SPD

Outdoor Lighting

- Nominal Discharge Current (I_n): 5 kA, 10 kA
- Sealed Enclosure, IP66
- Thermal Protection and Failure Indication
- Differential-mode / Common-mode Protection
- One-port or Two-port Surge Protective Device (SPD)

SET safe | SET fuse

Providing a Total Solution for High Standard Safety Circuit Protection

Overvoltage

Electricity is an essential part of modern human production and life. But power facilities are threatened by internal and external overvoltages. Power system overvoltage mainly includes:

Transient overvoltage of atmospheric origin: Lightning strikes instantly generate high energy, generating surge currents up to hundreds of kA, and lightning wave can invade along power lines, causing damage to power facilities and electrical equipment

Transient overvoltage due to switching: Switching operations of a power utility may cause overvoltage.

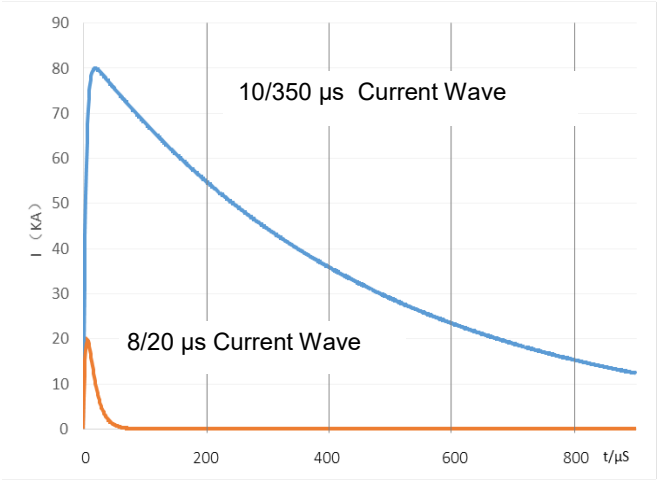
Temporary overvoltage: A long duration (second level) temporary overvoltage (asymmetric ground fault) or harmonious overvoltage.

Surge Voltage Caused by Lightning

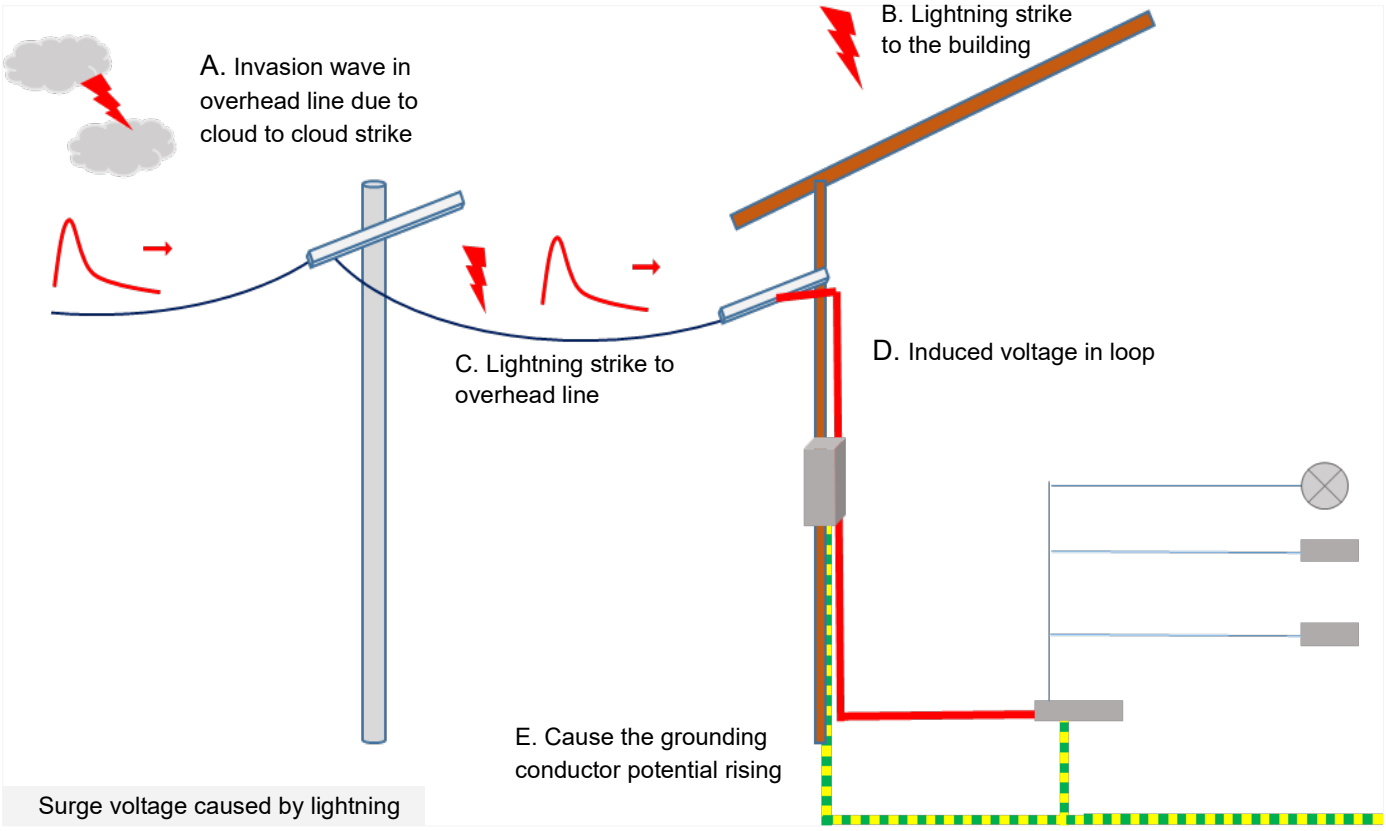
Electrical and electronic system are subject to damage from a lighting electromagnetic impulse (LEMP). Therefore SPM need to be provided avoid failure of internal system. LEMP may caused by direct, near and far lightning strikes. According to the relevant research, lightning strikes within a certain distance may cause dangerous overvoltage on the cable, endangering the equipment connected to it.

Damage Due to Lighting

The lighting can cause three basic type of damage:
—D1: injury to living beings by electric shock;
—D2: physical damage (fire, explosion, mechanical destruction, chemical release) due to lighting current effects, including sparking;
—D3: failure of internal systems due to LEMP



