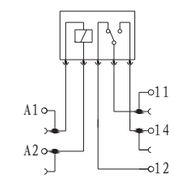
Jumper				
	UFBST-500RD	318001	UFBST-500RD	318001
	UFBST 500BU	318002	UFBST 500BU	318002
	UFBST-500GY	318003	UFBST-500GY	318003

Economical relay module

UDK-PLC-RI 12Vdc E



Electrical schematic



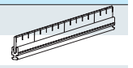
Ordering data	Type	Order no.
	UDK-PLC-RI 12Vdc E	328035

Technical data	
Input voltage(U_N)	12Vdc±10%
Input current	Approx 14mA
Typ. response time at U_N	8ms
Typ. release time at U_N	4ms
Max. switching voltage	250Vac
Min. switching voltage	12Vac/dc
Max. output current	6A
Contact material	AgSnO
Mechanical life	1×10^7
Max. rated power, resistive load	
24Vdc	140W
250Vac	1500VA

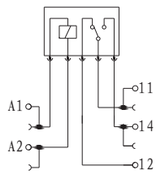
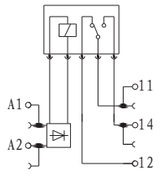
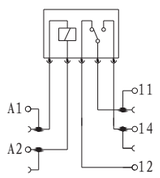
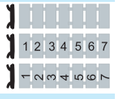
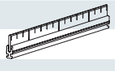
General data	
Test voltage(winding/contact)	4000Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Cross section(AWG)	AWG26～14
Cross section	0.14mm²～2.5mm²

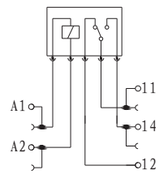
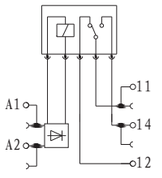
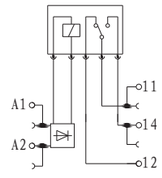
Dimension	
Thickness	6.2mm
Width(vertically mounted on the rails)	82mm
Height TH35×7.5 G32×15	80.2mm

Accessories		
Marker strip	UZB 6(Blank)	014002
	UZB 6(Horizontally)	014007
	UZB 6(vertically)	014008

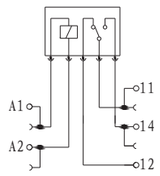
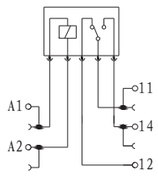
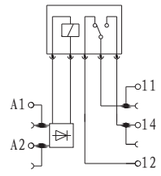
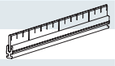
Jumper		
	UFBST-500RD	318001
	UFBST 500BU	318002
	UFBST-500GY	318003

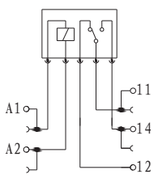
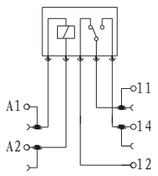
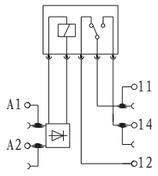
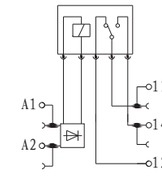
Economical relay module

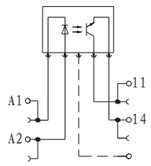
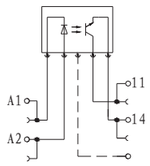
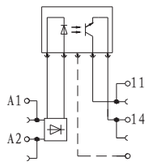
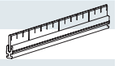
	UDK-PLC-RI 24Vdc E	UDK-PLC-RI 24Vac/dc E	UDK-PLC-RI 48Vdc E
			
Electrical schematic			
			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-PLC-RI 24Vdc E 328036	UDK-PLC-RI 24Vac/dc E 328037	UDK-PLC-RI 48Vdc E 328038
Technical data			
Input voltage(U_N)	24Vdc±10%	24Vac/dc±10%	48Vdc±10%
Input current	Approx 8mA	Approx 11/Approx 8mA	Approx 8mA
Typ. response time at U_N	8ms	8ms	8ms
Typ. release time at U_N	4ms	4ms	4ms
Max. switching voltage	250Vac	250Vac	250Vac
Min. switching voltage	12Vac/dc	12Vac/dc	12Vac/dc
Max. output current	6A	6A	6A
Contact material	AgSnO	AgSnO	AgSnO
Mechanical life	1×10^7	1×10^7	1×10^7
Max. rated power, resistive load			
24Vdc	140W	140W	140W
250Vac	1500VA	1500VA	1500VA
General data			
Test voltage(winding/contact)	4000Vac	4000Vac	4000Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Cross section(AWG)	AWG26～14	AWG26～14	AWG26～14
Cross section	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²
Dimension			
Thickness	6.2mm	6.2mm	6.2mm
Width(vertically mounted on the rails)	82mm	82mm	82mm
Height TH35×7.5 G32×15	80.2mm	80.2mm	80.2mm
Accessories			
Marker strip 	UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002
	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007
	UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008
Jumper			
	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001
	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002
	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003

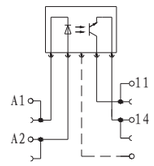
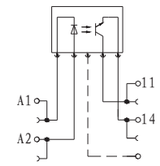
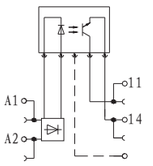
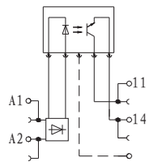
	UDK-PLC-RI 60Vdc E	UDK-PLC-RI 120Vac/dc E	UDK-PLC-RI 230Vac/dc E
			
Electrical schematic			
			
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
UDK-PLC-RI 60Vdc E 328039	UDK-PLC-RI 120Vac/dc E 328040	UDK-PLC-RI 230Vac/dc E 328041	
60Vdc±10%	120Vac/120Vdc±10%	230Vac/220Vdc±10%	
Approx 4.5mA	Approx 3.5mA/Approx 3.2mA	Approx 3.5mA/Approx 3.2mA	
8ms	8ms	8ms	
4ms	4ms	4ms	
250Vac	250Vac	250Vac	
12Vac/dc	12Vac/dc	12Vac/dc	
6A	6A	6A	
AgSnO	AgSnO	AgSnO	
1×10^7	1×10^7	1×10^7	
140W	140W	140W	
1500VA	1500VA	1500VA	
4000Vac	4000Vac	4000Vac	
1000Vac	1000Vac	1000Vac	
2	2	2	
AWG26～14	AWG26～14	AWG26～14	
0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	
6.2mm	6.2mm	6.2mm	
82mm	82mm	82mm	
80.2mm	80.2mm	80.2mm	
UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002	
UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	
UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008	
UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	
UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	
UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	

Economical relay module

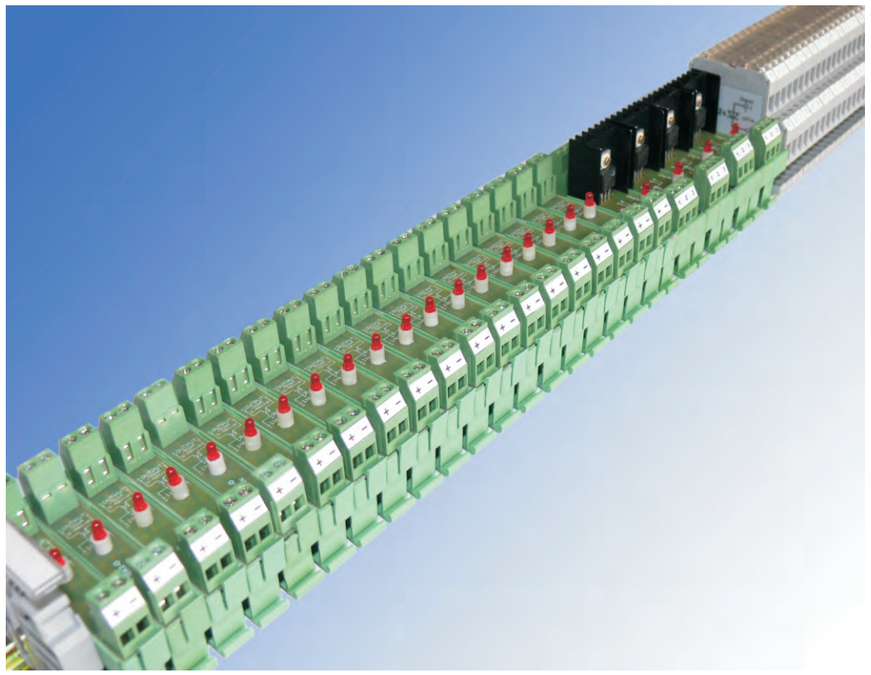
	UDK-PLC-RJI 12Vdc E	UDK-PLC-RJI 24Vdc E	UDK-PLC-RJI 24Vac/dc E
			
Electrical schematic			
			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-PLC-RJI 12Vdc E 328042	UDK-PLC-RJI 24Vdc E 328043	UDK-PLC-RJI 24Vac/dc E 328044
Technical data			
Input voltage(U_N)	12Vdc±10%	24Vdc±10%	24Vac/dc±10%
Input current	Approx 14mA	Approx 8mA	Approx 11/Approx 8mA
Typ. response time at U_N	8ms	8ms	8ms
Typ. release time at U_N	4ms	4ms	4ms
Max. switching voltage	250Vac	250Vac	250Vac
Min. switching voltage	12Vac/dc	12Vac/dc	12Vac/dc
Max. output current	6A	6A	6A
Contact material	AgSnO	AgSnO	AgSnO
Mechanical life	1×10^7	1×10^7	1×10^7
Max. rated power, resistive load			
24Vdc	140W	140W	140W
250Vac	1500VA	1500VA	1500VA
General data			
Test voltage(winding/contact)	4000Vac	4000Vac	4000Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Cross section(AWG)	AWG26～14	AWG26～14	AWG26～14
Cross section	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²
Dimension			
Thickness	6.2mm	6.2mm	6.2mm
Width(vertically mounted on the rails)	93mm	93mm	93mm
Height TH35×7.5 G32×15	80mm	80mm	80mm
Accessories			
Marker strip 	UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002
	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007
	UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008
Jumper			
	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001
	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002
	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003

	UDK-PLC-RJI 48Vdc E	UDK-PLC-RJI 60Vdc E	UDK-PLC-RJI 120Vac/dc E	UDK-PLC-RJI 230Vac/dc E
				
				
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
UDK-PLC-RJI 48Vdc E 328045	UDK-PLC-RJI 60Vdc E 328046	UDK-PLC-RJI 120Vac/dc E 328047	UDK-PLC-RJI 230Vac/dc E 328048	
48Vdc±10%	60Vdc±10%	120Vac/120Vdc±10%	230Vac/220Vdc±10%	
Approx 8mA	Approx 4.5mA	Approx 3.5mA/Approx 3.2mA	Approx 3.5mA/Approx 3.2mA	
8ms	8ms	8ms	8ms	
4ms	4ms	4ms	4ms	
250Vac	250Vac	250Vac	250Vac	
12Vac/dc	12Vac/dc	12Vac/dc	12Vac/dc	
6A	6A	6A	6A	
AgSnO	AgSnO	AgSnO	AgSnO	
1×10^7	1×10^7	1×10^7	1×10^7	
140W	140W	140W	140W	
1500VA	1500VA	1500VA	1500VA	
4000Vac	4000Vac	4000Vac	4000Vac	
1000Vac	1000Vac	1000Vac	1000Vac	
2	2	2	2	
AWG26～14	AWG26～14	AWG26～14	AWG26～14	
0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	
6.2mm	6.2mm	6.2mm	6.2mm	
93mm	93mm	93mm	93mm	
80mm	80mm	80mm	80mm	
UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002	
UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	
UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008	
UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	
UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	UFBST 500BU 318002	
UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	

Optocoupler	UDK-PLC-O 12Vdc	UDK-PLC-O 24Vdc	UDK-PLC-O 24Vac/dc
			
Electrical schematic			
			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-PLC-O 12Vdc 317002	UDK-PLC-O 24Vdc 317003	UDK-PLC-O 24Vac/dc 317004
Technical data			
Input voltage	12Vdc±10%	24Vdc±10%	24Vac/dc±10%
Input current	⩽10mA	⩽9mA	⩽10mA
Output voltage	5～48Vdc	5～48Vdc	5～48Vdc
Output current	100mA	100mA	100mA
Min. output current	50uA	50uA	50uA
Max. switching frequency	100Hz	100Hz	dc:20Hz ac:5Hz
Turn-on time	⩽100us	⩽100us	⩽20ms
Turn-off time	⩽100us	⩽100us	⩽20ms
Voltage drop at max. load	⩽1V	⩽1V	⩽1V
General data			
Rated breakdown voltage	4KV	4KV	4KV
Surge voltage category		V1	V1
Clearance and creepage distance	⩾3mm	⩾3mm	⩾3mm
Working temperature	-25˚C～+40˚C	-25˚C～+40˚C	-25˚C～+40˚C
Pollution degree		2	2
Cross section(AWG)	AWG26～14	AWG26～14	AWG26～14
Cross section	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²
Dimension			
Thickness	6.2mm	6.2mm	6.2mm
Width(vertically mounted on the rails)	80mm	80mm	80mm
Height TH35×7.5 G32×15	94mm	94mm	94mm
Accessories			
Marker strip 	UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002
	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007
	UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008
Jumper			
	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001
	UFBST-500BU 318002	UFBST-500BU 318002	UFBST-500BU 318002
	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003

UDK-PLC-O 48Vdc	UDK-PLC-O 60Vdc	UDK-PLC-O 120Vac/dc	UDK-PLC-O 230Vac/dc
			
			
Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
UDK-PLC-O 48Vdc 317005	UDK-PLC-O 60Vdc 317006	UDK-PLC-O 120Vac/dc 317007	UDK-PLC-O 230Vac/dc 317009
48Vdc±10%	60Vdc±10%	120Vac/dc±10%	230Vac/dc±10%
⩽9mA	⩽4mA	⩽4mA	⩽4mA
5～48Vdc	5～48Vdc	5～48Vdc	5～48Vdc
100mA	100mA	100mA	100mA
50uA	50uA	50uA	50uA
100Hz	50Hz	10Hz	10Hz
⩽100us	⩽100us	⩽100us	⩽100us
⩽100us	⩽100us	⩽100us	⩽100us
⩽1V	⩽1V	⩽1V	⩽1V
4KV	4KV	4KV	4KV
V1	V1	V1	V1
⩾3mm	⩾3mm	⩾3mm	⩾3mm
-25˚C～+40˚C	-25˚C～+40˚C	-25˚C～+40˚C	-25˚C～+40˚C
2	2	2	2
AWG26～14	AWG26～14	AWG26～14	AWG26～14
0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²	0.14mm²～2.5mm²
6.2mm	6.2mm	6.2mm	6.2mm
80mm	80mm	80mm	80mm
94mm	94mm	94mm	94mm
UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002	UZB 6(Blank) 014002
UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007	UZB 6(Horizontally) 014007
UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008	UZB 6(vertically) 014008
UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001	UFBST-500RD 318001
UFBST-500BU 318002	UFBST-500BU 318002	UFBST-500BU 318002	UFBST-500BU 318002
UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003	UFBST-500GY 318003

Optocoupler









Type

U DK □-□-□ □/□

C:New-type reverse connection
D:New-type high current

Input voltage
5V, 12V, 24V、
48V, 110V, 220V
AC or DC
AC/DC,eg:220Vac/dc

Output
No letter: Transistor
F:Field-effect transistor
S:Thyristor
T:Power transistor

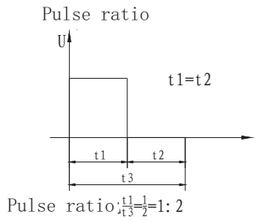
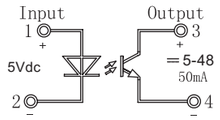
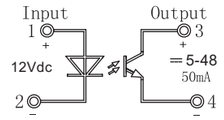
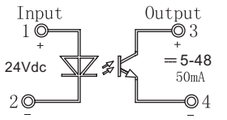
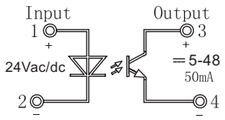
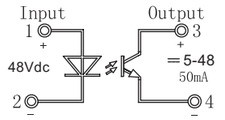
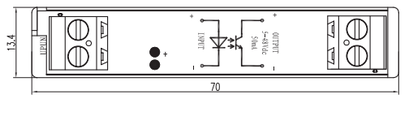
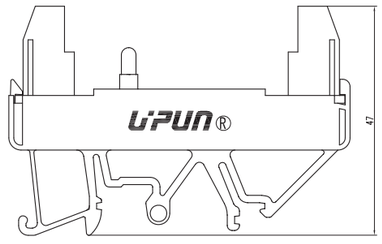
O:Optocoupler

Design no.

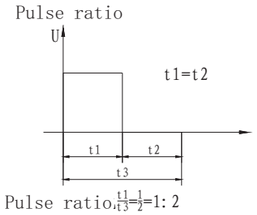
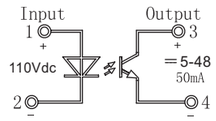
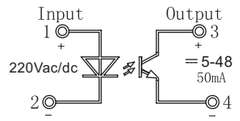
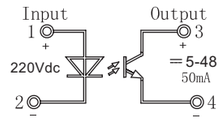
Electronics

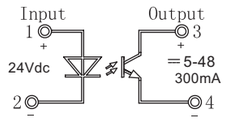
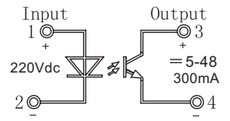
Company code

UDK-O Optocoupler

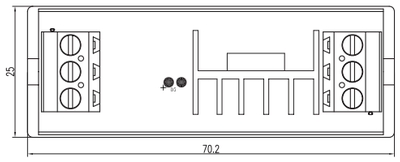
Optocoupler	UDK2-0 5Vdc	UDK2-0 12Vdc	UDK2-0 24Vdc	UDK2-0 24Vac/dc	UDK2-0 48Vdc
					
Electrical schematic					
					
Dimension	**Ordering data**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
		UDK2-0 5Vdc 314001	UDK2-O 12Vdc 314006	UDK2-O 24Vdc 314010	UDK2-O 24Vac/dc 314003	UDK2-O 48Vdc 314002
	**Technical data**					
	Input voltage	5Vdc+10% ~ -20%	12Vdc+10% ~ -20%	24Vdc+10% ~ -20%	24Vac/dc+10% ~ -20%	48Vdc+10% ~ -20%
	Input current	≤10mA	≤10mA	≤6mA	≤7.5mA/8mA	≤4mA
	Output switching voltage	5 ~ 48Vdc	5 ~ 48Vdc	5 ~ 48Vdc	5 ~ 48Vdc	5 ~ 48Vdc
	Output switching current	50mA	50mA	50mA	50mA	50mA
	Min. output switching current	50uA	50uA	50uA	50uA	50uA
	Max. switching frequency	100Hz	100Hz	100Hz	DC:20Hz AC:5Hz	100Hz
	Switch-on delay	12us	80us	30us	5ms	80us
	Switch-off delay	15us	180us	60us	20ms	180us
	Voltage drop at max. load	≤1V	≤1V	≤1V	≤1V	≤1V
	General data					
	Rated breakdown voltage	4KV	4KV	4KV	4KV	4KV
	Surge voltage category	V1	V1	V1	V1	V1
	Pollution degree	2	2	2	2	2
	Clearance and creepage distance	≥3mm	≥3mm	≥3mm	≥3mm	≥3mm
	Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
	Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
	Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
	Dimension(see left-hand drawing)					
	Thickness	13.4mm	13.4mm	13.4mm	13.4mm	13.4mm
	Width(vertically mounted on the rails)	70mm	70mm	70mm	70mm	70mm
	Height TH35×7.5 G32×15	48mm/52mm	48mm/52mm	48mm/52mm	48mm/52mm	48mm/52mm

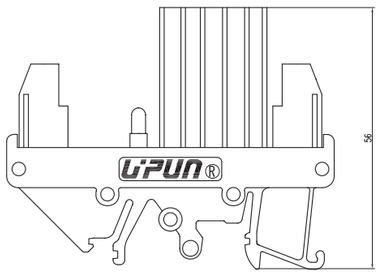
Optocoupler

	UDK2-0 110Vdc	UDK2-0 220Vac/dc	UDK2-0 220Vdc
			
Electrical schematic			
				
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	UDK2-O 110Vdc 314007	UDK2-O 220Vac/dc 314012	UDK2-O 220Vdc 314011
Technical data			
Input voltage	110Vdc+10%～-20%	220Vac/dc+10%～-20%	220Vdc+10%～-20%
Input current	⩽3mA	⩽1.8mA	⩽2mA
Output switching voltage	5～48Vdc	5～48Vdc	5～48Vdc
Output switching current	50mA	50mA	50mA
Min. output switching current	50uA	50uA	50uA
Max. switching frequency	100Hz	DC:20Hz AC:5Hz	100Hz
Switch-on delay	80us	15ms	80us
Switch-off delay	180us	20ms	180us
Voltage drop at max. load	⩽1V	⩽1.5V	⩽1V
General data			
Rated breakdown voltage	4KV	4KV	4KV
Surge voltage category	V1	V1	V1
Pollution degree	2	2	2
Clearance and creepage distance	⩾3mm	⩾3mm	⩾3mm
Working temperature	-25˚C～+40˚C	-25˚C～+40˚C	-25˚C～+40˚C
Cross section(AWG)	AWG20～13	AWG20～13	AWG20～13
Cross section	0.5mm²～2.5mm²	0.5mm²～2.5mm²	0.5mm²～2.5mm²
Dimension			
Thickness	13.4mm	13.4mm	13.4mm
Width(vertically mounted on the rails)	70mm	70mm	70mm
Height TH35×7.5 G32×15	48mm/52mm	48mm/52mm	48mm/52mm

	UDK2-0 24Vdc/D	UDK2-0 220Vdc/D
		
		
	Type / Order no.	Type / Order no.
	UDK2-O 24Vdc/D 314014	UDK2-O 220Vdc/D 314015
	24Vdc+10%～-20%	220Vdc+10%～-20%
	⩽2mA	⩽2mA
	5～48Vdc	5～48Vdc
	300mA	300mA
	50uA	50uA
	100Hz	100Hz
	30us	80us
	60us	180us
	⩽1V	⩽1V
	4KV	4KV
	V1	V1
	2	2
	⩾3mm	⩾3mm
	-25˚C～+40˚C	-25˚C～+40˚C
	AWG20～13	AWG20～13
	0.5mm²～2.5mm²	0.5mm²～2.5mm²
	13.4mm	13.4mm
	70mm	70mm
	48mm/52mm	48mm/52mm

Dimension





Ordering data	Type	Order no.
	UDK2-OF 24Vdc	314004

Technical data	
Input voltage	24Vdc+10% ~ -20%
Input current	≤10mA
Output switching voltage	24Vdc
Output switching current	3A
Min. output switching current	50uA
Max. switching frequency	100Hz
Switch-on delay	30us
Switch-off delay	80us
Voltage drop at max. load	≤1.5V

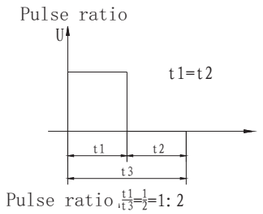
General data	
Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

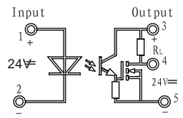
Dimension(see left-hand drawing)	
Thickness	25mm
Width(vertically mounted on the rails)	70mm
Height TH35×7.5 G32×15	57mm/61mm

UDK2-0F 24Vdc



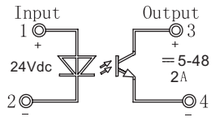
Electrical schematic





UDK2-0T 24Vdc





Type	Order no.
UDK2-OT 24Vdc	314009

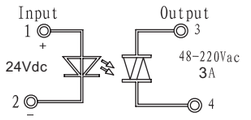
24Vdc+10% ~ -20%
≤8mA
24Vdc
2A
50uA
100Hz
80us
180us
≤1.5V

4KV
V1
2
≥3mm
-25˚C ~ +40˚C
AWG20 ~ 13
0.5mm² ~ 2.5mm²

25mm
70mm
57mm/61mm

UDK2-0S 24Vdc





Type	Order no.
UDK2-OS 24Vdc	314013

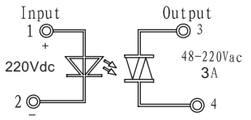
24Vdc+10% ~ -20%
≤5mA
48 ~ 250Vac
2A
50uA
≤1V

4KV
V1
2
≥3mm
-25˚C ~ +40˚C
AWG20 ~ 13
0.5mm² ~ 2.5mm²

25mm
70mm
57mm/61mm

UDK2-0S 220Vdc





Type	Order no.
UDK2-OS 220Vdc	314005

220Vdc+10% ~ -20%
≤5mA
48 ~ 250Vac
3A
50uA
≤1V

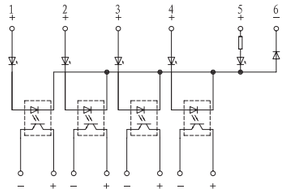
4KV
V1
2
≥3mm
-25˚C ~ +40˚C
AWG20 ~ 13
0.5mm² ~ 2.5mm²

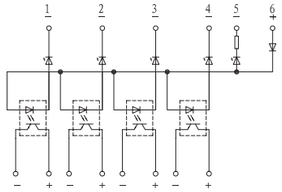
25mm
70mm
57mm/61mm

UDK2-04M □

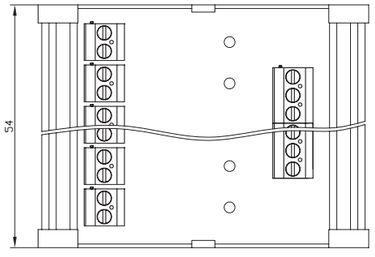


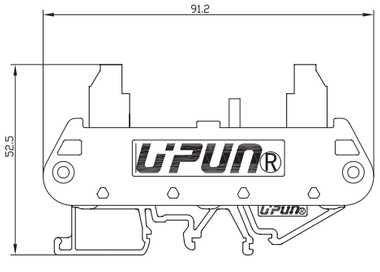
Electrical schematic





Dimension





Ordering data		Type	Order no.
4-channel module	5Vdc	UDK2-04M5Vdc	315001
	24Vdc	UDK2-04M24Vdc	315004
	220Vdc	UDK2-04M220Vdc	315008
4-channel module	5Vdc	UDK2-04M5Vdc/GZ	315010
	24Vdc	UDK2-04M24Vdc/GZ	315005
	220Vdc	UDK2-04M220Vdc/GZ	315015

Technical data				
Type		UDK2-...5Vdc	UDK2-...24Vdc	UDK2-...220Vdc
Input voltage		5Vdc±20%	24Vdc±20%	220Vdc±20%
Input current		≤4mA	≤2mA	≤2mA
Output switching voltage		5 ~ 48Vdc	5 ~ 48Vdc	5 ~ 48Vdc
Output switching current		50mA	50mA	50mA
Min. output switching current		50uA	50uA	50uA
Max. switching frequency	Pulse ratio 1:2	100Hz	100Hz	100Hz
Switch-on delay		12us	12us	12us
Switch-off delay		15us	15us	15us
Voltage drop at max. load		≤1V	≤1V	≤1V

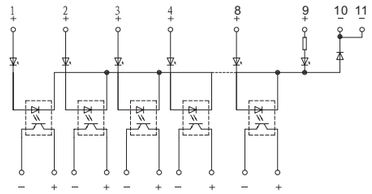
General data	
Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

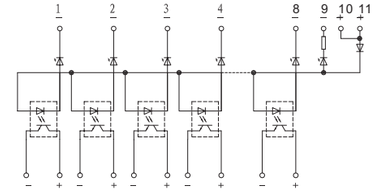
Dimension(see left-hand drawing)	
Thickness	
Width	
Height	

UDK2-08M □

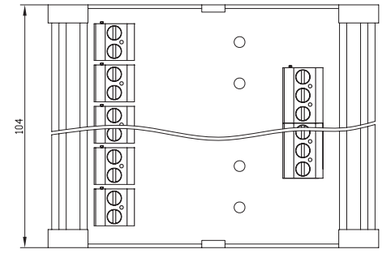


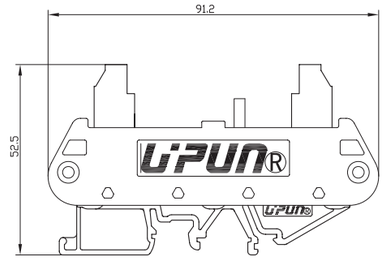
Electrical schematic





Dimension





Ordering data		Type	Order no.
8-channel module	5Vdc	UDK2-08M5Vdc	315002
	24Vdc	UDK2-08M24Vdc	315006
	220Vdc	UDK2-08M220Vdc	315009
8-channel module	5Vdc	UDK2-08M5Vdc/GZ	315011
	24Vdc	UDK2-08M24Vdc/GZ	315013
	220Vdc	UDK2-08M220Vdc/GZ	315016

Technical data				
Type		UDK2-...5Vdc	UDK2-...24Vdc	UDK2-...220Vdc
Input voltage		5Vdc±20%	24Vdc±20%	220Vdc±20%
Input current		≤4mA	≤2mA	≤2mA
Output switching voltage		5 ~ 48Vdc	5 ~ 48Vdc	5 ~ 48Vdc
Output switching current		50mA	50mA	50mA
Min. output switching current		50uA	50uA	50uA
Max. switching frequency	Pulse ratio 1:2	100Hz	100Hz	100Hz
Switch-on delay		12us	12us	12us
Switch-off delay		15us	15us	15us
Voltage drop at max. load		≤1V	≤1V	≤1V

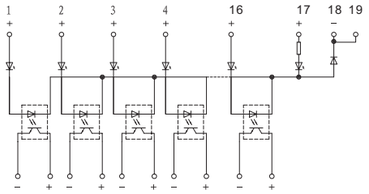
General data	
Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

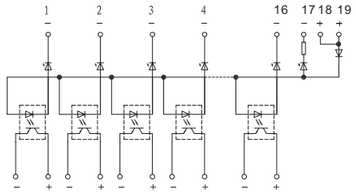
Dimension(see left-hand drawing)	
Thickness	
Width	
Height	

UDK2-016M □

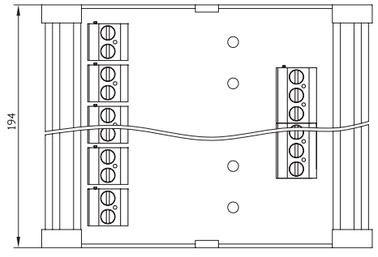


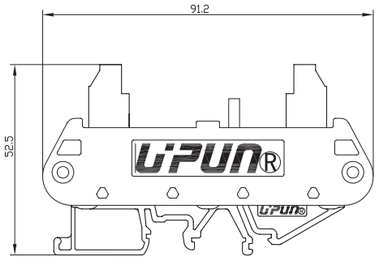
Electrical schematic





Dimension





Ordering data		Type	Order no.
16-channel module	5Vdc	UDK2-016M5Vdc	315003
	24Vdc	UDK2-016M24Vdc	315007
	220Vdc	UDK2-016M220Vdc	315018
16-channel module	5Vdc	UDK2-016M5Vdc/GZ	315012
	24Vdc	UDK2-016M24Vdc/GZ	315014
	220Vdc	UDK2-016M220Vdc/GZ	315017

Technical data

Type	UDK2-...5Vdc	UDK2-...24Vdc	UDK2-...220Vdc
Input voltage	5Vdc±20%	24Vdc±20%	220Vdc±20%
Input current	≤4mA	≤2mA	≤2mA
Output switching voltage	5 ~ 48Vdc	5 ~ 48Vdc	5 ~ 48Vdc
Output switching current	50mA	50mA	50mA
Min. output switching current	50uA	50uA	50uA
Max. switching frequency Pulse ratio 1:2	100Hz	100Hz	100Hz
Switch-on delay	12us	12us	12us
Switch-off delay	15us	15us	15us
Voltage drop at max. load	≤1V	≤1V	≤1V

General data

Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

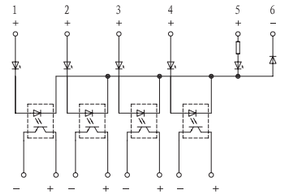
Dimension(see left-hand drawing)

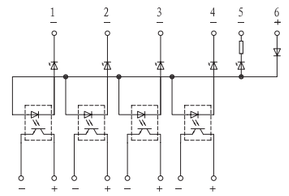
Thickness	
Width	
Height	

UDK2-04M...GC10 □

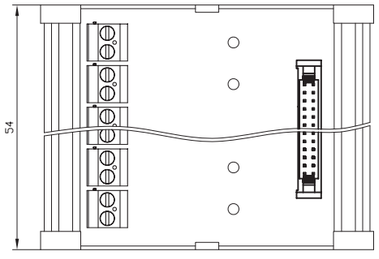


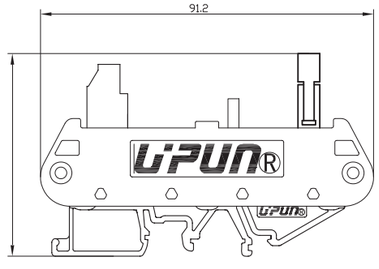
Electrical schematic





Dimension





Ordering data		Type	Order no.
4-channel module	5Vdc	UDK2-04M5Vdc-GC10	315019
	24Vdc	UDK2-04M24Vdc-GC10	315020
4-channel module	5Vdc	UDK2-04M5Vdc/GZ-GC10	315021
	24Vdc	UDK2-04M24Vdc/GZ-GC10	315022

Technical data

Type	UDK2-...5Vdc	UDK2-...24Vdc
Input voltage	5Vdc±20%	24Vdc±20%
Input current	≤4mA	≤2mA
Output switching voltage	5 ~ 48Vdc	5 ~ 48Vdc
Output switching current	50mA	50mA
Min. output switching current	50uA	50uA
Max. switching frequency Pulse ratio 1:2	100Hz	100Hz
Switch-on delay	12us	12us
Switch-off delay	15us	15us
Voltage drop at max. load	≤1V	≤1V

General data

Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

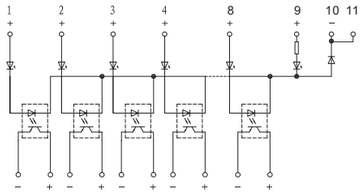
Dimension(see left-hand drawing)

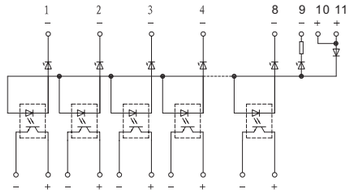
Thickness	
Width	
Height	

UDK2-08M...GC20 □

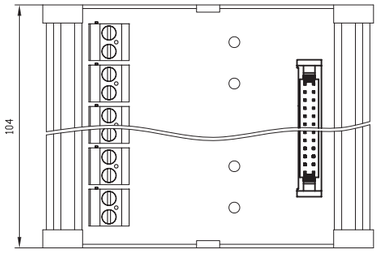


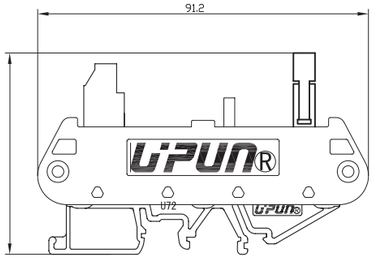
Electrical schematic





Dimension





Ordering data		Type	Order no.
8-channel module	5Vdc	UDK2-08M5Vdc-GC20	315023
	24Vdc	UDK2-08M24Vdc-GC20	315024
8-channel module	5Vdc	UDK2-08M5Vdc/GZ-GC20	315025
	24Vdc	UDK2-08M24Vdc/GZ-GC20	315026

Technical data			
Type		UDK2-...5Vdc	UDK2-...24Vdc
Input voltage		5Vdc±20%	24Vdc±20%
Input current		≤4mA	≤2mA
Output switching voltage		5 ~ 48Vdc	5 ~ 48Vdc
Output switching current		50mA	50mA
Min. output switching current		50uA	50uA
Max. switching frequency	Pulse ratio 1:2	100Hz	100Hz
Switch-on delay		12us	12us
Switch-off delay		15us	15us
Voltage drop at max. load		≤1V	≤1V

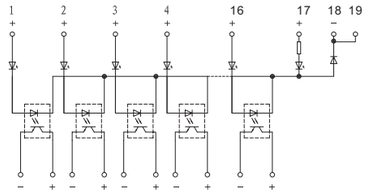
General data	
Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

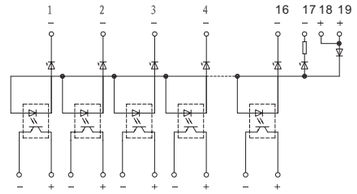
Dimension(see left-hand drawing)	
Thickness	
Width	
Height	

UDK2-016M...GC20 □

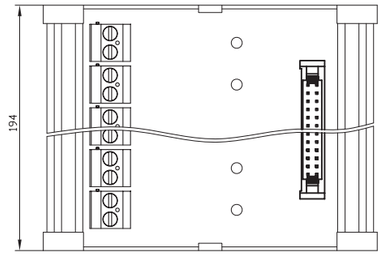


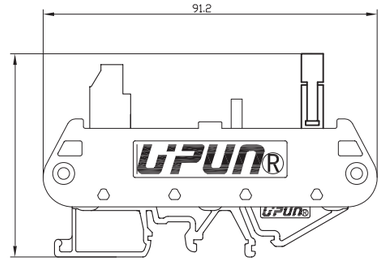
Electrical schematic





Dimension





Ordering data		Type	Order no.
16-channel module	5Vdc	UDK2-016M5Vdc-GC20	315027
	24Vdc	UDK2-016M24Vdc-GC20	315028
16-channel module	5Vdc	UDK2-016M5Vdc/GZ-GC20	315029
	24Vdc	UDK2-016M24Vdc/GZ-GC20	315030

Technical data			
Type		UDK2-...5Vdc	UDK2-...24Vdc
Input voltage		5Vdc±20%	24Vdc±20%
Input current		≤4mA	≤2mA
Output switching voltage		5 ~ 48Vdc	5 ~ 48Vdc
Output switching current		50mA	50mA
Min. output switching current		50uA	50uA
Max. switching frequency	Pulse ratio 1:2	100Hz	100Hz
Switch-on delay		12us	12us
Switch-off delay		15us	15us
Voltage drop at max. load		≤1V	≤1V

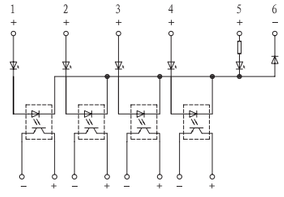
General data	
Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

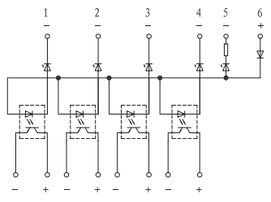
Dimension(see left-hand drawing)	
Thickness	
Width	
Height	

UDK2-04M...DB9 □

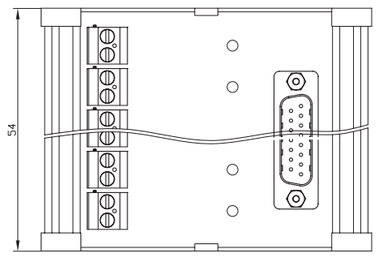


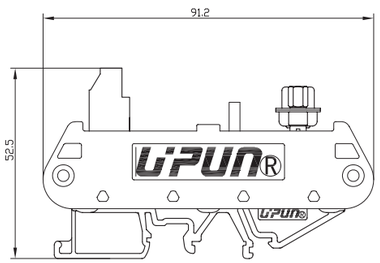
Electrical schematic





Dimension





Ordering data

		Type	Order no.
4-channel module Note: "Z" means male connector, female connector without "Z"	5Vdc	UDK2-04M5Vdc-DB9	315031
		UDK2-04M5Vdc-DB9Z	315049
	24Vdc	UDK2-04M24Vdc-DB9	315032
		UDK2-04M24Vdc-DB9Z	315050
4-channel module Note: "Z" means male connector, female connector without "Z"	5Vdc	UDK2-04M5Vdc/GZ-DB9	315033
		UDK2-04M5Vdc/GZ-DB9Z	315051
	24Vdc	UDK2-04M24Vdc/GZ-DB9	315034
		UDK2-04M24Vdc/GZ-DB9Z	315052

Technical data

Type	UDK2-...5Vdc	UDK2-...24Vdc
Input voltage	5Vdc±20%	24Vdc±20%
Input current	≤4mA	≤2mA
Output switching voltage	5 ~ 48Vdc	5 ~ 48Vdc
Output switching current	50mA	50mA
Min. output switching current	50uA	50uA
Max. switching frequency Pulse ratio 1:2	100Hz	100Hz
Switch-on delay	12us	12us
Switch-off delay	15us	15us
Voltage drop at max. load	≤1V	≤1V

General data

Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

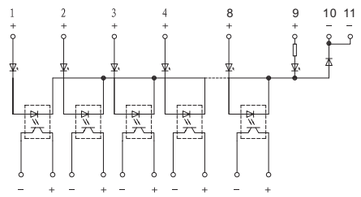
Dimension(see left-hand drawing)

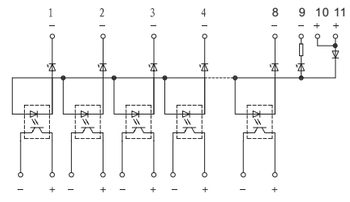
Thickness	
Width	
Height	

UDK2-08M...DB15 □

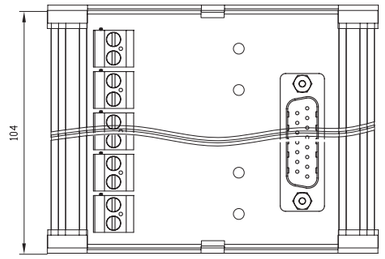


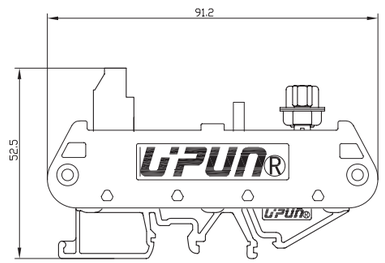
Electrical schematic





Dimension





Ordering data

		Type	Order no.
8-channel module Note: "Z" means male connector, female connector without ""	5Vdc	UDK2-08M5Vdc-DB15	315035
		UDK2-08M5Vdc-DB15Z	315053
	24Vdc	UDK2-08M24Vdc-DB15	315036
		UDK2-08M24Vdc-DB15Z	315054
8-channel module Note: "Z" means male connector, female connector without ""	5Vdc	UDK2-08M5Vdc/GZ-DB15	315037
		UDK2-08M5Vdc/GZ-DB15Z	315055
	24Vdc	UDK2-08M24Vdc/GZ-DB15	315038
		UDK2-08M24Vdc/GZ-DB15Z	315056

Technical data

Type	UDK2-...5Vdc	UDK2-...24Vdc
Input voltage	5Vdc±20%	24Vdc±20%
Input current	≤4mA	≤2mA
Output switching voltage	5 ~ 48Vdc	5 ~ 48Vdc
Output switching current	50mA	50mA
Min. output switching current	50uA	50uA
Max. switching frequency Pulse ratio 1:2	100Hz	100Hz
Switch-on delay	12us	12us
Switch-off delay	15us	15us
Voltage drop at max. load	≤1V	≤1V

General data

Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

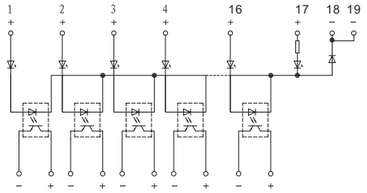
Dimension(see left-hand drawing)

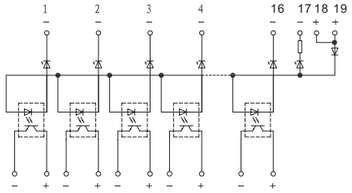
Thickness	
Width	
Height	

UDK2-016M...DB25 □



Electrical schematic





Dimension

Ordering data		Type	Order no.
16-channel module	5Vdc	UDK2-016M5Vdc-DB25	315039
Note: “Z” means male connector , female connector without “Z”	24Vdc	UDK2-016M24Vdc-DB25Z	315057
		UDK2-016M24Vdc-DB25	315040
		UDK2-016M24Vdc-DB25Z	315058
16-channel module	5Vdc	UDK2-016M5Vdc/GZ-DB25	315041
Note: “Z” means male connector , female connector without “Z”	24Vdc	UDK2-016M24Vdc/GZ-DB25Z	315059
		UDK2-016M24Vdc/GZ-DB25	315042
		UDK2-016M24Vdc/GZ-DB25Z	315060

Technical data			
Type		UDK2-...5Vdc	UDK2-...24Vdc
Input voltage		5Vdc±20%	24Vdc±20%
Input current		≤4mA	≤2mA
Output switching voltage		5 ~ 48Vdc	5 ~ 48Vdc
Output switching current		50mA	50mA
Min. output switching current		50uA	50uA
Max. switching frequency	Pulse ratio 1:2	100Hz	100Hz
Switch-on delay		12us	12us
Switch-off delay		15us	15us
Voltage drop at max. load		≤1V	≤1V

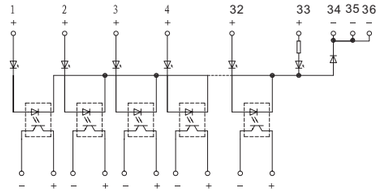
General data	
Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

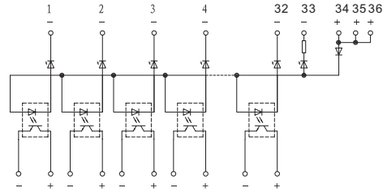
Dimension(see left-hand drawing)	
Thickness	
Width	
Height	

UDK2-032M □



Electrical schematic





Dimension

Ordering data		Type	Order no.
32-channel module	5Vdc	UDK2-032M5Vdc	315043
	24Vdc	UDK2-032M24Vdc	315044
	220Vdc	UDK2-032M220Vdc	315045
32-channel module	5Vdc	UDK2-032M5Vdc/GZ	315046
	24Vdc	UDK2-032M24Vdc/GZ	315047
	220Vdc	UDK2-032M220Vdc/GZ	315048

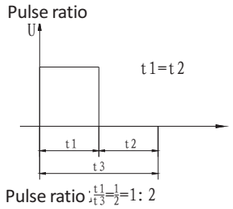
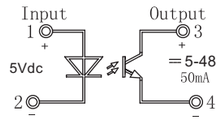
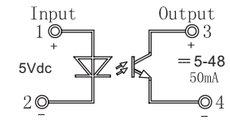
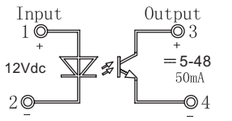
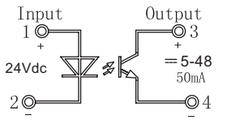
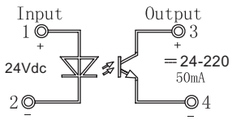
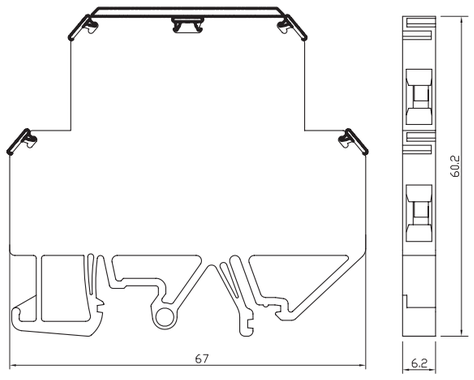
Technical data				
Type		UDK2-...5Vdc	UDK2-...24Vdc	UDK2-...220Vdc
Input voltage		5Vdc±20%	24Vdc±20%	220Vdc±20%
Input current		≤4mA	≤2mA	≤2mA
Output switching voltage		5 ~ 48Vdc	5 ~ 48Vdc	5 ~ 48Vdc
Output switching current		50mA	50mA	50mA
Min. output switching current		50uA	50uA	50uA
Max. switching frequency	Pulse ratio 1:2	100Hz	100Hz	100Hz
Switch-on delay		12us	12us	12us
Switch-off delay		15us	15us	15us
Voltage drop at max. load		≤1V	≤1V	≤1V

General data	
Rated breakdown voltage	4KV
Surge voltage category	V1
Pollution degree	2
Clearance and creepage distance	≥3mm
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

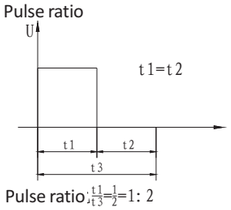
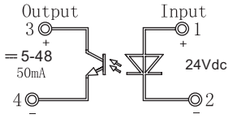
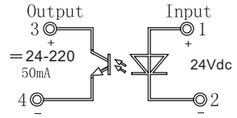
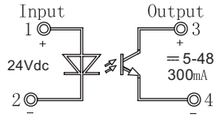
Dimension(see left-hand drawing)	
Thickness	
Width	
Height	

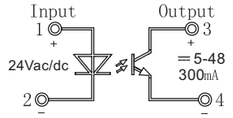
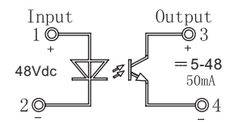
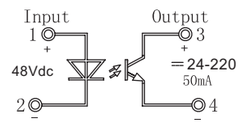
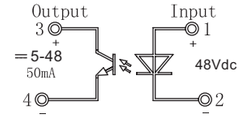
UDK-O Optocoupler

Optocoupler

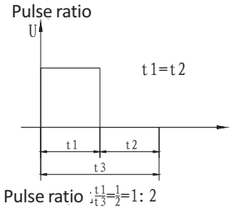
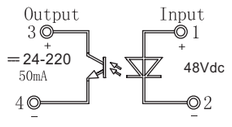
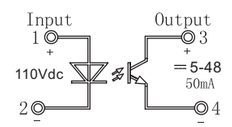
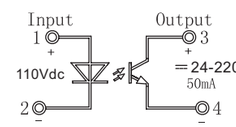
	UDK-0 5Vdc	UDK-0G 5Vdc	UDK-0 12Vdc	UDK-0 24Vdc	UDK-0 24Vdc/220Vdc
					
Electrical schematic					
						
Dimension					
					
Ordering data	**Type**	**Order no.**	**Type**	**Order no.**	**Type**	**Order no.**	**Type**	**Order no.**
	UDK-O 5Vdc	313015	UDK-OG 5Vdc	313016	UDK-O 12Vdc	313001	UDK-O 24Vdc	313002	UDK-O 24Vdc/220Vdc	313018
Technical data										
Input voltage	5Vdc±10%		5Vdc±10%		12Vdc±10%		24Vdc±10%		24Vdc±10%	
Input current	≤2.1mA		≤2.1mA		≤2.1mA		≤2.1mA		≤2.1mA	
Output switching voltage	5 ~ 48Vdc		5 ~ 48Vdc		5 ~ 48Vdc		5 ~ 48Vdc		24 ~ 220Vdc	
Output switching current	50mA		50mA		50mA		50mA		50mA	
Min. output switching current	50uA		50uA		50uA		50uA		50uA	
Max. switching frequency	100Hz		1KHz		100Hz		100Hz		100Hz	
Turn-on time	≤100us		≤100us		≤100us		≤100us		≤100us	
Turn-off time	≤100us		≤100us		≤100us		≤100us		≤100us	
Voltage drop at max. load	≤1V		≤1V		≤1V		≤1V		≤1V	
General data										
Rated breakdown voltage	4KV		4KV		4KV		4KV		4KV	
Surge voltage category	V1		V1		V1		V1		V1	
Pollution degree	2		2		2		2		2	
Clearance and creepage distance	≥3mm		≥3mm		≥3mm		≥3mm		≥3mm	
Working temperature	-25˚C ~ +40˚C		-25˚C ~ +40˚C		-25˚C ~ +40˚C		-25˚C ~ +40˚C		-25˚C ~ +40˚C	
Cross section(AWG)	AWG20 ~ 12		AWG20 ~ 12		AWG20 ~ 12		AWG20 ~ 12		AWG20 ~ 12	
Cross section	0.5mm² ~ 4mm²		0.5mm² ~ 4mm²		0.5mm² ~ 4mm²		0.5mm² ~ 4mm²		0.5mm² ~ 4mm²	
Dimension(see left-hand drawing)										
Width/Thickness/Height	67/6.2/60.2mm		67/6.2/60.2mm		67/6.2/60.2mm		67/6.2/60.2mm		67/6.2/60.2mm	
Accessories	**Type**	**Order no.**	**Type**	**Order no.**	**Type**	**Order no.**	**Type**	**Order no.**	**Type**	**Order no.**
Dustproof cover 	UDK-F	312002	UDK-F	312002	UDK-F	312002	UDK-F	312002	UDK-F	312002
End cover 	UDK-G	312001	UDK-G	312001	UDK-G	312001	UDK-G	312001	UDK-G	312001
Insertion bridge										
2-pos. 	UEB 2-6	013019	UEB 2-6	013019	UEB 2-6	013019	UEB 2-6	013019	UEB 2-6	013019
3-pos.	UEB 3-6	013027	UEB 3-6	013027	UEB 3-6	013027	UEB 3-6	013027	UEB 3-6	013027
10-pos.	UEB10-6	013013	UEB10-6	013013	UEB10-6	013013	UEB10-6	013013	UEB10-6	013013

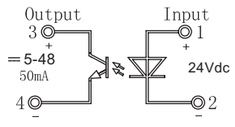
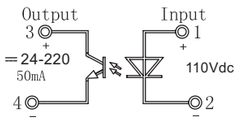
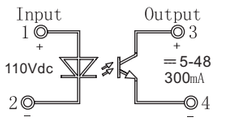
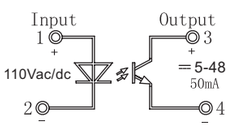
Optocoupler

