



Certificate of Executive Distributor

This is to certify that
Link Vue System Private Limited
Is an Authorized Executive Distributor of
Entire Range of Surgeprotec Products
In the territory of INDIA, SINGAPORE, AUSTRALIA, BANGLADESH
Valid till March 2023

Minkyu Jeong
Chairmen & Manager Director

Surgeprotec Co., Ltd.
www.surgeprotec.com

Link Vue System Private Limited

- 📍 I-19, NEAR NEW MOTI NAGAR, KARAMPURA,
NEW DELHI-110015, INDIA
- 👤 Mr. Mahesh Chandra Manav
- ☎ +91 9811247237, + 91 9811598640
- ✉ manav.chandra@linkvuesystem.com
- 🌐 www.linkvuesystem.com





SURGEPROTEC
PRODUCT
CATALOG

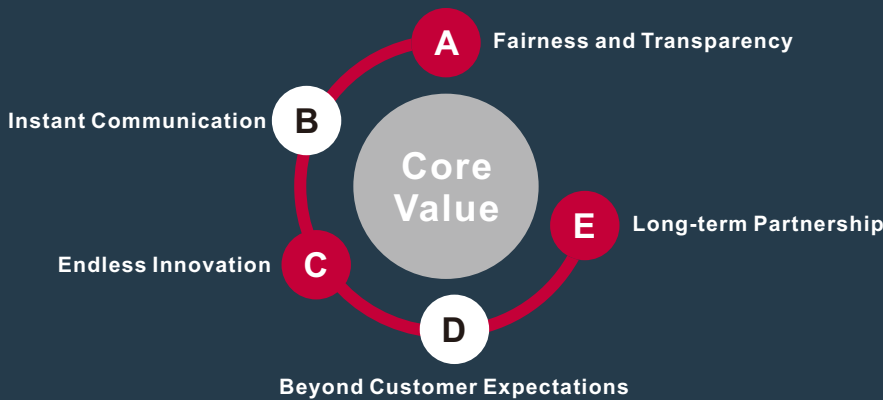
About our Company

COMPANY PROFILE

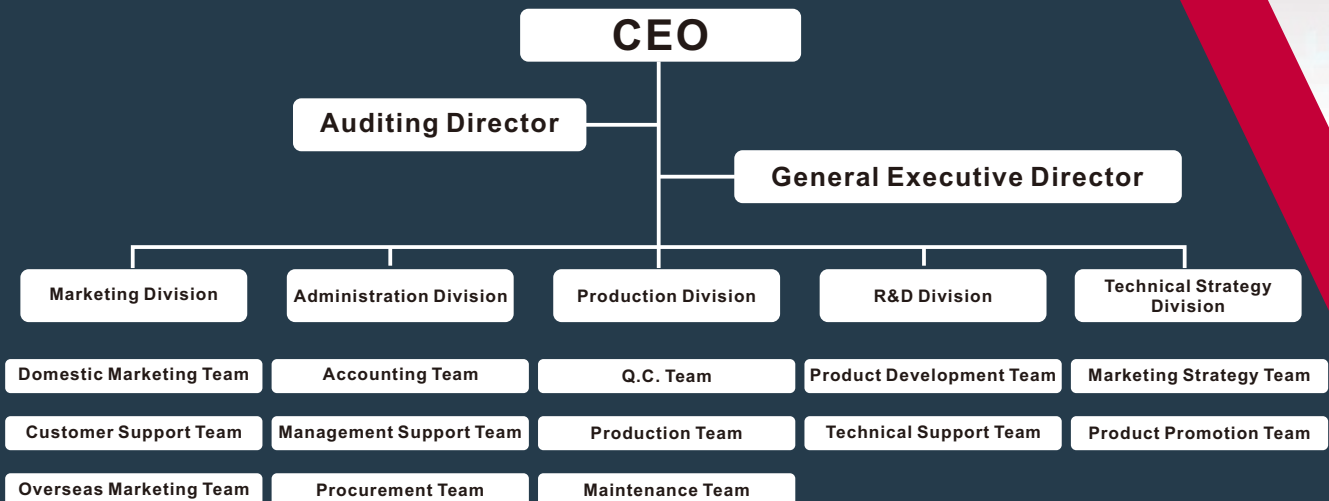
SPT (Surgeprotec Co., Ltd.) is a pioneering Korean company specialising in the development and production of surge protection devices. It offers a complex range of surge arresters, pursuant to EN 61643-11 standard and surge arresters for information technology, measurement and control, and telecommunications.

From the technical expertise to the operational deployment, we are passionate about all aspects and topics related to SPDs. Our teams are composed of engineers and SPD specialists who can bring forward the best insights and solutions. We support distributors, contractors and consultants with Sales Application Specialists.

We provide free A/S for 10 years for all surge protectors.



Organization Chart



About our Services



SPT products provide complex solutions for surge protection devices for various applications.



Products

Surge Protector



Type 1 SPD-lightning current arresters

Combined, spark gap and MOV
Iimp 25 kA / 100 kA Up ≤ 1.5 kV
No follow current, zero leakage current
Full coordination with Type 2 SPD



SPD PV - surge arrester

Combination of MOV and spark gap
PV Type 2 SPD
MOV surge arrester
UCPV 170 to 1500 V DC
In 15 to 20 kA
Imax 40 kA



Type 2 SPD – surge arresters

Combined, spark gap and MOV
Uc 75 to 760 V AC
In 20 kA / Imax 40 kA
Up ≤ 1.35 kV

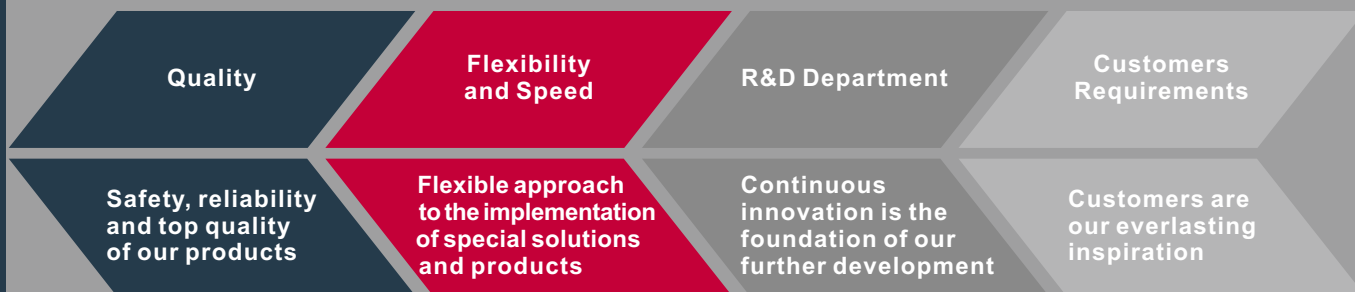


Type 1 and 2 SPD -combined arresters B+C

Combined, spark gap and MOV
Iimp 12,5 kA / 50 kA
Up ≤ 1.5 kV
No follow current, zero leakage current



Product Development



1. SURGE PROTECTORS PARAMETERS

U_c (Maximum continuous operating Voltage)

Maximum effective voltage that can be applied permanently to the terminals of the protection device.

I_n (Nominal current)

Peak current in 8/20 μ s waveform the protection device can withstand 20 times without reaching end of life.

I_{max} (Maximum discharge current)

Peak current with 8/20 μ s waveform which the protection device can withstand.

I_{imp} (Impulse current)

Peak current with 10/350 μ s waveform which the protection device can withstand without reaching end of life.

U_p (Voltage protection level)

Maximum residual voltage between the terminals of the protection device during the application of a peak current.

U_{res} (Residual voltage)

Residual voltage of the surge protector during an 8/20 μ s current waveform injection at a determined rating.

TOV (Temporary Overvoltage)

The temporary overvoltage is the maximum AC voltage the surge protector can withstand during defined durations (5 seconds and 120 mn), without failure or with controlled disconnection. This parameter U_T is greater to U_c. An additional test is required for TT AC system, to simulate a temporary «high voltage» overvoltages (TOV) between Neutral and PE (application of 1200 Vac, 300 A for 200 ms): the compliance with this test requires the use of the CT2 diagram (specific gas tube between N and PE)

2. CLASSIFICATION OF SURGE PROTECTORS

Protection devices are classified into types according to discharge capacity:

Type 1:

Tested with a 10/350 μ s waveform (Class I test), which simulates the current produced by a direct lightning strike.

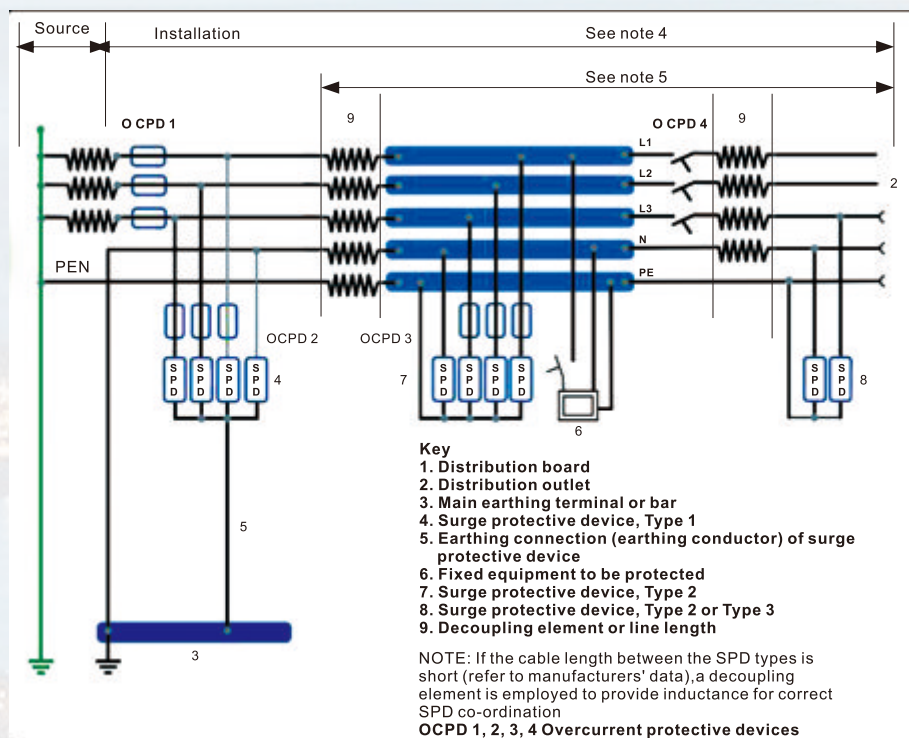
Ability to discharge very high currents to earth, providing a high U_p - voltage protection level. Must be accompanied by downstream Type 2 protectors. Designed for use in incoming power supply panels where the risk of lightning strike is high, for example in buildings with an external protection system.

Type 2:

Tested with a 8/20 μ s waveform (Class II test), which simulates the current produced in the event of a switching or lightning strike on the distribution line or its vicinity. Ability to discharge high currents to earth, providing a medium U_p - voltage protection level. Designed for use in distribution panels located downstream of Type 1 protectors or in incoming power supply panels in areas with low exposure to lightning strikes.

Type 3:

Tested with a combined 1.2/50 μ s - 8/20 μ s waveform (Class III test), which simulates the current and voltage that can reach the equipment to be protected. Ability to discharge medium currents to earth, providing a low U_p - voltage protection level. Always installed downstream of a Type 2 protection, it is designed to protect sensitive equipment or equipment located more than 20m downstream of the Type 2 device.



3. SELECTION AND INSTALLATION OF SPDs

Type 1, Type 2 which one has to be selected?

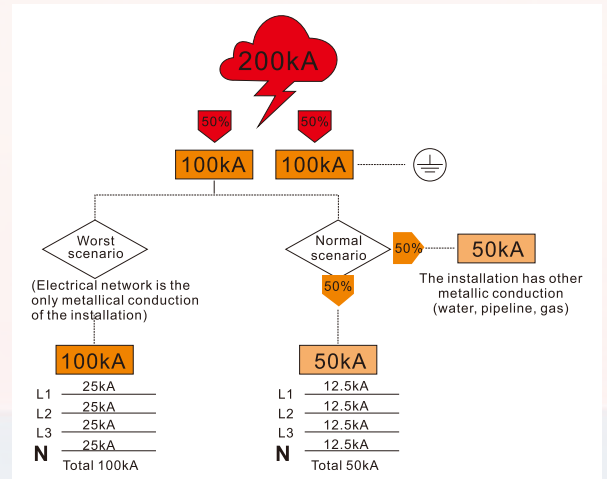
The SPD protection design does not depend on the fault ratings given by the transformer, it only depends on the level of exposure in front of a surge. So, which SPD do we have to install in the main switchboard?

See the diagram below from IEC 63205-1 standard which displays the dispersion of the highest lightning considered: 200kA @ 10/350 μ s. In the worst case scenario, 50% of this energy is conducted away to earth leaving 100kA potential across the networks 3 phase and neutral. Here a 25kA

@ 10/350 μ s (Iimp) Type 1 SPD is recommended for insulated installations in extreme exposed locations to lightning.

In the "Normal Scenario" it is assumed any direct lightning strike to the network will be at such a distance from the installation that another 50% of the energy is dispersed to earth via other conductors before entering your point of connection. In this scenario a device with 12.5kA @ 10/350 μ s (Iimp) Type 1 is recommended. Furthermore, based on the IEC 61643-12 standard, 12.5kA is the minimum kA rate when a Type 1 is needed. If the level of exposure of the installation is lower than above described scenarios

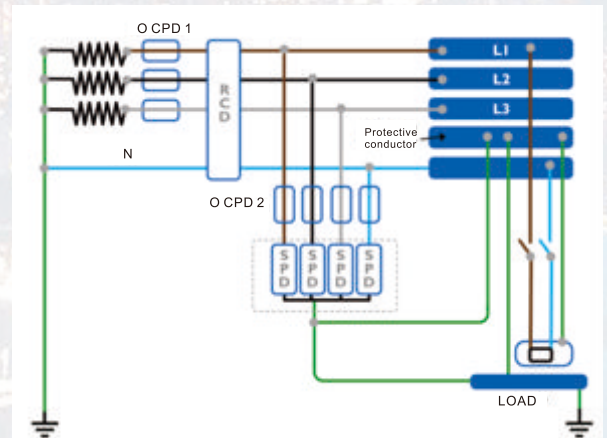
Type 2 SPD (I_{max}) may be considered along with risk and cost of equipment and downtime.



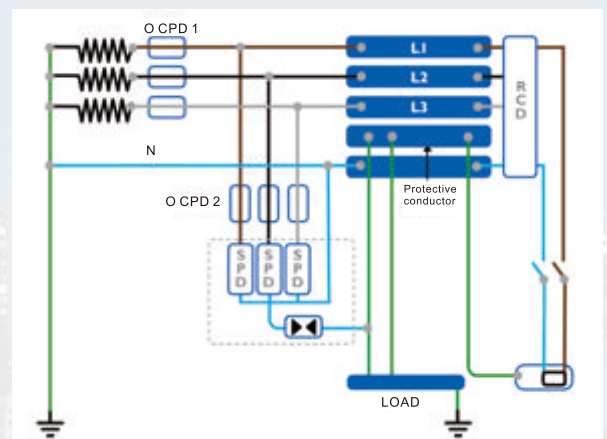
4. POWER SUPPLY NETWORKS

An SPD in power supply networks should be connected in two connection modes – mode x+0 (CT1) and mode x+1 (CT2).

The x+0 (CT1) connection mode is designated 3+0 (TN-C) or 4+0 (TN-S) for three-phase power supply and 1+0 (TN-C) or 2+0 (TN-S) for single-phase power supply. Such mode is beneficial in eliminating common mode of overvoltage.



The x+1 (CT2) connection mode is designated 3+1 for three-phase power supply and 1+1 for single-phase power supply. It cannot be used in the TN-C supply network. It is advantageous to use it to eliminate the differential mode of overvoltage.





Application



Smart Buildings

Construction & IDC
Telecommunication



Power Industries

Wind Power
Solar Power
Power Grid



Transportation Systems

EV Charging Station
Harbor Facilities
Expressway
Railway.



