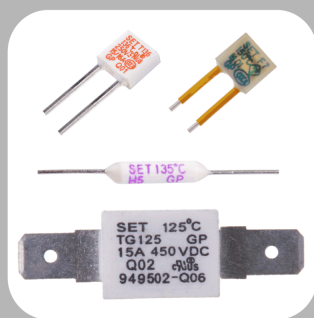


SETfuse

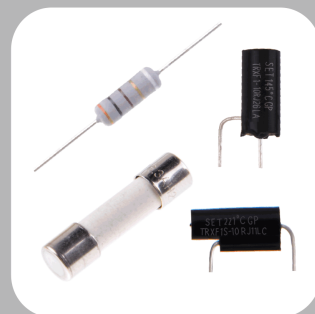
Design, Manufacture, Market Circuit Protection Components



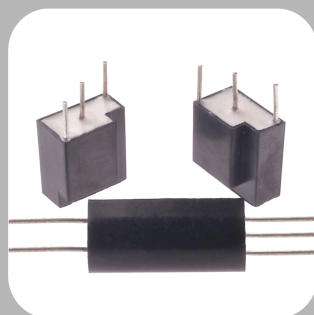
Over Temperature



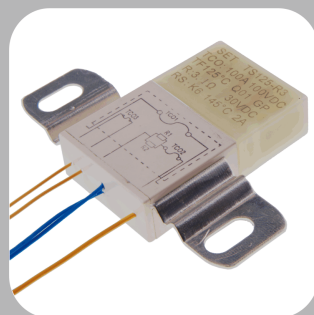
Over Voltage



Over Current



Multiple



Active

5

Company Profile

SETfuse is a company which is engaged in Designing and Manufacturing Circuit Protection Components and Providing Integrated Circuit Protection Solutions. SETfuse is specialized in the innovative protection fields of Over Temperature Protection, Over Current Protection, Over Voltage Protection, Active Protection and Multiple Protection, helping customers to improve the safety index of their products.

SETfuse Develops, Manufactures and Sells the products to the High Reliability markets of Industry, Electronic, New Energy and so on. It offers industry-leading Thermal-link (TCO), Metal Oxide Varistor (MOV), Thermal Fuse & MOV(TFMOV), Surge Protection Device (SPD), Wirewound Fusing Resistor (RXF), Thermal-link & Fusing Resistor (TRXF), Current Fuse (Fuse), Ideal Thermal Fuse (iTCO) and Protective Unit for Adaptor (PUA).

Product and Quality

SETfuse has 17 years innovative history and obtains a lot of patents. Breakthrough Innovation Design, Manufacturing Process and Automatic production put our products in a leading position in the industry. SETfuse has set up the UL authorized Lab under UL 1449 Standard and the Witness Test Data Program (WTDP) Lab under UL 60691 Standard. Professional Testing Equipment and perfect Quality (ISO9001), Environment (ISO14001), Occupational Health and Safety (OHSAS18000) management system make the products comply with RoHS and REACH. SETfuse's products are component-recognized in China as well as internationally by organizations such as CCC, UL, CUL, VDE, TUV, PSE and KTL. The stringent quality control method ensures the products with High Quality and Reliability.

Corporate Responsibility

SETfuse sells products all over the world. This means that we have more social responsibility. We offer and guarantee safe workplace and environment, to comply with laws and regulations.

Customer Relations

SETfuse's products are very important in the circuit protection field, we are committed to set up and maintain the excellent customer relations.

For more information about SETfuse, Welcome to our website: www.SETfuse.com

Registered Trademarks



Xiamen SET Electronics Co., Ltd.



Xiamen SET Electronics Co., Ltd.

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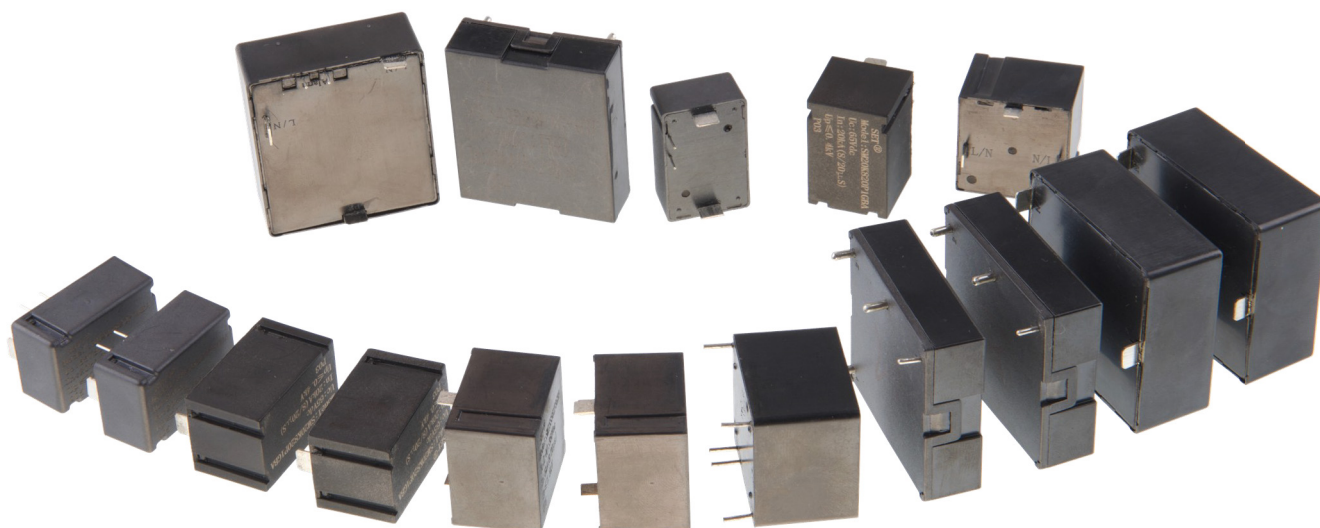
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FOCUS

PROFESSIONAL



FEATURES AND BENEFITS

- PATENTED PRODUCT
- MINIATURIZED SIZE
- HORIZONTAL MOUNTING ON PCB
- DIFFERENTIAL AND COMMON MODE PROTECTIONS
- RoHS & REACH COMPLIANT

[illegible]

#: May be followed by B or A.

Product Description

SET's SPD Module Integrates Over Temp. Protection, Over Voltage Protection and Remote Signal Indication functions. Each single module can be Common Mode Protection, Differential Mode Protection or All-mode Protection. It is mainly applicable for low voltage single phase AC or DC power system. The Integrated Structure of SPD is convenient for users to Design and Install. Compared with the discrete SPD assemblies, SET's SPD Module is more Space Saving. The enclosed space of thermal protection can improve the suitability for environment, widely available for Ambient Temperature Range (-40 - 85)°C or (-40 - 105)°C and Humidity Range (≤95%RH).

PATENTS

Patent Name	Region	Category	Patent NO.
An Over-voltage Protection Module for DC Circuit	China	Utility Model	ZL 201120232550.8
An All-mode Over-voltage Protection Module for AC Circuit	China	Utility Model	ZL 201120560110.5

Glossary

1.2/50 μ s Voltage Wave

Voltage surge with a virtual front time of 1.2 μ s and a time to half-value of 50 μ s delivered across an open circuit.

— (UL 1449)

8/20 μ s Current Wave

Current surge with a virtual front time of 8 μ s and a time to half-value of 20 μ s delivered into a short circuit.

— (UL 1449)

Combination Wave

A surge delivered by a generator which has the inherent capability of applying a 1.2/50 μ s voltage wave across an open circuit, and delivering an 8/20 μ s current wave into a short circuit. The exact wave that is delivered is determined by the generator's fictive impedance .

— (UL 1449)

Maximum Continuous Operating Voltage (MCOV)

The maximum designated root-mean- square (r.m.s.) value of the power frequency voltage that may be continuously applied to the mode of protection of an SPD.

— (UL 1449)

Short Circuit Current Rating (SCCR)

The suitability of an SPD for use on an AC power circuit that is capable of delivering not more than a declared rms symmetrical current at a declared voltage during a short circuit condition.

— (UL 1449)

Fault Current

The current from the connected power system that flows in a short circuit.

— (UL 1449)

Surge Protective Device (SPD)

Device that contains at least one nonlinear component that is intended to limit surge voltages and divert surge currents. NOTE: An SPD is a complete assembly, having appropriate connecting means.

— (UL 1449)

Measured Limiting Voltage

The maximum magnitude of voltage, measured at the leads, terminals, receptacle contacts, and similar locations after the application of an impulse of specified wave shape and amplitude.

— (UL 1449)

Nominal Discharge Current (I_n)

Peak value of the current, selected by the manufacturer, through the SPD having a current wave shape of 8/20 μ s where the SPD remains functional after 15 surges.

— (UL 1449)

Maximum Discharge Current (I_{max})

Crest value of a current through the SPD having an 8/20 μ s waveform and magnitude is specified by manufacturer, I_{max} is greater than I_n .

— (UL 1449)

Nominal System Voltage

A nominal value assigned to designate a system of a given voltage class in accordance with ANSI C84.1, Table 1. For the purpose of this standard, nominal system voltages include, but are not limited to 120, 208, 240, 277, 347, 480, 600 Vac.

— (ANSI C84.1)

Surge

A transient wave of current, potential or power in an electric circuit. For the purposes of this standard, surges do not include Temporary Over Voltage (TOV) consisting of an increase in the power frequency voltage for several cycles.

— (UL 1449)

Modes of Protection

Electrical paths where the SPD offers defense against transient over voltage. Examples include, Line to Neutral (L-N), line to Ground (L-G), Line to Line (L-L) and Neutral to Ground (N-G).

— (UL 1449)

Note: Ground abbreviated G or PE.

Voltage Protection Rating (VPR)

A rating selected from a list of preferred values as given in Table 79.1 and assigned to each mode of protection. The value of VPR is determined as a higher value taken from Table 79.1 to the average measured limiting voltage determined during the first set of measured limiting voltages tests during the transient-voltage surge suppression test using the combination wave generator at a setting of 6 kV, 3 kA.

— (UL 1449)

Glossary

Rated Current (I_r)

The current used to classify a Thermal-link, which is the Maximum voltage that Thermal-link allows to carry and is able to cut off the circuit safely .

— (UL 1449)

Two-port SPD

An SPD having provisions (terminals, leads, plug) for connection to the ac power circuit and provisions [terminals, leads, receptacles (s)] for supplying current to one or more ac power loads. SPDs provided with a minimum of two adjacent terminals for each circuit conductor may be considered and tested as a two-port SPD.

— (UL 1449)

Voltage Protection Level (U_p)

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 wave shape.

— (IEC 61643)

Open Circuit Voltage (U_{oc})

Open circuit voltage of the combination wave generator at the point of connection of the device under test.

— (IEC 61643)

Degree 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.

— (IEC 60529)



ATTENTION

Usage

1. Frequency range is from 47 Hz to 63 Hz .
2. The voltage applied continuously to the SPD Module must not exceed its maximum continuous operating voltage U_c .
3. When air pressure 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 pins directly when power is on, to avoid electric shock.

Replacement

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

Storage

Please store the SPD module without high temperature, high humidity or corrosive gas. To avoid reducing the solder ability of the pins, please use them up within 1 year after receiving the goods.

Installation

Mechanical Stress

Do not apply mechanical stress to the SPD Module body during or after the installation.

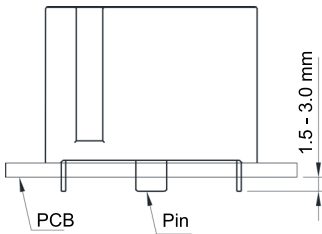
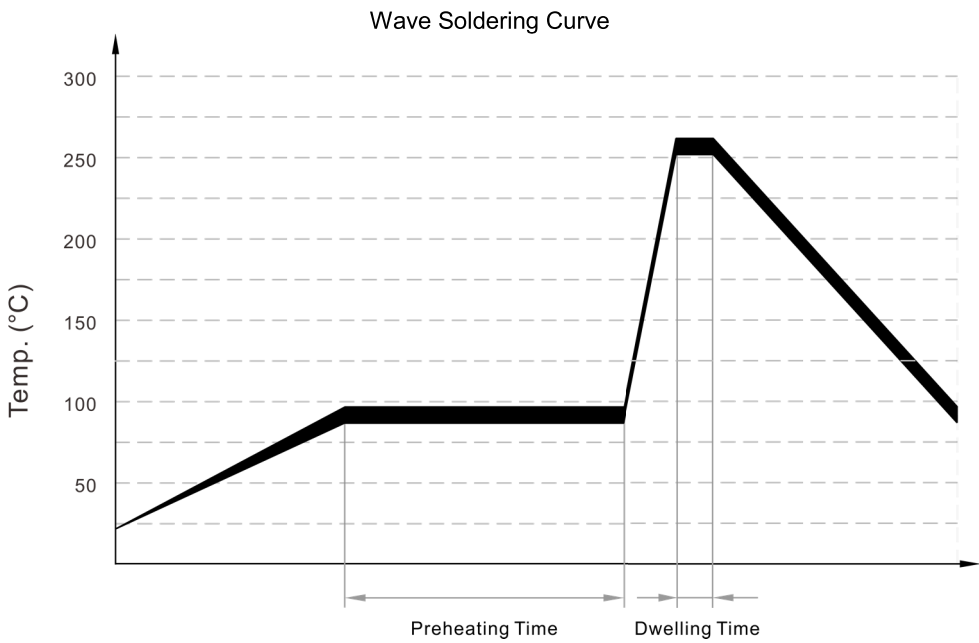
Installation Position

Do not install SPD module on the place which often suffer severe vibration.