	UDK-0 24Vdc/C	UDK-0 24Vdc/220Vdc/C	UDK-0 24Vdc/D
			
Electrical schematic			
	Pulse ratio  Pulse ratio: $\frac{t1}{t3}=\frac{1}{2}$=1: 2	 	 	
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-O 24Vdc/C 313003	UDK-O 24Vdc/220Vdc/C 313019	UDK-O 24Vdc/D 313004
Technical data			
Input voltage	24Vdc±10%	24Vdc±10%	24Vdc±10%
Input current	≤2.1mA	≤2.1mA	≤2.1mA
Output switching voltage	5 ~ 48Vdc	24 ~ 220Vdc	5 ~ 48Vdc
Output switching current	50mA	50mA	300mA
Min. output switching current	50uA	50uA	50uA
Max. switching frequency	100Hz	100Hz	100Hz
Turn-on time	≤100us	≤100us	≤100us
Turn-off time	≤100us	≤100us	≤100us
Voltage drop at max. load	≤1V	≤1V	≤1V
General data			
Rated breakdown voltage	4KV	4KV	4KV
Surge voltage category	V1	V1	V1
Pollution degree	2	2	2
Clearance and creepage distance	≥3mm	≥3mm	≥3mm
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension			
Width/Thickness/Height	67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm
Accessories	Type / Order no.	Type / Order no.	Type / Order no.
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge			
2-pos. 	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

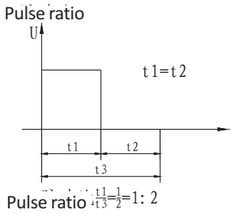
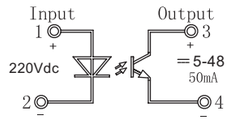
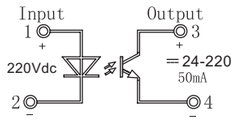
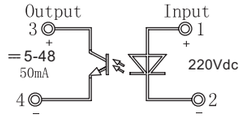
	UDK-0 24Vac/dc	UDK-0 48Vdc	UDK-0 48Vdc/220Vdc	UDK-0 48Vdc/C
				
Electrical schematic				
	 	 	 	
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-O 24Vac/dc 313017	UDK-O 48Vdc 313006	UDK-O 48Vdc/220Vdc 313020	UDK-O 48Vdc/C 313021
Technical data				
Input voltage	24Vac/dc±10%	48Vdc±10%	48Vdc±10%	48Vdc±10%
Input current	≤2.1mA	≤2.1mA	≤2.1mA	≤2.1mA
Output switching voltage	5 ~ 48Vdc	5 ~ 48Vdc	24 ~ 220Vdc	5 ~ 48Vdc
Output switching current	50mA	50mA	50mA	50mA
Min. output switching current	50uA	50uA	50uA	50uA
Max. switching frequency	DC:20Hz AC:5Hz	100Hz	100Hz	100Hz
Turn-on time	≤20ms	≤100us	≤100us	≤100us
Turn-off time	≤20ms	≤100us	≤100us	≤100us
Voltage drop at max. load	≤1V	≤1V	≤1V	≤1V
General data				
Rated breakdown voltage	4KV	4KV	4KV	4KV
Surge voltage category	V1	V1	V1	V1
Pollution degree	2	2	2	2
Clearance and creepage distance	≥3mm	≥3mm	≥3mm	≥3mm
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension				
Width/Thickness/Height	67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm
Accessories	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
Dustproof cover	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge				
2-pos.	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

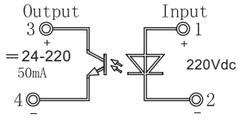
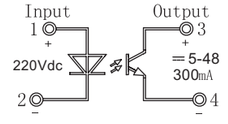
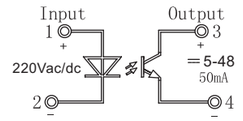
Optocoupler

	UDK-0 48Vdc/220Vdc/C	UDK-0 110Vdc	UDK-0 110Vdc/220Vdc
			
Electrical schematic			
				
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-O 48Vdc/220Vdc/C 313022	UDK-O 110Vdc 313007	UDK-O 110Vdc/220Vdc 313023
Technical data			
Input voltage	48Vdc±10%	110Vdc±10%	110Vdc±10%
Input current	≤2.1mA	≤2.1mA	≤2.1mA
Output switching voltage	24 ~ 220Vdc	5 ~ 48Vdc	24 ~ 220Vdc
Output switching current	50mA	50mA	50mA
Min. output switching current	50uA	50uA	50uA
Max. switching frequency	100Hz	100Hz	100Hz
Turn-on time	≤100us	≤100us	≤100us
Turn-off time	≤100us	≤100us	≤100us
Voltage drop at max. load	≤1V	≤1V	≤1V
General data			
Rated breakdown voltage	4KV	4KV	4KV
Surge voltage category	V1	V1	V1
Pollution degree	2	2	2
Clearance and creepage distance	≥3mm	≥3mm	≥3mm
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension			
Width/Thickness/Height	67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm
Accessories	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge			
2-pos. 	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

	UDK-0 110Vdc/C	UDK-0 110Vdc/220Vdc/C	UDK-0 110Vdc/D	UDK-0 110Vac/dc
				
				
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
UDK-O 110Vdc/C 313008	UDK-O 110Vdc/220Vdc/C 313024	UDK-O 110Vdc/D 313009	UDK-O 110Vac/dc 313018	
110Vdc±10%	110Vdc±10%	110Vdc±10%	110Vac/dc±10%	
≤2.1mA	≤2.1mA	≤2.1mA	≤2.1mA	
5 ~ 48Vdc	24 ~ 220Vdc	5 ~ 48Vdc	5 ~ 48Vdc	
50mA	50mA	300mA	50mA	
50uA	50uA	50uA	50uA	
100Hz	100Hz	100Hz	DC:20Hz AC:5Hz	
≤100us	≤100us	≤100us	≤20ms	
≤100us	≤100us	≤100us	≤20ms	
≤1V	≤1V	≤1V	≤1V	
4KV	4KV	4KV	4KV	
V1	V1	V1	V1	
2	2	2	2	
≥3mm	≥3mm	≥3mm	≥3mm	
-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	
AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12	
0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	
67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm	
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	
UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002	
UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001	
UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	
UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	
UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	

Optocoupler

	UDK-0 220Vdc	UDK-0 220Vdc/220Vdc	UDK-0 220Vdc/C
			
Electrical schematic			
				
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-O 220Vdc 313010	UDK-O 220Vdc/220Vdc 313025	UDK-O 220Vdc/C 313011
Technical data			
Input voltage	220Vdc±10%	220Vdc±10%	22Vdc±10%
Input current	≤2.1mA	≤2.1mA	≤2.4mA
Output switching voltage	5 ~ 48Vdc	24 ~ 220Vdc	5 ~ 48Vdc
Output switching current	50mA	50mA	50mA
Min. output switching current	50uA	50uA	50uA
Max. switching frequency	100Hz	100Hz	100Hz
Turn-on time	≤100us	≤100us	≤100us
Turn-off time	≤100us	≤100us	≤100us
Voltage drop at max. load	≤1V	≤1V	≤1V
General data			
Rated breakdown voltage	4KV	4KV	4KV
Surge voltage category	V1	V1	V1
Pollution degree	2	2	2
Clearance and creepage distance	≥3mm	≥3mm	≥3mm
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension			
Width/Thickness/Height	67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm
Accessories	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge			
2-pos. 	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

	UDK-0 220Vdc/220Vdc/C	UDK-0 220Vdc/D	UDK-0 220Vac/dc
			
Electrical schematic			
			
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-O 220Vdc/220Vdc/C 313026	UDK-O 220Vdc/D 313012	UDK-O 220Vac/dc 313013
	220Vdc±10%	220Vdc±10%	220Vac/dc±10%
	≤2.1mA	≤2.1mA	≤2.4mA/2.1mA
	24 ~ 220Vdc	5 ~ 48Vdc	5 ~ 48Vdc
	50mA	300mA	50mA
	50uA	50uA	50uA
	100Hz	100Hz	DC:20Hz AC:5Hz
	≤100us	≤100us	≤20ms
	≤100us	≤100us	≤20ms
	≤1V	≤1V	≤1V
	4KV	4KV	4KV
	V1	V1	V1
	2	2	2
	≥3mm	≥3mm	≥3mm
	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
	67/6.2/60.2mm	67/6.2/60.2mm	67/6.2/60.2mm
Type / Order no.	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-F 312002	UDK-F 312002	UDK-F 312002
	UDK-G 312001	UDK-G 312001	UDK-G 312001
	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

UDK-O Optocoupler

Optocoupler

UDK3-0 12Vdc



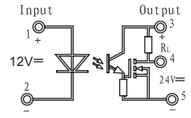
UDK3-0 24Vdc

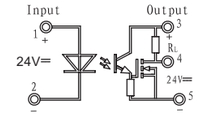


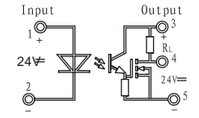
UDK3-0 24Vac/dc



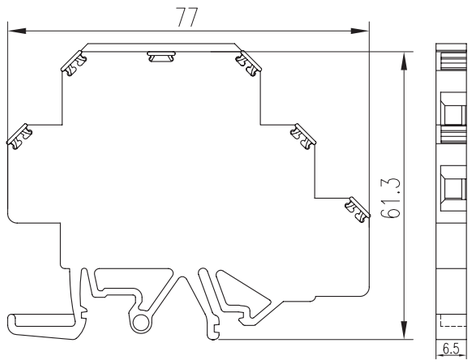
Electrical schematic







Dimension



Ordering data	Type	Order no.	Type	Order no.	Type	Order no.
	UDK3-O 12Vdc	316002	UDK3-O 24Vdc	316003	UDK3-O 24Vac/dc	316004
Technical data						
Input voltage	12Vdc±10%		24Vdc±10%		24Vac/dc±10%	
Input current	≤10mA		≤10mA		≤10mA	
Output switching voltage	24Vdc		24Vdc		24Vdc	
Output switching current	1A		1A		1A	
Min. output switching current	50uA		50uA		50uA	
Max. switching frequency	100Hz		100Hz		DC:20Hz AC:5Hz	
Turn-on time	≤100us		≤100us		≤20ms	
Turn-off time	≤100us		≤100us		≤20ms	
Voltage drop at max. load	≤1V		≤1V		≤1V	
General data						
Rated breakdown voltage	4KV		4KV		4KV	
Surge voltage category	V1		V1		V1	
Pollution degree	2		2		2	
Clearance and creepage distance	≥3mm		≥3mm		≥3mm	
Working temperature	-25˚C ~ +40˚C		-25˚C ~ +40˚C		-25˚C ~ +40˚C	
Cross section(AWG)	AWG20 ~ 12		AWG20 ~ 12		AWG20 ~ 12	
Cross section	0.5mm² ~ 4mm²		0.5mm² ~ 4mm²		0.5mm² ~ 4mm²	
Dimension(see left-hand drawing)						
Width/Thickness/Height	77/6.5/61.3mm		77/6.5/61.3mm		77/6.5/61.3mm	
Accessories	**Type**	**Order no.**	**Type**	**Order no.**	**Type**	**Order no.**
Dustproof cover 	UDK-F	312002	UDK-F	312002	UDK-F	312002
End cover 	UDK3-G	312003	UDK3-G	312003	UDK3-G	312003
Insertion bridge						
2-pos. 	UEB 2-6	013019	UEB 2-6	013019	UEB 2-6	013019
3-pos.	UEB 3-6	013027	UEB 3-6	013027	UEB 3-6	013027
10-pos.	UEB10-6	013013	UEB10-6	013013	UEB10-6	013013

UDK-O Optocoupler

High frequency optocoupler

UDK3-0G 5Vdc

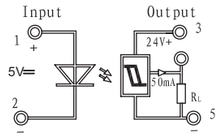
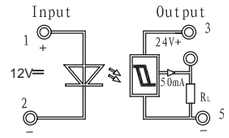
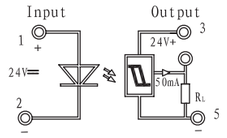


UDK3-0G 12Vdc

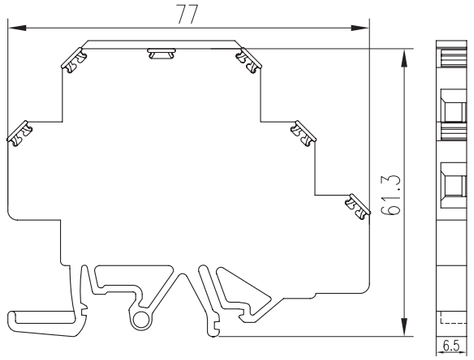


UDK3-0G 24Vdc



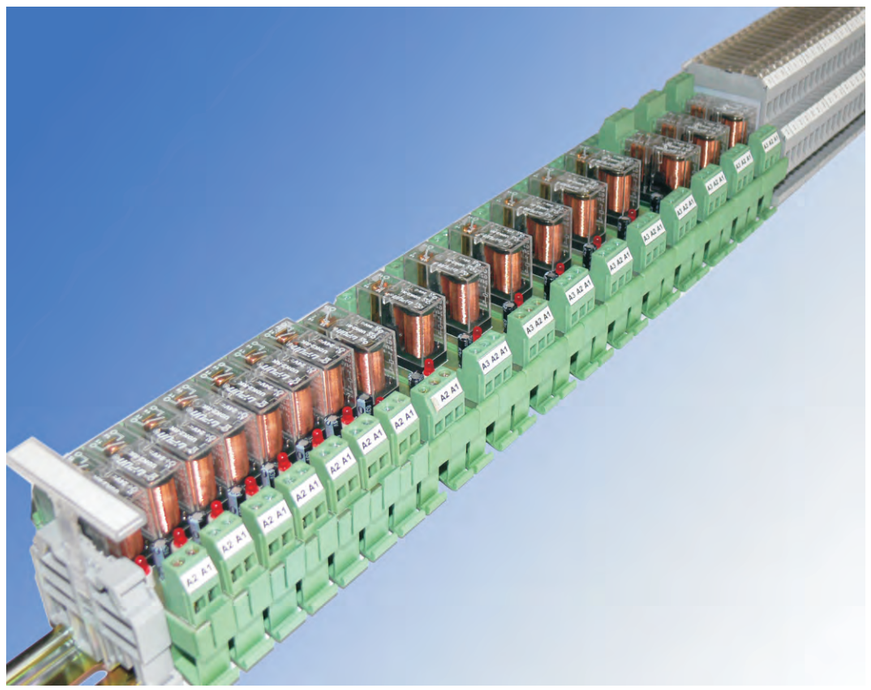
Electrical schematic			
			

Dimension



Ordering data	Type	Order no.	Type	Order no.	Type	Order no.
	UDK3-OG 5Vdc	316010	UDK3-OG 12Vdc	316011	UDK3-OG 24Vdc	316012
Technical data						
Input voltage	5Vdc±10%		12Vdc±10%		24Vdc±10%	
Input current	≤10mA		≤10mA		≤10mA	
Output switching voltage	24Vdc		24Vdc		24Vdc	
Output switching current	50mA		50mA		50mA	
Min. output switching current	50uA		50uA		50uA	
Max. switching frequency	100KHz		100KHz		100KHz	
Turn-on time	≤20ms		≤20ms		≤20ms	
Turn-off time	≤20ms		≤20ms		≤20ms	
Voltage drop at max. load	≤1V		≤1V		≤1V	
General data						
Rated breakdown voltage	4KV		4KV		4KV	
Surge voltage category	V1		V1		V1	
Pollution degree	2		2		2	
Clearance and creepage distance	≥3mm		≥3mm		≥3mm	
Working temperature	-25˚C ~ +40˚C		-25˚C ~ +40˚C		-25˚C ~ +40˚C	
Cross section(AWG)	AWG20 ~ 12		AWG20 ~ 12		AWG20 ~ 12	
Cross section	0.5mm² ~ 4mm²		0.5mm² ~ 4mm²		0.5mm² ~ 4mm²	
Dimension(see left-hand drawing)						
Width/Thickness/Height	77/6.5/61.3mm		77/6.5/61.3mm		77/6.5/61.3mm	
Accessories	**Type**	**Order no.**	**Type**	**Order no.**	**Type**	**Order no.**
Dustproof cover 	UDK-F	312002	UDK-F	312002	UDK-F	312002
End cover 	UDK3-G	312003	UDK3-G	312003	UDK3-G	312003
Insertion bridge						
2-pos. 	UEB 2-6	013019	UEB 2-6	013019	UEB 2-6	013019
3-pos.	UEB 3-6	013027	UEB 3-6	013027	UEB 3-6	013027
10-pos.	UEB10-6	013013	UEB10-6	013013	UEB10-6	013013

Relay module



Type

U DK □-□ □/□/□

A:New-type
C:New-type reverse connection
D:New-type high current

Input voltage
5V, 12V, 24V、
48V, 110V, 220V
AC or DC
AC/DC,eg:220Vac/dc

Output
K:1 normally open
B:1 normally closed
P:High current
I:1 change-over
II:2 change-over

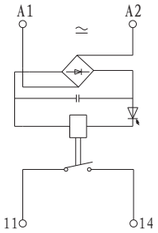
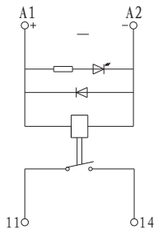
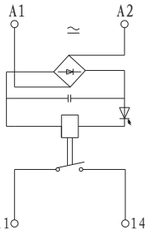
R:relay module

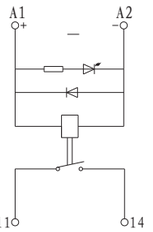
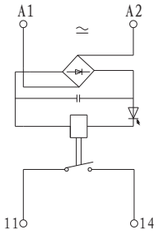
Design no.

Electronics

Company code

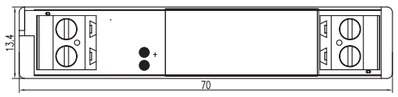
UDK-R Relay module

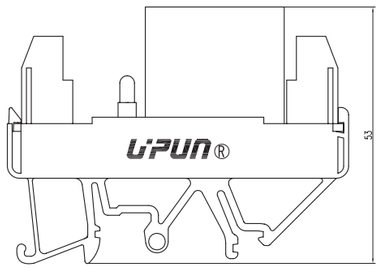
	UDK2-RK 48Vac/dc 1NO	UDK2-RK 110Vdc 1NO	UDK2-RK 110Vac/dc 1NO
			
Electrical schematic			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Omron relay	UDK2-RK 48Vac/dc 323006		
Omron relay(base included)	UDK2-RK 48Vac/dc-Z 327006		
HONGFA relay	UDK2-RK 48Vac/dc-H 326006	UDK2-RK 110Vdc 323007	UDK2-RK 110Vac/dc 323008
HONGFA relay(base included)	UDK2-RK 48Vac/dc-HZ 329006	UDK2-RK 110Vdc-HZ 329007	UDK2-RK 110Vac/dc-HZ 329008
Technical data			
Input voltage	48Vac/dc±10%	110Vdc±10%	110Vac/dc±10%
Input current	Approx. 20.3mA	Approx. 7mA	Approx. 4.6mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms
Release time	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5
General data			
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension			
Thickness	13.4mm	13.4mm	13.4mm
Width	70mm	70mm	70mm
Height TH35×7.5 G32×15	55mm/59mm	55mm/59mm	55mm/59mm

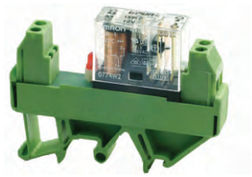
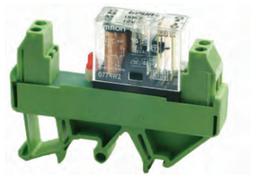
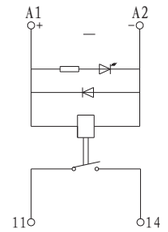
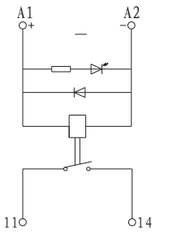
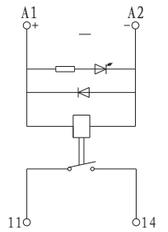
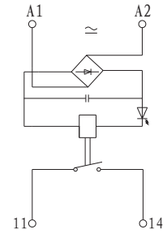
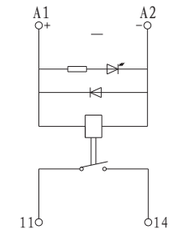
	UDK2-RK 220Vdc 1NO	UDK2-RK 220Vac/dc 1NO
		
Electrical schematic		
Type / Order no.	**Type / Order no.**	**Type / Order no.**
UDK2-RK 220Vdc 323009	UDK2-RK 220Vac/dc 323010	
UDK2-RK 220Vdc-HZ 329009	UDK2-RK 220Vac/dc-HZ 329010	
220Vdc±10%	220Vac/dc±10%	
Approx. 4.5mA	Approx. 4.4mA	
85%Ue	85%Ue	
30%Ue	30%Ue	
15ms	15ms	
5ms	5ms	
250Vac/30Vdc	250Vac/30Vdc	
10A	10A	
1800 cycles/h	1800 cycles/h	
AgCdo	AgCdo	
1×10^7	1×10^7	
1×10^5	1×10^5	
2500Vac	2500Vac	
1000Vac	1000Vac	
2	2	
-25˚C ~ +40˚C	-25˚C ~ +40˚C	
AWG20 ~ 13	AWG20 ~ 13	
0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	
13.4mm	13.4mm	
70mm	70mm	
55mm/59mm	55mm/59mm	

UDK-R Relay module

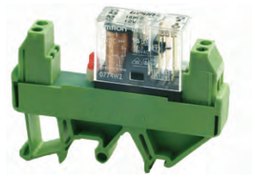
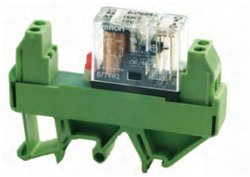
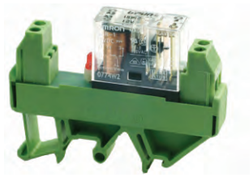
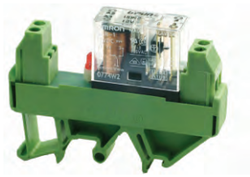
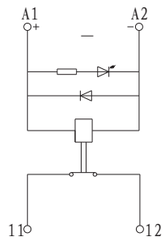
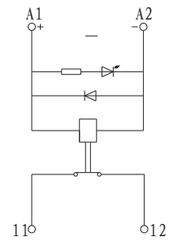
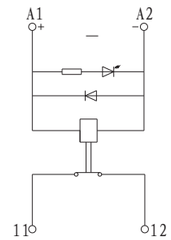
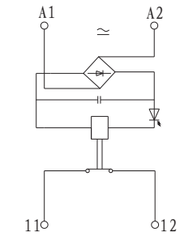
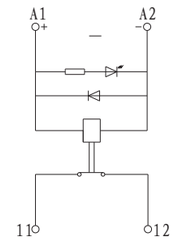
Dimension



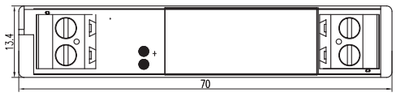


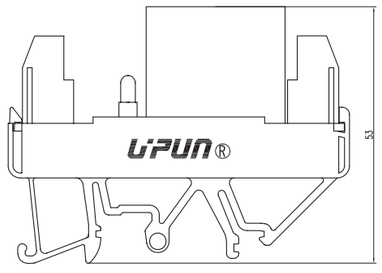
Relay module	UDK2-RK 5Vdc 1NO	UDK2-RK 12Vdc 1NO	UDK2-RK 24Vdc 1NO	UDK2-RK 24Vac/dc 1NO	UDK2-RK 48Vdc 1NO
					
Electrical schematic					
					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
Omron relay	UDK2-RK 5Vdc 323001	UDK2-RK 12Vdc 323002	UDK2-RK 24Vdc 323003	UDK2-RK 24Vac/dc 323004	UDK2-RK 48Vdc 323005
Omron relay(base included)	UDK2-RK 5Vdc-Z 327001	UDK2-RK 12Vdc-Z 327002	UDK2-RK 24Vdc-Z 327003	UDK2-RK 24Vac/dc-Z 327004	UDK2-RK 48Vdc-Z 327005
HONGFA relay	UDK2-RK 5Vdc-H 326001	UDK2-RK 12Vdc-H 326002	UDK2-RK 24Vdc-H 326003	UDK2-RK 24Vac/dc-H 326004	UDK2-RK 48Vdc-H 326005
HONGFA relay(base included)	UDK2-RK 5Vdc-HZ 329001	UDK2-RK 12Vdc-HZ 329002	UDK2-RK 24Vdc-HZ 329003	UDK2-RK 24Vac/dc-HZ 329004	UDK2-RK 48Vdc-HZ 329005
Technical data					
Input voltage	5Vdc±10%	12Vdc±10%	24Vdc±10%	24Vac/dc±10%	48Vdc±10%
Input current	Approx. 90mA	Approx. 40mA	Approx. 22mA	Approx. 20mA	Approx. 18mA
Response voltage	85%Ue	85%Ue	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms	15ms	15ms
Release time	5ms	5ms	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5	1×10^5	1×10^5
General data					
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2	2
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension					
Thickness	13.4mm	13.4mm	13.4mm	13.4mm	13.4mm
Width	70mm	70mm	70mm	70mm	70mm
Height TH35×7.5 G32×15	55mm/59mm	55mm/59mm	55mm/59mm	55mm/59mm	55mm/59mm

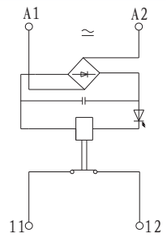
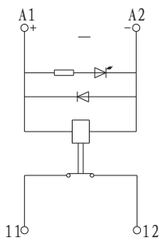
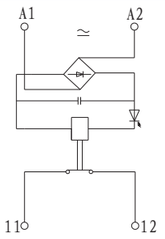
UDK-R Relay module

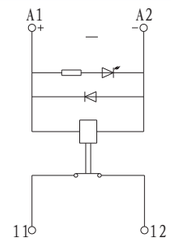
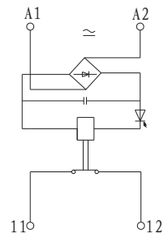
Relay module	UDK2-RB 5Vdc 1NC	UDK2-RB 12Vdc 1NC	UDK2-RB 24Vdc 1NC	UDK2-RB 24Vac/dc 1NC	UDK2-RB 48Vdc 1NC
					
Electrical schematic					
					
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Omron relay	UDK2-RB 5Vdc 323030	UDK2-RB 12Vdc 323031	UDK2-RB 24Vdc 323032	UDK2-RB 24Vac/dc 323033	UDK2-RB 48Vdc 323034
Omron relay(base included)	UDK2-RB 5Vdc-Z 327007	UDK2-RB 12Vdc-Z 327008	UDK2-RB 24Vdc-Z 327009	UDK2-RB 24Vac/dc-Z 327010	UDK2-RB 48Vdc-Z 327011
HONGFA relay	UDK2-RB 5Vdc-H 326017	UDK2-RB 12Vdc-H 326018	UDK2-RB 24Vdc-H 326019	UDK2-RB 24Vac/dc-H 326020	UDK2-RB 48Vdc-H 326021
HONGFA relay(base included)	UDK2-RB 5Vdc-HZ 329029	UDK2-RB 12Vdc-HZ 329030	UDK2-RB 24Vdc-HZ 329031	UDK2-RB 24Vac/dc-HZ 329032	UDK2-RB 48Vdc-HZ 329033
Technical data					
Input voltage	5Vdc±10%	12Vdc±10%	24Vdc±10%	24Vac/dc±10%	48Vdc±10%
Input current	Approx. 90mA	Approx. 40mA	Approx. 22mA	Approx. 20mA	Approx.18mA
Response voltage	85%Ue	85%Ue	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms	15ms	15ms
Release time	5ms	5ms	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5	1×10^5	1×10^5
General data					
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2	2
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension					
Thickness	13.4mm	13.4mm	13.4mm	13.4mm	13.4mm
Width	70mm	70mm	70mm	70mm	70mm
Height TH35×7.5 G32×15	55mm/59mm	55mm/59mm	55mm/59mm	55mm/59mm	55mm/59mm

Dimension



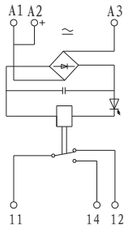
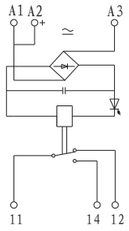
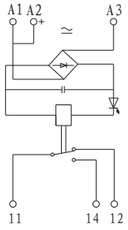
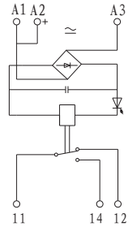


Relay module	UDK2-RB 48Vac/dc 1NC	UDK2-RB 110Vdc 1NC	UDK2-RB 110Vac/dc 1NC
			
Electrical schematic			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Omron relay	UDK2-RB 48Vac/dc 323035		
Omron relay(base included)	UDK2-RB 48Vac/dc-Z 327012		
HONGFA relay	UDK2-RB 48Vac/dc-H 326022	UDK2-RB 110Vdc 323036	UDK2-RB 110Vac/dc 323037
HONGFA relay(base included)	UDK2-RB 48Vac/dc-HZ 329034	UDK2-RB 110Vdc-HZ 329035	UDK2-RB 110Vac/dc-HZ 329036
Technical data			
Input voltage	48Vac/dc±10%	110Vdc±10%	110Vac/dc±10%
Input current	Approx. 20.3mA	Approx. 7mA	Approx. 4.5mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms
Release time	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5
General data			
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension			
Thickness	13.4mm	13.4mm	13.4mm
Width(vertically mounted on the rails)	70mm	70mm	70mm
Height TH35×7.5 G32×15	55mm/59mm	55mm/59mm	55mm/59mm

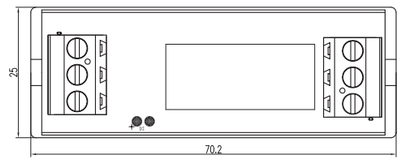
	UDK2-RB 220Vdc 1NC	UDK2-RB 220Vac/dc 1NC
		
Electrical schematic		
Ordering data	**Type / Order no.**	**Type / Order no.**
	UDK2-RB 220Vdc 323038	UDK2-RB 220Vac/dc 323039
	UDK2-RB 220Vdc-HZ 329037	UDK2-RB 220Vac/dc-HZ 329038
Technical data		
Input voltage	220Vdc±10%	220Vac/dc±10%
Input current	Approx. 4.5mA	Approx. 4.4mA
Response voltage	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue
Response time	15ms	15ms
Release time	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5
General data		
Test voltage(winding/contact)	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac
Pollution degree	2	
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension		
Thickness	13.4mm	13.4mm
Width(vertically mounted on the rails)	70mm	70mm
Height TH35×7.5 G32×15	55mm/59mm	55mm/59mm

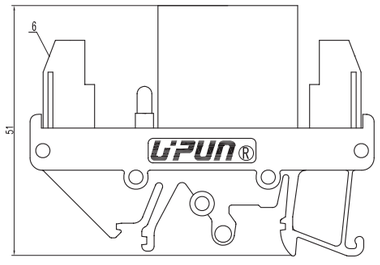
UDK-R Relay module

Relay module

	UDK2-RI 24Vac/dc 1 change-over	UDK2-RI 48Vac/dc 1 change-over	UDK2-RI 110Vac/dc 1 change-over	UDK2-RI 220Vac/dc 1 change-over
				
Electrical schematic				
				
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Omron relay	UDK2-RI 24Vac/dc 323041	UDK2-RI 48Vac/dc 323012		
Omron relay(base included)	UDK2-RI 24Vac/dc-Z 327018	UDK2-RI 48Vac/dc-Z 327019		
HONGFA relay	UDK2-RI 24Vac/dc-H 326008	UDK2-RI 48Vac/dc-H 326009	UDK2-RI 110Vac/dc 323014	UDK2-RI 220Vac/dc 323015
HONGFA relay(base included)	UDK2-RI 24Vac/dc-HZ 329012	UDK2-RI 48Vac/dc-HZ 329013	UDK2-RI 110Vac/dc-HZ 329015	UDK2-RI 220Vac/dc-HZ 329016
Technical data				
Input voltage	24Vac/dc±10%	48Vac/dc±10%	110Vac/dc±10%	220Vac/dc±10%
Input current	Approx. 18mA	Approx. 20mA	Approx. 4.8mA	Approx. 3mA
Response voltage	85%Ue	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms	15ms
Release time	5ms	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5	1×10^5
General data				
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension				
Thickness	25mm	25mm	25mm	25mm
Width	70mm	70mm	70mm	70mm
Height TH35×7.5 G32×15	52mm/56mm	52mm/56mm	52mm/56mm	52mm/56mm

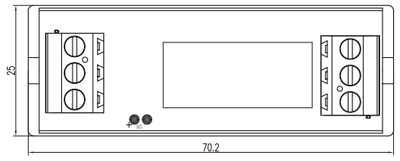
Dimension

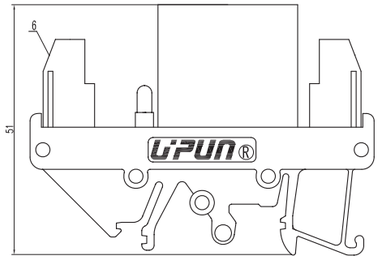


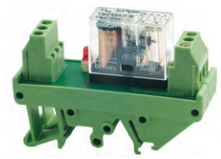
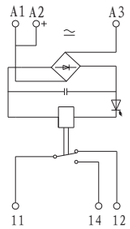
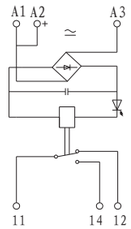
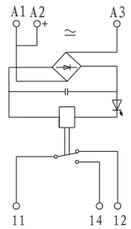
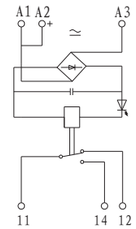


UDK-R Relay module

Dimension

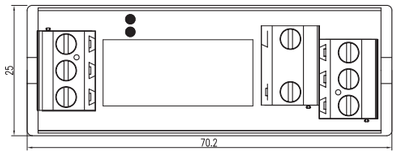


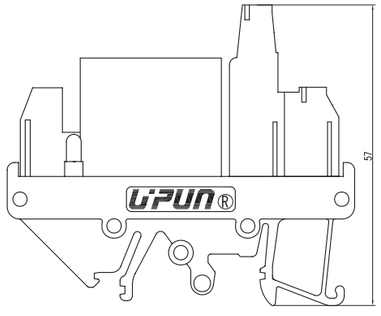


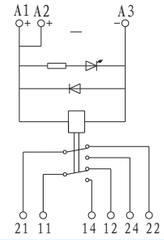
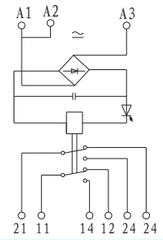
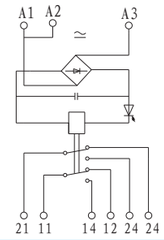
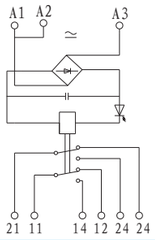
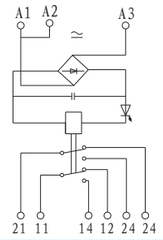
Relay module	UDK2-RP 24Vac/dc 1 change-over	UDK2-RP48Vac/dc 1 change-over	UDK2-RP 110Vac/dc 1 change-over	UDK2-RP 220Vac/dc 1 change-over
				
Electrical schematic				
				
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Omron relay	UDK2-RP 24Vac/dc 323042	UDK2-RP 48Vac/dc 323026		
Omron relay(base included)	UDK2-RP 24Vac/dc-Z 327044	UDK2-RP 48Vac/dc-Z 327020		
HONGFA relay	UDK2-RP 24Vac/dc-H 326043	UDK2-RP 48Vac/dc-H 326016	UDK2-RP 110Vac/dc 323028	UDK2-RP 220Vac/dc 323029
HONGFA relay(base included)	UDK2-RP 24Vac/dc-HZ 329064	UDK2-RP 48Vac/dc-HZ 329025	UDK2-RP 110Vac/dc-HZ 329027	UDK2-RP 220Vac/dc-HZ 329028
Technical data				
Input voltage	24Vac/dc±10%	48Vac/dc±10%	110Vdc±10%	220Vac/dc±10%
Input current	Approx. 20mA	Approx. 20mA	Approx. 4.6mA	Approx. 4.3mA
Response voltage	85%Ue	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms	15ms
Release time	5ms	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	16A	16A	16A	16A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5	1×10^5
General data				
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension				
Thickness	25mm	25mm	25mm	25mm
Width	70mm	70mm	70mm	70mm
Height TH35×7.5 G32×15	52mm/56mm	52mm/56mm	52mm/56mm	52mm/56mm

UDK-R Relay module

Dimension





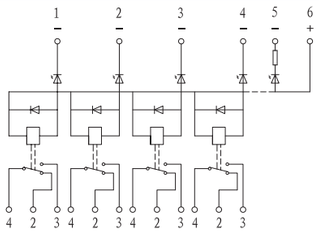
Relay module	UDK2-RII 24Vdc 2 change-over	UDK2-RII 24Vac/dc 2 change-over	UDK2-RII 48Vac/dc 2 change-over	UDK2-RII 110Vac/dc 2 change-over	UDK2-RII 220Vac/dc 2 change-over
					
Electrical schematic					
					
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Omron relay	UDK2-RII 24Vdc 323017	UDK2-RII 24Vac/dc 323018	UDK2-RII 48Vac/dc 323020		
Omron relay(base included)	UDK2-RII 24Vdc-Z 327022	UDK2-RII 24Vac/dc-Z 327023	UDK2-RII 48Vac/dc-Z 327025		
HONGFA relay	UDK2-RII 24Vdc-H 326011	UDK2-RII 24Vac/dc-H 326012	UDK2-RII 48Vac/dc-H 326014	UDK2-RII 110Vac/dc 323022	UDK2-RII 220Vac/dc 323023
HONGFA relay(base included)	UDK2-RII 24Vdc-HZ 329018	UDK2-RII 24Vac/dc-HZ 329019	UDK2-RII 48Vac/dc-HZ 329021	UDK2-RII 110Vac/dc-HZ 329022	UDK2-RII 220Vac/dc-HZ 329023
Technical data					
Input voltage	24Vdc±10%	24Vac/dc±10%	48Vac/dc±10%	110Vac/dc±10%	220Vac/dc±10%
Input current	Approx. 22mA	Approx. 25mA	Approx. 18mA	Approx. 4.5mA	Approx. 4.2mA
Response voltage	85%Ue	85%Ue	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms	15ms	15ms
Release time	5ms	5ms	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	5A	5A	5A	5A	5A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5	1×10^5	1×10^5
General data					
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2	2
Working temperature	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²	0.5mm² ~ 2.5mm²
Dimension					
Thickness	25mm	25mm	25mm	25mm	25mm
Width	70mm	70mm	70mm	70mm	70mm
Height TH35×7.5 G32×15	58mm/62mm	58mm/62mm	58mm/62mm	58mm/62mm	58mm/62mm

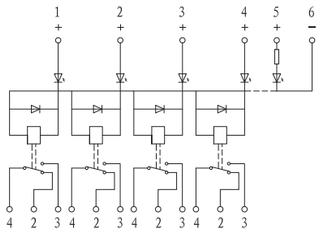
UDK2-R4M □

Relay module
4-channel relay



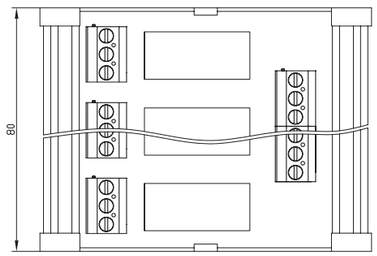
Electrical schematic





Ordering data		Type	Order no.
4-channel module	24Vdc	UDK2-R4M24Vdc	324033
	110Vdc	UDK2-R4M110Vdc	324034
	220Vdc	UDK2-R4M220Vdc	324035
4-channel module	24Vdc	UDK2-R4M24Vdc/GZ	324036
	110Vdc	UDK2-R4M110Vdc/GZ	324037
	220Vdc	UDK2-R4M220Vdc/GZ	324038

Dimension



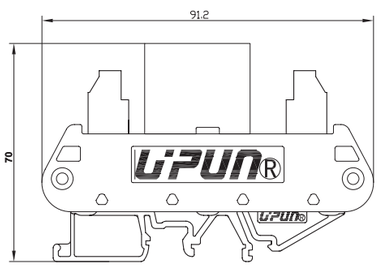


Figure 1

Technical data

Type	UDK2...24Vdc	UDK2...110Vdc	UDK...220Vdc
Input voltage	24Vdc±10%	110Vdc±10%	220Vdc±10%
Input current	Approx. 22mA	Approx. 4.6mA	Approx. 4.2mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms
Release time	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5

General data

Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension

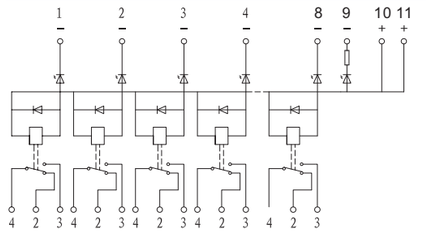
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

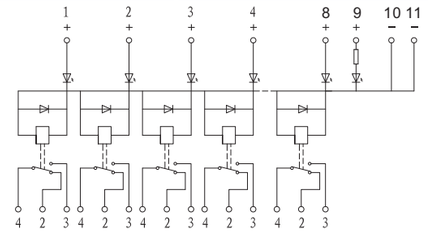
UDK2-R8M □

Relay module
8-channel relay



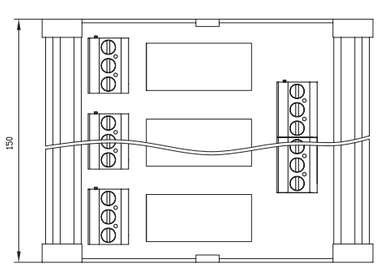
Electrical schematic





Ordering data		Type	Order no.
4-channel module	24Vdc	UDK2-R8M24Vdc	324039
	110Vdc	UDK2-R8M110Vdc	324040
	220Vdc	UDK2-R8M220Vdc	324041
4-channel module	24Vdc	UDK2-R8M24Vdc/GZ	324042
	110Vdc	UDK2-R8M110Vdc/GZ	324043
	220Vdc	UDK2-R8M220Vdc/GZ	324044

Dimension



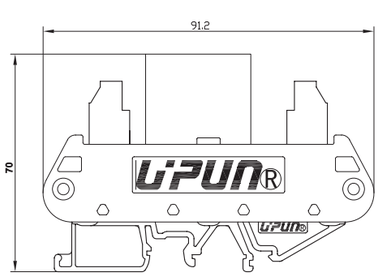


Figure 1

Technical data

Type	UDK2...24Vdc	UDK2...110Vdc	UDK2...220Vdc
Input voltage	24Vdc±10%	110Vdc±10%	220Vdc±10%
Input current	Approx. 22mA	Approx. 4.6mA	Approx. 4.2mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms
Release time	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5

General data

Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension

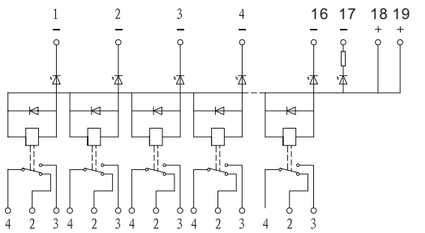
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

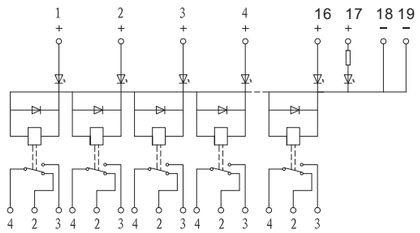
UDK2-R16M □

Relay module
16-channel relay



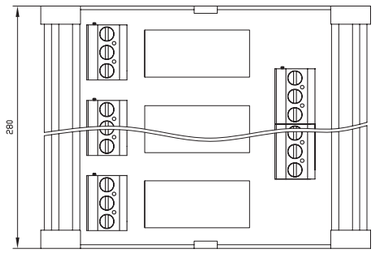
Electrical schematic





Ordering data		Type	Order no.
16-channel module	24Vdc	UDK2-R16M24Vdc	324045
	110Vdc	UDK2-R16M110Vdc	324046
	220Vdc	UDK2-R16M220Vdc	324047
16-channel module	24Vdc	UDK2-R16M24Vdc/GZ	324048
	110Vdc	UDK2-R16M110Vdc/GZ	324049
	220Vdc	UDK2-R16M220Vdc/GZ	324050

Dimension



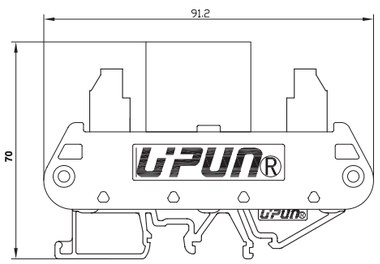


Figure 1

Technical data

Type	UDK2...24Vdc	UDK2...110Vdc	UDK2...220Vdc
Input voltage	24Vdc±10%	110Vdc±10%	220Vdc±10%
Input current	Approx. 22mA	Approx. 4.6mA	Approx. 4.2mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	15ms	15ms	15ms
Release time	5ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	10A	10A	10A
Max. switching frequency(rated load)	1800 cycles/h	1800 cycles/h	1800 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	1×10^7	1×10^7	1×10^7
Electrical life	1×10^5	1×10^5	1×10^5

General data

Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension

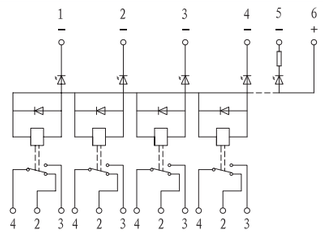
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

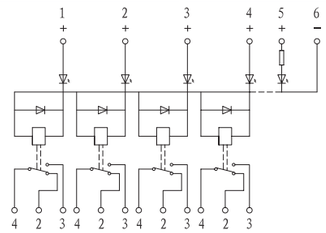
UDK2-R4M...DB9 □

Relay module
4-channel relay



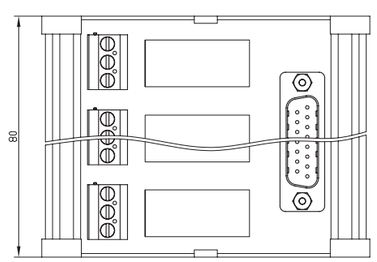
Electrical schematic





Ordering data		Type	Order no.
4-channel module	24Vdc	UDK2-R4M24Vdc-DB9	324051
Note:"Z" means male connector, female connector without "Z"		UDK2-R4M24Vdc-DB9Z	324052
4-channel module	24Vdc	UDK2-R4M24Vdc/GZ-DB9	324053
Note:"Z" means male connector, female connector without "Z"		UDK2-R4M24Vdc/GZ-DB9Z	324054

Dimension



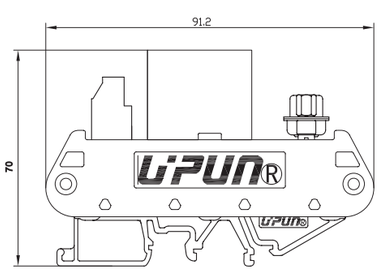


Figure 1

Technical data

Type	UDK2...24Vdc
Input voltage	24Vdc±10%
Input current	Approx. 22mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	15ms
Release time	5ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	10A
Max. switching frequency(rated load)	1800 cycles/h
Contact material	AgCdo
Mechanical life	1×10^7
Electrical life	1×10^5

General data

Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension

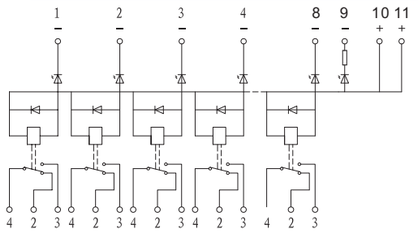
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

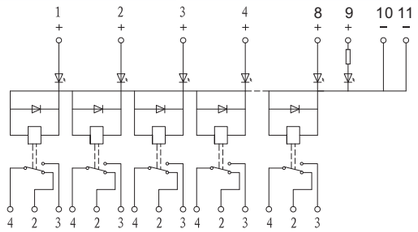
UDK2-R8M...DB15 □

Relay module
8-channel relay



Electrical schematic





Ordering data		Type	Order no.
8-channel module	24Vdc	UDK2-R8M24Vdc-DB15	324055
Note:"Z" means male connector, female connector without "Z"		UDK2-R8M24Vdc-DB15Z	324056
8-channel module	24Vdc	UDK2-R8M24Vdc/GZ-DB15	324057
Note:"Z" means male connector, female connector without "Z"		UDK2-R8M24Vdc/GZ-DB15Z	324058

Technical data	
Type	UDK2...24Vdc
Input voltage	24Vdc±10%
Input current	Approx. 22mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	15ms
Release time	5ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	10A
Max. switching frequency(rated load)	1800 cycles/h
Contact material	AgCdo
Mechanical life	1×10^7
Electrical life	1×10^5

General data	
Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension	
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

Dimension

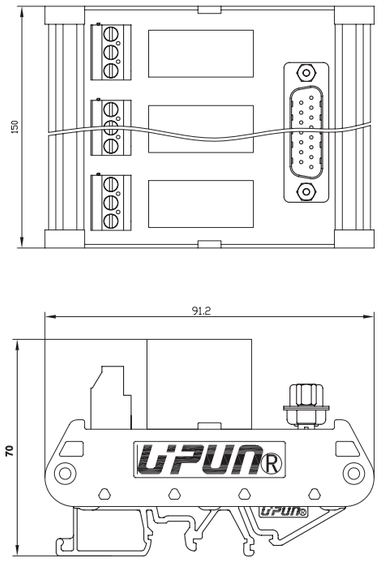


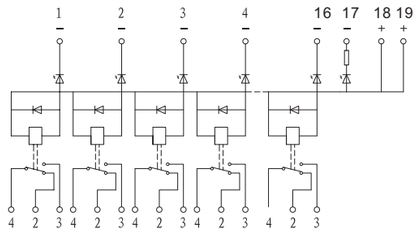
Figure 1

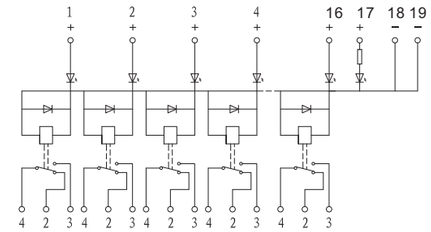
UDK2-R16M...DB25 □

Relay module
16-channel relay



Electrical schematic





Ordering data		Type	Order no.
16-channel module	24Vdc	UDK2-R16M24Vdc-DB25	324059
Note:"Z" means male connector, female connector without "Z"		UDK2-R16M24Vdc-DB25Z	324060
16-channel module	24Vdc	UDK2-R16M24Vdc/GZ-DB25	324061
Note:"Z" means male connector, female connector without "Z"		UDK2-R16M24Vdc/GZ-DB25Z	324062

Technical data	
Type	UDK2...24Vdc
Input voltage	24Vdc±10%
Input current	Approx. 22mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	15ms
Release time	5ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	10A
Max. switching frequency(rated load)	1800 cycles/h
Contact material	AgCdo
Mechanical life	1×10^7
Electrical life	1×10^5

General data	
Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension	
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

Dimension

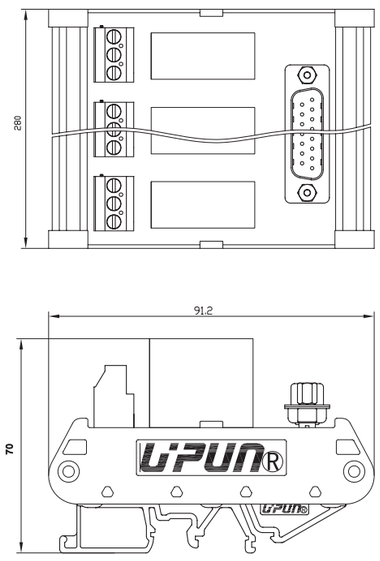


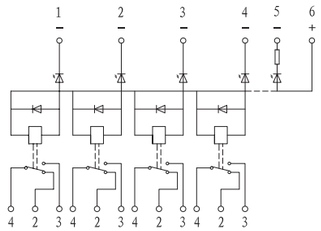
Figure 1

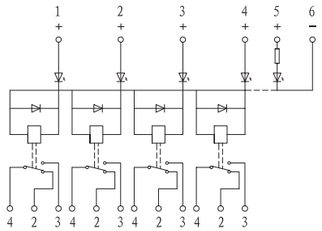
UDK2-R4M...GC10 □

Relay module
4-channel relay



Electrical schematic





Ordering data		Type	Order no.
4-channel module	24Vdc	UDK2-R4M24Vdc-GC10	324063
4-channel module	24Vdc	UDK2-R4M24Vdc/GZ-GC10	324064

Technical data	
Type	UDK2...24Vdc
Input voltage	24Vdc±10%
Input current	Approx. 22mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	15ms
Release time	5ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	10A
Max. switching frequency(rated load)	1800 cycles/h
Contact material	AgCdo
Mechanical life	1×10^7
Electrical life	1×10^5

General data	
Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension	
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