SPT25-XXX/1(S) -----	01
SPT25-XXX/2(S) -----	03
SPT25-XXX/3(S) -----	05
SPT25-XXX/4(S) -----	07
SPT25-XXX/1(S)+1 -----	09
SPT25-XXX/3(S)+1 -----	11
SPT12.5-XXX/1(S) -----	15
SPT12.5-XXX/2(S) -----	17
SPT12.5-XXX/3(S) -----	19
SPT12.5-XXX/4(S) -----	21
SPT12.5-XXX/1(S)+1 -----	23
SPT12.5-XXX/3(S)+1 -----	25
SPT12.5-PVXXX-(S) -----	27
SPT40-XXX/1(S) -----	29
SPT40-XXX/2(S) -----	31
SPT40-XXX/3(S) -----	33
SPT40-XXX/4(S) -----	35
SPT40-XXX/1(S)+1 -----	37
SPT40-XXX/3(S)+1 -----	39
SPT40-PVXXX-(S) -----	41
SPT CP BNC -----	43
SPT DT-CAT 6A -----	45
SPT-DC -----	46

Monoblock Single-Pole SPD

SPT25-XXX/1(S)

Class I • Class II • Type 1 • Type 2

- Location of Use: Main Distribution Boards
- Network Systems: TN-S, TN-C, TT
- Mode of Protection: L-PE / N-PE
- Surge Ratings: $I_{imp} = 25 \text{ kA} (10/350 \mu\text{s})$
 $I_n = 25 \text{ kA} (8/20 \mu\text{s})$
- IEC/EN Category: Class I+II / Type 1+2
- Protective Elements: High Energy MOV
- Housing: Monoblock Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012



Technical Data

SPT25-XXX/1(S)		150	275	320	385	440
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o / U_n	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n			25 kA		
Maximum Discharge Current (8/20 μs)	I_{max}			100 kA		
Impulse Discharge Current (10/350 μs)	I_{imp}			25 kA		
Specific Energy	W/R			156 kJ / Ω		
Charge	Q			12.5 As		
Voltage Protection Level	U_p	1000 V	1500 V	1600 V	1800 V	2000 V
Response Time	t_A			< 25 ns		
Back-Up Fuse (max)				315 A gL / gG		
Short-Circuit Current Rating (AC)	I_{SCCR}			50 kA		
TOV Withstand 5s	U_T	180 V	335 V	335 V	335 V	580 V
TOV 120min	U_T	230V	440V	440V	440V	765 V
Number of Ports				1		

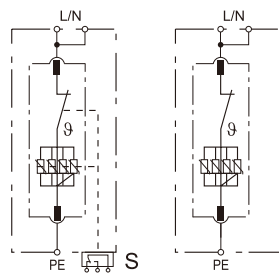
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)				

Order Information						
Order Code		150	275	320	385	440
SPT25-XXX/1		2515011	2527511	2532011	2538511	2544011
SPT25-XXX/1S (with remote contacts)		2515012	2527512	2532012	2538512	2544012

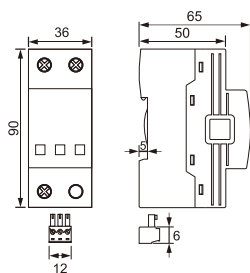
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

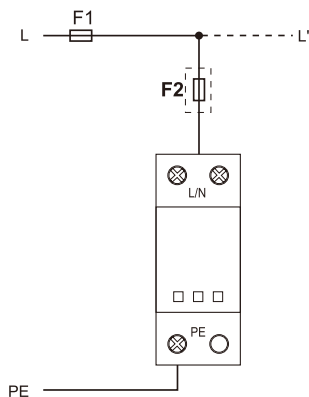


Dimensions & Packaging

SPT25-XXX/1(S)	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[260 x 230 x 320 mm]				
Minimum Order Quantity	42 Units				

Connection Diagram

TN-S, TN-C, TT (Single-phase, 1+0)



Monoblock Multi-Pole SPD

SPT25-XXX/2(S)

Class I • Class II • Type 1 • Type 2

Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE / L²-PE, N-PE / N²-PE
 Surge Ratings: $I_{imp} = 25 \text{ kA (10/350 } \mu\text{s)}$
 $I_n = 25 \text{ kA (8/20 } \mu\text{s)}$
 IEC/EN Category: Class I+II / Type 1+2
 Protective Elements: High Energy MOV
 Housing: Monoblock Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012



Technical Data

SPT25-XXX/2(S)		150	275	320	385	440
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o / U_n	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n			25 kA		
Maximum Discharge Current (8/20 μs)	I_{max}			100 kA		
Impulse Discharge Current (10/350 μs)	I_{imp}			25 kA		
Total Discharge Current (10/350 μs)	I_{total}			50 kA		
Specific Energy	W/R			156 kJ / Ω		
Charge	Q			12.5 As		
Voltage Protection Level	U_p	1000 V	1500 V	1600 V	1800 V	2000 V
Response Time	t_A			< 25 ns		
Back-Up Fuse (max)				315 A gL / gG		
Short-Circuit Current Rating (AC)	I_{SCCR}			50 kA		
TOV Withstand 5s	U_T	180 V	335 V	335 V	335 V	580 V
TOV 120min	U_T	230 V	440 V	440 V	440 V	765 V
Number of Ports				1		

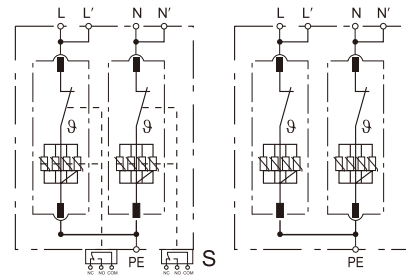
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)				

Order Information						
Order Code		150	275	320	385	440
SPT25-XXX/2		2515021	2527521	2532021	2538521	2544021
SPT25-XXX/2S(with remote contacts)		2515022	2527522	2532022	2538522	2544022

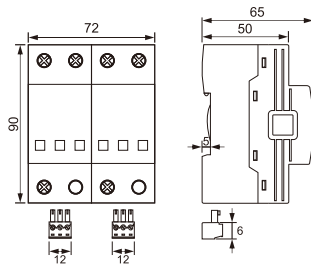
Internal Configuration

Legend

- L/L' Line
- N/N' Neutral
- PE Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

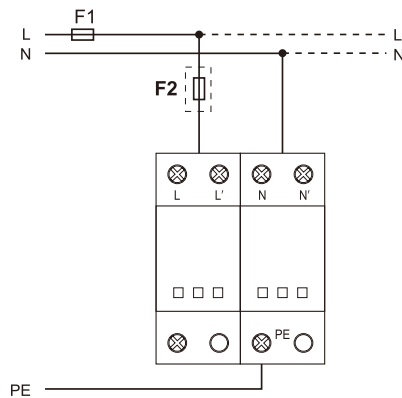


Dimensions & Packaging

SPT25-XXX/2(S)	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[260 x 230 x 320 mm]				
Minimum Order Quantity	24 Units				

Connection Diagram

TN-S (Single-phase, 2+0)



Monoblock Multi-Pole SPD

SPT25-XXX/3(S)

Class I • Class II • Type 1 • Type 2

Location of Use: Main Distribution Boards
 Network Systems: TN-C
 Mode of Protection: L-PE / L'-PE
 Surge Ratings: $I_{imp} = 25 \text{ kA} (10/350 \mu\text{s})$
 $I_n = 25 \text{ kA} (8/20 \mu\text{s})$
 IEC/EN Category: Class I+II / Type 1+2
 Protective Elements: High Energy MOV
 Housing: Monoblock Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012



Technical Data

SPT25-XXX/3(S)		150	275	320	385	440
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o / U_n	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n			25 kA		
Maximum Discharge Current (8/20 μs)	I_{max}			100 kA		
Impulse Discharge Current (10/350 μs)	I_{imp}			25 kA		
Total Discharge Current (10/350 μs)	I_{total}			75 kA		
Specific Energy	W/R			156 kJ / Ω		
Charge	Q			12.5 As		
Voltage Protection Level	U_p	1000 V	1500 V	1600 V	1800 V	2000 V
Response Time	t_A			< 25 ns		
Back-Up Fuse (max)				315 A gL / gG		
Short-Circuit Current Rating (AC)	I_{SCCR}			50 kA		
TOV Withstand 5s	U_T	180 V	335 V	335 V	335 V	580 V
TOV 120min	U_T	230 V	440 V	440 V	440 V	765 V
Number of Ports				1		

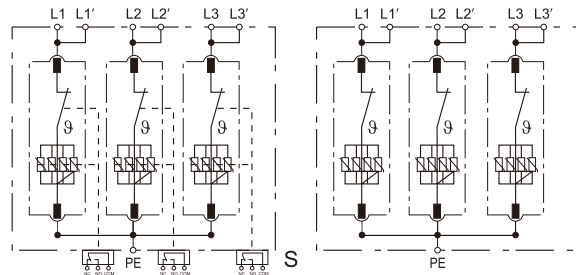
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)				

Order Information						
Order Code		150	275	320	385	440
SPT25-XXX/3		2515031	2527531	2532031	2538531	2544031
SPT25-XXX/3S(with remote contacts)		2515032	2527532	2532032	2538532	2544032

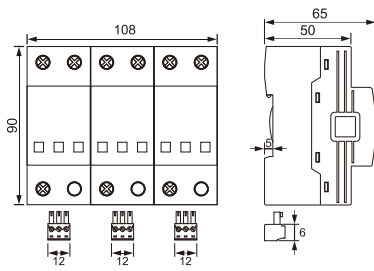
Internal Configuration

Legend

- L / L' Line
- N / N' Neutral
- PE Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

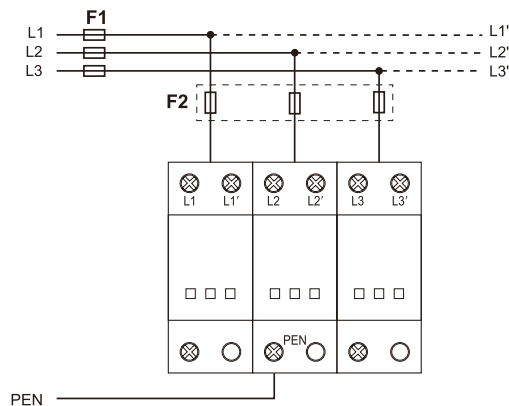


Dimensions & Packaging

SPT25-XXX/3(S)	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[260 x 230 x 320 mm]				
Minimum Order Quantity	12 Units				

Connection Diagram

TN-C (Three-phase, 3+0)



Monoblock Multi-Pole SPD

SPT25-XXX/4(S)

Class I • Class II • Type 1 • Type 2

Location of Use: Main Distribution Boards
 Network Systems: TN-S
 Mode of Protection: L-PE / L²PE, NPE / N²PE
 Surge Ratings: $I_{imp} = 25 \text{ kA} (10/350 \mu\text{s})$
 $I_n = 25 \text{ kA} (8/20 \mu\text{s})$
 IEC/EN Category: Class I+II / Type 1+2
 Protective Elements: High Energy MOV
 Housing: Monoblock Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012



Technical Data

SPT25-XXX/4(S)		150	275	320	385	440
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o / U_n	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n			25 kA		
Maximum Discharge Current (8/20 μs)	I_{max}			100 kA		
Impulse Discharge Current (10/350 μs)	I_{imp}			25 kA		
Total Discharge Current (10/350 μs)	I_{total}			100 kA		
Specific Energy	W/R			156 kJ / Ω		
Charge	Q			12.5 As		
Voltage Protection Level	U_p	1000 V	1500 V	1600 V	1800 V	2000 V
Response Time	t_A			< 25 ns		
Back-Up Fuse (max)				315 A gL / gG		
Short-Circuit Current Rating (AC)	I_{SCCR}			50 kA		
TOV Withstand 5s	U_T	180 V	335 V	335 V	335 V	580 V
TOV 120min	U_T	230 V	440 V	440 V	440 V	765 V
Number of Ports				1		

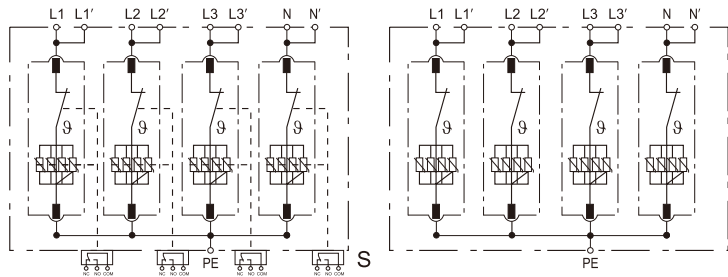
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)				

Order Information						
Order Code		150	275	320	385	440
SPT25-XXX/4		2515041	2527541	2532041	2538541	2544041
SPT25-XXX/4S(with remote contacts)		2515042	2527542	2532042	2538542	2544042

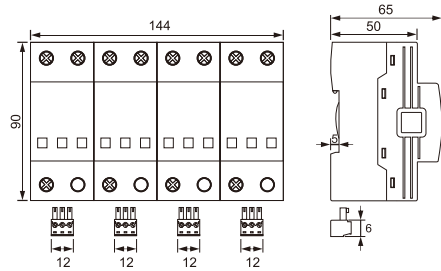
Internal Configuration

Legend

- L / L' Line
- N / N' Neutral
- PE Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging



Dimensions & Packaging

SPT25-XXX/4(S) **150** **275** **320** **385** **440**

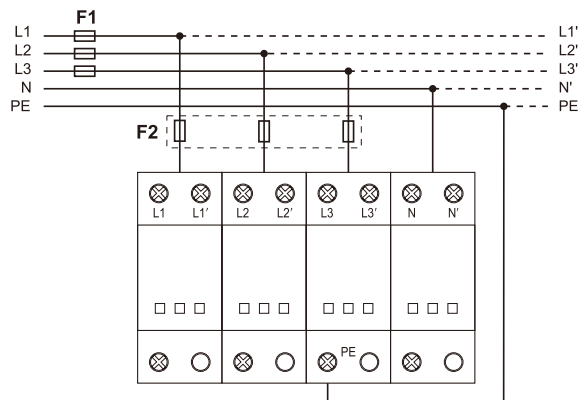
Single Unit DIN 43880 Dimension 1 CTN

Packaging Dimensions (H x W x L) [260 x 230 x 320 mm]

Minimum Order Quantity 12 Units

Connection Diagram

TN-S (Three-phase, 4+0)



Monoblock Multi-Pole SPD

SPT25-XXX/1(S)+1

Class I • Class II • Type 1 • Type 2

- Location of Use: Main Distribution Boards
- Network Systems: TT, TN-S
- Mode of Protection: L-N / L'-N, N-PE
- Surge Ratings: $I_{imp} = 25 \text{ kA} / 50 \text{ kA} (10/350 \mu\text{s})$
 $I_n = 25 \text{ kA} / 50 \text{ kA} (8/20 \mu\text{s})$
- IEC/EN Category: Class I+II / Type 1+2
- Protective Elements: High Energy MOV and GDT
- Housing: Monoblock Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012



Technical Data

SPT25-XXX/1(S)+1

150 275 320 385

IEC Electrical		150	275	320	385
Nominal AC Voltage (50/60Hz)		120 V	230 V	230 V	230 V
Maximum Continuous Operating Voltage	(L - N) U_c	150 V	275 V	320 V	385 V
	(N - PE) U_c	255 V	255 V	255 V	255 V
Nominal Discharge Current (8/20 μs)	(L - N) / (N - PE) I_n		25 kA / 50 kA		
Maximum Discharge Current (8/20 μs)	(L - N) / (N - PE) I_{max}		100 kA		
Impulse Discharge Current (10/350 μs)	(L - N) / (N - PE) I_{imp}		25 kA / 50 kA		
Total Discharge Current (10/350 μs)	I_{total}		50 kA		
Specific Energy	(L - N) / (N - PE) W/R		156 kJ / Ω / 625 kJ / Ω		
Charge	(L - N) / (N - PE) Q		12.5 As / 25 As		
Voltage Protection Level	(L - N) / (N - PE) U_p	1000 V / 1500 V	1500 V / 1500 V	1600 V / 1500 V	1800 V / 1500 V
Follow Current Interrupt Rating	(N-PE) I_{fi}		100 A _{RMS}		
Response Time	(L - N) / (N - PE) t_A		< 25 ns / < 100 ns		
Back-Up Fuse (max)			315 A gL / gG		
Short-Circuit Current Rating (AC)	(L - N) I_{SCCR}		50 kA		
TOV Withstand 5s	(L - N) U_T	180 V	335 V	335 V	335 V
TOV 120min	(L - N) U_T	230 V	440 V	440 V	440 V
TOV Withstand 200ms	(N - PE) U_T		1200 V		
Number of Ports			1		
Mechanical & Environmental					
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]			
Permissible Operating Humidity	RH	5%...95%			
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m			
Terminal Screw Torque	M_{max}	26.5 lbf-in [3.0 Nm]			
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)			
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green ok / Red defect			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A			
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)			