Soldering Parameters

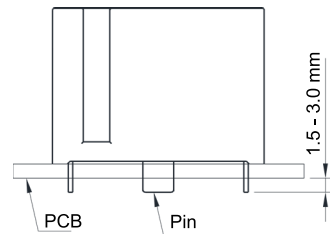
Wave-Soldering Parameters

The Wave Soldering Parameters are for reference only. Before SPD module is for practice usage, relative validation is recommended.



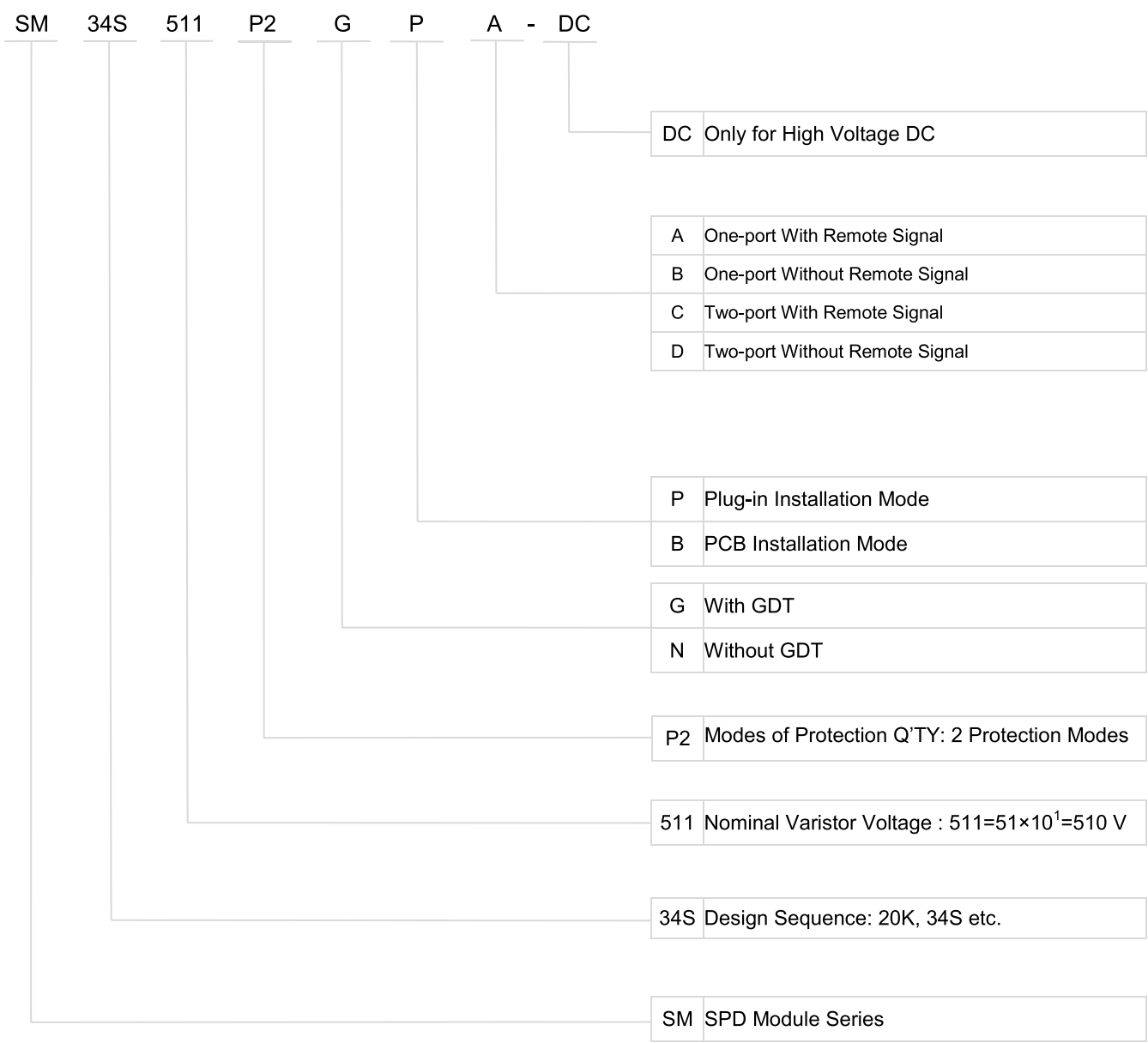
Items	Temp. (°C)	Time (s)
Preheating	80 - 90	60 - 150
Dwelling	260±5	2 - 4

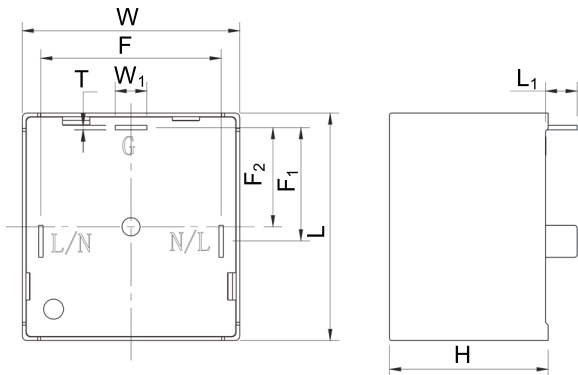
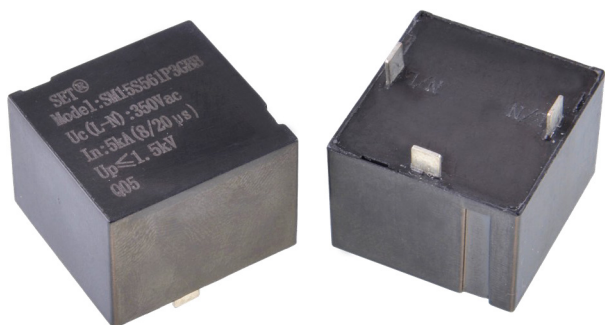
Recommended Hand-Soldering Parameters



Solder Iron Temp.: (350±5) °C
Heating Time: $t \leq 4$ s

Part Number System





Dimensions (mm)

L	L ₁	W	W ₁	H	T	F	F ₁	F ₂
25.0±1.0	3.5±1.0	24.0±1.0	3.5±0.5	17.6±1.0	0.50±0.05	20.0±1.0	12.5±1.0	11.0±1.0

Key Features

- Recognized by UL 1449 as Type 4CA
- Operating Conditions: Temp. (-40 - 105) °C, RH≤95%
- Designed to EN / IEC 61643-11 T2
- Miniaturized Size

Applications

- Surge Protective Device (SPD)
- Industrial Power Supply
- Telecom Power
- Uninterruptable Power Supply (UPS)
- Electric Vehicle Charging Pole

Product Schematics

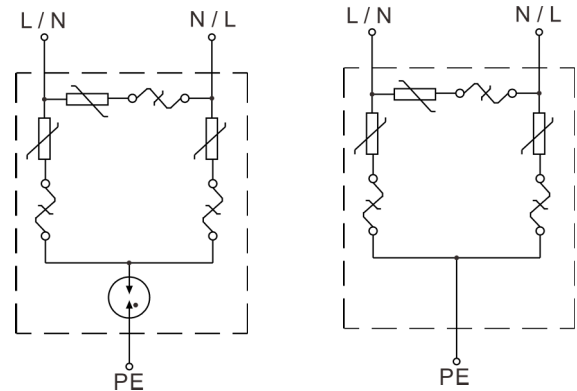
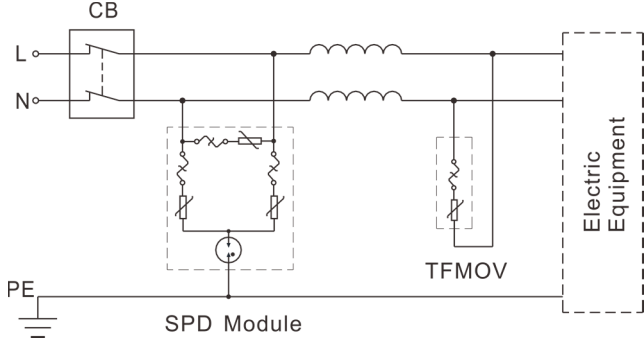




Fig. 1 Fig. 2

Installation Guide



Specifications

Model	Max. Continuous Operating Voltage		Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Level	Response Time	External Overcurrent Protection ^a	Product Schematics	Agency Approvals	
	U_c		I_n	I_{max}	U_p				 UL, CUL	 TUV
	(Vac)	(Vdc)	(kA)	(kA)	(V)	(ns)	(A)			
SM15S820P3NBB	50	65	2.5	5	400	<25	10	Fig. 2		
SM15S820P3GBB	50	65	2.5	5	400	<100	10	Fig. 1		
SM15S101P3NBB	60	85	2.5	5	400	<25	10	Fig. 2		
SM15S101P3GBB	60	85	2.5	5	400	<100	10	Fig. 1		
SM15S121P3NBB	75	100	2.5	5	500	<25	10	Fig. 2		
SM15S121P3GBB	75	100	2.5	5	500	<100	10	Fig. 1		
SM15S201P3NBB	130	170	5	10	800	<25	10	Fig. 2	●	
SM15S201P3GBB	130	170	5	10	800	<100	10	Fig. 1	●	
SM15S221P3NBB	140	180	5	10	800	<25	10	Fig. 2	●	
SM15S221P3GBB	140	180	5	10	800	<100	10	Fig. 1	●	
SM15S241P3NBB	150	200	5	10	800	<25	10	Fig. 2	●	
SM15S241P3GBB	150	200	5	10	800	<100	10	Fig. 1	●	
SM15S271P3NBB	175	225	5	10	800	<25	10	Fig. 2	●	
SM15S271P3GBB	175	225	5	10	800	<100	10	Fig. 1	●	
SM15S471P3NBB	300	385	5	10	1200	<25	10	Fig. 2	●	
SM15S471P3GBB	300	385	5	10	1200	<100	10	Fig. 1	●	
SM15S511P3NBB	320	415	5	10	1500	<25	10	Fig. 2	●	
SM15S511P3GBB	320	415	5	10	1500	<100	10	Fig. 1	●	
SM15S561P3NBB	350	460	5	10	1500	<25	10	Fig. 2	●	
SM15S561P3GBB	350	460	5	10	1500	<100	10	Fig. 1	●	●
SM15S621P3NBB	385	505	5	10	1500	<25	10	Fig. 2	●	
SM15S621P3GBB	385	505	5	10	1500	<100	10	Fig. 1	●	●

^a: Recommended External Circuit Breaker Model: C 10 A, Curve C (Individually Set or Main Circuit).

Designed to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11

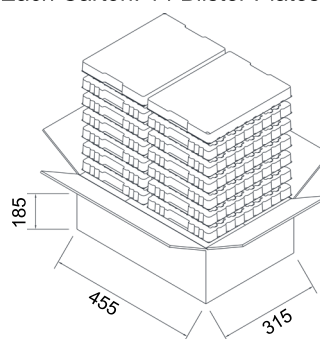
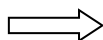
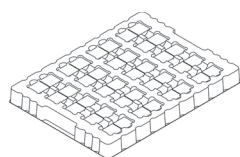
Agency Information

- UL / CUL E322662
- TUV J 50354525

Packaging Information

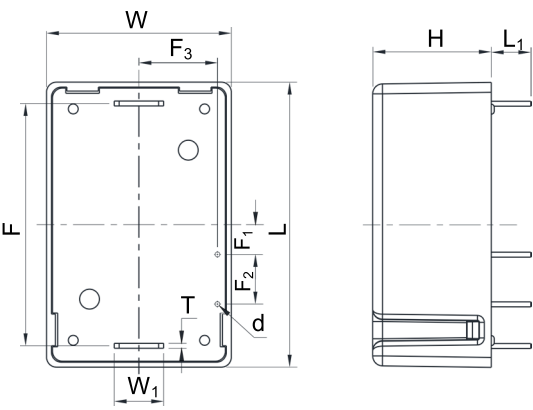
Each Blister Plate: 40 PCS

Each Carton: 14 Blister Plates



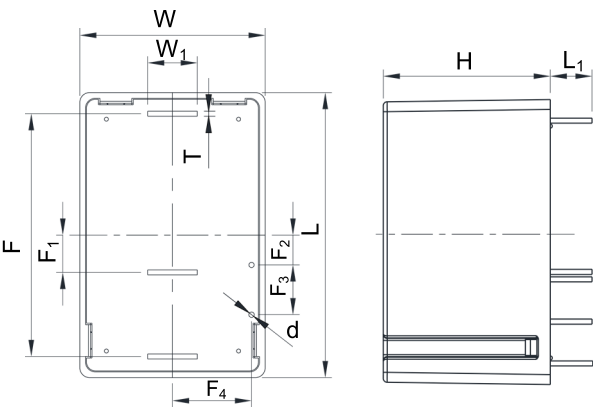
- Unit: mm;
- Please refer to the specifications for the packaging details.