Dimension

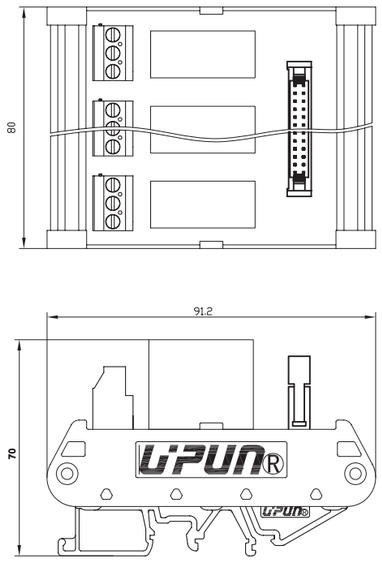


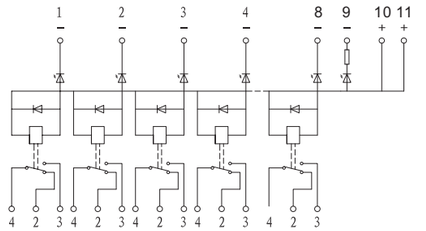
Figure 1

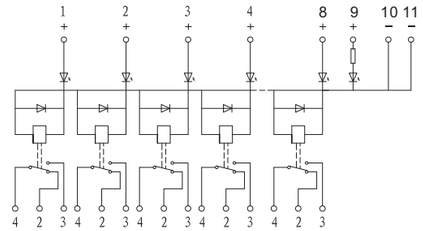
UDK2-R8M...GC20 □

Relay module
8-channel relay



Electrical schematic





Ordering data		Type	Order no.
8-channel module	24Vdc	UDK2-R8M24Vdc-GC20	324065
8-channel module	24Vdc	UDK2-R8M24Vdc/GZ-GC20	324066

Technical data	
Type	UDK2...24Vdc
Input voltage	24Vdc±10%
Input current	Approx. 22mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	15ms
Release time	5ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	10A
Max. switching frequency(rated load)	1800 cycles/h
Contact material	AgCdo
Mechanical life	1×10^7
Electrical life	1×10^5

General data	
Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension	
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

Dimension

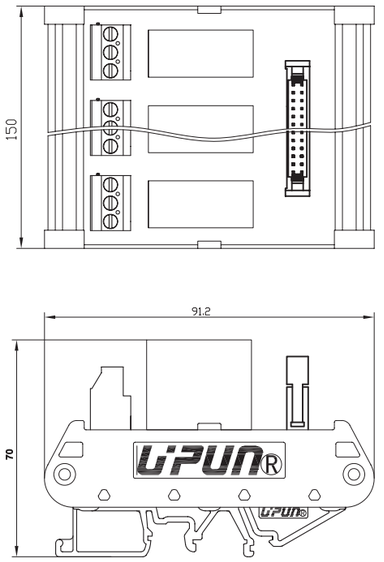


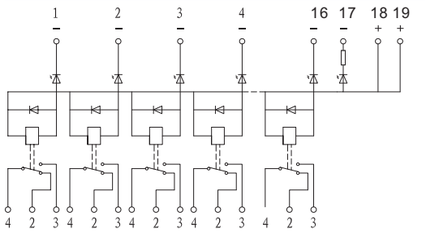
Figure 1

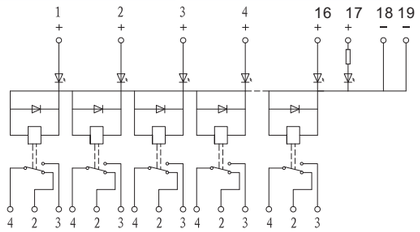
UDK2-R16M...GC20 □

Relay module
16-channel relay



Electrical schematic





Ordering data		Type	Order no.
16-channel module	24Vdc	UDK2-R16M24Vdc-GC20	324067
16-channel module	24Vdc	UDK2-R16M24Vdc/GZ-GC20	324068

Technical data	
Type	UDK2...24Vdc
Input voltage	24Vdc±10%
Input current	Approx. 22mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	15ms
Release time	5ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	10A
Max. switching frequency(rated load)	1800 cycles/h
Contact material	AgCdo
Mechanical life	1×10^{7}
Electrical life	1×10^{5}

General data	
Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension	
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

Dimension

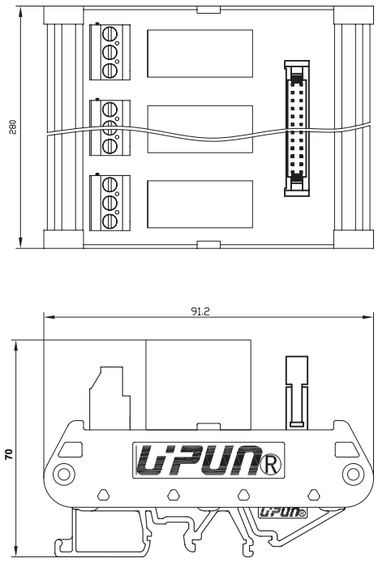


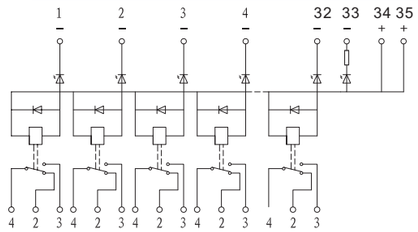
Figure 1

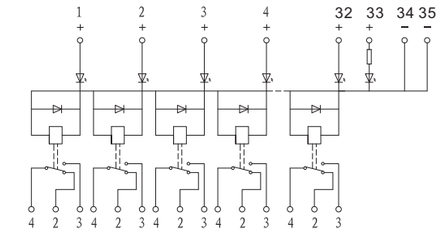
UDK2-R32M □

Relay module
32-channel relay



Electrical schematic





Ordering data		Type	Order no.
32-channel module	24Vdc	UDK2-R32M24Vdc	324069
32-channel module	24Vdc	UDK2-R32M24Vdc/GZ	324070

Technical data	
Type	UDK2...24Vdc
Input voltage	24Vdc±10%
Input current	Approx. 22mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	15ms
Release time	5ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	10A
Max. switching frequency(rated load)	1800 cycles/h
Contact material	AgCdo
Mechanical life	1×10^{7}
Electrical life	1×10^{5}

General data	
Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Working temperature	-25˚C ~ +40˚C
Cross section(AWG)	AWG20 ~ 13
Cross section	0.5mm² ~ 2.5mm²

Dimension	
Thickness	As shown in the figure 1
Width	As shown in the figure 1
Height	As shown in the figure 1

Dimension

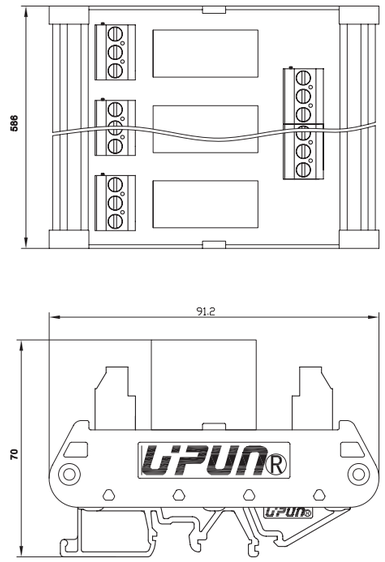
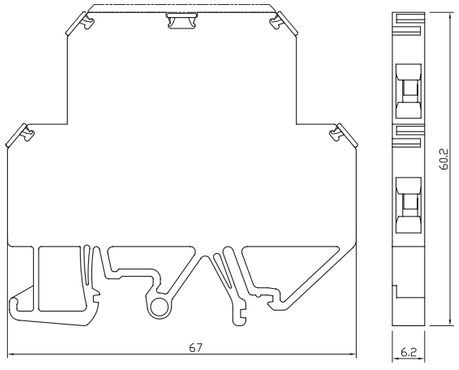
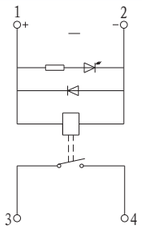
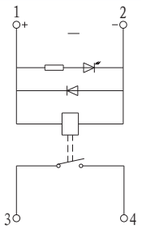
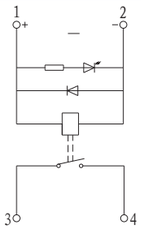
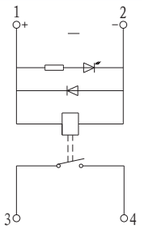
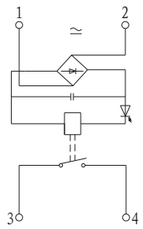


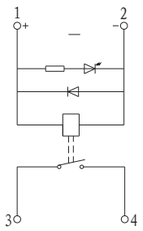
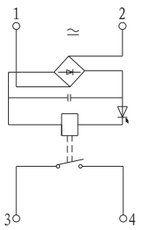
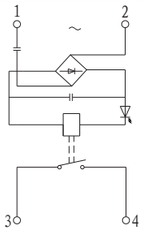
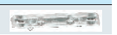
Figure 1

UDK-R Relay module

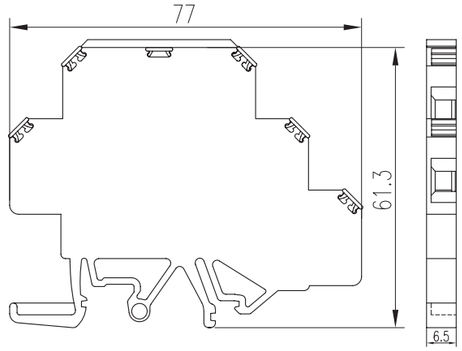
Dimension

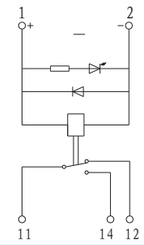


Relay module	UDK-R 5Vdc 1NO	UDK-R 12Vdc 1NO	UDK-R 24Vdc 1NO	UDK-R 24Vdc/C 1NO	UDK-R 24Vac/dc 1NO
					
Electrical schematic					
					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-R 5Vdc 322001 UDK-R 5Vdc-P 325016	UDK-R 12Vdc 322002 UDK-R 12Vdc-P 325017	UDK-R 24Vdc 322003 UDK-R 24Vdc-P 325018	UDK-R 24Vdc/C 322004 UDK-R 24Vdc/C-P 325019	UDK-R 24Vac/dc 322009 UDK-R 24Vac/dc-P 325020
Technical data					
Input voltage	5Vdc±10%	12Vdc±10%	24Vdc±10%	24Vdc±10%	24Vac/dc±10%
Input current	Approx. 24mA	Approx. 10mA	Approx. 7.5mA	Approx. 7.5mA	Approx. 7.6mA
Response voltage	85%Ue	85%Ue	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue	30%Ue	30%Ue
Response time	8ms	8ms	8ms	8ms	8ms
Release time	4ms	4ms	4ms	4ms	4ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	5A	5A	5A	5A	5A
Max. switching frequency(rated load)	1200 cycles/h	1200 cycles/h	1200 cycles/h	1200 cycles/h	1200 cycles/h
Contact material	AgCdo	AgCdo	AgCdo	AgCdo	AgCdo
Mechanical life	2×10^7	2×10^7	2×10^7	2×10^7	2×10^7
Electrical life	1×10^5	1×10^5	1×10^5	1×10^5	1×10^5
General data					
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2	2
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension					
Width/Thickness/Height	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm
Accessories	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge 					
2-pos.	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

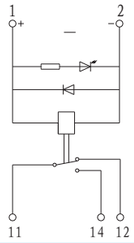
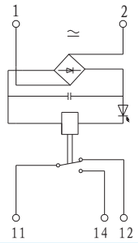
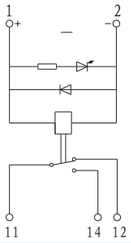
Relay module	UDK-R 48Vdc 1NO	UDK-R 110Vac/dc 1NO	UDK-R 220Vac 1NO
			
Electrical schematic			
			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UDK-R 48Vdc 322005 UDK-R 48Vdc-P 325021	UDK-R 110Vac/dc 322007 UDK-R 110Vac/dc-P 325022	UDK-R 220Vac 322008 UDK-R 220Vac-P 325023
Technical data			
Input voltage	48Vdc±10%	110Vac/dc±10%	220Vac±10%
Input current	Approx. 6mA	Approx. 6mA	Approx. 6mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	8ms	10ms	10ms
Release time	4ms	5ms	5ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	5A	5A	5A
Max. switching frequency(rated load)	1200 cycles/h	1200 cycles/h	1200 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	2×10^7	2×10^7	2×10^7
Electrical life	1×10^5	1×10^5	1×10^5
General data			
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension			
Width/Thickness/Height	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm
Accessories	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge			
2-pos. 	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

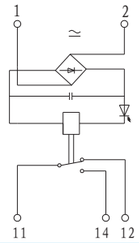
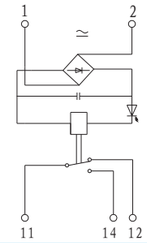
Dimension



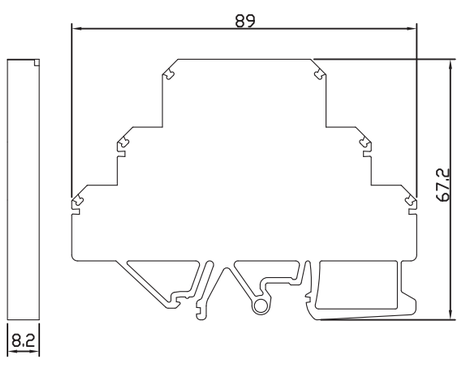
Relay module	UDK3-RI 12Vdc 1 change-over
	
Electrical schematic	
	
Ordering data	**Type / Order no.**
	UDK3-RI 12Vdc 325001 UDK3-RI 12Vdc-P 325024
Technical data	
Input voltage	12Vdc±10%
Input current	Approx. 10mA
Response voltage	85%Ue
Release voltage	30%Ue
Response time	8ms
Release time	4ms
Max. output switching voltage	250Vac/30Vdc
Max. output switching current	6A
Max. switching frequency(rated load)	1200 cycles/h
Contact material	AgCdo
Mechanical life	2×10^7
Electrical life	1×10^5
General data	
Test voltage(winding/contact)	2500Vac
Test voltage(contact/contact), normally open	1000Vac
Pollution degree	2
Cross section(AWG)	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²
Dimension	
Width/Thickness/Height	77/6.5/61.3mm
Accessories	**Type / Order no.**
Dustproof cover 	UDK-F 312002
End cover 	UDK3-G 312003
Insertion bridge	
2-pos. 	UEB 2-6 013019
3-pos.	UEB 3-6 013027
10-pos.	UEB10-6 013013

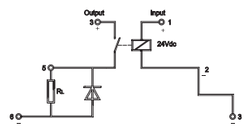
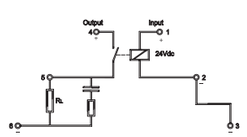
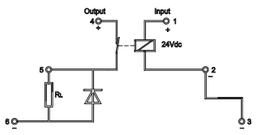
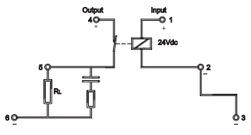
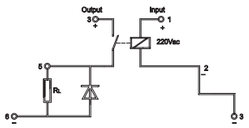
Relay module

	UDK3-RI 24Vdc 1 change-over	UDK3-RI 24Vac/dc 1 change-over	UDK3-RI 48Vdc 1 change-over
			
Electrical schematic			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	UDK3-RI 24Vdc 325002 UDK3-RI 24Vdc-P 325025	UDK3-RI 24Vac/dc 325007 UDK3-RI 24Vac/dc-P 325026	UDK3-RI 48Vdc 325003 UDK3-RI 48Vdc-P 325027
Technical data			
Input voltage	24Vdc±10%	24Vac/dc±10%	48Vdc±10%
Input current	Approx. 7.5mA	Approx. 7mA	Approx. 6mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	8ms	8ms	8ms
Release time	4ms	4ms	4ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	6A	6A	6A
Max. switching frequency(rated load)	1200 cycles/h	1200 cycles/h	1200 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	2×10^7	2×10^7	2×10^7
Electrical life	1×10^5	1×10^5	1×10^5
General data			
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension			
Width/Thickness/Height	77/6.5/61.3mm	77/6.5/61.3mm	77/6.5/61.3mm
Accessories	Type / Order no.	Type / Order no.	Type / Order no.
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 	UDK3-G 312003	UDK3-G 312003	UDK3-G 312003
Insertion bridge			
2-pos. 	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013

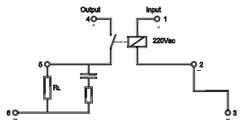
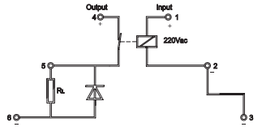
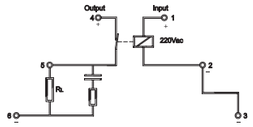
	UDK3-RI 110Vac/dc 1 change-over	UDK3-RI 220Vac 1 change-over
		
Electrical schematic		
Ordering data	Type / Order no.	Type / Order no.
	UDK3-RI 110Vac/dc 325005 UDK3-RI 110Vac/dc-P 325028	UDK3-RI 220Vac 322006 UDK3-RI 220Vac-P 325029
Technical data		
Input voltage	110Vac/dc±10%	220Vac±10%
Input current	Approx. 6mA	Approx. 6mA
Response voltage	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue
Response time	8ms	8ms
Release time	4ms	4ms
Max. output switching voltage	250Vac/30Vdc	250Vac/30Vdc
Max. output switching current	6A	6A
Max. switching frequency(rated load)	1200 cycles/h	1200 cycles/h
Contact material	AgCdo	AgCdo
Mechanical life	2×10^7	2×10^7
Electrical life	1×10^5	1×10^5
General data		
Test voltage(winding/contact)	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac
Pollution degree	2	2
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension		
Width/Thickness/Height	77/6.5/61.3mm	77/6.5/61.3mm
Accessories	Type / Order no.	Type / Order no.
Dustproof cover	UDK-F 312002	UDK-F 312002
End cover	UDK3-G 312003	UDK3-G 312003
Insertion bridge		
2-pos.	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013

Dimension

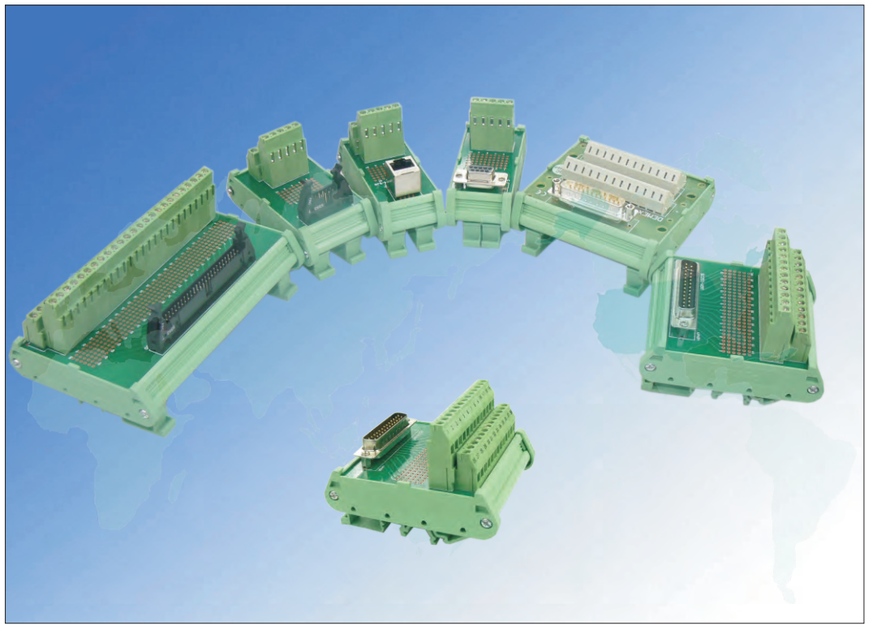


Relay module	UDK6-RKD 24Vdc 1NO, output with freewheeling diode	UDK6-RK 24Vdc 1NO, output with RC	UDK6-RBD 24Vdc 1NC, output with freewheeling diode	UDK6-RB 24Vdc 1NC, output with RC	UDK6-RKD 220Vac 1NO, output with freewheeling diode
					
Electrical schematic					
					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UDK6-RKD 24Vdc 325008	UDK6-RK24Vdc 325009	UDK6-RBD 24Vdc 325010	UDK6-RB 24Vdc 325011	UDK6-RKD 220Vac 325012
Technical data					
Input voltage	24Vdc±10%	24dc±10%	24Vdc±10%	24dc±10%	220Vac±10%
Input current	Approx. 7mA	Approx. 7mA	Approx. 7mA	Approx. 7mA	Approx. 6mA
Response voltage	85%Ue	85%Ue	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue	30%Ue	30%Ue
Response time	8ms	8ms	8ms	8ms	10ms
Release time	4ms	4ms	4ms	4ms	8ms
Max. output switching voltage	220Vdc/30Vdc	250Vac/30Vdc	220Vdc/30Vdc	250Vac/30Vdc	220Vdc/30Vdc
Max. output switching current	0.2A/6A	6A	0.2A/6A	6A	0.2A/6A
Max. switching frequency(rated load)	1200 cycles/h	1200 cycles/h	1200 cycles/h	1200 cycles/h	1200 cycles/h
Contact material	AgCdo	AgCdo	AgCdo	AgCdo	AgCdo
Mechanical life	2×10^7	2×10^7	2×10^7	2×10^7	2×10^7
Electrical life	1×10^5	1×10^5	1×10^5	1×10^5	1×10^5
General data					
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2	2	2
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension					
Width/Thickness/Height	89/8.2/67.2mm	89/8.2/67.2mm	89/8.2/67.2mm	89/8.2/67.2mm	89/8.2/67.2mm
Accessories	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
Dustproof cover 	UDK6-F 312005	UDK6-F 312005	UDK6-F 312005	UDK6-F 312005	UDK6-F 312005
End cover 	UDK6-G 312004	UDK6-G 312004	UDK6-G 312004	UDK6-G 312004	UDK6-G 312004

UDK-R Relay module

Relay module	UDK6-RK 220Vac 1NO, output with RC	UDK6-RBD 220Vac 1NC, output with freewheeling diode	UDK6-RB 220Vac 1NC, output with RC
			
Electrical schematic			
			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	UDK6-RK220Vac 325013	UDK6-RBD 220Vac 325014	UDK6-RB 220Vac 325015
Technical data			
Input voltage	24dc±10%	24Vdc±10%	24dc±10%
Input current	Approx. 6mA	Approx. 6mA	Approx. 6mA
Response voltage	85%Ue	85%Ue	85%Ue
Release voltage	30%Ue	30%Ue	30%Ue
Response time	10ms	10ms	10ms
Release time	8ms	8ms	8ms
Max. output switching voltage	250Vac/30Vdc	220Vdc/30Vdc	250Vac/30Vdc
Max. output switching current	6A	0.2A/6A	6A
Max. switching frequency(rated load)	1200 cycles/h	1200 cycles/h	1200 cycles/h
Contact material	AgCdo	AgCdo	AgCdo
Mechanical life	2×10^7	2×10^7	2×10^7
Electrical life	1×10^5	1×10^5	1×10^5
General data			
Test voltage(winding/contact)	2500Vac	2500Vac	2500Vac
Test voltage(contact/contact), normally open	1000Vac	1000Vac	1000Vac
Pollution degree	2	2	2
Cross section(AWG)	AWG20 ~ 12	AWG20 ~ 12	AWG20 ~ 12
Cross section	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²	0.5mm² ~ 4mm²
Dimension			
Width/Thickness/Height	89/8.2/67.2mm	89/8.2/67.2mm	89/8.2/67.2mm
Accessories	Type / Order no.	Type / Order no.	Type / Order no.
Dustproof cover 	UDK6-F 312005	UDK6-F 312005	UDK6-F 312005
End cover 	UDK6-G 312004	UDK6-G 312004	UDK6-G 312004

Interface module

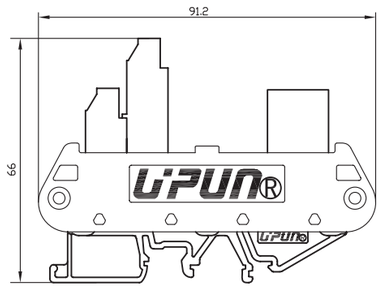


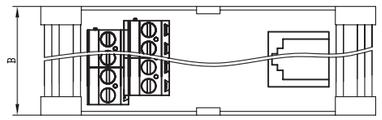
Type

U GM □ - □ - □ □

Positions of the connector	
SJ: Network interface IO: Data interface GC: Cable interface	
PLC-type relay module and optocoupler	
Design no.	
Interface module	
Company code	

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Network connection
4.Clamping connection

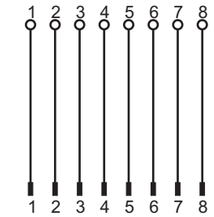




UGM-SJ



Electrical schematic	



Ordering data	Type	Order no.
6-pos. connector	UGM-SJ6	471001
8-pos. connector	UGM-SJ8	470998

Technical data	UGM-SJ6	UGM-SJ8
No. of positions	6	8
Operating voltage	24Vdc	
Operating current	1A	

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²

Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

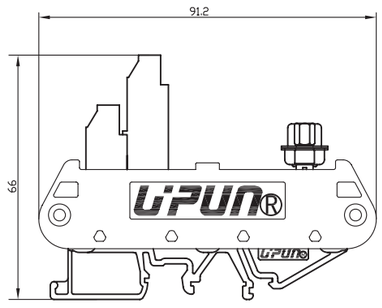
Dimension	
Thickness	92mm
Height	66mm

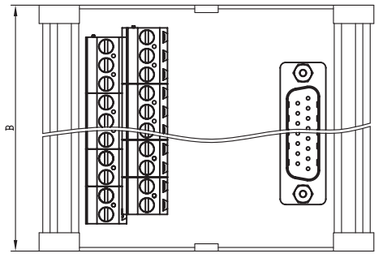
UGM-IOT

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.D-SUB female connector
4.Clamping connection

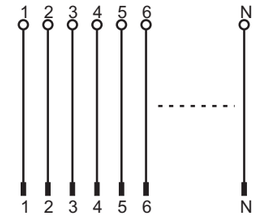
More interface modules with other positions
can be customized according to your requirements.







Electrical schematic	



Ordering data	Type	Order no.
9-pos. connector	UGM-IOT9	471016
15-pos. connector	UGM-IOT15	471004
25-pos. connector	UGM-IOT25	471006
37-pos. connector	UGM-IOT37	471052
50-pos. connector	UGM-IOT50	471068

Technical data	
Operating voltage	24Vdc
Operating current	1A

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²

Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

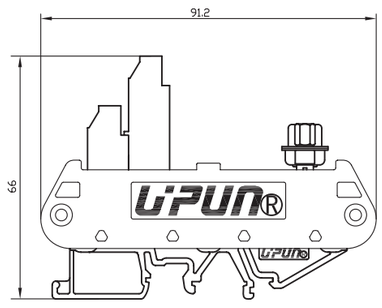
Dimension	
Thickness	92mm
Height	66mm

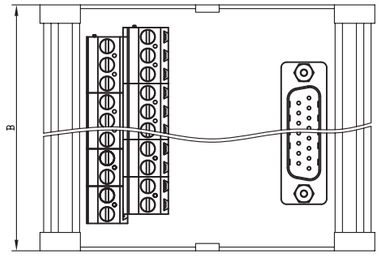
UGM-IOZ

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.D-SUB male connector
4.Clamping connection

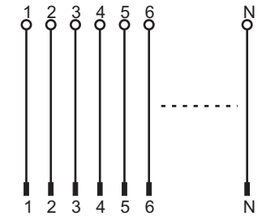
More interface modules with other positions
can be customized according to your requirements.







Electrical schematic	



Ordering data	Type	Order no.
9-pos. connector	UGM-IOZ9	471002
15-pos. connector	UGM-IOZ15	471005
25-pos. connector	UGM-IOZ25	471010
37-pos. connector	UGM-IOZ37	471012
50-pos. connector	UGM-IOZ50	471069

Technical data	
Operating voltage	24Vdc
Operating current	1A

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²

Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	91.2mm
Height	66mm

The I/O multi- pos. modules with flat connector and screw terminal blocks of 2.5mm^2 can be connected together by UGM-GC interface modules.
The self-locking connectors have been adopted to prevent the cable plugs from loosening.

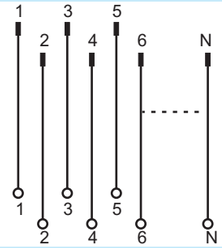
Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Marking with ZB marker strip
4.Clamping connection

More interface modules with other positions
can be customized according to your requirements.

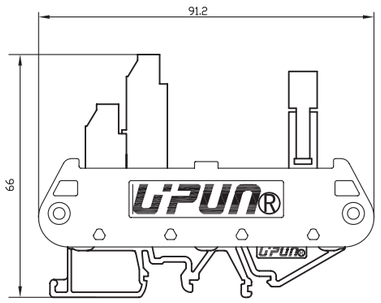
UGM-GC

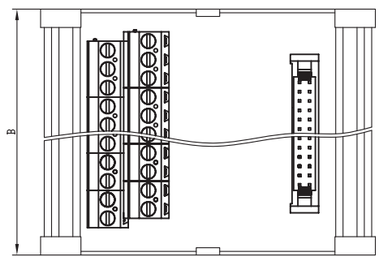


Electrical schematic	



Ordering data	Type	Order no.
10-pos. connector	UGM-GC10	471003
20-pos. connector	UGM-GC20	471008
26-pos. connector	UGM-GC26	471007
34-pos. connector	UGM-GC34	471009
40-pos. connector	UGM-GC40	471017
50-pos. connector	UGM-GC50	471018
60-pos. connector	UGM-GC60	471011





Technical data	
Operating voltage	24Vdc
Operating current	1A

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²

Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

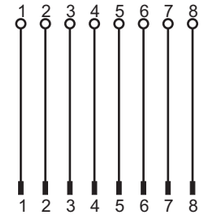
Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Network connection
4.Clamping connection

More interface modules with other positions
can be customized according to your requirements.

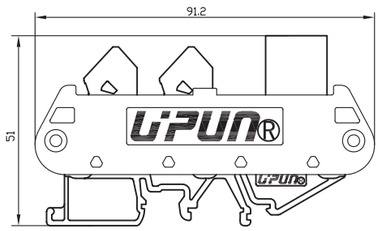
UGM2-SJ

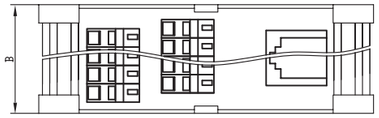


Electrical schematic	



Ordering data	Type	Order no.
6-pos. connector	UGM2-SJ6	471060
8-pos. connector	UGM2-SJ8	471063





Technical data	UGM2-SJ6	UGM2-SJ8
No. of positions	6	8
Operating voltage	24Vdc	
Operating current	1A	

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²

Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

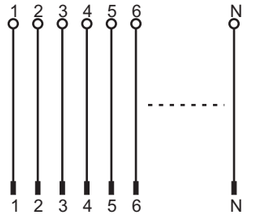
UGM2-IOT

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.D-SUB female connector
4.Cage spring connection

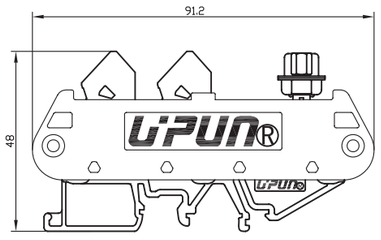
More interface modules with other positions
can be customized according to your requirements.



Electrical schematic	

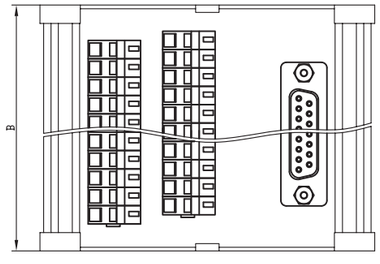


Ordering data	Type	Order no.
9-pos. connector	UGM2-IOT9	471026
15-pos. connector	UGM2-IOT15	471027
25-pos. connector	UGM2-IOT25	471028
37-pos. connector	UGM2-IOT37	471029
50-pos. connector	UGM2-IOT50	471070



Technical data	
Operating voltage	24Vdc
Operating current	1A

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²



Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

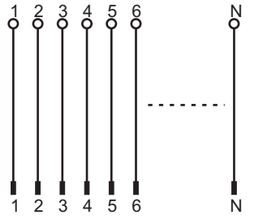
UGM2-IOZ

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.D-SUB male connector
4.Cage spring connection

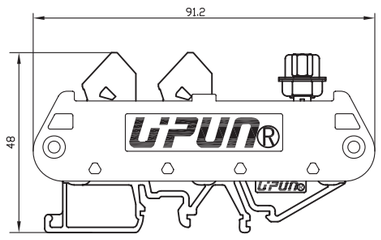
More interface modules with other positions
can be customized according to your requirements.



Electrical schematic	

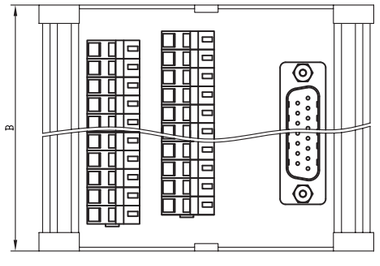


Ordering data	Type	Order no.
9-pos. connector	UGM2-IOZ9	471053
15-pos. connector	UGM2-IOZ15	471054
25-pos. connector	UGM2-IOZ25	471055
37-pos. connector	UGM2-IOZ37	471056
50-pos. connector	UGM2-IOZ50	471071



Technical data	
Operating voltage	24Vdc
Operating current	1A

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²



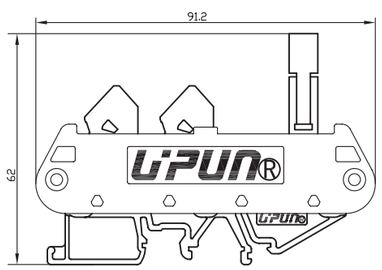
Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

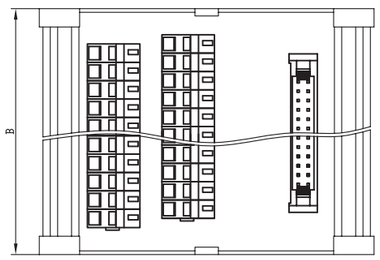
Dimension	
Thickness	92mm
Height	66mm

The I/O multi- pos. modules with flat connector and screw terminal blocks of 2.5mm^2 can be connected together by UGM2-GC interface modules.
The self-locking connectors have been adopted to prevent the cable plugs from loosening.

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Marking with ZB marker strip
4.Spring connection

More interface modules with other positions
can be customized according to your requirements.

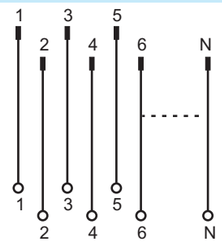




UGM2-GC



Electrical schematic	



Ordering data	Type	Order no.
10-pos. connector	UGM2-GC10	471021
20-pos. connector	UGM2-GC20	471022
26-pos. connector	UGM2-GC26	471061
34-pos. connector	UGM2-GC34	471023
40-pos. connector	UGM2-GC40	471024
50-pos. connector	UGM2-GC50	471025
60-pos. connector	UGM2-GC60	471062

Technical data	
Operating voltage	24Vdc
Operating current	1A

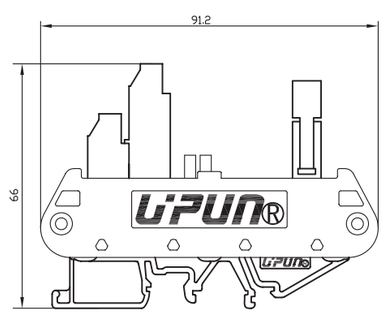
General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²

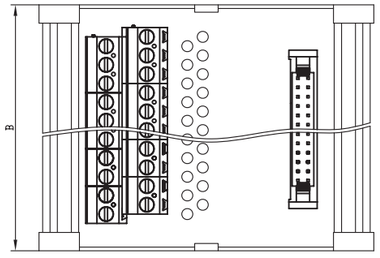
Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Marking with ZB marker strip
4.Clamping connection
5.LED indicator

More interface modules with other positions
can be customized according to your requirements.

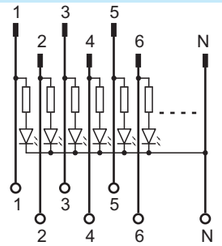




UGM3-GC



Electrical schematic	



Ordering data	Type	Order no.
10-pos. connector	UGM3-GC10	471072
20-pos. connector	UGM3-GC20	471073
26-pos. connector	UGM3-GC26	471074
34-pos. connector	UGM3-GC34	471075
60-pos. connector	UGM3-GC60	471076

Technical data	
Operating voltage	24Vdc
Operating current	1A

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²

Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

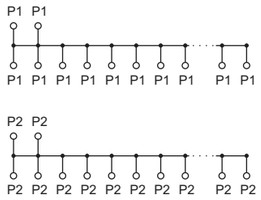
UGM5-FX

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Marking with ZB marker strip

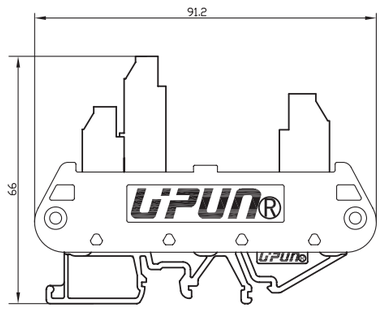
More interface modules with other positions
can be customized according to your requirements.



Electrical schematic	

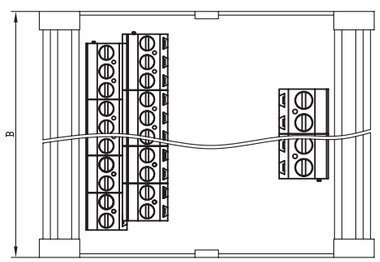


Ordering data	Type	Order no.
2 in 24 out, 12-pos. output per path	UGM5-FX 2/24	471078
2 in 36 out, 16-pos. output per path	UGM5-FX 2/36	471079
2 in 48 out, 24-pos. output per path	UGM5-FX 2/48	471080
FX3/15: 3 in 15 out, 5-pos. output per path 2/20: 2 in 20 out, 10-pos. output per path	UGM5-FX3/15-2/20	471088



Technical data		
Input	Solid conductor Note 1	0.2-2.5mm²
	Stranded conductor Note 1	0.2-2.5mm²
Output	Solid conductor	0.2-4mm²
	Stranded conductor	0.2-2.5mm²
Operating voltage		250Vdc
Operating current		30A(Max. current with 16A per branch)

General data	
Working temperature	-25˚C～+50˚C
Storage temperature	-25˚C～+65˚C
Pollution degree	2
Cross section	AWG20～13



Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

Note:
UGM5-FX3/15-2/20
Input solid conductor:0.2-2.5mm²
Input stranded conductor:0.2-2.5mm²

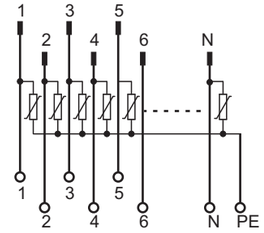
UGM-GCR

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Marking with ZB marker strip
4.Clamping connection
5.Surge voltage protection

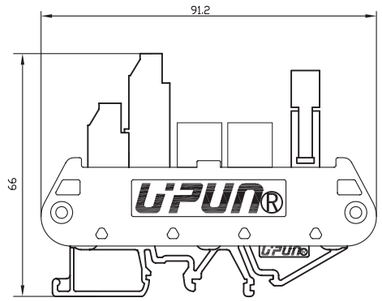
More interface modules with other positions
can be customized according to your requirements.



Electrical schematic	

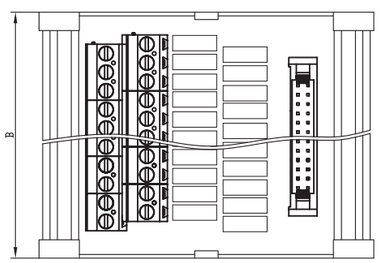


Ordering data	Type	Order no.
10-pos. connector	UGM-GCR10	471090
20-pos. connector	UGM-GCR20	471091
26-pos. connector	UGM-GCR26	471092
34-pos. connector	UGM-GCR34	471093
40-pos. connector	UGM-GCR40	471094
50-pos. connector	UGM-GCR50	471095
60-pos. connector	UGM-GCR60	471096



Technical data		
Operating voltage		24Vdc
Operating current		1A
Max. operating voltage(continuous)	DC	31V
Max. operating voltage(continuous)	AC	25V
Breakdown voltage(V1mA)		39V
Rated discharge voltage In(8/20)us		0.5KA

General data	
Working temperature	-25˚C～+40˚C
Storage temperature	-25˚C～+60˚C
Pollution degree	2
Cross section	AWG20～13
Cross section(AWG)	0.5mm²～2.5mm²



Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

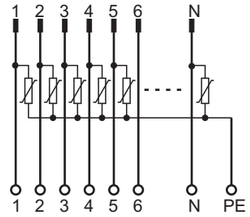
UGM-IOTR

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.D-SUB female connector
4.Clamping connection
5.Surge voltage protection

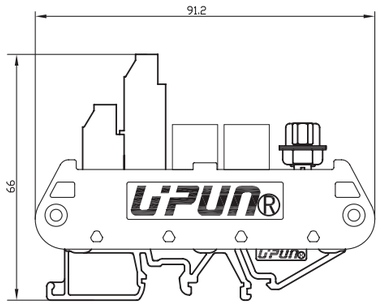
More interface modules with other positions
can be customized according to your requirements.



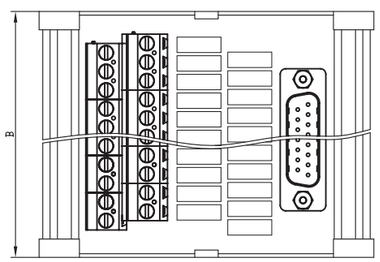
Electrical schematic	



Ordering data	Type	Order no.
9-pos. connector	UGM-IOTR9	471097
15-pos. connector	UGM-IOTR15	471098
25-pos. connector	UGM-IOTR25	471099
37-pos. connector	UGM-IOTR37	471100
50-pos. connector	UGM-IOTR50	471101



Technical data		
Operating voltage		24Vdc
Operating current		1A
Max. operating voltage(continuous)	DC	31V
Max. operating voltage(continuous)	AC	25V
Breakdown voltage(V1mA)		39V
Rated discharge voltage In(8/20)us		0.5KA
General data		
Working temperature		-25˚C～+40˚C
Storage temperature		-25˚C～+60˚C
Pollution degree		2
Cross section		AWG20～13
Cross section(AWG)		0.5mm²～2.5mm²



Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm

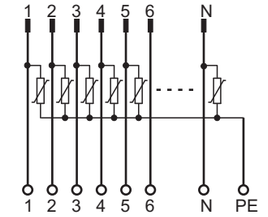
UGM-IOZR

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.D-SUB male connector
4.Clamping connection
5.Surge voltage protection

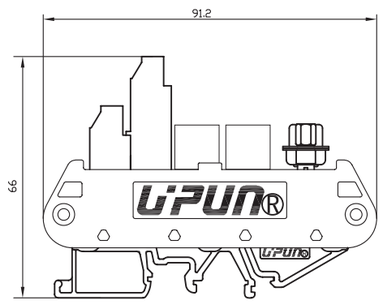
More interface modules with other positions
can be customized according to your requirements.



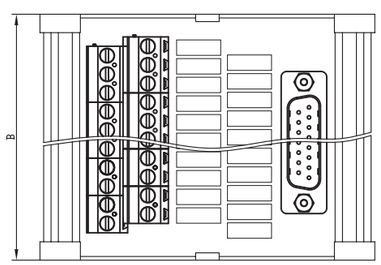
Electrical schematic	



Ordering data	Type	Order no.
9-pos. connector	UGM-IOZR9	471102
15-pos. connector	UGM-IOZR15	471103
25-pos. connector	UGM-IOZR25	471104
37-pos. connector	UGM-IOZR37	471105
50-pos. connector	UGM-IOZR50	471106



Technical data		
Operating voltage		24Vdc
Operating current		1A
Max. operating voltage(continuous)	DC	31V
Max. operating voltage(continuous)	AC	25V
Breakdown voltage(V1mA)		39V
Rated discharge voltage In(8/20)us		0.5KA
General data		
Working temperature		-25˚C～+40˚C
Storage temperature		-25˚C～+60˚C
Pollution degree		2
Cross section		AWG20～13
Cross section(AWG)		0.5mm²～2.5mm²

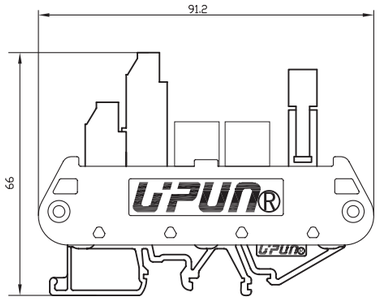


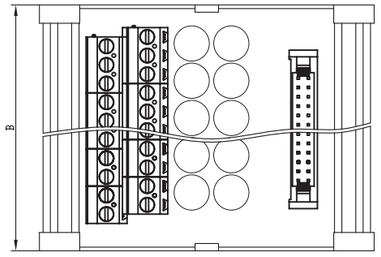
Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	91.2mm
Height	66mm

Features:
1.Quick connection
2.Can be mounted on TH35 and G type rails
3.Marking with ZB marker strip
4.Spring connection
5.Short-circuit protection

More interface modules with other positions
can be customized according to your requirements.

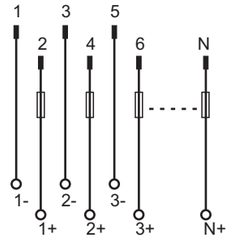




UGM-GC



Electrical schematic	



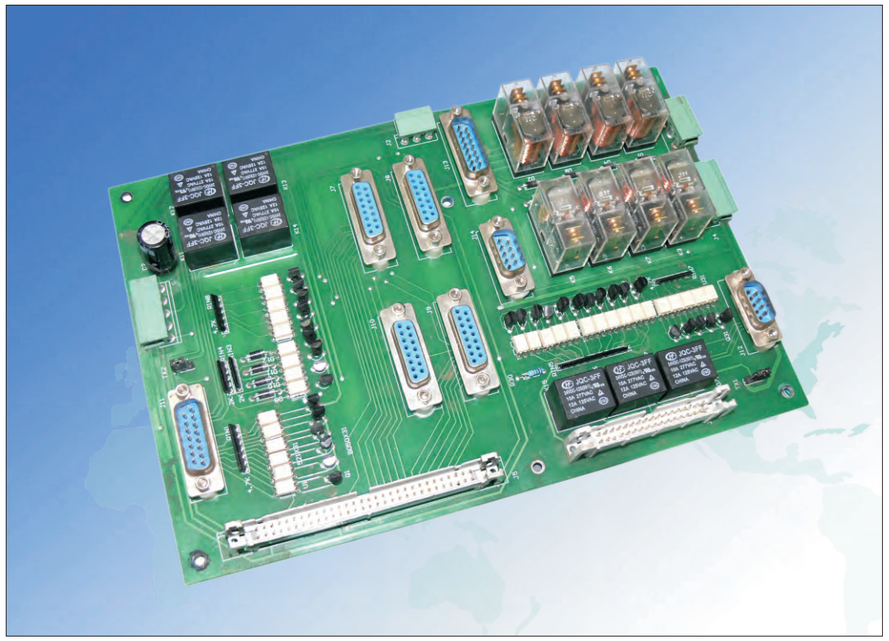
Ordering data	Type	Order no.
10针制接口	UGM-GCRD10	471107
20针制接口	UGM-GCRD20	471108
26针制接口	UGM-GCRD26	471109
34针制接口	UGM-GCRD34	471110
40针制接口	UGM-GCRD40	471111
50针制接口	UGM-GCRD50	471112
60针制接口	UGM-GCRD60	471113

Technical data	
Operating voltage	24Vdc
Operating current	50mA

General data	
Working temperature	-25℃~+40℃
Storage temperature	-25℃~+60℃
Pollution degree	2
Cross section	AWG20~13
Cross section(AWG)	0.5mm²~2.5mm²

Accessories		
Marker strip	UZB(Blank)	
	UZB(Horizontally)	
	UZB(Vertically)	
Mouunting rail	TH15-5.5	102004
	TH35-7.5	102001
	G32-15	102002
End bracket	UD1	011069

Dimension	
Thickness	92mm
Height	66mm



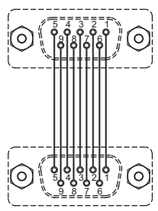
D-SUB system cable



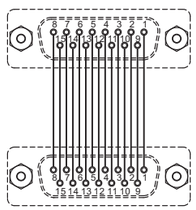
Convenient and fast connection can be achieved between PLC and terminal interface module.

More products, please contact us.

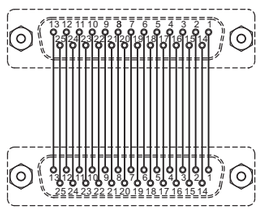
Ordering data	Type	Order no.
G: Male connector	DB9G-0.5	471119
M: Female connector	DB9G-1	471120
0.5\1\2m: cable length	DB9G-2	471121
	DB9M-0.5	471122
	DB9M-1	471123
	DB9M-2	471124
	DB15G-0.5	471125
	DB15G-1	471126
	DB15G-2	471127
	DB15M-0.5	471128
	DB15M-1	471129
	DB15M-2	471130
	DB25G-0.5	471131
	DB25G-1	471132
	DB25G-2	471133
	DB25M-0.5	471134
	DB25M-1	471135
	DB25M-2	471136
	DB37G-0.5	471137
	DB37G-1	471138
	DB37G-2	471139
	DB37M-0.5	471140
	DB37M-1	471141
	DB37M-2	471142



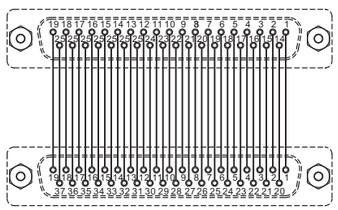
DB9M-...



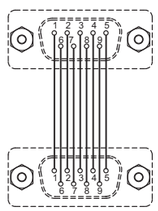
DB15M-...



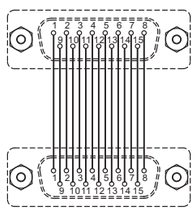
DB25M-...



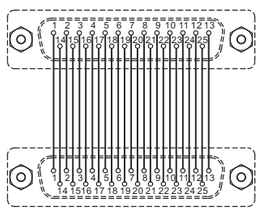
DB37M-...



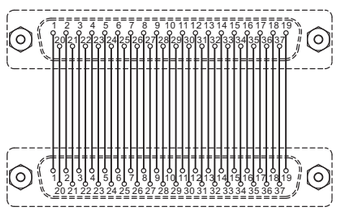
DB9G-...



DB15G-...



DB25G-...



DB37G-...

IDE system cable



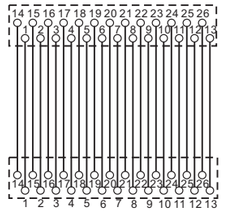
Convenient and fast connection can be achieved between PLC and terminal interface module.

More products, please contact us.

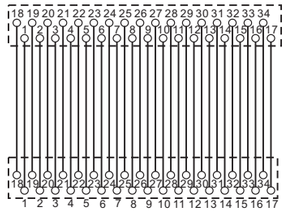
Ordering data	Type	Order no.
0.5\1\2m: cable length	IDE10-0.5	472001
	IDE10-1	472002
	IDE10-2	472003
	IDE20-0.5	472004
	IDE20-1	472005
	IDE20-2	472006
	IDE26-0.5	472007
	IDE26-1	472008
	IDE26-2	472009
	IDE34-0.5	472010
	IDE34-1	472011
	IDE34-2	472012
	IDE40-0.5	472013
	IDE40-1	472014
	IDE40-2	472015
	IDE50-0.5	472016
	IDE50-1	472017
	IDE50-2	472018
	IDE60-0.5	472019
	IDE60-1	472020
	IDE60-2	472021

IDE10-...

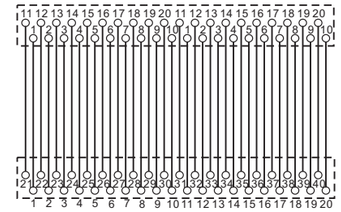
IDE20-...



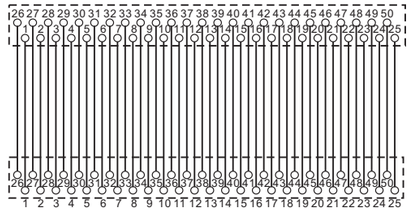
IDE26-...



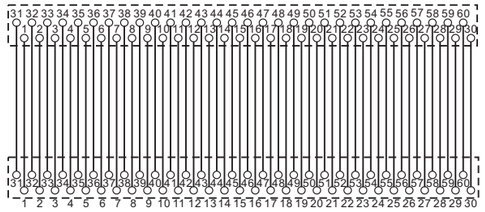
IDE34-...



IDE40-...



IDE50-...



IDE60-...

K series system cable

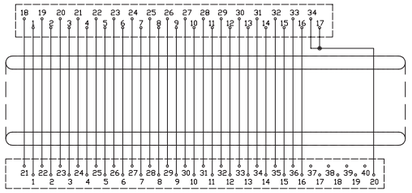


Convenient and fast connection can be achieved between PLC and terminal interface module.

More products, please contact us.

