

Product Catalog

SPD for Power Line ver2.1

SKY Series

MZNR Series

MZPW Series

LS Series

 SANKOSHIA

SANKOSHA TAIWAN

SANKOSHA TAIWAN Co.,Ltd

Product line up

Power supply SPD
IEC Class II (Type 2)

IEC

···IEC Compliant

RoHS

···RoHS Compliant

SKY Series

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LS Series

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SPD for Power Line

SKY Series

Power supply SPD
IEC Class II (Type 2)

SKY-220Series

Conforming standards

- IEC 61643-11 compliant
- RoHS compliant

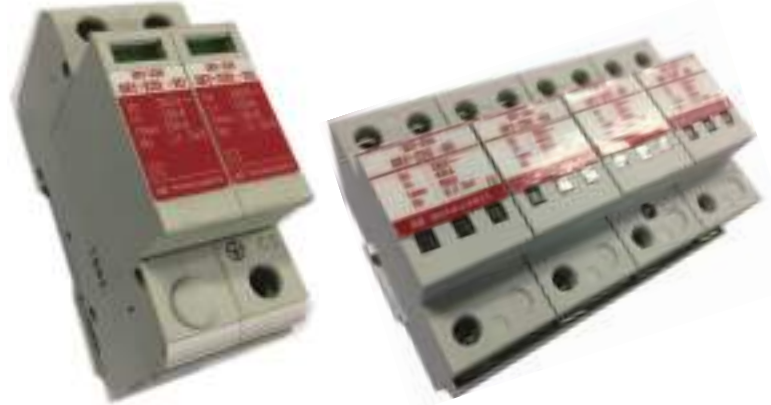
Features

- Maximum discharge current up to 140kA (induction lightning waveform 8/20 μ s)
- Deterioration display function

Applications

- Low voltage power supply circuits in switchboards and distribution boards (AC 100V/200V/400V)
- DIN rail mountable (35mm)

External View



Product type identification

SKY-○○○△-□□G□□

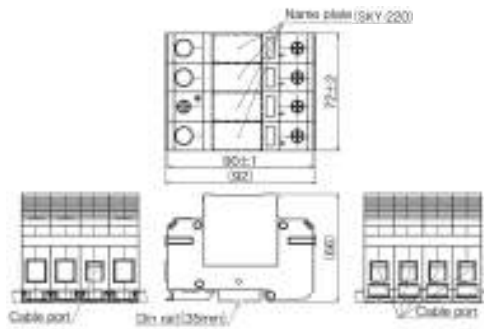
Nominal Voltage (Un) FM: Remote contact
Maximum Discharge Current I_{max}
Electricity Distribution System
2 : Single phase
4 : Three phase four wire

SKY-○○○△+NPE-□□G□□

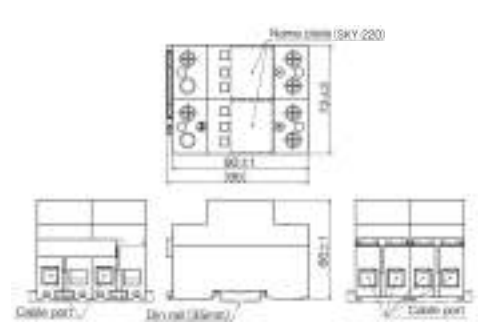
Nominal Voltage (Un) FM: Remote contact
Maximum Discharge Current I_{max}
Electricity Distribution System
1+NPE : Single phase two wire
3+NPE : Three phase four wire



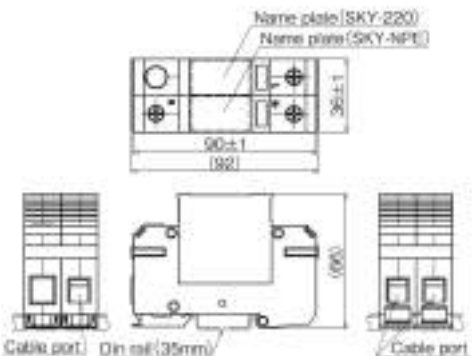
SKY-2202-20G/SKY-2202-40G
Mass: 270(g)



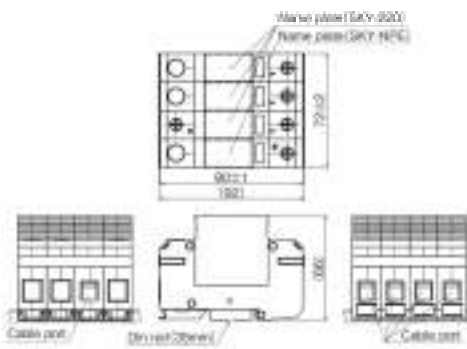
SKY-2204-20G/SKY-2204-40G
Mass: 540(g)



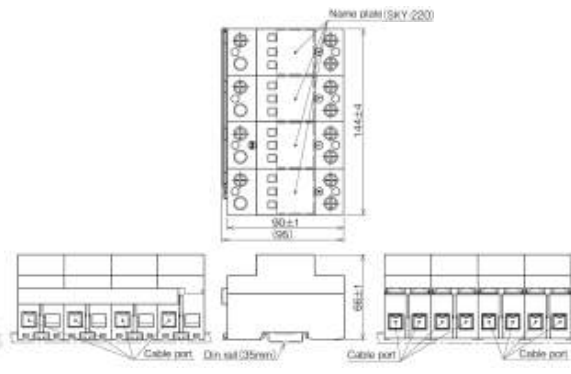
SKY-2202-80G/SKY-2202-140G
Mass: 460(g) / 570(g)



SKY-2201+NPE-40G
Mass: 240(g)



SKY-2203+NPE-40G
Mass: 480(g)



SKY-2204-80G/SKY-2204-140G
Mass: 900(g) / 1120(g)