SM20K***P1N Dimensions (mm)



L	L ₁	W	W ₁	H	T	d	F	F ₁	F ₂	F ₃
28.5±1.0	4.0±1.0	18.5±1.0	5.0±0.5	12.0±1.0	0.50±0.05	Φ0.50±0.05	24.4±1.0	3.0±1.0	5.0±1.0	8.0±1.0

SM20K***P1G Dimensions (mm)



L	L ₁	W	W ₁	H	T	d	F	F ₁	F ₂	F ₃	F ₄
28.5±1.0	4.0±1.0	18.5±1.0	5.0±0.5	17.0±1.0	0.50±0.05	Φ0.50±0.05	24.4±1.0	4.0±1.0	3.0±0.5	5.0±1.0	8.0±1.0

Key Features

- Designed to UL 1449 Type 4CA
- Operated Conditions: Temp. (-40 - 105) °C, RH≤95%
- Failure Indication Optional
- Miniaturized Size
- With Thermal Protection Function

Applications

- Telecom Power
- Network Equipment

Product Schematics

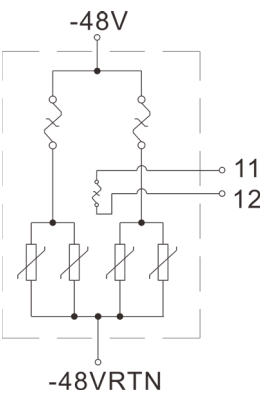


Fig. 3

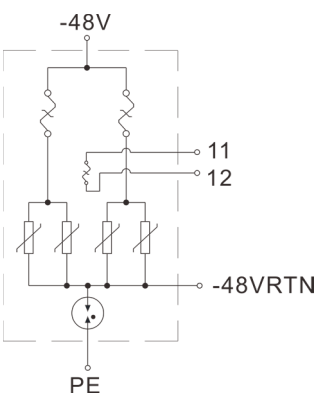


Fig. 4

Specifications

Model	Max. Continuous Operating Voltage		Nominal Discharge Current (8/20 μ s)	Voltage Protection Level	Response Time	External Overcurrent Protection ^a	Product Schematics
	U_c		I_n	U_p			
	(Vac)	(Vdc)	(kA)	(V)	(ns)	(A)	
SM20K680P1NBA	40	56	20	350	<25	16	Fig. 3
SM20K820P1NBA	50	65	20	400	<25	16	Fig. 3
SM20K101P1NBA	60	85	20	400	<25	16	Fig. 3
SM20K121P1NBA	75	100	20	450	<25	16	Fig. 3
SM20K680P1GBA	40	56	20	350	<100	16	Fig. 4
SM20K820P1GBA	50	65	20	400	<100	16	Fig. 4
SM20K101P1GBA	60	85	20	400	<100	16	Fig. 4
SM20K121P1GBA	75	100	20	450	<100	16	Fig. 4

^a: Recommended External Circuit Breaker Model: C 32 A, Curve C (Individually Set or Main Circuit).

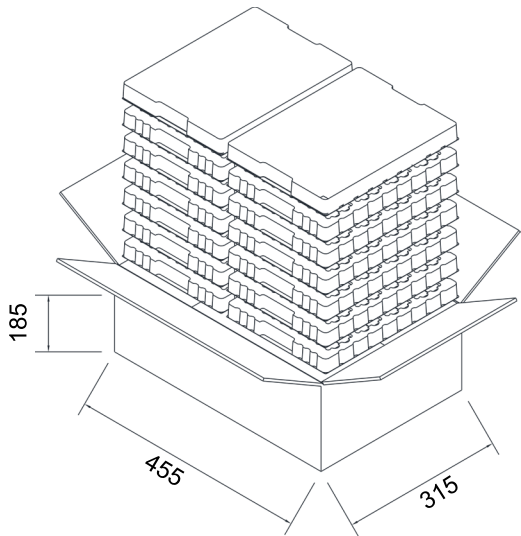
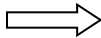
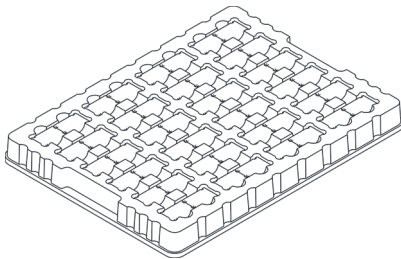
Refer to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11

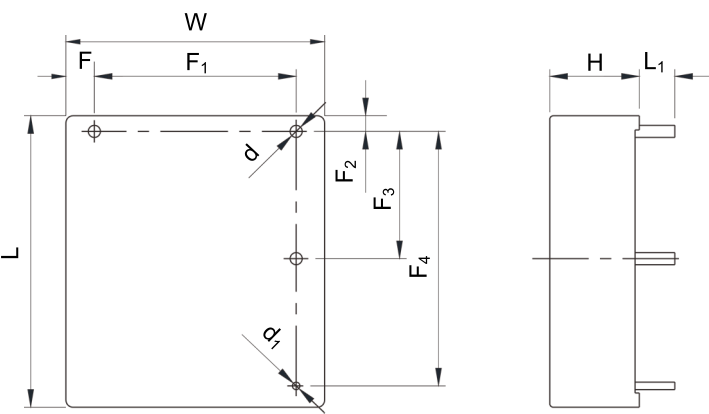
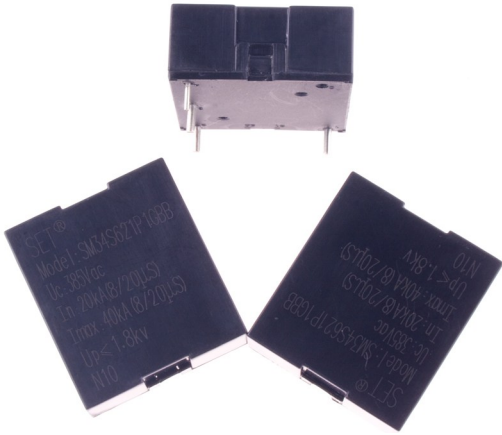
Packaging Information

Each Blister Plate: 48 PCS

Each Carton: 14 Blister Plates



- Unit: mm;
- Please refer to the specifications for the packaging details.



Dimensions (mm)

L	L ₁	W	d	d ₁	F	F ₁	F ₂	F ₃	F ₄
41.0±1.0	5.0±1.0	36.4±1.0	Φ1.7±0.1	Φ1.05±0.05	4.0±0.5	28.4±1.0	2.2±0.5	18.0±1.0	36.0±1.0
Nominal Varistor Voltage			470 - 121	241 - 271	431- 511	561 - 751			
H			12.6±0.5	13.6±0.5	14.6±0.5	16. 0±0.5			

Key Features

- Suitable for PCB Installation, Product Thickness≤17 mm
- Operating Conditions: Temp. (-40 - 105) °C, RH≤95%
- Suitable for TT&TN System, “1+1” Circuit Design

Applications

- Telecom Power
- Uninterruptable Power Supply (UPS)

Product Schematics

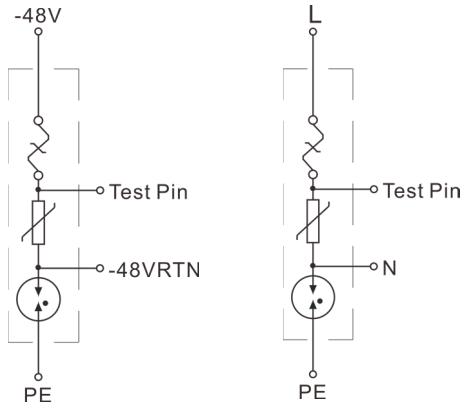
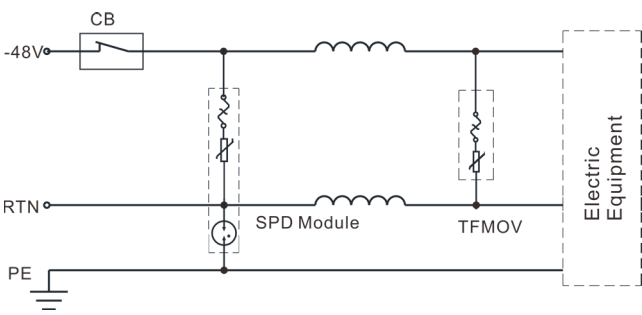


Fig. 5

Fig. 6

Installation Guide



Specifications

Model	Max. Continuous Operating Voltage		Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Level	Response Time	Level of Limited Current	External Overcurrent Protection ^a	Product Schematics	Agency Approvals
	U_c	U_c	I_n	I_{max}	U_p					
	(Vac)	(Vdc)	(kA)	(kA)	(V)	(ns)	(A)	(A)		TUV
SM34S470P1GBB	30	38	10	20	220	<100	50	32	Fig. 5	
SM34S680P1GBB	40	56	10	20	220	<100	50	32	Fig. 5	
SM34S820P1GBB	50	65	15	30	330	<100	50	32	Fig. 5	●
SM34S101P1GBB	60	85	15	30	330	<100	50	32	Fig. 5	●
SM34S121P1GBB	75	100	15	30	400	<100	50	32	Fig. 5	●
SM34S241P1GBB	150	200	20	40	600	<100	–	32	Fig. 6	
SM34S431P1GBB	275	350	20	40	1000	<100	–	32	Fig. 6	
SM34S471P1GBB	300	385	20	40	1200	<100	–	32	Fig. 6	
SM34S511P1GBB	320	415	20	40	1200	<100	–	32	Fig. 6	
SM34S561P1GBB	350	460	20	40	1500	<100	–	32	Fig. 6	
SM34S621P1GBB	385	505	20	40	1500	<100	–	32	Fig. 6	
SM34S751P1GBB	460	615	20	40	1800	<100	–	32	Fig. 6	

^a: Recommended External Circuit Breaker Model: C 32 A, Curve C (Individually Set or Main Circuit).

Designed to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11

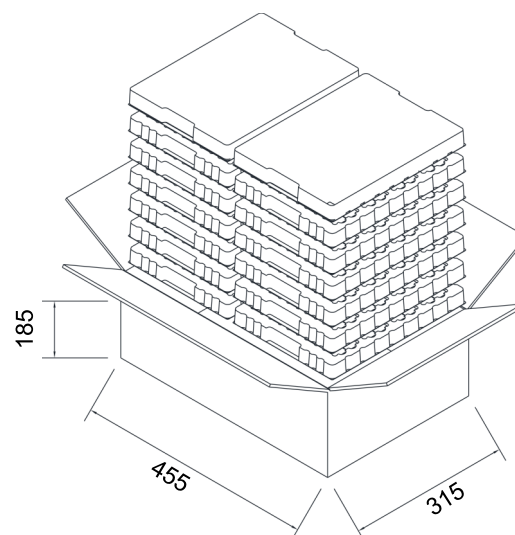
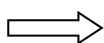
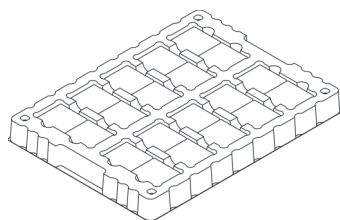
Agency Information

TUV J 50369231

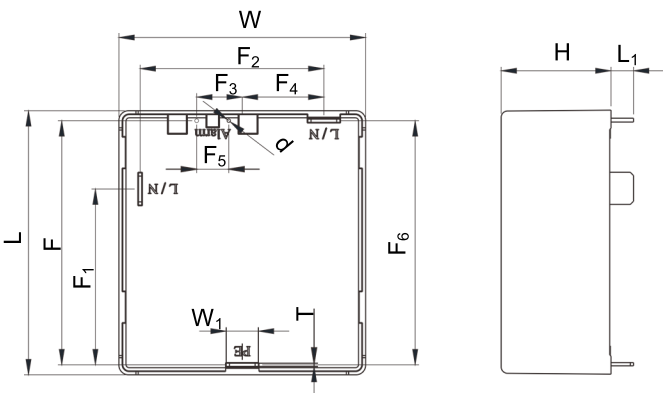
Packaging Information

Each Blister Plate: 20 PCS

Each Carton: 14 Blister Plates



- Unit: mm;
- Please refer to the specifications for the packaging details.