Standard lightning test wave



Surge voltage caused by lightning

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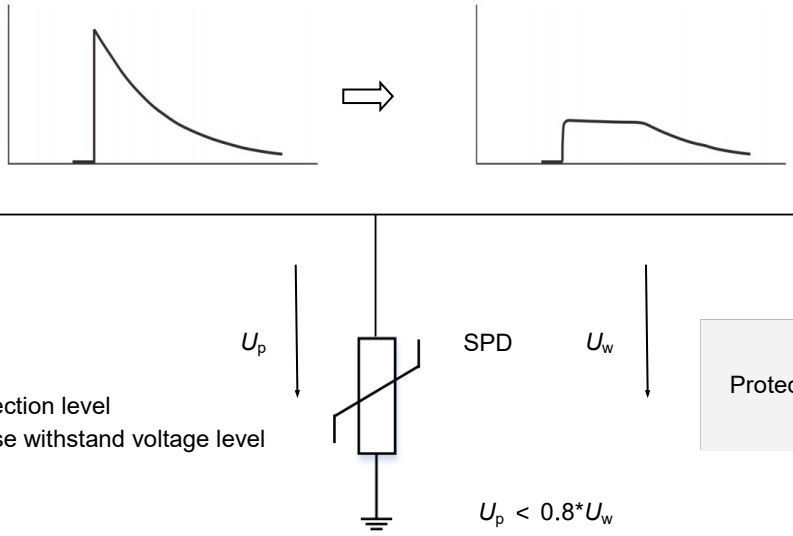
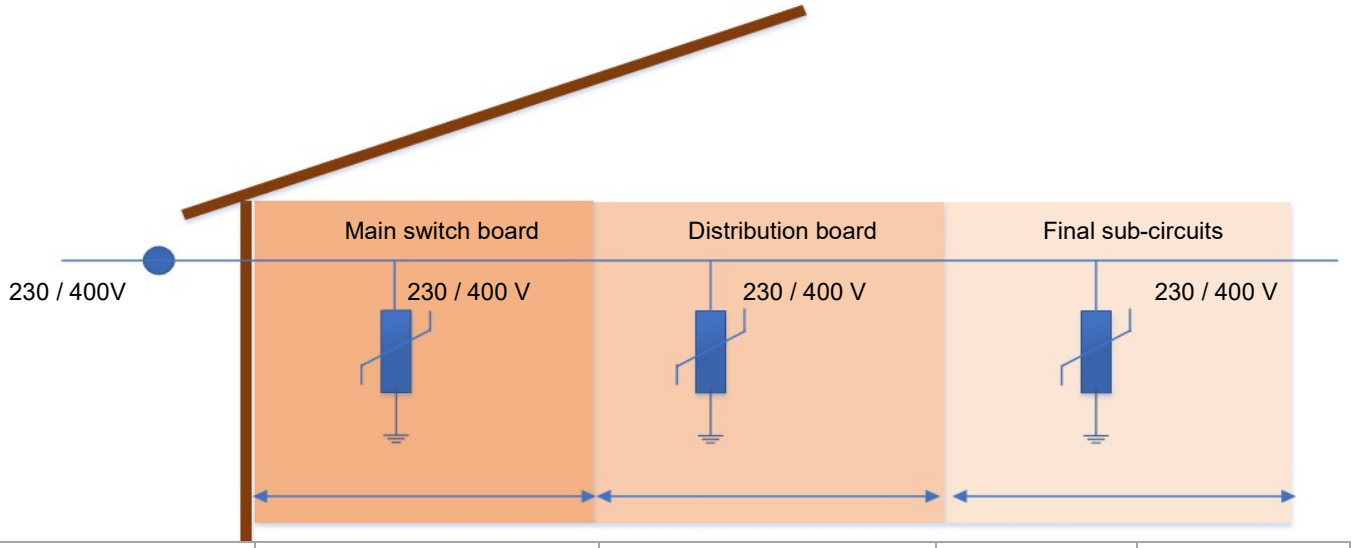
Impulse Withstand Voltage and Surge Protection

As the primary equipment of internal lightning-proof, SPD needs to be able to withstand surge stress and provides the level of voltage protection required for the equipment. This involves the selection and coordination of SPD in different locations to form a complete protection system.





Overvoltage Category	IV	III	II	I
U_w (kV) Impulse Withstand Voltage	6	4	2.5	1.5
Lightning Protection Zone LPZ	LPZ1	LPZ2	LPZn	
SPD Type	Class I or Class II	Class II	Class II or Class III	

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LED Surge Protective Device

Description

As LEDs are more susceptible to surges, the impact of the surge will cause the partial or complete failure of the LED module or driver. To ensure the service life and reliability and to avoid unnecessary maintenance, a well-conceived and effective surge protection for LED street lightings should be adopted.

SETsafe | SETfuse LED Surge Protective Devices (SPDs) are specifically designed for outdoor lighting. The products facilitate surge immunity compliant with IEEE C62.41.2 Location Category C high exposure and protect LED street lighting from lightning surge damage. With built-in thermal protection, the products could fail safely when suffering sustained overvoltage or its internal varistor degradation. The products with small size, could be easily mounted in narrow space.

Features

- Sealed Enclosure, IP66
- Differential and Common Mode Protections
- One-port or Two-port Surge Protective Device (SPD)
- Thermal Protection and Failure Indication

Applications

- Outdoor Street Lighting
- Parking Lighting
- Highway Lighting
- Landscape Lighting
- Traffic and Signal Lighting

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Glossary

Item	Description
U_p	**Voltage Protection Level** Maximum voltage to be expected at the SPD terminals due to an impulse stress with defined voltage steepness and an impulse stress with a discharge current with given amplitude and waveshape. — (IEC 61643-11)
8/20 μs	**8/20 Current Impulse** Current impulse with a nominal virtual front time of 8 μs and a nominal time to half-value of 20 μs. — (IEC 61643-11)
1.2/50 μs	**1.2/50 Voltage Impulse** Voltage impulse with a nominal virtlual front time of 1.2 μs and a nominal time to half-value of 50 μs. — (IEC 61643-11)
U_c	**Maximum Continuous Operating Voltage** Maximum r.m.s. voltage, which may be continuously applied to the SPD's mode of protection. — (IEC 61643-11)
I_n	**Nominal Discharge Current** Crest value of the current through the SPD having a current waveshape of 8/20. — (IEC 61643-11)
I_{imp}	**Impulse Discharge Current for Class I Test** Crest value of a discharge current through the SPD with specified charge transfer Q and specified energy W/R in the specified time. — (IEC 61643-11)
I_{max}	**Maximum Discharge Current** Crest value of a current through the SPD having an 8/20 waveshape and magnitude according to the manufacturers specification. I_{max} is equal to or greater than I_n. — (IEC 61643-11)
Modes of Protection	**Modes of Protection** An intended current path, between terminals that contains protective components, e.g. line-to-line, line-to-earth, line-to-neutral, neutral-to-earth. — (IEC 61643-11)
IP	**Degrees of Protection Provided by Enclosure (IP Code)** Classification preceded by the symbol IP indicating the extent of protection provided by an enclosure against access to hazardous parts, against ingress of solid foreign objects and possibly harmful ingress of water.

SPD

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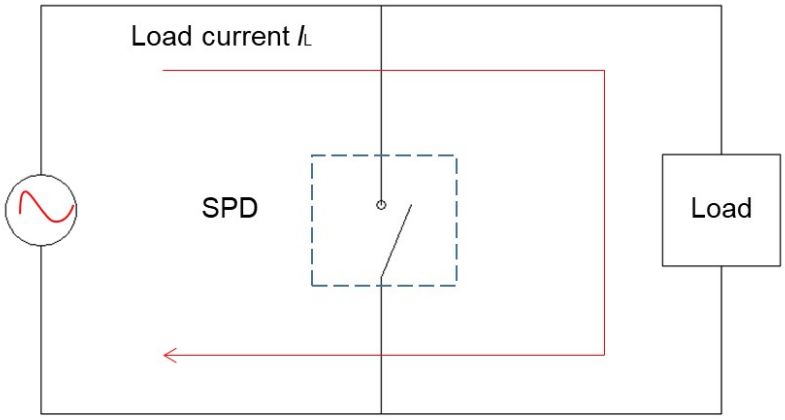
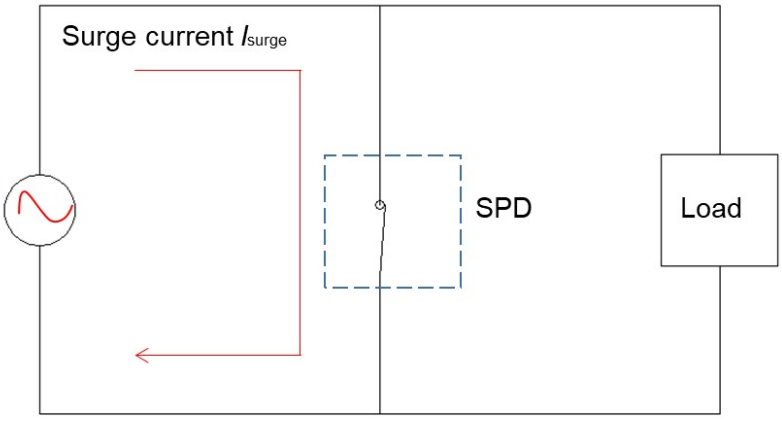
Operation Principle

SPD is equivalent to open circuit when the circuit without surge (Impedance > 100 MΩ).