SPD for Power Line

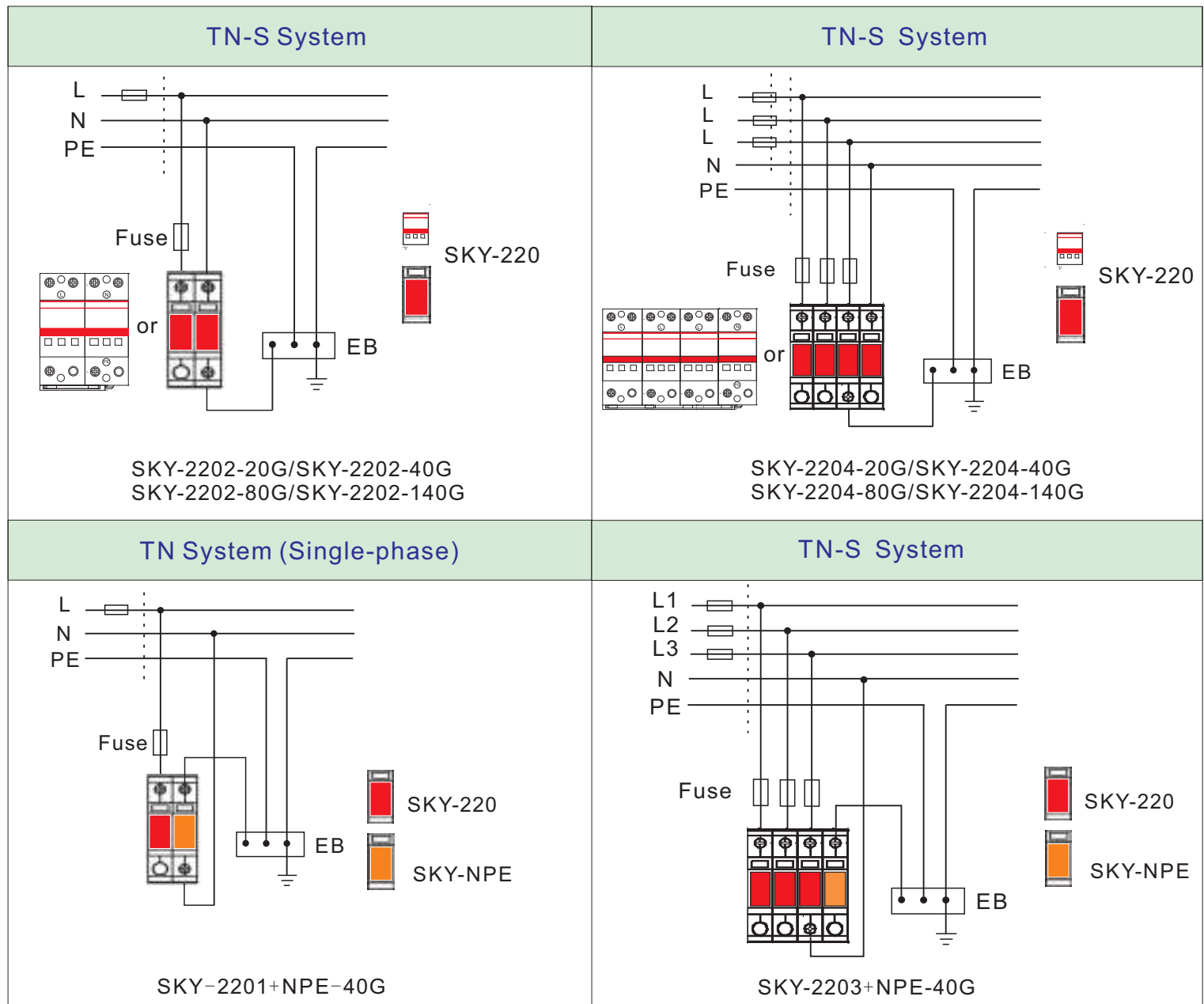
SKY Series

Power supply SPD
IEC Class II (Type 2)

Characteristics

Item	Measurement condition	Characteristics				
		SKY-2202-20G SKY-2204-20G	SKY-2202-40G SKY-2204-40G	SKY-2202-80G SKY-2204-80G	SKY-2202-140G SKY-2204-140G	SKY-2201+NPE-40G SKY-2203+NPE-40G
Nominal voltage (U _N)	—	Single phase 220V (50/60Hz)				
Maximum continuous operation voltage (U _c)	L/N-PE L-N/N-PE	385V (50/60Hz)				385V /255V (50/60Hz)
Nominal discharge current (I _n)	8/20μs	10kA	20kA	40kA	80kA	20kA
Maximum discharge current (I _{max})	8/20μs	20kA	40kA	80kA	140kA	40kA
Voltage protection level (U _p)	L/N-PE L-N/N-PE	≤1.5kV	≤1.8kV	≤2.2kV	≤3.5kV	≤1.8kV

Installation examples (SKY-220, NPE)



SPD for Power Line

SKY Series

Power supply SPD
IEC Class II (Type 2)

SKY-380Series

Conforming standards

- IEC 61643-11 compliant
- RoHS compliant

Features

- Maximum discharge current up to 140kA (induction lightning waveform 8/20 μ s)
- Deterioration display function
- DIN rail mountable (35mm)

Applications

- Low voltage power supply circuits in switchboards and distribution boards (AC 100V/200V/400V)

External View



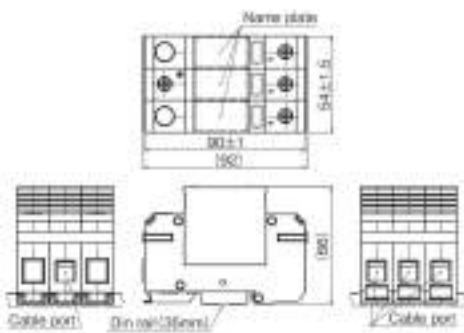
Product type identification

SKY-○○○△-□□G□□

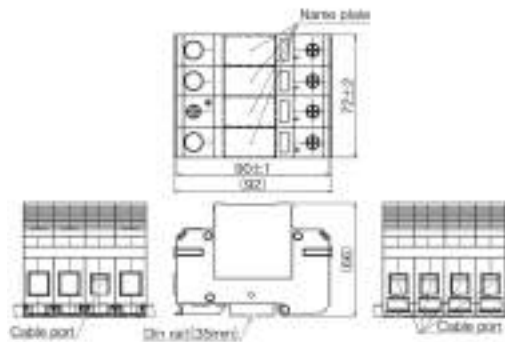
Nominal Voltage (Un) FM: Remote contact
Maximum Discharge Current Imax
Electricity Distribution System
3 : Three phase three wire
4 : Three phase four wire

SKY-○○○△+NPE-□□G□□

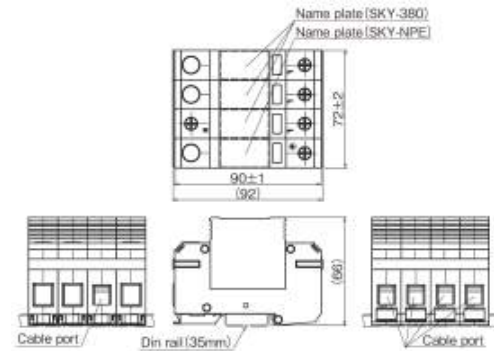
Nominal Voltage (Un) FM: Remote contact
Maximum Discharge Current Imax
Electricity Distribution System
3+NPE : Three phase four wire



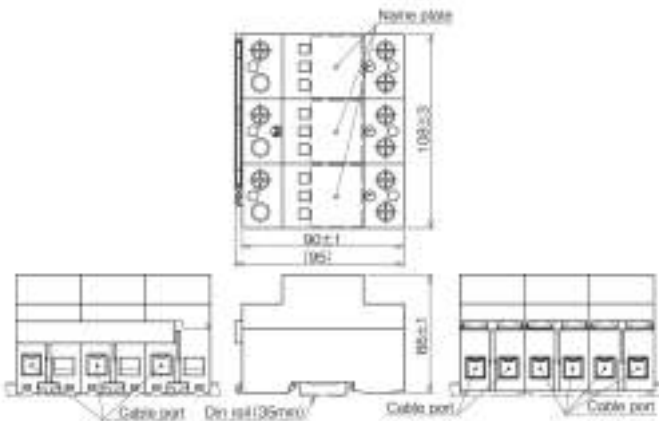
SKY-3803-40G
Mass: 400 (g)



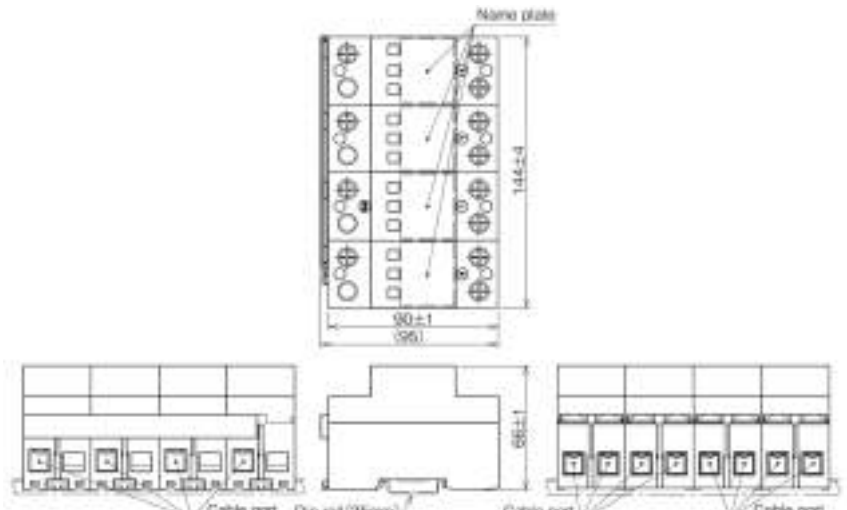
SKY-3804-40G
Mass: 540 (g)



SKY-3803+NPE-40G
Mass: 500 (g)



SKY-3803-80G/SKY-3803-140G
Mass: 680 (g) / 840 (g)



SKY-3804-80G/SKY-3804-140G
Mass: 900 (g) / 1120 (g)

