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# Surge-Trap® 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 |
| Imax | 20 kA |
| $I_n$ (8/20) | 10 kA |
| Isccr | 25 kA |
| Combined discharge voltage Uoc | 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 mm² |
| Rigid wire Section | 6 ... 35 mm² |
| Response Time | 25 ns |
| EMI filter differential mode | < 0 db |

## FEATURES & BENEFITS

- Maximum discharge current (8/20µs): 20kA per phase
- Nominal discharge current (8/20µs): 10kA per phase
- Combined voltage pulse Uoc (1.2/50µs): 10kV
- TNS, TNC, TT and IT networks
- Un(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

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# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE

STPT23-20K320V-1PM

### 1 Pole

| 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 | N-PE |
| **L-N (1Ph)** | | | | | | | | | | |
| 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<br>277 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV | No | SP23-20K320V | - |
| STPT23-20K320V-1PM | 83230103 | 230 VAC<br>277 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV | Yes | SP23-20K320V | - |
| **N-PE (N)** | | | | | | | | | | |
| 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 | $U_n$ | $U_c$ | $I_{max}$ (8/20) | $I_n$ (8/20) | $U_{oc}$ | $U_p$ at $I_n$ | Remote | Cartridge No | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | L-N | N-PE |
| **TT (1Ph+N)** | | | | | | | | | | |
| STPT23-20K150V-2PG | 83230108 | 120 VAC | 150 V | 20 kA | 10 kA | 10 kV | ≤ 0.8 kV (L-N)<br>≤ 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)<br>≤ 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)<br>≤ 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)<br>≤ 1.5 kV (N-PE) | Yes | SP23-20K275V-LF | SP23-20K-N |
| STPT23-20K320V-2PG | 83230112 | 230 VAC<br>277 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV (L-N)<br>≤ 1.5 kV (N-PE) | No | SP23-20K320V | SP23-20K-N |
| STPT23-20K320V-2PGM | 83230113 | 230 VAC<br>277 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV (L-N)<br>≤ 1.5 kV (N-PE) | Yes | SP23-20K320V | SP23-20K-N |
| **TNS (1Ph+N)** | | | | | | | | | | |
| 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<br>277 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV | No | SP23-20K320V | - |
| STPT23-20K320V-2PM | 83230117 | 230 VAC<br>277 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV | Yes | SP23-20K320V | - |

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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 |
|---|---|---|---|---|---|---|---|---|---|
| **TNC (3Ph)** | | | | | | | | | |
| 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<br>277 / 480 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV | No | SP23-20K320V |
| STPT23-20K320V-3PM | 83230123 | 230 / 400 VAC<br>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 | $U_n$ | $U_c$ | $I_{max}$ (8/20) | $I_n$ (8/20) | $U_{oc}$ | $U_p$ at $I_n$ | Remote | Cartridge No L-N | N-PE |
|---|---|---|---|---|---|---|---|---|---|---|
| **TT (3Ph+N)** | | | | | | | | | | |
| STPT23-20K150V-4PG | 83230124 | 120/208 VAC | 150 V | 20 kA | 10 kA | 10 kV | ≤ 0.8 kV (L-N)<br>≤ 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)<br>≤ 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)<br>≤ 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)<br>≤ 1.5 kV (N-PE) | Yes | SP23-20K275V-LF | SP23-20K-N |
| STPT23-20K320V-4PG | 83230128 | 230/400 VAC<br>277/400 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV (L-N)<br>≤ 1.5 kV (N-PE) | No | SP23-20K320V | SP23-20K-N |
| STPT23-20K320V-4PGM | 83230129 | 230/400 VAC<br>277/400 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV (L-N)<br>≤ 1.5 kV (N-PE) | Yes | SP23-20K320V | SP23-20K-N |
| **TNS (3Ph+N)** | | | | | | | | | | |
| 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<br>277/400 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV | No | SP23-20K320V | - |
| STPT23-20K320V-4PM | 83230133 | 230/400 VAC<br>277/400 VAC | 320 V | 20 kA | 10 kA | 10 kV | ≤ 1.4 kV | Yes | SP23-20K320V | - |

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# Surge-Trap® Pluggable STPT23 Series - 20kA