Dimensions (mm)

L	L ₁	W	W ₁	H	T	d	F	F ₁
41.0±1.0	3.5±1.0	38.5±1.0	5.0±0.5	17.0±1.0	0.50±0.05	Φ0.5±0.1	38.0±1.0	27.5±1.0
F ₂	F ₃	F ₄	F ₅	F ₆				
28.6±1.0	7.0±1.0	13.0±1.0	5.0±1.0	38.0±1.0				

Key Features

- Recognized by UL 1449 as Type 4CA
- Designed to EN / IEC 61643-11 T2
- Failure Indication Optional
- Miniaturized Size
- Operating Conditions: Temp. (-40 - 105) °C, RH≤95%

Applications

- Surge Protective Device (SPD)
- Industrial Power Supply
- Telecom Power
- Uninterruptable Power Supply (UPS)
- Electric Vehicle Charging Pole

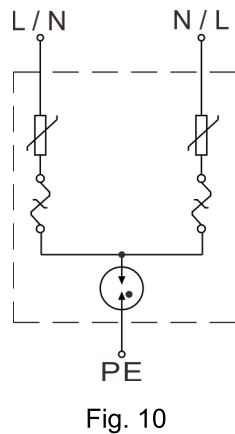
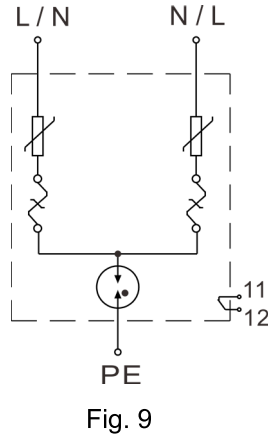
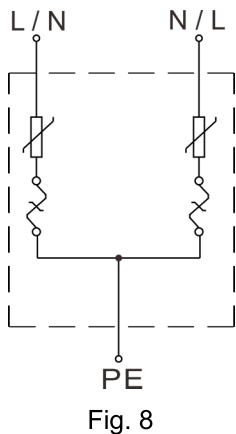
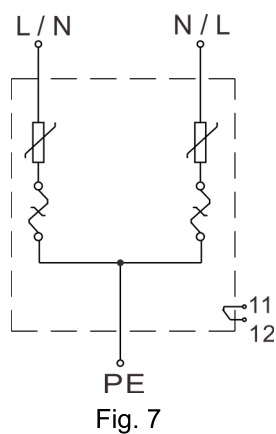
Designed to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11



Agency Information

- UL / CUL E322662
- TUV J 50347206

Product Schematics



Specifications

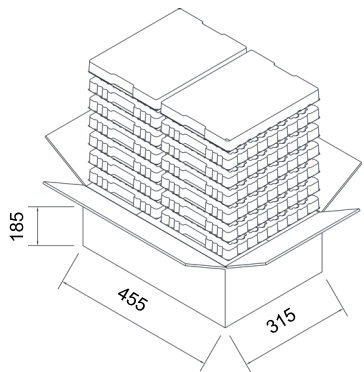
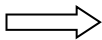
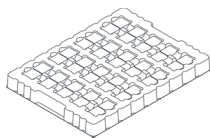
Model	Max. Continuous Operating Voltage		Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Level	Response Time	External Over-current Protection ^a	Product Schematics	Agency Approvals	
	U_c		I_n	I_{max}	U_p				 	
	(Vac)	(Vdc)	(kA)	(kA)	(V)	(ns)	(A)		UL, CUL	TUV
SM34S680P2GB*	40	56	10	20	400	<100	32	Fig. 9 / 10		
SM34S820P2GB*	50	65	15	30	400	<100	32	Fig. 9 / 10		
SM34S101P2GB*	60	85	15	30	500	<100	32	Fig. 9 / 10		
SM34S201P2GB*	130	170	20	40	500	<100	32	Fig. 9 / 10	●	
SM34S221P2GB*	140	180	20	40	800	<100	32	Fig. 9 / 10	●	
SM34S241P2GB*	150	200	20	40	800	<100	32	Fig. 9 / 10	●	
SM34S271P2GB*	175	225	20	40	800	<100	32	Fig. 9 / 10	●	
SM34S431P2GB*	275	350	20	40	1500	<100	32	Fig. 9 / 10	●	●
SM34S471P2GB*	300	385	20	40	1500	<100	32	Fig. 9 / 10	●	●
SM34S511P2GB*	320	415	20	40	1500	<100	32	Fig. 9 / 10	●	●
SM34S561P2GB*	350	460	20	40	1500	<100	32	Fig. 9 / 10	●	
SM34S680P2NB*	40	56	10	20	400	<25	32	Fig. 7 / 8		
SM34S820P2NB*	50	65	15	30	400	<25	32	Fig. 7 / 8		
SM34S101P2NB*	60	85	15	30	500	<25	32	Fig. 7 / 8		
SM34S201P2NB*	130	170	20	40	500	<25	32	Fig. 7 / 8	●	
SM34S221P2NB*	140	180	20	40	800	<25	32	Fig. 7 / 8	●	
SM34S241P2NB*	150	200	20	40	800	<25	32	Fig. 7 / 8	●	
SM34S271P2NB*	175	225	20	40	800	<25	32	Fig. 7 / 8	●	
SM34S431P2NB*	275	350	20	40	1500	<25	32	Fig. 7 / 8	●	
SM34S471P2NB*	300	385	20	40	1500	<25	32	Fig. 7 / 8	●	
SM34S511P2NB*	320	415	20	40	1500	<25	32	Fig. 7 / 8	●	
SM34S561P2NB*	350	460	20	40	1500	<25	32	Fig. 7 / 8	●	

^a: Recommended External Circuit Breaker Model C 32 A, Curve C (Individually Set or Main Circuit).
 *: May be A or B.

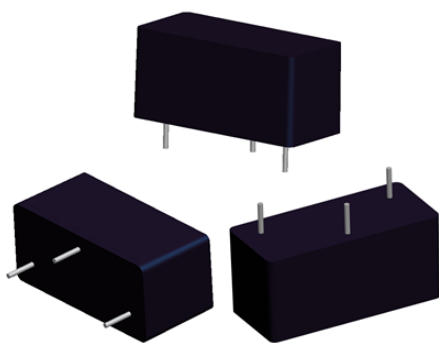
Packaging Information

Each Blister Plate: 20 PCS

Each Carton: 14 Blister Plates



- Unit: mm;
- Please refer to the specifications for the packaging details.



Meet the Test Requirements of IEC 60950

Dimensions (mm)

L26 × W12 × H12

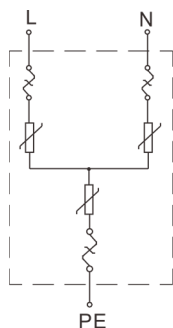
Key Features

- Horizontal or Vertical Installation
- Miniaturized Size
- Surge Capacity: 4 kV / 2 kA
- Operating Conditions: Temp. (-40 - 85) °C, RH ≤ 95%

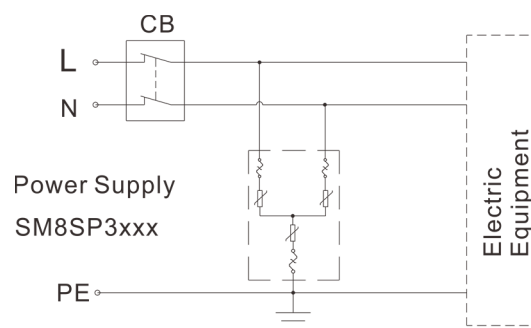
Applications

- LED Power Supply
- Industrial Power Supply
- Surge Protector
- Telecom Equipment
- Network Equipment
- Cable TV

Product Schematics

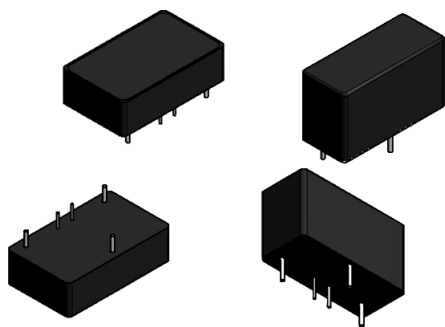


Installation Guide



Specifications

Model	Max. Continuous Operating Voltage		Open Circuit Voltage	Nominal Discharge Current	Voltage Protection Level		Response Time	Level of Limited Current
	U_c				U_p	I_p		
	(Vac)	(Vdc)	(kV)	(kA)	(V)	(kA)	(ns)	(A)
SM8S201P3NBB	130	170	4	2	500	2	<25	10
SM8S221P3NBB	140	180	4	2	500	2	<25	10
SM8S241P3NBB	150	200	4	2	600	2	<25	10
SM8S271P3NBB	175	225	4	2	700	2	<25	10
SM8S431P3NBB	275	350	4	2	900	2	<25	10
SM8S471P3NBB	300	385	4	2	1000	2	<25	10
SM8S511P3NBB	320	415	4	2	1200	2	<25	10
SM8S561P3NBB	350	460	4	2	1300	2	<25	10
SM8S621P3NBB	385	505	4	2	1500	2	<25	10



Meet the Test Requirements of IEC 60950

Dimensions (mm)
 L28 × W12 × H17
 L26 × W17 × H12

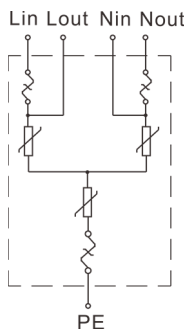
Key Features

- Horizontal or Vertical Installation
- Miniaturized Size
- Surge Capacity: 6 kV / 3 kA
- Operating Conditions: Temp. (-40 - 85) °C, RH ≤ 95%

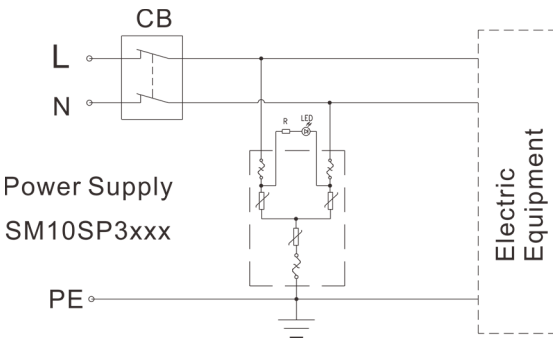
Applications

- LED Power Supply
- Industrial Power Supply
- Surge Protector
- Telecom Equipment
- Network Equipment
- Cable TV

Product Schematic



Installation Guide



Specifications

Model	Max. Continuous Operating Voltage		Open Circuit Voltage	Nominal Discharge Current	Voltage Protection Level		Response Time	Level of Limited Current
	U_c		U_{oc}	I_n	U_p	I_p		
	(Vac)	(Vdc)	(kV)	(kA)	(V)	(kA)		
SM10S201P3NBB	130	170	6	3	500	3	<25	10
SM10S221P3NBB	140	180	6	3	500	3	<25	10
SM10S241P3NBB	150	200	6	3	600	3	<25	10
SM10S271P3NBB	175	225	6	3	700	3	<25	10
SM10S431P3NBB	275	350	6	3	900	3	<25	10
SM10S471P3NBB	300	385	6	3	1000	3	<25	10
SM10S511P3NBB	320	415	6	3	1200	3	<25	10
SM10S561P3NBB	350	460	6	3	1300	3	<25	10
SM10S621P3NBB	385	505	6	3	1500	3	<25	10



FEATURES AND BENEFITS

- PATENTED PRODUCT
- MINIATURIZED SIZE
- DIFFERENTIAL AND COMMOM MODE PROTECTIONS
- FAILURE INDICATION
- RoHS COMPLIANT

Patents

Patent Name	Region	Category	Patent NO.
A Surge Protective Device for LED Outdoor Lighting Power Supply	China	Utility Model	ZL 2013203148779
A DC Protector	China	Utility Model	ZL 2013206682698
A Miniaturized Surge Protective Device	China	Utility Model	ZL 2013206678565
A New Type of Varistor and Surge Protective Device with Thermal Protection	China	Utility Model	ZL 201420306127.1
A Surge Protective Device	China	Utility Model	ZL 201420415059.2

SPD (Surge Protective Device) Feature & Model List Overview

		Model NO.									
		Maximum Continuous Operating Voltage U _c (V)									
		P306/307/308	P316/317	P318/319	P309/310	P311/312/313	P314/315	P320/321			Page
480V		SD05C480&M%	SD05K480&M%	SD05E480&M%	SD10C480E\$	SD10C480&\$%		SD10E480&M%	550	745	
	400V								510	670	
347V									460	615	
		SD05C347&M%	SD05K347&M%	SD05E347&M%	SD10C3470E\$	SD10C347&\$%		SD10E347&M%	420	560	
	254-277V								385	505	
220-230V		SD05C277&M%	SD05C277&M%	SD05E277&M%	SD10C277E\$	SD10C277&\$%		SD10E277&M%	320	415	
									300	385	
	300V								275	350	
	120-130V								190	250	
110V		SD05C120&M%	SD05K120&M%	SD05E120&M%	SD10C120E\$	SD10C120&\$%	SD10C120/240@\$	SD10E120&M%	150	200	
AC		5	5	5	10	10	10	10	AC	DC	
		Nominal Discharge Current / n (kA)									

Notes:

& : May be followed by A or L or G or N.

\$: May be followed by M or H.

@ : May be followed by A or G .

% : May be followed by T.



ATTENTION

Usage

1. Frequency range is from 47 Hz to 63 Hz .
2. The voltage applied continuously to the SPD Module must not exceed its maximum continuous operating voltage U_c .
3. When air pressure 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 pins 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

Please store the SPD without high temperature, high humidity or corrosive gas. To avoid oxidation of the lead wires, please use them up within 1 year after receiving the goods.