SPD for Power Line

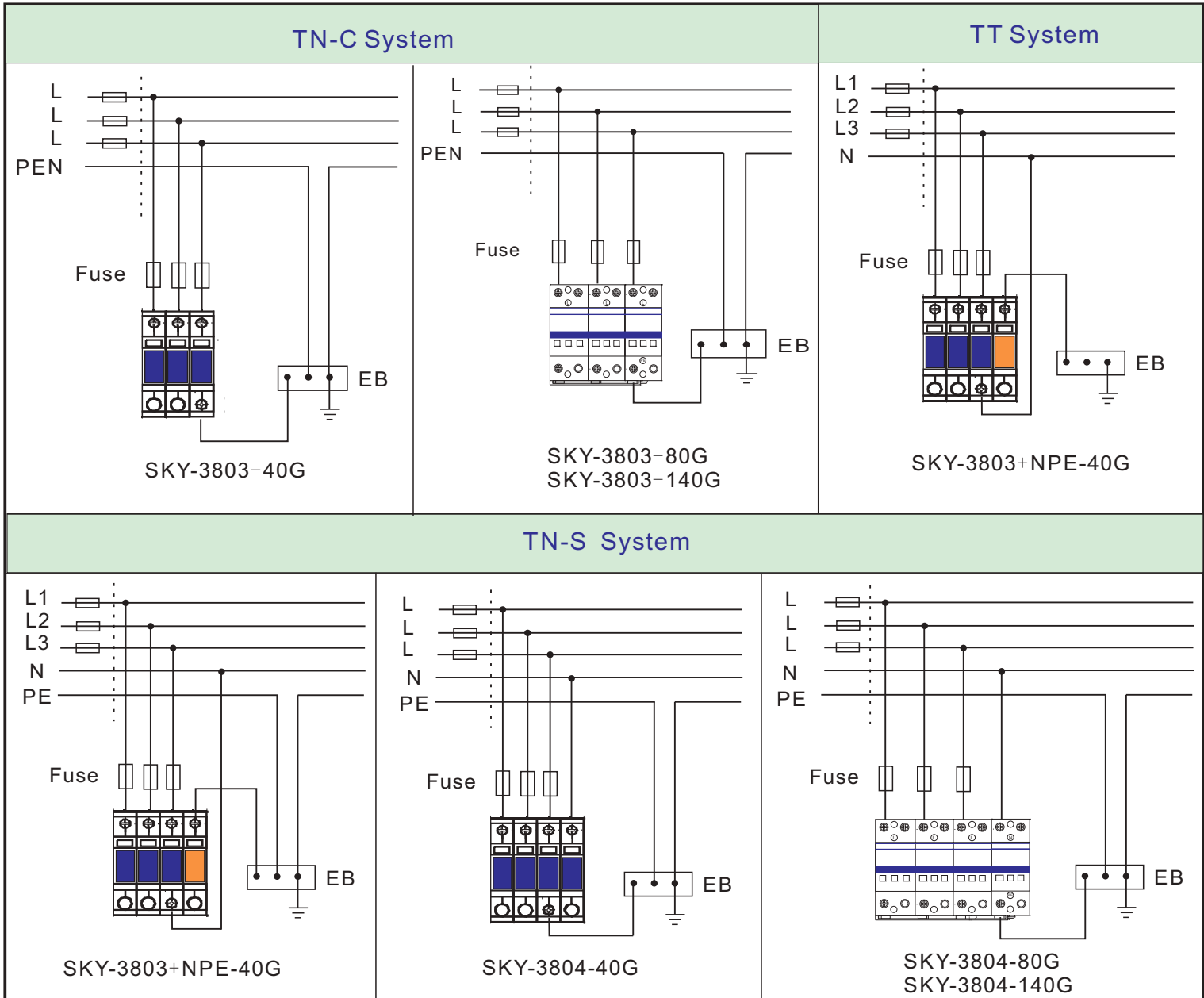
SKY Series

Power supply SPD
IEC Class II (Type 2)

Characteristics

Item	Measurement condition	Characteristics							
		SKY-3803-40G	SKY-3803-80G	SKY-3803-140G	SKY-3804-40G	SKY-3804-80G	SKY-3804-140G	SKY-3803+NPE-40G	
Nominal voltage (U _N)	—	380V (50/60Hz)							380V / 220V (50/60Hz)
Maximum continuous operation voltage (U _c)	L/N-PE L-N/N-PE(NPE)	385V (50/60Hz)							385V / 255V (50/60Hz)
Nominal discharge current (I _n)	8/20μs	20kA	40kA	80kA	20kA	40kA	80kA	20kA	
Maximum discharge current (I _{max})	8/20μs	40kA	80kA	140kA	40kA	80kA	140kA	40kA	
Voltage protection level (U _p)	L/N-PE L-N/N-PE(NPE)	≤1.8kV	≤2.2kV	≤3.5kV	≤1.8kV	≤2.2kV	≤3.5kV	≤1.8kV	

Installation examples (SKY-380, NPE)



SPD for Power Line

SKY Series

Power supply SPD
IEC Class II (Type 2)

SKY-230 Series



Conforming standards

- IEC 61643-11 compliant
- RoHS compliant
- Korean KS certification

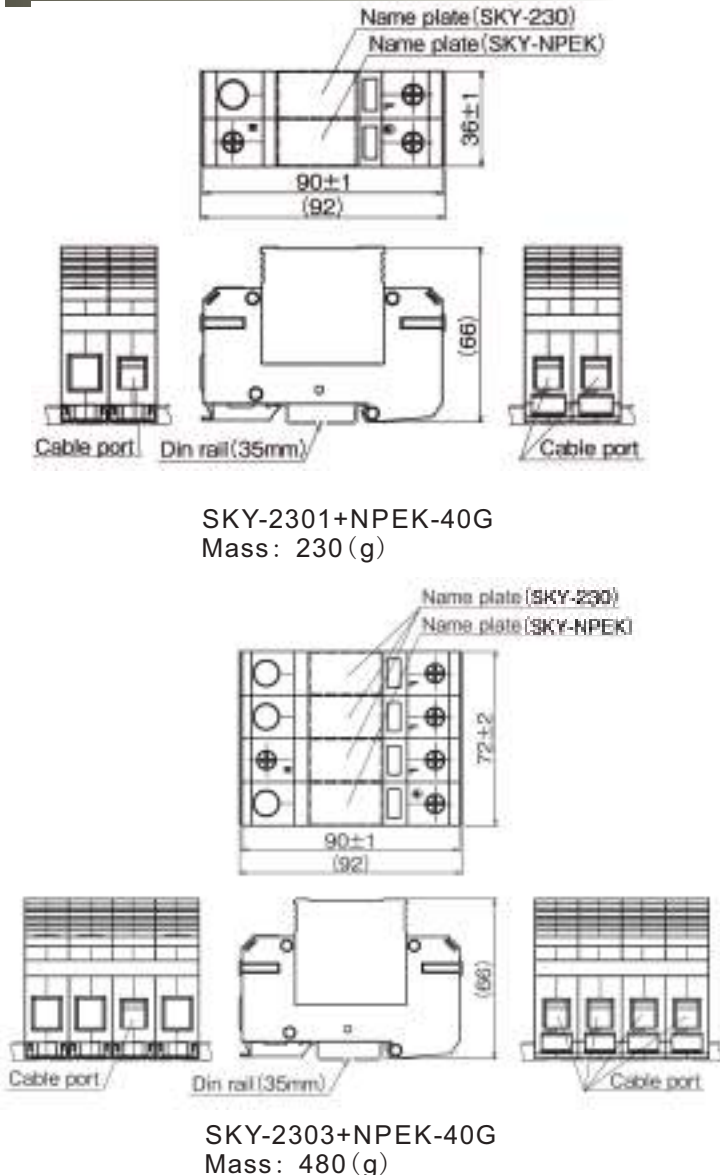
Features

- Maximum discharge current up to 40kA (induction lightning waveform 8/20 μ s)
- Deterioration display function
- DIN rail mountable (35mm)

Applications

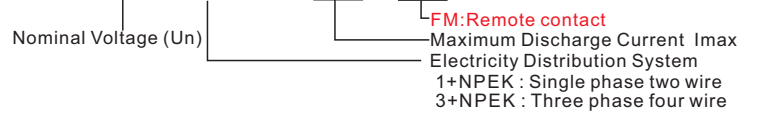
- Low voltage power supply circuits in switchboards and distribution boards (AC 100V/200V/400V)