When a surge invades the circuit, the SPD circuit mutates to a low impedance, releasing the surge current into the ground.



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Part Numbering System

SD 10 C 277 L M T - D - 001

Other Options

Protection Mode
Default: All-mode
D: Differential Mode

Wire Connection
Default: One-port
T: Two-port

Surge Capacity
H: High
M: Medium

Circuit Characteristic
A: With GDT and Failure Indicator
G: With GDT
L: With Failure Indicator
N: Without GDT or Failure Indicator

Nominal System Voltage
120 V, 277 V, 347 V, 480 V

Design Sequence

Nominal Discharge Current
5: 5 kA, 10: 10 kA

Product Category

Agency Information

Agency Information		Standards	NO.	Category
	UL	UL 1449 4th Edition	E322662	VZCA2
	CUL	CSA C22.2 NO.269, CSA ECN 516	E322662	VZCA8
	TUV	IEC/EN 61643-11, IEC/EN 61643-31	See the different models for details	
	CE	IEC/EN 61643-11, IEC/EN 61643-31	See the different models for details	
	CB	IEC/EN 61643-11	See the different models for details	

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ATTENTION

Usage

1. Frequency range is from 47 Hz to 63 Hz.
2. The voltage applied continuously to the SPD must not exceed its maximum continuous operating voltage U_c.
3. When atmosphere press is from 80 kPa to 106 kPa, the related altitude shall be from 2000 m to - 500 m.
4. Do not touch the product body or wires directly when power is on, to avoid electric shock.

Replacement

As SPD is a non-repairable product, for safety sake, please use the same type of SPD for replacement.

Storage

Do not store SPD at high temperature, high humidity or corrosive gas environment, to avoid oxidation of the wires. Use them up within 2 years after receiving the goods.

Installation

1. Installation and startup may only be carried out by qualified personnel. The relevant country-specific regulations must be observed.
2. Check the device for external damage before installation. If the device is defective, it must not be used.
3. Pay attention to risk of electric shock. Please cutoff all electrical power before installation or service.
4. Lay the output cables to the surge protective devices (SPDs) as short as possible, without loops.
5. Do not apply mechanical stress to the SPD body during or after the installation.

Maintenance

1. Check SPD status according to instructions before and after the thunderstorm season each year.
2. If the indicator of "failure state" appears, the SPD is damaged. Replace the SPD with same type.
3. Ensure electrical connections and mountings are correct before energizing the circuit.
4. SPD`s quality is well controlled and strictly inspected before delivery. If non-functional ones are found during operation, please contact us early enough.

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SPD for Outdoor Lights

- Outdoor Street Lighting
- Parking Lighting
- Highway Lighting
- Landscape Lighting
- Traffic and Signal Lighting

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Features

- Sealed Enclosure, IP66
- Differential and Common Mode Protections
- One-port or Two-port Surge Protective Device (SPD)
- Thermal Protection and Failure Indication
- Small Size

Applications

- Outdoor Street Lighting
- Parking Lighting
- Highway Lighting
- Landscape Lighting
- Traffic and Signal Lighting

Agency Approvals

Agency	Standards	No.
c UL us	UL1449	E322662
TÜVRheinland	EN 61643-11	R50434690
CE	EN 61643-11	AN 50473469
Environment	RoHS 2.0 & REACH	Compliant

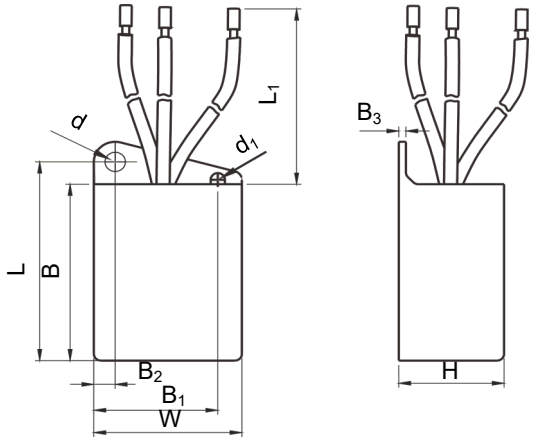
Packaging Information

Item	Tray	Carton
Dimensions (mm)	470×350×57	500×370×335
Quantity (PCS)	72	360

Description

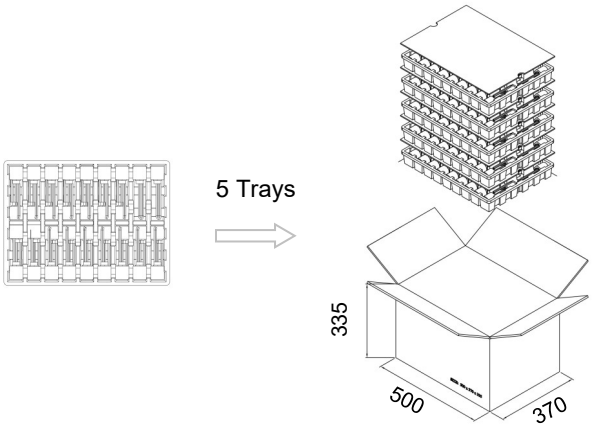
SD05K series is specifically designed for outdoor lighting. The products facilitate surge immunity compliant with IEEE C62.41.2 Location Category C high exposure and protect LED street lighting from lightning surge damage. With built-in thermal protection, SD05K series could fail safely when suffering sustained overvoltage or its internal varistor degradation. SD05K series with small size, could be easily mounted in narrow space.

Dimensions (mm)



L	L_1	W	H
44.5±1.0	150.0±5.0	31.0±1.0	22.0±1.0
d	d_1	B	B_1
4.3±0.5	3.0±0.5	39.5±1.0	26.0±1.0
B_2	B_3		
4.5±0.5	1.5±0.2		

Note:
The wire length "L_1" can be customized as required.



- Unit: mm
- Please contact us if you have special packaging requirement.

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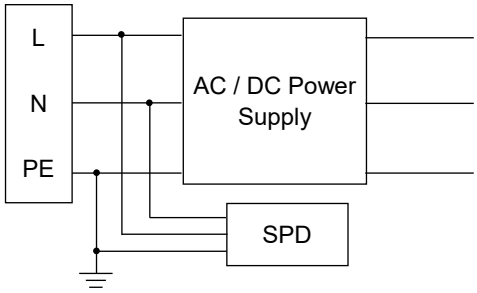
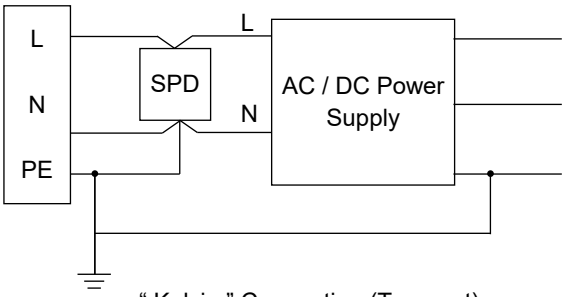
Wiring Diagram



Parallel Connection (One-port)

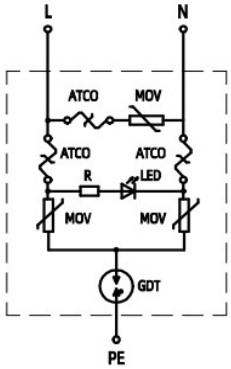


“ Kelvin ” Connection (Two-port)

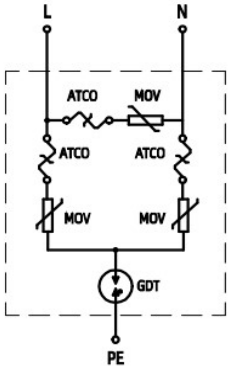
Notes:

- Internal thermal protection.
- Two-port “ Kelvin ” connection SPD can reduce the effect of inductance and achieve optimum overvoltage protection.