SPT25-XXX/1(S)+1



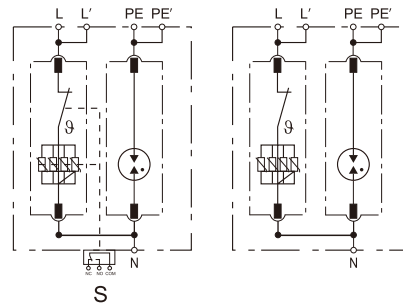
Order Information

Order Code	150	275	320	385
SPT25-XXX/1+1	2515013	2527513	2532013	2538513
SPT25-XXX/1S+1(with remote contacts)	2515014	2527514	2532014	2538514

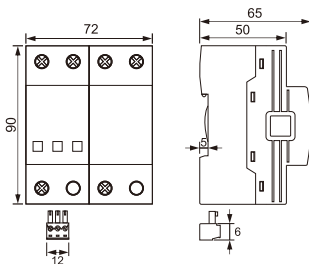
Internal Configuration

Legend

- L / L' Line
- N Neutral
- PE / PE' Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

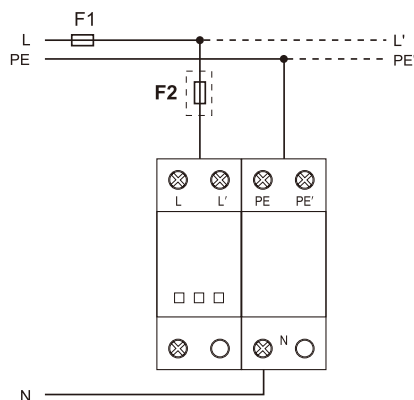


Dimensions & Packaging

SPT25-XXX/1(S)+1	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[260 x 230 x 320 mm]				
Minimum Order Quantity	24 Units				

Connection Diagram

TN-S, TT (Single-phase, 1+1)



Monoblock Multi-Pole SPD

SPT25-XXX/3(S)+1

Class I • Class II • Type 1 • Type 2

Location of Use: Main Distribution Boards
 Network Systems: TT, TN-S
 Mode of Protection: L-N / L'-N, N-PE
 Surge Ratings: $I_{imp} = 25 \text{ kA} / 100 \text{ kA} (10/350 \mu\text{s})$
 $I_n = 25 \text{ kA} / 100 \text{ kA} (8/20 \mu\text{s})$
 IEC/EN Category: Class I+II / Type 1+2
 Protective Elements: High Energy MOV and GDT
 Housing: Monoblock Design
 Compliance: IEC 61643-11:2011
 EN 61643-11:2012



Technical Data

SPT25-XXX/3(S)+1

150 275 320 385

IEC Electrical		150	275	320	385
Nominal AC Voltage (50/60Hz)		120 V	230 V	230 V	230 V
Maximum Continuous Operating Voltage	(L - N) U_c	150 V	275 V	320 V	385 V
	(N - PE) U_c	255 V	255 V	255 V	255 V
Nominal Discharge Current (8/20 μs)	(L - N) / (N - PE) I_n	25 kA / 100 kA			
Maximum Discharge Current (8/20 μs)	(L - N) / (N - PE) I_{max}	100 kA			
Impulse Discharge Current (10/350 μs)	(L - N) / (N - PE) I_{imp}	25 kA / 100 kA			
Total Discharge Current (10/350 μs)	I_{total}	100 kA			
Specific Energy	(L - N) / (N - PE) W/R	156 kJ / Ω / 2.5 M kJ / Ω			
Charge	(L - N) / (N - PE) Q	12.5 As / 50 As			
Voltage Protection Level	(L - N) / (N - PE) U_p	1000 V / 1500 V	1500 V / 1500 V	1600 V / 1500 V	1800 V / 1500 V
Follow Current Interrupt Rating	(N-PE) I_{fi}	100 A _{RMS}			
Response Time	(L - N) / (N - PE) t_A	< 25 ns / < 100 ns			
Back-Up Fuse (max)		315 A gL / gG			
Short-Circuit Current Rating (AC)	(L - N) I_{SCCR}	50 kA			
TOV Withstand 5s	(L - N) U_T	180 V	335 V	335 V	335 V
TOV 120min	(L - N) U_T	230 V	440 V	440 V	440 V
TOV Withstand 200ms	(N - PE) U_T	1200 V			
Number of Ports		1			
Mechanical & Environmental					
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]			
Permissible Operating Humidity	RH	5%...95%			
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m			
Terminal Screw Torque	M_{max}	26.5 lbf·in [3.0 Nm]			
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)			
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green ok / Red defect			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A			
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)			

SPT25-XXX/3(S)+1



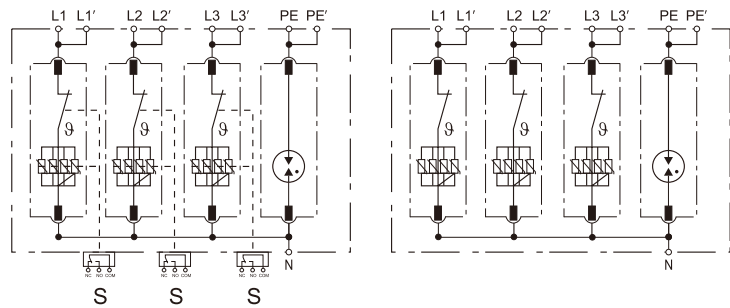
Order Information

Order Code	150	275	320	385
SPT25-XXX/3+1	2515033	2527533	2532033	2538533
SPT25-XXX/3S+1(with remote contacts)	2515034	2527534	2532034	2538534

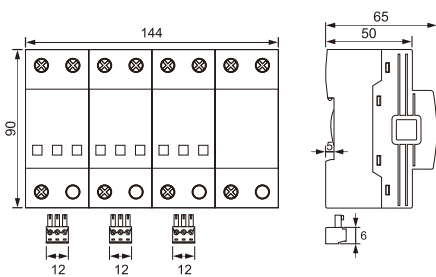
Internal Configuration

Legend

- L / L' Line
- N Neutral
- PE / PE' Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

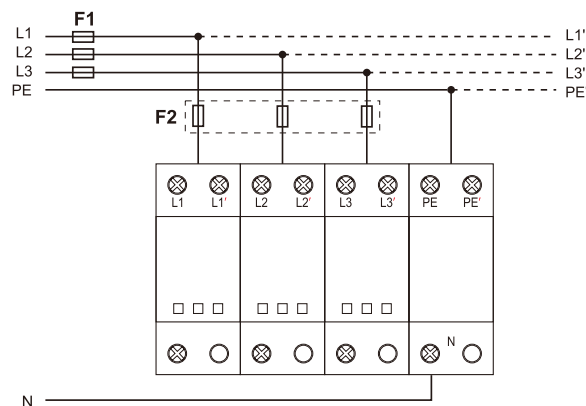


Dimensions & Packaging

SPT25-XXX/3(S)+1	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[260 x 230 x 320 mm]				
Minimum Order Quantity	12 Units				

Connection Diagram

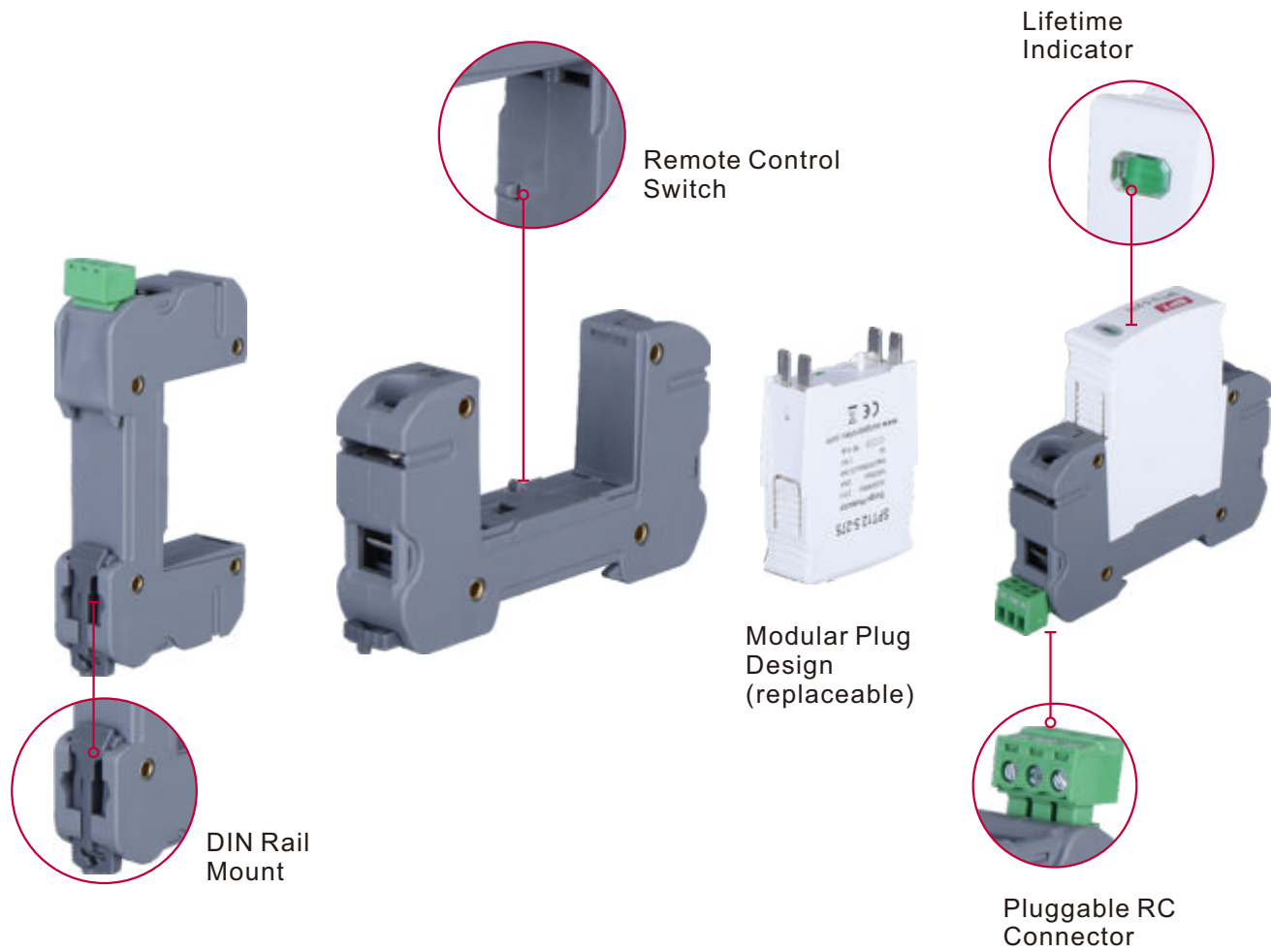
TN-S, TT (Three-phase, 3+1)



New Modular Single Pole & Multi-pole Surge Protective Devices

New Housing Design Features

- Contemporary design
- Low residual protection level
- Lifetime indicators
- Redesigned thermal disconnection
- Patented protection technologies
- No external back-up fuse required up to 315 A
- Vibration and shock withstand capability
- Space-saving design
- Easy replacement
- Patented module locking mechanism
- Meets IEC/EN and UL 1449 4th Edition



Type 1/Type 2 SPD



SPT12.5-XXX/1(S)



SPT12.5-XXX/2(S)



SPT12.5-XXX/3(S)



SPT12.5-XXX/4(S)



SPT12.5-XXX/1(S)+1



SPT12.5-XXX/3(S)+1



SPT12.5-PVXXX-(S)

Type 2 SPD



SPT40-XXX/1(S)



SPT40-XXX/2(S)



SPT40-XXX/3(S)



SPT40-XXX/4(S)



SPT40-XXX/1(S)+1



SPT40-XXX/3(S)+1



SPT40-PVXXX-(S)

Pluggable Single-Pole SPD

SPT12.5-XXX/1(S)

Class I • Class II • Type 1 • Type 2 • Type 1CA

Location of Use: Main Distribution Boards

Network Systems: TN-S, TN-C, TT (only L-N)

Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N

Surge Ratings: I_{imp} = up to 12.5 kA (10/350 μ s)
 I_n = up to 20 kA (8/20 μ s)

IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA

Protective Elements: High Energy MOV

Housing: Pluggable Design

Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT12.5-XXX/1(S)		75	150	275	320	385	440
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	230V	230V	230V	400V
Maximum Continuous Operating Voltage (AC)	U_c	75V	150V	275V	320V	385V	440V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	10kA	10kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA	50kA	50kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5kA	12.5kA	12.5kA	12.5kA	10kA	10kA
Specific Energy	W/R	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	25 kJ/ Ω	25kJ/ Ω
Charge	Q	6.25 As	6.25As	6.25As	6.25As	5As	5As
Voltage Protection Level	U_p	700V	1000V	1500V	1600V	1800V	2000 V
Response Time	t_a	<25 ns					
Back-Up Fuse (max)		315 A / 250 A gG					
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA					
TOV Withstand 5s	U_T	114V	180	335V	335V	335V	580V
TOV 120min	U_T	180V	230V	440V	440V	440V	765V
	Mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					
UL Electrical							
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	275V	320V	385V	440V
Voltage Protection Rating	VPR	330V	600V	900V	1200V	1350V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	150kA	150kA	200kA
Mechanical & Environmental							
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]					
Permissible Operating Humidity	RH	5%...95%					
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m					
Terminal Screw Torque	M_{max}	39.9 lbf·in [4.5 Nm]					
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)					
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)					
Mounting		35 mm DIN Rail, EN 60715					
Degree of Protection		IP 20 (built-in)					
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0					
Thermal Protection		Yes					
Operating State / Fault Indication		Green ok / Red defect					
Remote Contacts (RC)		Optional					
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A					
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)					

SPT12.5-XXX/1(S)

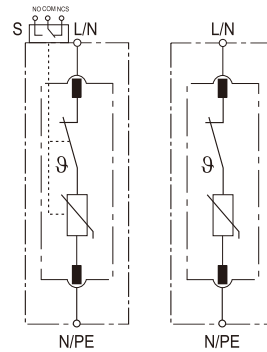


Order Information						
Order Code	75	150	275	320	385	440
SPT12.5-XXX/1	1207511	1215011	1227511	1232011	1238511	1244011
SPT12.5-XXX/1S(with remote contacts)	1207512	1215012	1227512	1232012	1238512	1244012
SPT12.5-XXX/0(spare modules)	1207501	1215001	1227501	1232001	1238501	1244001

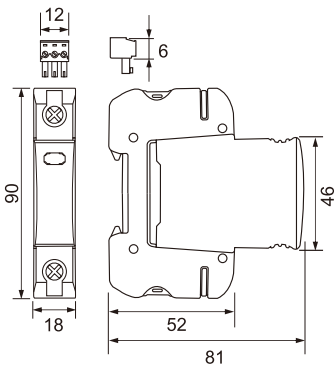
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

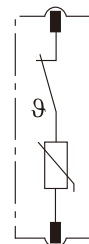


Dimensions & Packaging

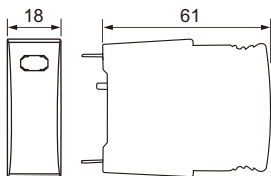
SPT12.5-XXX/1(S)	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[200 × 230 × 330 mm]					
Minimum Order Quantity	64 Units					

Plug Internal Configuration

SPT12.5-XXX/0



Dimensions & Packaging

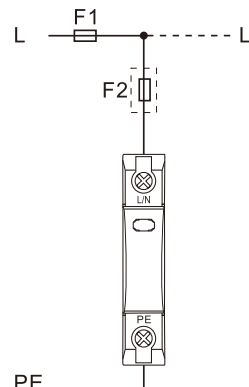


Dimensions & Packaging

SPT12.5-XXX/0	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[200 × 230 × 330 mm]					
Minimum Order Quantity	64 Units					

Connection Diagram

TN-S, TN-C, TT (Single-phase, 1+0)



Pluggable Multi-Pole SPD

SPT12.5-XXX/2(S)

Class I • Class II • Type 1 • Type 2 • Type 1CA

Location of Use: Main Distribution Boards

Network Systems: TN-S

Mode of Protection: L-PE, N-PE

Surge Ratings: I_{imp} = up to 12.5 kA (10/350 μ s)
 I_n = up to 20 kA (8/20 μ s)

IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA

Protective Elements: High Energy MOV

Housing: Pluggable Design

Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT12.5-XXX/2(S)