External View



Product type identification

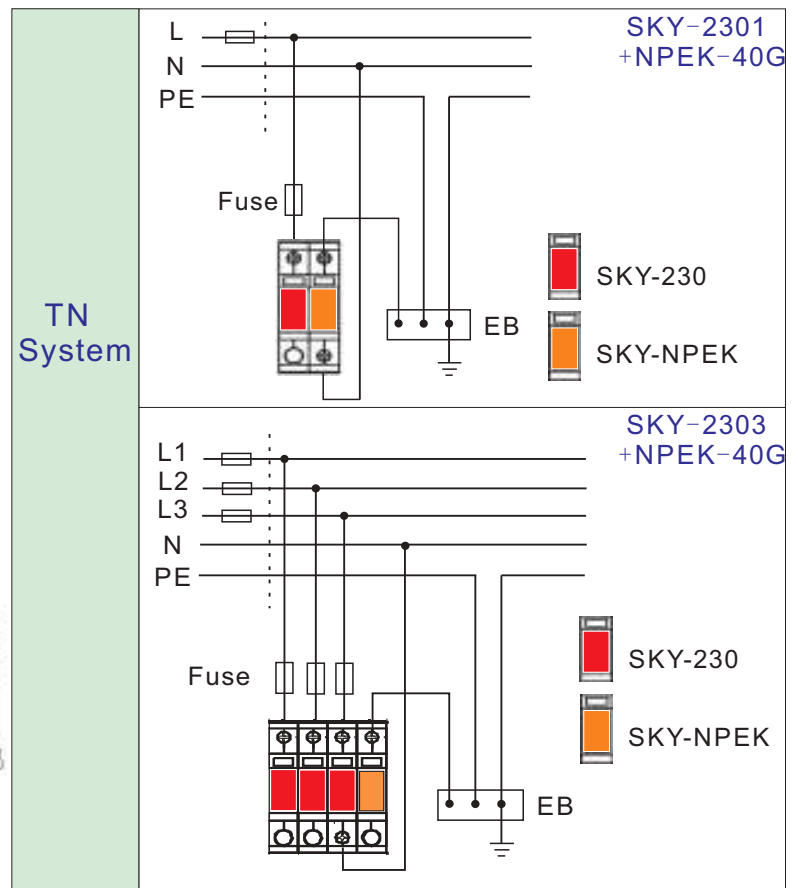
SKY-○○○△+NPEK-□□G □□



Characteristics

Item	Measurement condition	Characteristics	
		SKY-2301+ NPEK-40G	SKY-2303+ NPEK-40G
Nominal voltage (Un)	—	230V (50/60Hz)	
Maximum continuous operation voltage (Uc)	L-N/N-PE	275V (50/60Hz)	
Nominal discharge current (In)	8/20 μ s	20kA	
Maximum discharge current (Imax)	8/20 μ s	40kA	
Voltage protection level (Up)	L-N/N-PE	≤ 1.4 kV/ ≤ 1.5 kV	

Installation examples



SPD for Power Line

SKY Series

Power supply SPD
IEC Class II (Type 2)

SKY-690 Series

Conforming standards

- IEC 61643-11 compliant
- RoHS compliant

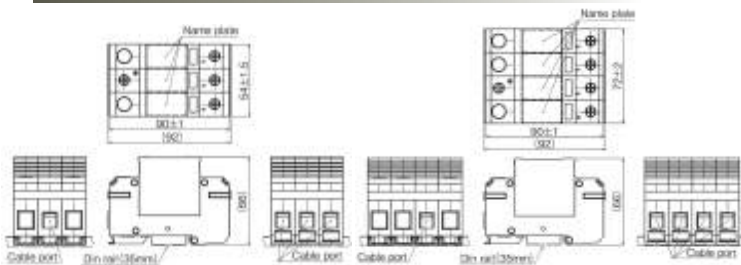
Features

- Maximum discharge current up to 40kA (induction lightning waveform 8/20 μ s)
- Deterioration display function
- DIN rail mountable (35mm)

Applications

- Low voltage power supply circuits in switchboards and distribution boards (AC 600V-690V)

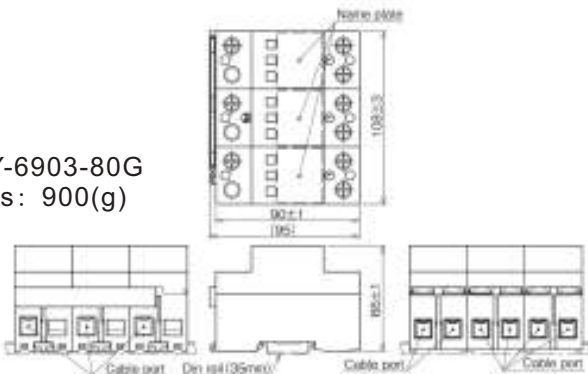
External View



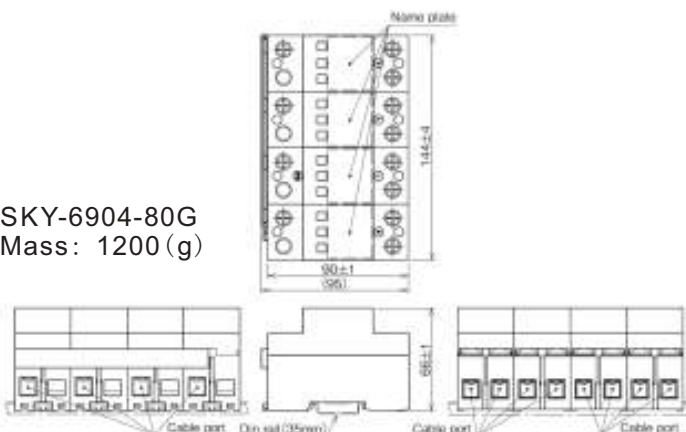
SKY-6903-40G
Mass: 460(g)

SKY-6904-40G
Mass: 610(g)

SKY-6903-80G
Mass: 900(g)



SKY-6904-80G
Mass: 1200(g)



Product type identification

SKY-○○○△-□□G □□

Nominal Voltage (Un)

FM: Remote contact

Maximum Discharge Current Imax

Electricity Distribution System

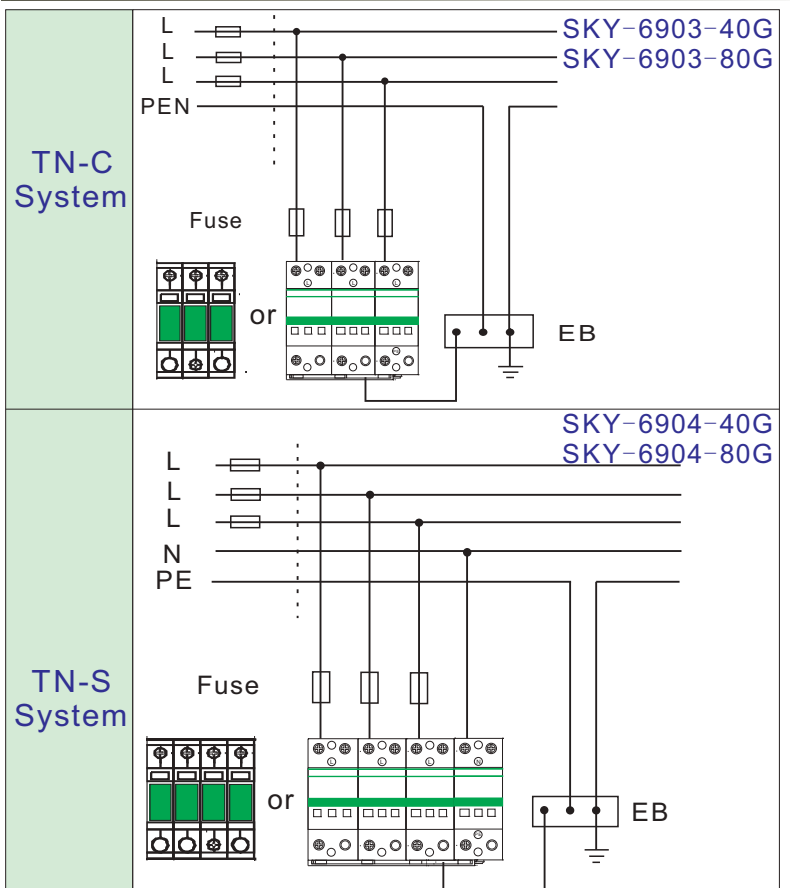
3 : Three phase three wire

4 : Three phase four wire

Characteristics

Item	Measurement condition	Characteristics			
		SKY-690△-40G		SKY-690△-80G	
Nominal voltage(Un)	—	600-690V (50/60Hz)			
Maximum continuous operation voltage (Uc)	L-PE N-PE	AC750V	AC1000V	AC750V	AC1000V
Nominal discharge current (In)	8/20 μ s	20kA		40kA	
Maximum discharge current (Imax)	8/20 μ s	40kA		80kA	
Voltage protection level (Up)	L-PE N-PE	≤2.8kV	≤3.8kV	≤3.2kV	≤4.2kV