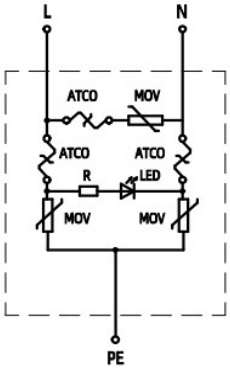
Schematics



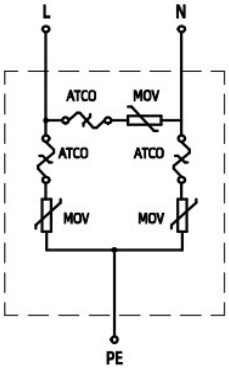
SD05KxxxAM Series
FIGURE SD05K-1



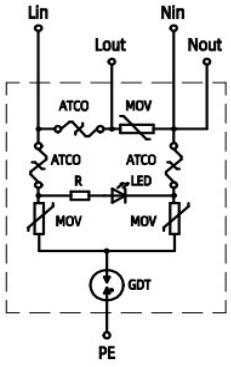
SD05KxxxGM Series
FIGURE SD05K-2



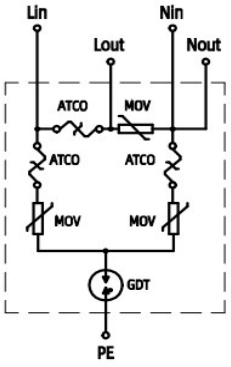
SD05KxxxLM Series
FIGURE SD05K-3



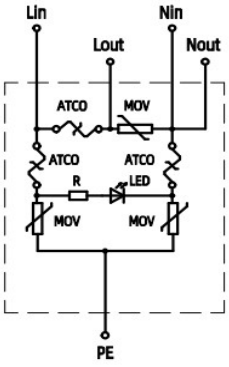
SD05KxxxNM Series
FIGURE SD05K-4



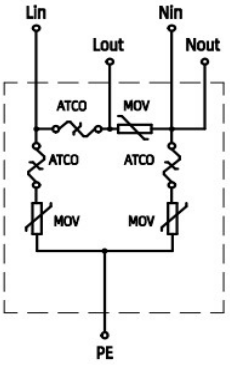
SD05KxxxAMT Series
FIGURE SD05K-5



SD05KxxxGMT Series
FIGURE SD05K-6



SD05KxxxLMT Series
FIGURE SD05K-7



SD05KxxxNMT Series
FIGURE SD05K-8

Note: The wire color can be customized according to relevant standards and customer requirements.

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Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μs)	Max. Discharge Current (8/20 μs)	Voltage Protection Level	Rated Current [a]	Response Time	External Overcurrent Protection [b]	Schematic	Agency Approvals		
	U_c	I_n	I_{max}	U_p	I_r				c UL us	TÜVRheinland	CE
	(VAC)	(kA)	(kA)	(V)	(A)	(ns)	(A)	FIGURE	UL, CUL	TUV	CE
SD05K120AM	150	5	10	1000	-	<100	10	SD05K-1			
SD05K277AM	320	5	10	1800	-	<100	10	SD05K-1	●	●	●
SD05K347AM	420	5	10	2200	-	<100	10	SD05K-1			
SD05K120GM	150	5	10	1000	-	<100	10	SD05K-2			
SD05K277GM	320	5	10	1800	-	<100	10	SD05K-2			
SD05K347GM	420	5	10	2200	-	<100	10	SD05K-2			
SD05K120LM	150	5	10	800	-	<25	10	SD05K-3			
SD05K277LM	320	5	10	1500	-	<25	10	SD05K-3	●	●	●
SD05K347LM	420	5	10	2000	-	<25	10	SD05K-3			
SD05K120NM	150	5	10	800	-	<25	10	SD05K-4			
SD05K277NM	320	5	10	1500	-	<25	10	SD05K-4			
SD05K347NM	420	5	10	2000	-	<25	10	SD05K-4			
SD05K120AMT	150	5	10	1000	7	<100	10	SD05K-5			
SD05K277AMT	320	5	10	1800	7	<100	10	SD05K-5	●	●	●
SD05K347AMT	420	5	10	2200	7	<100	10	SD05K-5			
SD05K120GMT	150	5	10	1000	7	<100	10	SD05K-6			
SD05K277GMT	320	5	10	1800	7	<100	10	SD05K-6			
SD05K347GMT	420	5	10	2200	7	<100	10	SD05K-6			
SD05K120LMT	150	5	10	800	7	<25	10	SD05K-7			
SD05K277LMT	320	5	10	1500	7	<25	10	SD05K-7	●	●	●
SD05K347LMT	420	5	10	2000	7	<25	10	SD05K-7			
SD05K120NMT	150	5	10	800	7	<25	10	SD05K-8			
SD05K277NMT	320	5	10	1500	7	<25	10	SD05K-8			
SD05K347NMT	420	5	10	2000	7	<25	10	SD05K-8			

Notes:
a: Rated Current of the Thermal Fuse.
b: Recommended External Circuit Breaker Model: C 10 A, Curve C.

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Description

SETsafe | SETfuse surge protective device (SPD) SD05C series is specifically designed for outdoor lighting. The products facilitate surge immunity compliant with IEEE C62.41.2 Location Category C high exposure and protect LED street lighting from lightning surge damage. With built-in thermal protection, SD05C series could fail safely when suffering sustained overvoltage or its internal varistor degradation.

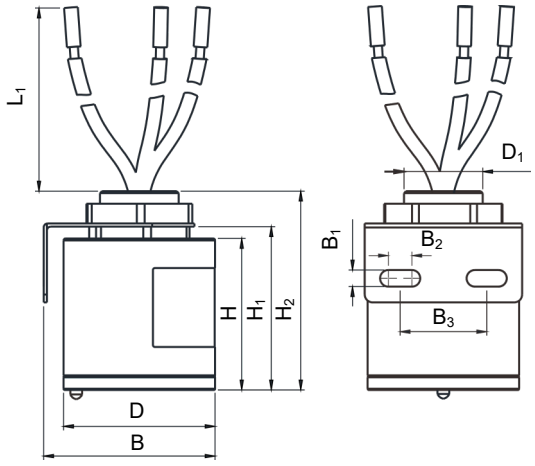
Features

- Sealed Enclosure, IP66
- Differential and Common Mode Protections
- One-port or Two-port Surge Protective Device (SPD)
- Thermal Protection and Failure Indication

Applications

- Outdoor Street Lighting
- Parking Lighting
- Highway Lighting
- Landscape Lighting
- Traffic and Signal Lighting

Dimensions (mm)



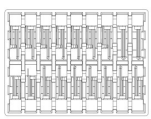
L_1	H	H_1	H_2
150.0±5.0	38.0±1.0	41.0±1.0	50.0±1.0
D	D_1	B	B_1
Φ38.0±1.0	M20x1.5	43.5±1.0	4.2±0.1
B_2	B_3		
6.0±0.1	22.0±0.2		

Note:
The wire length "L_1" can be customized as required.

