

# 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 61643-11. 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
$I_{max}$	20 kA
$I_n$ (8/20)	10 kA
$I_{scCR}$	25 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
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
EMI filter differential mode	< 0 db

## 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	
									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	-
STPT23-20K150V-1PM	83230101	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	Yes	SP23-20K150V	-
STPT23-20K320V-1P	83230102	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	No	SP23-20K320V	-
STPT23-20K320V-1PM	83230103	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	Yes	SP23-20K320V	-
<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



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	
									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
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
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
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
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
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
<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	-
STPT23-20K150V-2PM	83230115	120 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	Yes	SP23-20K150V	-
STPT23-20K275V-2P-LF	83230134	230 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	No	SP23-20K275V-LF	-
STPT23-20K275V-2P-LFM	83230135	230 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	Yes	SP23-20K275V-LF	-
STPT23-20K320V-2P	83230116	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	No	SP23-20K320V	-
STPT23-20K320V-2PM	83230117	230 VAC 277 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	Yes	SP23-20K320V	-

## Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE



STPT23-20K320V-3PM

## 3 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	
									L-N	
<b>TNC (3Ph)</b>										
STPT23-20K150V-3P	83230118	120 / 208 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	No	SP23-20K150V	
STPT23-20K150V-3PM	83230119	120 / 208 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	Yes	SP23-20K150V	
STPT23-20K275V-3P-LF	83230120	230 / 400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	No	SP23-20K275V-LF	
STPT23-20K275V-3P-LFM	83230121	230 / 400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	Yes	SP23-20K275V-LF	
STPT23-20K320V-3P	83230122	230 / 400 VAC 277 / 480 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	No	SP23-20K320V	
STPT23-20K320V-3PM	83230123	230 / 400 VAC 277 / 480 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	Yes	SP23-20K320V	



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>	Remote	Cartridge No	
									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
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
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
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
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
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
<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	-
STPT23-20K150V-4PM	83230131	120/208 VAC	150 V	20 kA	10 kA	10 kV	≤ 0.8 kV	Yes	SP23-20K150V	-
STPT23-20K275V-4P-LF	83230136	230/400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	No	SP23-20K275V-LF	-
STPT23-20K275V-4P-LFM	83230137	230/400 VAC	275 V	20 kA	10 kA	10 kV	≤ 1.5 kV	Yes	SP23-20K275V-LF	-
STPT23-20K320V-4P	83230132	230/400 VAC 277/400 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	No	SP23-20K320V	-
STPT23-20K320V-4PM	83230133	230/400 VAC 277/400 VAC	320 V	20 kA	10 kA	10 kV	≤ 1.4 kV	Yes	SP23-20K320V	-

# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE



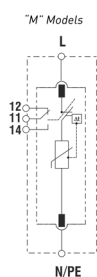
SP23-20K320V

### Replacement cartridges

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

## ELECTRICAL DIAGRAMS

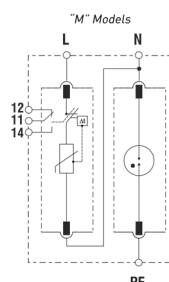
L-N (1Ph)



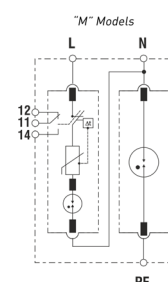
N-PE (N)



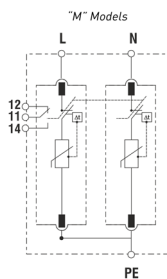
TT (1Ph+N) - 2PG



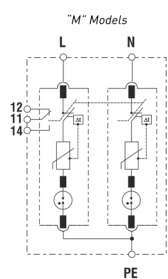
TT LF (1Ph+N) - 2PG



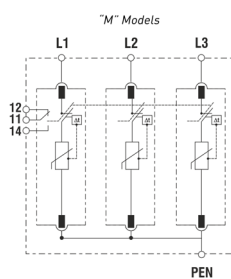
TNS (1Ph+N) - 2P



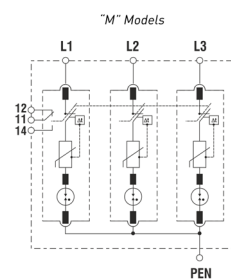
TNS LF (1Ph+N) - 2P



TNC (3Ph) - 3P



TNC LF (3Ph) - 3P

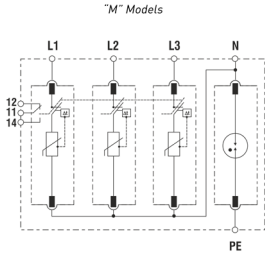


MERSEN reserves the right to change, update or correct, without notice, any information contained in this datasheet.

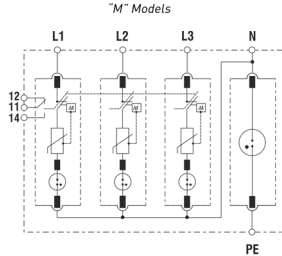
# Surge-Trap® Pluggable STPT23 Series - 20kA

## ELECTRICAL DIAGRAMS

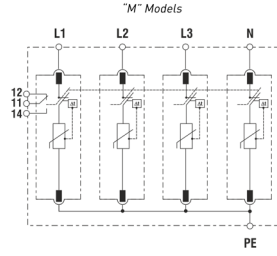
**TT (3Ph+N) - 4PG**



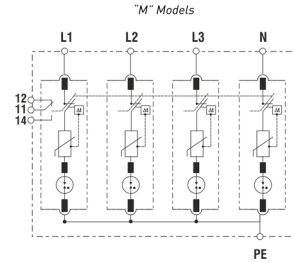
**TT LF (3Ph+N) - 4PG**



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

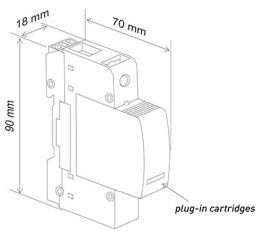


**TNS LF (3Ph+N) - 4P**

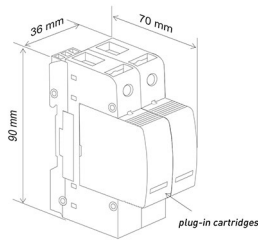


## DIMENSIONS

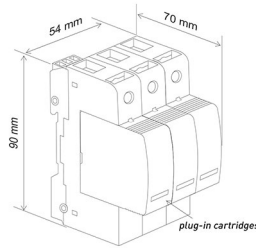
**1 Pole**



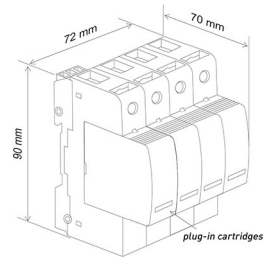
**2 Poles**



**3 Poles**



**4 Poles**





# SCATTERGOOD & JOHNSON LTD

ELECTRICAL ENGINEERING & FLUID CONTROL DISTRIBUTORS

Est.1899

At Scattergood & Johnson Ltd, we pride ourselves on being a technical distributor to specialist industries.

Working with a range of quality product manufacturers across a number of specialist markets, we are not your average 'box shifter' - we are your technical and supply chain partner.

We fully support every product we sell - for free! Our internal team and external sales engineers can answer any product or application question, no matter the complexity.

Backing up this technical ability is a range of 50,000+ products available from stock for nationwide next day delivery (same day if required!), or you can collect what you need from any of our trade counters around the UK.

Select your specialist interest below to learn more about how we can help.



Online, In Branch and On the Road - Scattergood & Johnson Ltd, there when you need us.

# [www.scatts.co.uk](http://www.scatts.co.uk)