Installation examples



SPD for PV SKY-1000PV-40 FM

Conforming standards

- IEC 61643-11 compliant
- RoHS compliant

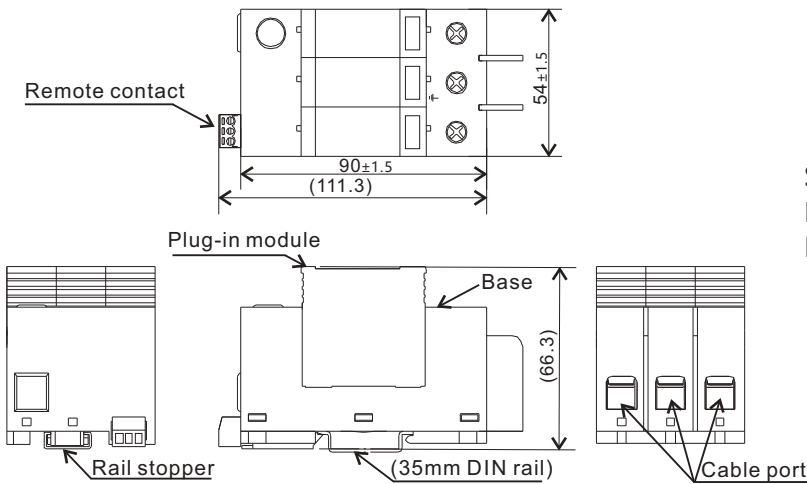
Features

- Maximum discharge current up to 40kA (induction lightning waveform 8/20 μ s)
- Protection for DC1,000V PV system
- Plug-in type
- Deterioration display function (warning contact output terminal)

Applications

- DC power supply circuits in PV system
- DIN rail mountable (35mm)

External View



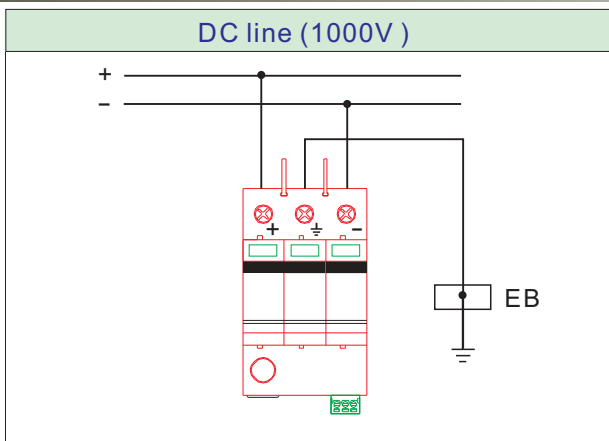
SKY-1000PV-40 FM
Dimensions: W54 × D 90 × H 66.3 (mm)
Mass: 360 (g)



Characteristics

Item	Measurement condition	Performance
Maximum continuous operation voltage (Uc)	—	DC1000V
Nominal discharge current (In)	8/20 μ s	20kA
Maximum discharge current (Imax)	8/20 μ s	40kA
Voltage protection level (Up)	+/- -PE	≤3.6kV

Installation examples



SKY-M1202-06

Conforming standards

- IEC 61643-11 compliant
- RoHS compliant

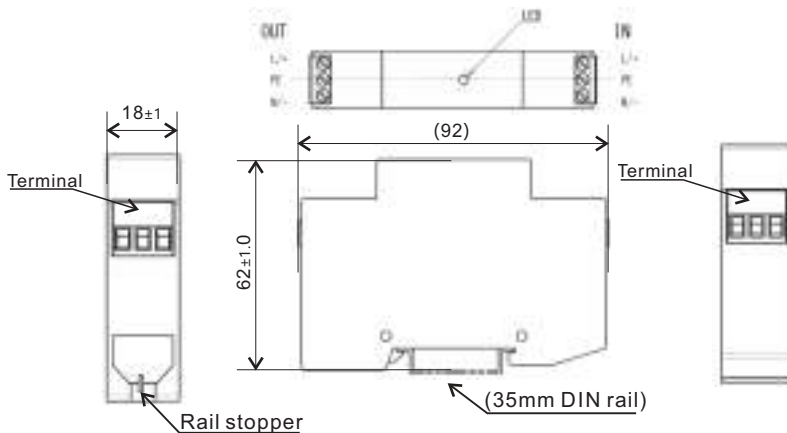
Features

- Maximum discharge current up to 6kA (induction lightning waveform 8/20 μ s)
- Protection for single phase 120V system or DC200V system
- Deterioration display function (LED Operating state/ Fault indication)

Applications

- Suitable for power system
- DIN rail mountable (35mm)

External View



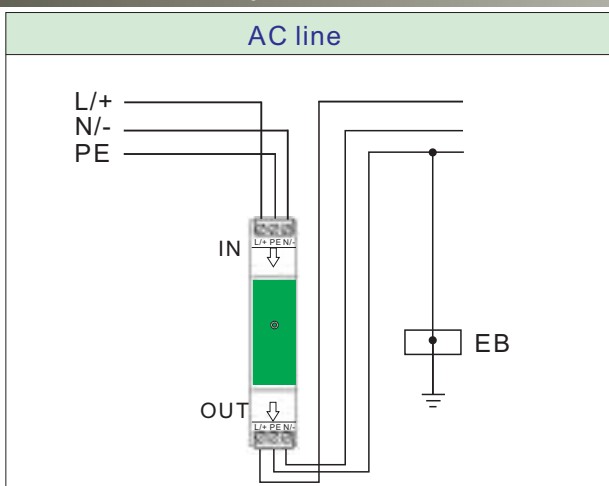
SKY-M1202-06
Dimensions: W18 × D 92 × H 62 (mm)
Mass: 60 (g)



Characteristics

Item	Measurement condition	Performance
Nominal voltage U_n	—	Single phase 120V(50/60Hz)
Maximum continuous operation voltage (U_c)	L/N – PE L – N	150V (50/60Hz) / DC200V
Nominal discharge current (I_n)	8/20 μ s	3kA
Maximum discharge current (I_{max})	8/20 μ s	6kA
Voltage protection level (U_p)	L/N – PE L – N	≤ 0.7 kV

Installation examples



SKY-SV2 Series SKY-SV3 Series

Conforming standards

- IEC 61643-11、IEC 61643-21 compliant
- RoHS compliant

Features

- DIN rail mountable (35mm)
- Built-in temperature control circuit breaking technology
- LED Deterioration display function
- Multiple protection functions: Power and Control、network signals

Applications

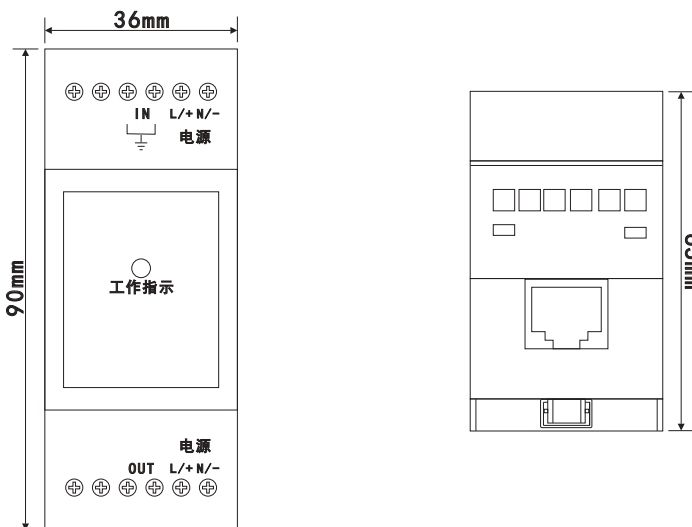
- indoor and outdoor monitoring systems, video/audio
- Lightning protection (surge protection) of the cradle head control line
- Two-stage protection function, ensure network equipment from lightning, industrial interference caused by over voltage and over current damage



Product type identification

- SKY-SV2/△-□
Two in one wiring system
C : Control Signal
E : Network
Nominal Voltage (Un)
- SKY-SV3/△-□□
Three in one wiring system
C : Control Signal
E : Network
Nominal Voltage (Un)

External View(SKY-SV2)