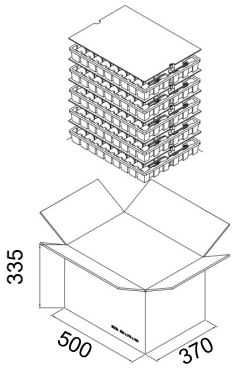
Agency Approvals

Agency	Standards	No.
c UL us	UL1449	E322662
Environment	RoHS 2.0 & REACH	Compliant

Packaging Information



5 Trays



Item	Tray	Carton
Dimensions (mm)	470×350×57	500×370×335
Quantity (PCS)	32	160

- Unit: mm
- Please contact us if you have special packaging requirement.

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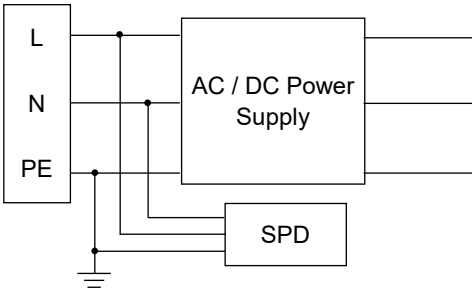
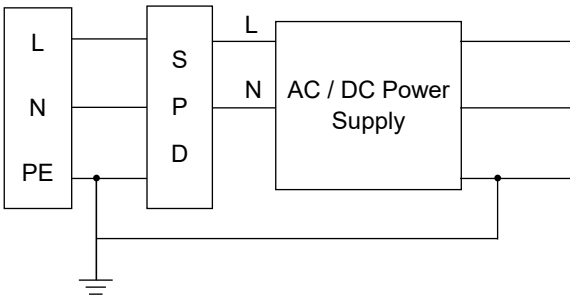
Wiring Diagram



Parallel Connection (One-port)

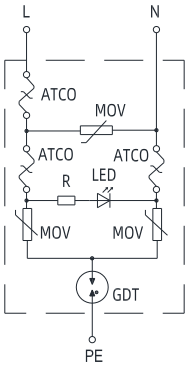


Series Connection (Two-port)

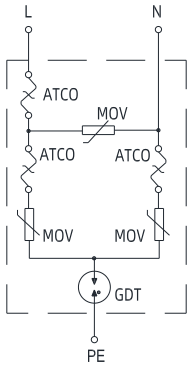
Notes:

- Internal thermal protection.
- Two-port SPD can disconnect the main line when open-circuit failure happens.

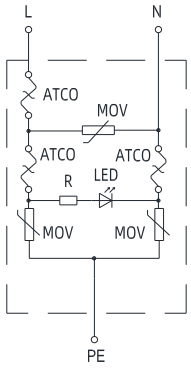
Schematics



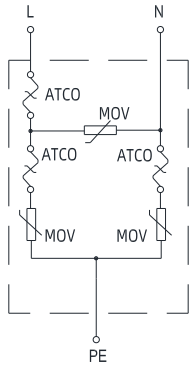
SD05CxxxAM Series
FIGURE SD05C-1



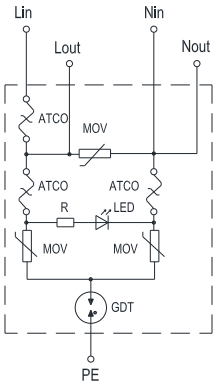
SD05CxxxGM Series
FIGURE SD05C-2



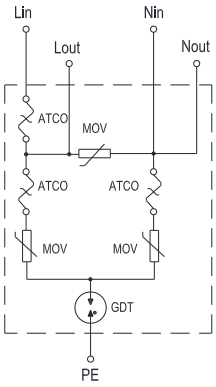
SD05CxxxLM Series
FIGURE SD05C-3



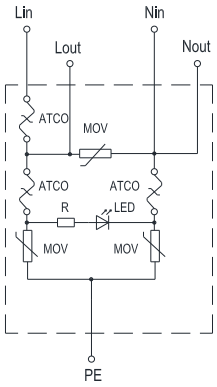
SD05CxxxNM Series
FIGURE SD05C-4



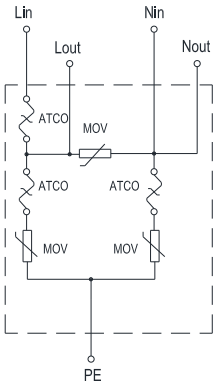
SD05CxxxAMT Series
FIGURE SD05C-5



SD05CxxxGMT Series
FIGURE SD05C-6



SD05CxxxLMT Series
FIGURE SD05C-7



SD05CxxxNMT Series
FIGURE SD05C-8

Note: The wire color can be customized according to relevant standards and customer requirements.

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Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μs)	Max. Discharge Current (8/20 μs)	Voltage Protection Level	Rated Current [a]	Response Time	External Overcurrent Protection [b]	Schematics	Agency Approvals
	U_c	I_n	I_{max}	U_p	I_r				c UL us
	(VAC)	(kA)	(kA)	(V)	(A)	(ns)	(A)	FIGURE	UL, CUL
SD05C120AM	150	5	10	1400	-	<100	10	SD05C-1	●
SD05C277AM	320	5	10	2000	-	<100	10	SD05C-1	●
SD05C347AM	420	5	10	2200	-	<100	10	SD05C-1	●
SD05C480AM	550	5	10	3000	-	<100	10	SD05C-1	
SD05C120GM	150	5	10	1400	-	<100	10	SD05C-2	●
SD05C277GM	320	5	10	2000	-	<100	10	SD05C-2	●
SD05C347GM	420	5	10	2200	-	<100	10	SD05C-2	●
SD05C480GM	550	5	10	3000	-	<100	10	SD05C-2	
SD05C120LM	150	5	10	1200	-	<25	10	SD05C-3	●
SD05C277LM	320	5	10	1600	-	<25	10	SD05C-3	●
SD05C347LM	420	5	10	2000	-	<25	10	SD05C-3	●
SD05C480LM	550	5	10	2800	-	<25	10	SD05C-3	
SD05C120NM	150	5	10	1200	-	<25	10	SD05C-4	●
SD05C277NM	320	5	10	1600	-	<25	10	SD05C-4	●
SD05C347NM	420	5	10	2000	-	<25	10	SD05C-4	●
SD05C480NM	550	5	10	2800	-	<25	10	SD05C-4	
SD05C120AMT	150	5	10	1400	10	<100	10	SD05C-5	●
SD05C277AMT	320	5	10	2000	10	<100	10	SD05C-5	●
SD05C347AMT	420	5	10	2200	10	<100	10	SD05C-5	●
SD05C480AMT	550	5	10	3000	10	<100	10	SD05C-5	
SD05C120GMT	150	5	10	1400	10	<100	10	SD05C-6	●
SD05C277GMT	320	5	10	2000	10	<100	10	SD05C-6	●
SD05C347GMT	420	5	10	2200	10	<100	10	SD05C-6	●
SD05C480GMT	550	5	10	3000	10	<100	10	SD05C-6	
SD05C120LMT	150	5	10	1200	10	<25	10	SD05C-7	●
SD05C277LMT	320	5	10	1600	10	<25	10	SD05C-7	●
SD05C347LMT	420	5	10	2000	10	<25	10	SD05C-7	●
SD05C480LMT	550	5	10	2800	10	<25	10	SD05C-7	
SD05C120NMT	150	5	10	1200	10	<25	10	SD05C-8	●
SD05C277NMT	320	5	10	1600	10	<25	10	SD05C-8	●
SD05C347NMT	420	5	10	2000	10	<25	10	SD05C-8	●
SD05C480NMT	550	5	10	2800	10	<25	10	SD05C-8	

Notes:
a: Rated Current of the Thermal Fuse.
b: Recommended External Circuit Breaker Model: C 10 A, Curve C.