		75	150	275	320	385	440
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o/U_n	60V	120V	230V	230V	230V	400V
Maximum Continuous Operating Voltage (AC)	U_c	75V	150V	275V	320V	385V	440V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	10kA	10kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA	50kA	50kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5kA	12.5kA	12.5kA	12.5kA	10kA	10kA
Specific Energy	W/R	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	25 kJ/ Ω	25kJ/ Ω
Charge	Q	6.25 As	6.25As	6.25As	6.25As	5As	5As
Voltage Protection Level	U_p	700V	1000V	1500V	1600V	1800V	2000 V
Response Time	t_a	<25 ns					
Back-Up Fuse (max)		315 A / 250 A gG					
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA					
TOV Withstand 5s	U_T	114V	180V	335V	335V	335V	580V
TOV 120min	U_T	114V	230V	440V	440V	440V	765V
	Mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					
UL Electrical							
Maximum Continuous Operating Voltage (AC)	MCOV	75V	150V	275V	320V	385V	440V
Voltage Protection Rating	VPR	330V	600V	900V	1200V	1350V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	100kA	200kA	150kA	150kA	150kA	200kA
Mechanical & Environmental							
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]					
Permissible Operating Humidity	RH	5%...95%					
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m					
Terminal Screw Torque	M max	39.9 lbf·in [4.5 Nm]					
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)					
Mounting		35 mm DIN Rail, EN 60715					
Degree of Protection		IP 20 (built-in)					
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0					
Thermal Protection		Yes					
Operating State / Fault Indication		Green ok / Red defect					
Remote Contacts (RC)		Optional					
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A					
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)					

SPT12.5-XXX/2(S)

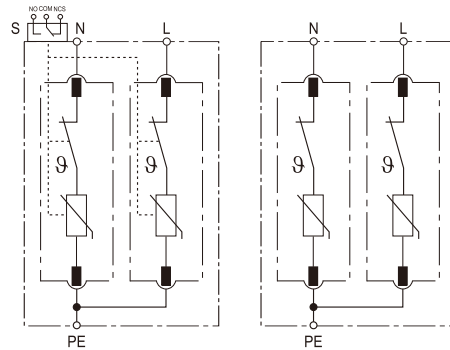


Order Information						
Order Code	75	150	275	320	385	440
SPT12.5-XXX/2	1207521	1215021	1227521	1232021	1238521	1244021
SPT12.5-XXX/2S(with remote contacts)	1207522	1215022	1227522	1232022	1238522	1244022
SPT12.5-XXX/0(spare modules)	1207501	1215001	1227501	1232001	1238501	1244001

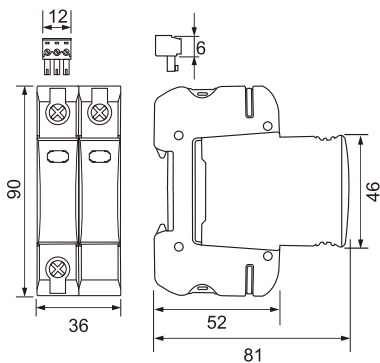
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

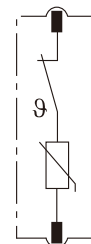


Dimensions & Packaging

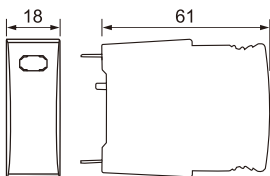
SPT12.5-XXX/2(S)	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]					
Minimum Order Quantity	32 Units					

Plug Internal Configuration

SPT12.5-XXX/0



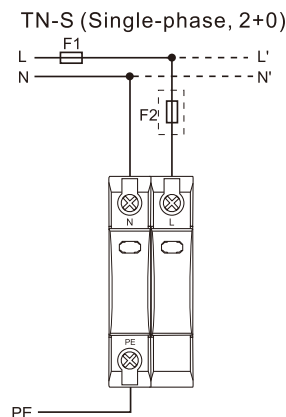
Dimensions & Packaging



Dimensions & Packaging

SPT12.5-XXX/0	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]					
Minimum Order Quantity	64 Units					

Connection Diagram



Pluggable Multi-Pole SPD

SPT12.5-XXX/3(S)

Class I • Class II • Type 1 • Type 2 • Type 1CA

Location of Use: Main Distribution Boards

Network Systems: TN-C

Mode of Protection: L-PEN

Surge Ratings: I_{imp} = up to 12.5 kA (10/350 μ s)
 I_n = up to 20 kA (8/20 μ s)

IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA

Protective Elements: High Energy MOV

Housing: Pluggable Design

Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT12.5-XXX/3(S)

150 275 320 385 440

IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o/U_n	120V	230V	230V	230V	400V
Maximum Continuous Operating Voltage (AC)	U_c	150V	275V	320V	385V	440V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	10kA	10kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA	50kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5kA	12.5kA	12.5kA	10kA	10kA
Specific Energy	W/R	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	25 kJ/ Ω	25kJ/ Ω
Charge	Q	6.25As	6.25As	6.25As	5As	5As
Voltage Protection Level	U_p	1000V	1500V	1600V	1800V	2000 V
Response Time	t_a	<25 ns				
Back-Up Fuse (max)		315 A / 250 A gG				
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA				
TOV Withstand 5s	U_T	180V	335V	335V	335V	580V
TOV 120min	U_T	230V	440V	440V	440V	765V
	Mode	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
UL Electrical						
Maximum Continuous Operating Voltage (AC)	MCOV	150V	275V	320V	385V	440V
Voltage Protection Rating	VPR	600V	900V	1200V	1350V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	150kA	150kA	200kA
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M max	39.9 lbf·in [4.5 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)				
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)				

SPT12.5-XXX/3(S)

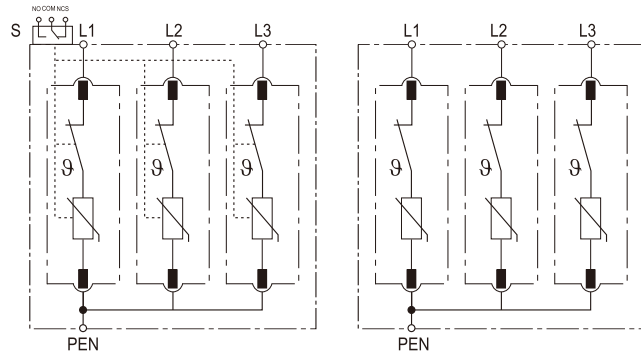


Order Information					
Order Code	150	275	320	385	440
SPT12.5-XXX/3	1215031	1227531	1232031	1238531	1244031
SPT12.5-XXX/3S(with remote contacts)	1215032	1227532	1232032	1238532	1244032
SPT12.5-XXX/0(spare modules)	1215001	1227501	1232001	1238501	1244001

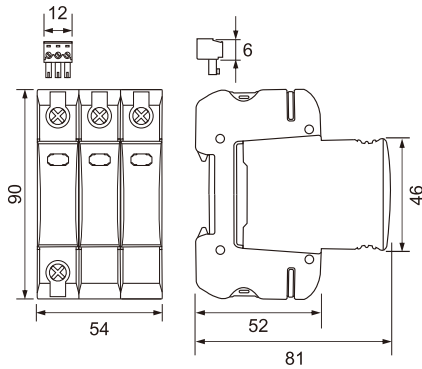
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



Dimensions & Packaging

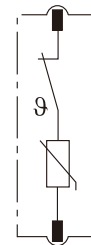


Dimensions & Packaging

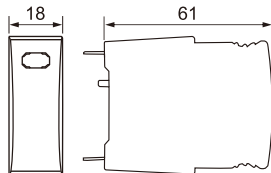
SPT12.5-XXX/3(S)	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]				
Minimum Order Quantity	16 Units				

Plug Internal Configuration

SPT12.5-XXX/0



Dimensions & Packaging

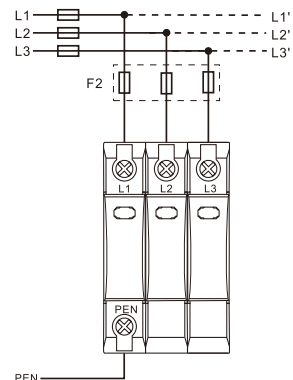


Dimensions & Packaging

SPT12.5-XXX/0	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]				
Minimum Order Quantity	64 Units				

Connection Diagram

TN-C (Three-phase, 3+0)



Pluggable Multi-Pole SPD

SPT12.5-XXX/4(S)

Class I • Class II • Type 1 • Type 2 • Type 1CA

Location of Use: Main Distribution Boards

Network Systems: TN-S

Mode of Protection: L-PE, N-PE

Surge Ratings: I_{imp} = up to 12.5 kA (10/350 μ s)
 I_n = up to 20 kA (8/20 μ s)

IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA

Protective Elements: High Energy MOV

Housing: Pluggable Design

Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT12.5-XXX/4(S)		150	275	320	385	440
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o/U_n	120V	230V	230V	230V	400V
Maximum Continuous Operating Voltage (AC)	U_c	150V	275V	320V	385V	440V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	10kA	10kA
Maximum Discharge Current (8/20 μ s)	I_{max}	50kA	50kA	50kA	50kA	50kA
Impulse Discharge Current (10/350 μ s)	I_{imp}	12.5kA	12.5kA	12.5kA	10kA	10kA
Specific Energy	W/R	39kJ/ Ω	39kJ/ Ω	39kJ/ Ω	25 kJ/ Ω	25kJ/ Ω
Charge	Q	6.25As	6.25As	6.25As	5As	5As
Voltage Protection Level	U_p	1000V	1500V	1600V	1800V	2000 V
Response Time	t_A	<25 ns				
Back-Up Fuse (max)		315 A / 250 A gG				
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA				
TOV Withstand 5s	U_T	180V	335V	335V	335V	580V
TOV 120min	U_T	230V	440V	440V	440V	765V
	Mode	Safe Fail	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
UL Electrical						
Maximum Continuous Operating Voltage (AC)	MCOV	150V	275V	320V	385V	440V
Voltage Protection Rating	VPR	600V	900V	1200V	1350V	1500V
Nominal Discharge Current (8/20 μ s)	I_n	20kA	20kA	20kA	20kA	20kA
Short-Circuit Current Rating (AC)	SCCR	200kA	150kA	150kA	150kA	200kA
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M_{max}	39.9 lbf·in [4.5 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)				
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)				

SPT12.5-XXX/4(S)

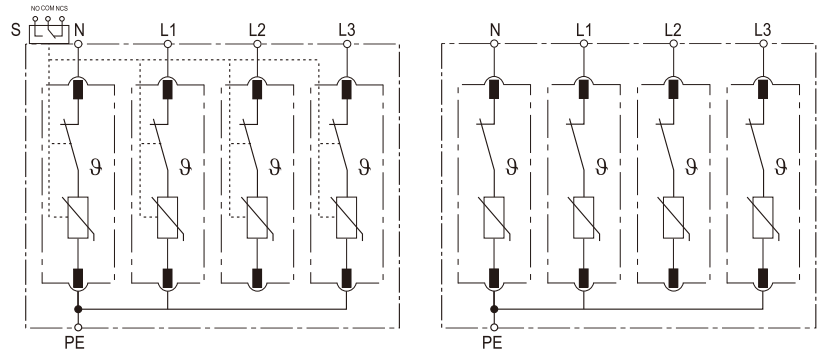


Order Information					
Order Code	150	275	320	385	440
SPT12.5-XXX/4	1215041	1227541	1232041	1238541	1244041
SPT12.5-XXX/4S(with remote contacts)	1215042	1227542	1232042	1238542	1244042
SPT12.5-XXX/0(spare modules)	1215001	1227501	1232001	1238501	1244001

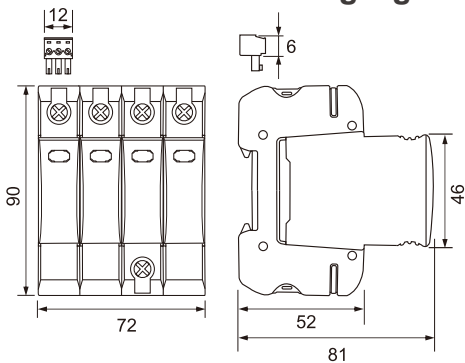
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



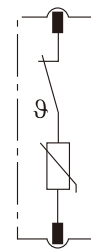
Dimensions & Packaging



Dimensions & Packaging

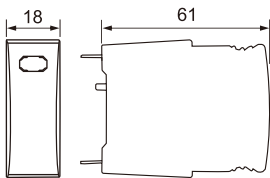
SPT12.5-XXX/4(S)	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]				
Minimum Order Quantity	16 Units				

SPT12.5-XXX/0



Plug Internal Configuration

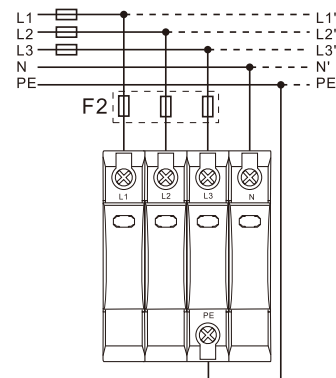
Dimensions & Packaging



Dimensions & Packaging

SPT12.5-XXX/0	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]				
Minimum Order Quantity	64 Units				

TN-S (Three-phase, 4+0)



Connection Diagram

Pluggable Multi-Pole SPD

SPT12.5-XXX/1(S)+1

Class I • Class II • Type 1 • Type 2 • Type 1CA

- Location of Use: Main Distribution Boards
- Network Systems: TT, TN-S
- Mode of Protection: L-N, N-PE
- Surge Ratings: $I_{imp} = 12.5 \text{ kA}$ (10/350 μs)
 $I_n = 20 \text{ kA}$ (8/20 μs)
- IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA
- Protective Elements: High Energy MOV and GDT
- Housing: Pluggable Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT12.5-XXX/1(S)+1

75 150 275 320

IEC Electrical					
Nominal AC Voltage (50/60Hz)		60V	120V	230V	230V
Maximum Continuous Operating Voltage	(L-N) U_c	75V	150V	275V	320V
	(N-PE) U_c	255V	255V	255V	255V
Nominal Discharge Current (8/20 μs)	(L-N)/(N-PE) I_n		20kA/ 25kA		
Maximum Discharge Current (8/20 μs)	(L-N)/(N-PE) I_{max}		50kA/50kA		
Impulse Discharge Current (10/350 μs)	(L-N)/(N-PE) I_{imp}		12.5 kA/25 kA		
Specific Energy	(L-N)/(N-PE) W/R		39kJ/ Ω /156kJ/ Ω		
Charge	(L-N)/(N-PE) Q		6.25As/12.5As		
Voltage Protection Level	(L-N)/(N-PE) U_p	700V/1500V	1000V/1500V	1500V/1500V	1600V/1500V
Follow Current Interrupt Rating	(N-PE) I_{fi}		100A _{RMS}		
Response Time	(L-N)/(N-PE) t_A		<25ns/<100ns		
Back-Up Fuse (max)			315A/250AgG		
Short-Circuit Current Rating (AC)	(L-N) I_{SCCR}		25kA/ 50kA		
TOV Withstand 5s	(L-N) U_T	114V	180V	335V	335V
TOV 120min	(L-N) U_T	114V	230V	440V	440V
	Mode	Withstand	Safe Fail	Safe Fail	Safe Fail
TOV Withstand 200ms	(N-PE) U_T		1200V		
Number of Ports			1		
UL Electrical					
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE) MCOV	75V/255V	150V/255V	275V/255V	320V/255V
Voltage Protection Rating	(L-N)/(N-PE) VPR	330V/1200V	600V/1200V	900V/1200V	1200V/1200V
Nominal Discharge Current (8/20 μs)	(L-N)/(-PE) I_n	20kA/20kA	20kA/20kA	20kA/20kA	20kA/20kA
Short-Circuit Current Rating (AC)	(L-N) SCCR	100kA	200kA	150kA	150kA
Mechanical & Environmental					
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]			
Permissible Operating Humidity	RH	5%...95%			
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m			
Terminal Screw Torque	M_{max}	39.9 lbf·in [4.5 Nm]			
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)			
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green ok / Red defect			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A			
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)			