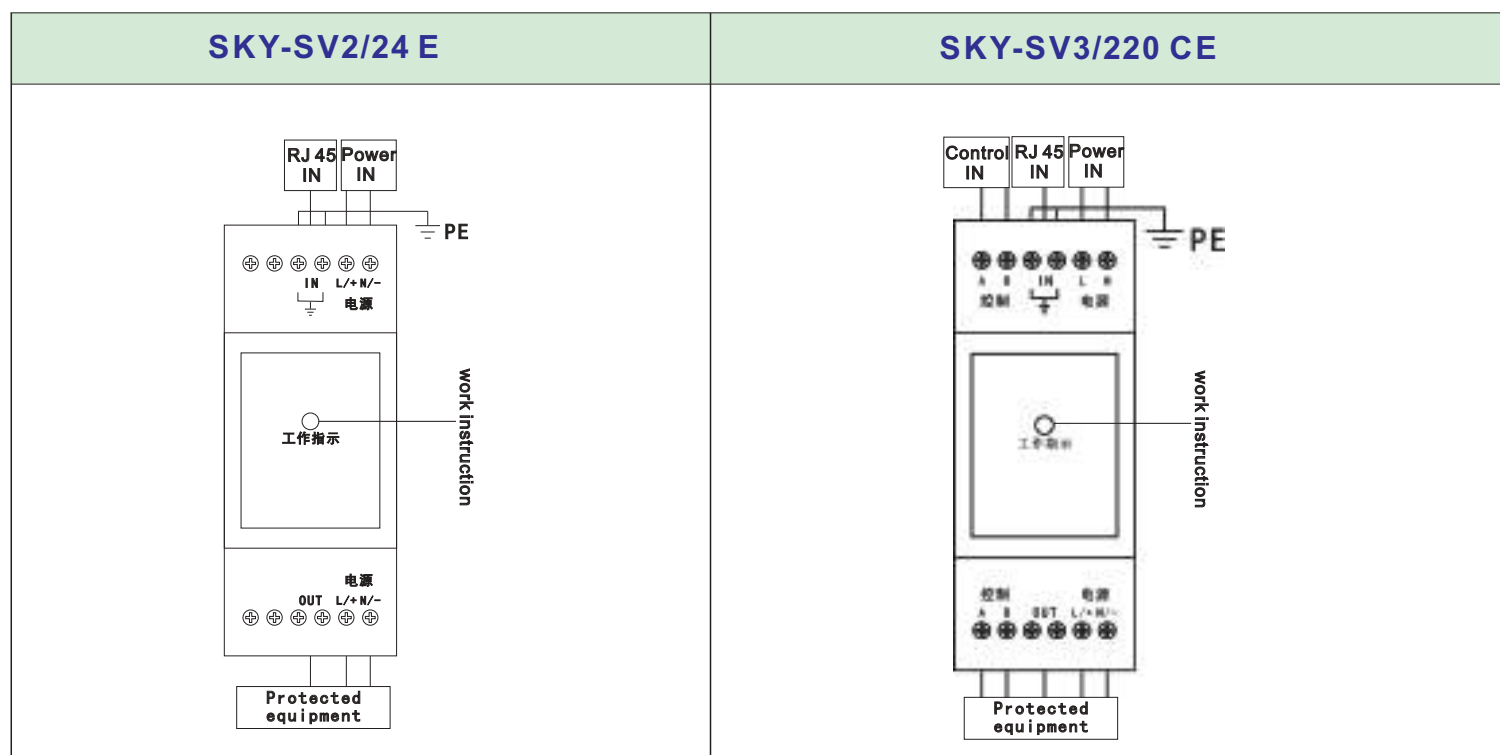


SKY-SV2△-□ /SKY-SV3△-□□
Dimensions: W90 ×D 36 ×H 65 (mm)
Mass: 110/120 (g)

Characteristics

Item	Measurement condition	Characteristics					
		SKY-SV2/ Δ -□ SKY-SV3/ Δ -□□					
		AC POWER	DC POWER			Control signa(C)	Network RJ45(E)
Nominal voltage(U _N)	—	220V	12V	24V	48V	12V	5V
Maximum continuous operation voltage (U _c)	L/N-PE L-N/N-PE(NPE)	275V	14V	27V	52V	18V	8V
Nominal discharge current (I _n)	8/20 μ s	5kA	5kA			5kA	2.5kA
Maximum discharge current (I _{max})	8/20 μ s	10kA	10kA			10kA	5kA
Voltage protection level (U _p)	L-N,(+--) L/N-PE,(+/-PE)	— ≤ 1.5 kV	— ≤ 750 V			≤ 80 V ≤ 750 V	≤ 45 V ≤ 750 V
transmission speed(fg)	—	—	—			2MHZ	100MHZ
Transmission loss(Ae)	—	—	—			0.5dB or less	0.5dB or less

Installation examples



SKY-220AC-5 SKY-220AC-10

Conforming standards

- IEC 61643-11 compliant
- RoHS compliant

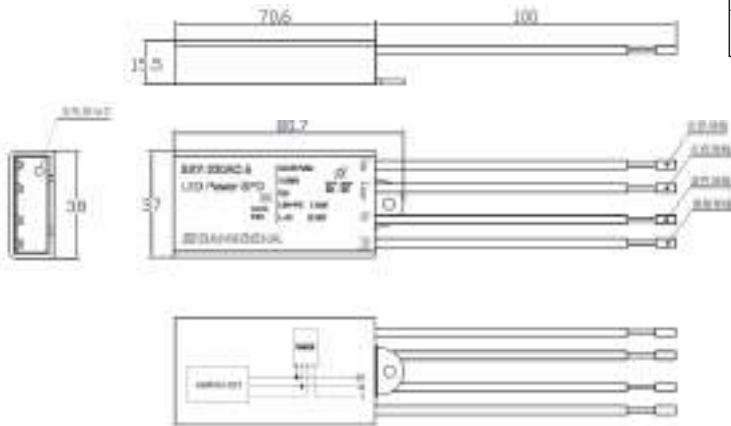
Features

- Maximum discharge current up to 20kA (induction lightning waveform 8/20 μ s)
- Space saving design to put inside devices, Degree of protection IP65
- Deterioration display function (LED Operating state/ Fault indication)

Applications

- Suitable for outdoor the LED lighting power system
- Suitable for power system

External View



Product type identification

SKY- 220AC- []

Nominal Voltage (Un)

Nominal discharge current (In)

5 : In:5kA

10 : In:10kA

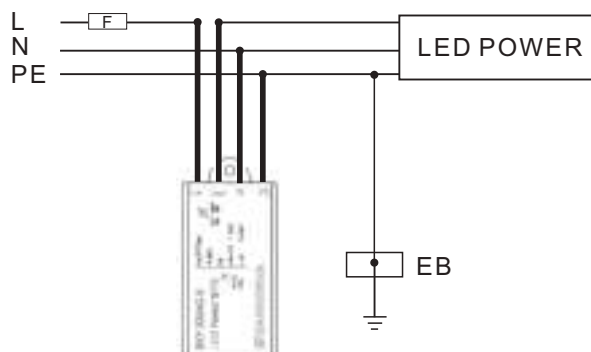
Characteristics

Item	Measurement condition	Characteristics			
		SKY-220AC-5		SKY-220AC-10	
Nominal voltage(Un)	—	AC220V (50/60Hz)			
Maximum continuous operation voltage (Uc)	L/N-PE	AC277V		AC277V	
Nominal discharge current (In)	8/20 μ s	5kA		10kA	
Maximum discharge current (Imax)	8/20 μ s	10kA		20kA	
Voltage protection level (Up)	L/N-PE L-N	≤ 1.4 kV	≤ 2.4 kV	≤ 1.6 kV	≤ 2.5 kV

SKY-220AC-5, SKY-220AC-10
Dimensions: W80.7 × D 38 × H 15.5 (mm)
Mass: 71(g)

Installation examples

TN system(single phase)



SPD for railway

MZNR Series

Power supply SPD
IEC Class II (Type 2)

MZNR-P380 MZNR-P220 MZNR-P24



Conforming standards

- IEC 61643-11 compliant
- RoHS compliant
- CRCC approved (TB/T2311-2017, TB/T3074-2017)

Features

- Maximum discharge current up to 40kA (induction lightning waveform 8/20 μ s)
- Deterioration display function mounted (warning contact output terminal attached)
- Plug-in type
- DIN rail mountable (35mm)
- Round type crimped terminal for M5 (width less than 12mm)