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Description

SETsafe | SETfuse surge protective device (SPD) SD10C series is specifically designed for outdoor lighting. The products facilitate surge immunity compliant with IEEE C62.41.2 Location Category C high exposure and protect LED street lighting from lightning surge damage. With built-in thermal protection, SD10C series could fail safely when suffering sustained overvoltage or its internal varistor degradation.

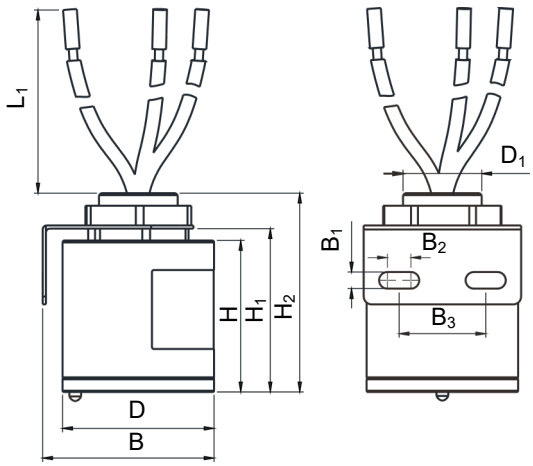
Features

- Sealed Enclosure, IP66
- Differential and Common Mode Protections
- One-port or Two-port Surge Protective Device (SPD)
- Thermal Protection and Failure Indication

Applications

- Outdoor Street Lighting
- Parking Lighting
- Highway Lighting
- Landscape Lighting
- Traffic and Signal Lighting

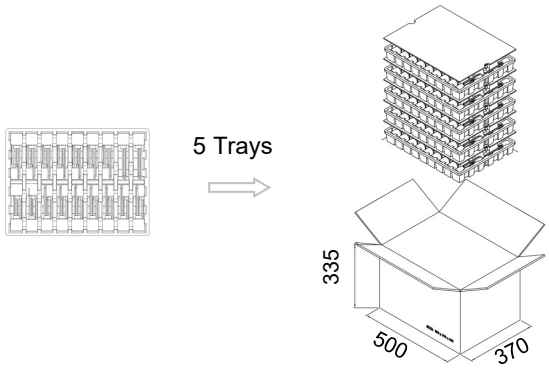
Dimensions (mm)



L_1	H	H_1	H_2
150.0±5.0	38.0±1.0	41.0±1.0	50.0±1.0
D	D_1	B	B_1
Φ38.0±1.0	M20×1.5	43.5±1.0	4.2±0.1
B_2	B_3		
6.0±0.1	22.0±0.2		

Note:
The wire length "L_1" can be customized as required.

Packaging Information



- Unit: mm
- Please contact us if you have special packaging requirement.

Item	Tray	Carton
Dimensions (mm)	470×350×57	500×370×335
Quantity (PCS)	32	160

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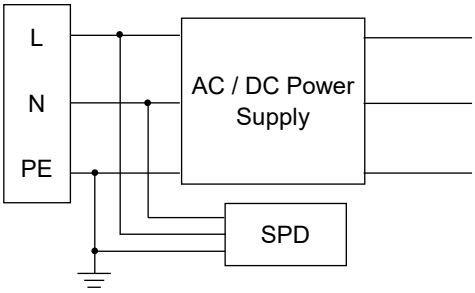
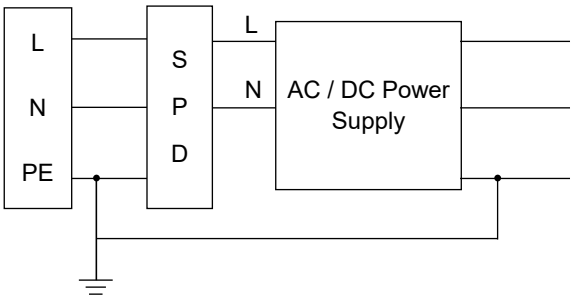
Wiring Diagram



Parallel Connection (One-port)

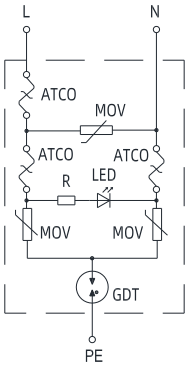


Series Connection (Two-port)

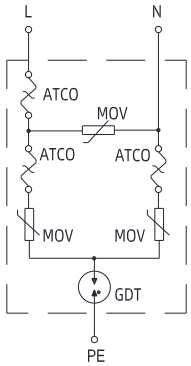
Notes:

- Internal thermal protection.
- Two-port SPD can disconnect the main line when open-circuit failure happens.

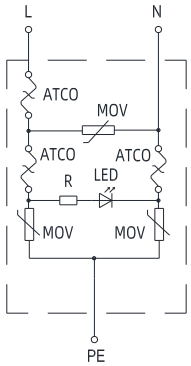
Schematics



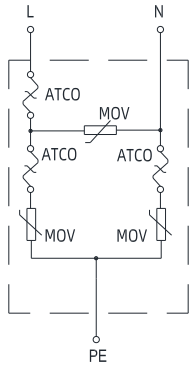
SD10CxxxAx Series
FIGURE SD10C-1



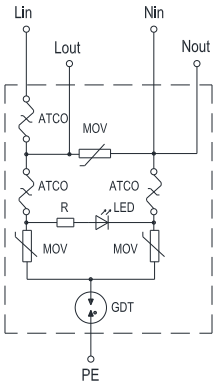
SD10CxxxGx Series
FIGURE SD10C-2



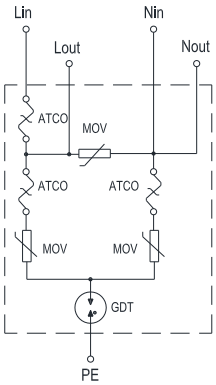
SD10CxxxLx Series
FIGURE SD10C-3



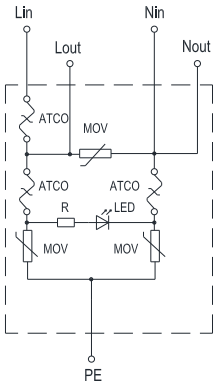
SD10CxxxNx Series
FIGURE SD10C-4



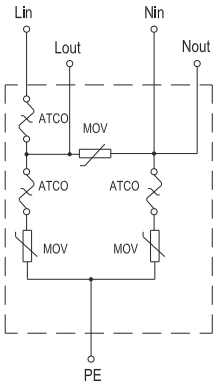
SD10CxxxAxT Series
FIGURE SD10C-5



SD10CxxxGxT Series
FIGURE SD10C-6



SD10CxxxLxTSeries
FIGURE SD10C-7



SD10CxxxNxT Series
FIGURE SD10C-8

Note: The wire color can be customized according to relevant standards and customer requirements.