Installation

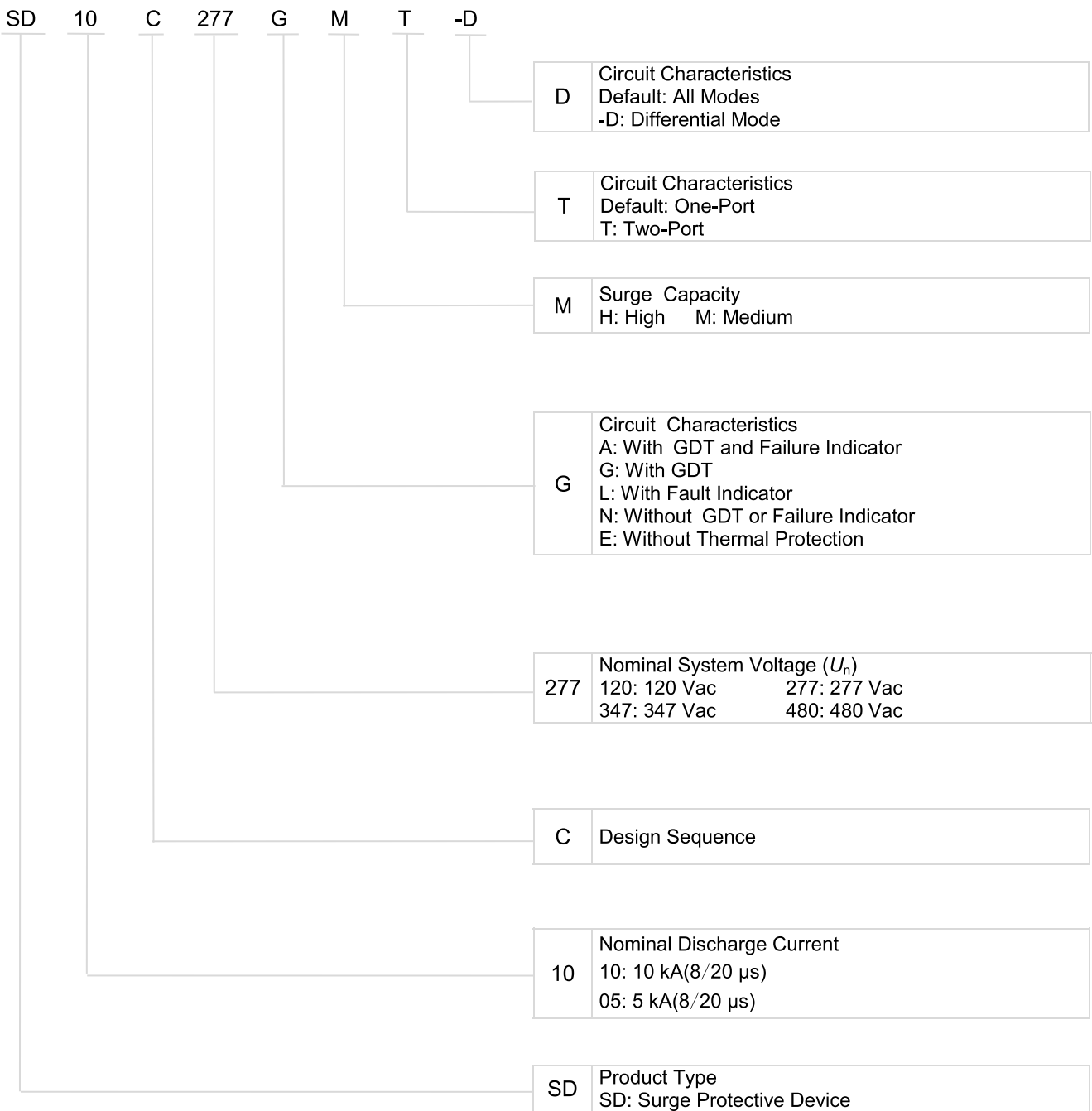
Installation Attention

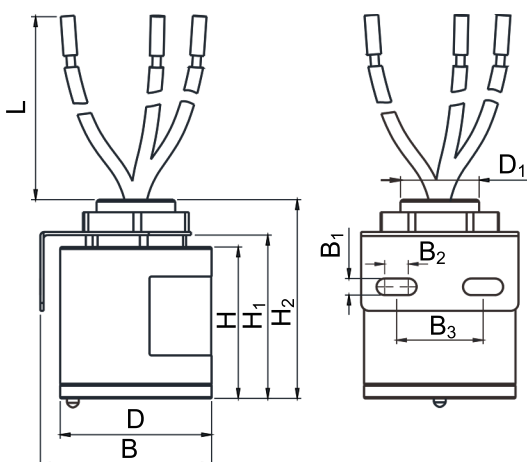
1. Attention risk of electric shock
2. Please remove all electrical power before installation or service.
3. Keep wires as straight as possible.
4. Ensure electrical connections and mountings are correct before energizing the circuit.
5. Installation and service must be performed by qualified personnel.
6. Please install proper circuit breaker in front of SPD.
7. Do not apply mechanical stress to the SPD body during or after the installation.

Installation Position

Do not install SPD on the place which suffer severe vibration.

Part Number System





Dimensions (mm)

L ^a	H	H ₁	H ₂	D	D ₁	B	B ₁	B ₂	B ₃
150.0±5.0	38.0±1.0	41.0±1.0	50.0±1.0	Φ38.0±1.0	M20 × 1.5	43.5±1.0	4.2±0.1	6.0±0.1	22.0±0.2

^a: The lead length “L” can be customized as required.

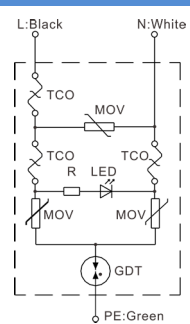
Key Features

- IP66
- Differential and Common Mode Protections
- One-port and Two-port Optional
- Failure Indication Optional
- Two-port SPD Can Disconnect The Main Line When Open-circuit Failure Happens

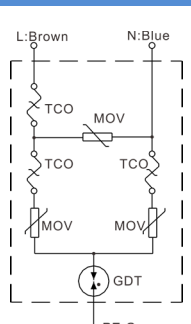
Applications

- Power System of Outdoor Lighting
- Power System of Monitoring
- Power System of Air Conditioning
- Power System of Computer Room
- Power System of Telecom
- Power System of EV

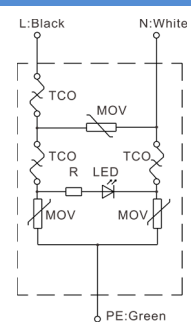
Schematics



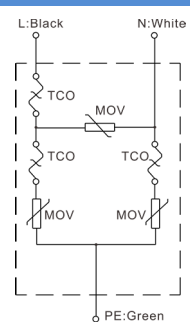
SD05CxxxAx Series
Fig.11



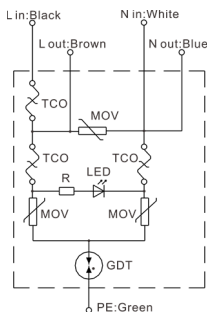
SD05CxxxGx Series
Fig.12



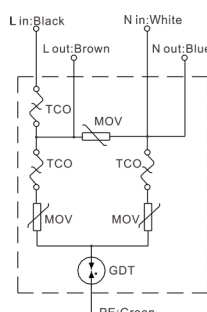
SD05CxxxLx Series
Fig.13



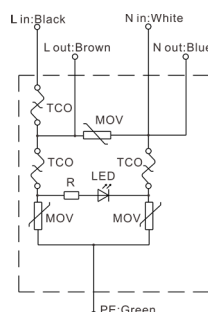
SD05CxxxNx Series
Fig.14



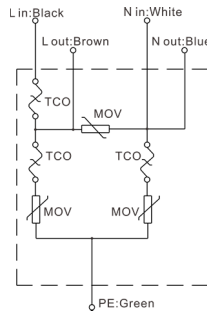
SD05CxxxAxT Series
Fig.15



SD05CxxxGxT Series
Fig.16




SD05CxxxLxT Series
Fig.17



SD05CxxxNxT Series
Fig.18

Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Level	Rated Current Current ^a	Response Time	External Overcurrent Protection ^b	Product Schematics	Agency Approvals
	U_c	I_n	I_{max}	U_p	I_r				
	(Vac)	(kA)	(kA)	(V)	(A)	(ns)	(A)		UL, CUL
SD05C120AM	150	5	10	1400	-	<100	10	Fig. 11	●
SD05C277AM	320	5	10	2000	-	<100	10	Fig. 11	●
SD05C347AM	420	5	10	2200	-	<100	10	Fig. 11	●
SD05C480AM	550	5	10	3000	-	<100	10	Fig. 11	
SD05C120GM	150	5	10	1400	-	<100	10	Fig. 12	●
SD05C277GM	320	5	10	2000	-	<100	10	Fig. 12	●
SD05C347GM	420	5	10	2200	-	<100	10	Fig. 12	●
SD05C480GM	550	5	10	3000	-	<100	10	Fig. 12	
SD05C120LM	150	5	10	1200	-	<25	10	Fig. 13	●
SD05C277LM	320	5	10	1600	-	<25	10	Fig. 13	●
SD05C347LM	420	5	10	2000	-	<25	10	Fig. 13	●
SD05C480LM	550	5	10	2800	-	<25	10	Fig. 13	
SD05C120NM	150	5	10	1200	-	<25	10	Fig. 14	●
SD05C277NM	320	5	10	1600	-	<25	10	Fig. 14	●
SD05C347NM	420	5	10	2000	-	<25	10	Fig. 14	●
SD05C480NM	550	5	10	2800	-	<25	10	Fig. 14	
SD05C120AMT	150	5	10	1400	10	<100	10	Fig. 15	●
SD05C277AMT	320	5	10	2000	10	<100	10	Fig. 15	●
SD05C347AMT	420	5	10	2200	10	<100	10	Fig. 15	●
SD05C480AMT	550	5	10	3000	10	<100	10	Fig. 15	
SD05C120GMT	150	5	10	1400	10	<100	10	Fig. 16	●
SD05C277GMT	320	5	10	2000	10	<100	10	Fig. 16	●
SD05C347GMT	420	5	10	2200	10	<100	10	Fig. 16	●
SD05C480GMT	550	5	10	3000	10	<100	10	Fig. 16	
SD05C120LMT	150	5	10	1200	10	<25	10	Fig. 17	●
SD05C277LMT	320	5	10	1600	10	<25	10	Fig. 17	●
SD05C347LMT	420	5	10	2000	10	<25	10	Fig. 17	●
SD05C480LMT	550	5	10	2800	10	<25	10	Fig. 17	
SD05C120NMT	150	5	10	1200	10	<25	10	Fig. 18	●
SD05C277NMT	320	5	10	1600	10	<25	10	Fig. 18	●
SD05C347NMT	420	5	10	2000	10	<25	10	Fig. 18	●
SD05C480NMT	550	5	10	2800	10	<25	10	Fig. 18	

^a: Rated Current for the Thermal Fuse .^b: Recommended External Circuit Breaker Model: C 10 A, Curve C. (Individually Set or Main Circuit).

Designed to Standards

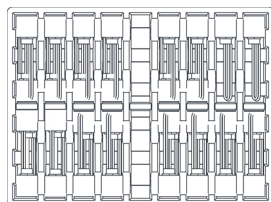
- UL 1449 Fourth Edition
- EN / IEC 61643-11
- IEEE C62.41.2

Agency Information

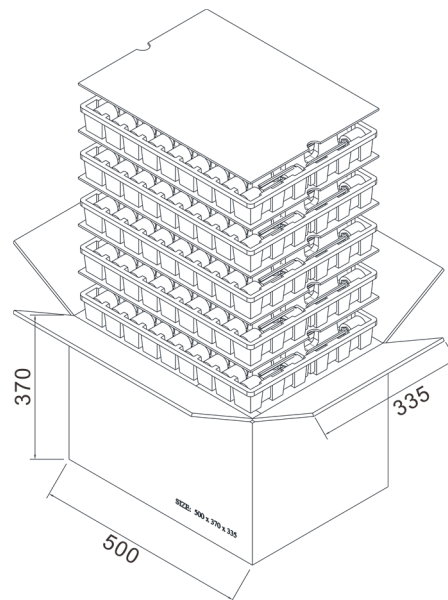
- UL / CUL E322662

Packaging Information

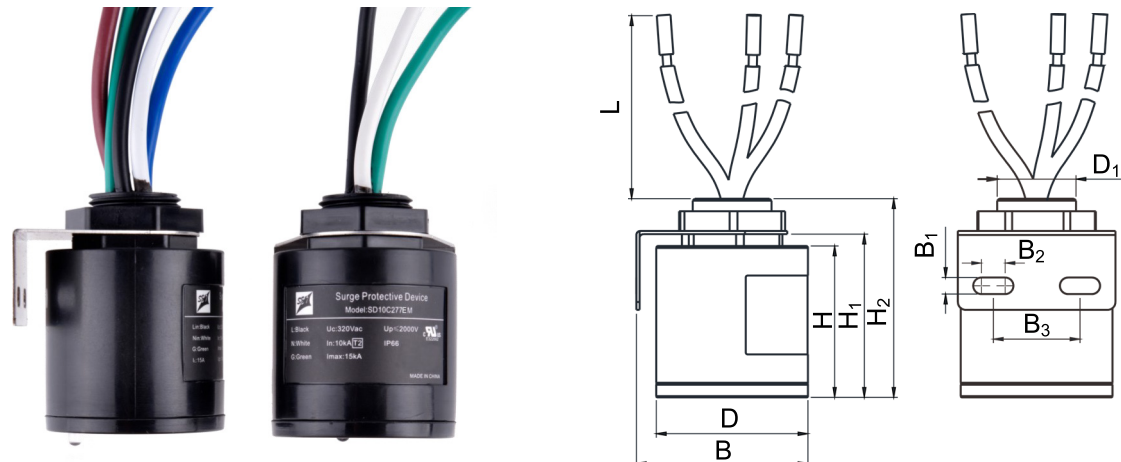
Each Blister Plate: 32 PCS



Each Carton: 5 Blister Plates



- Unit: mm;
- Please refer to the specifications for the packaging details.