Applications

- Low voltage power supply circuits in switchboards and distribution boards (DC24V/AC220V/AC380V)
- Power supply circuits in control equipment (DC24V/AC220V/AC380V)



Characteristics

Item	Measurement condition	Performance		
		MZNR-P380	MZNR-P220	MZNR-P24
Nominal voltage(U _N)	—	AC380V	AC220V	DC24V
Maximum continuous operation voltage (U _c)	—	AC460V	AC275V	DC38V
Nominal discharge current (I _n)	8/20 μ s	20kA	20kA	5kA
Maximum discharge current (I _{max})	8/20 μ s	40kA	40kA	10kA
Voltage protection level (U _p)	Based on IEC	≤1.8kV	≤1.5kV	≤330V

MZNR-S380 MZNR-S110 MZNR-S220 MZNR-S60



Conforming standards

- IEC 61643-11 compliant
- RoHS compliant
- CRCC approved (TB/T2311-2017, TB/T3074-2017)

Features

- Maximum discharge current up to 40kA (induction lightning waveform 8/20 μ s)
- Deterioration display function mounted (warning contact output terminal attached)
- Plug-in type
- DIN rail mountable (35mm)
- Round type crimped terminal for M5 (width less than 12mm)

Characteristics

Item	Measurement condition	Performance			
		MZNR-S380	MZNR-S220	MZNR-S110	MZNR-S60
Nominal voltage(U _N)	—	AC380V	AC220V	AC110V	AC48V
Maximum continuous operation voltage (U _c)	—	AC420V	AC275V	AC130V	AC75V
Nominal discharge current (I _n)	8/20 μ s	20kA			
Maximum discharge current (I _{max})	8/20 μ s	40kA			
Voltage protection level (U _p)	Based on IEC	≤1.8kV	≤1.5kV	≤1.0kV	≤700V

Applications

- Low voltage power supply circuits in switchboards and distribution boards (AC48V/AC110V/AC220V/AC380V)
- Power supply circuits in control equipment (AC48V/AC110V/AC220V/AC380V)

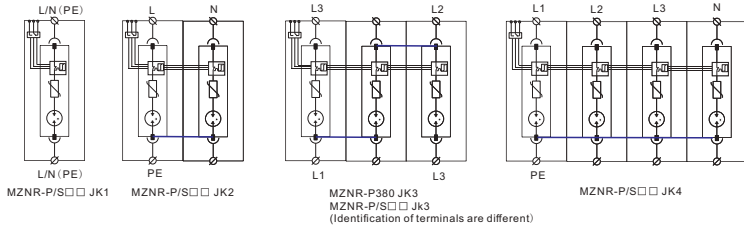
SPD for railway

MZNR Series

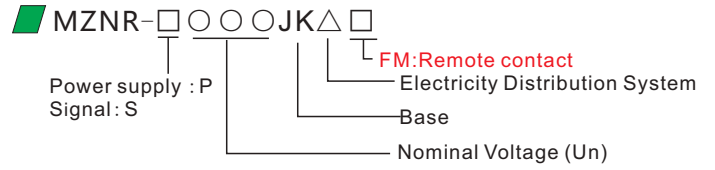


Power supply SPD
IEC Class II (Type 2)

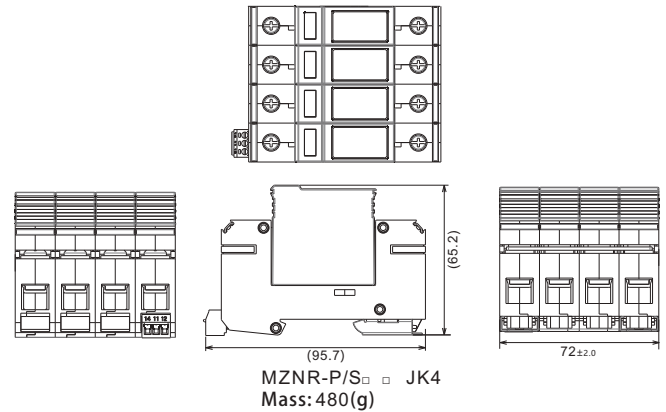
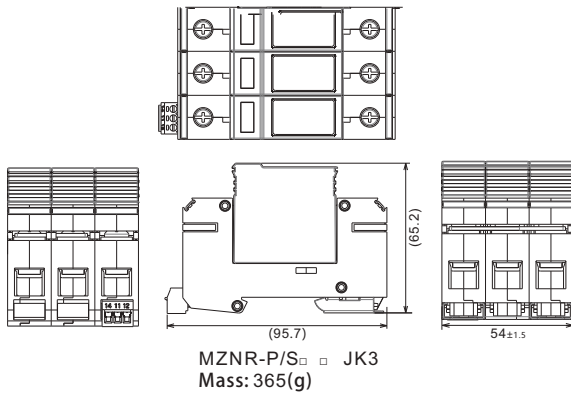
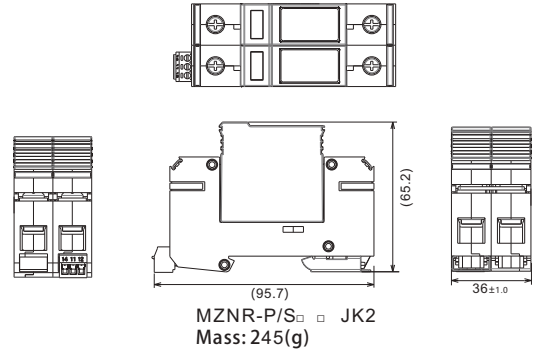
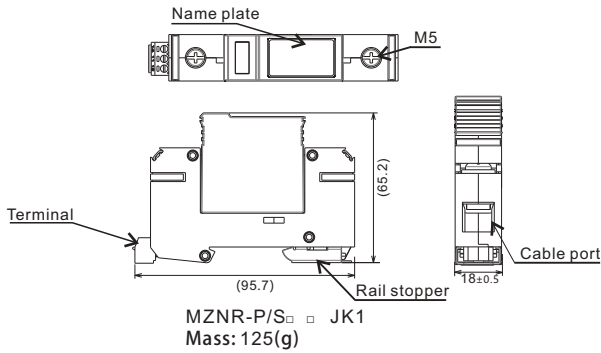
Circuit diagram



Product type identification

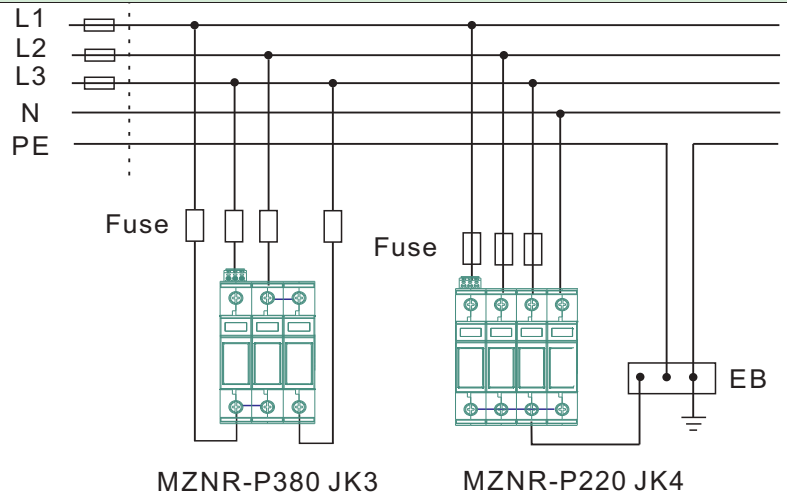
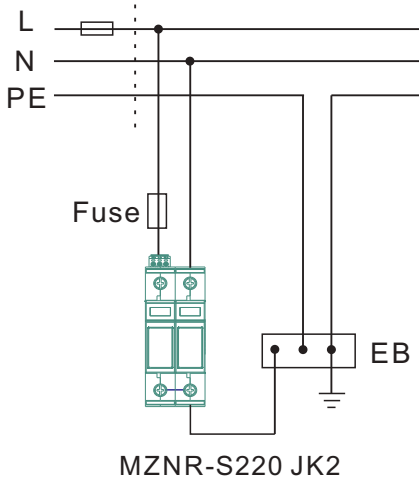


External view



Installation examples

TN-S System



MZNR-P/S□□/2	Single phase
MZNR-P/S□□/3	Single phase (plus PE line) Three phase three wire
MZNR-P/S□□/4	Three phase four wire