SPT12.5-XXX/1 (S)+1

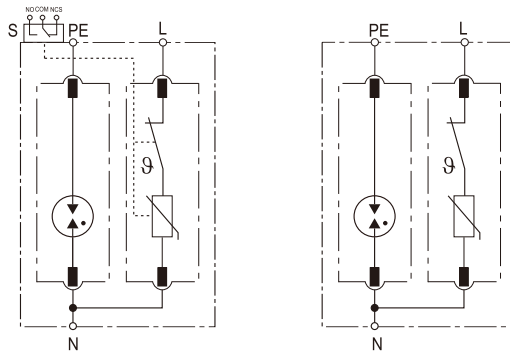


Order Information				
Order Code	75	150	275	320
SPT12.5-XXX/1+1	1207513	1215013	1227513	1232013
SPT12.5-XXX/1S+1 (with remote contacts)	1207514	1215014	1227514	1232014
SPT12.5-XXX/0 (spare modules)	1207501	1215001	1227501	1232001
SPT12.5-NPE/0 (spare modules)	1225501	1225501	1225501	1225501

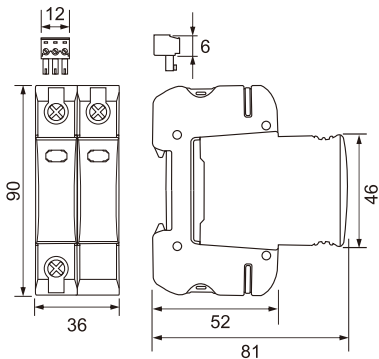
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



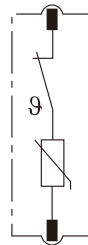
Dimensions & Packaging



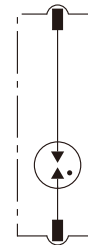
Dimensions & Packaging

SPT12.5-XXX/1(S)+1	75	150	275	320
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]			
Minimum Order Quantity	32 Units			

SPT12.5-XXX/0

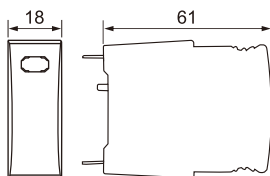


SPT12.5-NPE/0



Plug Internal Configuration

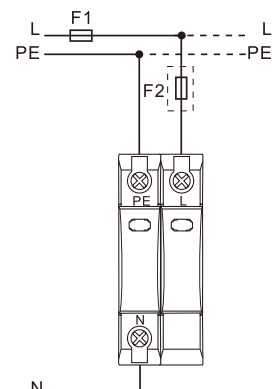
Dimensions & Packaging



Dimensions & Packaging

SPT12.5-XXX/0	75	150	275	320
SPT12.5-NPE/0	25			
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]			
Minimum Order Quantity	64 Units			

TN-S, TT (Single-phase, 1+1)



Connection Diagram

Pluggable Multi-Pole SPD

SPT12.5-XXX/3(S)+1

Class I • Class II • Type 1 • Type 2 • Type 1CA

Location of Use: Main Distribution Boards

Network Systems: TT, TN-S

Mode of Protection: N-PE, L-N

Surge Ratings: $I_{imp} = 12.5 \text{ kA}$ (10/350 μs)
 $I_n = 20 \text{ kA}$ (8/20 μs)

IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA

Protective Elements: High Energy MOV and GDT

Housing: Pluggable Design

Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT12.5-XXX/2(S)+1

150

275

320

IEC Electrical			150	275	320
Nominal AC Voltage (50/60Hz)			120V	230V	230V
Maximum Continuous Operating Voltage	(L-N)	U_c	150V	275V	320V
	(N-PE)	U_c	255V	255V	255V
Nominal Discharge Current (8/20 μs)	(L-N)/(N-PE)	I_n		20kA/50kA	
Maximum Discharge Current (8/20 μs)	(L-N)/(N-PE)	I_{max}		50kA/100kA	
Impulse Discharge Current (10/350 μs)	(L-N)/(N-PE)	I_{imp}		12.5kA/50kA	
Specific Energy	(L-N)/(N-PE)	W/R		39kJ/ Ω /625kJ/ Ω	
Charge	(L-N)/(N-PE)	Q		6.25As/25As	
Voltage Protection Level	(L-N)/(N-PE)	U_p	1000V/1500V	1500V/1500V	1600V/1500V
Follow Current Interrupt Rating	(N-PE)	I_{fi}		100A _{RMS}	
Response Time	(L-N)/(N-PE)	t_A		< 25 ns / < 100 ns	
Back-Up Fuse (max)				315 A / 250 A gG	
Short-Circuit Current Rating (AC)	(L-N)	I_{SCCR}		25 kA / 50 kA	
TOV Withstand 5s	(L-N)	U_T	180V	335V	335V
		Mode	Safe Fail	Safe Fail	Safe Fail
TOV 120min	(L-N)	U_T	230V	440V	440V
		Mode	Safe Fail	Safe Fail	Safe Fail
TOV Withstand 200s	(N-PE)	U_T		1200V	
Number of Ports				1	
UL Electrical					
Maximum Continuous Operating Voltage (AC)	(L-N)/(N-PE)	MCOV	150V/255V	275V/255V	320V/255V
Voltage Protection Rating	(L-N)/(N-PE)	VPR	600V/1200V	900V/1200V	1200V/1200V
Nominal Discharge Current (8/20 μs)	(L-N)/(N-PE)	I_n	20kA/20kA	20kA/20kA	20kA/20kA
Short-Circuit Current Rating (AC)	(L-N)	SCCR	200kA	150kA	150kA
Mechanical & Environmental					
Operating Temperature Range	T_a		-40 °F to +158 °F [-40 °C to +70 °C]		
Permissible Operating Humidity	RH		5%...95%		
Atmospheric pressure and altitude			80k Pa ... 106k Pa / -500 m ... 2000 m		
Terminal Screw Torque	M max		39.9 lbf·in [4.5 Nm]		
Conductor Cross Section (max)			2 AWG (Solid, Stranded) / 4 AWG (Flexible)		
			35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)		
Mounting			35 mm DIN Rail, EN 60715		
Degree of Protection			IP 20 (built-in)		
Housing Material			Thermoplastic: Extinguishing Degree UL 94 V-0		
Thermal Protection			Yes		
Operating State / Fault Indication			Green ok / Red defect		
Remote Contacts (RC)			Optional		
RC Switching Capacity			AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A		
RC Conductor Cross Section (max)			16 AWG (Solid) / 1.5 mm ² (Solid)		

SPT12.5-XXX/3(S)+1

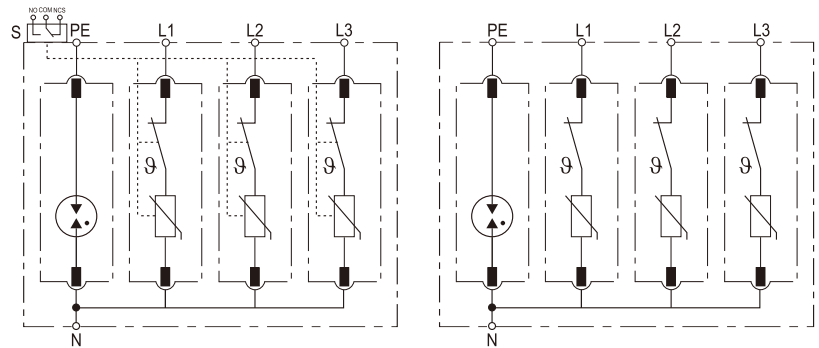


Order Information			
Order Code	150	275	320
SPT12.5-XXX/3+1	1215033	1227533	1232033
SPT12.5-XXX/3S+1 (with remote contacts)	1215034	1227534	1232034
SPT12.5-XXX/0 (spare modules)	121 5001	1227501	1232001
SPT12.5-NPE/0 (spare modules)	1225502	1225502	1225502

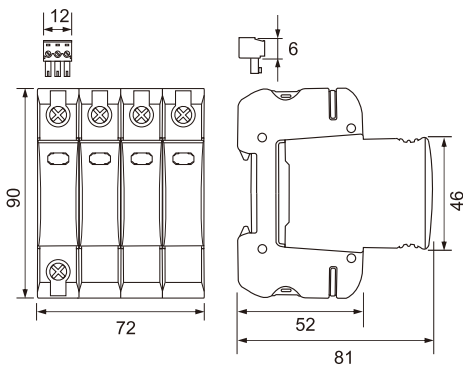
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



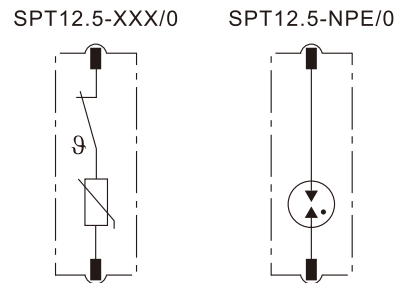
Dimensions & Packaging



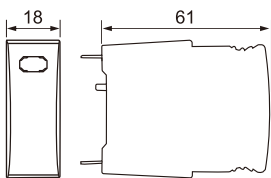
Dimensions & Packaging

SPT12.5-XXX/3(S)+1	150	275	320
Single Unit DIN 43880 Dimension	1 CTN		
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]		
Minimum Order Quantity	16 Units		

Plug Internal Configuration



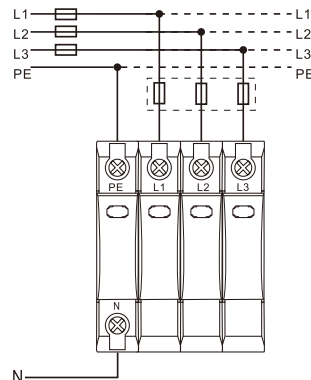
Plug Internal Configuration



Dimensions & Packaging

SPT12.5-XXX/0	150	275	320
SPT12.5-NPE/0	50		
Single Unit DIN 43880 Dimension	1 CTN		
Packaging Dimensions (H x W x L)	[200 x 230 x 330 mm]		
Minimum Order Quantity	64 Units		

Connection Diagram



Pluggable Multi-Pole SPD for Photovoltaic Systems

SPT12.5-PVXXX-(S)

Class I Class II • Type 1 Type 2 • Type 1CA

- Location of Use: String box, Inverter
- Mode of Protection: (DC+)- PE, (DC-)- PE, (DC+)-(DC-)
- Surge Ratings: I_{total} = up to 12.5 kA (10/350 μ s)
 I_{total} = up to 40 kA (8/20 μ s)
- IEC/EN/UL Category: Class I+II / Type 1+2 / Type 1CA
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-31:2018
EN 50539-11:2013+A1:2014
UL 1449 4th Edition



Technical Data

SPT12.5-PVXXX-(S)		600	1000	1200	1500	
IEC Electrical						
Maximum Continuous Operating DC Voltage (DC+) - PE, (DC-) - PE	(DC+) - PE, (DC-) - PE	U_{CPV}	600 V	1000 V	1200 V	1500 V
	(DC+) - (DC-)	U_{CPV}	600 V	1000 V	1200 V	1500 V
Nominal Discharge Current (8/20 μ s)		I_n		20kA		
Impulse Discharge Current (10/350 μ s)		I_{imp}		6.25kA		
Total Discharge Current (10/350 μ s)		I_{Total}		12.5kA		
Total Discharge Current (8/20 μ s)		I_{Total}		40kA		
Maximum Discharge Current (8/20 μ s)		I_{max}		40kA		
Voltage Protection Level	(DC+) - PE, (DC-) - PE	U_p	2200 V	4000 V	4400 V	5200 V
	(DC+) - (DC-)	U_p	2200 V	4000 V	4400 V	5200 V
Response Time		t_A		< 25 ns		
Short-Circuit Current Rating		I_{SCPV}		2000A		
Number of Ports				1		
UL Electrical						
Maximum Permitted DC Voltage		V_{pVdc}	600 V	1000 V	1200 V	1500 V
Voltage Protection Rating	(DC+) - PE, (DC-) - PE	V_{PR}	1600 V	2500 V	3000 V	4000 V
	(DC+) - (DC-)	V_{PR}	1600 V	2500 V	3000 V	4000 V
Nominal Discharge Current (8/20 μ s)		I_n		20 kA		
Short-Circuit Current Rating		SCCR	35 kA	50 kA	55 kA	65 kA
Mechanical & Environmental						
Operating Temperature Range		T_a	-40 °F to +158 °F [-40 °C to +70 °C]			
Permissible Operating Humidity		RH	5%...95%			
Atmospheric pressure and altitude			80k Pa ... 106k Pa / -500 m ... 2000 m			
Terminal Screw Torque		M_{max}	39.9 lbf-in [4.5 Nm]			
Conductor Cross Section (max)			2 AWG (Solid, Stranded) / 4 AWG (Flexible)			
			35mm ² (Solid, Stranded) / 25mm ² (Flexible)			
Mounting			35 mm DIN Rail, EN 60715			
Degree of Protection			IP 20 (built-in)			
Housing Material			Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection			Yes			
Operating State / Fault Indication			Green ok / Red defect			
Remote Contacts (RC)			Optional			
RC Switching Capacity			AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A			
RC Conductor Cross Section (max)			16 AWG(Solid)/1.5 mm ² (Solid)			

SPT12.5-PVXXX-(S)



Order Information

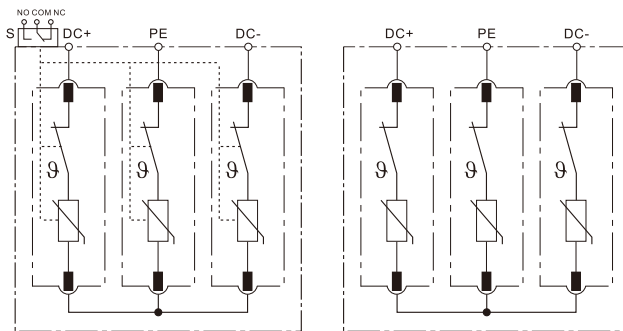
Order Code	600	1000	1200	1500
SPT12.5- PVXXX	0760025	0710235	0712231	0715231
SPT12.5- PVXXX-(S) (with remote contacts)	0760026	0710236	0712232	0715232
SPT12.5- PVXXX/0 (spare modules)	0760002	0710202	0712202	0715202

Internal Configuration

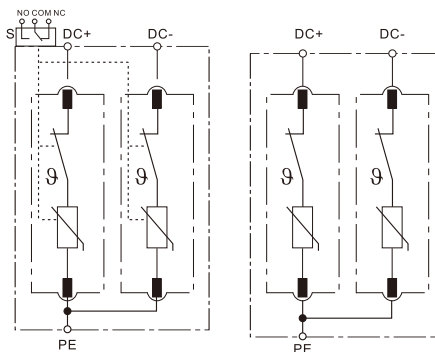
Legend

- PE Protective Earth
- S Signalling Contacts Optional

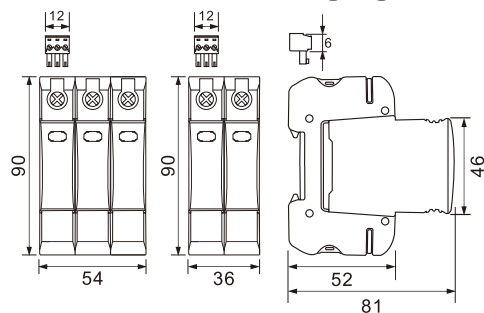
SPT12.5-PV1000-(S), SPT12.5-PV1200-(S), SPT12.5-PV1500-(S)



SPT12.5-PV600-(S)



Dimensions & Packaging

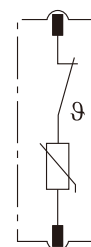


SPT12.5-PV1500-(S)
SPT12.5-PV1200-(S)
SPT12.5-PV600-(S)

Dimensions & Packaging

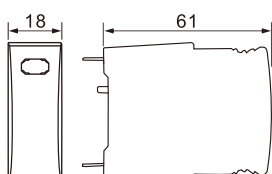
SPT12.5-PVXXX-(S)	600	1000	1200	1500
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[220 x 230 x 330 mm]			
Minimum Order Quantity	32 Units	16 Units	16 Units	16 Units

SPT12.5-PVXXX/0



Plug Internal Configuration

Dimensions & Packaging



Dimensions & Packaging

SPT12.5-PVXXX/0	600	1000	1200	1500
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[220 x 230 x 330 mm]			
Minimum Order Quantity	64 Units			

Pluggable Single-Pole SPD

SPT40-XXX/1(S)