Dimensions (mm)

L ^a	H	H ₁	H ₂	D	D ₁	B	B ₁	B ₂	B ₃
150.0±5.0	38.0±1.0	41.0±1.0	50.0±1.0	Φ38.0±1.0	M20 × 1.5	43.5±1.0	4.2±0.1	6.0±0.1	22.0±0.2

^a: The lead length “L” can be customized as required.

Key Features

- IP66
- Differential and Common Mode Protections
- One-port Optional
- Without Thermal Protection Function

Applications

- Power System of Outdoor Lighting
- Power System of Monitoring
- Power System of Air Conditioning
- Power System of Computer Room
- Power System of Telecom
- Power System of EV

Designed to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11
- IEEE C62.41.2

Agency Information

- UL / CUL E322662

Schematics

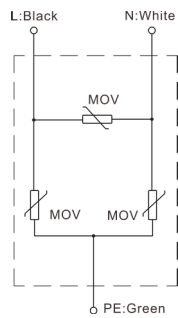



Fig.19

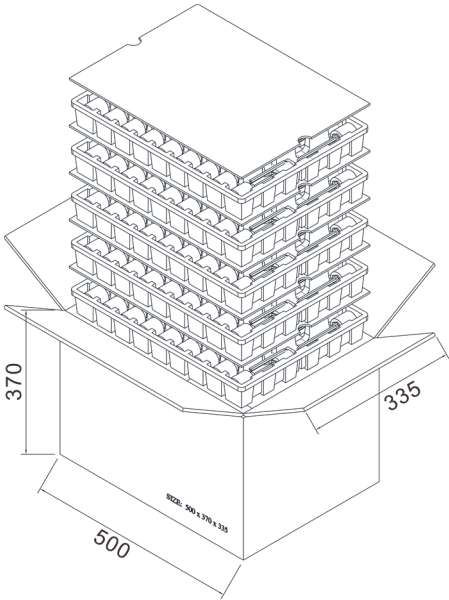
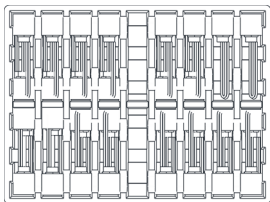
Specifications

Model	Max. Continuous Operating Voltage	Surge Current (8/20 μ s)			Voltage Protection Rating	Product Schematics	Agency Approvals
	U_c	I_n	U_{oc}	I_{max}	VPR		
	(Vac)	(kA)	(kV)	(kA)	(V)		UL, CUL
SD10C120EM	150	10	20	15	600	Fig. 19	●
SD10C277EM	320	10	20	15	1150	Fig. 19	●
SD10C347EM	420	10	20	15	1350	Fig. 19	●
SD10C480EM	550	10	20	15	1600	Fig. 19	
SD10C120EH	150	10	20	25	600	Fig. 19	●
SD10C277EH	320	10	20	25	1150	Fig. 19	●
SD10C347EH	420	10	20	25	1350	Fig. 19	●
SD10C480EH	550	10	20	25	1600	Fig. 19	

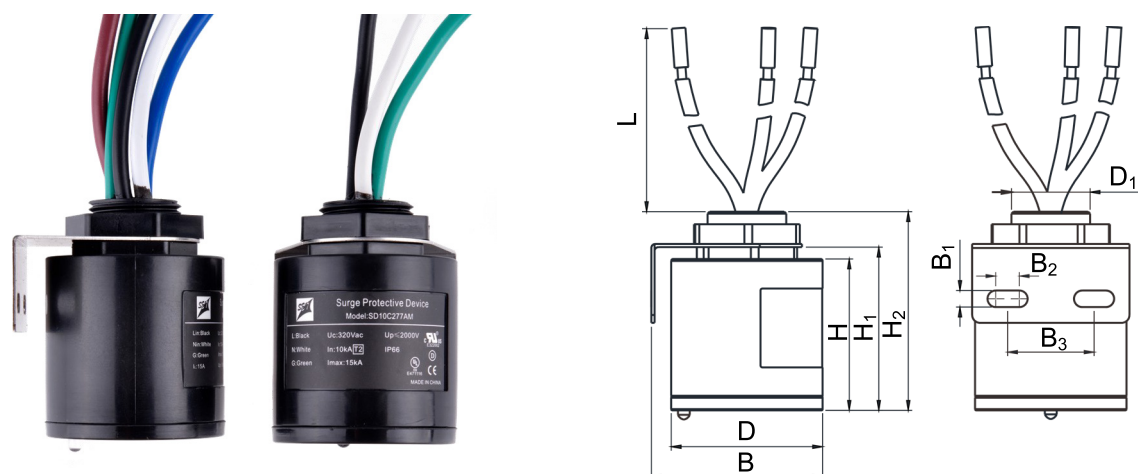
Packaging Information

Each Blister Plate: 32 PCS

Each Carton: 5 Blister Plates



- Unit: mm;
- Please refer to the specifications for the packaging details.



Dimensions (mm)

L ^a	H	H ₁	H ₂	D	D ₁	B	B ₁	B ₂	B ₃
150.0±5.0	38.0±1.0	41.0±1.0	50.0±1.0	Φ38.0±1.0	M20 × 1.5	43.5±1.0	4.2±0.1	6.0±0.1	22.0±0.2

^a: The lead length “L” can be customized as required.

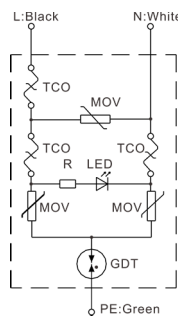
Key Features

- IP66
- Differential and Common Mode Protections
- One-port and Two-port Optional
- Failure Indication Optional
- Two-port SPD Can Disconnect The Main Line When Open-circuit Failure Happens

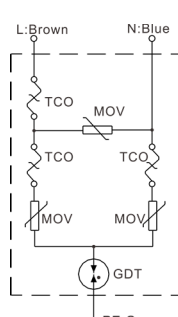
Applications

- Power System of Outdoor Lighting
- Power System of Monitoring
- Power System of Air Conditioning
- Power System of Computer Room
- Power System of Telecom
- Power System of EV

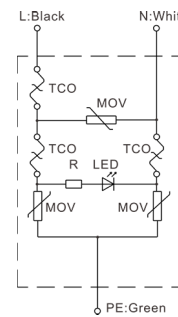
Schematics



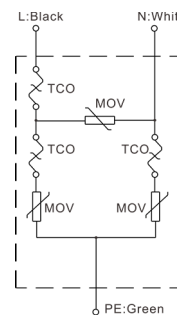
SD10CxxxAx Series
Fig.20



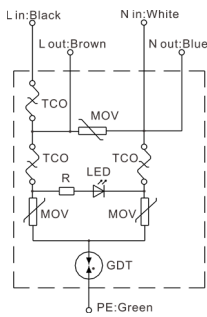
SD10CxxxGx Series
Fig.21



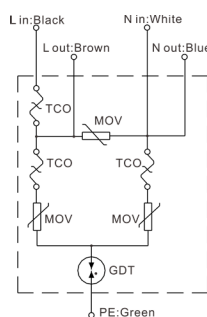
SD10CxxxLx Series
Fig.22



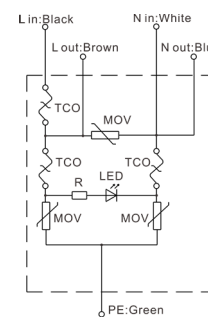
SD10CxxxNx Series
Fig.23



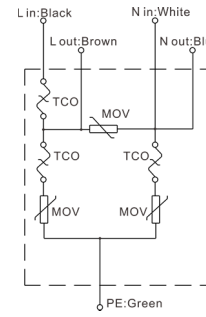
SD10CxxxAxT Series
Fig.24



SD10CxxxGxT Series
Fig.25



SD10CxxxLxT Series
Fig.26



SD10CxxxNxT Series
Fig.27

Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Rating	Voltage Protection Level	Rated Current ^a	Response Time	External Overcurrent Protection ^b	Product Schematic
	U_c	I_n	I_{max}	VPR	U_p	I_r			
	(Vac)	(kA)	(kA)	(V)	(V)	(A)			
SD10C120A*	150	10	15 / 25	800	1400	-	<100	32	Fig. 20
SD10C277A*	320	10	15 / 25	1300	2000	-	<100	32	Fig. 20
SD10C347A*	420	10	15 / 25	1500	2200	-	<100	32	Fig. 20
SD10C480A*	550	10	15 / 20	1800	3000	-	<100	20	Fig. 20
SD10C120G*	150	10	15 / 25	800	1400	-	<100	32	Fig. 21
SD10C277G*	320	10	15 / 25	1300	2000	-	<100	32	Fig. 21
SD10C347G*	420	10	15 / 25	1500	2200	-	<100	32	Fig. 21
SD10C480G*	550	10	15 / 20	1800	3000	-	<100	20	Fig. 21
SD10C120L*	150	10	15 / 25	600	1200	-	<25	32	Fig. 22
SD10C277L*	320	10	15 / 25	1150	1600	-	<25	32	Fig. 22
SD10C347L*	420	10	15 / 25	1350	2000	-	<25	32	Fig. 22
SD10C480L*	550	10	15 / 20	1600	2500	-	<25	20	Fig. 22
SD10C120N*	150	10	15 / 25	600	1200	-	<25	32	Fig. 23
SD10C277N*	320	10	15 / 25	1150	1600	-	<25	32	Fig. 23
SD10C347N*	420	10	15 / 25	1350	2000	-	<25	32	Fig. 23
SD10C480N*	550	10	15 / 20	1600	2500	-	<25	20	Fig. 23
SD10C120A*T	150	10	15 / 25	800	1400	15	<100	32	Fig. 24
SD10C277A*T	320	10	15 / 25	1300	2000	15	<100	32	Fig. 24
SD10C347A*T	420	10	15 / 25	1500	2200	15	<100	32	Fig. 24
SD10C480A*T	550	10	15 / 20	1800	3000	15	<100	20	Fig. 24
SD10C120G*T	150	10	15 / 25	800	1400	15	<100	32	Fig. 25
SD10C277G*T	320	10	15 / 25	1300	2000	15	<100	32	Fig. 25
SD10C347G*T	420	10	15 / 20	1500	2200	15	<100	32	Fig. 25
SD10C480G*T	550	10	15 / 25	1800	3000	15	<100	20	Fig. 25
SD10C120L*T	150	10	15 / 25	600	1200	15	<25	32	Fig. 26
SD10C277L*T	320	10	15 / 25	1150	1600	15	<25	32	Fig. 26
SD10C347L*T	420	10	15 / 25	1350	2000	15	<25	32	Fig. 26
SD10C480L*T	550	10	15 / 20	1600	2500	15	<25	20	Fig. 26
SD10C120N*T	150	10	15 / 25	600	1200	15	<25	32	Fig. 27
SD10C277N*T	320	10	15 / 25	1150	1600	15	<25	32	Fig. 27
SD10C347N*T	420	10	15 / 25	1350	2000	15	<25	32	Fig. 27
SD10C480N*T	550	10	15 / 20	1600	2500	15	<25	20	Fig. 27

^a: Rated Current for the Thermal Fuse .^b: Recommended External Curve C Circuit Breaker (Individually Set or Main Circuit).

*: Maybe M or H.






Designed to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11
- IEEE C62.41.2

Agency Information

- UL / CUL E322662
- UL-EU UL-EU-00647
- CE: 3183404.01AOC, 3183404.02AOC
- CB: NL-41003, NL-41004, NL-41005, NL-41006

Auxiliary Function

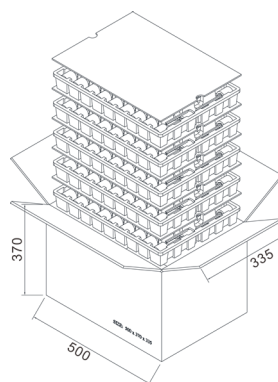
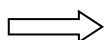
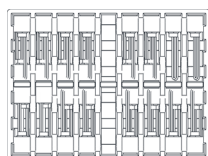
Model	Fault Indicator	GDT	One-Port	Two-Port	Agency Approvals			
						 		
SD10C120A*	●	●	●		●	●	●	
SD10C277A*	●	●	●		●	●	●	●
SD10C347A*	●	●	●		●	●	●	
SD10C480A*	●	●	●		●			
SD10C120G*		●	●		●			
SD10C277G*		●	●		●			
SD10C347G*		●	●		●			
SD10C480G*		●	●		●			
SD10C120L*	●		●		●	●	●	
SD10C277L*	●		●		●	●	●	●
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				●	●			

*: Maybe M or H.