## PRODUCT RANGE

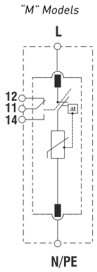
SP23-20K320V

### Replacement cartridges

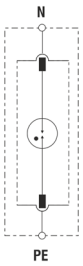
| Catalog number | Item number | $U_n$ | $U_c$ | $I_{max}$ (8/20) | $I_n$ (8/20) | $U_{oc}$ | $U_p$ at $I_n$ |
|---|---|---|---|---|---|---|---|
| **L-N** | | | | | | | |
| SP23-20K150V | 83230001 | 120 VAC | 150 V | 20 kA | 10 kA | 10 kV | ≤ 0.8 kV |
| SP23-20K275V-LF | 83230003 | 230 VAC | 275 V |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

## ELECTRICAL DIAGRAMS

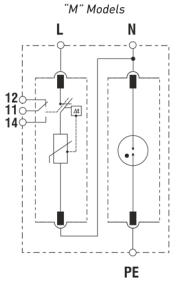
### L-N (1Ph)



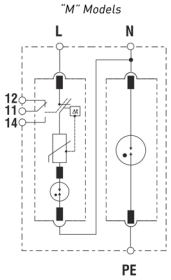

### N-PE (N)



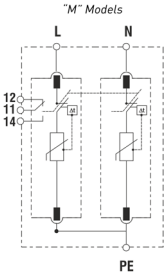

### TT (1Ph+N) - 2PG



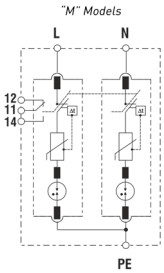

### TT LF (1Ph+N) - 2PG



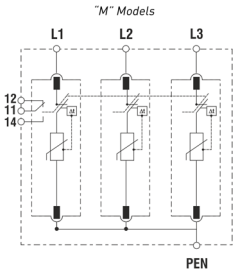

### TNS (1Ph+N) - 2P



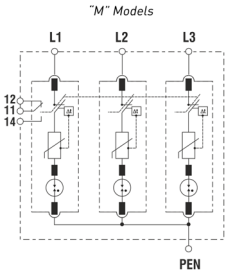

### TNS LF (1Ph+N) - 2P




### TNC (3Ph) - 3P




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

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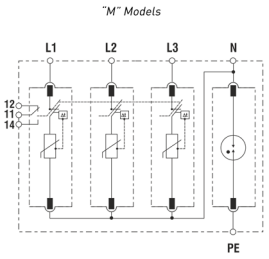
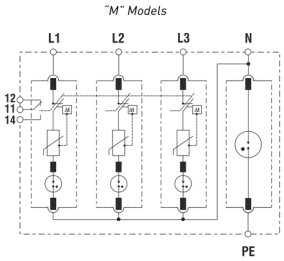
# Surge-Trap® Pluggable STPT23 Series - 20kA