Class II • Type 2 • Type 1CA

- Location of Use: Sub-Distribution Boards
- Network Systems: TN-S, TN-C, TT (only L-N)
- Mode of Protection: L-PE, N-PE (only TN-S), L-PEN, L-N
- Surge Ratings: $I_n = 20 \text{ kA} (8/20 \mu\text{s})$
- IEC/EN/UL Category: Class II / Type 2 / Type 1CA
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT40-XXX/1(S)		75	150	275	320	385	440
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o / U_n	60 V	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	75 V	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μs)	I_{max}	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Voltage Protection Level	U_p	400 V	1000 V	1500 V	1600 V	1750 V	2000 V
Response Time	t_A	< 25 ns					
Back-Up Fuse (max)		125 A gL / gG					
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA					
TOV Withstand 5s	U_T	90 V	180 V	335 V	335 V	335 V	580 V
	U_T	115 V	230 V	440 V	440 V	440 V	765 V
TOV 120min	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					
UL Electrical							
Maximum Continuous Operating Voltage (AC)	MCOV	75 V	150 V	275 V	320 V	385 V	440 V
Voltage Protection Rating	VPR	330 V	600 V	900 V	1000 V	1200 V	1500 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	100 kA	200 kA	150 kA	150 kA	150 kA	200 kA
Mechanical & Environmental							
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]					
Permissible Operating Humidity	RH	5%...95%					
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m					
Terminal Screw Torque	M_{max}	39.9 lbf·in [4.5 Nm]					
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)					
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)					
Mounting		35 mm DIN Rail, EN 60715					
Degree of Protection		IP 20 (built-in)					
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0					
Thermal Protection		Yes					
Operating State / Fault Indication		Green ok / Red defect					
Remote Contacts (RC)		Optional					
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A					
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)					

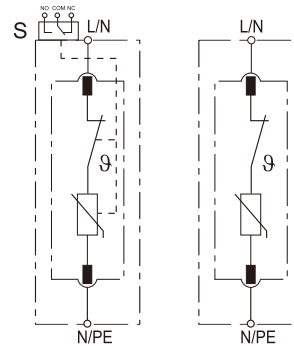
Order Information

Order Code	75	150	275	320	385	440
SPT40-XXX/1	4007511	4015011	4027511	4032011	4038511	4044011
SPT40-XXX/1S (with remote contacts)	4007512	4015012	4027512	4032012	4038512	4044012
SPT40-XXX/0 (spare modules)	4007501	4015001	4027501	4032001	4038501	4044001

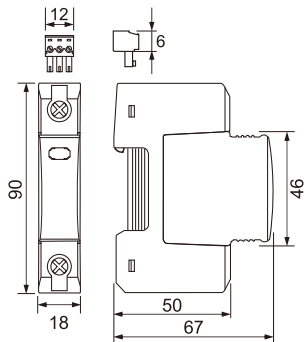
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



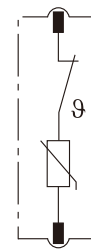
Dimensions & Packaging



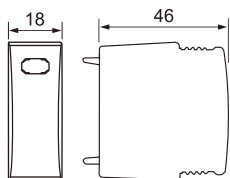
Dimensions & Packaging

SPT40-XXX/1(S)	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]					
Minimum Order Quantity	72 Units					

SPT40-XXX/0



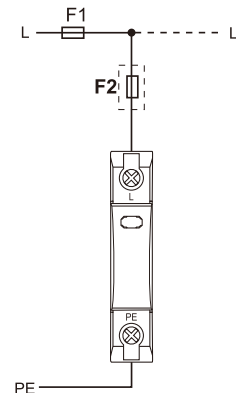
Dimensions & Packaging



Dimensions & Packaging

SPT40-XXX/0	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]					
Minimum Order Quantity	96 Units					

TN-S, TN-C, TT (Single-phase, 1+0)



Connection Diagram

Pluggable Multi-Pole SPD

SPT40-XXX/2(S)

Class II • Type 2 • Type 1CA

- Location of Use: Sub-Distribution Boards
- Network Systems: TN-S
- Mode of Protection: L-PE, N-PE
- Surge Ratings: $I_n = 20 \text{ kA} (8/20 \mu\text{s})$
- IEC/EN/UL Category: Class II / Type 2 / Type 1CA
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT40-XXX/2(S)		75	150	275	320	385	440
IEC Electrical							
Nominal AC Voltage (50/60Hz)	U_o / U_n	60 V	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	75 V	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μs)	I_{max}	40 kA	40 kA	40 kA	40 kA	40 kA	40 kA
Voltage Protection Level	U_p	400 V	1000 V	1500 V	1600 V	1750 V	2000 V
Response Time	t_A	< 25 ns					
Back-Up Fuse (max)		125 A gL / gG					
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA					
TOV Withstand 5s	U_T	90 V	180 V	335 V	335 V	335 V	580 V
TOV 120min	U_T	115 V	230 V	440 V	440 V	440 V	765 V
	mode	Withstand	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1					
UL Electrical							
Maximum Continuous Operating Voltage (AC)	MCOV	75 V	150 V	275 V	320 V	385 V	440 V
Voltage Protection Rating	VPR	330 V	600 V	900 V	1000 V	1200 V	1500 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	100 kA	200 kA	150 kA	150 kA	150 kA	200 kA
Mechanical & Environmental							
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]					
Permissible Operating Humidity	RH	5%...95%					
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m					
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5 Nm]					
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)					
Mounting		35 mm DIN Rail, EN 60715					
Degree of Protection		IP 20 (built-in)					
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0					
Thermal Protection		Yes					
Operating State / Fault Indication		Green ok / Red defect					
Remote Contacts (RC)		Optional					
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A					
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)					

SPT40-XXX/2(S)



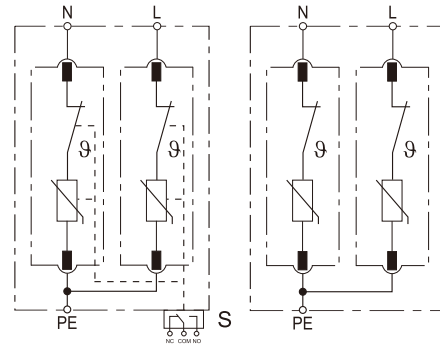
Order Information

Order Code	75	150	275	320	385	440
SPT40-XXX/2	4007521	4015021	4027521	4032021	4038521	4044021
SPT40-XXX/2S(with remote contacts)	4007522	4015022	4027522	4032022	4038522	4044022
SPT40-XXX/0 (spare modules)	4007501	4015001	4027501	4032001	4038501	4044001

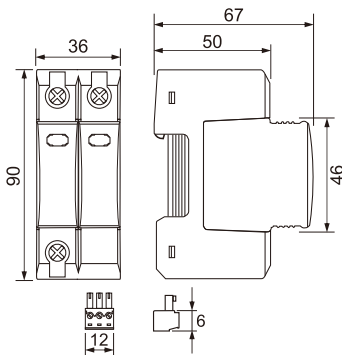
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



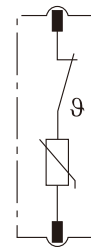
Dimensions & Packaging



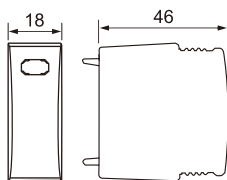
Dimensions & Packaging

SPT40-XXX/2(S)	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]					
Minimum Order Quantity	42 Units					

SPT40-XXX/0



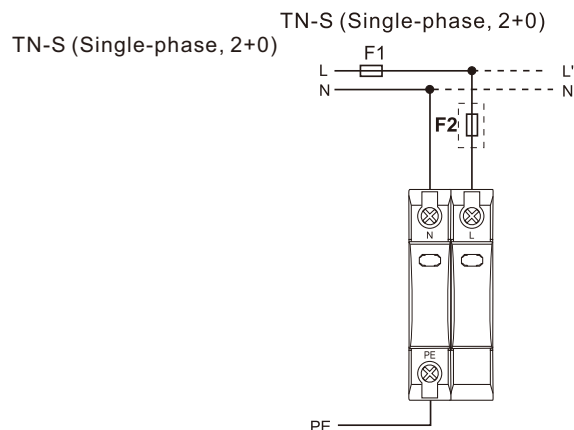
Dimensions & Packaging



Dimensions & Packaging

SPT40-XXX/0	75	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN					
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]					
Minimum Order Quantity	96 Units					

Connection Diagram



Pluggable Multi-Pole SPD

SPT40-XXX/3(S)

Class II • Type 2 • Type 1CA

- Location of Use: Sub-Distribution Boards
- Network Systems: TN-C
- Mode of Protection: L-PEN
- Surge Ratings: $I_n = 20 \text{ kA} (8/20 \mu\text{s})$
- IEC/EN/UL Category: Class II / Type 2 / Type 1CA
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT40-XXX/3(S)		150	275	320	385	440
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o / U_n	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μs)	I_{max}	40 kA	40 kA	40 kA	40 kA	40 kA
Voltage Protection Level	U_p	1000 V	1500 V	1600 V	1750 V	2000 V
Response Time	t_A	< 25 ns				
Back-Up Fuse (max)		125 A gL / gG				
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA				
TOV Withstand 5s	U_T	180 V	335 V	335 V	335 V	580 V
TOV 120min	U_T	230 V	440 V	440 V	440 V	765 V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
UL Electrical						
Maximum Continuous Operating Voltage (AC)	MCOV	150 V	275 V	320 V	385 V	440 V
Voltage Protection Rating	VPR	600 V	900 V	1000 V	1200 V	1500 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA	150 kA	150 kA	150 kA	200 kA
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)				

SPT40-XXX/3(S)



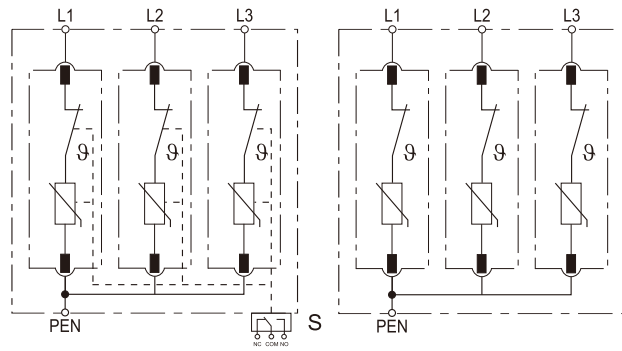
Order Information

Order Code	150	275	320	385	440
SPT40-XXX/3	4015031	4027531	4032031	4038531	4044031
SPT40-XXX/3S (with remote contacts)	4015032	4027532	4032032	4038532	4044032
SPT40-XXX/0 (spare modules)	4015001	4027501	4032001	4038501	4044001

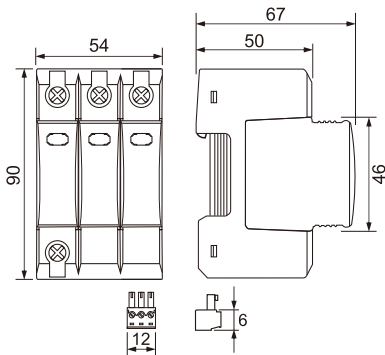
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



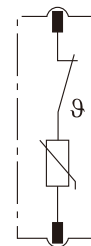
Dimensions & Packaging



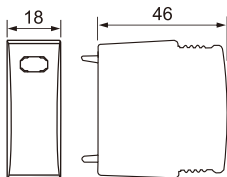
Dimensions & Packaging

SPT40-XXX/3(S)	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]				
Minimum Order Quantity	30 Units				

SPT40-XXX/0



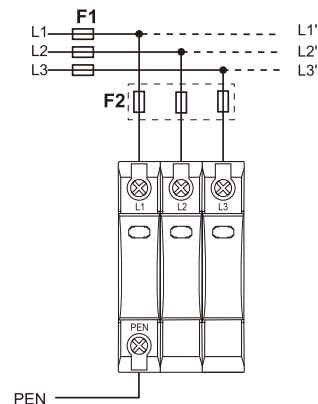
Dimensions & Packaging



Dimensions & Packaging

SPT40-XXX/0	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]				
Minimum Order Quantity	96 Units				

TN-C (Three-phase, 3+0)



Connection Diagram

Pluggable Multi-Pole SPD

SPT40-XXX/4(S)

Class II • Type 2 • Type 1CA

- Location of Use: Sub-Distribution Boards
- Network Systems: TN-S
- Mode of Protection: L-PE, N-PE
- Surge Ratings: $I_n = 20 \text{ kA} (8/20 \mu\text{s})$
- IEC/EN/UL Category: Class II / Type 2 / Type 1CA
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT40-XXX/4(S)		150	275	320	385	440
IEC Electrical						
Nominal AC Voltage (50/60Hz)	U_o / U_n	120 V	230 V	230 V	230 V	400 V
Maximum Continuous Operating Voltage (AC)	U_c	150 V	275 V	320 V	385 V	440 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA
Maximum Discharge Current (8/20 μs)	I_{max}	40 kA	40 kA	40 kA	40 kA	40 kA
Voltage Protection Level	U_p	1000 V	1500 V	1600 V	1750 V	2000 V
Response Time	t_A	< 25 ns				
Back-Up Fuse (max)		125 A gL / gG				
Short-Circuit Current Rating (AC)	I_{SCCR}	25 kA / 50 kA				
TOV Withstand 5s	U_T	180 V	335 V	335 V	335 V	580 V
TOV 120min	U_T	230 V	440 V	440 V	440 V	765 V
	mode	Withstand	Safe Fail	Safe Fail	Safe Fail	Safe Fail
Number of Ports		1				
UL Electrical						
Maximum Continuous Operating Voltage (AC)	MCOV	150 V	275 V	320 V	385 V	440 V
Voltage Protection Rating	VPR	600 V	900 V	1000 V	1200 V	1500 V
Nominal Discharge Current (8/20 μs)	I_n	20 kA	20 kA	20 kA	20 kA	20 kA
Short-Circuit Current Rating (AC)	SCCR	200 kA	150 kA	150 kA	150 kA	200 kA
Mechanical & Environmental						
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]				
Permissible Operating Humidity	RH	5%...95%				
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m				
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5 Nm]				
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible) 35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)				
Mounting		35 mm DIN Rail, EN 60715				
Degree of Protection		IP 20 (built-in)				
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0				
Thermal Protection		Yes				
Operating State / Fault Indication		Green ok / Red defect				
Remote Contacts (RC)		Optional				
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A				
RC Conductor Cross Section		16 AWG (Solid) / 1.5 mm ² (Solid)				

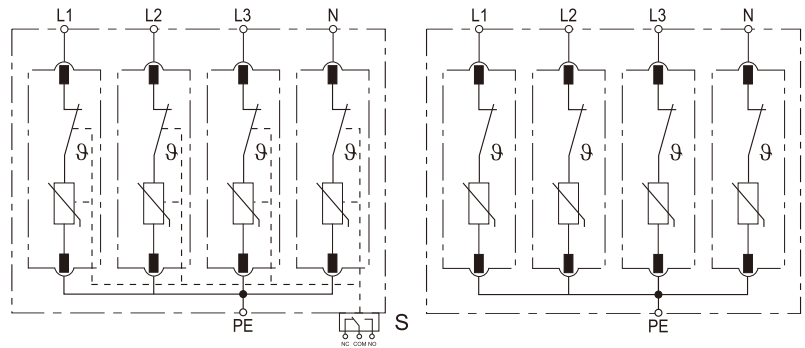
Order Information

Order Code	150	275	320	385	440
SPT40-XXX/4	4015041	4027541	4032041	4038541	4044041
SPT40-XXX/4S(with remote contacts)	4015042	4027542	4032042	4038542	4044042
SPT40-XXX/0 (spare modules)	4015001	4027501	4032001	4038501	4044001

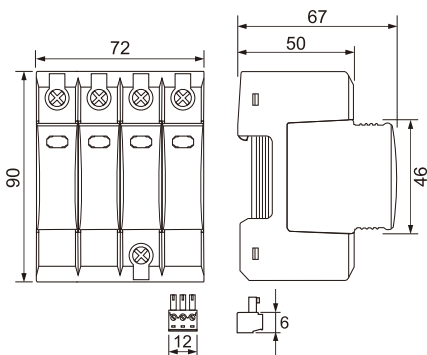
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



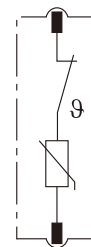
Dimensions & Packaging



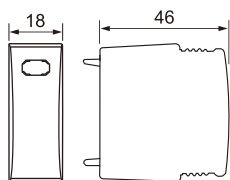
Dimensions & Packaging

SPT40-XXX/4(S)	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]				
Minimum Order Quantity	24 Units				