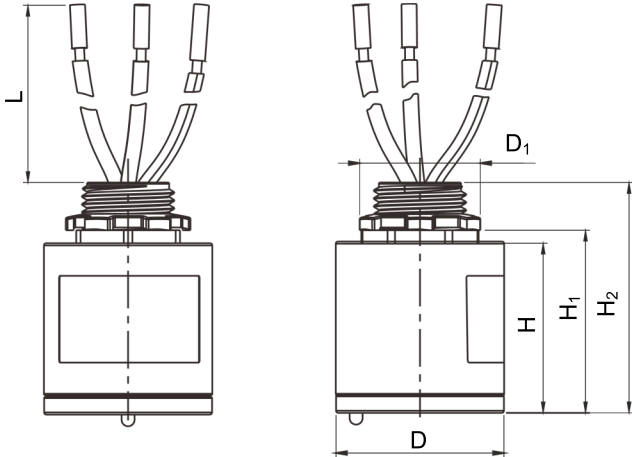
Packaging Information

Each Pulp Tray: 32 PCS

Each Carton: 5 Blister Plates



- Unit: mm;
- Please refer to the specifications for the packaging details.



Dimensions (mm)

L ^a	H	H ₁	H ₂	D	D ₁
150.0±5.0	39.0±1.0	42.0±1.0	53.0±1.0	Φ39.0±1.0	1/2-14HPSLX3.7

^a: The lead length “L” can be customized as required.

Key Features

- IP66
- UL1449 Type1 SPD
- TOV 5 s at 2 Times Rated Operating Voltage
- SCCR: 200 kA
- Operated Conditions: Temp. (-40 - 85) °C, RH≤95%

Applications

- Power System of Outdoor Lighting
- Power System of PV
- Power System of Air Conditioning
- Distribution Panel

Schematics

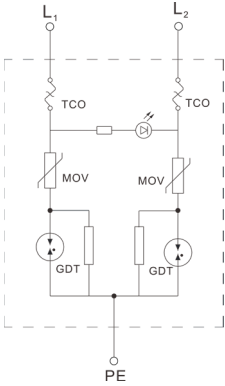


Fig. 28

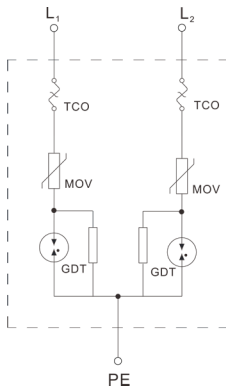



Fig. 29

Specifications

Model	Mode	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μs)	Max. Discharge Current (8/20 μs)	Voltage Protection Rating	Short Circuit Current Rating	Product Schematic	Agency Approvals
		MCOV	I_n	I_{max}	VPR	SCCR		
		(Vac)	(kA)	(kA)	(V)	(kA)		UL, CUL
SD10C120/240AH	L-G	150	10	25	1200	200	Fig. 28	●
	L-L	300			2000			
SD10C120/240AM	L-G	150	10	15	1200	200	Fig. 28	●
	L-L	300			2000			
SD10C120/240GH	L-G	150	10	25	1200	200	Fig. 29	●
	L-L	300			2000			
SD10C120/240GM	L-G	150	10	15	1200	200	Fig. 29	●
	L-L	300			2000			

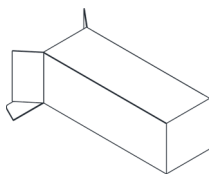
Designed to Standards

Agency Information

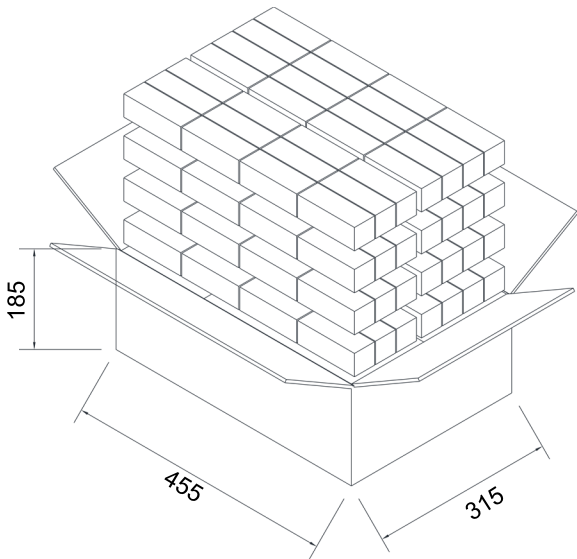
- UL 1449 Fourth Edition
- UL / CUL E322662

Packaging Information

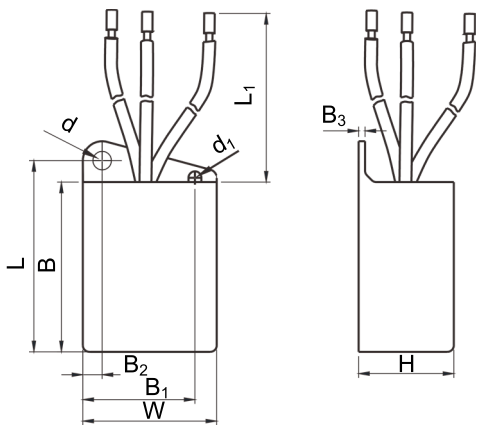
Each Blister Plate: 1 PCS



Each Carton: 112 Blister Plates



- Unit: mm;
- Please refer to the specifications for the packaging details.



Dimensions (mm)

L	(L ₁) ^a	W	H	d	d ₁	B	B ₁	B ₂	B ₃
44.5±1.0	150.0±5.0	31.0±1.0	22.0±1.0	Φ4.3±0.5	3.0±0.5	39.5±1.0	26.0±1.0	4.5±0.5	1.5±0.2

^a: The lead length “L₁” can be customized as required.

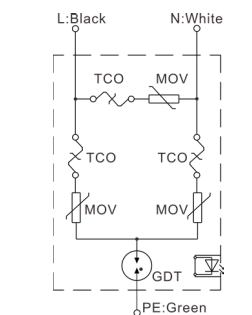
Key Features

- IP66
- Two-port Product Optional Waterproof Connector
- GDT for Common Mode Optional
- Failure Indication or Signal Indication or None
- With Thermal Protection Function

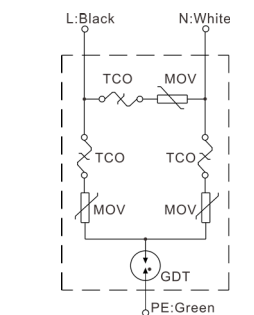
Applications

- Power System of Outdoor Lighting
- Power System of Monitoring
- Power System of Air Conditioning
- Power System of Computer Room
- Telecom Power
- Power System of EV

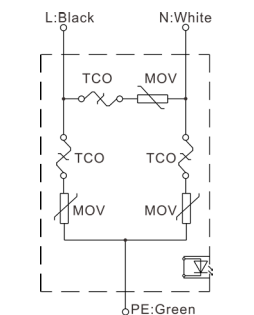
Schematics



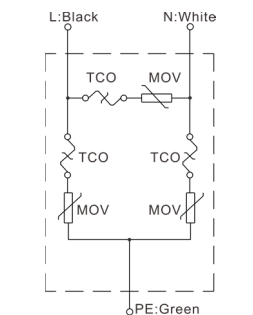
SD05KxxxAx Series
Fig. 30



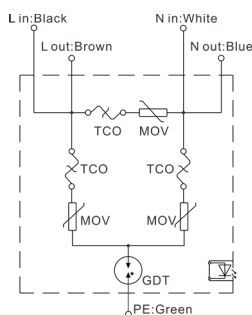
SD05KxxxGx Series
Fig. 31



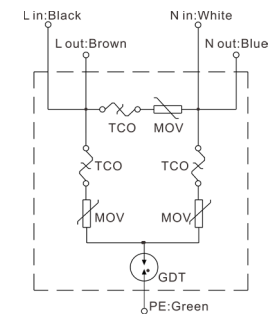
SD05KxxxLx Series
Fig. 32



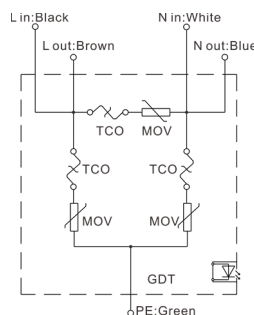
SD05KxxxNx Series
Fig. 33



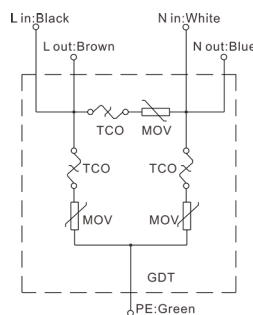
SD05KxxxAx Series
Fig. 34



SD05KxxxGx Series
Fig. 35




SD05KxxxLx Series
Fig. 36



SD05KxxxNx Series
Fig. 37

Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Level	Rated Current ^a	Response Time	External Overcurrent Protection ^b	Product Schematic	Agency Approvals
	U_c	I_n	I_{max}	U_p	I_r				
	(Vac)	(kA)	(kA)	(V)	(A)	(ns)	(A)		
SD05K120AM	150	5	10	1000	-	<100	10	Fig. 30	
SD05K277AM	320	5	10	1800	-	<100	10	Fig. 30	●
SD05K347AM	420	5	10	2200	-	<100	10	Fig. 30	
SD05K120GM	150	5	10	1000	-	<100	10	Fig. 31	
SD05K277GM	320	5	10	1800	-	<100	10	Fig. 31	
SD05K347GM	420	5	10	2200	-	<100	10	Fig. 31	
SD05K120LM	150	5	10	800	-	<25	10	Fig. 32	
SD05K277LM	320	5	10	1500	-	<25	10	Fig. 32	●
SD05K347LM	420	5	10	2000	-	<25	10	Fig. 32	
SD05K120NM	150	5	10	800	-	<25	10	Fig. 33	
SD05K277NM	320	5	10	1500	-	<25	10	Fig. 33	
SD05K347NM	420	5	10	2000	-	<25	10	Fig. 33	
SD05K120AMT	150	5	10	1000	7	<100	10	Fig. 34	
SD05K277AMT	320	5	10	1800	7	<100	10	Fig. 34	●
SD05K347AMT	420	5	10	2200	7	<100	10	Fig. 34	
SD05K120GMT	150	5	10	1000	7	<100	10	Fig. 35	
SD05K277GMT	320	5	10	1800	7	<100	10	Fig. 35	
SD05K347GMT	420	5	10	2200	7	<100	10	Fig. 35	
SD05K120LMT	150	5	10	800	7	<25	10	Fig. 36	
SD05K277LMT	320	5	10	1500	7	<25	10	Fig. 36	●
SD05K347LMT	420	5	10	2000	7	<25	10	Fig. 36	
SD05K120NMT	150	5	10	800	7	<25	10	Fig. 37	
SD05K277NMT	320	5	10	1500	7	<25	10	Fig. 37	
SD05K347NMT	420	5	10	2000	7	<25	10	Fig. 37	

^a: Rated Current for the Thermal Fuse .

^b: Recommended External Circuit Breaker Model: C 10 A, Curve C (Individually Set or Main Circuit).

Designed to Standards

- UL 1449 Fourth Edition

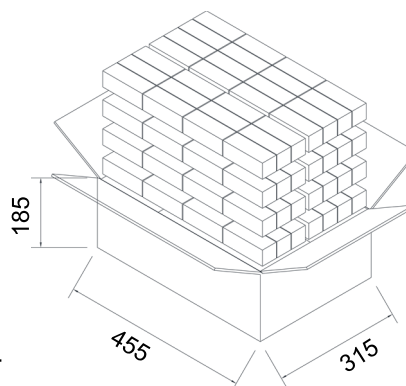
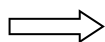
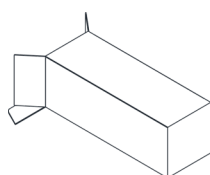
Agency Information

- UL / CUL E322662

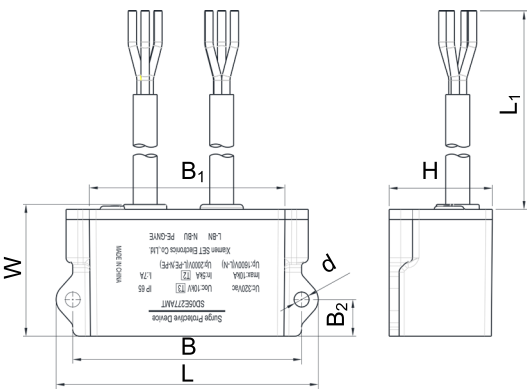
Packaging Information

Each Small Package: 1 PCS

Each Carton: 112 Small Package



- Unit: mm;
- Please refer to the specifications for the packaging details.



Dimensions (mm)

L	(L ₁) ^a	W	H	d	B	B ₁	B ₂
79.0±1.0	200.0±5.0	39.5±1.0	31.0±1.0	Φ4.5±0.5	69.0±1.0	59.0±1.0	11.0±1.0

^a: The lead length “L₁” can be customized as required.