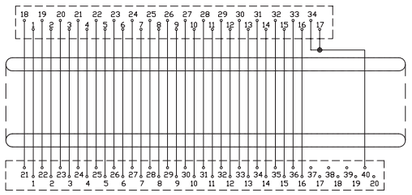
Ordering data	Type	Order no.
	KVA-0.5	473001
	KVB-0.5	473002
	KLA-0.5	473003
	KLB-0.5	473004
	KLC-0.5	473005

Dimension drawing	
KVA-0.5 KVB-0.5	
KLA-0.5	
KLB-0.5 KLC-0.5	

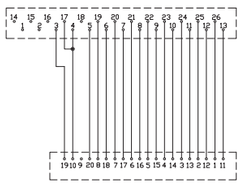


KVA-0.5

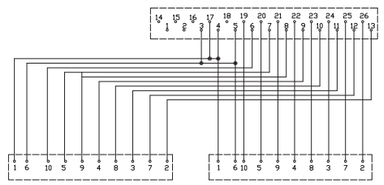
Cross reference			
Cable	For PLC modular		PLC manufacturer
KVA-0.5	KV-C32XA/C		KEYENCE
KVB-0.5	KV-C64XA/C		KEYENCE
KLA-0.5	KL-16CX	KL-16CT	KEYENCE
	KL-32CX	KL-32CT	
KLB-0.5	KL-16CX	KL-32CX	KEYENCE
KLC-0.5	KL-16CT	KL-32CT	KEYENCE



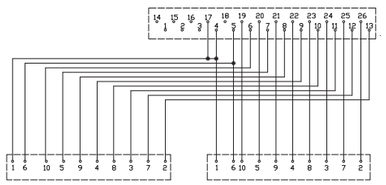
KVB-0.5



KLA-0.5



KLB-0.5



KLC-0.5

Q series system cable

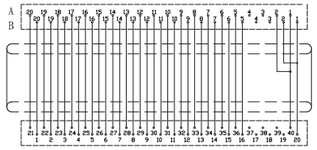


Convenient and fast connection can be achieved between PLC and terminal interface module.

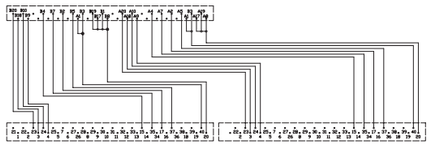
More products, please contact us.

Ordering data	Type	Order no.
	QXA-0.5	473006
	QXB-0.5	473007
	QXC-0.5	473008
	QXD-0.5	473009
	QXE-0.5	473010
	QXF-0.5	473011
	QXG-0.5	473012

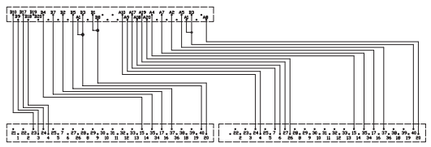
Dimension drawing	
QXA-0.5 QXB-0.5 QXC-0.5 QXD-0.5	
QXE-0.5 QXF-0.5 QXG-0.5	



QXA-0.5

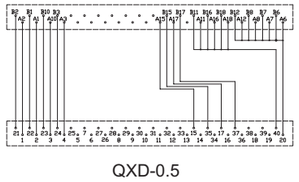


QXB-0.5

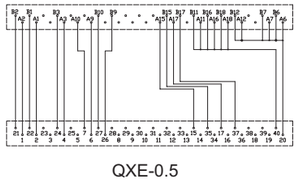


QXC-0.5

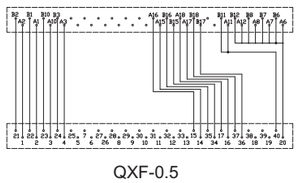
Cross reference			
Cable	For PLC modular		PLC manufacturer
QXA-0.5	QX41-S1	QY42P	MITSUBISHI
	QX41	QY71	
	QX42	QH42P	
	QX42-S1	QX72	
	QX71	QY41P	
QXB-0.5			
QXC-0.5			MITSUBISHI
QXD-0.5			
QXE-0.5			
QXF-0.5			
QXG-0.5			



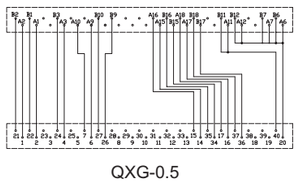
QXD-0.5



QXE-0.5



QXF-0.5



QXG-0.5

PV combiner box



PV combiner box

Type

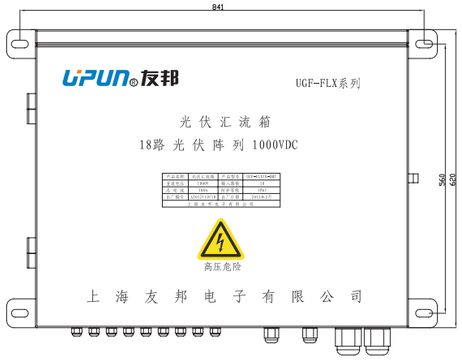
U GF-□ □ □-□ □ □

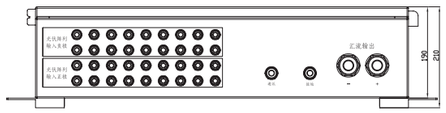
- T: Monitoring
- B: Safety equipment
- 01: Design no.
- 08:8 strings input
  10:10 strings input
  12:12 strings input
  16:16 strings input
- Combiner box
- PV
- Company code

Smart PV combiner box
UGF-FLX



Dimension drawing(18 strings)





Ordering data

Type	No. of string inputs	Order no.
UGF-FLX0401-DBT	4	541009
UGF-FLX0601-DBT	6	541010
UGF-FLX0801-DBT	8	541001
UGF-FLX1001-DBT	10	541002
UGF-FLX1201-DBT	12	541003
UGF-FLX1601-DBT	16	541004
UGF-FLX1801-DBT	18	541011
UGF-FLX2401-DBT	24	541012

Dimension	
Width/Thickness/Height	See left-hand drawing

System parameter	
System voltage(V)	1000V
Max. current per string	10A
Monitoring	
Input current range	0-20A
Step response	1S
Measurement accuracy	Solar panel:0.5, analog:0.2
RS485 communication	RS485/ModBus-RTU,4800/9600/19200/38400bps
Analog input	4-20mA
Auxiliary power supply	AC85V-265V or DC110-220V
Safety equipment	
Max. operating voltage(continuous)	1000Vdc
Nominal discharge current In 8/20uS	20KA
Max. discharge current In 8/20uS	40KA
Step response	⩽25nS

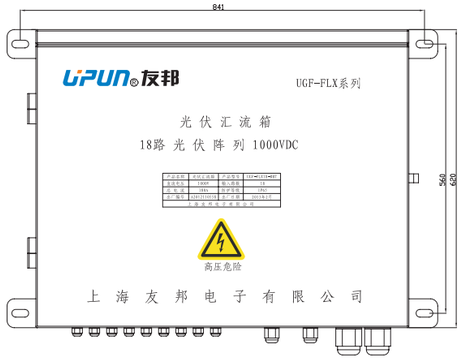
General data	
Ambient temperature	-25～+60℃
Humidity	5%～90%, No condensation, no corrosive gas
Protection class	IP65

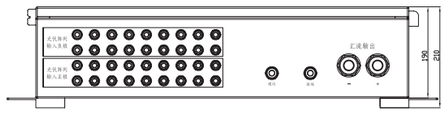
Cable cross section output	
8-channel	25mm^2
10-channel	25mm^2
12-channel	35mm^2
16-channel	50mm^2

PV combiner box
UGF-FLX



Dimension drawing(18 strings)





Ordering data

Type	No. of string inputs	Order no.
UGF-FLX0401-DB	4	541013
UGF-FLX0601-DB	6	541014
UGF-FLX0801-DB	8	541005
UGF-FLX1001-DB	10	541006
UGF-FLX1201-DB	12	541007
UGF-FLX1601-DB	16	541008
UGF-FLX1801-DB	18	541015
UGF-FLX2401-DB	24	541016

Dimension	
Width/Thickness/Height	See left-hand drawing

Systerm parameter	
System voltage(V)	1000V
Max. current per string	10A
Safety equipment	
Max. operating voltage(continuous)	1000Vdc
Nominal discharge current In 8/20uS	20KA
Max. discharge current In 8/20uS	40KA
Step response	⩽25nS

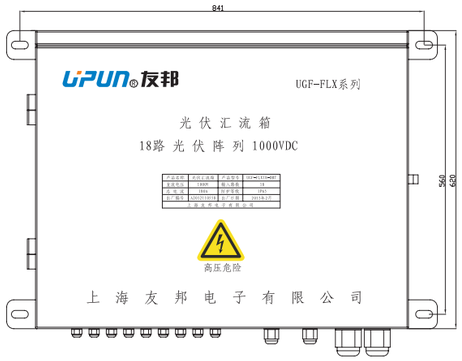
General data	
Ambient temperature	-25～+60℃
Humidity	5%～90%, No condensation, no corrosive gas
Protection class	IP65

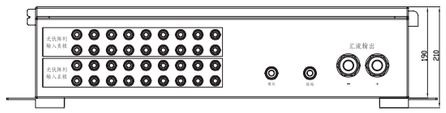
Cable cross section output	
8-channel	25mm^2
10-channel	25mm^2
12-channel	35mm^2
16-channel	50mm^2

Smart PV combiner box
UGF-FLX



Dimension drawing(18 strings)





Ordering data

Type	No. of string inputs	Order no.
UGF-FLX0402-DBT	4	541017
UGF-FLX0602-DBT	6	541018
UGF-FLX0802-DBT	8	541019
UGF-FLX1002-DBT	10	541020
UGF-FLX1202-DBT	12	541021
UGF-FLX1602-DBT	16	541022
UGF-FLX1802-DBT	18	541023
UGF-FLX2402-DBT	24	541024

Dimension	
Width/Thickness/Height	See left-hand drawing

System parameter	
System voltage(V)	1000V
Max. current per string	10A
Monitoring	
Input current range	0-20A
Step response	1S
Measurement accuracy	Solar panel:0.5, analog:0.2
RS485 communication	RS485/ModBus-RTU,4800/9600/19200/38400bps
Analog input	4-20mA
Auxiliary power supply	AC85V-265V or DC110-220V
Safety equipment	
Max. operating voltage(continuous)	1000Vdc
Nominal discharge current In 8/20uS	20KA
Max. discharge current In 8/20uS	40KA
Step response	⩽25nS

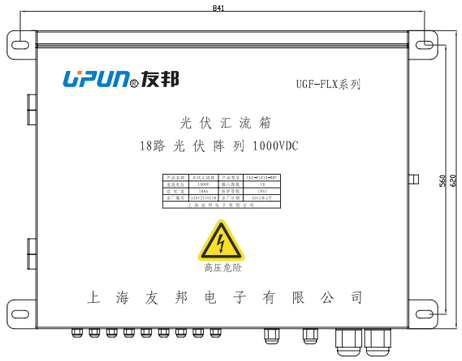
General data	
Ambient temperature	-25～+60℃
Humidity	5%～90%, No condensation, no corrosive gas
Protection class	IP65

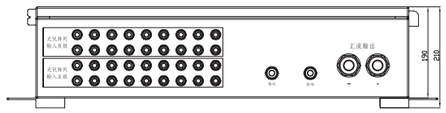
Cable cross section output	
8-channel	25mm^2
10-channel	25mm^2
12-channel	35mm^2
16-channel	50mm^2

PV combiner box
UGF-FLX



Dimension drawing(18 strings)





Ordering data

Type	No. of string inputs	Order no.
UGF-FLX0402-DB	4	541025
UGF-FLX0602-DB	6	541026
UGF-FLX0802-DB	8	541027
UGF-FLX1002-DB	10	541028
UGF-FLX1202-DB	12	541029
UGF-FLX1602-DB	16	541030
UGF-FLX1802-DB	18	541031
UGF-FLX2402-DB	24	541032

Dimension	
Width/Thickness/Height	See left-hand drawing

Systerm parameter	
System voltage(V)	1000V
Max. current per string	10A
Safety equipment	
Max. operating voltage(continuous)	1000Vdc
Nominal discharge current In 8/20uS	20KA
Max. discharge current In 8/20uS	40KA
Step response	⩽25nS

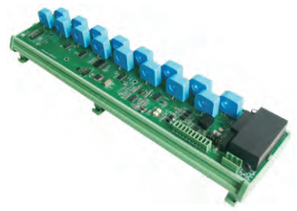
General data	
Ambient temperature	-25～+60℃
Humidity	5%～90%, No condensation, no corrosive gas
Protection class	IP65

Cable cross section output	
8-channel	25mm^2
10-channel	25mm^2
12-channel	35mm^2
16-channel	50mm^2

Monitoring module

Monitoring module
UGF-CKM

Features:
1. DC current sampling;
2. High-speed processing, digital filtering, the effective isolation from outside interference, and error correction;
3. Data and alarm transmission, status indication.



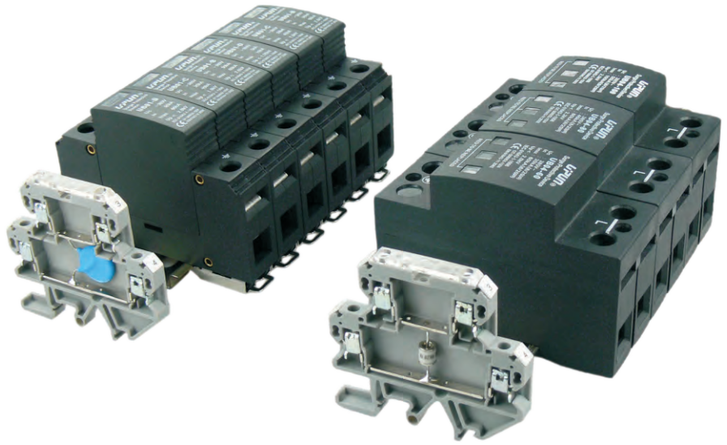
Ordering data	Type	No. of string inputs	Order no.
	UGF-CKM8	8	542001
	UGF-CKM10	10	542002
	UGF-CKM12	12	542003
	UGF-CKM16	16	542004

Dimension	
Width/Thickness/Height	

Systerm parameter	
Input current range	0-20A
Step response	1S
Measurement accuracy	Solar panel:0.5, analog:0.2
RS485 communication	RS485/ModBus-RTU,4800/9600bps
Analog input	1-channel/4-20mA
Switching input	2-channel
Auxiliary power supply	AC85V-265V or DC110-220V
	Optional 36-75Vdc or 18-36Vdc
Samples	8-16 channel
Power dissipation	10W

General data	
Working temperature	-25～+60℃
Storage temperature	-35～+80℃
Humidity	5%～90%, No condensation, no corrosive gas
Electrostatic discharge	GB/T 17626-4-2 class 3
Power frequency magnetic field	GB/T 17626-4-8 class 4
Mounting	Rails

Surface protective device

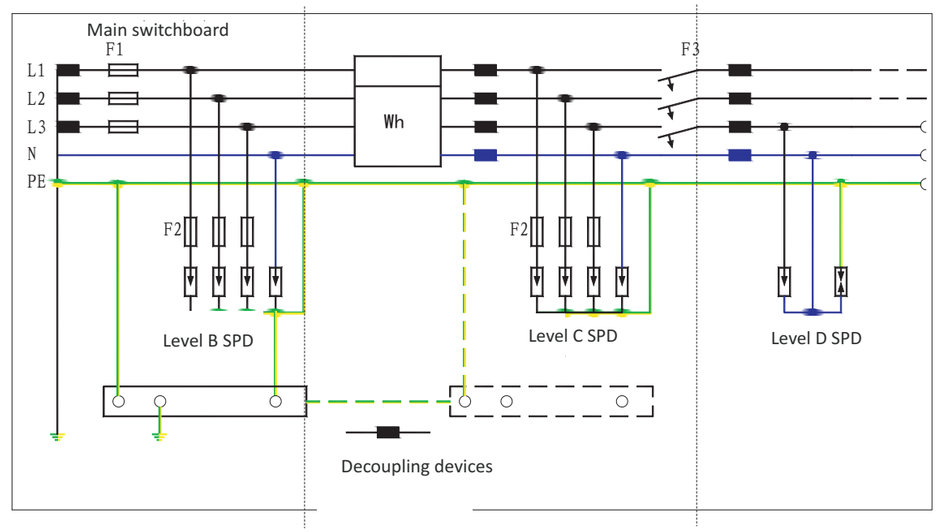


Type

U	B0	1	- B	/ 4	-385	-60
Company code	SPD	Design no.	Lighting protection grade B C D	1P 2P 3P 4P 1+1P 2+1P 3+1P	Max. continuous operating voltage 275V 320V 385V 420V	Imax 60KA 40KA 25KA 10KA

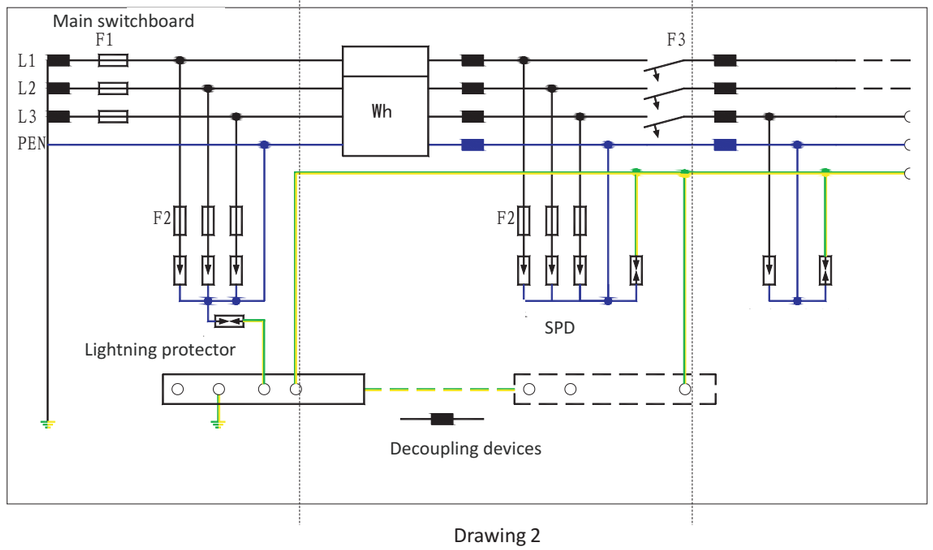
U	B0	4	-150	/ 4	-385
Company code	SPD	Design no. 2.Gas-filled surge arrester 4.Varistor	Imax 150KA 100KA 80KA 60KA	1P 2P 3P 4P 1+1P 2+1P 3+1P	Max. continuous operating voltage 275V 320V 385V 420V

TN-S



Drawing 1

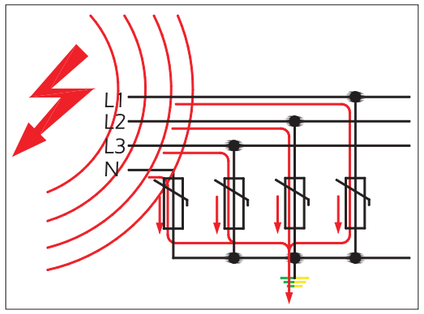
TT



Drawing 2

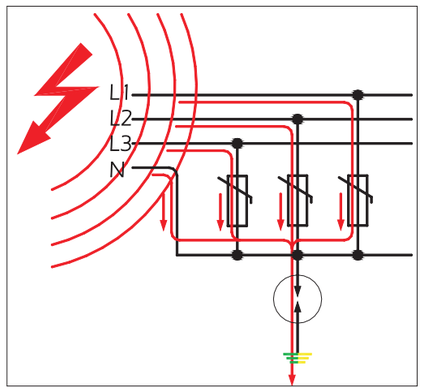
UB01-D series SPD (for 220/380 VAC, 50/60Hz) can be used to provide a lightning or overvoltage protection to electronic devices in the end of power supply system, such as information networks, intelligent devices and civil buildings.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;
7. Plug-in.



Drawing 1

4P electrical schematic



Drawing 2

3+1P electrical schematic

SPD for power supply system
UB01-D/□-275-10



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB01-D/1-275-10X	380420
	UB01-D/1-275-10	380421
	UB01-D/1+1-275-10X	380422
	UB01-D/1+1-275-10	380423
	UB01-D/2-275-10X	380424
	UB01-D/2-275-10	380425
	UB01-D/2+1-275-10X	380426
X :With remote indication contact	UB01-D/2+1-275-10	380427
	UB01-D/3-275-10X	380428
	UB01-D/3-275-10	380429
	UB01-D/4-275-10X	380430
	UB01-D/4-275-10	380431
	UB01-D/3+1-275-10X	380432
	UB01-D/3+1-275-10	380433

Dimension	
Width/Thickness(per piece)/Height	90/18/66mm

Technical data		
Max. continuos operating voltage Uc AC/DC		275V/350V
Breakdown voltage U1mA		430V
Nominal discharge current In 8/20μS		5KA
Max discharge current Imax 8/20μS		10KA
Voltage protection level Up		1.0KV
Pre-installed circuit breaker		16A
Pre-installed fuse		16A
Response time		⩽25ns
Leakage current		⩽0.3mA
Temperature range	℃	-40～+85

Remote indication contact		
Max. operating voltage Umax	AC/DC	250V/125V
Max. operating current Imax	AC	1A
Max. operating current Imax	DC	0.2A

Connection data	
Phase	6mm²
Ground	10mm²
Remote indication contact	0.5-1.5mm²

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

General data	
Housing material	PA
Protection degree	IP20
Test standards	GB/T18802.1-2011 IEC 61643-1:1998

Wiring diagram	
4P wiring diagram	Drawing 3
3+1P wiring diagram	Drawing 4
Application	See drawing 1/2 on page B6

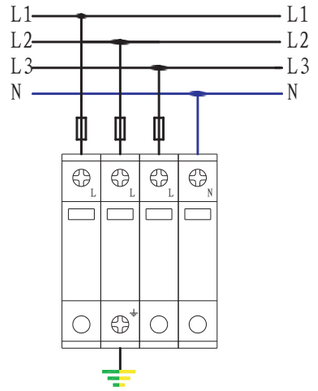
SPD for power supply system
UB01-D/□-320-10



SPD for power supply system
UB01-D/□-385-10

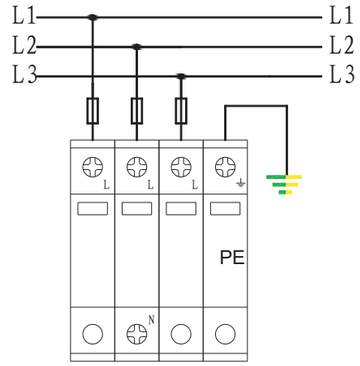


Type	Order no.	Type	Order no.
UB01-D/1-320-10X	380434	UB01-D/1-385-10X	380448
UB01-D/1-320-10	380435	UB01-D/1-385-10	380449
UB01-D/1+1-320-10X	380436	UB01-D/1+1-385-10X	380450
UB01-D/1+1-320-10	380437	UB01-D/1+1-385-10	380451
UB01-D/2-320-10X	380438	UB01-D/2-385-10X	380452
UB01-D/2-320-10	380439	UB01-D/2-385-10	380453
UB01-D/2+1-320-10X	380440	UB01-D/2+1-385-10X	380454
UB01-D/2+1-320-10	380441	UB01-D/2+1-385-10	380455
UB01-D/3-320-10X	380442	UB01-D/3-385-10X	380456
UB01-D/3-320-10	380443	UB01-D/3-385-10	380457
UB01-D/4-320-10X	380444	UB01-D/4-385-10X	380458
UB01-D/4-320-10	380445	UB01-D/4-385-10	380459
UB01-D/3+1-320-10X	380446	UB01-D/3+1-385-10X	380460
UB01-D/3+1-320-10	380447	UB01-D/3+1-385-10	380461
90/18/66mm		90/18/66mm	
320V/415V		385V/505V	
510V		620V	
5KA		5KA	
10KA		10KA	
1.2KV		1.35KV	
16A		16A	
16A		16A	
⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85	
250V/125V		250V/125V	
1A		1A	
0.2A		0.2A	
6mm²		6mm²	
10mm²		10mm²	
0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005
PA		PA	
IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3		Drawing 3	
Drawing 4		Drawing 4	
See drawing 1/2 on page B6		See drawing 1/2 on page B6	



Drawing 3

4P wiring diagram

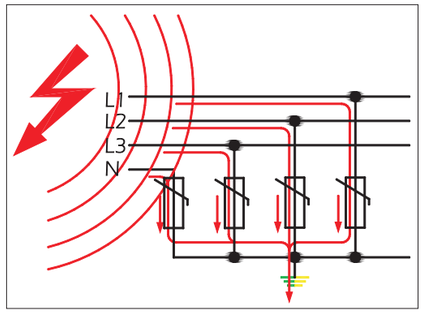


Drawing 4

3+1P wiring diagram

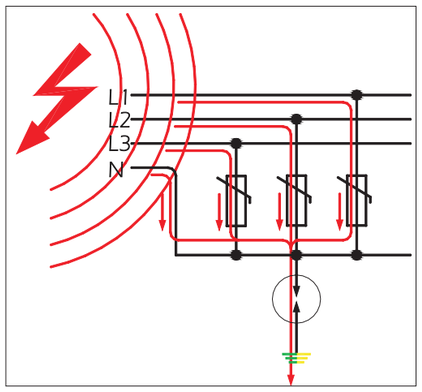
UB01-D series SPD (for 220/380 VAC, 50/60Hz) can be used to provide a lightning or overvoltage protection to electronic devices in the end of power supply system, such as information networks, intelligent devices and civil buildings.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;
7. Plug-in.



Drawing 1

4P electrical schematic

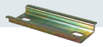


Drawing 2

3+1P electrical schematic

SPD for power supply system
UB01-D/□-275-25



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB01-D/1-275-25X	380462
	UB01-D/1-275-25	380463
	UB01-D/1+1-275-25X	380464
	UB01-D/1+1-275-25	380465
	UB01-D/2-275-25X	380466
	UB01-D/2-275-25	380467
	UB01-D/2+1-275-25X	380468
	UB01-D/2+1-275-25	380469
	UB01-D/3-275-25X	380470
	UB01-D/3-275-25	380471
	UB01-D/4-275-25X	380472
	UB01-D/4-275-25	380473
	UB01-D/3+1-275-25X	380474
X :With remote indication contact	UB01-D/3+1-275-25	380475
Dimension		
Width/Thickness(per piece)/Height	90/18/66mm	
Technical data		
Max. continuos operating voltage Uc AC/DC	275V/350V	
Breakdown voltage U1mA	430V	
Nominal discharge current In 8/20μS	10KA	
Max discharge current Imax 8/20μS	25KA	
Voltage protection level Up	1.2KV	
Pre-installed circuit breaker	16A	
Pre-installed fuse	16A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	6mm²	
Ground	10mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails 	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Wiring diagram		
4P wiring diagram	Drawing 3	
3+1P wiring diagram	Drawing 4	
Application	See drawing 1/2 on page B6	

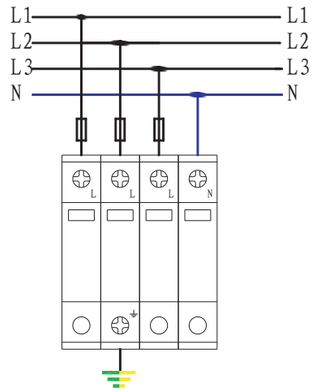
SPD for power supply system
UB01-D/□-320-25



SPD for power supply system
UB01-D/□-385-25

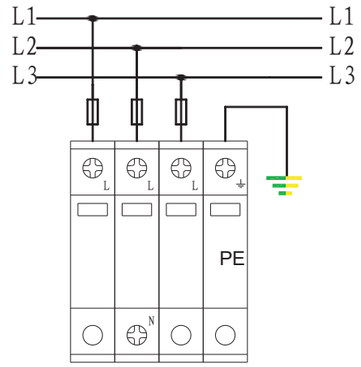


Type	Order no.	Type	Order no.
UB01-D/1-320-25X	380476	UB01-D/1-385-25X	380490
UB01-D/1-320-25	380477	UB01-D/1-385-25	380491
UB01-D/1+1-320-25X	380478	UB01-D/1+1-385-25X	380492
UB01-D/1+1-320-25	380479	UB01-D/1+1-385-25	380493
UB01-D/2-320-25X	380480	UB01-D/2-385-25X	380494
UB01-D/2-320-25	380481	UB01-D/2-385-25	380495
UB01-D/2+1-320-25X	380482	UB01-D/2+1-385-25X	380496
UB01-D/2+1-320-25	380483	UB01-D/2+1-385-25	380497
UB01-D/3-320-25X	380484	UB01-D/3-385-25X	380498
UB01-D/3-320-25	380485	UB01-D/3-385-25	380499
UB01-D/4-320-25X	380486	UB01-D/4-385-25X	380500
UB01-D/4-320-25	380487	UB01-D/4-385-25	380501
UB01-D/3+1-320-25X	380488	UB01-D/3+1-385-25X	380502
UB01-D/3+1-320-25	380489	UB01-D/3+1-385-25	380503
90/18/66mm		90/18/66mm	
320V/415V		385V/505V	
510V		620V	
10KA		10KA	
25KA		25KA	
1.35KV		1.5KV	
16A		16A	
16A		16A	
⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85	
250V/125V		250V/125V	
1A		1A	
0.2A		0.2A	
6mm²		6mm²	
10mm²		10mm²	
0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005
PA		PA	
IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3		Drawing 3	
Drawing 4		Drawing 4	
See drawing 1/2 on page B6		See drawing 1/2 on page B6	



Drawing 3

4P wiring diagram

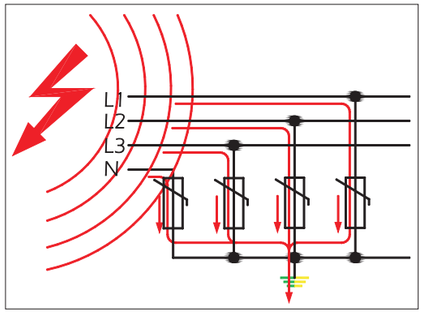


Drawing 4

3+1P wiring diagram

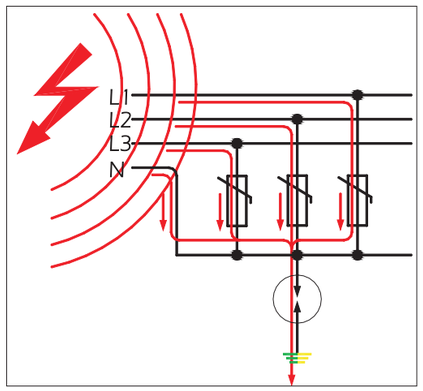
UB01-C series SPD (for 220/380 VAC, 50/60Hz) can be used to provide a type-2(level C) lightning or overvoltage protection to low-voltage distribution system, such as floor distribution cabinets, unit distribution cabinets.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;
7. Plug-in.



Drawing 1

4P electrical schematic

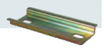


Drawing 2

3+1P electrical schematic

SPD for power supply system
UB01-C/□-275-40



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB01-C/1-275-40X	380504
	UB01-C/1-275-40	380505
	UB01-C/1+1-275-40X	380506
	UB01-C/1+1-275-40	380507
	UB01-C/2-275-40X	380508
	UB01-C/2-275-40	380509
	UB01-C/2+1-275-40X	380510
X :With remote indication contact	UB01-C/2+1-275-40	380511
	UB01-C/3-275-40X	380512
	UB01-C/3-275-40	380513
	UB01-C/4-275-40X	380514
	UB01-C/4-275-40	380515
	UB01-C/3+1-275-40X	380516
	UB01-C/3+1-275-40	380517
Dimension		
Width/Thickness(per piece)/Height	90/18/66mm	
Technical data		
Max. continuos operating voltage Uc AC/DC	275V/350V	
Breakdown voltage U1mA	430V	
Nominal discharge current In 8/20μS	20KA	
Max discharge current Imax 8/20μS	40KA	
Voltage protection level Up	1.5KV	
Pre-installed circuit breaker	32A	
Pre-installed fuse	32A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	10mm²	
Ground	16mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails 	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Wiring diagram		
4P wiring diagram	Drawing 3	
3+1P wiring diagram	Drawing 4	
Application	See drawing 1/2 on page B6	

SPD for power supply system
UB01-C/□-320-40



Type	Order no.
UB01-C/1-320-40X	380518
UB01-C/1-320-40	380519
UB01-C/1+1-320-40X	380520
UB01-C/1+1-320-40	380521
UB01-C/2-320-40X	380522
UB01-C/2-320-40	380523
UB01-C/2+1-320-40X	380524
UB01-C/2+1-320-40	380525
UB01-C/3-320-40X	380526
UB01-C/3-320-40	380527
UB01-C/4-320-40X	380528
UB01-C/4-320-40	380529
UB01-C/3+1-320-40X	380530
UB01-C/3+1-320-40	380531
90/18/66mm	
320V/415V	
510V	
20KA	
40KA	
1.5KV	
32A	
32A	
⩽25ns	
⩽0.3mA	
-40～+85	
250V/125V	
1A	
0.2A	
10mm²	
16mm²	
0.5-1.5mm²	
TH35-7.5 102001	
TH35-15 102005	
PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3	
Drawing 4	
See drawing 1/2 on page B6	

SPD for power supply system
UB01-C/□-385-40

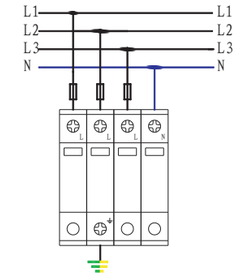


Type	Order no.
UB01-C/1-385-40X	380532
UB01-C/1-385-40	380533
UB01-C/1+1-385-40X	380534
UB01-C/1+1-385-40	380535
UB01-C/2-385-40X	380536
UB01-C/2-385-40	380537
UB01-C/2+1-385-40X	380538
UB01-C/2+1-385-40	380539
UB01-C/3-385-40X	380540
UB01-C/3-385-40	380541
UB01-C/4-385-40X	380542
UB01-C/4-385-40	380543
UB01-C/3+1-385-40X	380544
UB01-C/3+1-385-40	380545
90/18/66mm	
385V/505V	
620V	
20KA	
40KA	
1.8KV	
32A	
32A	
⩽25ns	
⩽0.3mA	
-40～+85	
250V/125V	
1A	
0.2A	
10mm²	
16mm²	
0.5-1.5mm²	
TH35-7.5 102001	
TH35-15 102005	
PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3	
Drawing 4	
See drawing 1/2 on page B6	

SPD for power supply system
UB01-C/□-420-40

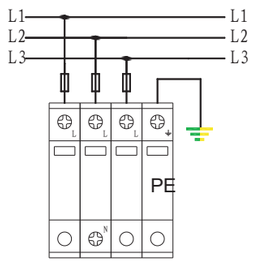


Type	Order no.
UB01-C/1-420-40X	380546
UB01-C/1-420-40	380547
UB01-C/1+1-420-40X	380548
UB01-C/1+1-420-40	380549
UB01-C/2-420-40X	380550
UB01-C/2-420-40	380551
UB01-C/2+1-420-40X	380552
UB01-C/2+1-420-40	380553
UB01-C/3-420-40X	380554
UB01-C/3-420-40	380555
UB01-C/4-420-40X	380556
UB01-C/4-420-40	380557
UB01-C/3+1-420-40X	380558
UB01-C/3+1-420-40	380559
90/18/66mm	
420V/560V	
680V	
20KA	
40KA	
2.0KV	
32A	
32A	
⩽25ns	
⩽0.3mA	
-40～+85	
250V/125V	
1A	
0.2A	
10mm²	
16mm²	
0.5-1.5mm²	
TH35-7.5 102001	
TH35-15 102005	
PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3	
Drawing 4	
See drawing 1/2 on page B6	



Drawing 3

4P wiring diagram

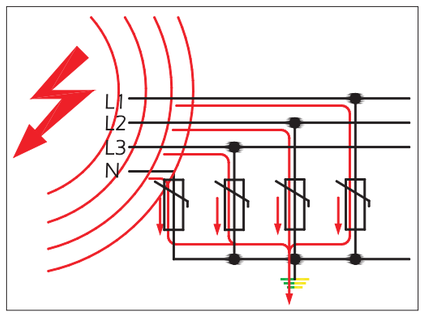


Drawing 4

3+1P wiring diagram

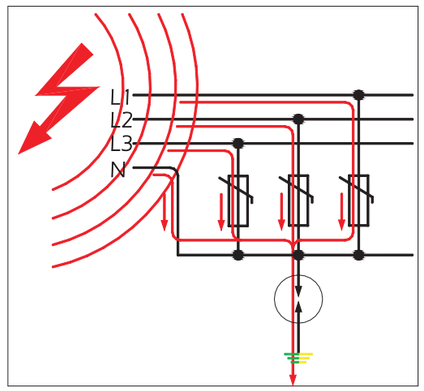
UB01-C series SPD (for 220/380 VAC, 50/60Hz) can be used to provide a type-2(level C) lightning or overvoltage protection to low-voltage distribution system, such as floor distribution cabinets, unit distribution cabinets.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;
7. Plug-in.



Drawing 1

4P electrical schematic



Drawing 2

3+1P electrical schematic

SPD for power supply system
UB01-C/□-550-40



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB01-C/1-550-40X	380560
	UB01-C/1-550-40	380561
	UB01-C/1+1-550-40X	380562
	UB01-C/1+1-550-40	380563
	UB01-C/2-550-40X	380564
	UB01-C/2-550-40	380565
	UB01-C/2+1-550-40X	380566
X :With remote indication contact	UB01-C/2+1-550-40	380567
	UB01-C/3-550-40X	380568
	UB01-C/3-550-40	380569
	UB01-C/4-550-40X	380570
	UB01-C/4-550-40	380571
	UB01-C/3+1-550-40X	380572
	UB01-C/3+1-550-40	380573
Dimension		
Width/Thickness(per piece)/Height	90/18/66mm	
Technical data		
Max. continuos operating voltage Uc AC/DC	550V/745V	
Breakdown voltage U1mA	910V	
Nominal discharge current In 8/20μS	20KA	
Max discharge current Imax 8/20μS	40KA	
Voltage protection level Up	2.6KV	
Pre-installed circuit breaker	32A	
Pre-installed fuse	32A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	10mm²	
Ground	16mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Wiring diagram		
4P wiring diagram	Drawing 3	
3+1P wiring diagram	Drawing 4	
Application	See drawing 1/2 on page B6	

SPD for power supply system
UB01-C/□-600-40



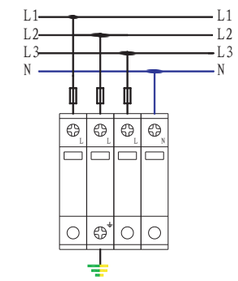
SPD for power supply system
UB01-C/□-680-40



SPD for power supply system
UB01-C/□-750-40

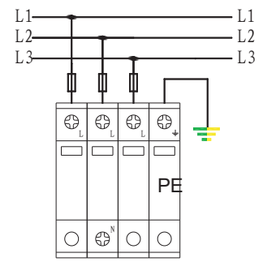


Type	Order no.	Type	Order no.	Type	Order no.
UB01-C/1-600-40X	380574	UB01-C/1-680-40X	380588	UB01-C/1-750-40X	380602
UB01-C/1-600-40	380575	UB01-C/1-680-40	380589	UB01-C/1-750-40	380603
UB01-C/1+1-600-40X	380576	UB01-C/1+1-680-40X	380590	UB01-C/1+1-750-40X	380604
UB01-C/1+1-600-40	380577	UB01-C/1+1-680-40	380591	UB01-C/1+1-750-40	380605
UB01-C/2-600-40X	380578	UB01-C/2-680-40X	380592	UB01-C/2-750-40X	380606
UB01-C/2-600-40	380579	UB01-C/2-680-40	380593	UB01-C/2-750-40	380607
UB01-C/2+1-600-40X	380580	UB01-C/2+1-680-40X	380594	UB01-C/2+1-750-40X	380608
UB01-C/2+1-600-40	380581	UB01-C/2+1-680-40	380595	UB01-C/2+1-750-40	380609
UB01-C/3-600-40X	380582	UB01-C/3-680-40X	380596	UB01-C/3-750-40X	380610
UB01-C/3-600-40	380583	UB01-C/3-680-40	380597	UB01-C/3-750-40	380611
UB01-C/4-600-40X	380584	UB01-C/4-680-40X	380598	UB01-C/4-750-40X	380612
UB01-C/4-600-40	380585	UB01-C/4-680-40	380599	UB01-C/4-750-40	380613
UB01-C/3+1-600-40X	380586	UB01-C/3+1-680-40X	380600	UB01-C/3+1-750-40X	380614
UB01-C/3+1-600-40	380587	UB01-C/3+1-680-40	380601	UB01-C/3+1-750-40	380615
90/18/66mm		90/18/66mm		90/18/66mm	
575V/760V		680V/895V		750V/980V	
950V		1100V		1235V	
20KA		20KA		20KA	
40KA		40KA		40KA	
2.8KV		3.2KV		3.5KV	
32A		32A		32A	
32A		32A		32A	
⩽25ns		⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85		-40～+85	
250V/125V		250V/125V		250V/125V	
1A		1A		1A	
0.2A		0.2A		0.2A	
10mm²		10mm²		10mm²	
16mm²		16mm²		16mm²	
0.5-1.5mm²		0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005	TH35-15	102005
PA		PA		PA	
IP20		IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998		GB/T18811.1-2011 IEC 61643-1:1998	
Drawing 3		Drawing 3		Drawing 3	
Drawing 4		Drawing 4		Drawing 4	
See drawing 1/2 on page B6		See drawing 1/2 on page B6		See drawing 1/2 on page B6	



Drawing 3

4P wiring diagram

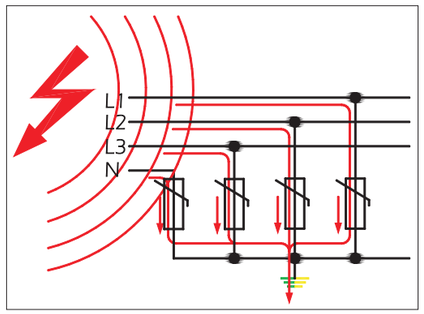


Drawing 4

3+1P wiring diagram

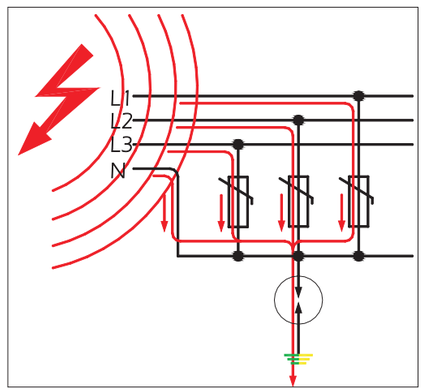
UB01-B series SPD (for 380/420 VAC, 50/60Hz) can be used to provide a type-1 lightning or overvoltage protection to low-voltage distribution system, such as low-voltage main distribution cabinets, outdoor distribution control cabinets and power supplies with high lightning risk.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

4P electrical schematic



Drawing 2

3+1P electrical schematic

SPD for power supply system
UB01-B/□-275-60



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB01-B/1-275-60X	380616
	UB01-B/1-275-60	380617
	UB01-B/1+1-275-60X	380618
	UB01-B/1+1-275-60	380619
	UB01-B/2-275-60X	380620
	UB01-B/2-275-60	380621
	UB01-B/2+1-275-60X	380622
X :With remote indication contact	UB01-B/2+1-275-60	380623
	UB01-B/3-275-60X	380624
	UB01-B/3-275-60	380625
	UB01-B/4-275-60X	380626
	UB01-B/4-275-60	380627
	UB01-B/3+1-275-60X	380628
	UB01-B/3+1-275-60	380629

Dimension	
Width/Thickness(per piece)/Height	90/18/66mm

Technical data		
Max. continuos operating voltage Uc AC/DC		275V/350V
Breakdown voltage U1mA		430V
Nominal discharge current In 8/20μS		30KA
Max discharge current Imax 8/20μS		60KA
Voltage protection level Up		1.5KV
Pre-installed circuit breaker		63A
Pre-installed fuse		63A
Response time		⩽25ns
Leakage current		⩽0.3mA
Temperature range	℃	-40～+85

Remote indication contact		
Max. operating voltage Umax	AC/DC	250V/125V
Max. operating current Imax	AC	1A
Max. operating current Imax	DC	0.2A

Connection data	
Phase	16mm²
Ground	25mm²
Remote indication contact	0.5-1.5mm²

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

General data	
Housing material	PA
Protection degree	IP20
Test standards	GB/T18802.1-2011 IEC 61643-1:1998

Wiring diagram	
4P wiring diagram	Drawing 3
3+1P wiring diagram	Drawing 4
Application	See drawing 1/2 on page B6

SPD for power supply system
UB01-B/□-320-60



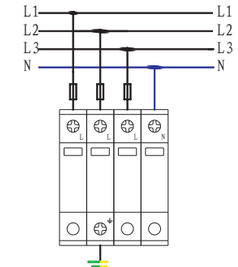
SPD for power supply system
UB01-B/□-385-60



SPD for power supply system
UB01-B/□-420-60

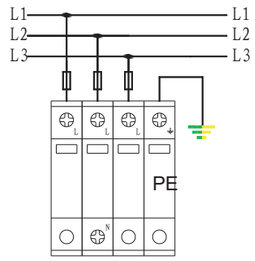


Type	Order no.	Type	Order no.	Type	Order no.
UB01-B/1-320-60X	380630	UB01-B/1-385-60X	380644	UB01-B/1-420-60X	380658
UB01-B/1-320-60	380631	UB01-B/1-385-60	380645	UB01-B/1-420-60	380659
UB01-B/1+1-320-60X	380632	UB01-B/1+1-385-60X	380646	UB01-B/1+1-420-60X	380660
UB01-B/1+1-320-60	380633	UB01-B/1+1-385-60	380647	UB01-B/1+1-420-60	380661
UB01-B/2-320-60X	380634	UB01-B/2-385-60X	380648	UB01-B/2-420-60X	380662
UB01-B/2-320-60	380635	UB01-B/2-385-60	380649	UB01-B/2-420-60	380663
UB01-B/2+1-320-60X	380636	UB01-B/2+1-385-60X	380650	UB01-B/2+1-420-60X	380664
UB01-B/2+1-320-60	380637	UB01-B/2+1-385-60	380651	UB01-B/2+1-420-60	380665
UB01-B/3-320-60X	380638	UB01-B/3-385-60X	380652	UB01-B/3-420-60X	380666
UB01-B/3-320-60	380639	UB01-B/3-385-60	380653	UB01-B/3-420-60	380667
UB01-B/4-320-60X	380640	UB01-B/4-385-60X	380654	UB01-B/4-420-60X	380668
UB01-B/4-320-60	380641	UB01-B/4-385-60	380655	UB01-B/4-420-60	380669
UB01-B/3+1-320-60X	380642	UB01-B/3+1-385-60X	380656	UB01-B/3+1-420-60X	380670
UB01-B/3+1-320-60	380643	UB01-B/3+1-385-60	380657	UB01-B/3+1-420-60	380671
90/18/66mm		90/18/66mm		90/18/66mm	
320V/415V		385V/505V		420V/560V	
510V		620V		680V	
30KA		30KA		30KA	
60KA		60KA		60KA	
1.8KV		2.0KV		2.2KV	
63A		63A		63A	
63A		63A		63A	
⩽25ns		⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85		-40～+85	
250V/125V		250V/125V		250V/125V	
1A		1A		1A	
0.2A		0.2A		0.2A	
16mm²		16mm²		16mm²	
25mm²		25mm²		25mm²	
0.5-1.5mm²		0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005	TH35-15	102005
PA		PA		PA	
IP20		IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3		Drawing 3		Drawing 3	
Drawing 4		Drawing 4		Drawing 4	
See drawing 1/2 on page B6		See drawing 1/2 on page B6		See drawing 1/2 on page B6	



Drawing 3

4P wiring diagram

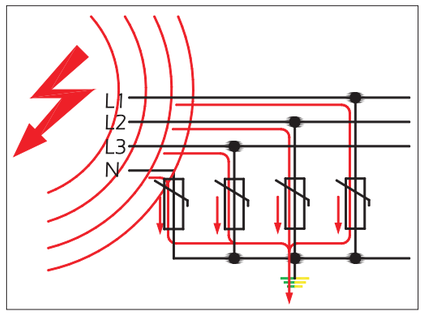


Drawing 4

3+1P wiring diagram

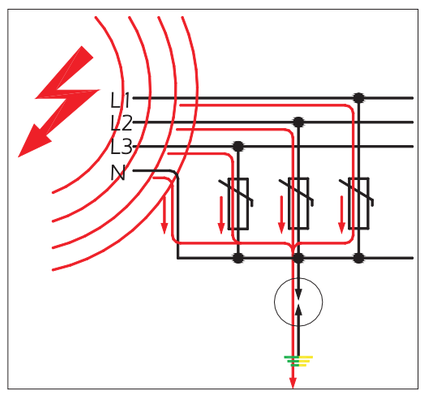
UB04-60 series SPD (for 380/420 VAC, 50/60Hz) can be used to provide a type-1 lightning or overvoltage protection to low-voltage distribution system, such as low-voltage main distribution cabinets, outdoor distribution control cabinets and power supplies with high lightning risk.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

4P electrical schematic

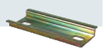


Drawing 2

3+1P electrical schematic

SPD for power supply system
UB04-60/□-275



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB04-60/1-275X	380714
	UB04-60/1-275	380715
	UB04-60/2-275X	380716
	UB04-60/2-275	380717
	UB04-60/3-275X	380718
	UB04-60/3-275	380719
	UB04-60/4-275X	380720
X :With remote indication contact	UB04-60/4-275	380721
	UB04-60/3+1-275X	380722
	UB04-60/3+1-275	380723
Dimension		
Width/Thickness(per piece)/Height	90/36/66mm	
Technical data		
Max. continuos operating voltage Uc AC/DC	275V/350V	
Breakdown voltage U1mA	430V	
Nominal discharge current In 8/20μS	30KA	
Max discharge current Imax 8/20μS	60KA	
Voltage protection level Up	1.5KV	
Pre-installed circuit breaker	63A	
Pre-installed fuse	63A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	16mm²	
Ground	25mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails 	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Accessories		
Wiring diagram		
4P wiring diagram	Drawing 3,4	
3+1P wiring diagram	Drawing 5,6	
Application	See drawing 1/2 on page B6	

SPD for power supply system
UB04-60/□-320



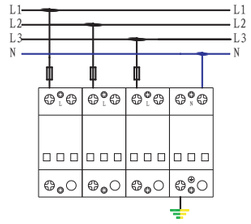
SPD for power supply system
UB04-60/□-385



SPD for power supply system
UB04-60/□-420

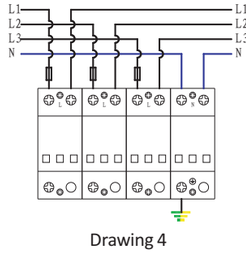


Type	Order no.	Type	Order no.	Type	Order no.
UB04-60/1-320X	380724	UB04-60/1-385X	380734	UB04-60/1-420X	380744
UB04-60/1-320	380725	UB04-60/1-385	380735	UB04-60/1-420	380745
UB04-60/2-320X	380726	UB04-60/2-385X	380736	UB04-60/2-420X	380746
UB04-60/2-320	380727	UB04-60/2-385	380737	UB04-60/2-420	380747
UB04-60/3-320X	380728	UB04-60/3-385X	380738	UB04-60/3-420X	380748
UB04-60/3-320	380729	UB04-60/3-385	380739	UB04-60/3-420	380749
UB04-60/4-320X	380730	UB04-60/4-385X	380740	UB04-60/4-420X	380750
UB04-60/4-320	380731	UB04-60/4-385	380741	UB04-60/4-420	380751
UB04-60/3+1-320X	380732	UB04-60/3+1-385X	380742	UB04-60/3+1-420X	380752
UB04-60/3+1-320	380733	UB04-60/3+1-385	380743	UB04-60/3+1-420	380753
90/36/66mm		90/36/66mm		90/36/66mm	
320V/415V		385V/505V		420V/560V	
510V		620V		680V	
30KA		30KA		30KA	
60KA		60KA		60KA	
1.8KV		2.0KV		2.2KV	
63A		63A		63A	
63A		63A		63A	
⩽25ns		⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85		-40～+85	
250V/125V		250V/125V		250V/125V	
1A		1A		1A	
0.2A		0.2A		0.2A	
16mm²		16mm²		16mm²	
25mm²		25mm²		25mm²	
0.5-1.5mm²		0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005	TH35-15	102005
PA		PA		PA	
IP20		IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3,4		Drawing 3,4		Drawing 3,4	
Drawing 5,6		Drawing 5,6		Drawing 5,6	
See drawing 1/2 on page B6		See drawing 1/2 on page B6		See drawing 1/2 on page B6	