SPT40-XXX/0



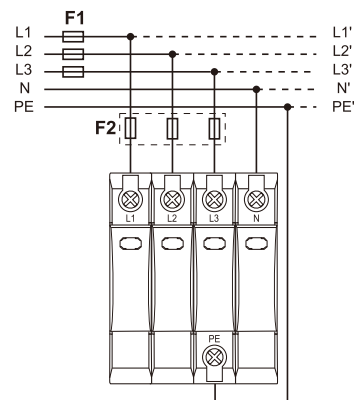
Dimensions & Packaging



Dimensions & Packaging

SPT40-XXX/0	150	275	320	385	440
Single Unit DIN 43880 Dimension	1 CTN				
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]				
Minimum Order Quantity	96 Units				

TN-S (Three-phase, 4+0)



Connection Diagram

Pluggable Multi-Pole SPD

SPT40-XXX/1(S)+1

Class II • Type 2 • Type 1CA

- Location of Use: Sub-Distribution Boards
- Network Systems: TT, TN-S
- Mode of Protection: L-N, N-PE
- Surge Ratings: $I_n = 20 \text{ kA} (8/20\mu\text{s})$
- IEC/EN/UL Category: Class II / Type 2 / Type 1CA
- Protective Elements: High Energy MOV and GDT
- Housing: Pluggable Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT40-XXX/1(S)+1

		75	150	275	320
IEC Electrical					
Nominal AC Voltage (50/60Hz)		60 V	120 V	230 V	230 V
Maximum Continuous Operating Voltage	(L - N) U_c	75 V	150 V	275 V	320 V
	(N - PE) U_c	255 V	255 V	255 V	255 V
Nominal Discharge Current (8/20 μs)	(L - N) / (N - PE) I_n		20 kA / 20 kA		
Maximum Discharge Current (8/20 μs)	(L - N) / (N - PE) I_{max}		40 kA / 40 kA		
Voltage Protection Level	(L - N) / (N - PE) U_p	400 V / 1000 V	1000 V / 1000 V	1500 V / 1000 V	1600 V / 1000 V
Follow Current Interrupt Rating	(N-PE) I_{fi}		100 A _{RMS}		
Response Time	(L - N) / (N - PE) t_A		< 25 ns / < 100 ns		
Back-Up Fuse (max)			125 A gL / gG		
Short-Circuit Current Rating (AC)	(L - N) I_{SCCR}		25 kA / 50 kA		
TOV Withstand 5s	(L - N) U_T	90 V	180 V	335 V	335 V
TOV 120min	(L - N) U_T	115 V	230 V	440 V	440 V
		mode	Withstand	Withstand	Safe Fail
TOV Withstand 200ms	(N - PE) U_T			1200 V	
Number of Ports				1	
UL Electrical					
Maximum Continuous Operating Voltage (AC)	(L - N) / (N - PE) MCOV	75 V / 255 V	150 V / 255 V	275 V / 255 V	320 V / 255 V
Voltage Protection Rating	(L - N) / (N - PE) VPR	330 V / 1000 V	600 V / 1000 V	900 V / 1000 V	1000 V / 1000 V
Nominal Discharge Current (8/20 μs)	(L - N) / (N - PE) I_n	20 kA / 20 kA	20 kA / 20 kA	20 kA / 20 kA	20 kA / 20 kA
Short-Circuit Current Rating (AC)	(L - N) SCCR	100 kA	200 kA	150 kA	150 kA
Mechanical & Environmental					
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]			
Permissible Operating Humidity	RH	5%...95%			
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m			
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5 Nm]			
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)			
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green ok / Red defect			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A			
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)			

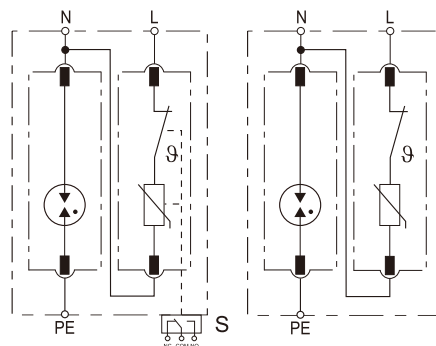
Order Information

Order Code	75	150	275	320
SPT40-XXX/1+1	4007513	4015013	4027513	4032013
SPT40-XXX/1S+1 (with remote contacts)	4007514	4015014	4027514	4032014
SPT40-XXX/0 (spare modules)	4007501	4015001	4027501	4032001
SPT40-NPE/0 (spare modules)	4025501	4025501	4025501	4025501

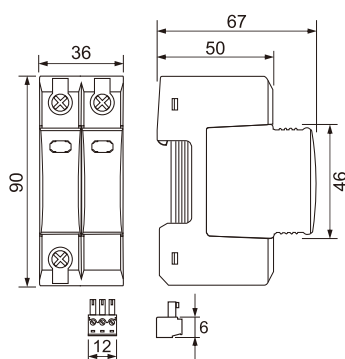
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional

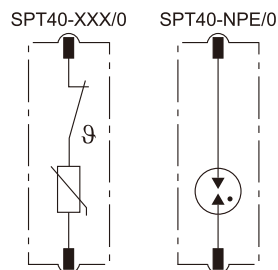


Dimensions & Packaging

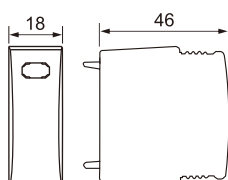


Dimensions & Packaging

SPT40-XXX/1(S)+1	75	150	275	320
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]			
Minimum Order Quantity	42 Units			



Dimensions & Packaging

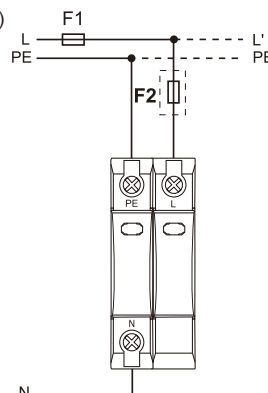


Dimensions & Packaging

SPT40-XXX/0	75	150	275	320
SPT40-NPE/0	40			
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]			
Minimum Order Quantity	96 Units			

Connection Diagram

TN-S,TT (Single-phase, 1+1)



Pluggable Multi-Pole SPD

SPT40-XXX/3(S)+1

Class II • Type 2 • Type 1CA

- Location of Use: Sub-Distribution Boards
- Network Systems: TT, TN-S
- Mode of Protection: L-N, N-PE
- Surge Ratings: $I_n = 20 \text{ kA} (8/20 \mu\text{s})$
- IEC/EN/UL Category: Class II / Type 2 / Type 1CA
- Protective Elements: High Energy MOV and GDT
- Housing: Pluggable Design
- Compliance: IEC 61643-11:2011
EN 61643-11:2012
UL 1449 4th Edition



Technical Data

SPT40-XXX/3(S)+1

		150	275	320	385
IEC Electrical					
Nominal AC Voltage (50/60Hz)		120 V	230 V	230 V	230 V
Maximum Continuous Operating Voltage	(L - N) U_c	150 V	275 V	320 V	385 V
	(N - PE) U_c	255 V	255 V	255 V	255 V
Nominal Discharge Current (8/20 μs)	(L - N) / (N - PE) I_n		20 kA / 20 kA		
Maximum Discharge Current (8/20 μs)	(L - N) / (N - PE) I_{max}		40 kA / 40 kA		
Voltage Protection Level	(L - N) / (N - PE) U_p	1000 V / 1000 V	1500 V / 1000 V	1600 V / 1000 V	1750 V / 1000 V
Follow Current Interrupt Rating	(N-PE) I_{fi}		100 A _{RMS}		
Response Time	(L - N) / (N - PE) t_A		< 25 ns / < 100 ns		
Back-Up Fuse (max)			125 A gL / gG		
Short-Circuit Current Rating (AC)	(L - N) I_{SCCR}		25 kA / 50 kA		
TOV Withstand 5s	(L - N) U_T	180 V	335 V	335 V	335 V
	(L - N) U_T	230 V	440 V	440 V	440 V
TOV 120min	Mode	Withstand	Safe Fail	Safe Fail	Safe Fail
	(N - PE) U_T		1200 V		
TOV Withstand 200ms	(N - PE) U_T		1200 V		
Number of Ports			1		
UL Electrical					
Maximum Continuous Operating Voltage (AC)	(L - N) / (N - PE) MCOV	150 V / 255 V	275 V / 255 V	320 V / 255 V	320 V / 255 V
Voltage Protection Rating	(L - N) / (N - PE) VPR	600 V / 1000 V	900 V / 1000 V	1000 V / 1000 V	1200 V / 1000 V
Nominal Discharge Current (8/20 μs)	(L - N) / (N - PE) I_n	20 kA / 20 kA	20 kA / 20 kA	20 kA / 20 kA	20 kA / 20 kA
Short-Circuit Current Rating (AC)	(L - N) SCCR	200 kA	150 kA	150 kA	150 kA
Mechanical & Environmental					
Operating Temperature Range	T_a	-40 °F to +158 °F [-40 °C to +70 °C]			
Permissible Operating Humidity	RH	5%...95%			
Atmospheric pressure and altitude		80k Pa ... 106k Pa / -500 m ... 2000 m			
Terminal Screw Torque	M_{max}	39.9 lbf-in [4.5 Nm]			
Conductor Cross Section (max)		2 AWG (Solid, Stranded) / 4 AWG (Flexible)			
		35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting		35 mm DIN Rail, EN 60715			
Degree of Protection		IP 20 (built-in)			
Housing Material		Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection		Yes			
Operating State / Fault Indication		Green ok / Red defect			
Remote Contacts (RC)		Optional			
RC Switching Capacity		AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A			
RC Conductor Cross Section (max)		16 AWG (Solid) / 1.5 mm ² (Solid)			

SPT40-XXX/3(S)+1



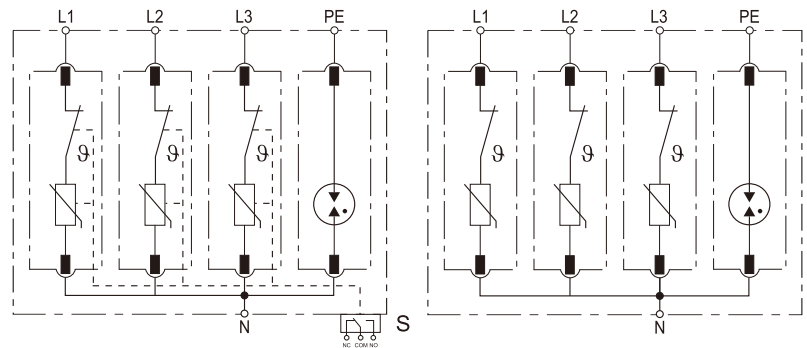
Order Information

Order Code	150	275	320	385
SPT40-XXX/3+1	4015033	4027533	4032033	4038533
SPT40-XXX/3S+1(with remote contacts)	4015034	4027534	4032034	4038534
SPT40-XXX/0(spare modules)	4015001	4027501	4032001	4038501
SPT40-NPE/0(spare modules)	4025501	4025501	4025501	4025501

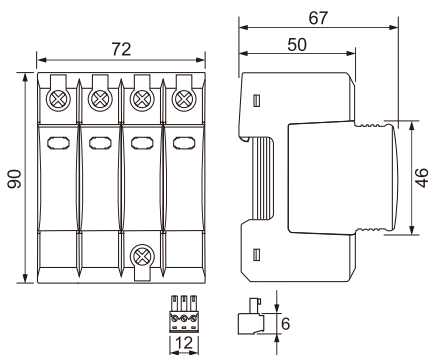
Internal Configuration

Legend

- L Line
- N Neutral
- PE Protective Earth
- S Signalling Contacts Optional



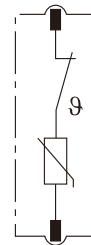
Dimensions & Packaging



Dimensions & Packaging

SPT40-XXX/3(S)+1	150	275	320	385
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]			
Minimum Order Quantity	24 Units			

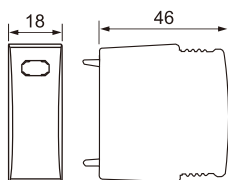
SPT40-XXX/0



SPT40-NPE/0



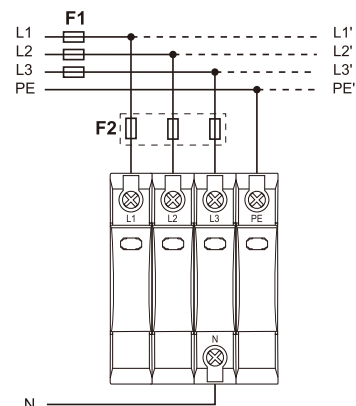
Dimensions & Packaging



Dimensions & Packaging

SPT40-XXX/0	150	275	320	385
SPT40-NPE/0	40			
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]			
Minimum Order Quantity	96 Units			

TN-S, TT (Three-phase, 3+1)



Connection Diagram

Pluggable Multi-Pole SPD for Photovoltaic Systems

SPT40-PVXXX-(S)

Class II • Type 2 • Type 1CA

- Location of Use: String box, Inverter
- Mode of Protection: (DC+) - PE, (DC-) - PE, (DC+) - (DC-)
- Surge Ratings: $I_n = 20\text{kA}$ (8/20 μs)
 $I_{\text{total}} = \text{up to } 40\text{kA}$ (8/20 μs)
- IEC/EN/UL Category: Class II/ Type 2/ Type 1CA
- Protective Elements: High Energy MOV
- Housing: Pluggable Design
- Compliance: IEC 61643-31:2018
EN 50539-11:2013+A1:2014
UL 1449 4th Edition



Technical Data

SPT40-PVXXX-(S)		600	1000	1200	1500	
IEC Electrical						
Maximum Continuous Operating DC Voltage	(DC+) - PE, (DC-) - PE	U_{cpv}	600 V	1000 V	1200 V	1500 V
	(DC+) - (DC-)	U_{cpv}	600 V	1000 V	1200 V	1500 V
Nominal Discharge Current (8/20 μs)		I_n		20 kA		
Total Discharge Current (8/20 μs)		I_{Total}		40 kA		
Maximum Discharge Current (8/20 μs)		I_{max}		40 kA		
Voltage Protection Level	(DC+) - PE, (DC-) - PE	U_p	2200 V	4000 V	4400 V	5200 V
	(DC+) - (DC-)	U_p	2200 V	4000 V	4400 V	5200 V
Response Time		t_A		< 25 ns		
Short-Circuit Current Rating		I_{scpv}		2000A		
Number of Ports				1		
UL Electrical						
Maximum Permitted DC Voltage		V_{pdc}	600 V	1000 V	1200 V	1500 V
Voltage Protection Rating	(DC+) - PE, (DC-) - PE	V_{PR}	1600 V	2500 V	3000 V	4000 V
	(DC+) - (DC-)	V_{PR}	1600 V	2500 V	3000 V	4000 V
Nominal Discharge Current (8/20 μs)		I_n		20 kA		
Short-Circuit Current Rating		SCCR	35 kA	50 kA	55 kA	65 kA
Mechanical & Environmental						
Operating Temperature Range		T_a	-40 °F to +158 °F [-40 °C to +70 °C]			
Permissible Operating Humidity		RH	5%...95%			
Atmospheric pressure and altitude			80k Pa ... 106k Pa / -500 m ... 2000 m			
Terminal Screw Torque		M_{max}	39.9 lbf-in [4.5 Nm]			
Conductor Cross Section (max)			2 AWG (Solid, Stranded) / 4 AWG (Flexible)			
			35 mm ² (Solid, Stranded) / 25 mm ² (Flexible)			
Mounting			35 mm DIN Rail, EN 60715			
Degree of Protection			IP 20 (built-in)			
Housing Material			Thermoplastic: Extinguishing Degree UL 94 V-0			
Thermal Protection			Yes			
Operating State / Fault Indication			Green ok / Red defect			
Remote Contacts (RC)			Optional			
RC Switching Capacity			AC: 250V / 0.5 A; DC: 250V / 0.1 A; 125 V / 0.2 A; 75 V / 0.5 A			
RC Conductor Cross Section (max)			16 AWG (Solid) / 1.5 mm ² (Solid)			

SPT40-PVXXX-(S)



Order Information

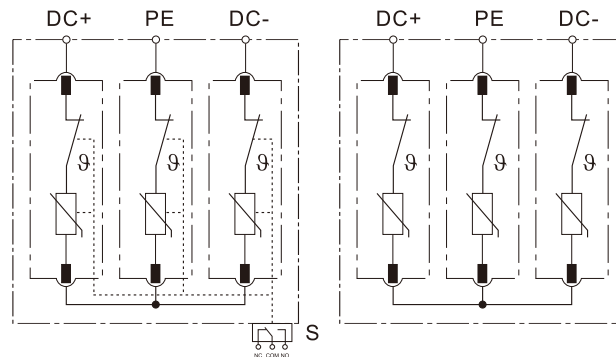
Order Code	600	1000	1200	1500
SPT40-PVXXX	4060025	4010235	4012231	4015231
SPT40-PVXXX-(S) (with remote contacts)	4060026	4010236	4012232	4015232
SPT40-PVXXX/0 (spare modules)	4060002	4010202	4012202	4015202