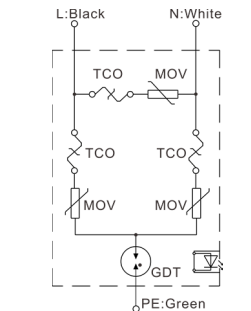
Key Features

- IP65
- Optional Waterproof Connector
- GDT for Common Mode Optional
- Failure Indication Optional
- With Thermal Protection Function

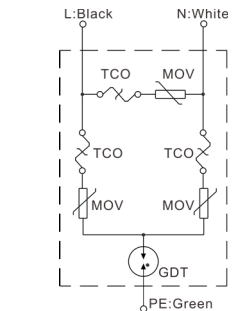
Applications

- Power System of Outdoor Lighting
- Power System of Monitoring
- Power System of Air Conditioning
- Power System of Computer Room
- Power System of Telecom
- Power System of EV

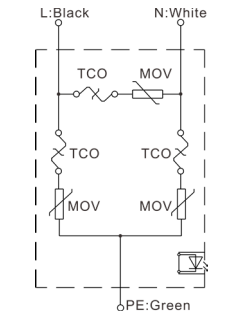
Schematics



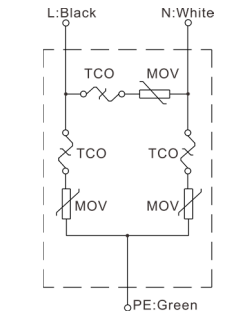
SD05ExxxAx Series
Fig. 38



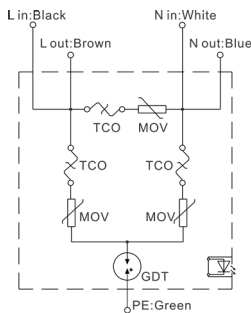
SD05ExxxGx Series
Fig. 39



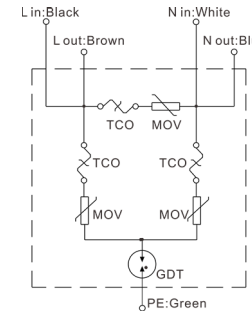
SD05ExxxLx Series
Fig. 40



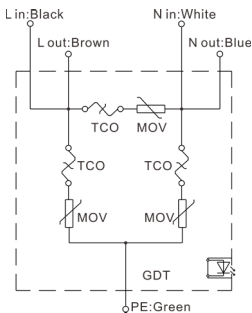
SD05ExxxNx Series
Fig. 41



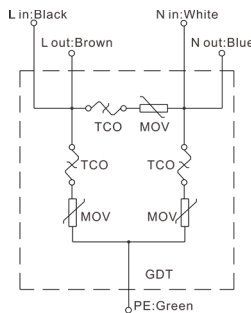
SD05ExxxAx Series
Fig. 42



SD05ExxxGx Series
Fig. 43




SD05ExxxLx Series
Fig. 44



SD05ExxxNx Series
Fig. 45

Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Level	Rated Current ^a	Response Time	External Over Current Protection ^b	Product Schematic	Agency Approvals
	U_c	I_n	I_{max}	U_p	I_r				
	(Vac)	(kA)	(kA)	(V)	(A)	(ns)	(A)		UL, CUL
SD05E120AM	150	5	10	1000	-	<100	10	Fig. 38	
SD05E277AM	320	5	10	1800	-	<100	10	Fig. 38	●
SD05E347AM	420	5	10	2200	-	<100	10	Fig. 38	
SD05E120GM	150	5	10	1000	-	<100	10	Fig. 39	
SD05E277GM	320	5	10	1800	-	<100	10	Fig. 39	
SD05E347GM	420	5	10	2200	-	<100	10	Fig. 39	
SD05E120LM	150	5	10	800	-	<25	10	Fig. 40	
SD05E277LM	320	5	10	1500	-	<25	10	Fig. 40	●
SD05E347LM	420	5	10	2000	-	<25	10	Fig. 40	
SD05E120NM	150	5	10	800	-	<25	10	Fig. 41	
SD05E277NM	320	5	10	1500	-	<25	10	Fig. 41	
SD05E347NM	420	5	10	2000	-	<25	10	Fig. 41	
SD05E120AMT	150	5	10	1000	7	<100	10	Fig. 42	
SD05E277AMT	320	5	10	1800	7	<100	10	Fig. 42	●
SD05E347AMT	420	5	10	2200	7	<100	10	Fig. 42	
SD05E120GMT	150	5	10	1000	7	<100	10	Fig. 43	
SD05E277GMT	320	5	10	1800	7	<100	10	Fig. 43	
SD05E347GMT	420	5	10	2200	7	<100	10	Fig. 43	
SD05E120LMT	150	5	10	800	7	<25	10	Fig. 44	
SD05E277LMT	320	5	10	1500	7	<25	10	Fig. 44	●
SD05E347LMT	420	5	10	2000	7	<25	10	Fig. 44	
SD05E120NMT	150	5	10	800	7	<25	10	Fig. 45	
SD05E277NMT	320	5	10	1500	7	<25	10	Fig. 45	
SD05E347NMT	420	5	10	2000	7	<25	10	Fig. 45	

^a: Rated Current for the Thermal Fuse .

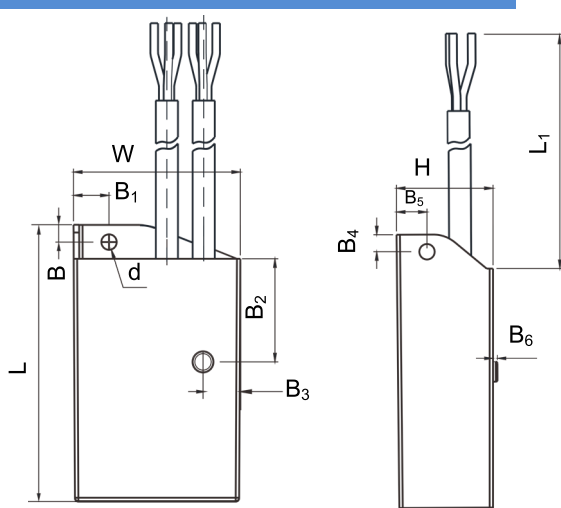
^b: Recommended External Circuit Breaker Model: C 10 A, Curve C (Individually Set or Main Circuit).

Designed to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11
- IEEE C62.41.2

Agency Information

- UL / CUL E322662



Dimensions (mm)

L	(L ₁) ^a	W	H	d	B	B ₁	B ₂	B ₃	B ₄	B ₅	B ₆
80.5±1.0	200.0±5.0	48.6±1.0	28.0±1.0	Φ4.5±0.5	5.0±0.5	10.4±0.5	30.0±1.0	11.0±1.0	5.0±0.5	9.0±0.5	1.3±0.2

^a: The lead length “L1” can be customized as required.

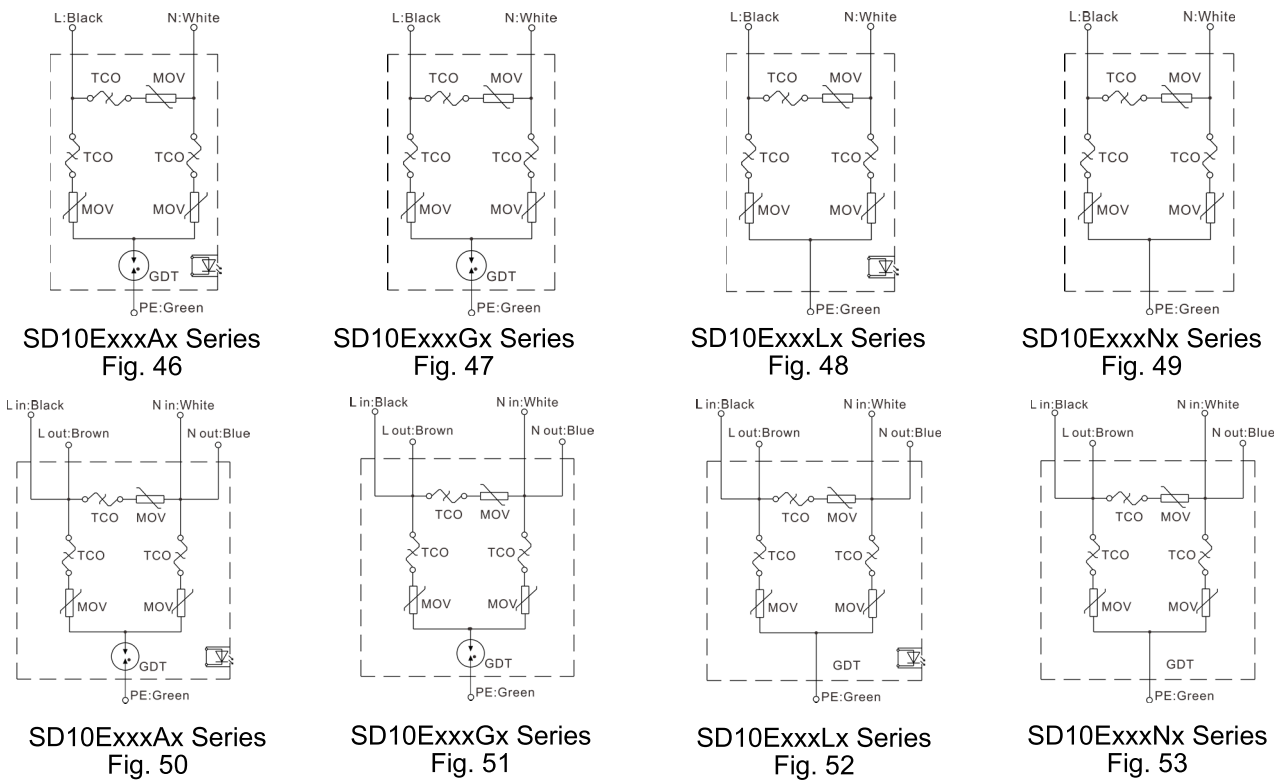
Key Features

- IP65
- Optional Waterproof Connector
- GDT for Common Mode Optional
- Failure Indication Optional
- With Thermal Protection Function

Applications

- Power System of Outdoor Lighting
- Power System of Monitoring
- Power System of Air Conditioning
- Power System of Computer Room
- Power System of Telecom
- Power System of EV

Schematics



Specifications

Model	Max. Continuous Operating Voltage	Nominal Discharge Current (8/20 μ s)	Max. Discharge Current (8/20 μ s)	Voltage Protection Level	Rated Current ^a	Response Time	External Over- Current Protection ^b	Product Schematics
	U_c	I_n	I_{max}	U_p	I_r			
	(Vac)	(kA)	(kA)	(V)	(A)	(ns)	(A)	
SD10E120AH	150	10	20	1200	-	100	20	Fig. 46
SD10E277AH	320	10	20	1800	-	<100	20	Fig. 46
SD10E347AH	420	10	20	2200	-	<100	20	Fig. 46
SD10E480AH	550	10	20	3000	-	<100	20	Fig. 46
SD10E120GH	150	10	20	1200	-	<100	20	Fig. 47
SD10E277GH	320	10	20	1800	-	<100	20	Fig. 47
SD10E347GH	420	10	20	2200	-	<100	20	Fig. 47
SD10E480GH	550	10	20	3000	-	<100	20	Fig. 47
SD10E120LH	150	10	20	1000	-	<25	20	Fig. 48
SD10E277LH	320	10	20	1500	-	<25	20	Fig. 48
SD10E347LH	420	10	20	2000	-	<25	20	Fig. 48
SD10E480LH	550	10	20	2800	-	<25	20	Fig. 48
SD10E120NH	150	10	20	1000	-	<25	20	Fig. 49
SD10E277NH	320	10	20	1500	-	<25	20	Fig. 49
SD10E347NH	420	10	20	2000	-	<25	20	Fig. 49
SD10E480NH	550	10	20	2800	-	<25	20	Fig. 49
SD10E120AHT	150	10	20	1000	7	<100	20	Fig. 50
SD10E277AHT	320	10	20	1800	7	<100	20	Fig. 50
SD10E347AHT	420	10	20	2200	7	<100	20	Fig. 50
SD10E480AHT	550	10	20	3000	7	<100	20	Fig. 50
SD10E120GHT	150	10	20	1000	7	<100	20	Fig. 51
SD10E277GHT	320	10	20	1800	7	<100	20	Fig. 51
SD10E347GHT	420	10	20	2200	7	<100	20	Fig. 51
SD10E480GHT	550	10	20	3000	7	<100	20	Fig. 51
SD10E120LHT	150	10	20	800	7	<25	20	Fig. 52
SD10E277LHT	320	10	20	1500	7	<25	20	Fig. 52
SD10E347LHT	420	10	20	2000	7	<25	20	Fig. 52
SD10E480LHT	550	10	20	2800	7	<25	20	Fig. 52
SD10E120NHT	150	10	20	800	7	<25	20	Fig. 53
SD10E277NHT	320	10	20	1500	7	<25	20	Fig. 53
SD10E347NHT	420	10	20	2000	7	<25	20	Fig. 53
SD10E480NHT	550	10	20	2800	7	<25	20	Fig. 53

^a: Rated Current for the Thermal Fuse .

^b: Recommended External Circuit Breaker Model: C 20 A, Curve C (Individually Set or Main Circuit).

Designed to Standards

- UL 1449 Fourth Edition
- EN / IEC 61643-11
- IEEE C62.41.2

Agency Information

- UL / CUL



Design, Manufacture, Market Circuit Protection Components
WTDP Lab for UL 60691 & UL 1449

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