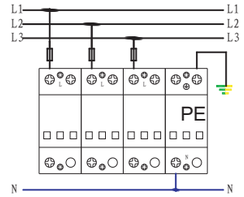
Drawing 3

4P wiring diagram



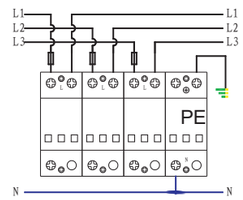
Drawing 4

4P wiring diagram



Drawing 5

3+1P wiring diagram

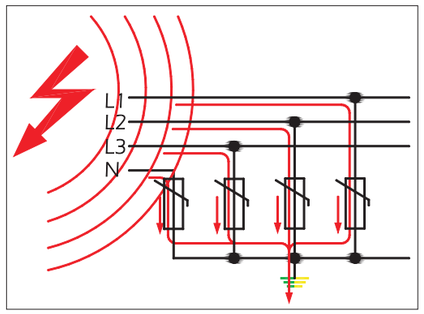


Drawing 6

3+1P wiring diagram

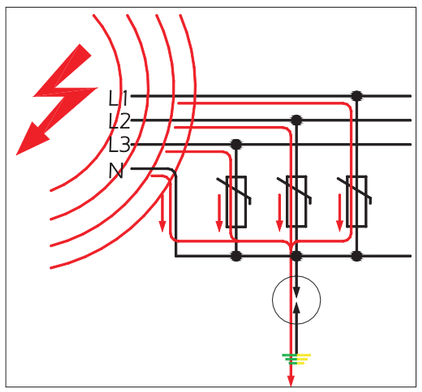
UB04-80 series SPD (for 380/420 VAC, 50/60Hz) can be used to provide a type-1 lightning or overvoltage protection to low-voltage distribution system, such as low-voltage main distribution cabinets, outdoor distribution control cabinets and power supplies with high lightning risk.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

4P electrical schematic

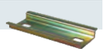


Drawing 2

3+1P electrical schematic

SPD for power supply system
UB04-80/□-275



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB04-80/1-275X	380754
	UB04-80/1-275	380755
	UB04-80/2-275X	380756
	UB04-80/2-275	380757
	UB04-80/3-275X	380758
	UB04-80/3-275	380759
	UB04-80/4-275X	380760
X :With remote indication contact	UB04-80/4-275	380761
	UB04-80/3+1-275X	380762
	UB04-80/3+1-275	380763
Dimension		
Width/Thickness(per piece)/Height	90/36/66mm	
Technical data		
Max. continuos operating voltage Uc AC/DC	275V/350V	
Breakdown voltage U1mA	430V	
Nominal discharge current In 8/20μS	40KA	
Max discharge current Imax 8/20μS	80KA	
Voltage protection level Up	1.6KV	
Pre-installed circuit breaker	63A	
Pre-installed fuse	63A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	16mm²	
Ground	25mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails 	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Accessories		
Wiring diagram		
4P wiring diagram	Drawing 3,4	
3+1P wiring diagram	Drawing 5,6	
Application	See drawing 1/2 on page B6	

SPD for power supply system
UB04-80/□-320



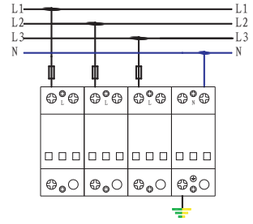
SPD for power supply system
UB04-80/□-385



SPD for power supply system
UB04-80/□-420

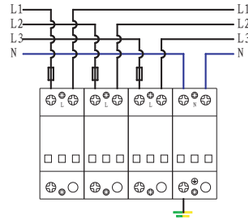


Type	Order no.	Type	Order no.	Type	Order no.
UB04-80/1-320X	380764	UB04-80/1-385X	380774	UB04-80/1-420X	380784
UB04-80/1-320	380765	UB04-80/1-385	380775	UB04-80/1-420	380785
UB04-80/2-320X	380766	UB04-80/2-385X	380776	UB04-80/2-420X	380786
UB04-80/2-320	380767	UB04-80/2-385	380777	UB04-80/2-420	380787
UB04-80/3-320X	380768	UB04-80/3-385X	380778	UB04-80/3-420X	380788
UB04-80/3-320	380769	UB04-80/3-385	380779	UB04-80/3-420	380789
UB04-80/4-320X	380770	UB04-80/4-385X	380780	UB04-80/4-420X	380790
UB04-80/4-320	380771	UB04-80/4-385	380781	UB04-80/4-420	380791
UB04-80/3+1-320X	380772	UB04-80/3+1-385X	380782	UB04-80/3+1-420X	380792
UB04-80/3+1-320	380773	UB04-80/3+1-385	380783	UB04-80/3+1-420	380793
90/36/66mm		90/36/66mm		90/36/66mm	
320V/415V		385V/505V		420V/560V	
510V		620V		680V	
40KA		40KA		40KA	
80KA		80KA		80KA	
2.0KV		2.2KV		2.5KV	
63A		63A		63A	
63A		63A		63A	
⩽25ns		⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85		-40～+85	
250V/125V		250V/125V		250V/125V	
1A		1A		1A	
0.2A		0.2A		0.2A	
16mm²		16mm²		16mm²	
25mm²		25mm²		25mm²	
0.5-1.5mm²		0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005	TH35-15	102005
PA		PA		PA	
IP20		IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3,4		Drawing 3,4		Drawing 3,4	
Drawing 5,6		Drawing 5,6		Drawing 5,6	
See drawing 1/2 on page B6		See drawing 1/2 on page B6		See drawing 1/2 on page B6	



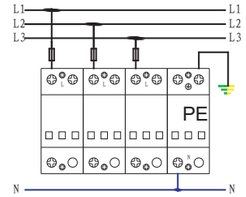
Drawing 3

4P wiring diagram



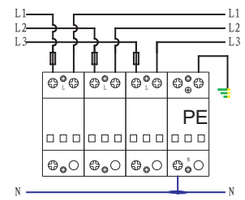
Drawing 4

4P wiring diagram



Drawing 5

3+1P wiring diagram

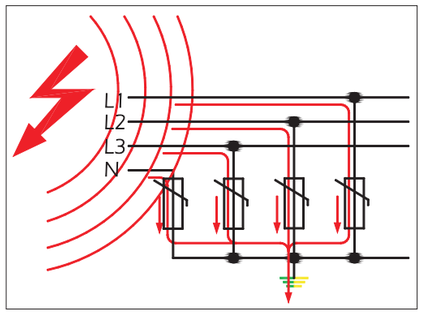


Drawing 6

3+1P wiring diagram

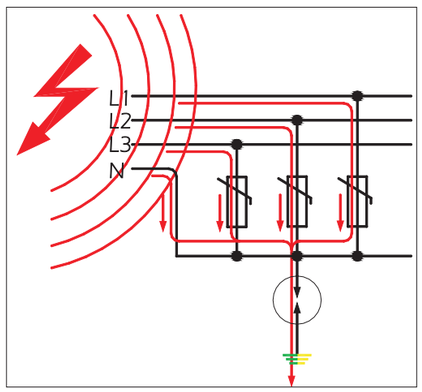
UB04-100 series SPD (for 380/420 VAC, 50/60Hz) can be used to provide a type-1 lightning or overvoltage protection to low-voltage distribution system, such as low-voltage main distribution cabinets, outdoor distribution control cabinets and power supplies with high lightning risk.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

4P electrical schematic



Drawing 2

3+1P electrical schematic

SPD for power supply system
UB04-100/□-275



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB04-100/1-275X	380794
	UB04-100/1-275	380795
	UB04-100/2-275X	380796
	UB04-100/2-275	380797
	UB04-100/3-275X	380798
	UB04-100/3-275	380799
	UB04-100/4-275X	380800
X :With remote indication contact	UB04-100/4-275	380801
	UB04-100/3+1-275X	380802
	UB04-100/3+1-275	380803

Dimension	
Width/Thickness(per piece)/Height	90/36/66mm

Technical data		
Max. continuos operating voltage Uc	AC/DC	275V/350V
Breakdown voltage U1mA		430V
Nominal discharge current In 8/20μS		50KA
Max discharge current Imax 8/20μS		100KA
Voltage protection level Up		1.8KV
Pre-installed circuit breaker		63A
Pre-installed fuse		63A
Response time		⩽25ns
Leakage current		⩽0.3mA
Temperature range	℃	-40～+85

Remote indication contact		
Max. operating voltage Umax	AC/DC	250V/125V
Max. operating current Imax	AC	1A
Max. operating current Imax	DC	0.2A

Connection data	
Phase	16mm²
Ground	25mm²
Remote indication contact	0.5-1.5mm²

Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005

General data	
Housing material	PA
Protection degree	IP20
Test standards	GB/T18802.1-2011 IEC 61643-1:1998

Accessories

Wiring diagram	
4P wiring diagram	Drawing 3,4
3+1P wiring diagram	Drawing 5,6
Application	See drawing 1/2 on page B6

SPD for power supply system
UB04-100/□-320



Type	Order no.
UB04-100/1-320X	380804
UB04-100/1-320	380805
UB04-100/2-320X	380806
UB04-100/2-320	380807
UB04-100/3-320X	380808
UB04-100/3-320	380809
UB04-100/4-320X	380810
UB04-100/4-320	380811
UB04-100/3+1-320X	380812
UB04-100/3+1-320	380813

90/36/66mm	

320V/415V	
510V	
50KA	
100KA	
2.2KV	
63A	
63A	
⩽25ns	
⩽0.3mA	
-40～+85	

250V/125V	
1A	
0.2A	

16mm²	
25mm²	
0.5-1.5mm²	

TH35-7.5		102001
TH35-15		102005

PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	

Drawing 3,4	
Drawing 5,6	
See drawing 1/2 on page B6	

SPD for power supply system
UB04-100/□-385



Type	Order no.
UB04-100/1-385X	380814
UB04-100/1-385	380815
UB04-100/2-385X	380816
UB04-100/2-385	380817
UB04-100/3-385X	380818
UB04-100/3-385	380819
UB04-100/4-385X	380820
UB04-100/4-385	380821
UB04-100/3+1-385X	380822
UB04-100/3+1-385	380823

90/36/66mm	

385V/505V	
620V	
50KA	
100KA	
2.5KV	
63A	
63A	
⩽25ns	
⩽0.3mA	
-40～+85	

250V/125V	
1A	
0.2A	

16mm²	
25mm²	
0.5-1.5mm²	

TH35-7.5		102001
TH35-15		102005

PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	

Drawing 3,4	
Drawing 5,6	
See drawing 1/2 on page B6	

SPD for power supply system
UB04-100/□-420



Type	Order no.
UB04-100/1-420X	380824
UB04-100/1-420	380825
UB04-100/2-420X	380826
UB04-100/2-420	380827
UB04-100/3-420X	380828
UB04-100/3-420	380829
UB04-100/4-420X	380830
UB04-100/4-420	380831
UB04-100/3+1-420X	380832
UB04-100/3+1-420	380833

90/36/66mm	

420V/560V	
680V	
50KA	
100KA	
2.8KV	
63A	
63A	
⩽25ns	
⩽0.3mA	
-40～+85	

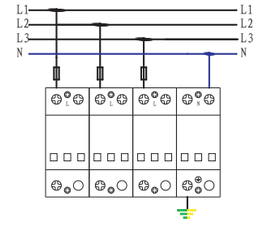
250V/125V	
1A	
0.2A	

16mm²	
25mm²	
0.5-1.5mm²	

TH35-7.5		102001
TH35-15		102005

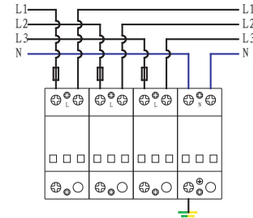
PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	

Drawing 3,4	
Drawing 5,6	
See drawing 1/2 on page B6	



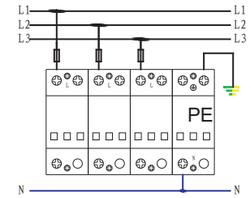
Drawing 3

4P wiring diagram



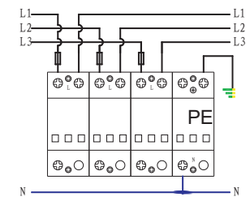
Drawing 4

4P wiring diagram



Drawing 5

3+1P wiring diagram

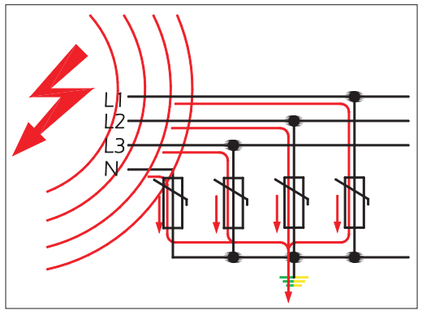


Drawing 6

3+1P wiring diagram

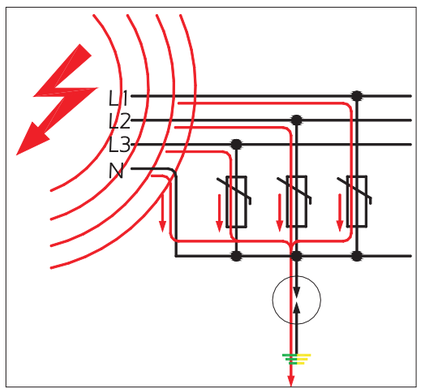
UB04-120 series SPD (for 380/420 VAC, 50/60Hz) can be used to provide a type-1 lightning or overvoltage protection to low-voltage distribution system, such as low-voltage main distribution cabinets, outdoor distribution control cabinets and power supplies with high lightning risk.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

4P electrical schematic



Drawing 2

3+1P electrical schematic

SPD for power supply system
UB04-120/□-275



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB04-120/1-275X	380834
	UB04-120/1-275	380835
	UB04-120/2-275X	380836
	UB04-120/2-275	380837
	UB04-120/3-275X	380838
	UB04-120/3-275	380839
	UB04-120/4-275X	380840
	UB04-120/4-275	380841
	UB04-120/3+1-275X	380842
X :With remote indication contact	UB04-120/3+1-275	380843
Dimension		
Width/Thickness(per piece)/Height	90/36/66mm	
Technical data		
Max. continuos operating voltage Uc AC/DC	275V/350V	
Breakdown voltage U1mA	430V	
Nominal discharge current In 8/20μS	60KA	
Max discharge current Imax 8/20μS	120KA	
Voltage protection level Up	2.0KV	
Pre-installed circuit breaker	63A	
Pre-installed fuse	63A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	16mm²	
Ground	25mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Accessories		
Wiring diagram		
4P wiring diagram	Drawing 3,4	
3+1P wiring diagram	Drawing 5,6	
Application	See drawing 1/2 on page B6	

SPD for power supply system
UB04-120/□-320



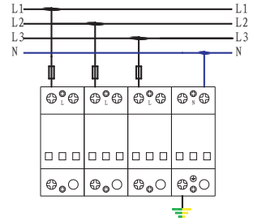
SPD for power supply system
UB04-120/□-385



SPD for power supply system
UB04-120/□-420

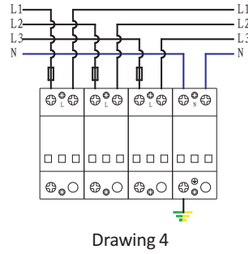


Type	Order no.	Type	Order no.	Type	Order no.
UB04-120/1-320X	380844	UB04-120/1-385X	380854	UB04-120/1-420X	380864
UB04-120/1-320	380845	UB04-120/1-385	380855	UB04-120/1-420	380865
UB04-120/2-320X	380846	UB04-120/2-385X	380856	UB04-120/2-420X	380866
UB04-120/2-320	380847	UB04-120/2-385	380857	UB04-120/2-420	380867
UB04-120/3-320X	380848	UB04-120/3-385X	380858	UB04-120/3-420X	380868
UB04-120/3-320	380849	UB04-120/3-385	380859	UB04-120/3-420	380869
UB04-120/4-320X	380850	UB04-120/4-385X	380860	UB04-120/4-420X	380870
UB04-120/4-320	380851	UB04-120/4-385	380861	UB04-120/4-420	380871
UB04-120/3+1-320X	380852	UB04-120/3+1-385X	380862	UB04-120/3+1-420X	380872
UB04-120/3+1-320	380853	UB04-120/3+1-385	380863	UB04-120/3+1-420	380873
90/36/66mm		90/36/66mm		90/36/66mm	
320V/415V		385V/505V		420V/560V	
510V		620V		680V	
60KA		60KA		60KA	
120KA		120KA		120KA	
2.5KV		2.8KV		3.0KV	
63A		63A		63A	
63A		63A		63A	
⩽25ns		⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85		-40～+85	
250V/125V		250V/125V		250V/125V	
1A		1A		1A	
0.2A		0.2A		0.2A	
16mm²		16mm²		16mm²	
25mm²		25mm²		25mm²	
0.5-1.5mm²		0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005	TH35-15	102005
PA		PA		PA	
IP20		IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3,4		Drawing 3,4		Drawing 3,4	
Drawing 5,6		Drawing 5,6		Drawing 5,6	
See drawing 1/2 on page B6		See drawing 1/2 on page B6		See drawing 1/2 on page B6	



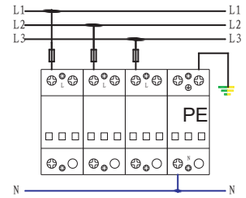
Drawing 3

4P wiring diagram



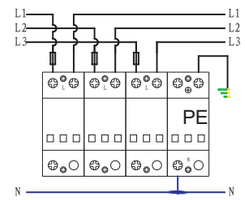
Drawing 4

4P wiring diagram



Drawing 5

3+1P wiring diagram

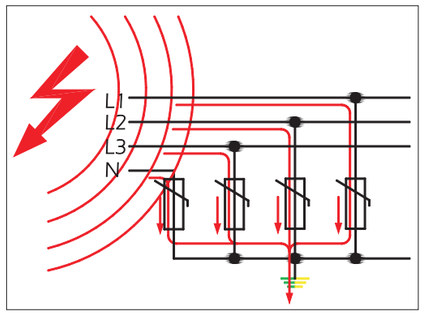


Drawing 6

3+1P wiring diagram

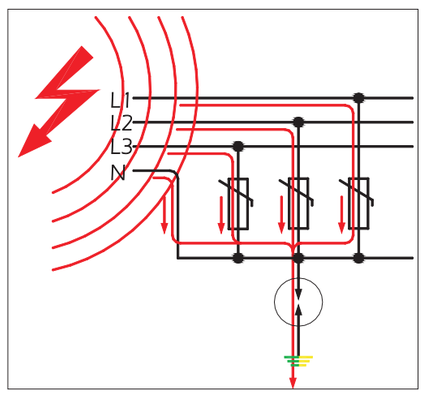
UB04-150 series SPD (for 380/420 VAC, 50/60Hz) can be used to provide a type-1 lightning or overvoltage protection to low-voltage distribution system, such as low-voltage main distribution cabinets, outdoor distribution control cabinets and power supplies with high lightning risk.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

4P electrical schematic



Drawing 2

3+1P electrical schematic

SPD for power supply system
UB04-150/□-275



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB04-150/1-275X	380874
	UB04-150/1-275	380875
	UB04-150/2-275X	380876
	UB04-150/2-275	380877
	UB04-150/3-275X	380878
	UB04-150/3-275	380879
	UB04-150/4-275X	380880
X :With remote indication contact	UB04-150/4-275	380881
	UB04-150/3+1-275X	380882
	UB04-150/3+1-275	380883
Dimension		
Width/Thickness(per piece)/Height	90/36/66mm	
Technical data		
Max. continuos operating voltage Uc AC/DC	275V/350V	
Breakdown voltage U1mA	430V	
Nominal discharge current In 8/20μS	60KA	
Max discharge current Imax 8/20μS	150KA	
Voltage protection level Up	2.0KV	
Pre-installed circuit breaker	63A	
Pre-installed fuse	63A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	16mm²	
Ground	25mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Accessories		
Wiring diagram		
4P wiring diagram	Drawing 3,4	
3+1P wiring diagram	Drawing 5,6	
Application	See drawing 1/2 on page B6	

SPD for power supply system
UB04-150/□-320



Type	Order no.
UB04-150/1-320X	380884
UB04-150/1-320	380885
UB04-150/2-320X	380886
UB04-150/2-320	380887
UB04-150/3-320X	380888
UB04-150/3-320	380889
UB04-150/4-320X	380890
UB04-150/4-320	380891
UB04-150/3+1-320X	380892
UB04-150/3+1-320	380893
90/36/66mm	
320V/415V	
510V	
60KA	
150KA	
2.5KV	
63A	
63A	
⩽25ns	
⩽0.3mA	
-40～+85	
250V/125V	
1A	
0.2A	
16mm²	
25mm²	
0.5-1.5mm²	
TH35-7.5 102001	
TH35-15 102005	
PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3,4	
Drawing 5,6	
See drawing 1/2 on page B6	

SPD for power supply system
UB04-150/□-385

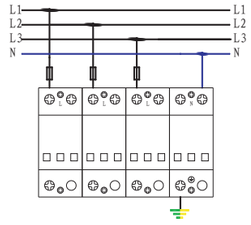


Type	Order no.
UB04-150/1-385X	380894
UB04-150/1-385	380895
UB04-150/2-385X	380896
UB04-150/2-385	380897
UB04-150/3-385X	380898
UB04-150/3-385	380899
UB04-150/4-385X	380900
UB04-150/4-385	380901
UB04-150/3+1-385X	380902
UB04-150/3+1-385	380903
90/36/66mm	
385V/505V	
620V	
60KA	
150KA	
2.8KV	
63A	
63A	
⩽25ns	
⩽0.3mA	
-40～+85	
250V/125V	
1A	
0.2A	
16mm²	
25mm²	
0.5-1.5mm²	
TH35-7.5 102001	
TH35-15 102005	
PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3,4	
Drawing 5,6	
See drawing 1/2 on page B6	

SPD for power supply system
UB04-150/□-420

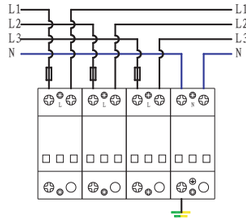


Type	Order no.
UB04-150/1-420X	380904
UB04-150/1-420	380905
UB04-150/2-420X	380906
UB04-150/2-420	380907
UB04-150/3-420X	380908
UB04-150/3-420	380909
UB04-150/4-420X	380910
UB04-150/4-420	380911
UB04-150/3+1-420X	380912
UB04-150/3+1-420	380913
90/36/66mm	
420V/560V	
680V	
60KA	
150KA	
3.0KV	
63A	
63A	
⩽25ns	
⩽0.3mA	
-40～+85	
250V/125V	
1A	
0.2A	
16mm²	
25mm²	
0.5-1.5mm²	
TH35-7.5 102001	
TH35-15 102005	
PA	
IP20	
GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3,4	
Drawing 5,6	
See drawing 1/2 on page B6	



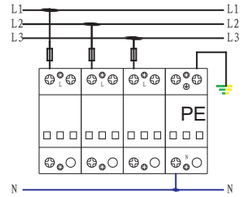
Drawing 3

4P wiring diagram



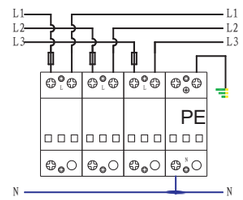
Drawing 4

4P wiring diagram



Drawing 5

3+1P wiring diagram

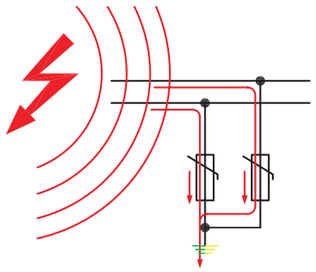


Drawing 6

3+1P wiring diagram

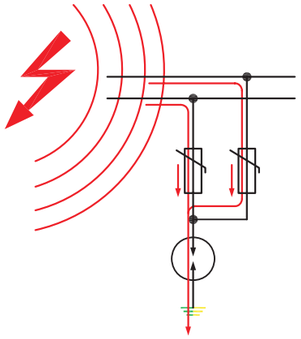
UB01-D series SPD is designed for DC power supply system.
It can be used to provide lightning (overvoltage) protection for solar and wind energy.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

2P electrical schematic



Drawing 2

2+1P electrical schematic

SPD for DC application
UB01-C/□-60VDC-40



Ordering data	Type	Order no.
	UB01-C/1-60VDC-40X	380672
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P	UB01-C/1-60VDC-40	380673
	UB01-C/1+1-60VDC-40X	380674
	UB01-C/1+1-60VDC-40	380675
X :With remote indication contact	UB01-C/2-60VDC-40X	380676
	UB01-C/2-60VDC-40	380677
Dimension		
Width/Thickness(per piece)/Height	90/18/66mm	
Technical data		
Max. continuos operating voltage Uc DC/AC	100V/75V	
Breakdown voltage U1mA	120V	
Nominal discharge current In 8/20μS	15KA	
Max discharge current Imax 8/20μS	40KA	
Voltage protection level Up	250V	
Pre-installed circuit breaker	32A	
Pre-installed fuse	32A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax	1A	
Max. operating current Imax	0.2A	
Connection data		
Phase	16mm²	
Ground	25mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Accessories		
Wiring diagram		
2P wiring diagram	Drawing 3	
2+1P wiring diagram	Drawing 4	

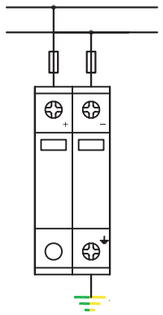
SPD for DC application
UB01-C/□-110VDC-40



SPD for DC application
UB01-C/□-120VDC-40

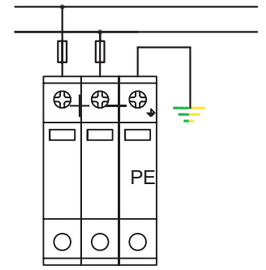


Type	Order no.	Type	Order no.
UB01-C/1-110VDC-40X	380678	UB01-C/1-120VDC-40X	380684
UB01-C/1-110VDC-40	380679	UB01-C/1-120VDC-40	380685
UB01-C/1+1-110VDC-40X	380680	UB01-C/1+1-120VDC-40X	380686
UB01-C/1+1-110VDC-40	380681	UB01-C/1+1-120VDC-40	380687
UB01-C/2-110VDC-40X	380682	UB01-C/2-120VDC-40X	380688
UB01-C/2-110VDC-40	380683	UB01-C/2-120VDC-40X	380689
90/18/66mm		90/18/66mm	
180V/140V		200V/150V	
220V		240V	
20KA		20KA	
40KA		40KA	
600V		800V	
32A		32A	
32A		32A	
⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85	
250V/125V		250V/125V	
1A		1A	
0.2A		0.2A	
16mm²		16mm²	
25mm²		25mm²	
0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005
PA		PA	
IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3		Drawing 3	
Drawing 4		Drawing 4	



Drawing 3

2P wiring diagram

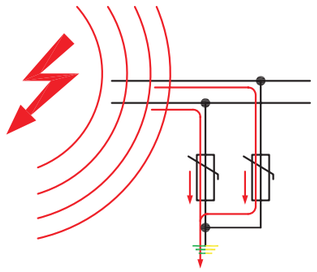


Drawing 4

2+1P wiring diagram

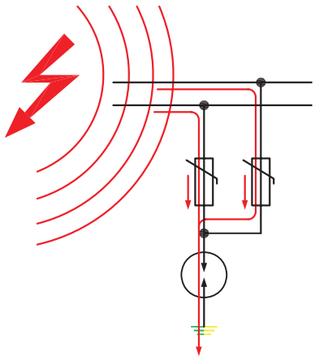
UB01-C series SPD is designed for DC power supply system.
It can be used to provide lightning (overvoltage) protection for solar and wind energy.

Features:
1. Low residual voltage and leakage current;
2. Response time⩽25nS;
3. Thermal disconnect and fuse devices;
4. Mechanical status indication: green(OK), red(Overloaded);
5. With or without floating remote indication contacts;
6. Can be mounted on TH 35 rails;



Drawing 1

2P electrical schematic

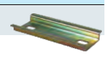


Drawing 2

2+1P electrical schematic

SPD for DC application
UB01-C/□-560VDC-40



Ordering data	Type	Order no.
□ SPD combinations: 1, 2, 3, 4, 1+1, 3+1 see drawing 1 under 4P drawing 2 for 3+1P X :With remote indication contact	UB01-C/1-560VDC-40X	380690
	UB01-C/1-560VDC-40	380691
	UB01-C/1+1-560VDC-40X	380692
	UB01-C/1+1-560VDC-40	380693
	UB01-C/2-560VDC-40X	380694
	UB01-C/2-560VDC-40	380695
	UB01-C/2+1-560VDC-40X	380696
	UB01-C/2+1-560VDC-40	380697
Dimension		
Width/Thickness(per piece)/Height	90/18/66mm	
Technical data		
Max. continuos operating voltage Uc DC/AC	560V/420V	
Breakdown voltage U1mA	680V	
Nominal discharge current In 8/20μS	20KA	
Max discharge current Imax 8/20μS	40KA	
Voltage protection level Up	2.2KV	
Pre-installed circuit breaker	32A	
Pre-installed fuse	32A	
Response time	⩽25ns	
Leakage current	⩽0.3mA	
Temperature range ℃	-40～+85	
Remote indication contact		
Max. operating voltage Umax AC/DC	250V/125V	
Max. operating current Imax AC	1A	
Max. operating current Imax DC	0.2A	
Connection data		
Phase	16mm²	
Ground	25mm²	
Remote indication contact	0.5-1.5mm²	
Mounting		
TH35 rails 	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.1-2011 IEC 61643-1:1998	
Wiring diagram		
2P wiring diagram	Drawing 3	
2+1P wiring diagram	Drawing 4	

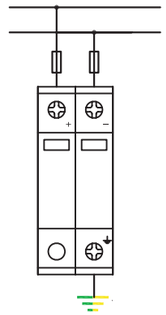
SPD for DC application
UB01-C/□-910VDC-40



SPD for DC application
UB01-C/□-1000VDC-40

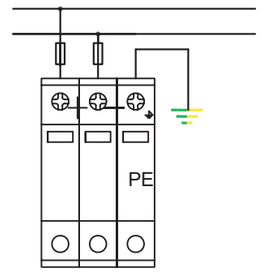


Type	Order no.	Type	Order no.
UB01-C/1-910VDC-40X	380698	UB01-C/1-1000VDC-40X	380706
UB01-C/1-910VDC-40	380699	UB01-C/1-1000VDC-40	380707
UB01-C/1+1-910VDC-40X	380700	UB01-C/1+1-1000VDC-40X	380708
UB01-C/1+1-910VDC-40	380701	UB01-C/1+1-1000VDC-40	380709
UB01-C/2-910VDC-40X	380702	UB01-C/2-1000VDC-40X	380710
UB01-C/2-910VDC-40	380703	UB01-C/2-1000VDC-40	380711
UB01-C/2+1-910VDC-40X	380704	UB01-C/2+1-1000VDC-40X	380712
UB01-C/2+1-910VDC-40	380705	UB01-C/2+1-1000VDC-40	380713
90/18/66mm		90/18/66mm	
895V/680V		980V750V	
1100V		1235V	
20KA		20KA	
40KA		40KA	
3.3KV		3.5KV	
32A		32A	
32A		32A	
⩽25ns		⩽25ns	
⩽0.3mA		⩽0.3mA	
-40～+85		-40～+85	
250V/125V		250V/125V	
1A		1A	
0.2A		0.2A	
16mm²		16mm²	
25mm²		25mm²	
0.5-1.5mm²		0.5-1.5mm²	
TH35-7.5	102001	TH35-7.5	102001
TH35-15	102005	TH35-15	102005
PA		PA	
IP20		IP20	
GB/T18802.1-2011 IEC 61643-1:1998		GB/T18802.1-2011 IEC 61643-1:1998	
Drawing 3		Drawing 3	
Drawing 4		Drawing 4	



Drawing 3

2P wiring diagram



Drawing 4

2+1P wiring diagram

Application

Can be used to provide protection for monitoring systems and equipments, such as "Power, PTZ, Camera", bank, residential area, factory, school, and transportation.

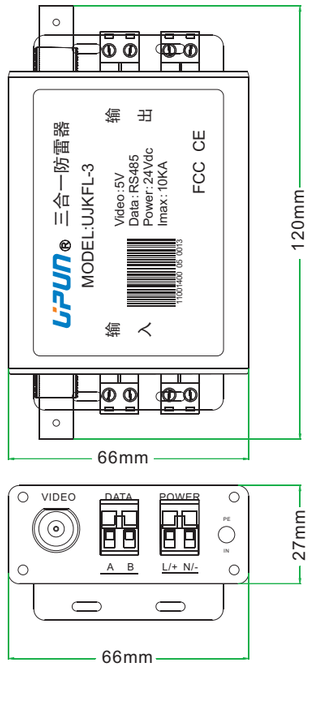
Features

1. Comprehensive protection for power supply of camera, PTZ control signal and video signal, low interference;
2. Large flow, low residual depression;
3. Multi-level protection;
4. Low insertion loss, superior transmission performance, free of leakage current.

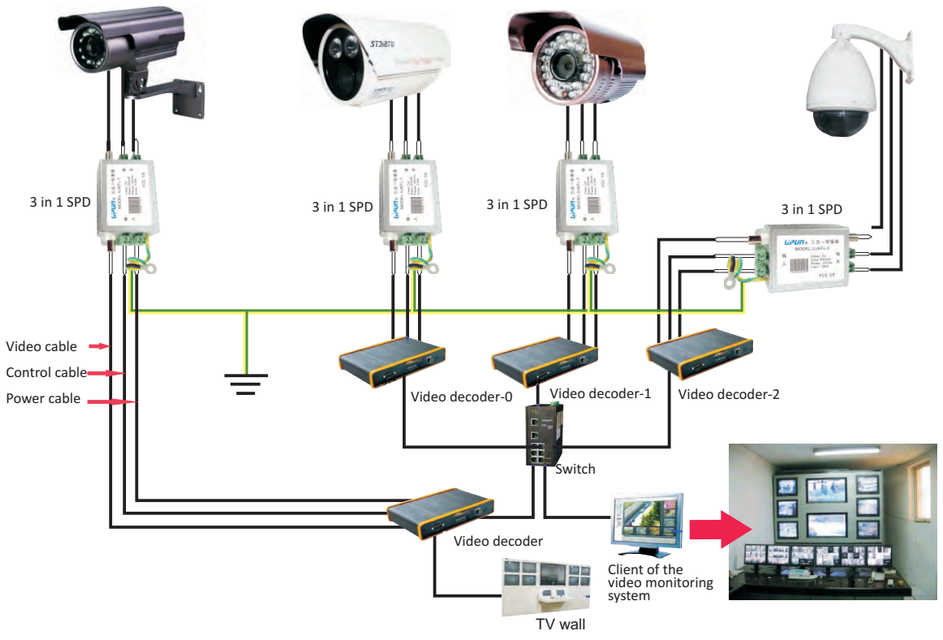
Mounting

1.Prepare for connection
2.Keep it away from rain, it may cause a short circuit.
3.Connect it in the correct direction, the end of output should be connected with the device to be protected.
4.Cut off power source before installing
5.Check the circuit after the installation is completed
6.No special maintenance is required. Just check regularly the product is well-connected and the status indication is working correctly.

Dimension drawing



Installation drawing



	3 in 1 CCTV camera SPD UJKFL-3-220Vac	3 in 1 CCTV camera SPD UJKFL-3-24Vdc	3 in 1 CCTV camera SPD UJKFL-3-12Vdc
			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
SPD for monitoring system	UJKFL-3-220Vac 385051	UJKFL-3-24Vdc 385052	UJKFL-3-12Vdc 385053
Dimension			
Length/Width/Thickness	120*66*27mm（conntector included）	120*66*27mm（conntector included）	120*66*27mm（conntector included）
Technical data			
Power supply			
Operating voltage	220Vac	24Vdc	12Vdc
Max. continuos operating voltage Uc	275Vac	45Vdc	26Vdc
Rated operating voltage	3A	3A	3A
Nominal discharge current In 8/20μs	5KA	5KA	5KA
Max. discharge current Imax 8/20μs	10KA	10KA	10KA
Voltage protection level Up	900V		100V
Temperature range℃	-40～+85℃	-40～+85℃	-40～+85℃
Video and control			
Operating voltage	⩽12V	⩽12V	⩽12V
Nominal discharge current In 8/20μs	3KA	3KA	3KA
Max. discharge current Imax 8/20μs	5KA	5KA	5KA
Limiting voltage（10/700μs) Core-Housing/Ground	⩽40V	⩽40V	⩽40V
Transmission rate	⩽100Mbps	⩽100Mbps	⩽100Mbps
Impedance	75Ω	75Ω	75Ω
Insertion loss	⩽0.5dB	⩽0.5dB	⩽0.5dB
Interface form-I/O	BNC-K/J,2Pcrimp terminal	BNC-K/J,2Pcrimp terminal	BNC-K/J,2P crimp terminal
Others			
Housing	Aluminium alloy	Aluminium alloy	Aluminium alloy
Conductor connection			
Power supply	16-26AWG (Approx. 0.15～1.3mm²)	16-26AWG (Approx. 0.15～1.3mm²)	16-26AWG (Approx. 0.15～1.3mm²)
Control signal	16-26AWG (Approx. 0.15～1.3mm²)	16-26AWG (Approx. 0.15～1.3mm²)	16-26AWG (Approx. 0.15～1.3mm²)
Video signal	BNC	BNC	BNC
Grounding	Ground terminal block or earth wire of 2.5mm²	Ground terminal block or earth wire of 2.5mm²	Ground terminal block or earth wire of 2.5mm²
Mounting	Box or cabinet	Box or cabinet	Box or cabinet

Application

Can be used to provide protection for monitoring systems and equipments, such as "Power, PTZ, Camera", bank, residential area, factory, school, and transportation.

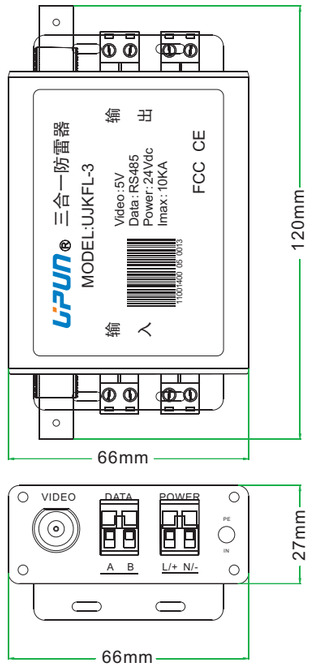
Features

1. Comprehensive protection for power supply of camera, PTZ control signal and video signal, low interference;
2. Large flow, low residual depression;
3. Multi-level protection;
4. Low insertion loss, superior transmission performance, free of leakage current.

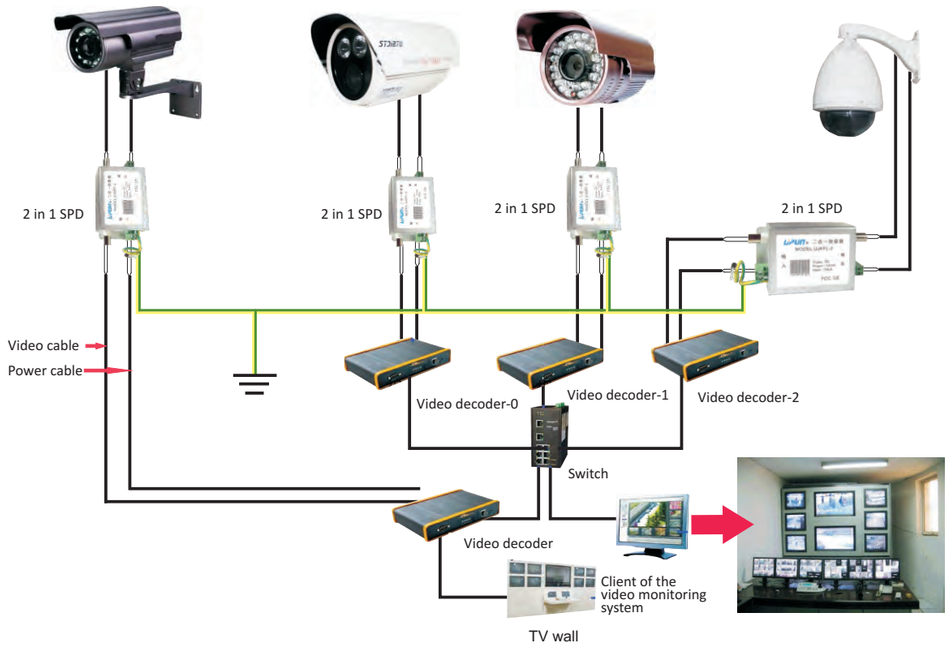
Mounting

1.Prepare for connection
2.Keep it away from rain, it may cause a short circuit.
3.Connect it in the correct direction, the end of output should be connected with the device to be protected.
4.Cut off power source before installing
5.Check the circuit after the installation is completed
6.No special maintenance is required. Just check regularly the product is well-connected and the status indication is working correctly.

Dimension drawing



Installation drawing



	2 in 1 CCTV camera SPD UJKFL-2-220Vac	2 in 1 CCTV camera SPD UJKFL-2-24Vdc	2 in 1 CCTV camera SPD UJKFL-2-12Vdc
			
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
SPD for monitoring system	UJKFL-2-220Vac 385054	UJKFL-2-24Vdc 385055	UJKFL-2-12Vdc 385056
Dimension			
Length/Width/Thickness	120*66*27mm（conntector included）	120*66*27mm（conntector included）	120*66*27mm（conntector included）
Technical data			
Power supply			
Operating voltage	220Vac	24Vdc	12Vdc
Max. continuos operating voltage Uc	275Vac	45Vdc	26Vdc
Rated operating voltage	3A	3A	3A
Nominal discharge current In 8/20μs	5KA	5KA	5KA
Max. discharge current Imax 8/20μs	10KA	10KA	10KA
Voltage protection level Up	900V		100V
Temperature range℃	-40～+85℃	-40～+85℃	-40～+85℃
Video			
Operating voltage	⩽12V	⩽12V	⩽12V
Nominal discharge current In 8/20μs	3KA	3KA	3KA
Max. discharge current Imax 8/20μs	5KA	5KA	5KA
Limiting voltage（10/700μs) Core-Housing/Ground	⩽40V	⩽40V	⩽40V
Transmission rate	⩽100Mbps	⩽100Mbps	⩽100Mbps
Impedance	75Ω	75Ω	75Ω
Insertion loss	⩽0.5dB	⩽0.5dB	⩽0.5dB
Interface form-I/O	BNC-K/J,2Pcrimp terminal	BNC-K/J,2Pcrimp terminal	BNC-K/J,2P crimp terminal
Others			
Housing	Aluminium alloy	Aluminium alloy	Aluminium alloy
Conductor connection			
Power supply	16-26AWG (Approx. 0.15～1.3mm²)	16-26AWG (Approx. 0.15～1.3mm²)	16-26AWG (Approx. 0.15～1.3mm²)
Video signal	BNC	BNC	BNC
Grounding	Ground terminal block or earth wire of 2.5mm²	Ground terminal block or earth wire of 2.5mm²	Ground terminal block or earth wire of 2.5mm²
Mounting	Box or cabinet	Box or cabinet	Box or cabinet

Power supply lightning protection cabinet

3-phase power supply lightning protection cabinet

UPK3-□/□-40



Ordering data	Type	Order no.
	UPK3-□/□-40	551001

Dimension	
Width/Thickness/Height	500×220×700mm

Technical data	
Operating voltage Uo DC/AC	380V
Max. continuous operating voltage Uc	385V
Nominal discharge current In	20KA
Max. discharge current Imax	40KA
Voltage protection level Up	< 1.8KV
Response time Ta	⩽25ns
Input/output	□/□
3-phase/single phase	3-phase

UPK3-□/□-60



Type	Order no.
UPK3-□/□-60	551002

500×220×700mm

380V
385V
30KA
60KA
< 2.0KV
⩽25ns
□/□
3-phase

UPK3-□/□-80



Type	Order no.
UPK3-□/□-80	551003

500×220×700mm

380V
385V
40KA
80KA
< 2.2KV
⩽25ns
□/□
3-phase

UPK3-□/□-100



Type	Order no.
UPK3-□/□-100	551004

500×220×700mm

380V
385V
50KA
100KA
< 2.5KV
⩽25ns
□/□
3-phase

UPK3-□/□-120



Type	Order no.
UPK3-□/□-120	551005

600×220×800mm

380V
385V
60KA
120KA
< 2.8KV
⩽25ns
□/□
3-phase

U PK 3 - □ / □ - 000 N A V

- V — Voltmeter
- A — Ammeter
- N — Smart power lightning protection box
- 000 — Max. discharge current
- □ — "□" output channel(customized)
- □ — "□" input channel(customized)
- 3 — "2" 2-phase AC / "3" 3-phase AC
- PK — PK/PA/KK Product code
- U — Company code

Single-phase power supply lightning protection cabinet

UPK2-1/□-40



Ordering data	Type	Order no.
	UPK2-1/□-40	551006

Dimension	
Width/Thickness/Height	500×220×700mm

Technical data	
Operating voltage Uo	220V
Max. continuous operating voltage Uc	235V
Nominal discharge current In	20KA
Max. discharge current Imax	40KA
Voltage protection level Up	< 1.8KV
Response time Ta	⩽25ns
Input/output	1/□
3-phase/Single phase	Single phase

UPK2-1/□-60



Type	Order no.
UPK2-1/□-60	551007

500×220×700mm

220V
235V
30KA
60KA
< 2.0KV
⩽25ns
1/□
Single phase

UPK2-1/□-80



Type	Order no.
UPK2-1/□-80	551008

500×220×700mm

220V
235V
40KA
80KA
< 2.2KV
⩽25ns
1/□
Single phase

UPK2-1/□-100



Type	Order no.
UPK2-1/□-100	551009

500×220×700mm

220V
235V
50KA
100KA
< 2.5KV
⩽25ns
1/□
Single phase

Application

- The auto city-power switcher is used for switching between the two power supplies of emergency AC power supply system, to guarantee continuous and reliable operation of powered devices. It is mainly used for AC power distribution systems of communication stations, telecommunication rooms and other power.

Features

1. Flexible switching methods,auto/manual switching
2. Switches of well recognized brands home and abroad, e.g Schneider or ABB miniature circuit breakers
3. Possible to pre-install 32A~60A single phase or three phase generator input sockets
4. Optional voltage and current display and power supply operating indication
5. Optional power meter function (use an electric meter or others)
6. Optional generator start timing
7. Level B power supply lightning protector with different specifications and protection modes available on request
8. Level B power supply lightning protector incorporated in cabinet provides excellent protection for short line distance
9. Large peak current, low residual voltage and short response time of power supply lightning protector
10. Optional auxiliary functions of lightning counter, remote signaling and mains power failure alarm etc.
11. Superior electrical insulation

Auto city-power switcher

UKK3-□/□-40



Ordering data	Type	Order no.
	UKK3-□/□-40	561001

Dimension	
Width/Thickness/Height	500×220×700mm

Technical data	
Operating voltage Uo	380V/380V
Max. continuous operating voltage Uc	385V
Nominal discharge current In	20KA
Max. discharge current Imax	40KA
Voltage protection level Up	＜1.8KV
Response time Ta	≤25ns
Input/output	□/□
3-phase/Single phase	3-phase

UKK3-□/□-40



Type	Order no.
UKK3-□/□-60	561002

500×220×700mm

380V/380V
385V
30KA
60KA
＜2.0KV
≤25ns
□/□
3-phase

UKK3-□/□-80



Type	Order no.
UKK3-□/□-80	561003

600×220×800mm

380V/380V
385V
40KA
80KA
＜2.2KV
≤25ns
□/□
3-phase

UKK3-□/□-100



Type	Order no.
UKK3-□/□-100	561004

600×220×800mm

380V/
385V
50KA
100KA
＜2.5KV
≤25ns
□/□
3-phase

- Application
- Level B and C power supply protection
  They are designed for power distribution systems of mobile communication stations, telecommunication stations, computer rooms, power rooms, chemical industries, plants and minings, airports, railways, civil buildings, low voltage AC power distribution, solar PV and wind power generation etc.,
- Can be also used to provide overvoltage and over current protection with the short response time.

Features

1. Excellent performance with core components of well known brands
2. Capacity to withstand continuous and multi lightning strikes with strict current sharing technology
3. High carrying current, low residual voltage and short response time
4. Lightning counter
5. Remote surveillance with remote signaling function
6. SPD window status indication
7. Ensured separation of fault module with power supply system through built-in auto protection devices of the SPD module
8. “3+1” protection as standard, with other optional protection modes as required
9. Use Schneider high performance as back-up protection for the lightning protection cabinet, also possible to choose other foreign brands as customer requirements
10. Kevin wiring for lightning protection cabinet installation to reduce residual voltage of the line and improve the protection.

Standard





Ordering data	Type	Order no.	Type	Order no.
	UPA385/40	571007	UPA385/60	571008
Dimension				
Width/Thickness/Height	320×130×430mm		320×130×430mm	
Technical data				
Operating voltage Uo	380V/220V		380V/220V	
Max. continuous operating voltage Uc	385V		385V	
Nominal discharge current In	20KA		30KA	
Max. discharge current Imax	40KA		60KA	
Voltage protection level Up	< 1.8KV		< 2.0KV	
Protection mode	L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE	
Response time Ta	⩽25ns		⩽25ns	
Lightning counter	With		With	
SPD staus indication	With		With	
Floating remote indication	With		With	

Smart





Ordering data	Type	Order no.	Type	Order no.
	UPA385/40N	571001	UPA385/60N	571002
Dimension				
Width/Thickness/Height	300×120×400mm		300×120×400mm	
Technical data				
Operating voltage Uo	380V/220V		380V/220V	
Max. continuous operating voltage Uc	385V		385V	
Nominal discharge current In	20KA		30KA	
Max. discharge current Imax	40KA		60KA	
Voltage protection level Up	< 1.8KV		< 2.0KV	
Protection mode	L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE	
Response time Ta	⩽25ns		⩽25ns	
Lightning counter	With		With	
SPD staus indication	With		With	
Floating remote indication	With		With	

UPA385/80



UPA385/100



UPA385/120



UPA385/150



Type	Order no.	Type	Order no.	Type	Order no.	Type	Order no.
UPA385/80	571009	UPA385/100	571010	UPA385/120	571011	UPA385/150	571012
320×130×430mm		320×130×430mm		320×130×430mm		320×130×430mm	
380V/220V		380V		380V		380V	
385V		385V		385V		385V	
40KA		50KA		60KA		80KA	
80KA		100KA		120KA		150KA	
< 2.2KV		< 2.5KV		< 2.8KV		< 3.0KV	
L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE	
⩽25ns		⩽25ns		⩽25ns		⩽25ns	
With		With		With		With	
With		With		With		With	
With		With		With		With	

UPA385/80N



UPA385/100N



UPA385/120N



UPA385/150N



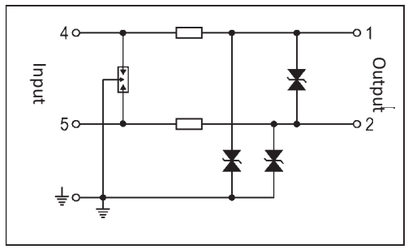
Type	Order no.	Type	Order no.	Type	Order no.	Type	Order no.
UPA385/80N	571003	UPA385/100N	571004	UPA385/120N	571005	UPA385/150N	571006
300×120×400mm		300×120×400mm		300×120×400mm		300×120×400mm	
380V/220V		380V		380V		380V	
385V		385V		385V		385V	
40KA		50KA		60KA		80KA	
80KA		100KA		120KA		150KA	
< 2.2KV		< 2.5KV		< 2.8KV		< 3.0KV	
L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE		L-N,N-PE.L-N-PE	
⩽25ns		⩽25ns		⩽25ns		⩽25ns	
With		With		With		With	
With		With		With		With	
With		With		With		With	

UTT Series product can be used to provide lightning protection for analog signal of 2-wire and 3-wire system.

Features:
1.A narrow width of 7.6mm, space-saving;
2.Low impedance;
3.Thermocouple and thermal resistance signal input.