Internal Configuration

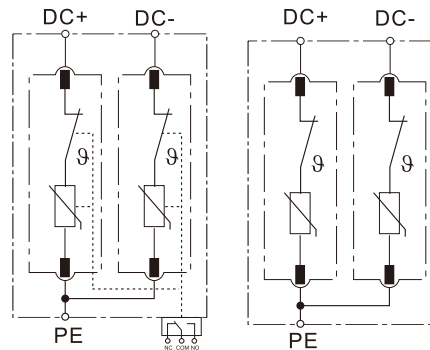
Legend

- PE Protective Earth
- S Signalling Contacts Optional

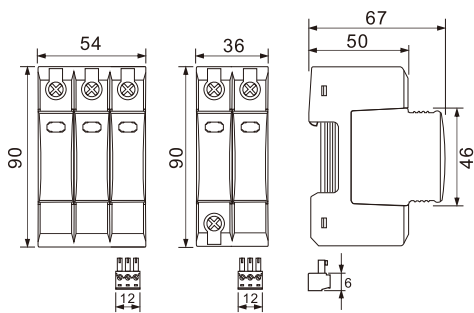
SPT40-PV1000-(S), SPT40-PV1200-(S), SPT40-PV1500-(S)



SPT40-PV600-(S)



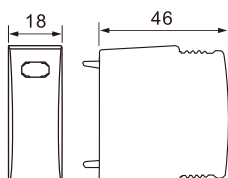
Dimensions & Packaging



SPT40-PV1500-(S) SPT40-PV600-(S)
 SPT40-PV1200-(S)
 SPT40-PV1000-(S)

Plug Internal Configuration

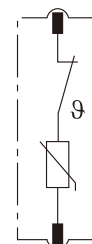
Dimensions & Packaging



Dimensions & Packaging

SPT40-PVXXX-(S)	600	1000	1200	1500
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]			
Minimum Order Quantity	42 Units	30 Units	30 Units	30 Units

SPT40-PVXXX/0



Dimensions & Packaging

SPT40-PVXXX/0	600	1000	1200	1500
Single Unit DIN 43880 Dimension	1 CTN			
Packaging Dimensions (H x W x L)	[270 x 230 x 330 mm]			
Minimum Order Quantity	96 Units			

In-line SPD for Coaxial & RF Systems

SPT CP BNC

C1 • C2 • C3

IEC/EN Category: C1/C2/C3
 Protection: Impedance Matched
 Maximum Operating:
 Voltage: 70, 180, 280 V
 Maximum Peak Power: 40, 125, 300 W
 Frequency Range: DC – 2.6 GHz
 Surge Discharge Ratings: I_n : 10 kA, I_{max} : 20 kA
 Impedance: 50 Ω
 Insertion Loss: < 0.4 dB
 Return Loss: > 20 dB
 Termination: BNC Type (F-F, M-F)
 Housing: In-line Installation, Shielded Enclosure
 Compliance: IEC/EN 61643-21



The SPT CP BNC Series of coaxial surge protectors is intended to protect RF antenna systems and is suitable for frequencies from DC to 2.6 GHz.

It is designed as an in-line unit allowing ease of installation. The careful design, low capacitance gas discharge arresters and high quality BNC-type termination connectors, ensures a minimum of insertion loss throughout the frequency band. Transfer power is 40 W to 300 W continuous, depending on the coaxial cable protector voltage.

The CP coaxial cable protector is designed in accordance with IEC61643-21: 2012 standards and regulations.

A grounding stud is provided which should be connected to the system ground or coaxial feed-through bulkhead, as directly as possible.

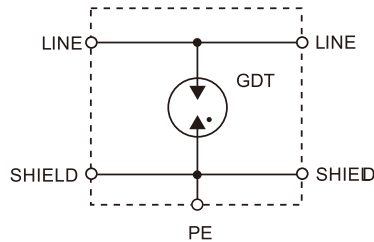
Technical Data

SPT CP BNC		70	180	280
IEC Electrical				
Maximum Continuous Operating Voltage	U _c	70V	180V	280V
Maximum Peak Power	P _{max}	40W	125 W	300W
C2 Nominal Discharge Current (8/20 μs)	I _n		10 kA	
Maximum Discharge Current (8/20 μs)	I _{max}		20 kA	
Residual Voltage at (1 kV/μs)	U _{res}	<600V	< 700V	<900V
Impedance	Z		500	
Insertion Loss	IL		<0. 4dB ,	
Return Loss	RL		>20dB	
Insulation Resistance of Protection	R _{iso}		>10GQ	
Frequency Range	f _G		0-2.6 GHz	
Mechanical				
Temperature Range		-40 °F to +176 °F [-40 °C to +80 °C]		
Connection		BNC Female/Female		BNC Male/Female
Degree of Protection IEC/EN 60529		IP 20 (built-in)		
Housing Material		Metal		
Order Information				
Order Code		70	180	280
SPT CP BNC-FF-xxx		800 850	800 851	800 852
SPT CP BNC-MF-xxx		800 853	800 854	800 855

Internal Configuration

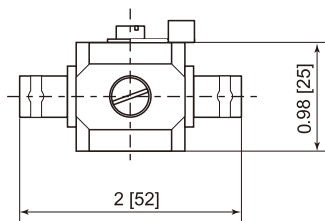
Legend

GDT Gas Discharge Tube
PE Ground

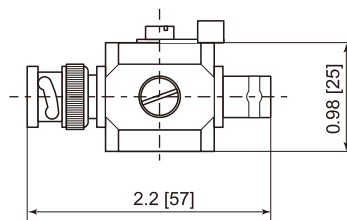


Dimensions & Packaging

SPT CP BNC-FF



SPT CP BNC-MF

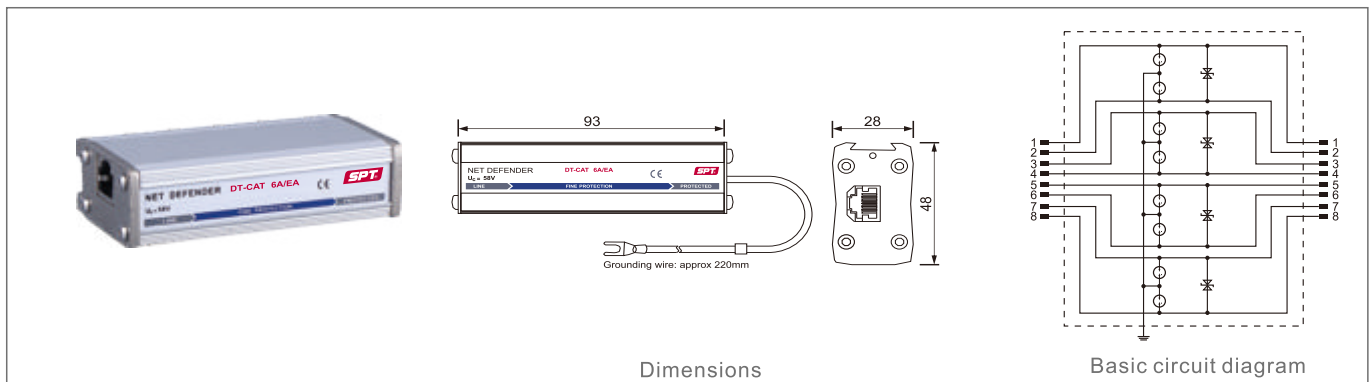


SPT CP BNC	SPT CP BNC-FF-xxx			SPT CP BNC-MF-xxx		
	70	180	280	70	180	280
Dimensions & Packaging						
Weight per Unit	3.74 oz [106g]			4.02 oz [114 g]		
Packaging Dimensions (Single Unit)	2.9 × 1.2 × 1.2" [73 × 30 × 30 mm]					
Minimum Package Quantity	100 pieces					

SPTs for Telecommunication and Data Networks

The "PoE Surge Protector" permits the use of Power over Ethernet with nominal currents of up to 1 A. It can be snapped directly onto the hat rail and uses it to create the necessary equipotential bonding. Alternatively, terminal protection using a separately connectable

- Support for Power over Ethernet + up to 1 A (PoE+ according to IEEE 802.3at)
- CAT 6A in the channel according to ANSI/TIA/EIA-568
- For installation in conformity with the lightning protection zone concept at the boundaries from 0 -2 and higher



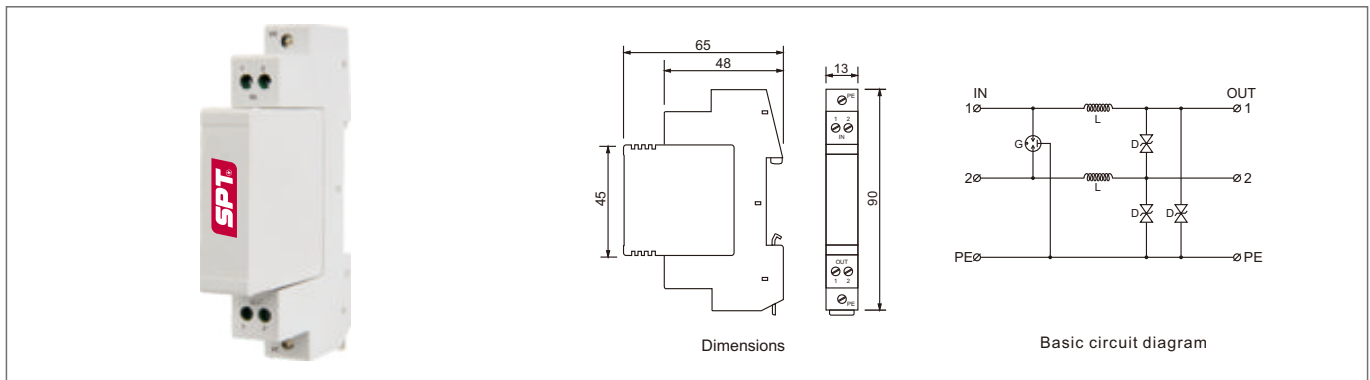
Type	DT-CAT 6A/EA	
SPT according to EN 61643-21 / IEC 61643-21		type 2 / class II
Max. continuous operating a.c. voltage	U_c	41 V
Max. continuous operating d.c. voltage	U_c	58 V
Max. continuous operating d.c. voltage pair-pair (PoE)	U_c	57 V
Rated current	I_L	1 A
D1 Lightning impulse current (10/350 μ s) per line	I_{imp}	1 kA
C2 Nominal discharge current (8/20 μ s) line-line	I_n	150 A
C2 Nominal discharge current (8/20 μ s) line-PG	I_n	2.5 kA
C2 Total nominal discharge current (8/20 μ s) line-PG	I_n	10 kA
C2 Nominal discharge current (8/20 μ s) pair-pair (PoE)	I_n	150 A
Voltage protection level line-line for I_n C2	U_p	< 190 V
Voltage protection level line-PG for I_n C2	U_p	< 600 V
Voltage protection level pair-pair for I_n C2 (PoE)	U_p	< 600 V
Voltage protection level line-line at 1 kV/ μ s C3	U_p	< 145 V
Voltage protection level line-PG at 1 kV/ μ s C3	U_p	< 500 V
Voltage protection level pair-pair at 1 kV/ μ s C3 (PoE)	U_p	< 600 V
Insertion loss at 250 MHz		< 2 dB
Capacitance line-line	C	< 165 pF
Capacitance line-PG	C	< 255 pF
Range of operating temperatures	T_u	-40/+80°C
Degree of protection		IP 20
Connection (input / output)		RJ45 / RJ45
Pinning		1/2, 3/6, 4/5, 7/8
Enclosure material		Aluminum housing
Earthing via		Connecting line
Transmission class according to ISO/IEC 11801		Cat. 6
Transmission class according to EN 50173-1		Class SPT
Transmission class according to ANSI/TIA/EIA-568		Cat. 6A in the channel

Modular SPD for Single Pair

SPT-DC Series

D1•C1•C2•C3

- IEC/EN Category: D1/C1/C2/C3
- Mode of Protection: Longitudinal, Transverse
- Coarse Protection: 3 Terminal GDT
- Voltages: 5, 12, 15, 24, 30*, 48, 60, 110 VDC
- Frequency Range: 30 MHz
- Surge Discharge Ratings: I_n : 10 kA, I_{max} : 20 kA, I_{imp} : 2.5 kA
- Series Load Current: 1 A
- Enclosure: DIN 43880 2/3 TE, DIN Rail Mount
- Terminals: Stranded to 4 mm²
- Housing: Modular Design
- Compliance: IEC/EN 61643-21
UL 497B 4th Edition



Technical Data

SPT-DC Series

	5	12	15	24	30*	48	60	110	
Electrical									
Lines Protected	1								
Nominal Operating Voltage (DC)	U_n	5V	12 V	15 V	24 V	30 V	48 V	60 V	110 V
Maximum Continuous Operating Voltage (DC)	U_c	6V	15 V	18 V	28 V	33 V	52 V	64 V	170 V
Rated Load Current at 25°C	I_L	1A							
C2 Nominal Discharge Current (8/20 μ s)	I_n	10kA							
Maximum Discharge Current (8/20 μ s)	I_{max}	20kA							
D1 Impulse Current (10/350 μ s)	I_{imp}	2.5kA							
Residual Voltage at 5 kA (8/20 μ s)	U_{res}	<22V	<42 V	<48 V	<70 V	<80 V	<140 V	<160 V	<450 V
Rated Spark Overvoltage	(Line-Ground)	7-10V	16-21 V	21-25 V	31-37 V	36-44 V	57-69 V	68-84 V	184-264 V
	(Line-Line)	7-10V	16-21 V	21-25 V	31-37 V	36-44 V	57-69 V	68-84 V	184-264 V
Response Time Overvoltage Protection	t_A	< 1 ns							
Thermal Protection		Yes							
Cut-off Frequency	f_C	30MHz							
Mechanical									
Temperature Range		-40 °F to +176 °F [-40 °C to +80 °C]							
Terminal Cross Section Multi-strand (max.)		12 AWG [4 mm ² , 2.5 mm ² Q Version]							
Degree of Protection IEC/EN 60529		IP 20 (built-in)							
Mounting IEC/EN 60715		35 mm DIN Rail							
Order Information									
Order Code		5	12	15	24	30*	48	60	110
SPT-DC-xxx		9086.33	9086.34	9086.35	9086.36	9082.80	9086.37	9086.38	9086.39
SPT-DC-xxxM (module)		9086.40	9086.41	9086.42	9086.43	9082.81	9086.44	9086.45	9086.46

STANDARDS FOR SURGE PROTECTORS

For almost 40 years, many worldwide organizations have developed standards that form the basis of our understanding of the surge environment and its effect on equipment. These surge protection working groups have been the catalyst for many of the advances that have been made related to the optimal performance, increased reliability and safety of surge protectors.

The most well-known reference standards are*:

Surge Protectors for Low-Voltage installations:

- UL 1449 - AC and DC Power SPD (USA)
- CSA C22.2 (CANADA)
- NOM-001-SCFI (MEXICO)
- NOM-003-SCFI (MEXICO)
- IEC 61643-11 (International)
- NF EN 61643-11 (France)
- VDE 0675-6-11 (Germany)
- EN 61643-11 (Europe)

Surge Protectors for data and RF equipment:

- UL 497A - Primary Data SPD (USA)
- UL 497B - Secondary Data SPD (USA)
- UL 497E - RF Antenna SPD (USA)
- IEC 61643-21 (International)
- ITU-T recommendations K11, K12, K17, K20, K21, K36 (International)

Surge Protectors mandatory application:

- NFPA 70 - NEC - National Electric Code (USA)
- NFPA 79 - Electrical Standard for Industrial Machinery (USA)
- NFPA 780 - Guide on Electrical Inspections (USA)

Surge Protectors recommended guidelines:

- ANSI/IEEE C62.41 - Low-Voltage AC Power Circuits (USA)
- ANSI/IEEE C136.2 - Roadway & Area Lighting (USA)



Manufacture and headquarter:

Surgeprotec Co., Ltd.

Business Registration: 637-88-01997

Address: NO 184 Jungbu-daero, Giheung-gu,
Yongin-si, Gyeonggi-do, 17095

Republic of Korea

Made in Korea

