

# Surge-Trap<sup>®</sup> Pluggable STPT23 Series - 20kA

**SURGE PROTECTION FOR POWER LINES**

DIN-RAIL IEC TYPE 2+3 / CLASS II+III



STP T23 20 is the series of combined Type 2+3/Class II+III devices for discharging voltage surges while providing a very fine voltage protection level, in accordance with EN/IEC 61643. Suitable as the final stage of protection in panels with Type 2 protection devices installed upstream such as STP T2 40 SPDs. These SPDs should be installed as close as possible to the equipment being protected.

## TECHNICAL DATA OVERVIEW

Class	Type 2+3 / Class II+III
$U_n$	120/208V, 230/400V, 277/480V, 400/690V
$I_{max}$	20 kA
$I_n$ (8/20)	10 kA
Combined discharge voltage $U_{oc}$	10 kV
Body Material	PA66 CT1; V-0
System type	TT, TNS, TNC, IT
Number of Poles	1,2,3,4
Format	Pluggable
$I_{cc}$	25 kA
IP Code	20
Back-up fuse	63 A gG
Stranded wire Section	6 ... 25 mm <sup>2</sup>
Rigid wire Section	6 ... 35 mm <sup>2</sup>
Response Time	25 ns

## FEATURES & BENEFITS

- Maximum discharge current (8/20 $\mu$ s): 20kA per phase
- Nominal discharge current (8/20 $\mu$ s): 10kA per phase
- Combined voltage pulse  $U_{oc}$  (1.2/50 $\mu$ s): 10kV
- TNS, TNC, TT and IT networks
- $U_n$ (L-N/L-L): 120/208V, 230/400V, 277/480V and 400/690V
- PLC friendly solutions (LCF) for Power Line Communications
- DIN-rail mountable, plug-in format
- Visual and remote end of life indicators
- Reversible chassis to allow cable entry from above or below
- Mechanically coded cartridges to avoid cartridge replacement errors
- Back-up fuse: 63 A gG

## APPLICATIONS

- Industry and automation
- Commercial and residential installations
- Telecom & IT & Data Centers
- LED outdoor lighting
- Water treatment
- Smart grid & LV Metering
- Photovoltaic & wind

## STANDARDS

- IEC 61643-11
- EN 61643-11



# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE



STPT23-20K320V-1PM

### 1 Pole

Catalog number	Item number	U <sub>n</sub>	U <sub>c</sub>	I <sub>max</sub> (8/20)	I <sub>n</sub> (8/20)	U <sub>oc</sub>	U <sub>p</sub> at I <sub>n</sub>	Remote	Cartridge No		Weight
									L-N	N-PE	
<b>L-N (1Ph)</b>											
STPT23-20K150V-1P	83230100	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	No	SP23-20K150V	-	0.12 kg
STPT23-20K150V-1PM	83230101	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	Yes	SP23-20K150V	-	0.13 kg
STPT23-20K320V-1P	83230102	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	No	SP23-20K320V	-	0.12 kg
STPT23-20K320V-1PM	83230103	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	Yes	SP23-20K320V	-	0.13 kg
STPT23-20K440V-1P	83230104	400 VAC	440 V	20 kA	10 kA	10 kV	≤ 2 kV	No	SP23-20K440V	-	0.13 kg
STPT23-20K440V-1PM	83230105	400 VAC	440 V	20 kA	10 kA	10 kV	≤ 2 kV	Yes	SP23-20K440V	-	0.13 kg
<b>N-PE (N)</b>											
STPT23-20K-N	83230106	Neutral	255 V	20 kA	10 kA	10 kV	≤ 1.5 kV	No	-	SP23-20K-N	0.11 kg

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# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE



STPT23-20K320V-2PM

### 2 Poles

Catalog number	Item number	U <sub>n</sub>	U <sub>c</sub>	I <sub>max</sub> (8/20)	I <sub>n</sub> (8/20)	U <sub>oc</sub>	U <sub>p</sub> at I <sub>n</sub>	Remote	Cartridge No		Weight
									L-N	N-PE	
<b>TT (1Ph+N)</b>											
STPT23-20K150V-2PG	83230108	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV (L-N) ≤ 1.5 kV (N-PE)	No	SP23-20K150V	SP23-20K-N	0.2 kg
STPT23-20K150V-2PGM	83230109	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV (L-N) ≤ 1.5 kV (N-PE)	Yes	SP23-20K150V	SP23-20K-N	0.21 kg
STPT23-20K275V-2PG-LF	83230110	230 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV (L-N) ≤ 1.5 kV (N-PE)	No	SP23-20K275V-LF	SP23-20K-N	0.22 kg
STPT23-20K275V-2PG-LFM	83230111	230 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV (L-N) ≤ 1.5 kV (N-PE)	Yes	SP23-20K275V-LF	SP23-20K-N	0.23 kg
STPT23-20K320V-2PG	83230112	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV (L-N) ≤ 1.5 kV (N-PE)	No	SP23-20K320V	SP23-20K-N	0.21 kg
STPT23-20K320V-2PGM	83230113	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV (L-N) ≤ 1.5 kV (N-PE)	Yes	SP23-20K320V	SP23-20K-N	0.22 kg
<b>TNS (1Ph+N)</b>											
STPT23-20K150V-2P	83230114	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	No	SP23-20K150V	-	0.21 kg
STPT23-20K150V-2PM	83230115	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	Yes	SP23-20K150V	-	0.22 kg
STPT23-20K275V-2P-LF	83230134	230 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	No	SP23-20K275V-LF	-	0.22 kg
STPT23-20K275V-2P-LFM	83230135	230 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	Yes	SP23-20K275V-LF	-	0.23 kg
STPT23-20K320V-2P	83230116	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	No	SP23-20K320V	-	0.22 kg
STPT23-20K320V-2PM	83230117	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	Yes	SP23-20K320V	-	0.25 kg