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Agency Approvals

Agency	Standards	No.
c UL us	UL1449	E322622
CE	IEC/EN 61643-11	3183404.02AOC
CB	IEC 61643-11	NL-41004, NL-41006
Environment	RoHS 2.0 & REACH	Compliant

Model	Fault Indicator	GDT	One-Port	Two-Port	Agency Approvals		
					c UL us	CE	CB
SD10C120A*	●	●	●		●	●	
SD10C277A*	●	●	●		●	●	●
SD10C347A*	●	●	●		●	●	
SD10C480A*	●	●	●		●		
SD10C120G*		●	●		●		
SD10C277G*		●	●		●		
SD10C347G*		●	●		●		
SD10C480G*		●	●		●		
SD10C120L*	●		●		●	●	
SD10C277L*	●		●		●	●	●
SD10C347L*	●		●		●	●	
SD10C480L*	●		●		●		
SD10C120N*			●		●		
SD10C277N*			●		●		
SD10C347N*			●		●		
SD10C480N*			●		●		
SD10C120A*T	●	●		●	●	●	
SD10C277A*T	●	●		●	●	●	●
SD10C347A*T	●	●		●	●	●	
SD10C480A*T	●	●		●	●		
SD10C120G*T		●		●	●		
SD10C277G*T		●		●	●		
SD10C347G*T		●		●	●		
SD10C480G*T		●		●	●		
SD10C120L*T	●			●	●	●	
SD10C277L*T	●			●	●	●	●
SD10C347L*T	●			●	●	●	
SD10C480L*T	●			●	●		
SD10C120N*T				●	●		
SD10C277N*T				●	●		
SD10C347N*T				●	●		
SD10C480N*T				●	●		

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Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μs)	Max. Discharge Current (8/20 μs)	Voltage Protection Rating	Voltage Protection Level	Rated Current [a]	Response Time	External Overcurrent Protection [b]	Schematic
	U_c	I_n	I_{max}	VPR	U_p	I_r			
	(VAC)	(kA)	(kA)	(V)	(V)	(A)	(ns)	(A)	FIGURE
SD10C120A*	150	10	15/25	800	1400	-	<100	32	SD10C-1
SD10C277A*	320	10	15/25	1300	2000	-	<100	32	SD10C-1
SD10C347A*	420	10	15/25	1500	2200	-	<100	32	SD10C-1
SD10C480A*	550	10	15/20	1800	3000	-	<100	32	SD10C-1
SD10C120G*	150	10	15/25	800	1400	-	<100	32	SD10C-2
SD10C277G*	320	10	15/25	1300	2000	-	<100	32	SD10C-2
SD10C347G*	420	10	15/25	1500	2200	-	<100	32	SD10C-2
SD10C480G*	550	10	15/20	1800	3000	-	<100	32	SD10C-2
SD10C120L*	150	10	15/25	600	1200	-	<25	32	SD10C-3
SD10C277L*	320	10	15/25	1150	1600	-	<25	32	SD10C-3
SD10C347L*	420	10	15/25	1350	2000	-	<25	32	SD10C-3
SD10C480L*	550	10	15/20	1600	2500	-	<25	32	SD10C-3
SD10C120N*	150	10	15/25	600	1200	-	<25	32	SD10C-4
SD10C277N*	320	10	15/25	1150	1600	-	<25	32	SD10C-4
SD10C347N*	420	10	15/25	1350	2000	-	<25	32	SD10C-4
SD10C480N*	550	10	15/20	1600	2500	-	<25	32	SD10C-4
SD10C120A*T	150	10	15/25	800	1400	15	<100	32	SD10C-5
SD10C277A*T	320	10	15/25	1300	2000	15	<100	32	SD10C-5
SD10C347A*T	420	10	15/25	1500	2200	15	<100	32	SD10C-5
SD10C480A*T	550	10	15/20	1800	3000	15	<100	32	SD10C-5
SD10C120G*T	150	10	15/25	800	1400	15	<100	32	SD10C-6
SD10C277G*T	320	10	15/25	1300	2000	15	<100	32	SD10C-6
SD10C347G*T	420	10	15/25	1500	2200	15	<100	32	SD10C-6
SD10C480G*T	550	10	15/20	1800	3000	15	<100	32	SD10C-6
SD10C120L*T	150	10	15/25	600	1200	15	<25	32	SD10C-7
SD10C277L*T	320	10	15/25	1150	1600	15	<25	32	SD10C-7
SD10C347L*T	420	10	15/25	1350	2000	15	<25	32	SD10C-7
SD10C480L*T	550	10	15/20	1600	2500	15	<25	32	SD10C-7
SD10C120N*T	150	10	15/25	600	1200	15	<25	32	SD10C-8
SD10C277N*T	320	10	15/25	1150	1600	15	<25	32	SD10C-8
SD10C347N*T	420	10	15/25	1350	2000	15	<25	32	SD10C-8
SD10C480N*T	550	10	15/20	1600	2500	15	<25	32	SD10C-8

Notes:
a: Rated Current of the Thermal Fuse.
b: Recommended External Circuit Breaker Model: C 32 A, Curve C.
*: Maybe M or H

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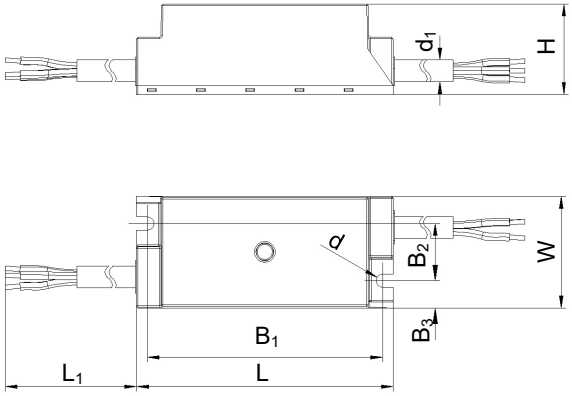
Description

SD10K series is specifically designed for outdoor lighting. The products facilitate surge immunity compliant with IEEE C62.41.2 Location Category C high exposure and protect LED street lighting from lightning surge damage. With built-in mechanical trip thermal protection, tripping current up to 100 A, SD10K series could fail safely when suffering sustained overvoltage or its internal varistor degradation. SD10K series is designed with 1+1 protection mode and the GDT applied between the neutral line and the ground, that improves the safety of the product. SD10K series is two-port Surge Protective Device (SPD), which is convenient for wiring and installing

Features

- Sealed Enclosure, IP66
- 1+1 Protections Mode, High Protection Performance
- Two-port Surge Protective Device (SPD), Convenient for Wiring
- Fast Tripping Thermally Protected MOV and Thermally Protected GDT Technology, Tripping Current up to 100 A, High Safety
- GDT Follow Current Interrupt Rating I_{fi}: 100 A

Dimensions (mm)



L	L_1	W	H
85.0±0.5	200.0±10.0	37.0±0.5	30.0±0.5
d	d_1	B_1	B_2
4.5±0.5	7.2±0.5	78.0±0.5	19.0±0.5
B_3			
9.0±0.5			

Note:
The wire length "L_1" can be customized as required.