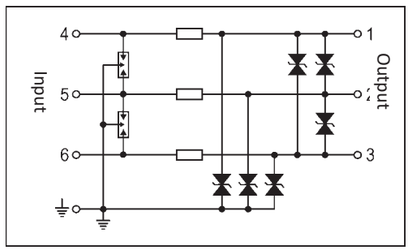
Type

U	TT	–	2	L	–	5
Company code	Surge protection for MCR technology		Wire system 2:2-wire 3:3-wire	Protection type: L:thermocouple/ thermal resistance K:switch BS: transducer RS: communication JD: floating,2-wire /2:common reference potential JD/S1: 2-wire,floating		Rated operating voltage 5Vdc 12Vdc 24Vdc 110Vac



Drawing 1

2-wire



Drawing 2

3-wire

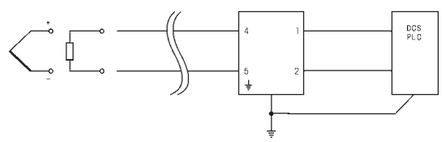
For analog signal
UTT-L

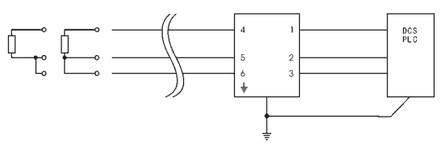


Ordering data	Type	Order no.
2-wire(see drawing 1)	UTT-2L-5VDC	385001
3-wire(see drawing 2)	UTT-3L-5VDC	385002
Dimension		
Width/Thickness/Height	99.0/7.6/92.4	
Technical data		
Rated operating voltage DC	5V	
Max. operating voltage DC	6V	
Rated current IN	250mA	
Nominal discharge current In 8/20μS	5KA	
Max. discharge current Imax 8/20μS	10KA	
Output voltage limitation 1000V/μS	15V	
Output voltage residual 8/20μS	30V	
Cut-off frequency -0.5/dB	10MHz	
Response time	10ns	
Resistance per path	4.7Ω	
Temperature range	-20℃～+60℃	
Connection data		
Cross section(AWG)	AWG20～12	
Cross section	0.5mm～2.5mm	
Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	
Accessories		
End bracket: for fixing SPD		

Application

UTT-2L-5VDC



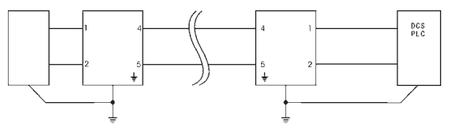


For analog signal
UTT-K

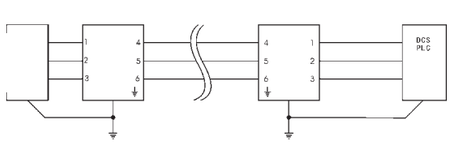


Type	Order no.
UTT-2K-12VDC	385003
UTT-3K-12VDC	385004
99.0/7.6/92.4	
12V	
15V	
250mA	
5KA	
10KA	
25V	
40V	
10MHz	
10ns	
4.7Ω	
-20℃～+60℃	
AWG20～12	
0.5mm～2.5mm	
TH35-7.5	102001
TH35-15	102005
PA	
IP20	
GB/T18802.21-2004 IEC 61643-21:2000	

UTT-2K-12VDC UTT-2K-12VDC



UTT-3K-12VDC UTT-3K-12VDC

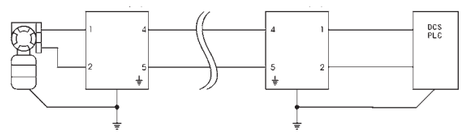


For analog signal
UTT-BS

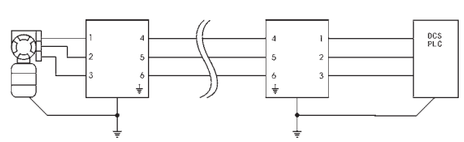


Type	Order no.
UTT-2BS-24VDC	385005
UTT-3BS-24VDC	385006
99.0/7.6/92.4	
24V	
32V	
250mA	
5KA	
10KA	
45V	
60V	
10MHz	
10ns	
4.7Ω	
-20℃～+60℃	
AWG20～12	
0.5mm～2.5mm	
TH35-7.5	102001
TH35-15	102005
PA	
IP20	
GB/T18802.21-2004 IEC 61643-21:2000	

UTT-2BS-24VDC UTT-2BS-24VDC

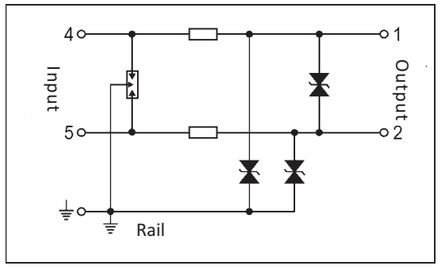


UTT-3BS-24VDC UTT-3BS-24VDC



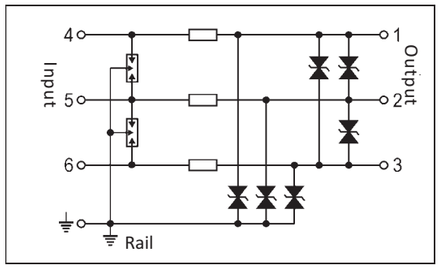
UTT Series product can be used to provide lightning protection for digital signal of 2-wire and 3-wire system.

Features:
1.A narrow width of 7.6mm, space-saving;
2.Low impedance;
3.RS485 and RS232 signal input.



Drawing 1

2-wire



Drawing 2

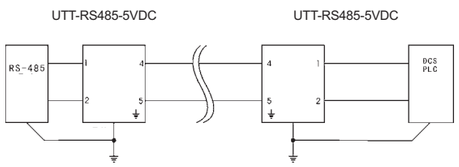
3-wire

For digital signal
UTT-RS485



Ordering data	Type	Order no.
2-wire(see drawing 1)	UTT-RS485-5VDC	385007
3-wire(see drawing 2)		
Dimension		
Width/Thickness/Height	99.0/7.6/92.4	
Technical data		
Rated operating voltage DC	5V	
Max. operating voltage DC	6V	
Rated current IN	250mA	
Nominal discharge current In 8/20μS	5KA	
Max. discharge current Imax 8/20μS	10KA	
Output voltage limitation 1000V/μS	15V	
Output voltage residual 8/20μS	30V	
Cut-off frequency -0.5/dB	10MHz	
Response time	10ns	
Resistance per path	4.7Ω	
Temperature range	-20℃～+60℃	
Connection data		
Cross section(AWG)	AWG20～12	
Cross section	0.5mm～2.5mm	
Mounting		
TH35 rails	TH35-7.5	102001
	TH35-15	102005
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	
Accessories		
End bracket: for fixing SPD		

Application

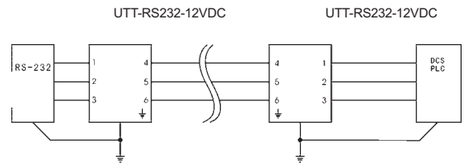


UTT Signal lightning protection series

For digital signal
UTT-RS232



Type	Order no.
UTT-RS232-12VDC	385008
99.0/7.6/92.4	
12V	
15V	
250mA	
5KA	
10KA	
25V	
40V	
10MHz	
10ns	
4.7Ω	
-20℃～+60℃	
AWG20～12	
0.5mm～2.5mm	
TH35-7.5	102001
TH35-7.5	102001
TH35-15	
PA	
IP20	
GB/T18802.21-2004 IEC 61643-21:2000	

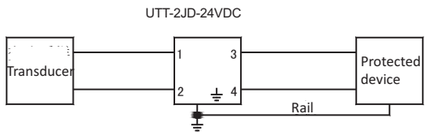


Type

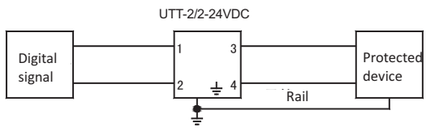
U	TT	–	2	L	–	5
Company code	Surge protection for MCR technology		Wire system 2:2-wire 3:3-wire	Protection type: L:thermocouple/ thermal resistance K:switch BS: transducer RS: communication JD: floating,2-wire /2:common reference potential JD/S1: 2-wire,floating		Rated operating voltage 5Vdc 12Vdc 24Vdc 110Vac

Application

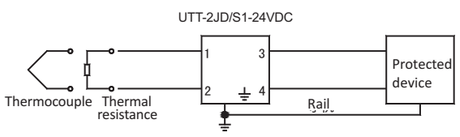
1. The product(type:UTT-2JD-24VDC)can be used to protect analog signal, such as 0-20mA, 0-10V

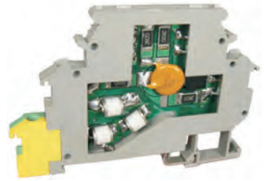
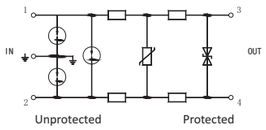
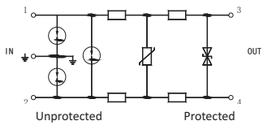
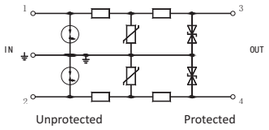
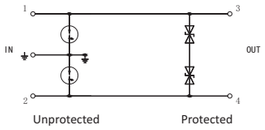
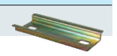


2. The product(type:UTT-2/2-24VDC)can be used to protect 2-wire with common reference potential, such as binary signal



3. The product(type:UTT-2JD/S1-24DC)can be used to protect floating double wire, such as temperature measurement



	For analog signal UTT-2JD-24VDC	For analog signal UTT-2JD-110VAC	For digital signal UTT-2/2-24VDC	For analog signal UTT-2JD/S1-24VDC
				
Electrical diagrams				
				
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	UTT-2JD-24VDC 385009	UTT-2JD-110VAC 385010	UTT-2/2-24VDC 385011	UTT-2JD/S1-24VDC 385012
Dimension				
Width/Thickness/Height	79.6/54.6/6.2mm	79.6/54.6/6.2mm	79.6/54.6/6.2mm	79.6/54.6/6.2mm
Technical data				
Max. continuous operating voltage DC/AC	30V/21V	170V/120V	30V/21V	30V/21V
Impulse discharge current 10/350μS	500A/path	500A/path	500A/path	500A/path
Rated current IN	300mA	300mA	300mA	10A
Nominal discharge current In 8/20μS Core-Core/Core-Ground	5KA/5KA	5KA/5KA	-/5KA	300A/5KA
Max. discharge current Imax 8/20μS Core-Ground	10KA	10KA	10KA	10KA
Output voltage limitation 1000V/μS Core-Core/Core-Ground	⩽44V/⩽650V	⩽250V/⩽650V	-/⩽42V	⩽50V/⩽1500V
Output voltage residual 8/20μS Core-Core/Core-Ground	⩽53V/⩽650V	⩽60V/-	-/⩽70	⩽80V/⩽50
Response time	⩽1ns/⩽100ns	⩽1ns/⩽100ns	-/1ns	⩽1ns/100ns
Resistance per path	3.7Ω±5%	9.4Ω±5%	9.4Ω±5%	5mΩ±5%
Temperature range	-20℃～+60℃	-20℃～+60℃	-20℃～+60℃	-20℃～+60℃
Connection data				
Cross section	0.2-2.5mm²	0.2-2.5mm²	0.2-2.5mm²	0.2-2.5mm²
Mounting				
TH35 rails 	TH35-7.5 102001 TH35-15 102005	TH35-7.5 102001 TH35-15 102005	TH35-7.5 102001 TH35-15 102005	TH35-7.5 102001 TH35-15 102005
General data				
Protection degree	IP20	IP20	IP20	IP20
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000
Accessories				
End bracket: for fixing SPD	UTT-G 385013	UTT-G 385013	UTT-G 385013	UTT-G 385013
Marker strip				
Horizontally/Vertically Blank	UZB 6-10 014002	UZB 6-10 014002	UZB 6-10 014002	UZB 6-10 014002
Can be printed 1- 600, or the technical data according to your requirements. Horizontally 1 2 3 4 5 6 7	UZB 6-10(Horizontally) 014007	UZB 6-10(Horizontally) 014007	UZB 6-10(Horizontally) 014007	UZB 6-10(Horizontally) 014007
Vertically 1 2 3 4 5 6 7	UZB 6-10(Vertically) 014008	UZB 6-10(Vertically) 014008	UZB 6-10(Vertically) 014008	UZB 6-10(Vertically) 014008

UTT Signal lightning protection series

Transient-voltage-suppression diode

A transient-voltage-suppression diode may be either unidirectional or bidirectional. Compared to the voltage regulator tube, the suppressor diode has a shorter response time(pS).

Type

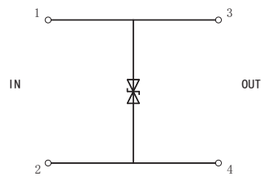
U	DK	– U	D	A	24V
Company code	Housing type	Over-voltage protection	Protection type: D: Suppression diode R:Varistor Q:Gas-filled surge arrester	Degree of discharge current A-Large B-Medium C-Small	Rated operating voltage: 24V 48V 110V 220V

Overvoltage protection

With suppressor diode
UDK-UDA24V



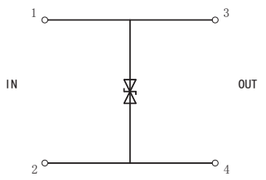
Electrical diagrams



Ordering data	Type	Order no.
	UDK-UDA 24Vdc	293013
	UDK-UDA 24Vac	293001
Dimension		
Width/Thickness/Height	65.5/6.2/57mm	
Technical data	UDK-UDA 24Vdc	UDK-UDA 24Vac
Rated operating voltage	24Vdc	24Vac
Rated current IN	20A	20A
Max. continuos operating voltage Uc DC	33Vdc	43Vdc
Max. continuos operating voltage Uc AC	22Vac	29Vac
Nominal discharge current In(10/1000us)	95.7A	73.5A
Residual voltage at In	45.4V	64.5V
Response time ta	⩽1ns	⩽1ns
General data		
Housing material	PA	
Protection degree	IP20	
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	
IEC test classification	C3	
Connection data		
Cross section(AWG)	AWG20～12	
Cross section	0.5mm～4mm	
Accessories		
Dustproof cover 	UDK-F	312002
End cover		
	UDK-G	312001
Insertion bridge		
2-pos. 	UEB 2-6	013019
3-pos.	UEB 3-6	013027
10-pos.	UEB10-6	013013
Screwdriver 	YB 0.6×3.5	304002

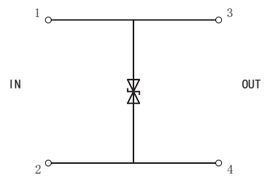
With suppressor diode
UDK-UDA48V





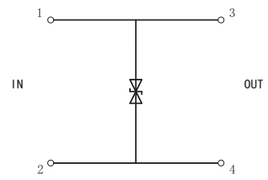
With suppressor diode
UDK-UDA110V





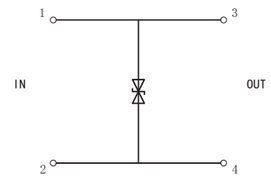
With suppressor diode
UDK-UDA220V



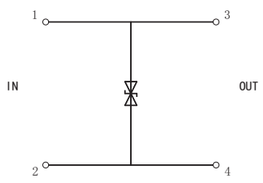
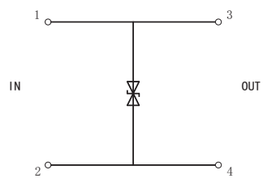
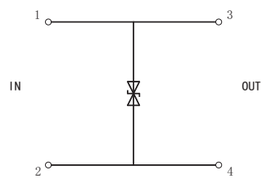


With suppressor diode
UDK-UDB24V

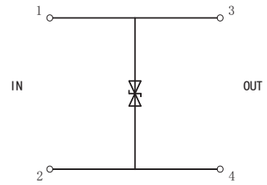
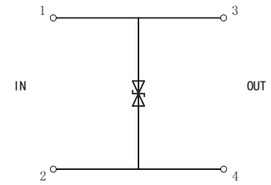
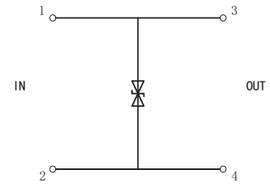
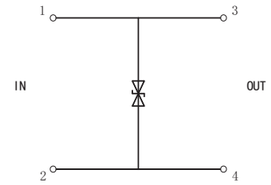




Type	Order no.	Type	Order no.	Type	Order no.	Type	Order no.
UDK-UDA 48Vdc	293014	UDK-UDA 110Vdc	293015	UDK-UDA 220Vdc	293004	UDK-UDB 24Vdc	293016
UDK-UDA 48Vac	293002	UDK-UDA 110Vac	293003			UDK-UDB 24Vac	293005
65.5/6.2/57mm		65.5/6.2/57mm		65.5/6.2/57mm		65.5/6.2/57mm	
UDK-UDA 48Vdc	UDK-UDA 48Vac	UDK-UDA 110Vdc	UDK-UDA 110Vac	UDK-UDA 220Vdc		UDK-UDB 24Vdc	UDK-UDB 24Vac
48Vdc	48Vac	110Vdc	110Vac	220Vdc		24dc	24dc
20A	20A	20A	20A	20A		20A	20A
70Vdc	85Vdc	160Vdc	220Vdc	250Vdc		33Vdc	47Vdc
48Vac	58Vac	109Vac	150Vac	176Vac		20Vac	28Vac
45.1A	37.2A	19.7A	13.7A	12A		32.8A	23.1A
87.1V	126V	209V	308V	425V		45.7V	64.8
⩽1ns	⩽1ns	⩽1ns	⩽1ns	⩽1ns		⩽1ns	⩽1ns
PA		PA		PA		PA	
IP20		IP20		IP20		IP20	
GB/T18802.21-2004 IEC 61643-21:2000		GB/T18802.21-2004 IEC 61643-21:2000		GB/T18802.21-2004 IEC 61643-21:2000		GB/T18802.21-2004 IEC 61643-21:2000	
C3		C3		C3		C3	
AWG20～12		AWG20～12		AWG20～12		AWG20～12	
0.5mm～4mm		0.5mm～4mm		0.5mm～4mm		0.5mm～4mm	
UDK-F	312002	UDK-F	312002	UDK-F	312002	UDK-F	312002
UDK-G	312001	UDK-G	312001	UDK-G	312001	UDK-G	312001
UEB 2-6	013019	UEB 2-6	013019	UEB 2-6	013019	UEB 2-6	013019
UEB 3-6	013027	UEB 3-6	013027	UEB 3-6	013027	UEB 3-6	013027
UEB10-6	013013	UEB10-6	013013	UEB10-6	013013	UEB10-6	013013
YB 0.6×3.5	304002	YB 0.6×3.5	304002	YB 0.6×3.5	304002	YB 0.6×3.5	304002

Overvoltage protection	With suppressor diode UDK-UDB48V	With suppressor diode UDK-UDB110V	With suppressor diode UDK-UDB220V
			
Electrical diagrams			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-UDB 48Vdc 293017	UDK-UDB 110Vdc 293018	UDK-UDB 220Vdc 293008
	UDK-UDB 48Vac 293006	UDK-UDB 110Vac 293007	
Dimension			
Width/Thickness/Height	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm
Technical data	UDK-UDB 48Vdc / UDK-UDB 48Vac	UDK-UDB 110Vdc / UDK-UDB 110Vac	UDK-UDB 220Vdc
Rated operating voltage	48Vdc / 48Vac	110Vdc / 110Vac	220Vdc
Rated current IN	20A / 20A	20A / 20A	20A
Max. continuos operating voltage Uc DC	58Vdc / 77.8Vdc	128Vdc / 185Vdc	256Vdc
Max. continuos operating voltage Uc AC	40Vac / 53Vac	88Vac / 128Vac	175Vac
Nominal discharge current In(10/1000us)	16.3A / 12A	7.3A / 4.6A	3.7A
Residual voltage at In	85V / 125V	207V / 328V	414V
Response time ta	⩽1ns / ⩽1ns	⩽1ns / ⩽1ns	⩽1ns
General data			
Housing material	PA	PA	PA
Protection degree	IP20	IP20	IP20
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000
IEC test classification	C3	C3	C3
Connection data			
Cross section(AWG)	AWG20～12	AWG20～12	AWG20～12
Cross section	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm
Accessories			
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover			
	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge			
2-pos.	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos. 	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013
Screwdriver 	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002

UDK-U Overvoltage protection series

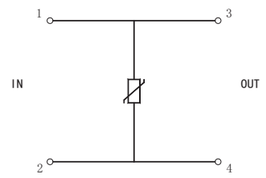
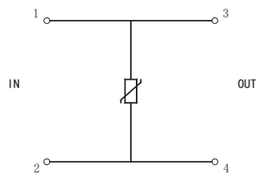
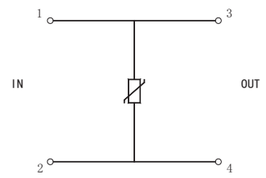
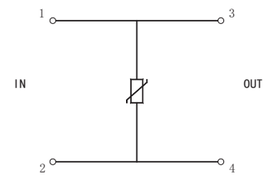
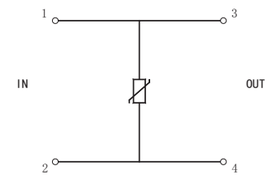
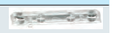
	With suppressor diode UDK-UDC24V	With suppressor diode UDK-UDC48V	With suppressor diode UDK-UDC110V	With suppressor diode UDK-UDC220V
				
				
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-UDC 24Vdc 293019	UDK-UDC 48Vdc 293020	UDK-UDC 110Vdc 293021	UDK-UDC 220Vdc 293012
	UDK-UDC 24Vac 293009	UDK-UDC 48Vac 293010	UDK-UDC 110Vac 293011	
Dimension				
Width/Thickness/Height	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm
Technical data	UDK-UDC 24Vdc / UDK-UDC 24Vac	UDK-UDC 48Vdc / UDK-UDC 48Vac	UDK-UDC 110Vdc / UDK-UDC 110Vac	UDK-UDC 220Vdc
Rated operating voltage	24Vdc / 24Vac	48Vdc / 48Vac	110Vdc / 110Vac	220Vdc
Rated current IN	20A / 20A	20A / 20A	20A / 20A	20A
Max. continuos operating voltage Uc DC	28Vdc / 40Vdc	53Vdc / 77Vdc	128Vdc / 185Vdc	256Vdc
Max. continuos operating voltage Uc AC	20Vac / 28Vac	37Vac / 53Vac	90Vac / 128Vac	181Vac
Nominal discharge current In(10/1000us)	13.3A / 10.3A	6.6A / 4.8A	2.8A / 1.9A	1.3A
Residual voltage at In	45.7V / 70.1V	85V / 125V	207V / 328V	85V
Response time ta	⩽1ns / ⩽1ns	⩽1ns / ⩽1ns	⩽1ns / ⩽1ns	⩽1ns
General data				
Housing material	PA	PA	PA	PA
Protection degree	IP20	IP20	IP20	IP20
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000
IEC test classification	C3	C3	C3	C3
Connection data				
Cross section(AWG)	AWG20～12	AWG20～12	AWG20～12	AWG20～12
Cross section	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm
Accessories				
Dustproof cover	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover				
	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge				
2-pos.	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013
Screwdriver	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002

Varistor

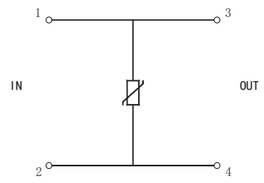
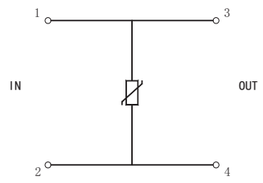
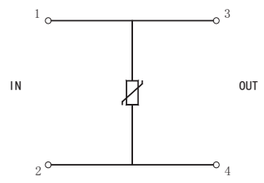
Varistor is typically used in parallel with the component or device to be protected. The varistor allows the pass of the maximum AC operating voltage. Any voltage higher than the indicated voltage will be converted safely. The varistor can be applied to medium or higher voltage surge circuits.

Type

U	DK	– U	D	A	24V
Company code	Housing type	Over-voltage protection	Protection type: D: Suppression diode R:Varistor Q:Gas-filled surge arrester	Degree of discharge current A-Large B-Medium C-Small	Rated operating voltage: 24V 48V 110V 220V

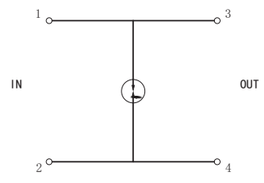
	With varistor UDK-URA24V	With varistor UDK-URA48V	With varistor UDK-URA110V	With varistor UDK-URA220V	With varistor UDK-URB24V
					
Electrical diagrams					
					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-URA 24Vdc 294009	UDK-URA 48Vdc 294010	UDK-URA 110Vdc 294011	UDK-URA 220Vdc 294012	UDK-URB 24Vdc 294013
	UDK-URA 24Vac 294005	UDK-URA 48Vac 294006	UDK-URA 110Vac 294007	UDK-URA 220Vac 294008	UDK-URB 24Vac 294001
Dimension					
Width/Thickness/Height	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm
Technical data	UDK-URA 24Vdc / UDK-URA 24Vac	UDK-URA 48Vdc / UDK-URA 48Vac	UDK-URA 110Vdc / UDK-URA 110Vac	UDK-URA 220Vdc / UDK-URA 220Vac	UDK-URB 24Vdc / UDK-URB 24Vac
Rated operating voltage	24Vdc / 24Vac	48Vdc / 48Vac	110Vdc / 110Vac	220Vdc / 220Vac	24Vdc / 24Vac
Rated current IN	20A / 20A	20A / 20A	20A / 20A	20A / 20A	20A / 20A
Max. continuos operating voltage Uc DC	38V / 56V	85V / 125V	150V / 180V	300V / 350V	38V / 56V
Max. continuos operating voltage Uc AC	30V / 40V	60V / 95V	115V / 140V	230V / 275V	30V / 40V
Breakdown voltage V1mA	47V / 60V	100V / 150V	180V / 220V	360V / 430V	47V / 68V
Nominal discharge current In (8/20)us	0.5KA / 0.5KA	2.5KA / 2.5KA	2.5KA / 2.5KA	2.5KA / 2.5KA	1KA / 1KA
Referance capacitance	1500pf / 1250pf	920pf / 760pf	310pf / 270pf	610pf / 160pf	3800pf / 270pf
General data					
Housing material	PA	PA	PA	PA	PA
Protection degree	IP20	IP20	IP20	IP20	IP20
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000
IEC test classification	C3	C1、C2	C3	C3	C3
Connection data					
Cross section(AWG)	AWG20～12	AWG20～12	AWG20～12	AWG20～12	AWG20～12
Cross section	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm
Accessories					
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover					
	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge					
2-pos. 	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos.	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013
Screwdriver 	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002

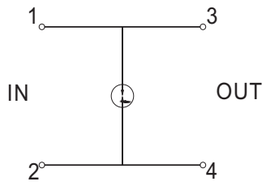
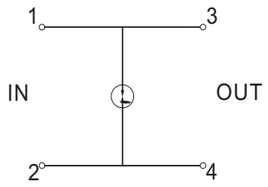
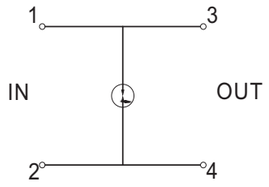
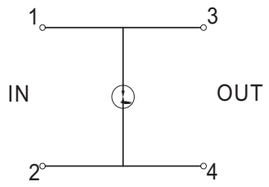
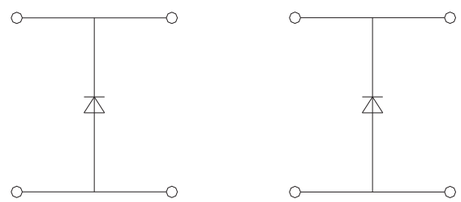
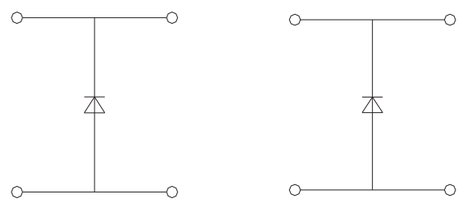
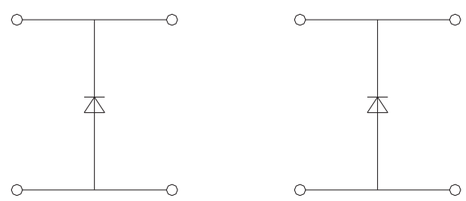
UDK-U Overvoltage protection series

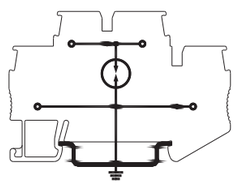
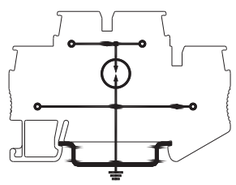
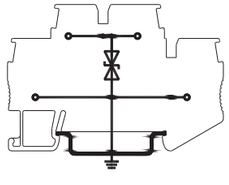
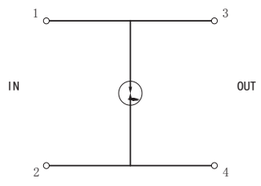
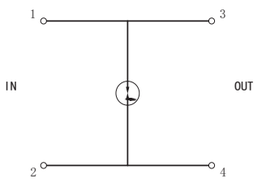
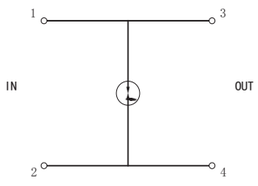
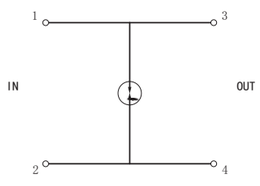
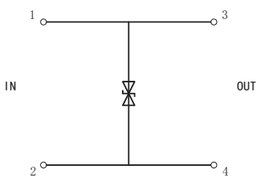
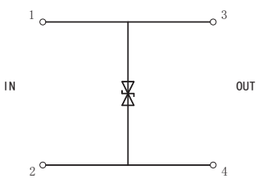
	With varistor UDK-URB48V	With varistor UDK-URB110V	With varistor UDK-URB220V
			
Electrical diagrams			
			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-URB 48Vdc 294014	UDK-URB 110Vdc 294015	UDK-URB 220Vdc 294016
	UDK-URB 48Vac 294002	UDK-URB 110Vac 294003	UDK-URB 220Vac 294004
Dimension			
Width/Thickness/Height	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm
Technical data			
Rated operating voltage	48Vdc / 48Vac	110Vdc / 110Vac	220Vdc / 220Vac
Rated current IN	20A / 20A	20A / 20A	20A / 20A
Max. continuos operating voltage Uc DC	85V / 125V	150V / 180V	300V / 350V
Max. continuos operating voltage Uc AC	60V / 95V	115V / 140V	230V / 275V
Breakdown voltage V1mA	100V / 150V	180V / 220V	360V / 430V
Nominal discharge current In (8/20)us	4.5KA / 4.5KA	4.5KA / 4.5KA	4.5KA / 4.5KA
Referance capacitance	1900pf / 940pf	800pf / 640pf	430pf / 370pf
General data			
Housing material	PA	PA	PA
Protection degree	IP20	IP20	IP20
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000
IEC test classification	C1、C2	C3	C3
Connection data			
Cross section(AWG)	AWG20～12	AWG20～12	AWG20～12
Cross section	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm
Accessories			
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge			
2-pos.	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos. 	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013
Screwdriver 	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002

Type

U	DK	–	U	D	A	24V
Company code	Housing type		Over-voltage protection	Protection type: D: Suppression diode R:Varistor Q:Gas-filled surge arrester	Degree of discharge current A-Large B-Medium C-Small	Rated operating voltage: 24V 48V 110V 220V

	With gas-filled surge arrester UDK-UQA110V
	
Electrical diagrams	
	
Ordering data	Type / Order no.
	UDK-UQA 110Vdc 295013
	UDK-UQA 110Vac 295009
Dimension	
Width/Thickness/Height	65.5/6.2/57mm
Technical data	
Rated operating voltage	110Vdc / 110Vac
Rated current IN	20A / 20A
Max. continuos operating voltage Uc DC	127V / 195V
Max. continuos operating voltage Uc AC	90V / 138V
Nominal discharge current In (8/20)us	5KA / 5KA
Output voltage limitation at 1KV/us	⩽700V / ⩽700V
Response time ta	⩽100ns / ⩽100ns
General data	
Housing material	PA
Protection degree	IP20
Test standards	GB/T18802.21-2004 IEC 61643-21:2000
IEC test classification	C1、C2
Connection data	
Cross section(AWG)	AWG20～12
Cross section	0.5mm～4mm
Accessories	
Dustproof cover 	UDK-F 312002
End cover 	UDK-G 312001
Insertion bridge	
2-pos.	UEB 2-6 013019
3-pos. 	UEB 3-6 013027
10-pos.	UEB10-6 013013
Screwdriver 	YB 0.6×3.5 304002

	With gas-filled surge arrester UDK-UQA220V	With gas-filled surge arrester UDK-UQB110V	With gas-filled surge arrester UDK-UQB220V	With diode UDK-D24Vdc	With diode UDK-D48Vdc	With diode UDK-D110Vdc	With diode UDK-D220Vdc
							
Electrical diagrams							
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UDK-UQA 220Vdc 295014	UDK-UQB 110Vdc 295011	UDK-UQB 220Vdc 295012	UDK-D 24Vdc 297005	UDK-D 48Vdc 297006	UDK-D 110Vdc 297007	UDK-D 220Vdc 297008
	UDK-UQA 220Vac 295010	UDK-UQB 110Vac 295006	UDK-UQB 220Vac 295007				
Dimension							
Width/Thickness/Height	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm	65.5/6.2/57mm
Technical data	UDK-UQA 220Vdc / UDK-UQA 220Vac	UDK-UQB 110Vdc / UDK-UQB 110Vac	UDK-UQB 220Vdc / UDK-UQB 220Vac				
Rated operating voltage	220Vdc / 220Vac	110Vdc / 110Vac	220Vdc / 220Vac	24Vdc	48Vdc	110Vdc	220Vdc
Rated impulse voltage				4KV	4KV	4KV	4KV
Rated current IN	20A / 20A	20A / 20A	20A / 20A	2A	2A	2A	2A
Max. continuos operating voltage Uc DC	255V / 399V	127V / 195V	255V / 399V				
Max. continuos operating voltage Uc AC	180V / 282V	90V / 137V	180V / 282V				
Nominal discharge current In (8/20)us	5KA / 5KA	10KA / 10KA	10KA / 10KA				
Output voltage limitation at 1KV/us	⩽900V / ⩽1200V	⩽800V / ⩽800V	⩽900V / ⩽1200V				
Response time ta	⩽100ns / ⩽100ns	⩽100ns / ⩽100ns	⩽100ns / ⩽100ns				
Temperature range				-25℃～+40℃	-25℃～+40℃	-25℃～+40℃	-25℃～+40℃
Clearance and creepage distance				⩾3mm	⩾3mm	⩾3mm	⩾3mm
Cross section(AWG)	AWG20～12	AWG20～12	AWG20～12	AWG20～12	AWG20～12	AWG20～12	AWG20～12
Cross section	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm
General data							
Housing material	PA	PA	PA				
Protection degree	IP20	IP20	IP20				
Pollution degree				2	2	2	2
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000				
IEC test classification	C1、C2	C1、C2	C1、C2				
Surge voltage category				III	III	III	III
Accessories							
Dustproof cover 	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002	UDK-F 312002
End cover 							
	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001	UDK-G 312001
Insertion bridge							
2-pos.	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019	UEB 2-6 013019
3-pos. 	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027	UEB 3-6 013027
10-pos.	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013	UEB10-6 013013
Screwdriver 	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002				

	With gas-filled surge arrester UJ5-UQA110V	With gas-filled surge arrester UJ5-UQA220V	With gas-filled surge arrester UJ5-JD-UQA110V	With gas-filled surge arrester UJ5-JD-UQA220V	With suppressor diode UJ5-UDB24V	With suppressor diode UJ5-JD-UDB24V
						
Electrical diagrams						
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	UJ5-UQA 110Vdc 421102	UJ5-UQA 220Vdc 421104	UJ5-JD-UQA 110Vdc 421106	UJ5-JD-UQA 220Vdc 421108	UJ5-UDB 24Vdc 421110	UJ5-JD-UDB 24Vdc 421112
	UJ5-UQA 110Vac 421103	UJ5-UQA 220Vac 421105	UJ5-JD-UQA 110Vac 421107	UJ5--JD-UQA 220Vac 421109	UJ5-UDB 24Vac 421111	UJ5-JD-UDB 24Vac 421113
Dimension						
Width/Thickness/Height	83.5/6.2/45.8mm	83.5/6.2/45.8mm	83.5/6.2/45.8mm	83.5/6.2/45.8mm	83.5/6.2/45.8mm	83.5/6.2/45.8mm
Technical data	UJ5-UQA 110Vdc / UJ5-UQA 110Vac	UJ5-UQA 220Vdc / UJ5-UQA 220Vac	UJ5-JD-UQA 110Vdc / UJ5-JD-UQA 110Vac	UJ5-UQA 220Vdc / UJ5-UQA 220Vac	UJ5-UDB 24Vdc / UJ5-UDB 24Vac	UJ5-JD-UDB 24Vdc / UJ5-JD-UDB 24Vac
Rated operating voltage	110Vdc / 110Vac	220Vdc / 220Vac	110Vdc / 110Vac	220Vdc / 220Vac	24Vdc / 24Vdc	24Vdc / 24Vdc
Rated current IN	20A / 20A	20A / 20A	20A / 20A	20A / 20A	32A / 32A	32A / 32A
Max. continuos operating voltage Uc DC	127V / 195V	255V / 399V	127V / 195V	255V / 399V	28Vdc / 40Vdc	28Vdc / 40Vdc
Max. continuos operating voltage Uc AC	90V / 138V	180V / 282V	90V / 138V	180V / 282V	20Vac / 28Vac	20Vac / 28Vac
Nominal discharge current In(10/1000us)	5KA / 5KA	5KA / 5KA	5KA / 5KA	5KA / 5KA	33A / 23.2A	33A / 23.2A
Residual voltage at In	⩽700V / ⩽700V	⩽900V / ⩽1200V	⩽700V / ⩽700V	⩽900V / ⩽1200V	45.7V / 64.8	45.7V / 64.8
Response time ta	⩽100ns / ⩽100ns	⩽100ns / ⩽100ns	⩽100ns / ⩽100ns	⩽100ns / ⩽100ns	⩽1ns / ⩽1ns	⩽1ns / ⩽1ns
General data						
Housing material	PA	PA	PA	PA	PA	PA
Protection degree	IP20	IP20	IP20	IP20	IP20	IP20
Test standards	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000	GB/T18802.21-2004 IEC 61643-21:2000
IEC test classification	C1、C2	C1、C2	C1、C2	C1、C2	C3	C3
Connection data						
Cross section(AWG)	AWG20～12	AWG20～12	AWG20～12	AWG20～12	AWG20～12	AWG20～12
Cross section	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm	0.5mm～4mm
End cover						
	UJ5-4/2-2G 422036	UJ5-4/2-2G 422036	UJ5-4/2-2G 422036	UJ5-4/2-2G 422036	UJ5-4/2-2G 422036	UJ5-4/2-2G 422036
	UJ5-1.5～4/2-2FG 422020	UJ5-1.5～4/2-2FG 422020	UJ5-1.5～4/2-2FG 422020	UJ5-1.5～4/2-2FG 422020	UJ5-1.5～4/2-2FG 422020	UJ5-1.5～4/2-2FG 422020
Insertion bridge						
	UFBS 2-6 423011 UFBS 3-6 423012 UFBS 4-6 423013 UFBS 5-6 423014 UFBS 10-6 423015	UFBS 2-6 423011 UFBS 3-6 423012 UFBS 4-6 423013 UFBS 5-6 423014 UFBS 10-6 423015	UFBS 2-6 423011 UFBS 3-6 423012 UFBS 4-6 423013 UFBS 5-6 423014 UFBS 10-6 423015	UFBS 2-6 423011 UFBS 3-6 423012 UFBS 4-6 423013 UFBS 5-6 423014 UFBS 10-6 423015	UFBS 2-6 423011 UFBS 3-6 423012 UFBS 4-6 423013 UFBS 5-6 423014 UFBS 10-6 423015	UFBS 2-6 423011 UFBS 3-6 423012 UFBS 4-6 423013 UFBS 5-6 423014 UFBS 10-6 423015
Screwdriver 	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002	YB 0.6×3.5 304002

Certification



CQC 标志认证

试验报告

□初始 □变更 □监督 □其他

报告编号：L20140388

申请编号：V2014CQC123005-210140

产品名称：低压配电系统的电涌保护器

型　号：UB01-D/1-385-25、UB01-D/2-385-25、UB01-D/3-385-25、UB01-D/4-385-25、UB01-C/1-385-40、UB01-C/2-385-40、UB01-C/3-385-40、UB01-C/4-385-40、UB04-60/1-385、UB04-60/2-385、UB04-60/3-385、UB04-60/4-385、UB04-80/1-385、UB04-80/2-385、UB04-80/3-385、UB04-80/4-385、UB04-100/1-385、UB04-100/2-385、UB04-100/3-385、UB04-100/4-385、UFL-25/1、UFL-25/2、UFL-25/3、UFL-25/4、UFL-40/1、UFL-40/2、UFL-40/3、UFL-40/4、UFL-60/1、UFL-60/2、UFL-60/3、UFL-60/4、UFL-80/1、UFL-80/2、UFL-80/3、UFL-80/4、UFL-100/1、UFL-100/2、UFL-100/3、UFL-100/4

检测机构：上海市防雷产品质量监督检验站
上海市防雷中心防雷产品测试中心



Certificate – Сертификат – 證明書 – Certificat – 증명서 – شهادة

Verification of Compliance

No. EC.1282.0A130301.SUL0210

Certificate's Holder: Shanghai UPUN Lightning Protection Technology Co.,Ltd.
No.528,Jiye Rd.,Sheshan Town,Songjiang District,Shanghai,P.R.China

Product: Surge Protective Device

Model(s): UB01-D/□-275-10, UB01-D/□-320-10, UB01-D/□-385-10, UB01-D/□-420-10, UB01-D/□-275-25, UB01-D/□-320-25, UB01-D/□-385-25, UB01-D/□-420-25, UB01-D/□-110Vdc-25, UB01-C/□-275-40, UB01-C/□-320-40, UB01-C/□-385-40, UB01-C/□-420-40, UB01-C/□-550-40, UB01-C/□-600-40, UB01-C/□-680-40, UB01-C/□-720-40, UB01-C/□-1000Vdc-40, UB01-C/□-60Vdc-40, UB01-C/□-110Vdc-40, UB01-C/□-120Vdc-40, UB01-C/□-560Vdc-40, UB01-C/□-910Vdc-40, UB01-B/□-275-60, UB01-B/□-320-60, UB01-B/□-385-60, UB01-B/□-420-60, UB04-60/□-275, UB04-60/□-320, UB04-60/□-385, UB04-60/□-420, UB04-80/□-275, UB04-80/□-320, UB04-80/□-385, UB04-80/□-420, UB04-100/□-275, UB04-100/□-320, UB04-100/□-385, UB04-100/□-420, UB04-120/□-275, UB04-120/□-320, UB04-120/□-385, UB04-120/□-420, UB04-150/□-275, UB04-150/□-320, UB04-150/□-385, UB04-150/□-420

Directives: 2006/95/EC Low Voltage
2004/108/EC Electromagnetic Compatibility

Standards: IEC 61643-11:2011, EN 61000-6-1:2007, EN 61000-6-3:2007/A1:2011

Remark: This Verification of Compliance has been issued on a voluntary basis. ECM confirms that a Technical Construction File (TCF) is existent for the above listed product(s). The TCF satisfactorily covers the essential requirements of the above listed Directive(s).
Other relevant Directives have to be observed in case they are applicable.
This Document is only valid for the equipment and configuration described and in conjunction with the TCF detailed above. Whereas the Manufacturer is responsible of the certification of the product(s) and not exempted to perform all the necessary activities before placing the product(s) on the market.
The Manufacturer is also responsible of the internal production control to ensure the product(s) are in compliance with the essential requirements of the above mentioned Directive(s).
This certificate can be checked for validity at www.entecerma.org

Date of issue MARCH 2013 — Expiry date MARCH 2018

Certification Chief Manager Tim Mahajan

Certification Deputy Manager Jane Rigden

Ente Certificazione Macchine Ltd.
Suite 6 - 313-314 Upper Street - London N1 2XQ - UK
+44 (0) 207 317 0610 certification@entecerma.org www.entecerma.org



产品认证证书

证书编号：CQC12123076606

申请人名称及地址
上海友邦防雷技术有限公司
上海市松江区佘山镇吉业路528号1幢1楼

制造商名称及地址
上海友邦防雷技术有限公司
上海市松江区佘山镇吉业路528号

生产企业名称及地址
上海友邦防雷技术有限公司（V015442）
上海市松江区佘山镇吉业路528号

产品名称和系列、规格、型号
低压配电系统的电涌保护器

产品标准和技术要求
GB 18802.1-2011

认证模式
产品型式试验+初次工厂检查+获证后监督

上述产品符合CQC11-462111-2012认证规则的要求，特发此证。
发证日期：2014年08月22日
证书有效期内本证书的有效性依据发证机构的定期监督获得保持
本证书为变更证书，证书首次颁发日期：2012年06月20日

主任：

中国质量认证中心
中国·北京·南四环西路188号9区 100070
http://www.cqc.com.cn

C 0062321



PRODUCT CERTIFICATE

No.: CQC12123076606

NAME AND ADDRESS OF THE APPLICANT
Shanghai UPUN Lightning Protection Technology Co.,Ltd
NO.528, Jiye road, Sheshan Town, Songjiang, Shanghai city

NAME AND ADDRESS OF THE MANUFACTURER
Shanghai UPUN Lightning Protection Technology Co.,Ltd
NO.528, Jiye road, Sheshan Town, Songjiang, Shanghai city

NAME AND ADDRESS OF THE FACTORY
Shanghai UPUN Lightning Protection Technology Co.,Ltd (V015442)
NO.528, Jiye road, Sheshan Town, Songjiang, Shanghai city

NAME, MODEL AND SPECIFICATION
Surge protective devices connected to low-voltage power distribution systems
UB01-D/1-385-25, UB01-D/2-385-25, UB01-D/3-385-25, UB01-D/4-385-25, UB01-C/1-385-40, UB01-C/2-385-40, UB01-C/3-385-40, UB01-C/4-385-40, UB04-60/1-385, UB04-60/2-385, UB04-60/3-385, UB04-60/4-385, UB04-80/1-385, UB04-80/2-385, UB04-80/3-385, UB04-80/4-385, UB04-100/1-385, UB04-100/2-385, UB04-100/3-385, UB04-100/4-385, UFL-25/1, UFL-25/2, UFL-25/3, UFL-25/4, UFL-40/1, UFL-40/2, UFL-40/3, UFL-40/4, UFL-60/1, UFL-60/2, UFL-60/3, UFL-60/4, UFL-80/1, UFL-80/2, UFL-80/3, UFL-80/4, UFL-100/1, UFL-100/2, UFL-100/3, UFL-100/4 See the Appendix

THE STANDARDS AND TECHNICAL REQUIREMENTS FOR THE PRODUCTS
GB 18802.1-2011

CERTIFICATION MODEL
Type Testing of Product + Initial Factory Inspection + Follow up Factory Inspection

This is to certify that the above mentioned products have met the requirements of certification rules CQC11-462111-2012.
Date of issue: Aug.22,2014
Validity of this certificate is subject to positive result of the regular follow up inspection by issuing certification body until the expiry date.
Date of original certification: Jun.20,2012

President: Wang Kejiao

CHINA QUALITY CERTIFICATION CENTRE
Section 9,No.188,Nansihuan Xilu, Beijing 100070 P.R.China
http://www.cqc.com.cn

C 0062321

Switching power supply



Type

USP-□ □ □ □-□ □ □

Mounting
G: universal
D: rails L: LED

Additional
A: dual-output, 5V ,12V
B:dual-output,5V ,12V
C:dual-output,12V ,24V
E: dual-output,15V ,24V
No:single-output

Output voltage type
D:dual-output,common ground
S:dual-output,no common ground
No: output voltage, eg. 5,12,24V

PFC
A: active
P: passive
N: without

Input voltage range
L:low voltage(85-127VAC)
H:high voltage(175-264VAC)
G:high voltage(200-550VAC)
T:3-phase(380VAC)
F:universal (85-264VAC)
S:switch(115V/230V)
D:DC

Housing type
M: metal
P: plastic
U: U-shaped
O:open

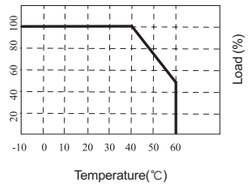
Output power

Company code

Features:

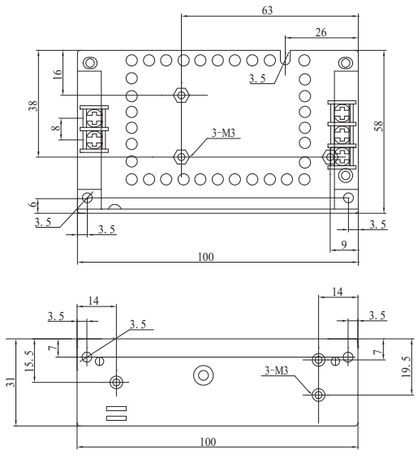
1.Input voltages from 85 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.Ultra-low standby power consumption,
meet Energy Star specifications
7.Compliance with EU environmental requirements

Derating curve



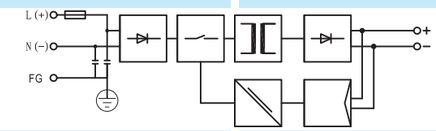
Drawing 25-1

Installation dimension



Drawing 25-2

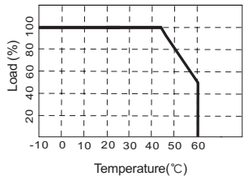
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-25MFN-05G	USP-25MFN-12G	USP-25MFN-15G	USP-25MFN-24G	USP-25MFN-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-25MFN-05G 461154	USP-25MFN-12G 461155	USP-25MFN-15G 461156	USP-25MFN-24G 461157	USP-25MFN-48G 461158
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC
Input current(typical)	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	81%	83%	84%	84%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	5A	2.1A	1.7A	1.0A	0.52A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-5A	0-2.1A	0-1.7A	0-1.0A	0-0.5A
Output power	25W	25.2W	25.5W	24W	24.96W
Ripple and noise(Max) Note 2	50mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%
Line regulation Note 4	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Load regulation Note 5	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Over-voltage protection	5.7-7.5V	14-17V	17.3-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 25-1	Drawing 25-1	Drawing 25-1	Drawing 25-1	Drawing 25-1
Dimensions(L/W/H mm)	100×58×31	100×58×31	100×58×31	100×58×31	100×58×31
Weight	150g	150g	150g	150g	150g

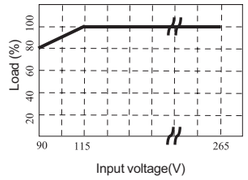
Features:

1.Input voltages from 85 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.Compliance with EU environmental requirements

Derating curve

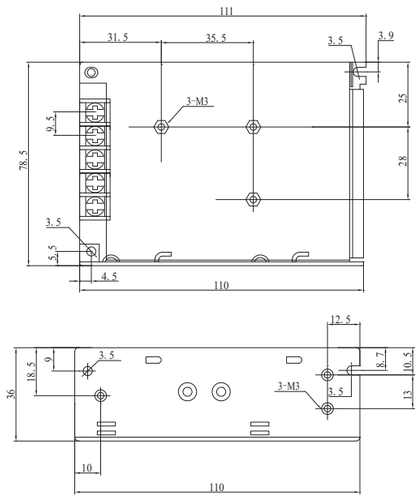


Drawing 35-1



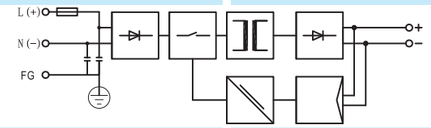
Drawing 35-2

Installation dimension



Drawing 35-3

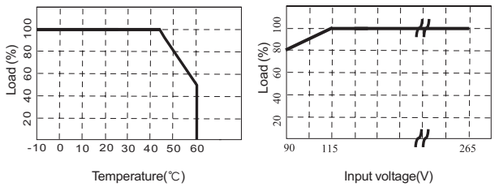
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-35MFN-05G	USP-35MFN-12G	USP-35MFN-15G	USP-35MFN-24G	USP-35MFN-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-35MFN-05G 461159	USP-35MFN-12G 461160	USP-35MFN-15G 461161	USP-35MFN-24G 461162	USP-35MFN-48G 461163
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC
Input current(typical)	0.5A/115VAC，0.3/230VAC	0.5A/115VAC，0.3A/230VAC	0.5A/115VAC，0.3A/230VAC	0.5A/115VAC，0.3A/230VAC	0.5A/115VAC，0.3A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	78%	83%	84%	85%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	7A	3A	2.4A	1.5A	0.8A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-7A	0-3A	0-2.4A	0-1.5A	0-0.8A
Output power	35W	36W	36W	36W	38.4W
Ripple and noise(Max) Note 2	50mVpp	100mVpp	120mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Line regulation Note 4	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Load regulation Note 5	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Over-voltage protection	5.7-7.5V	14-17V	17.3-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 35-1	Drawing 35-1	Drawing 35-1	Drawing 35-1	Drawing 35-1
Derating curve	Drawing 35-2	Drawing 35-2	Drawing 35-2	Drawing 35-2	Drawing 35-2
Dimensions(L/W/H mm)	111×78.5×36	111×78.5×36	111×78.5×36	111×78.5×36	111×78.5×36
Weight	300g	300g	300g	300g	300g

Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.Compliance with EU environmental requirements

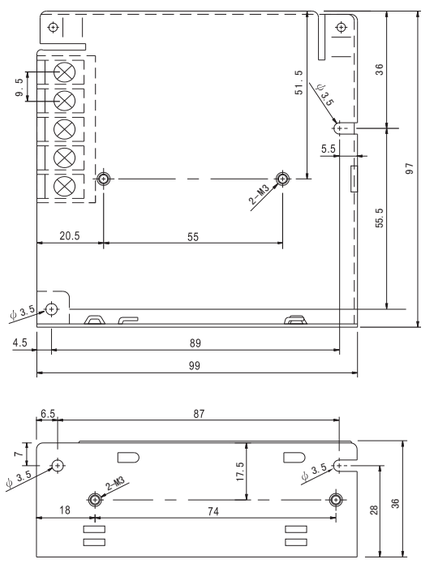
Derating curve



Drawing 50-1

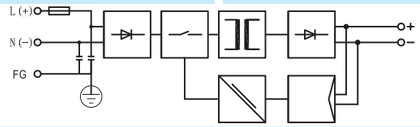
Drawing 50-2

Installation dimension



Drawing 50-3

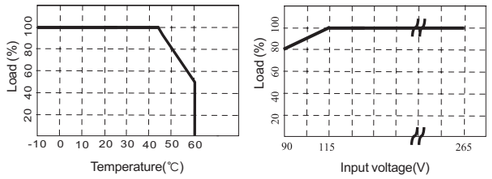
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-50MFN-05G	USP-50MFN-12G	USP-50MFN-15G	USP-50MFN-24G	USP-50MFN-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-50MFN-05G 461164	USP-50MFN-12G 461165	USP-50MFN-15G 461166	USP-50MFN-24G 461167	USP-50MFN-48G 461168
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC
Input current(typical)	0.6A/115VAC，0.4A/230VAC	0.6A/115VAC，0.4A/230VAC	0.6A/115VAC，0.4A/230VAC	0.6A/115VAC，0.4A/230VAC	0.6A/115VAC，0.4A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	83%	84%	85%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	10A	4.2A	3.4A	2.1A	1.1A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-10A	0-4.2A	0-3.4A	0-2.1A	0-1.1A
Output power	50W	50.4W	51W	50.4W	52.8W
Ripple and noise(Max) Note 2	50mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%
Line regulation Note 4	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
Load regulation Note 5	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 50-1	Drawing 50-1	Drawing 50-1	Drawing 50-1	Drawing 50-1
Derating curve	Drawing 50-2	Drawing 50-2	Drawing 50-2	Drawing 50-2	Drawing 50-2
Dimensions(L/W/H mm)	99×97×36	99×97×36 Drawing 50-3	99×97×36	99×97×36	99×97×36
Weight	400g	400g	400g	400g	400g

Features:

1.Input voltages from 85 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.Compliance with EU environmental requirements

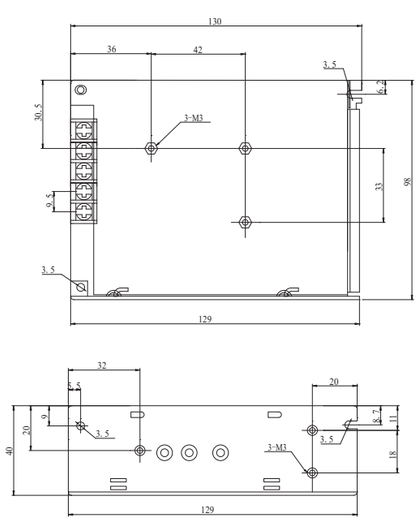
Derating curve



Drawing 70-1

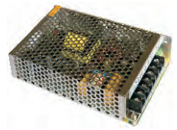
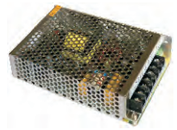
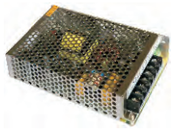
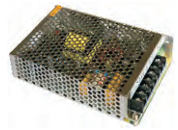
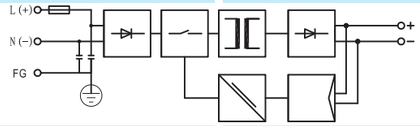
Drawing 70-2

Installation dimension



Drawing 70-3

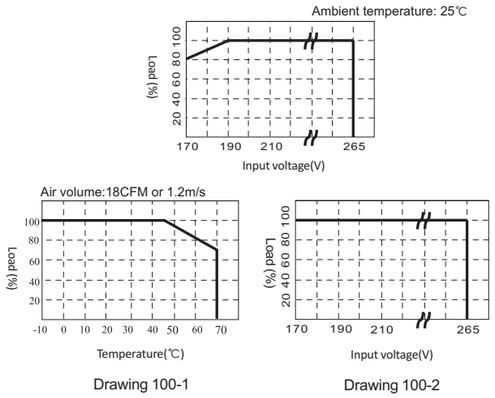
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-70MFN-05G	USP-70MFN-12G	USP-70MFN-15G	USP-70MFN-24G	USP-70MFN-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-70MFN-05G 461169	USP-70MFN-12G 461170	USP-70MFN-15G 461171	USP-70MFN-24G 461172	USP-70MFN-48G 461173
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85-264VAC/120-370VDC	85VAC-264VAC/120-370VDC
Input current(typical)	1.3A/115VAC，0.7A/230VAC	1.3A/115VAC，0.7A/230VAC	1.3A/115VAC，0.7A/230VAC	1.3A/115VAC，0.7A/230VAC	1.3A/115VAC，0.7A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	78%	83%	85%	85%	80%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	14A	5.9A	4.7A	3A	1.5A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	22-27.6V	42-54V
Output current range	0-14A	0-5.9A	0-4.7A	0-3A	0-1.5A
Output power	70W	70.8W	70.5W	72W	72W
Ripple and noise(Max) Note 2	50mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Line regulation Note 4	±0.5%	±0.5%	±0.5%	±0.5%	±0.5%
Load regulation Note 5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC	<2mA/240VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 70-1	Drawing 70-1	Drawing 70-1	Drawing 70-1	Drawing 70-1
Derating curve	Drawing 70-2	Drawing 70-2	Drawing 70-2	Drawing 70-2	Drawing 70-2
Dimensions(L/W/H mm)	129×98×40	129×98×40	129×98×40	129×98×40	129×98×40
Weight	520g	520g	520g	520g	520g

Features:

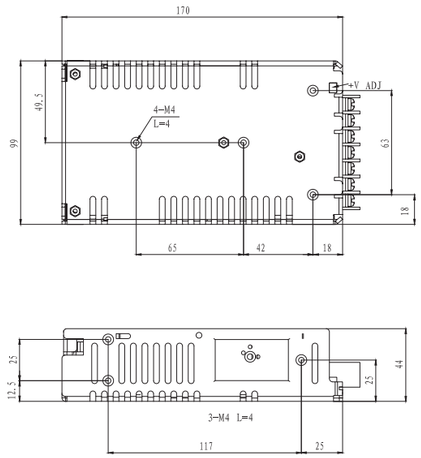
1.Input voltages from 165 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Natural cooling
4.Two-year warranty
5.Compliance with EU environmental requirements

Derating curve



Drawing 100-1 Drawing 100-2

Installation dimension

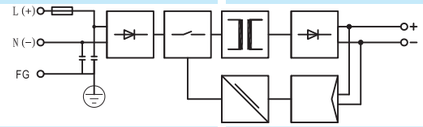


Drawing 100-3

Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.
6.Fixing with M4×4 screws.