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# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE



STPT23-20K320V-3PM

### 3 Poles

Catalog number	Item number	$U_n$	$U_c$	$I_{max}$ (8/20)	$I_n$ (8/20)	$U_{oc}$	$U_p$ at $I_n$	Remote	Cartridge No L-N	Weight
<b>TNC (3Ph)</b>										
STPT23-20K150V-3P	83230118	208 VAC	150 V	20 kA	10 kA	10 kV	$\leq 0.8$ kV	No	SP23-20K150V	0.31 kg
STPT23-20K150V-3PM	83230119	208 VAC	150 V	20 kA	10 kA	10 kV	$\leq 0.8$ kV	Yes	SP23-20K150V	0.32 kg
STPT23-20K275V-3P-LF	83230120	400 VAC	275 V	20 kA	10 kA	10 kV	$\leq 1.5$ kV	No	SP23-20K275V-LF	0.3 kg
STPT23-20K275V-3P-LFM	83230121	400 VAC	275 V	20 kA	10 kA	10 kV	$\leq 1.5$ kV	Yes	SP23-20K275V-LF	0.31 kg
STPT23-20K320V-3P	83230122	400 VAC 480 VAC	320 V	20 kA	10 kA	10 kV	$\leq 1.4$ kV	No	SP23-20K320V	0.32 kg
STPT23-20K320V-3PM	83230123	400 VAC 480 VAC	320 V	20 kA	10 kA	10 kV	$\leq 1.4$ kV	Yes	SP23-20K320V	0.33 kg

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# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE



STPT23-20K320V-4PM

### 4 Poles

Catalog number	Item number	U <sub>n</sub>	U <sub>c</sub>	I <sub>max</sub> (8/20)	I <sub>n</sub> (8/20)	U <sub>oc</sub>	U <sub>p</sub> at I <sub>n</sub>	Re-mote	Cartridge No		Weight
									L-N	N-PE	
<b>TT (3Ph+N)</b>											
STPT23-20K150V-4PG	83230124	120/208 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV (L-N) ≤ 1.5 kV (N-PE)	No	SP23-20K150V	SP23-20K-N	0.41 kg
STPT23-20K150V-4PGM	83230125	120/208 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV (L-N) ≤ 1.5 kV (N-PE)	Yes	SP23-20K150V	SP23-20K-N	0.42 kg
STPT23-20K275V-4PG-LF	83230126	230/400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV (L-N) ≤ 1.5 kV (N-PE)	No	SP23-20K275V-LF	SP23-20K-N	0.46 kg
STPT23-20K275V-4PG-LFM	83230127	230/400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV (L-N) ≤ 1.5 kV (N-PE)	Yes	SP23-20K275V-LF	SP23-20K-N	0.46 kg
STPT23-20K320V-4PG	83230128	230/400 VAC 277/400 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV (L-N) ≤ 1.5 kV (N-PE)	No	SP23-20K320V	SP23-20K-N	0.41 kg
STPT23-20K320V-4PGM	83230129	230/400 VAC 277/400 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV (L-N) ≤ 1.5 kV (N-PE)	Yes	SP23-20K320V	SP23-20K-N	0.42 kg
<b>TNS (3Ph+N)</b>											
STPT23-20K150V-4P	83230130	120/208 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	No	SP23-20K150V	-	0.42 kg
STPT23-20K150V-4PM	83230131	120/208 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	Yes	SP23-20K150V	-	0.42 kg
STPT23-20K275V-4P-LF	83230136	230/400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	No	SP23-20K275V-LF	-	0.44 kg
STPT23-20K275V-4P-LFM	83230137	230/400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	Yes	SP23-20K275V-LF	-	0.46 kg
STPT23-20K320V-4P	83230132	230/400 VAC 277/400 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	No	SP23-20K320V	-	0.42 kg
STPT23-20K320V-4PM	83230133	230/400 VAC 277/400 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	Yes	SP23-20K320V	-	0.42 kg