Applications

- Outdoor Street Lighting
- Parking Lighting
- Highway Lighting
- Landscape Lighting
- Traffic and Signal Lighting

Agency Approvals

Agency	Standards	No.
CE	EN 61643-11	AN 50518873
TÜVRheinland	EN 61643-11	R 50507075
Environment	RoHS 2.0 & REACH	Compliant

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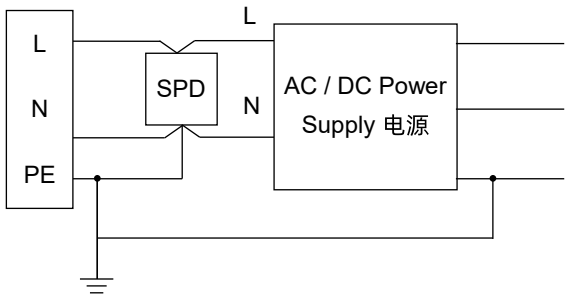
Wiring Diagram

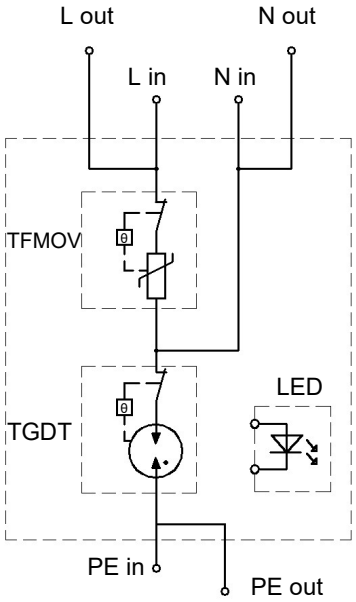


“ Kelvin ” Connection (Two-port)

Notes:

- Internal thermal protection.
- Two-port “ Kelvin ” connection SPD can reduce the effect of inductance and achieve optimum overvoltage protection.

Schematics

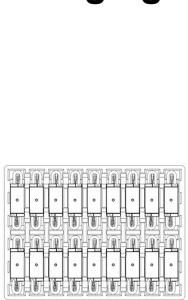


Specifications

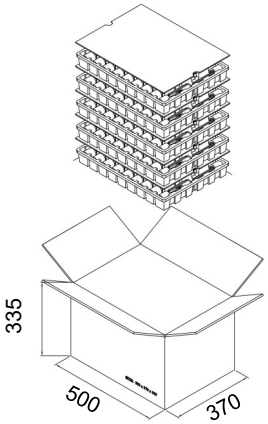
Model	System Voltage	Max. Continuous Operating Voltage		Nominal Discharge Current (8/20 μs)	Max. Discharge Current (8/20 μs)	Voltage Protection Level		Response Time	External Overcurrent Protection [a]
	U_n	U_c (VAC)		I_n	I_{max}	U_p (V)			
	(VAC)	L-N	N-PE	(kA)	(kA)	L-N	N-PE	(ns)	(A)
SD10K230AHT-300	230	300	255	10	20	1200	1200	<100	32
SD10K230AHT-320	230	320	255	10	20	1500	1200	<100	32
SD10K230AHT-385	230	385	255	10	20	1800	1200	<100	32
SD10K277AHT-320	277	320	255	10	20	1500	1200	<100	32
SD10K277AHT-385	277	385	255	10	20	1800	1200	<100	32

Note:
a: Recommended External Circuit Breaker Model C 32 A, Curve C.

Packaging Information



5 Trays



Item	Tray	Carton
Dimensions (mm)	470×350×57	500×370×335
Quantity (PCS)	18	90

- Unit: mm
- Please contact us if you have special packaging requirement.

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Features

- Sealed Enclosure, IP66
- Thermal Protection and Failure Indication
- UL1449 Type 1 Listed
- Suit for Split Phase System

Applications

- Power System of Caravan
- Distribution Panel
- High Voltage Air Conditioning (HVAC)

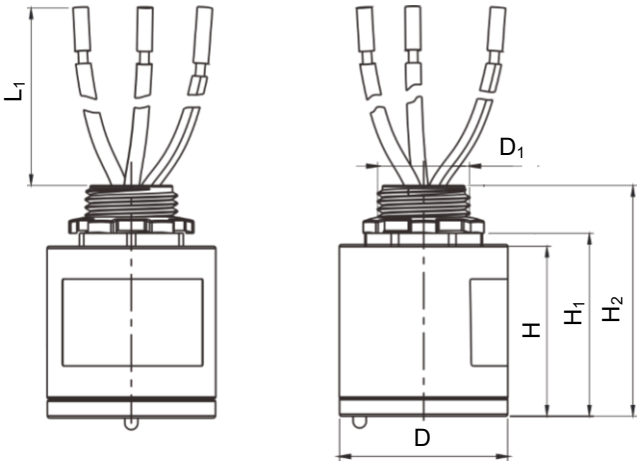
Agency Approvals

Agency	Standards	No.
c UL us	UL1449	E322662
Environment	RoHS 2.0 & REACH	Compliant

Description

SETsafe | SETfuse surge protective device (SPD) SD10C120/240 series is specifically designed for split phase system. The products facilitate surge immunity compliant with IEEE C62.41.2 Location Category C high exposure and protect the facility from lightning surge damage. With built-in thermal protection, SD10C120/240 series could fail safely when suffering sustained overvoltage or its internal varistor degradation.

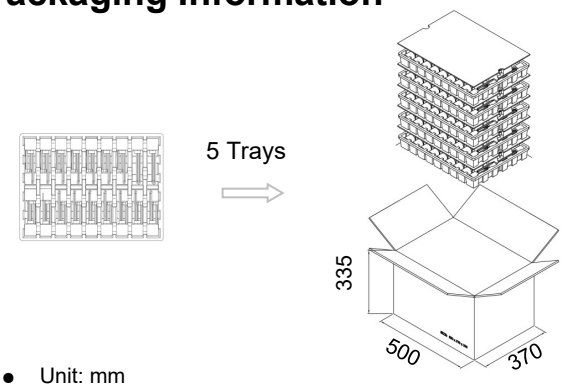
Dimensions (mm)



L_1	H	H_1	H_2
150.0±5.0	39.0±1.0	42.0±1.0	53.0±1.0
D	D_1		
Φ39.0±1.0	1/2-14NPSL		

Note:
The wire length "L_1" can be customized as required.

Packaging Information



Item	Tray	Carton
Dimensions (mm)	470×350×57	500×370×335
Quantity (PCS)	32	160

- Unit: mm
- Please contact us if you have special packaging requirement.

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Schematics

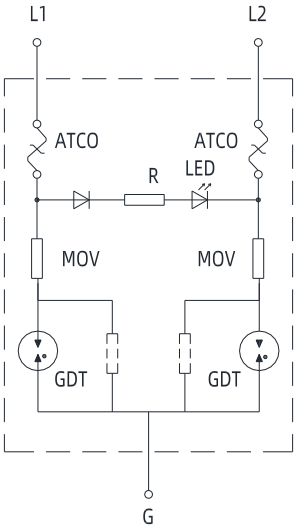

FIGURE SD10C120/240-1

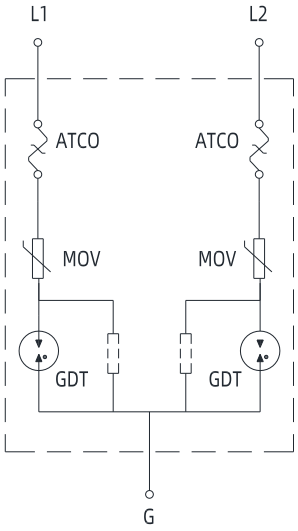

FIGURE SD10C120/240-2

Specifications

Model	Mode	Max. Continuous Operating	Nominal Discharge Current	Max. Discharge Current	Voltage Protection Rating	Short Circuit Current Rating	Schematic	Agency Approvals
		MCOV	I_n	I_{max}	VPR	SCCR		c UL us
		(VAC)	(kA)	(kA)	(V)	(kA)	FIGURE	UL, CUL
SD10C120/240AH	L-G	150	10	25	1200	200	SD10C120/240-1	●
	L-L	300			2000			
SD10C120/240AM	L-G	150	10	15	1200	200	SD10C120/240-1	●
	L-L	300			2000			
SD10C120/240GH	L-G	150	10	25	1200	200	SD10C120/240-2	●
	L-L	300			2000			
SD10C120/240GM	L-G	150	10	15	1200	200	SD10C120/240-2	●
	L-L	300			2000			

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