Switching power supply	USP-100MHN-05G
	
Electrical schematic	

Ordering data	Type	Order no.
	USP-100MHN-05G	461179
Technical data		
Input data		
Rated input voltage range	230VAC	
Input voltage range	165-264VAC，240-370VDC	
Input current(typical)	0.8A/230VAC	
Frequency range	47-53Hz	
Efficiency(typical)	77%	
Output data		
Rated output voltage	5V	
Rated output current	20A	
Setting range of the output voltage	4.5-5.5V	
Output current range	0-20A	
Output power	100W	
Ripple and noise(Max) Note 2	100mVpp	
Voltage tolerance Note 3	±2.0%	
Line regulation Note 4	±1.0%	
Load regulation Note 5	±1.0%	
Setup/rise time (Max)	1S / 50mS	
Hold up time (Min)	20mS	
Overload protection	110-150% Rated output power	
Over-voltage protection	5.75-7.5V	
Ambient conditions		
Working temperature(see derating curve)	-10℃～+70℃	
Working humidity(non condensing)	20-90%RH	
Storage temp/humidity(non condesing)	-30～+85℃,10～95%RH	
Temperature coefficient	<0.02%/℃(0-45℃)	
Safety & EMC		
Safety standards	IEC 60950, UL60950	
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	
Leakage current (typical)	<0.75mA/240VAC	
EMI conduction and radiation	EN55022, Class A	
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	
General		
Derating curve	Drawing 100-1	
Derating curve	Drawing 100-2	
Dimensions(L/W/H mm)	170×99×44	
Weight	500g	

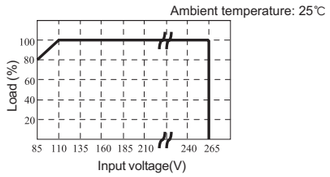
USP-100MHN-12G	USP-100MHN-15G	USP-100MHN-24G	USP-100MHN-48G
			
			

Type	Order no.	Type	Order no.	Type	Order no.	Type	Order no.
USP-100MHN-12G	461180	USP-100MHN-15G	461181	USP-100MHN-24G	461182	USP-100MHN-48G	461183
230VAC		230VAC		230VAC		230VAC	
165-264VAC，230-370VDC		165-264VAC，240-370VDC		165-264VAC，240-370VDC		165-264VAC，240-370VDC	
0.8A/230VAC		0.8A/230VAC		0.8A/230VAC		0.8A/230VAC	
47-53Hz		47-53Hz		47-53Hz		47-53Hz	
82%		83%		84%		84%	
12V		15V		24V		48V	
8.5A		6.7A		4.3A		2.2A	
10.8-13.2V		13.5-16.5V		21.6-26.4V		43.2-52.8V	
0-8.5A		0-6.7A		0-4.3A		0.2-2A	
102W		100.5W		103.2W		105.6W	
100mVpp		100mVpp		150mVpp		150mVpp	
±2.0%		±2.0%		±2.0%		±2.0%	
±1.0%		±1.0%		±1.0%		±1.0%	
±1.0%		±1.0%		±1.0%		±1.0%	
1S / 50mS		1S / 50mS		1S / 50mS		1S / 50mS	
20mS		20mS		20mS		20mS	
110-150% Rated output power		110-150% Rated output power		110-150% Rated output power		110-150% Rated output power	
14-17V		17.2-20.3V		27.6-32.4V		55.2-62.5V	
-10℃～+70℃		-10℃～+70℃		-10℃～+70℃		-10℃～+70℃	
20-90%RH		20-90%RH		20-90%RH		20-90%RH	
-30～+85℃,10～95%RH		-30～+85℃,10～95%RH		-30～+85℃,10～95%RH		-30～+85℃,10～95%RH	
<0.02%/℃(0-45℃)		<0.02%/℃(0-45℃)		<0.02%/℃(0-45℃)		<0.02%/℃(0-45℃)	
IEC 60950, UL60950		IEC 60950, UL60950		IEC 60950, UL60950		IEC 60950, UL60950	
I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	
I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC		I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC		I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC		I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	
<0.75mA/240VAC		<0.75mA/240VAC		<0.75mA/240VAC		<0.75mA/240VAC	
EN55022, Class A		EN55022, Class A		EN55022, Class A		EN55022, Class A	
EN61000-4-2 3 4 5 6 8 11		EN61000-4-2 3 4 5 6 8 11		EN61000-4-2 3 4 5 6 8 11		EN61000-4-2 3 4 5 6 8 11	
Drawing 100-1		Drawing 100-1		Drawing 100-1		Drawing 100-1	
Drawing 100-2		Drawing 100-2		Drawing 100-2		Drawing 100-2	
170×99×44		170×99×44		170×99×44		170×99×44	
500g		500g		500g		500g	

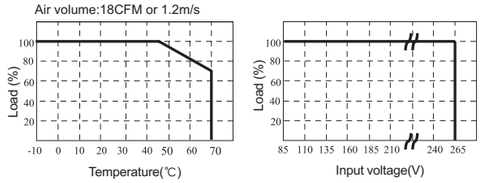
Features:

1.Input voltages from 85 to 264VAC
2.With active power factor correction function
3.LED status indication
4.The volume is 15% smaller than market similar products
5.Two-year warranty
6.Compliance with EU environmental requirements

Derating curve

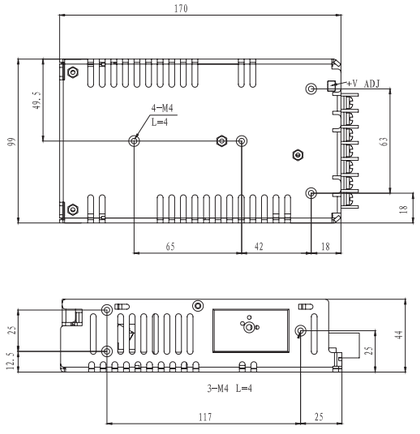


Drawing 100-1



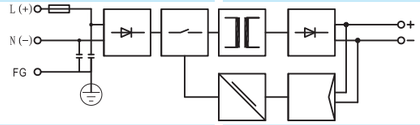
Drawing 100-2

Installation dimension



Drawing 100-3

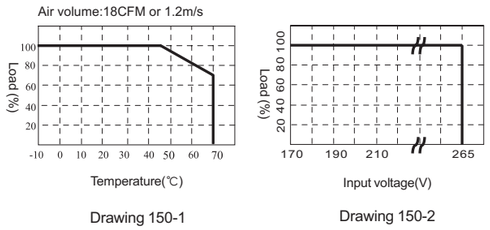
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.
6.Fixing with M4×4 screws.

Switching power supply	USP-100MFA-05G	USP-100MFA-12G	USP-100MFA-15G	USP-100MFA-24G	USP-100MFA-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-100MFA-05G 461184	USP-100MFA-12G 461185	USP-100MFA-15G 461186	USP-100MFA-24G 461187	USP-100MFA-48G 461188
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC
Input current(typical)	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	83%	83%	84%	84%
Power factor(typical)	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	20A	8.5A	6.7A	4.3A	2.2A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	45.6-52.8V
Output current range	0-20A	0-8.5A	0-6.7A	0-4.3A	0.2-2A
Output power	100W	102W	100.5W	103.2W	105.6W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
Line regulation Note 4	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Load regulation Note 5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-30～+85℃,10～95%RH	-30～+85℃,10～95%RH	-30～+85℃,10～95%RH	-30～+85℃,10～95%RH	-30～+85℃,10～95%RH
Temperature coefficient	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 100-1	Drawing 100-1	Drawing 100-1	Drawing 100-1	Drawing 100-1
Derating curve	Drawing 100-2	Drawing 100-2	Drawing 100-2	Drawing 100-2	Drawing 100-2
Dimensions(L/W/H mm)	170×99×44	170×99×44	170×99×44	170×99×44	170×99×44
Weight	550g	550g	550g	550g	550g

Features:

1.Input voltages from 165 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Natural cooling
4.Two-year warranty
5.Compliance with EU environmental requirements

Derating curve

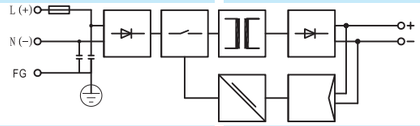


Drawing 150-1　　Drawing 150-2

Installation dimension

Drawing 150-3

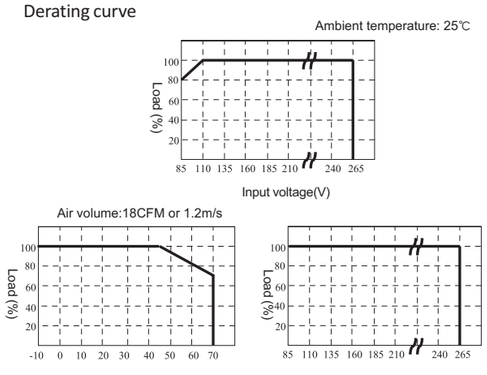
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-150MHN-05G	USP-150MHN-12G	USP-150MHN-15G	USP-150MHN-24G	USP-150MHN-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-150MHN-05G 461189	USP-150MHN-12G 461190	USP-150MHN-15G 461191	USP-150MHN-24G 461192	USP-150MHN-48G 461193
Technical data					
Input data					
Rated input voltage range	230VAC	230VAC	230VAC	230VAC	230VAC
Input voltage range	165-264VAC，230-370VDC	165-264VAC，230-370VDC	165-264VAC，230-370VDC	165-264VAC，230-370VDC	165-264VAC，230-370VDC
Input current(typical)	0.9A/230VAC	0.9A/230VAC	0.9A/230VAC	0.9A/230VAC	0.9A/230VAC
Frequency range	47-53Hz	47-53Hz	47-53Hz	47-53Hz	47-53Hz
Efficiency(typical)	80%	84%	84%	84%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	25A	12.5A	10A	6.3A	3.2A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-24A	0-12.5A	0-10A	0-6.3A	0-3.2A
Output power	125W	150W	150W	151.2W	153.6W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
Line regulation Note 4	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Load regulation Note 5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 150-1	Drawing 150-1	Drawing 150-1	Drawing 150-1	Drawing 150-1
Derating curve	Drawing 150-2	Drawing 150-2	Drawing 150-2	Drawing 150-2	Drawing 150-2
Dimensions(L/W/H mm)	170×99×50	170×99×50	170×99×50	170×99×50	170×99×50 Drawing 150-3
Weight	550g	550g	550g	550g	550g

Features:

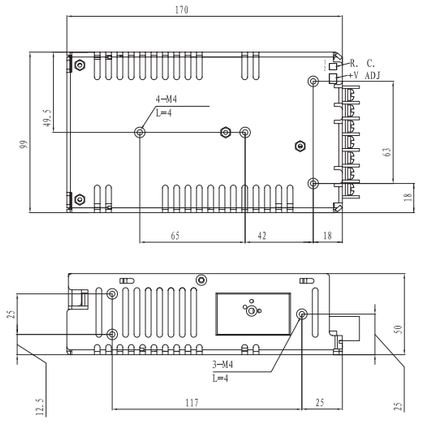
1.Input voltages from 85 to 264VAC
2.With active power factor correction function
3.LED status indication
4.The volume is 15% smaller than market similar products
5.Two-year warranty
6.Compliance with EU environmental requirements

Derating curve



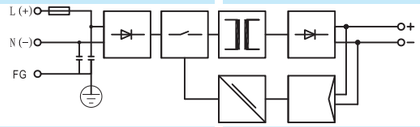
Drawing 150-1 Drawing 150-2

Installation dimension



Drawing 150-3

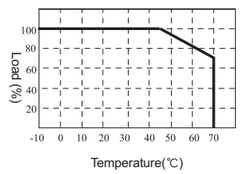
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-150MFA-05G	USP-150MFA-12G	USP-150MFA-15G	USP-150MFA-24G	USP-150MFA-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-150MFA-05G 461194	USP-150MFA-12G 461195	USP-150MFA-15G 461196	USP-150MFA-24G 461197	USP-150MFA-48G 461198
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC
Input current(typical)	1.8A/115VAC，0.9A/230VAC	1.8A/115VAC，0.9A/230VAC	1.8A/115VAC，0.9A/230VAC	1.8A/115VAC，0.9A/230VAC	1.8A/115VAC，0.9A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	84%	84%	84%	83%
Power factor(typical)	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	25A	12.5A	10A	6.25A	3.2A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-25A	0-12.5A	0-10A	0-6.25A	0-3.2A
Output power	125W	150W	150W	150W	153.6W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
Line regulation Note 4	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Load regulation Note 5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 150-1	Drawing 150-1	Drawing 150-1	Drawing 150-1	Drawing 150-1
Derating curve	Drawing 150-2	Drawing 150-2	Drawing 150-2	Drawing 150-2	Drawing 150-2
Dimensions(L/W/H mm)	170×99×50	170×99×50	170×99×50	170×99×50	170×99×50
Weight	620g	620g	620g	620g	620g

Features:

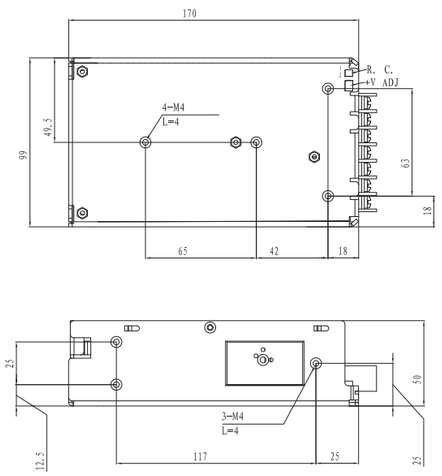
1.Input voltages from 176 to 264VAC
2.Cooling by built-in fan
3.LED status indication
4.The volume is 15% smaller than market similar products
5.One-year warranty
6.Remote switch controlling(optional)

Derating curve



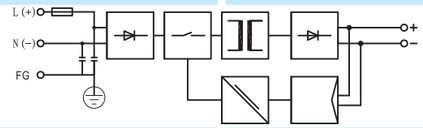
Drawing 250-1

Installation dimension



Drawing 250-2

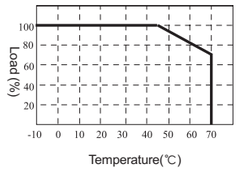
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-250MHN-05G	USP-250MHN-12G	USP-250MHN-15G	USP-250MHN-24G	USP-250MHN-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-250MHN-05G 461199	USP-250MHN-12G 461200	USP-250MHN-15G 461201	USP-250MHN-24G 461202	USP-250MHN-48G 461203
Technical data					
Input data					
Rated input voltage range	230VAC	230VAC	230VAC	230VAC	230VAC
Input voltage range	176-264VAC，240-370VDC	176-264VAC，240-370VDC	176-264VAC，240-370VDC	176-264VAC，240-370VDC	176-264VAC，240-370VDC
Input current(typical)	1.5A/230VAC	1.5A/230VAC	1.5A/230VAC	1.5A/230VAC	1.5A/230VAC
Frequency range	47-53Hz	47-53Hz	47-53Hz	47-53Hz	47-53Hz
Efficiency(typical)	80%	84%	84%	84%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	40A	21A	16.7A	10.5A	5.2A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-40A	0-21A	0-16.7A	0-10.5A	0-5.2A
Output power	200W	252W	250.5W	252W	249.6W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
Line regulation Note 4	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Load regulation Note 5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 250-1	Drawing 250-1	Drawing 250-1	Drawing 250-1	Drawing 250-1
Dimensions(L/W/H mm)	170×99×50	170×99×50	170×99×50	170×99×50	170×99×50
Weight	600g	600g	600g	600g	600g

Features:

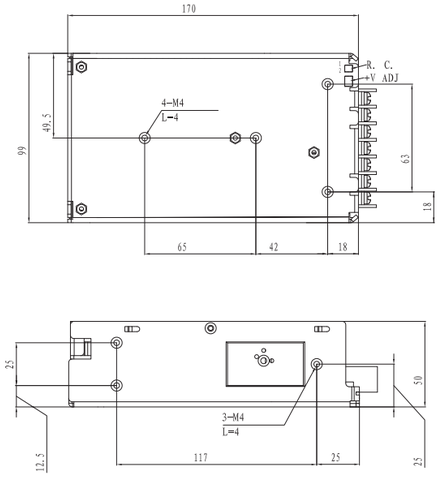
1.Input voltages from 85to 264VAC
2.With active power factor correction function
3.LED status indication
4.The volume is 15% smaller than market similar products
5.Two-year warranty
6.Remote switch controlling(optional)
7.Compliance with EU environmental requirements

Derating curve



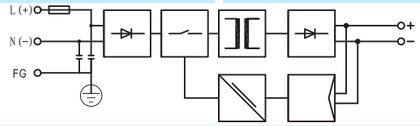
Drawing 250-1

Installation dimension



Drawing 250-2

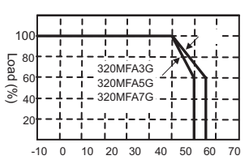
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-250MFA-05G	USP-250MFA-12G	USP-250MFA-15G	USP-250MFA-24G	USP-250MFA-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-250MFA-05G 461204	USP-250MFA-12G 461205	USP-250MFA-15G 461206	USP-250MFA-24G 461207	USP-250MFA-48G 461208
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC
Input current(typical)	3.0A/115VAC，1.5A/230VAC	3.0A/115VAC，1.5A/230VAC	3.0A/115VAC，1.5A/230VAC	3.0A/115VAC，1.5A/230VAC	3.0A/115VAC，1.5A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	84%	84%	84%	86%
Power factor(typical)	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	40A	21A	16.7A	10.5A	5.2A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-40A	0-21A	0-16.7A	0-10.5A	0-5.2A
Output power	200W	252W	250.5W	252W	249.6W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
Line regulation Note 4	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Load regulation Note 5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power	105-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.3-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃	-10℃～+70℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 250-1	Drawing 250-1	Drawing 250-1	Drawing 250-1	Drawing 250-1
Dimensions(L/W/H mm)	170×99×50	170×99×50	170×99×50	170×99×50	170×99×50
Weight	660g	660g	660g	660g	660g

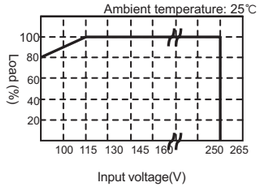
Features:

1.Input voltages from 85 to 264VAC
2.With active power factor correction function
3.LED status indication
4.The volume is 15% smaller than market similar products
5.Two-year warranty
6.Cooling by forced convection
7.Compliance with EU environmental requirements

Derating curve

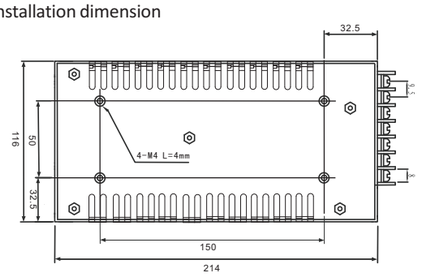


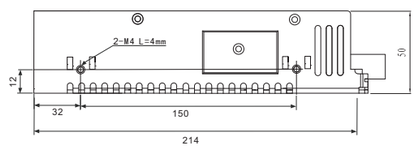
Drawing 320-1



Drawing 320-2

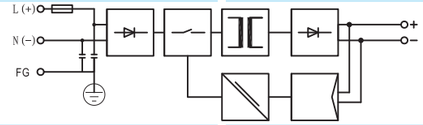
Installation dimension





Drawing 320-3

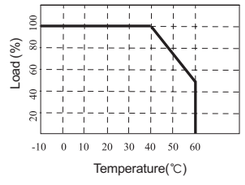
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-320MFA-05G	USP-320MFA-12G	USP-320MFA-15G	USP-320MFA-24G	USP-320MFA-48G
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-320MFA-05G 461209	USP-320MFA-12G 461210	USP-320MFA-15G 461211	USP-320MFA-24G 461212	USP-320MFA-48G 461213
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC	85-264VAC，120-370VDC
Input current(typical)	3.2A/115VAC，1.6A/230VAC	3.6A/115VAC，1.8A/230VAC	3.6A/115VAC，1.8A/230VAC	3.6A/115VAC，1.8A/230VAC	3.6A/115VAC，1.8A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	86%	86%	87%	88%
Power factor(typical)	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	50A	26A	21A	13.5A	6.7A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-50A	0-26A	0-21A	0-13A	0-6.7A
Output power	250W	312W	315W	324W	321.6W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	120mVpp	150mVpp	120mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%	±2.0%	±2.0%
Line regulation Note 4	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Load regulation Note 5	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	105-135% Rated output power	105-135% Rated output power	105-135% Rated output power	105-135% Rated output power	105-135% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+65℃	-10℃～+65℃	-10℃～+65℃	-10℃～+65℃	-10℃～+65℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)	<0.02%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC	<0.75mA/240VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 320-1	Drawing 320-1	Drawing 320-1	Drawing 320-1	Drawing 320-1
Derating curve	Drawing 320-2	Drawing 320-2	Drawing 320-2	Drawing 320-2	Drawing 320-2
Dimensions(L/W/H mm)	214×116×50	214×116×50	214×116×50	214×116×50	214×116×50
Weight	900g	900g	900g	900g	900g

Features:

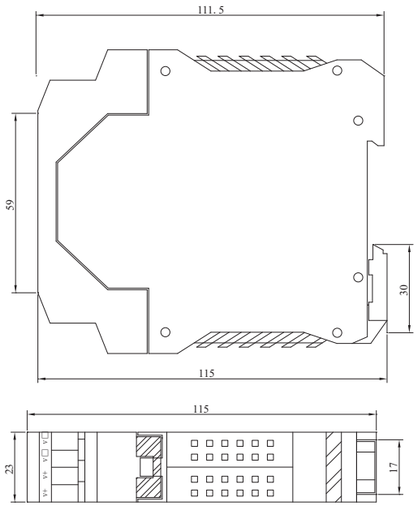
1.Input voltages from 85 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Mounted on TH35 rails
4.Stable and reliable performance
5.Two-year warranty
6.Low consumption, high efficiency, small volume, light weight

Derating curve



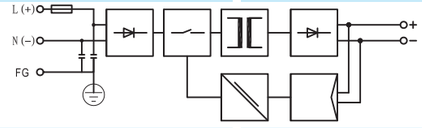
Drawing 24-1

Installation dimension



Drawing 24-2

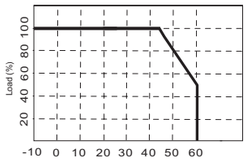
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-24PFN-05D	USP-24PFN-12D	USP-24PFN-15D	USP-24PFN-24D	USP-24PFN-48D
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-24PFN-05D 462100	USP-24PFN-12D 462101	USP-24PFN-15D 462102	USP-24PFN-24D 462103	USP-24PFN-48D 462104
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC
Input current(typical)	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC	0.3A/115VAC，0.16A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	83%	84%	85%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Output current range	0-4.0A	0-2A	0-1.6A	0-1A	0-0.5A
Output power	20W	24W	24W	24W	24W
Ripple and noise(Max) Note 2	50mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance Note 3	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%
Line regulation Note 4	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
Load regulation Note 5	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 24-1	Drawing 24-1	Drawing 24-1	Drawing 24-1	Drawing 24-1
Dimensions(L/W/H mm)	100×23×115	100×23×115	100×23×115	100×23×115	100×23×115
Weight	170g	170g	170g	170g	170g

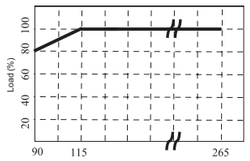
Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Mounted on TH35 rails
4.100% full load burn-in test
5.Two-year warranty

Derating curve

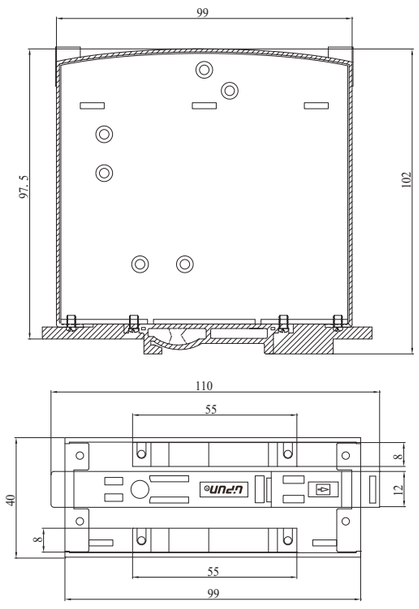


Drawing 50-1



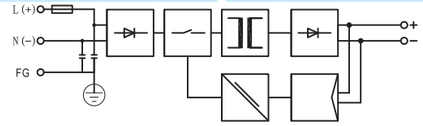
Drawing 50-2

Installation dimension



Drawing 50-3

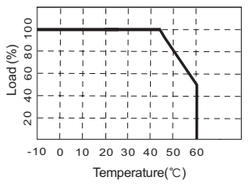
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-50MFN-05D	USP-50MFN-12D	USP-50MFN-15D	USP-50MFN-24D	USP-50MFN-48D
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-50MFN-05D 462105	USP-50MFN-12D 462106	USP-50MFN-15D 462107	USP-50MFN-24D 462108	USP-50MFN-48D 462109
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC	90-264VAC/120-370VDC
Input current(typical)	0.6A/115VAC，0.3A/230VAC	0.6A/115VAC，0.3A/230VAC	0.6A/115VAC，0.3A/230VAC	0.6A/115VAC，0.3A/230VAC	0.6A/115VAC，0.3A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	83%	84%	85%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	10A	4.2A	3.4A	2.1A	1.1A
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-10A	0-4.2A	0-3.4A	0-2.1A	0-1.1A
Output power	50W	50.4W	51W	50.4W	52.8W
Ripple and noise(Max)[Note 2]	50mVpp	100mVpp	100mVpp	150mVpp	150mVpp
Voltage tolerance[Note 3]	±2.0%	±1.0%	±1.0%	±1.0%	±1.0%
Line regulation[Note 4]	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
Load regulation[Note 5]	±0.3%	±0.3%	±0.3%	±0.3%	±0.3%
Setup/rise time (Max)	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS	1S / 50mS
Hold up time (Min)	20mS	20mS	20mS	20mS	20mS
Overload protection	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Over-voltage protection	5.75-7.5V	14.0-17.0V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Temperature coefficient	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)	±0.03%/℃(0-45℃)
Safety & EMC					
Safety standards	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950	IEC 60950, UL60950
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC	<1mA/230VAC
EMI conduction and radiation	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B	EN55022, Class B
EMS noise immunity	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11	EN61000-4-2 3 4 5 6 8 11
General					
Derating curve	Drawing 50-1	Drawing 50-1	Drawing 50-1	Drawing 50-1	Drawing 50-1
Derating curve	Drawing 50-2	Drawing 50-2	Drawing 50-2	Drawing 50-2	Drawing 50-2
Dimensions(L/W/H mm)	99×40×102	99×40×102	99×40×102	99×40×102	99×40×102
Weight	310g	310g	310g	310g	310g

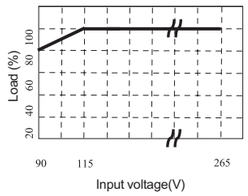
Features:

1.Input voltages from 85 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Mounted on TH35 rails
4.100% full load burn-in test
5.Two-year warranty

Derating curve

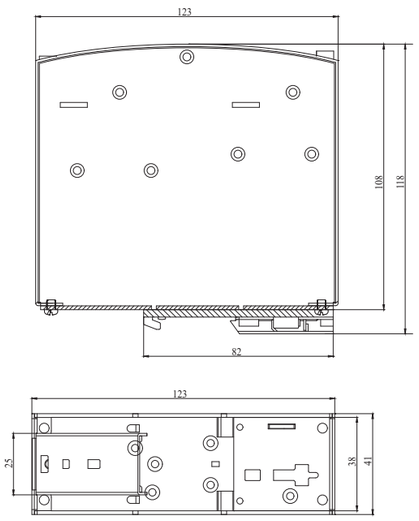


Drawing 120-1



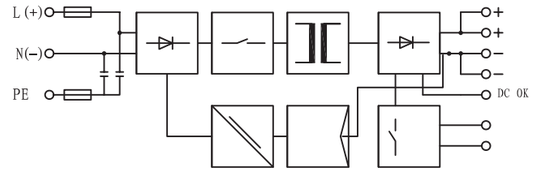
Drawing 120-2

Installation dimension



Drawing 120-3

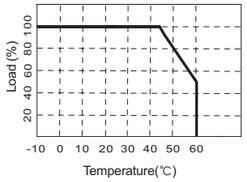
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-120MSN-05D	USP-120MSN-12D	USP-120MSN-15D	USP-120MSN-24D	USP-120MSN-48D
					
Electrical schematic					
					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-120MSN-05D 462124	USP-120MSN-12D 462125	USP-120MSN-15D 462126	USP-120MSN-24D 462127	USP-120MSN-48D 462128
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/selected by switch	90-264VAC/selected by switch	90-264VAC/selected by switch	90-264VAC/selected by switch	90-264VAC/selected by switch
Input current(typical)	1.5A/115VAC，0.8A/230VAC	1.5A/115VAC，0.8A/230VAC	1.5A/115VAC，0.8A/230VAC	1.5A/115VAC，0.8A/230VAC	1.5A/115VAC，0.8A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	77%	82%	83%	84%	84%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-27.6V	43.2-52.8V
Output current range	0-20A	0-10A	0-8A	0-5A	0-2.5A
Wave and noise	100mVpp	100mVpp	120mVpp	150mVpp	150mVpp
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Undervoltage indication	No	Under 8.5V	Under 10V	Under18V	Under 35V
Overcurrent protection	110-150%	110-150%	110-150%	110-150%	110-150%
High temperature protection	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer
Ambient condition					
Working temperature(see derating curve)	-10～+60℃	-10～+60℃	-10～+60℃	-10～+60℃	-10～+60℃
Storage temperature	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃
Working humidity(non condensing)	5-95%RH	5-95%RH	5-95%RH	5-95%RH	5-95%RH
Safety & EMC					
Safety standards	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1
EMI conduction and radiation	EN55022, EN55011 Class A	EN55022, EN55011 Class A	EN55022, EN55011 Class A	EN55022, EN55011 Class A	EN55022, EN55011 Class A
EMS noise immunity	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
General					
Derating curve	Drawing 120-1	Drawing 120-1	Drawing 120-1	Drawing 120-1	Drawing 120-1
Derating curve	Drawing 120-2	Drawing 120-2	Drawing 120-2	Drawing 120-2	Drawing 120-2
Dimensions(L/W/H mm)	123×41×118	123×41×118	123×41×118	123×41×118	123×41×118
Weight	550g	550g	550g	550g	550g

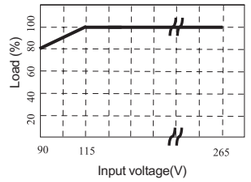
Features:

1.Input voltages from 85 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Mounted on TH35 rails
4.100% full load burn-in test
5.Two-year warranty

Derating curve

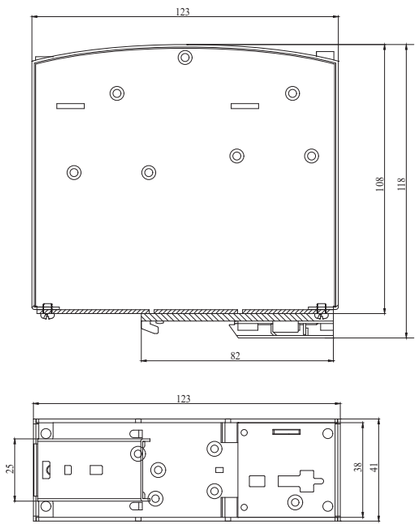


Drawing 150-1



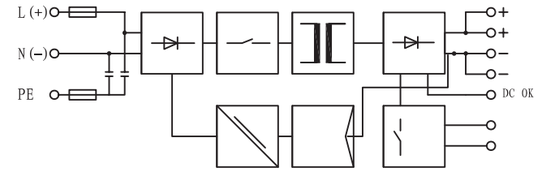
Drawing 150-2

Installation dimension



Drawing 150-3

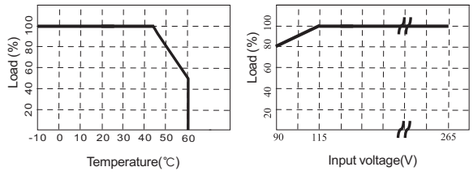
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-150MSN-05D	USP-150MSN-12D	USP-150MSN-15D	USP-150MSN-24D	USP-150MSN-48D
					
Electrical schematic					
					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-150MSN-05D 462129	USP-150MSN-12D 462130	USP-150MSN-15D 462131	USP-150MSN-24D 462132	USP-150MSN-48D 462133
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/selected by switch	90-264VAC/selected by switch	90-264VAC/selected by switch	90-264VAC/selected by switch	90-264VAC/selected by switch
Input current(typical)	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	77%	82%	83%	84%	84%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-25A	0-12.5A	0-10A	0-6.25A	0-3.13A
Wave and noise	100mVpp	100mVpp	150mVpp	150mVpp	150mVpp
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Undervoltage indication	No	Under 8.5V	Under 10V	Under 18V	Under 35V
Overcurrent protection	110-150%	110-150%	110-150%	110-150%	110-150%
High temperature protection	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer	100℃±5℃, detection of internal temperature of the transformer
Ambient condition					
Working temperature(see derating curve)	-10～+60℃	-10～+60℃	-10～+60℃	-10～+60℃	-10～+60℃
Storage temperature	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃
Working humidity(non condensing)	5-95%RH	5-95%RH	5-95%RH	5-95%RH	5-95%RH
Safety & EMC					
Safety standards	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1
EMI conduction and radiation	EN55022, EN55011 Class A	EN55022, EN55011 Class A	EN55022, EN55011 Class A	EN55022, EN55011 Class A	EN55022, EN55011 Class A
EMS noise immunity	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
General					
Derating curve	Drawing 150-1	Drawing 150-1	Drawing 150-1	Drawing 150-1	Drawing 150-1
Derating curve	Drawing 150-2	Drawing 150-2	Drawing 150-2	Drawing 150-2	Drawing 150-2
Dimensions(L/W/H mm)	123×41×118	123×41×118	123×41×118	123×41×118	123×41×118
Weight	550g	550g	550g	550g	550g

Features:

1.Input voltages from 85 to 264VAC
2.Protections:short circuit/overload/over voltage
3.Mounted on TH35 rails
4.With active power factor correction function
5.Two-year warranty
6.Efficiency up to 92%

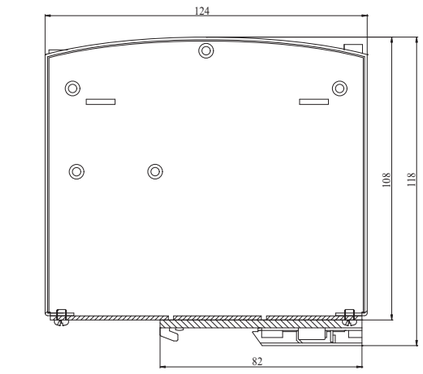
Derating curve

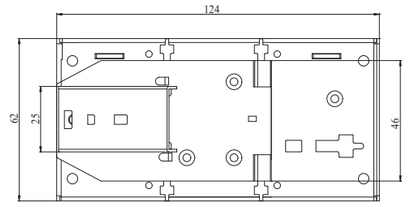


Drawing 240-1

Drawing 240-2

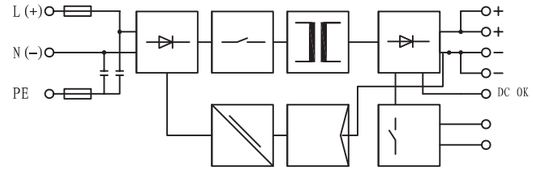
Installation dimension





Drawing 240-3

Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.
4.Line regulation is measured from low line to high line at rated load.
5.Load regulation is measured from 0% to 100% rated load at a constant input voltage.

Switching power supply	USP-240MFA-05D	USP-240MFA-12D	USP-240MFA-15D	USP-240MFA-24D	USP-240MFA-48D
					
Electrical schematic					
					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-240MFA-05D 462134	USP-240MFA-12D 462135	USP-240MFA-15D 462136	USP-240MFA-24D 462137	USP-240MFA-48D 462138
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/100-370VDC	90-264VAC/100-370VDC	90-264VAC/100-370VDC	90-264VAC/100-370VDC	90-264VAC/100-370VDC
Input current(typical)	2.6A/115VAC，1.3A/230VAC	2.6A/115VAC，1.3A/230VAC	2.6A/115VAC，1.3A/230VAC	2.6A/115VAC，1.3A/230VAC	2.6A/115VAC，1.3A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	86%	87%	87%	90%	92%
Power factor(typical)	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC	0.99/115VAC，0.95/230VAC
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Setting range of the output voltage	4.5-5.5V	10.8-13.2V	13.5-16.5V	21.6-26.4V	43.2-52.8V
Output current range	0-40A	0-20A	0-16A	0-10A	0-5A
Wave and noise	100mVpp	100mVpp	100mVpp	100mVpp	240mVpp
Over-voltage protection	5.75-7.5V	14-17V	17.2-20.3V	27.6-32.4V	55.2-62.5V
Undervoltage indication	Under 3.5V	Under 8.5V	Under 10V	Under 18V	Under 35V
Overcurrent protection	110-150%	110-150%	110-150%	110-150%	110-150%
Ambient condition					
Working temperature(see derating curve)	-10～+60℃	-10～+60℃	-10～+60℃	-10～+60℃	-10～+60℃
Storage temperature	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃	-25℃～+85℃
Working humidity(non condensing)	5-95%RH	5-95%RH	5-95%RH	5-95%RH	5-95%RH
Safety & EMC					
Safety standards	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1	IEC 60950, GB4943, UL508, EN60950-1
EMI conduction and radiation	EN55022, EN55011 Class B	EN55022, EN55011 Class B	EN55022, EN55011 Class B	EN55022, EN55011 Class B	EN55022, EN55011 Class B
EMS noise immunity	EN61000-4-2,3,4,5,6,8,11	EN61000-4-2,3,4,5,6,8,11, ENV50204	EN61000-4-2,3,4,5,6,8,11, ENV50204	EN61000-4-2,3,4,5,6,8,11, ENV50204	EN61000-4-2,3,4,5,6,8,11,ENV50204
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
General					
Derating curve	Drawing 240-1	Drawing 240-1	Drawing 240-1	Drawing 240-1	Drawing 240-1
Derating curve	Drawing 240-2	Drawing 240-2	Drawing 240-2	Drawing 240-2	Drawing 240-2
Dimensions(L/W/H mm)	124×62×118	124×62×118	124×62×118	124×62×118	124×62×118
Weight	820g	820g	820g	820g	820g

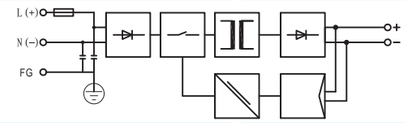
Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload/over voltage/over temperature
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

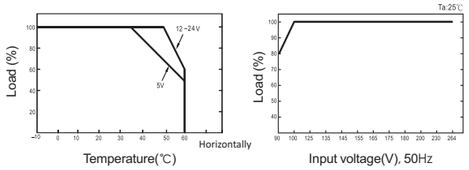
Switching power supply, single output

USP-10MFN-05G E	USP-10MFN-09G E	USP-10MFN-12G E	USP-10MFN-15G E	USP-10MFN-24G E
				

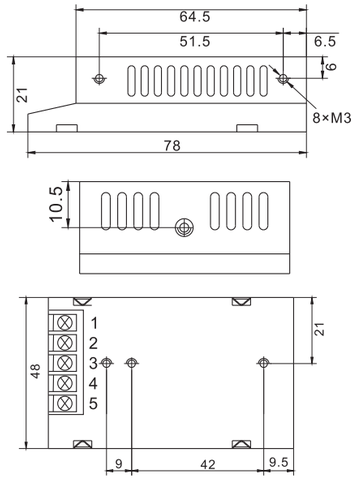
Electrical schematic



Derating curve



Installation dimension



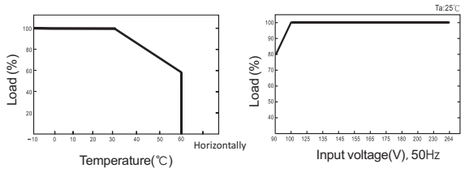
Ordering data	Type	Order no.	Type	Order no.	Type	Order no.	Type	Order no.
	USP-10MFN-05G E	461219	USP-10MFN-09G E	461220	USP-10MFN-12G	461221	USP-10MFN-15G E	461222	USP-10MFN-24G E	461223
Technical data										
Input data										
Rated input voltage range	115VAC/230VAC		115VAC/230VAC		115VAC/230VAC		115VAC/230VAC		115VAC/230VAC	
Input voltage range	90-264VAC/125-373VDC		90-264VAC/125-373VDC		90-264VAC/125-373VDC		90-264VAC/125-373VDC		90-264VAC/125-373VDC	
Input current(typical)	0.25A/115VAC，0.15A/230VAC		0.25A/115VAC，0.15A/230VAC		0.25A/115VAC，0.15A/230VAC		0.25A/115VAC，0.15A/230VAC		0.25A/115VAC，0.15A/230VAC	
Frequency range	47-63Hz		47-63Hz		47-63Hz		47-63Hz		47-63Hz	
Efficiency(typical)	76%		78%		79%		79%		81%	
Output data										
Rated output voltage	5V		9V		12V		15V		24V	
Rated output current	2A		1.1A		1A		0.7A		0.5A	
Setting range of the output voltage	-9%~+10.0%		±10.0%		±10.0%		±10.0%		±10.0%	
Output current range	0–2A		0-1.1A		0-1A		0-0.7A		0-2A	
Output power	10W		9.9W		12W		10.5W		12W	
Ripple and noise(Max) Note 2	80mVpp		120mVpp		120mVpp		120mVpp		120mVpp	
Voltage tolerance Note 3	±1.0%		±1.0%		±1.0%		±1.0%		±1.0%	
Setup/rise time (Max)	800mS,30mS/115VAC,500mS,20mS/230VAC		800mS,30mS/115VAC,500mS,20mS/230VAC		800mS,30mS/115VAC,500mS,20mS/230VAC		800mS,30mS/115VAC,500mS,20mS/230VAC		800mS,30mS/115VAC,500mS,20mS/230VAC	
Hold up time (Min)	20mS,115VAC/24mS,230VAC		20mS,115VAC/24mS,230VAC		20mS,115VAC/24mS,230VAC		20mS,115VAC/24mS,230VAC		20mS,115VAC/24mS,230VAC	
Overload protection	115-135% Rated output power		115-135% Rated output power		115-135% Rated output power		115-135% Rated output power		115-135% Rated output power	
Over-voltage protection	125%-150% rated output voltage		125%-150% rated output voltage		125%-150% rated output voltage		125%-150% rated output voltage		125%-150% rated output voltage	
Ambient conditions										
Working temperature(see derating curve)	-10℃～+60℃		-10℃～+60℃		-10℃～+60℃		-10℃～+60℃		-10℃～+60℃	
Working humidity(non condensing)	20-90%RH		20-90%RH		20-90%RH		20-90%RH		20-90%RH	
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH		-20～+85℃,10～95%RH		-20～+85℃,10～95%RH		-20～+85℃,10～95%RH		-20～+85℃,10～95%RH	
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes		10~500Hz,2G 10min./1cycle,60min.for each axes		10~500Hz,2G 10min./1cycle,60min.for each axes		10~500Hz,2G 10min./1cycle,60min.for each axes		10~500Hz,2G 10min./1cycle,60min.for each axes	
Safety & EMC										
Safety standards	UL1012		UL1012		UL1012		UL1012		UL1012	
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC		I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC		I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC		I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC		I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC		I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	
Leakage current (typical)	<0.25mA/240VAC		<0.25mA/240VAC		<0.25mA/240VAC		<0.25mA/240VAC		<0.25mA/240VAC	
EMI conduction and radiation	EN55022, Class A		EN55022, Class A		EN55022, Class A		EN55022, Class A		EN55022, Class A	
General										
Dimensions(L/W/H mm)	78×48×21		78×48×21		78×48×21		78×48×21		78×48×21	
Weight	80g		80g		80g		80g		80g	

Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

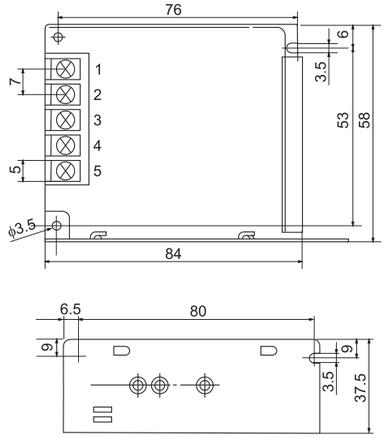
Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

Derating curve

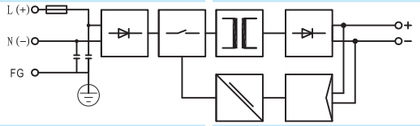


Installation dimension



Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

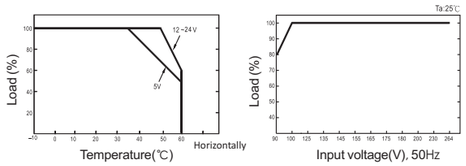
Switching power supply, single output

	USP-15MFN-05G E	USP-15MFN-12G E	USP-15MFN-24G E
			
Electrical schematic			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	USP-15MFN-05G E 461224	USP-15MFN-12G E 461225	USP-15MFN-24G E 461226
Technical data			
Input data			
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/135-373VDC	90-264VAC/135-373VDC	90-264VAC/135-373VDC
Input current(typical)	0.45A/115VAC，0.25A/230VAC	0.45A/115VAC，0.25A/230VAC	0.45A/115VAC，0.25A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	78%	81%	83%
Output data			
Rated output voltage	5V	12V	24V
Rated output current	3A	1.3A	0.7A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%
Output current range	0-3A	0-1.3A	0-0.7A
Output power	15W	15.6W	16.8W
Ripple and noise(Max) Note 2	80mVpp	100mVpp	120mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%
Setup/rise time (Max)	800mS,50mS/230VAC	800mS,50mS/230VAC	800mS,50mS/230VAC
Hold up time (Min)	20mS,230VAC	20mS,230VAC	20mS,230VAC
Overload protection	115-150% Rated output power	110-150% Rated output power	110-150% Rated output power
Ambient conditions			
Working temperature(see derating curve)	-20℃～+60℃	-20℃～+60℃	-20℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC			
Safety standards	UL60950-1	UL60950-1	UL60950-1
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.5mA/240VAC	<0.5mA/240VAC	<0.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A
General			
Dimensions(L/W/H mm)	84×58×38	84×58×38	84×58×38
Weight	150g	150g	150g

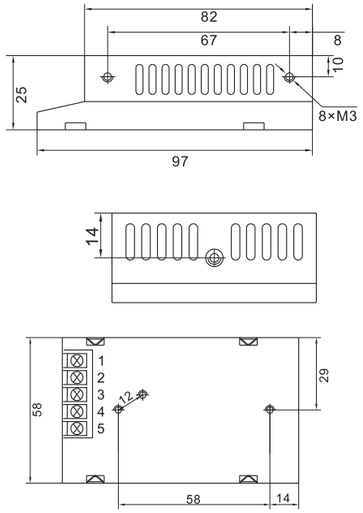
Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload/over voltage/over temperature
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

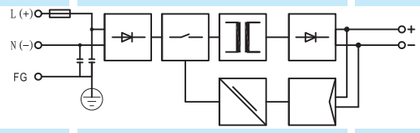
Derating curve



Installation dimension



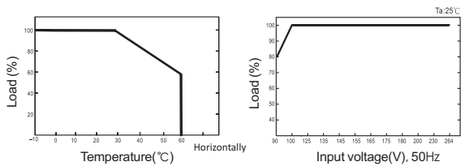
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-20MFN-05G E	USP-20MFN-12G E	USP-20MFN-15G E	USP-20MFN-24G E
				