## ELECTRICAL DIAGRAMS

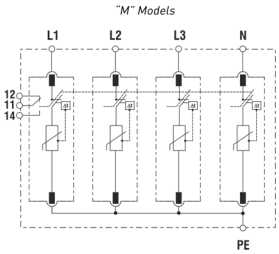
### TT (3Ph+N) - 4PG



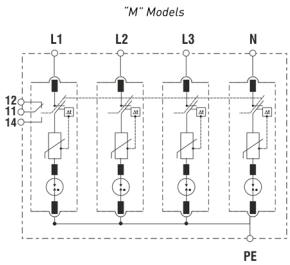

### TT LF (3Ph+N) - 4PG




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

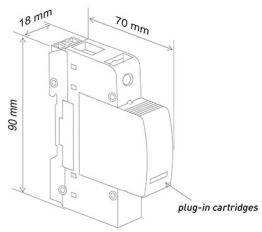



### TNS LF (3Ph+N) - 4P

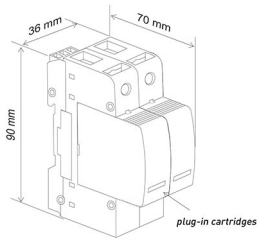



## DIMENSIONS

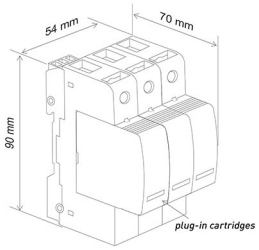
### 1 Pole



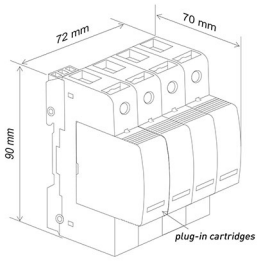

### 2 Poles




### 3 Poles




### 4 Poles

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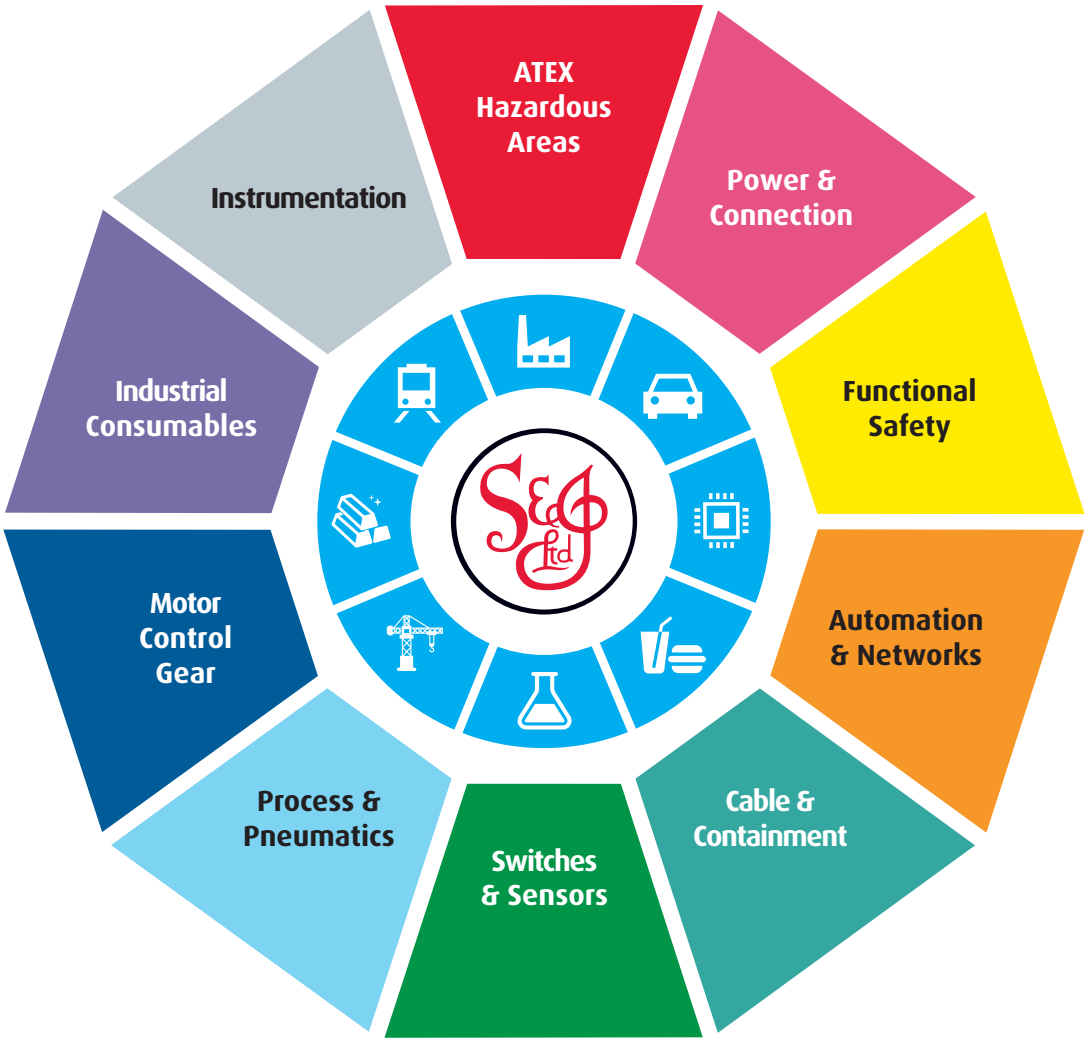


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