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# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE



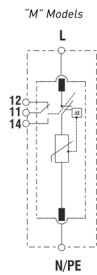
SP23-20K320V

### Replacement cartridges

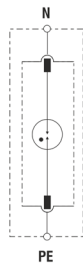
Catalog number	Item number	$U_n$	$U_c$	$I_{max}$ (8/20)	$I_n$ (8/20)	$U_{oc}$	$U_p$ at $I_n$	Weight
<b>L-N</b>								
SP23-20K150V	83230001	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	80 g
SP23-20K275V-LF	83230003	230 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	80 g
SP23-20K320V	83230002	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	80 g
SP23-20K440V	83230004	400 VAC	440 V	20 kA	10 kA	10 kV	≤ 2 kV	80 g
<b>N-PE</b>								
SP23-20K-N	83230000	Neutral	255 V	20 kA	10 kA	10 kV	≤ 1.5 kV	80 g

## ELECTRICAL DIAGRAMS

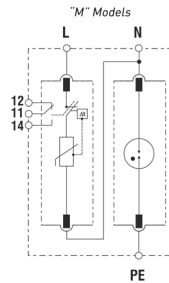
**L-N (1Ph)**



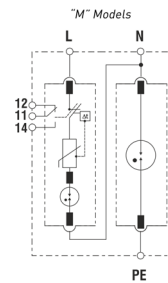
**N-PE (N)**



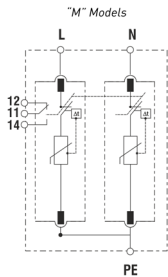
**TT (1Ph+N) - 2PG**



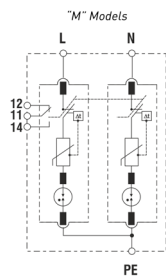
**TT LF (1Ph+N) - 2PG**



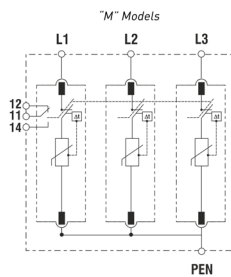
**TNS (1Ph+N) - 2P**



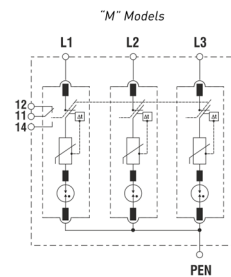
**TNS LF (1Ph+N) - 2P**



**TNC (3Ph) - 3P**



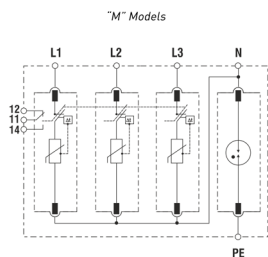
**TNC LF (3Ph) - 3P**



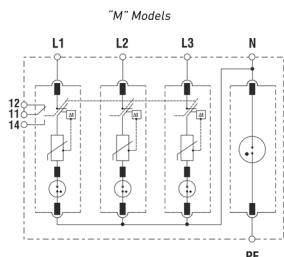
# Surge-Trap<sup>®</sup> Pluggable STPT23 Series - 20kA

## ELECTRICAL DIAGRAMS

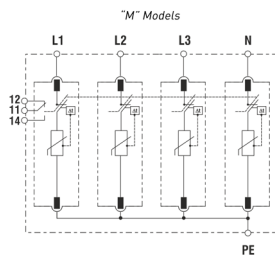
**TT (3Ph+N) - 4PG**



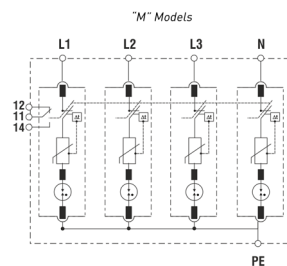
**TT LF (3Ph+N) - 4PG**



**TNS (3Ph+N) - 4P**

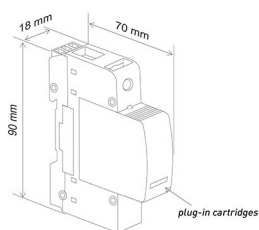


**TNS LF (3Ph+N) - 4P**

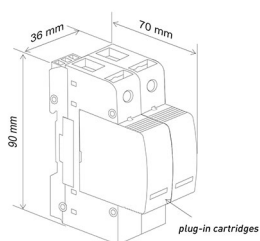


## DIMENSIONS

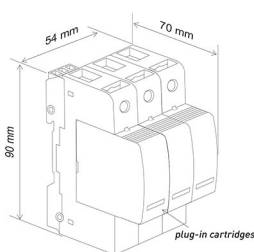
**1 Pole**



**2 Poles**



**3 Poles**



**4 Poles**