Electrical schematic				
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-20MFN-05G E 461227	USP-20MFN-12G E 461228	USP-20MFN-15G E 461229	USP-20MFN-24G E 461230
Technical data				
Input data				
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/125-373VDC	90-264VAC/125-373VDC	90-264VAC/125-373VDC	90-264VAC/125-373VDC
Input current(typical)	0.45A/115VAC，0.25A/230VAC	0.45A/115VAC，0.25A/230VAC	0.45A/115VAC，0.25A/230VAC	0.45A/115VAC，0.25A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	75%	78%	78%	80%
Output data				
Rated output voltage	5V	12V	15V	24V
Rated output current	4A	1.7A	1.4A	0.8A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-4A	0-1.7A	0-1.4A	0-0.8A
Output power	20W	20W	21W	20W
Ripple and noise(Max) Note 2	80mVpp	120mVpp	120mVpp	120mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1000mS,30mS/115VAC,600mS,20mS/230VAC	1000mS,30mS/115VAC,600mS,20mS/230VAC	1000mS,30mS/115VAC,600mS,20mS/230VAC	1000mS,30mS/115VAC,600mS,20mS/230VAC
Hold up time (Min)	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC
Overload protection	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power
Over-voltage protection	125-150% Rated output power	125-150% Rated output power	125-150% Rated output power	125-150% Rated output power
Ambient conditions				
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC				
Safety standards	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.5mA/240VAC	<0.5mA/240VAC	<0.5mA/240VAC	<0.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General				
Dimensions(L/W/H mm)	97×58×25	97×58×25	97×58×25	97×58×25
Weight	110g	110g	110g	110g

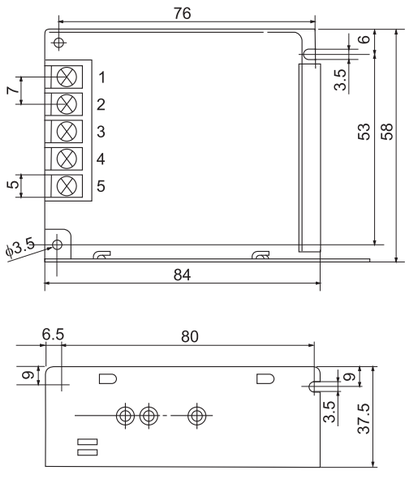
Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

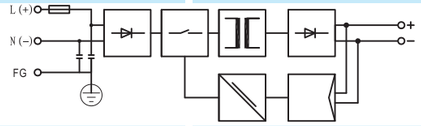
Derating curve



Installation dimension



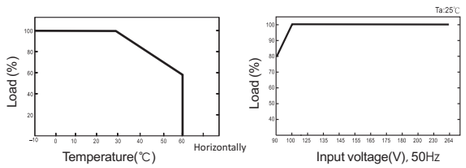
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-25MFN-12G E	USP-25MFN-15G E	USP-25MFN-24G E
			
Electrical schematic			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	USP-25MFN-12G E 461231	USP-25MFN-15G E 461232	USP-25MFN-24G E 461233
Technical data			
Input data			
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/135-373VDC	90-264VAC/135-373VDC	90-264VAC/135-373VDC
Input current(typical)	0.55A/115VAC，0.35A/230VAC	0.55A/115VAC，0.35A/230VAC	0.55A/115VAC，0.35A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	81%	82%	83%
Output data			
Rated output voltage	12V	15V	24V
Rated output current	2A	1.6A	1A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%
Output current range	0-2A	0-1.6A	0-1A
Output power	24W	24W	24W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	100mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±2.0%
Setup/rise time (Max)	800mS,50mS	800mS,50mS	800mS,50mS
Hold up time (Min)	20mS	20mS	20mS
Overload protection	115-150% Rated output power	115-150% Rated output power	115-150% Rated output power
Ambient conditions			
Working temperature(see derating curve)	-20℃～+60℃	-20℃～+60℃	-20℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC			
Safety standards	UL60950-1	UL60950-1	UL60950-1
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.5mA/240VAC	<0.5mA/240VAC	<0.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A
General			
Dimensions(L/W/H mm)	84×58×38	84×58×38	84×58×38
Weight	150g	150g	150g

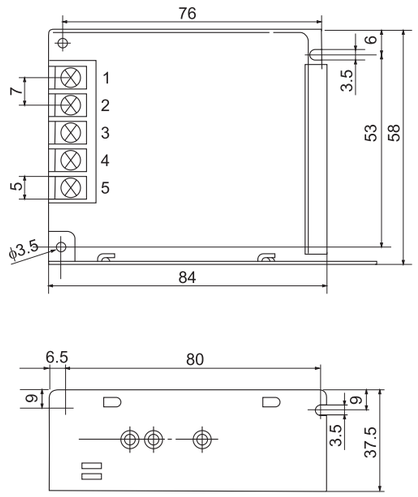
Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

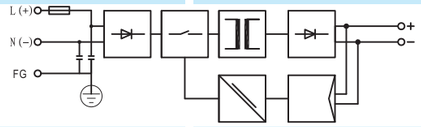
Derating curve



Installation dimension



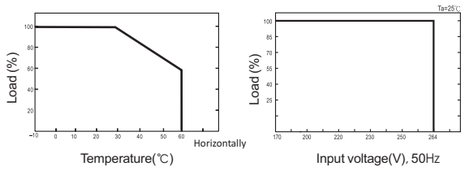
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-35MFN-05G E	USP-35MFN-12G E	USP-35MFN-24G E
			
Electrical schematic			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	USP-35MFN-05G E 461234	USP-35MFN-12G E 461235	USP-35MFN-24G E 461236
Technical data			
Input data			
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-264VAC/135-373VDC	90-264VAC/135-373VDC	90-264VAC/135-373VDC
Input current(typical)	0.75A/115VAC，0.45A/230VAC	0.75A/115VAC，0.45A/230VAC	0.75A/115VAC，0.45A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	78%	81%	83%
Output data			
Rated output voltage	5V	12V	24V
Rated output current	4A	3A	1.5A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%
Output current range	0-5A	0-3A	0-1.5A
Output power	25W	36W	36W
Ripple and noise(Max) Note 2	80mVpp	100mVpp	120mVpp
Voltage tolerance Note 3	±2.0%	±2.0%	±1.0%
Setup/rise time (Max)	800mS,30mS	800mS,30mS	800mS,30mS
Hold up time (Min)	24mS	24mS	24mS
Overload protection	115-150% Rated output power	115-150% Rated output power	115-150% Rated output power
Ambient conditions			
Working temperature(see derating curve)	-20℃～+60℃	-20℃～+60℃	-20℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH	-40～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC			
Safety standards	60950-1	60950-1	60950-1
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<0.5mA/240VAC	<0.5mA/240VAC	<0.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A
General			
Dimensions(L/W/H mm)	84×58×38	84×58×38	84×58×38
Weight	170g	170g	170g

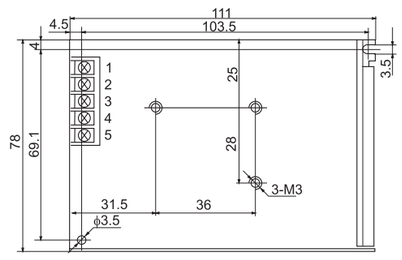
Features:

1.Input voltages from 90 to 264VAC
2.Protections:short circuit/overload
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

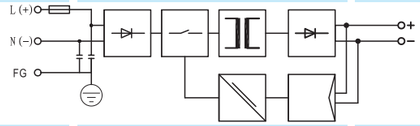
Derating curve



Installation dimension



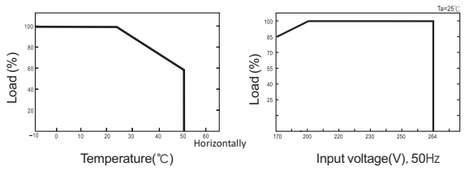
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-50MSN-05G E	USP-50MSN-12G E	USP-50MSN-15G E	USP-50MSN-24G E
				
Electrical schematic				
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-50MSN-05G E 461237	USP-50MSN-12G E 461238	USP-50MSN-15G E 461239	USP-50MSN-24G E 461240
Technical data				
Input data				
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC
Input current(typical)	1.3A/115VAC，0.65A/230VAC	1.3A/115VAC，0.65A/230VAC	1.3A/115VAC，0.65A/230VAC	1.3A/115VAC，0.65A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	80%	82%	82%	84%
Output data				
Rated output voltage	5V	12V	15V	24V
Rated output current	7A	4.2A	3.4A	2.1A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-7A	0-4.2A	0-3.4A	0-2.1A
Output power	35W	50W	51W	50W
Ripple and noise(Max) Note 2	80mVpp	120mVpp	120mVpp	120mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	800mS,30mS	800mS,30mS	800mS,30mS	800mS,30mS
Hold up time (Min)	20mS	20mS	20mS	20mS
Overload protection	115-150% Rated output power	115-150% Rated output power	115-150% Rated output power	115-150% Rated output power
Ambient conditions				
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC				
Safety standards	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<1mA/240VAC	<1mA/240VAC	<1mA/240VAC	<1mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General				
Dimensions(L/W/H mm)	111×78×36	111×78×36	111×78×36	111×78×36
Weight	260g	260g	260g	260g

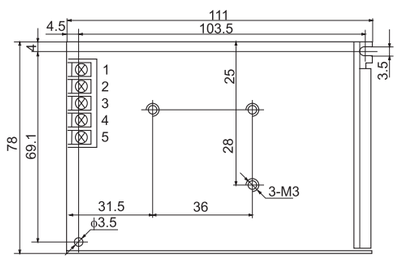
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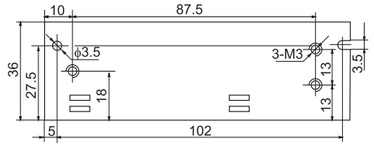
1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

Derating curve

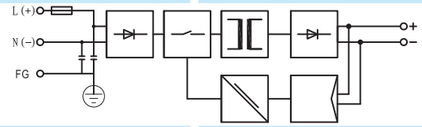


Installation dimension





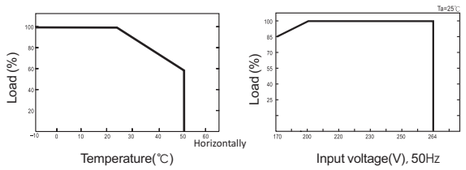
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-60MSN-12G E	USP-60MSN-15G E	USP-60MSN-24G E
			
Electrical schematic			
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.
	USP-60MSN-12G E 461241	USP-60MSN-15G E 461242	USP-60MSN-24G E 461243
Technical data			
Input data			
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC
Input current(typical)	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC	1.6A/115VAC，0.8A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	82%	82%	84%
Output data			
Rated output voltage	12V	15V	24V
Rated output current	5A	4A	2.5A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%
Output current range	0-5A	0-4A	0-2.5A
Output power	60W	60W	60W
Ripple and noise(Max) Note 2	100mVpp	120mVpp	120mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	600mS,30mS	600mS,30mS	600mS,30mS
Hold up time (Min)	20mS	20mS	20mS
Overload protection	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power
Ambient conditions			
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC			
Safety standards	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<1mA/240VAC	<1mA/240VAC	<1mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A
General			
Dimensions(L/W/H mm)	111×78×36	111×78×36	111×78×36
Weight	270g	270g	270g

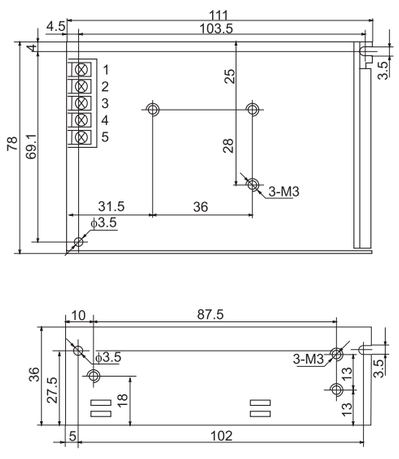
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

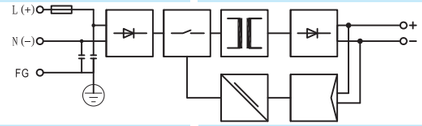
Derating curve



Installation dimension



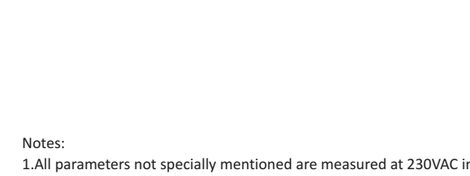
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-75MSN-05G E	USP-75MSN-12G E	USP-75MSN-15G E	USP-75MSN-24G E
				
Electrical schematic				
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-75MSN-05G E 461244	USP-75MSN-12G E 461245	USP-75MSN-15G E 461246	USP-75MSN-24G E 461247
Technical data				
Input data				
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC	90-132VAC/170-264VAC(selected by switch), 235-373VDC
Input current(typical)	1.8A/115VAC，0.9A/230VAC	1.8A/115VAC，0.9A/230VAC	1.8A/115VAC，0.9A/230VAC	1.8A/115VAC，0.9A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	80%	82%	82%	84%
Output data				
Rated output voltage	5V	12V	15V	24V
Rated output current	10A	6.3A	5A	3.2A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-10A	0-6.3A	0-5A	0-3.2A
Output power	50W	76W	75W	77W
Ripple and noise(Max) Note 2	80mVpp	120mVpp	120mVpp	120mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1000mS,30mS	1000mS,30mS	1000mS,30mS	1000mS,30mS
Hold up time (Min)	20mS	20mS	20mS	20mS
Overload protection	105-135% Rated output power	105-135% Rated output power	105-135% Rated output power	105-135% Rated output power
Ambient conditions				
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC				
Safety standards	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<1mA/240VAC	<1mA/240VAC	<1mA/240VAC	<1mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General				
Dimensions(L/W/H mm)	111×78×36	111×78×36	111×78×36	111×78×36
Weight	280g	280g	280g	280g

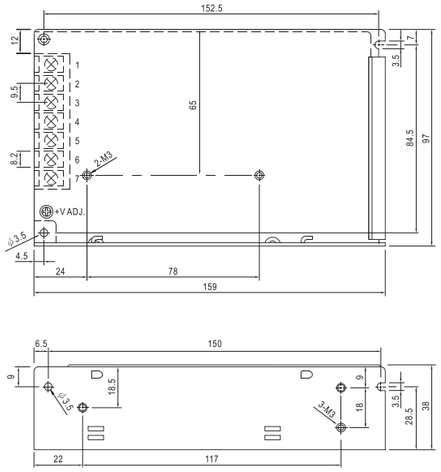
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload/over voltage
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

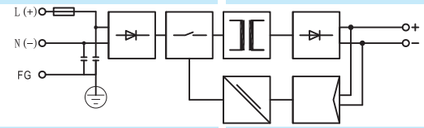
Derating curve



Installation dimension



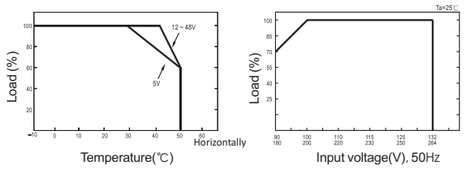
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-100MSN-05G E	USP-100MSN-12G E	USP-100MSN-15G E	USP-100MSN-24G E	USP-100MSN-48G E
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-100MSN-05G E 461248	USP-100MSN-12G E 461249	USP-100MSN-15G E 461250	USP-100MSN-24G E 461251	USP-100MSN-48G E 461252
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254-373VDC	90-132VAC/180-264VAC(selected by switch), 254-373VDC	90-132VAC/180-264VAC(selected by switch), 254-373VDC	90-132VAC/180-264VAC(selected by switch), 254-373VDC
Input current(typical)	2.4A/115VAC，1.2A/230VAC	2.4A/115VAC，1.2A/230VAC	2.4A/115VAC，1.2A/230VAC	2.4A/115VAC，1.2A/230VAC	2.4A/115VAC，1.2A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	83%	83%	85%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	20A	8.3A	6.7A	4.2A	2A
Setting range of the output voltage	-9%~+10.0%	±10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-20A	0-8.3A	0-6.7A	0-4.2A	0-2A
Output power	100W	100W	100W	100W	96W
Ripple and noise(Max) Note 2.	80mVpp	120mVpp	120mVpp	150mVpp	180mVpp
Voltage tolerance Note 3.	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	800mS,30mS/115VAC,500mS,20mS/230VAC	800mS,30mS/115VAC,500mS,20mS/230VAC	800mS,30mS/115VAC,500mS,20mS/230VAC	800mS,30mS/115VAC,500mS,20mS/230VAC	800mS,30mS/115VAC,500mS,20mS/230VAC
Hold up time (Min)	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC
Overload protection	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power
Over-voltage protection	6.8-8.2V	15.6-17.8V	18.6-20.8V	30.6-33.2V	54.8-56.6V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC					
Safety standards	UL1012	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General					
Dimensions(L/W/H mm)	159×97×38	159×97×38	159×97×38	159×97×38	159×97×38
Weight	480g	480g	480g	480g	480g

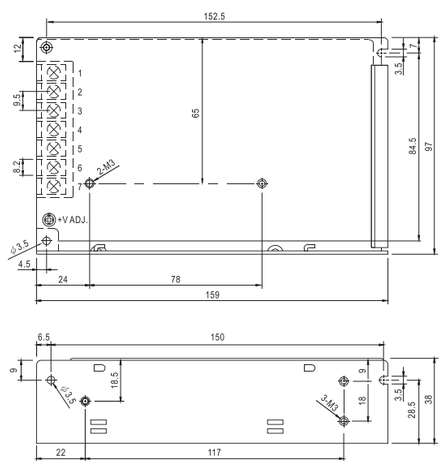
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload/over voltage
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

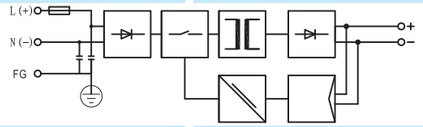
Derating curve



Installation dimension



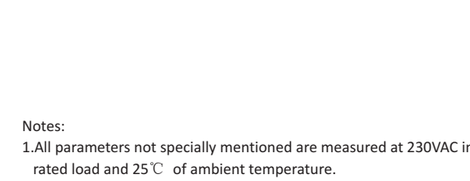
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-120MSN-12G E	USP-120MSN-15G E	USP-120MSN-24G E	USP-120MSN-48G E
				
Electrical schematic				
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-120MSN-12G E 461253	USP-120MSN-15G E 461254	USP-120MSN-24G E 461255	USP-120MSN-48G E 461256
Technical data				
Input data				
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC
Input current(typical)	2.8A/115VAC，1.4A/230VAC	2.8A/115VAC，1.4A/230VAC	2.8A/115VAC，1.4A/230VAC	2.8A/115VAC，1.4A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	80%	83%	85%	86%
Output data				
Rated output voltage	12V	15V	24V	48V
Rated output current	10A	8A	5A	2.5A
Setting range of the output voltage	±10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-12A	0-8A	0-5A	0-2.5A
Output power	120W	120W	120W	121.5W
Ripple and noise(Max) Note 2	100mVpp	120mVpp	150mVpp	200mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1000mS,30mS/115VAC,600mS,20mS/230VAC	1000mS,30mS/115VAC,600mS,20mS/230VAC	1000mS,30mS/115VAC,600mS,20mS/230VAC	1000mS,30mS/115VAC,600mS,20mS/230VAC
Hold up time (Min)	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC
Overload protection	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power
Over-voltage protection	15.6-17.8V	18.6-20.8V	30.6-33.2V	54.8-56.6V
Ambient conditions				
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC				
Safety standards	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General				
Dimensions(L/W/H mm)	159×97×38	159×97×38	159×97×38	159×97×38
Weight	480g	480g	480g	480g

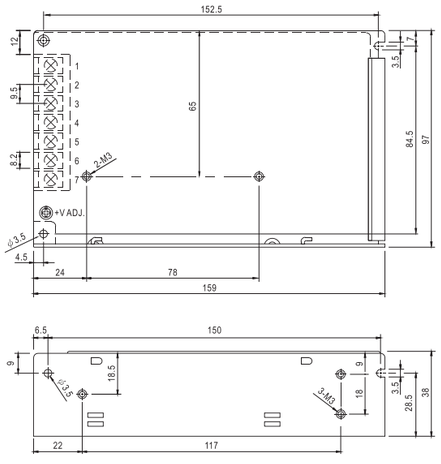
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload/over voltage
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

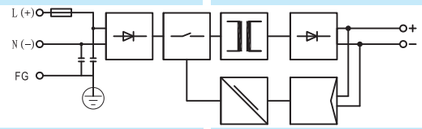
Derating curve



Installation dimension



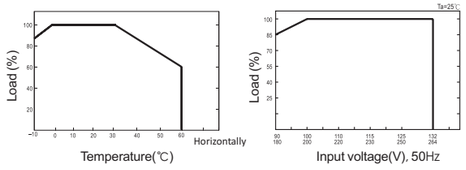
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-150MSN-05G E	USP-150MSN-12G E	USP-150MSN-15G E	USP-150MSN-24G E	USP-150MSN-48G E
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-150MSN-05G E 461257	USP-150MSN-12G E 461258	USP-150MSN-15G E 461259	USP-150MSN-24G E 461260	USP-150MSN-48G E 461261
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC
Input current(typical)	3.2A/115VAC，1.6A/230VAC	3.2A/115VAC，1.6A/230VAC	3.2A/115VAC，1.6A/230VAC	3.2A/115VAC，1.6A/230VAC	3.2A/115VAC，1.6A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	79%	83%	84%	85%	86%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	25A	12.5A	10A	6.5A	3.2A
Setting range of the output voltage	±10.0%	±10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-25A	0-12.5A	0-10A	0-6.5A	0-3.2A
Output power	125W	150W	150W	156W	153W
Ripple and noise(Max) Note 2	100mVpp	100mVpp	100mVpp	100mVpp	100mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1200mS,30mS/115VAC,800mS,20mS/230VAC	1200mS,30mS/115VAC,800mS,20mS/230VAC	1200mS,30mS/115VAC,800mS,20mS/230VAC	1200mS,30mS/115VAC,800mS,20mS/230VAC	1200mS,30mS/115VAC,800mS,20mS/230VAC
Hold up time (Min)	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC	20mS,115VAC/24mS,230VAC
Overload protection	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power	115-135% Rated output power
Over-voltage protection	6.8-8.2V	15.6-17.8V	18.6-20.8V	30.6-33.2V	54.8-56.6V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC					
Safety standards	UL1012	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General					
Dimensions(L/W/H mm)	159×97×38	159×97×38	159×97×38	159×97×38	159×97×38
Weight	540g	480g	480g	480g	480g

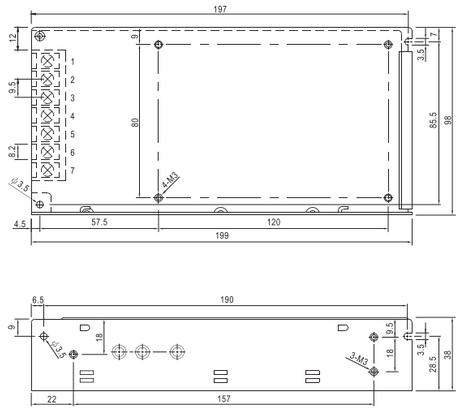
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload/over voltage/over temperature
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

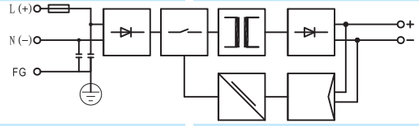
Derating curve



Installation dimension



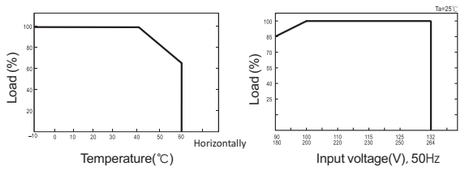
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-200MSN-05G E	USP-200MSN-12G E	USP-200MSN-15G E	USP-200MSN-24G E
				
Electrical schematic				
Ordering data / Type / Order no.	USP-200MSN-05G E 461262	USP-200MSN-12G E 461263	USP-200MSN-15G E 461264	USP-200MSN-24G E 461265
Technical data				
Input data				
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/180-264VAC(selected by switch), 54~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC	90-132VAC/180-264VAC(selected by switch), 254~373VDC
Input current(typical)	4.0A/115VAC，2.0A/230VAC	4.0A/115VAC，2.0A/230VAC	4.0A/115VAC，2.0A/230VAC	4.0A/115VAC，2.0A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	80%	83%	83%	85%
Output data				
Rated output voltage	5V	12V	15V	24V
Rated output current	30A	16.6A	13.3A	8.3A
Setting range of the output voltage	±10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-30A	0-16.6A	0-13.3A	0-8.3A
Output power	150W	199.2W	199.5W	199.2W
Ripple and noise(Max) Note 2	150mVpp	150mVpp	150mVpp	180mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1000mS,100mS	1000mS,100mS	1000mS,100mS	1000mS,100mS
Hold up time (Min)	30mS	30mS	30mS	30mS
Overload protection	115-150% Rated output power	115-150% Rated output power	115-150% Rated output power	115-150% Rated output power
Over-voltage protection	115%-135% of rated output voltage	115%-135% of rated output voltage	115%-135% of rated output voltage	115%-135% of rated output voltage
Ambient conditions				
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC				
Safety standards	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<2.5mA/240VAC	<2.5mA/240VAC	<2.5mA/240VAC	<2.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General				
Dimensions(L/W/H mm)	199×98×38	199×98×38	199×98×38	199×98×38
Weight	600g	600g	600g	600g

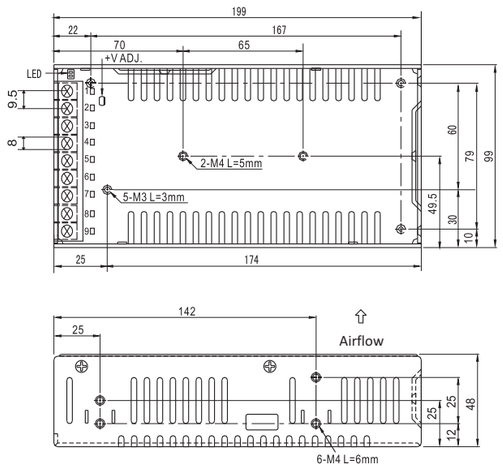
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload/over voltage/over temperature
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

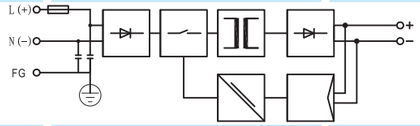
Derating curve



Installation dimension



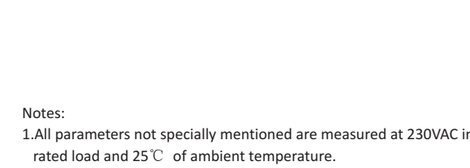
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-250MSN-12G E	USP-250MSN-24G E	USP-200MSN-36G E	USP-200MSN-48G E
				
Electrical schematic				
Ordering data	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**	**Type / Order no.**
	USP-250MSN-12G E 461266	USP-250MSN-24G E 461267	USP-200MSN-36G E 461268	USP-200MSN-48G E 461269
Technical data				
Input data				
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC
Input current(typical)	4.5A/115VAC，2.5A/230VAC	4.5A/115VAC，2.5A/230VAC	4.5A/115VAC，2.5A/230VAC	4.5A/115VAC，2.5A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	84%	85%	85%	86%
Output data				
Rated output voltage	12V	24V	36V	48V
Rated output current	20A	10A	7A	5.2A
Setting range of the output voltage	±10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-20A	0-10A	0-7A	0-5.2A
Output power	240W	240W	252W	249.6W
Ripple and noise(Max) Note 2	150mVpp	180mVpp	200mVpp	200mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1200mS,50mS/115VAC,800mS,50mS/230VAC	1200mS,50mS/115VAC,800mS,50mS/230VAC	1200mS,50mS/115VAC,800mS,50mS/230VAC	1200mS,50mS/115VAC,800mS,50mS/230VAC
Hold up time (Min)	20mS,115VAC/20mS,230VAC	20mS,115VAC/20mS,230VAC	20mS,115VAC/20mS,230VAC	20mS,115VAC/20mS,230VAC
Overload protection	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power
Over-voltage protection	15.6-17.8V	30.6-33.2V	42.6-44.2V	54.8-56.6V
Ambient conditions				
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC				
Safety standards	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<2.5mA/240VAC	<2.5mA/240VAC	<2.5mA/240VAC	<2.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General				
Dimensions(L/W/H mm)	199×99×48	199×99×48	199×99×48	199×99×48
Weight	700g	700g	700g	700g

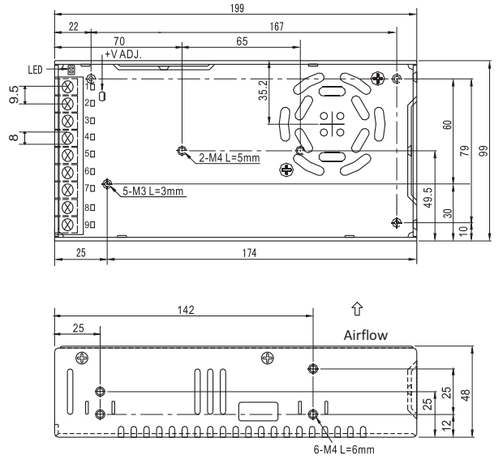
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload/over voltage/over temperature
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

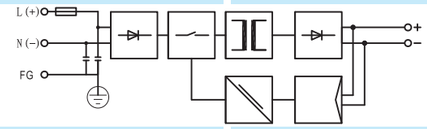
Derating curve



Installation dimension



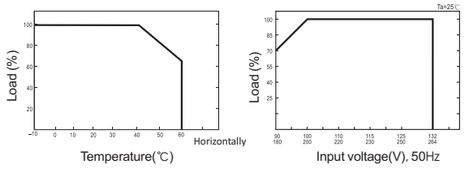
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

	USP-350MSN-05G E	USP-350MSN-12G E	USP-350MSN-15G E	USP-350MSN-24G E	USP-350MSN-48G E
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-350MSN-05G E 461270	USP-350MSN-12G E 461271	USP-350MSN-15G E 461272	USP-350MSN-24G E 461273	USP-350MSN-48G E 461274
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC
Input current(typical)	6.5A/115VAC，4A/230VAC	6.5A/115VAC，4A/230VAC	6.5A/115VAC，4A/230VAC	6.5A/115VAC，4A/230VAC	6.5A/115VAC，4A/230VAC
Frequency range	47-63Hz	47-63Hz		47-63Hz	47-63Hz
Efficiency(typical)	80%	82%	82%	84%	85%
Output data					
Rated output voltage	5V	12V	15V	24V	48V
Rated output current	50A	29A	23A	14.6A	7.3A
Setting range of the output voltage	±10.0%	±10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-50A	0-29A	0-23A	0-14.6A	0-7.3A
Output power	250W	348W	345W	358W	350W
Ripple and noise(Max) Note 2	150mVpp	150mVpp	150mVpp	200mVpp	200mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	1000mS,100mS	1000mS,100mS	1000mS,100mS	1000mS,100mS	1000mS,100mS
Hold up time (Min)	30mS	30mS	30mS	30mS	30mS
Overload protection	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power
Over-voltage protection	115%-135% of rated output voltage	115%-135% of rated output voltage	115%-135% of rated output voltage	115%-135% of rated output voltage	115%-135% of rated output voltage
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC					
Safety standards	UL1012	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<2.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General					
Dimensions(L/W/H mm)	199×99×48	199×99×48	199×99×48	199×99×48	199×99×48
Weight	800g	800g	800g	800g	800g

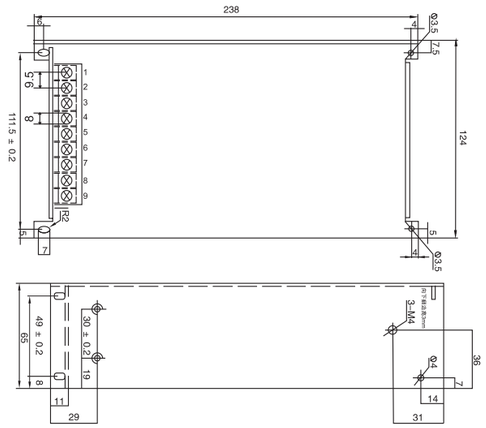
Features:

1.Input voltages from 90 to 264VAC(selected by switch)
2.Protections:short circuit/overload/over voltage/over temperature
3.Cooling by air convection
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

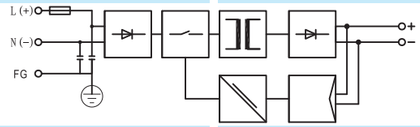
Derating curve



Installation dimension



Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

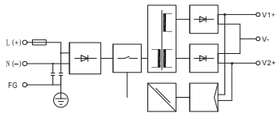
	USP-500MSN-05G E	USP-500MSN-15G E	USP-500MSN-24G E	USP-500MSN-36G E	USP-500MSN-48G E
					
Electrical schematic					
Ordering data	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.	Type / Order no.
	USP-500MSN-05G E 461275	USP-500MSN-15G E 461276	USP-500MSN-24G E 461277	USP-500MSN-36G E 461278	USP-500MSN-48G E 461279
Technical data					
Input data					
Rated input voltage range	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC	115VAC/230VAC
Input voltage range	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC	90-132VAC/180-264VAC(selected by switch), 255~373VDC
Input current(typical)	10A/115VAC，5A/230VAC	10A/115VAC，5A/230VAC	10A/115VAC，5A/230VAC	10A/115VAC，5A/230VAC	10A/115VAC，5A/230VAC
Frequency range	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
Efficiency(typical)	82%	82%	83%	84%	82%
Output data					
Rated output voltage	12V	15V	24V	36V	48V
Rated output current	40A	32A	20A	14A	10A
Setting range of the output voltage	±10.0%	±10.0%	±10.0%	±10.0%	±10.0%
Output current range	0-40A	0-32A	0-20A	0-14A	0-10A
Output power	480W	480W	480W	504W	480W
Ripple and noise(Max) Note 2	100mVpp	150mVpp	150mVpp	100mVpp	100mVpp
Voltage tolerance Note 3	±1.0%	±1.0%	±1.0%	±1.0%	±1.0%
Setup/rise time (Max)	800mS,20mS	800mS,20mS	800mS,20mS	800mS,20mS	800mS,20mS
Hold up time (Min)	36mS	36mS	36mS	36mS	36mS
Overload protection	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power	110-135% Rated output power
Over-voltage protection	15.6-17.8V	18.6-20.8V	30.6-33.2V	42.6-44.2V	54.8-56.6V
Ambient conditions					
Working temperature(see derating curve)	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃	-10℃～+60℃
Working humidity(non condensing)	20-90%RH	20-90%RH	20-90%RH	20-90%RH	20-90%RH
Storage temp/humidity(non condesing)	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH	-20～+85℃,10～95%RH
Vibration	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes	10~500Hz,2G 10min./1cycle,60min.for each axes
Safety & EMC					
Safety standards	UL1012	UL1012	UL1012	UL1012	UL1012
Withstand voltage	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	I/P-O/P:1.5KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC
Insulation Impedance	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC	I/P-O/P,I/P-FG,O/P-FG:100MΩ megger/500VDC
Leakage current (typical)	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC	<3.5mA/240VAC
EMI conduction and radiation	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A	EN55022, Class A
General					
Dimensions(L/W/H mm)	238×124×65	238×124×65	238×124×65	238×124×65	238×124×65
Weight	1450g	1450g	1450g	1450g	1450g

USP-10PFN-24S2

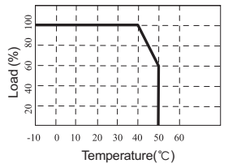
Features:

1.Input voltages from 86 to 265VDC
2.Protections:short circuit/over voltage
3.Natural cooling
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

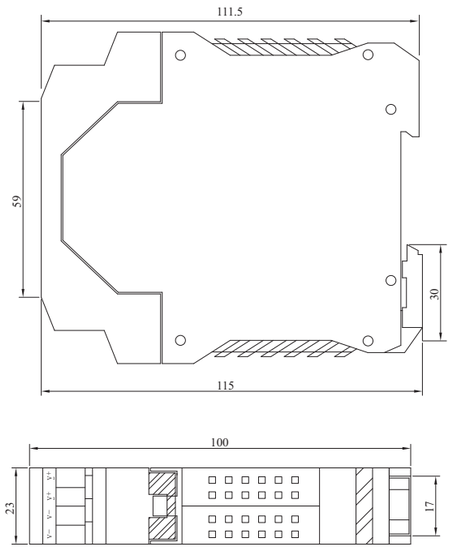


Electrical schematic	
	

Derating curve



Installation dimension



Ordering data	Type	Order no.
	USP-10PFN-24S2	461275

Technical data		
Input data		
Rated input voltage range	100~240VAC	
Input voltage range	86~265VAC	
Input current(typical)	110VAC/0.3A,230VAC/0.2A	
Inrush current	230VAC/36A	
Efficiency(typical)	82%	
Output data	V1	V2
Rated output voltage	24V	5V
Rated output current		
Setting range of the output voltage	+23.28V ～+24.75V	+4.5V ～+5.5V
Output current range	0-300mA	0-200mA
Output power	7.2W	1W
Ripple and noise(Max) Note 2	⩽150mV	⩽150mV
Voltage tolerance Note 3	±3%	±10%
Setup/rise/hold up time	1000ms,100ms,20ms/230VAC	
Short-circuit protection	V1/V22 short-circuited：Hiccup mode, covers automatically after fault condition is removed	
Over-voltage protection	V1 output voltage: 28.5-31.5V, over voltage protection, recovers automatically after fault condition is removed	
Ambient conditions		
Working temperature(see derating curve)	-25℃～+40℃	
Working humidity(non condensing)	20-90%RH	
Storage temp/humidity(non condesing)	-40～+85℃,10～95%RH	
Vibration		
Safety & EMC		
Safety standards	UL1950	
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	
Insulation Impedance	I/P-O/P,I/P-FG:100MΩ megger/500VDC	
Leakage current (typical)	L – FG 230 VAC, 1mA,1min. N – FG 230 VAC, 1mA,1min	
EMI conduction and radiation	EN60950	
General		
Dimensions(L/W/H mm)	100×23×115	
Weight		

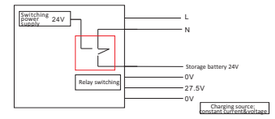
Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

USP-60MHN-27S2

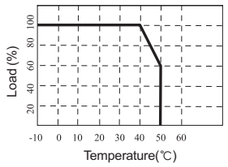
Features:

1.Input voltages from 170 to 265VDC
2.Protections:short circuit/over voltage/constant current
3.Natural cooling
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

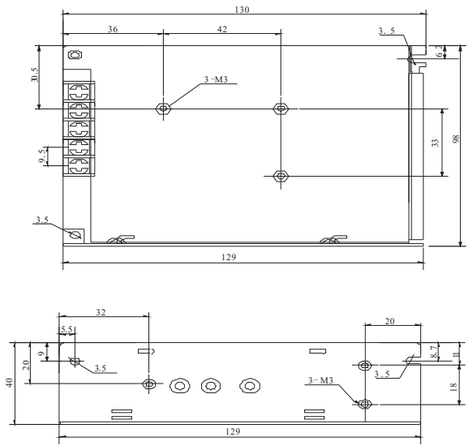


Electrical schematic	
	

Derating curve



Installation dimension



Ordering data	Type	Order no.
	USP-60MHN-27S2	461275

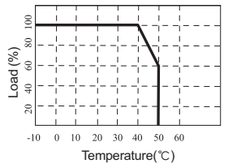
Technical data		
Input data		
Rated voltage	220VAC	
Input voltage range	170VAC ~ 265VAC	
Input current	Max input AC voltage <1.0A at rated load and 170VAC of input voltage	
Inrush current	230VAC/36A；	
Frequency range	50Hz	
Efficiency(typical)	75%	
Output data	V1	V2
Rated output voltage	27.5V	24V
Rated output current		
Setting range of the output voltage	+27.2V~+27.8V	+23.76V~+24.24V
Output current range	0-1.2A	0-1A
Output power	33W	24W
Ripple and noise(Max) Note 2	⩽200mV	⩽200mV
Voltage tolerance Note 3	±1%	±1%
Setup/rise/hold up time	1S,500μS,⩽20mS/230VAC	
Short-circuit protection	V1/2 short-circuited:constant current mode, recovers automatically after fault condition is removed	
Constant current protection	V1 output current=1.2A,constant current; <1.2A, recovers automatically	
Over-voltage protection	32V~38V	28.8V~33.8V
Ambient conditions		
Working temperature(see derating curve)	-10℃～+40℃	
Working humidity(non condensing)	20-90%RH	
Storage temp/humidity(non condesing)	-30～+85℃,10～95%RH	
Vibration		
Safety & EMC		
Safety standards	UL1950	
Withstand voltage	I/P-O/P:3KVAC,I/P-FG:2KVAC,O/P-FG:0.5KVAC	
Insulation Impedance	I/P-O/P,I/P-FG:100MΩ megger/500VDC	
Leakage current (typical)	L-FG 230VAC, 1mA,1min, N-FG 230VAC, 1mA,1min	
EMI conduction and radiation	EN60950	
General		
Dimensions(L/W/H mm)	130×98×40	
Weight		

Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

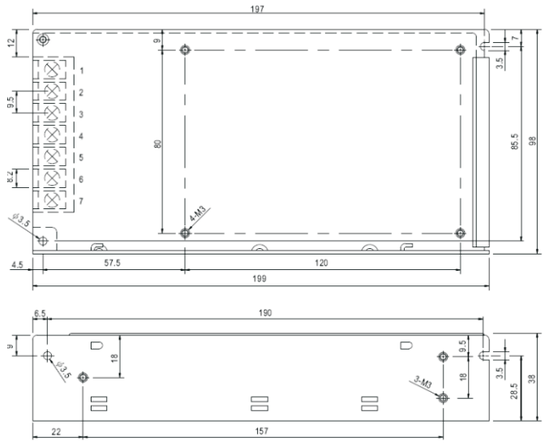
Features:

1.Input voltages from 170 to 265VAC
2.Protections:short circuit/over voltage
3.Natural cooling
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

Derating curve



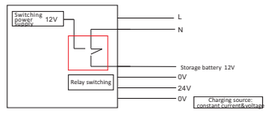
Installation dimension



Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

USP-110MHN-24S2



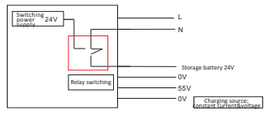
Electrical schematic	
	

Ordering data	Type	Order no.
	USP-110MHN-24S2	461275

Technical data		
Input data		
Input voltage range	170VAC ~ 265VAC	
Input current	Max input AC voltage <1.5A at rated load and 170VAC of input voltage	
Inrush current	During cold start, inrush current <36A at rated load and 230VAC of input voltage	
Frequency range		
Efficiency(typical)	Efficiency:75%, at rated load and 48VDC of input voltage	
Output data	V1	V2
Rated output voltage	24V	12V
Rated output current		
Setting range of the output voltage	+24.24V~+23.76V	+12.12V~+11.88V
Output current range	0-3A	0-3A
Output power	108W	108W
Ripple and noise(Max) Note 2	⩽200mV	⩽200mV
Voltage tolerance Note 3	±1%	±1%
Setup/rise/hold up time	1S,500μS,⩽20mS/230VAC	
Short-circuit protection	V1 short-circuited:Constant current mode, recovers automatically after fault condition is removed	V2 short-circuited: Hiccup mode, recovers automatically after fault condition is removed
Constant current protection		
Over-voltage protection	V1 output voltage: 27-33V, over voltage protection, recovers automatically after fault condition is removed	V2 output voltage: 15-17V, over voltage protection, recovers automatically after fault condition is removed
Ambient conditions		
Working temperature(see derating curve)	-10℃～+40℃	
Working humidity(non condensing)	20-90%RH	
Storage temp/humidity(non condesing)	-30～+85℃,10～95%RH	
Vibration		
Safety & EMC		
Safety standards	UL1950	
Withstand voltage	I/P-O/P:3KVAC,I/P-FG:2KVAC,O/P-FG:0.5KVAC	
Insulation Impedance	I/P-O/P,I/P-FG:100MΩ megger/500VDC	
Leakage current (typical)	L-FG 230VAC, 1mA,1min, N-FG 230VAC, 1mA,1min	
EMI conduction and radiation	EN60950	
General		
Dimensions(L/W/H mm)	199×98×38	
Weight		

USP-110MHN-55S2



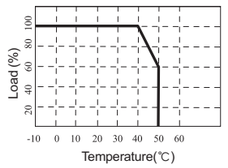
Type	Order no.
USP-110MHN-55S2	461275

	170VAC ~ 265VAC	
	Max input AC voltage <1.0A at rated load and 170VAC of input voltage	
	During cold start, inrush current <36A at rated load and 230VAC of input voltage	
	Efficiency:75%, at rated load and 48VDC of input voltage	
	V1	V2
	55V	24V
	+54.45V ～+55.55V	+23.76V ～+24.24V
	0-1.5A	0-1A
	106W	106W
	⩽200mV	⩽200mV
	±1%	±1%
	1S,500μS,⩽20mS/230VAC	
	V1 short-circuited:Constant current mode, recovers automatically after fault condition is removed	V2 short-circuited: Hiccup mode, recovers automatically after fault condition is removed
	All output circuit of power supply V1 output current=1.5A,constant current; <1.5A, recovers automatically	
	V1 output voltage: 65-77V, over voltage protection, recovers automatically after fault condition is removed	V2 output voltage: 28.8-33.8V, over voltage protection, recovers automatically after fault condition is removed
	-10℃～+40℃	
	20-90%RH	
	-30～+85℃,10～95%RH	
	UL1950	
	I/P-O/P:3KVAC,I/P-FG:2KVAC,O/P-FG:0.5KVAC	
	I/P-O/P,I/P-FG:100MΩ megger/500VDC	
	L-FG 230VAC, 1mA,1min, N-FG 230VAC, 1mA,1min	
	EN60950	
	199×98×38	

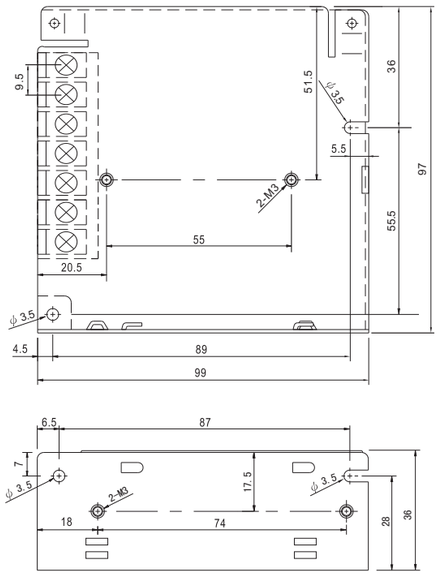
Features:

1.Input voltages from 36 to 72VDC
2.Protections:short circuit/over voltage/overload
3.Cooling by fan
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

Derating curve



Installation dimension

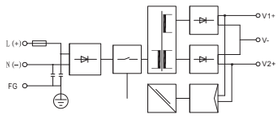


Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

USP-50MDN-12S2



Electrical schematic

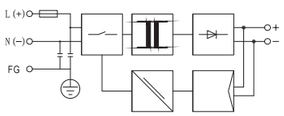


Ordering data	Type	Order no.
	USP-50MDN-12S2	461275

Technical data		
Input data		
Rated input voltage range		
Input voltage range	36~72VDC	
Input current(typical)		
Frequency range		
Efficiency(typical)	75%	
Output data	V1	V2
Rated output voltage	12V	5V
Rated output current		
Setting range of the output voltage	+11.76V~+12.24V	+4.9V~+5.1V
Output current range	0-2A	0-5A
Output power	24W	25W
Ripple and noise(Max) Note 2	⩽100mV	⩽50mV
Voltage tolerance Note 3	±2%	±2%
Setup/rise/hold up time	1000ms,100ms,20ms/48VDC	
Short-circuit protection	The time of short circuit should be less than 20s	
Overload protection	All output circuit of power supply	
Over-voltage protection	All output circuit of power supply	
Ambient conditions		
Working temperature(see derating curve)	-10℃～+50℃	
Working humidity(non condensing)	20-90%RH	
Storage temp/humidity(non condesing)	-25～+85℃,10～95%RH	
Vibration		
Safety & EMC		
Safety standards	UL1012	
Withstand voltage	I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	
Insulation Impedance	I/P-O/P,I/P-FG:100MΩ megger/500VDC	
Leakage current (typical)		
EMI conduction and radiation	EN55022, Class A	
General		
Dimensions(L/W/H mm)	99×97×36	
Weight		

USP-50MDN-24G





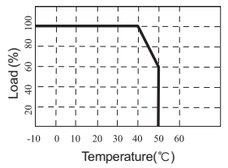
Type	Order no.
USP-50MDN-24G	461275

36~72VDC	
80%	
24V	
23.52V~+24.48V	
0-2.1A	
50W	
⩽150mV	
±2%	
1000ms,100ms,20ms/48VDC	
The time of short circuit should be less than 20s	
All output circuit of power supply	
All output circuit of power supply	
-10℃～+50℃	
20-90%RH	
-25～+85℃,10～95%RH	
UL1012	
I/P-O/P:3KVAC I/P-FG:1.5KVAC O/P-FG:0.5KVAC	
I/P-O/P,I/P-FG:100MΩ megger/500VDC	
EN55022, Class A	
99×97×36	

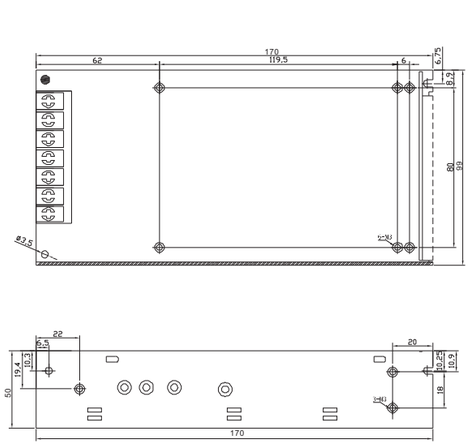
Features:

1.Input voltages from 36 to 72VDC
2.Protections:short circuit/over voltage/overload
3.Cooling by fan
4.100% full load burn-in test
5.Two-year warranty
6.High efficiency, small volume, light weight
7.Power-on indication(LED)

Derating curve



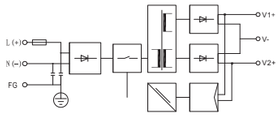
Installation dimension



Notes:
1.All parameters not specially mentioned are measured at 230VAC input, rated load and 25℃ of ambient temperature.
2.Ripples & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.
3.Tolerance:includes set up tolerance, line regulation and load regulation.

USP-151MDN-24S2



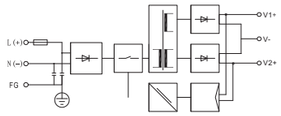


Ordering data	Type	Order no.
	USP-151MDN-24S2	461275

Technical data		
Input data		
Rated input voltage range		
Input voltage range	36~72VDC	
Input current(typical)		
Frequency range		
Efficiency(typical)	Efficiency ⩾75%, at rated load and 48VDC of input voltage	
Output data	V1	V2
Rated output voltage	24V	12V
Rated output current		
Setting range of the output voltage	+23.52V~+24.48V	+11.76V~+12.24V
Output current range	0-5.3A	0-2A
Output power	50W	50W
Ripple and noise(Max) Note 2	⩽150mV	⩽100mV
Voltage tolerance Note 3	±2%	±2%
Setup/rise/hold up time	Setup time ⩽1s at rated load and 48VDC of input voltage	
Short-circuit protection	The time of short circuit should be less than 20s	
Overload protection	All output circuit of power supply	
Over-voltage protection	All output circuit of power supply	
Ambient conditions		
Working temperature(see derating curve)	-10℃～+50℃	
Working humidity(non condensing)	20-90%RH	
Storage temp/humidity(non condesing)	-25～+85℃,10～95%RH	
Vibration		
Safety & EMC		
Safety standards	UL1950	
Withstand voltage	I/P-O/P:3KVAC,I/P-FG:1.5KVAC,O/P-FG:0.5KVAC	
Insulation Impedance	I/P-O/P,I/P-FG:100MΩ megger/500VDC	
Leakage current (typical)		
EMI conduction and radiation	EN60950	
General		
Dimensions(L/W/H mm)	170×99×50	
Weight		

USP-152MDN-24S2





Type	Order no.
USP-152MDN-24S2	461275

	36~72VDC	
	Efficiency ⩾75%, at rated load and 48VDC of input voltage	
	V1	V2
	24V	5V
	+23.52V~+24.48V	+4.9V~+5.1V
	0-5.3A	0-5A
	50W	50W
	⩽150mV	⩽50mV
	±2%	±2%
	Setup time ⩽1s at rated load and 48VDC of input voltage	
	The time of short circuit should be less than 20s	
	All output circuit of power supply	
	All output circuit of power supply	
	-10℃～+50℃	
	20-90%RH	
	-25～+85℃,10～95%RH	
	UL1950	
	I/P-O/P:3KVAC,I/P-FG:1.5KVAC,O/P-FG:0.5KVAC	
	I/P-O/P,I/P-FG:100MΩ megger/500VDC	
	<3.5mA/240VAC	
	EN60950	
	170×99×50	

Memo