SPD for railway

MZPW Series

Power supply SPD
IEC Class II (Type 2)

MZPW-S385 MZPW-S275 MZPW-S75



Conforming standards

- CRCC approved (TB/T2311-2017, TB/T3074-2017)
- IEC 61643-11 compliant
- RoHS compliant

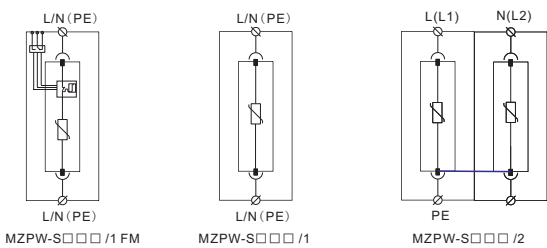
Features

- Maximum discharge current up to 40kA (induction lightning waveform 8/20μs)
- Deterioration display function mounted (warning contact output terminal attached)
- Plug-in type, DIN rail mountable (35mm)
- Round type crimped terminal for M6 (width less than 12mm)
- Accessories (scene selection)

Applications

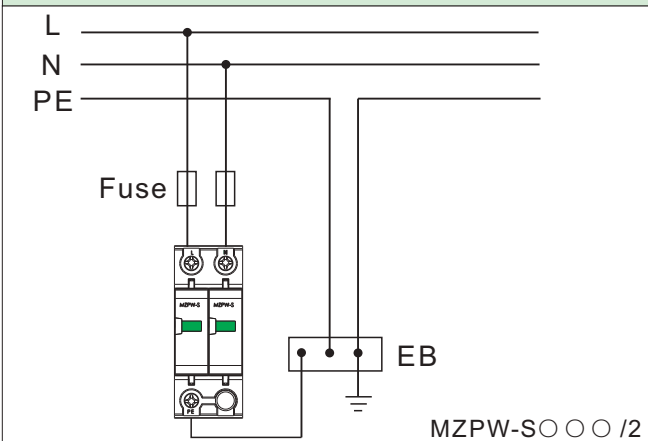
- AC power supply for ZPW-2000 railway signal equipment system (AC75V/AC220V/AC380V)
- Low voltage power supply circuits in switchboards and distribution boards (AC75V/AC220V/AC380V)

Circuit diagram



Installation examples

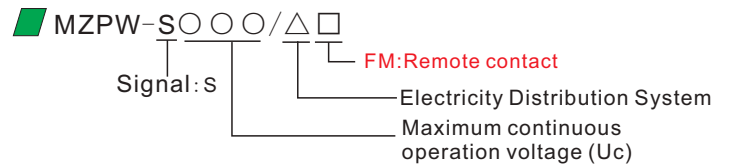
TN-S System



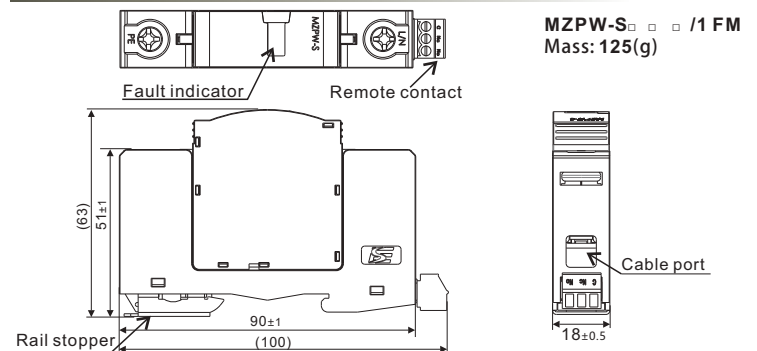
Characteristics

Item	Measurement condition	Performance		
		MZPW-S385	MZPW-S275	MZPW-S75
Nominal voltage (Un)	—	AC380V	AC220V	AC48V
Maximum continuous operation voltage (Uc)	—	AC385V	AC280V	AC75V
Nominal discharge current (In)	8/20μs	20kA	20kA	15kA
Maximum discharge current (Imax)	8/20μs	40kA	40kA	40kA
Voltage protection level (Up)	8/20μs	≤1.7kV	≤1.3kV	≤600V

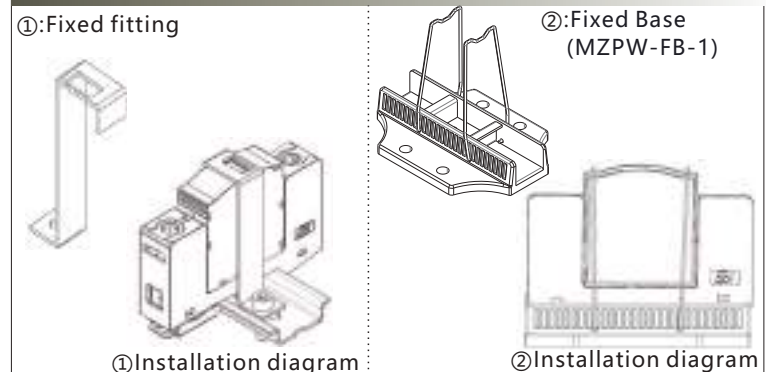
Product type identification



External view



Accessories (scene selection)



LS-CAT5e-P+II (Discharge type)

IEC category C2/D1 compliant

Conforming standards

- IEC 61643-21 compliant
- RoHS compliant

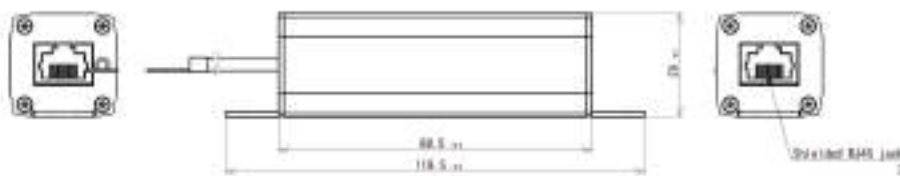
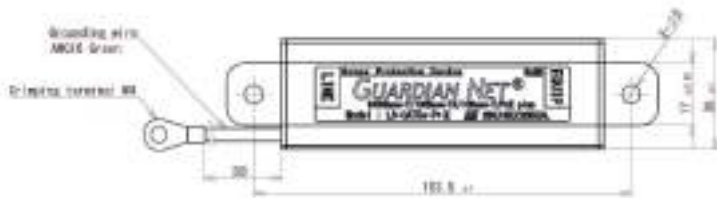
Features

- Discharge type circuits
- Gigabit Ethernet 1000Base-T enabled
- PoE Plus (IEEE802.3at) enabled
- Use the M4 Fixing screw

Applications

- Gigabit Ethernet, Network cameras
- Wireless LAN access points
- VoIP enabled telephones and servers
- Outdoor installed network devices

External View

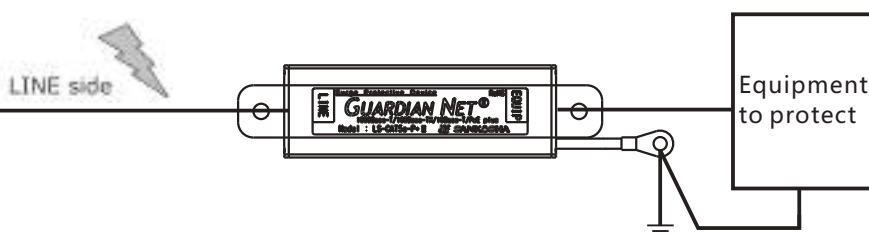


Characteristics

Item		Performance
Applicable lines	IEEE802.3	10BASE-T
	IEEE802.3u	100BASE-TX
	IEEE802.3ab	1000BASE-T
	IEEE802.3af	PoE
	IEEE802.3at	PoE Plus
Transmission loss		1.0dB or less
Maximum continuous operating voltage (Uc)	Between PoE terminals	DC60V
	Between each line and earth terminal	DC60V
Voltage protection level (Up)	Between each line and earth terminal (1.2/50μs, 10kV)	500V or less
Impulse durability (Total of 8 cores)	Category C2 (8/20μs)	5kA (10times)
	Category D1 (10/350μs)	2.5kA (2times)

Installation examples

LAN Wiring Overview



NOTE: When fixing the product body, please use the M4 screws or 4.1mm wood screws.

LS-CAT5e-P+II
Dimensions: W118.5 × D 130 × H 29 (mm)
Mass: 95 (g)



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