

Surge-Trap[®] Pluggable STP-50 Series

Surge Protective Device

SURGE PROTECTION

DIN-RAIL MOUNT PLUGGABLE FOR ANSI/UL 1449 TYPE 1 AND 2 APPLICATIONS



Surge-Trap Pluggable STP-50 Series Surge Protective Device (SPD) is a no-fuse, fail-safe surge suppressor featuring Mersen's TPMOV[®] technology inside – no need for additional overcurrent protection. DIN-rail mountable featuring a fail-safe self-protected design, visual indicator, and a small footprint. A remote indicator provides status to critical control circuitry. High short circuit rating makes it suitable for most industrial control panels.

Technical Data Overview	
Surge Current Rating (I_{max})	50kA
Nominal discharge current (I_n) [8x20 μ s]	10 – 20kA
Short Circuit Current Rating (SCCR)	200kA
Nominal power frequency	50 Hz or 60 Hz
Response Time	Less than 1 nanosecond (one per phase)
Mounting	35mm DIN-Rail
Wire Range	4 - 14AWG (25mm ² – 2.5mm ²) Solid / Stranded CU
Torque	35.4 lbs-in [4.0 Nm]
Degree of Protection	IP 20 (finger-safe)
Flammability	UL94 V0
Operating & Storage Temperature	–40°F [–40°C] to + 185°F [85°C]
Visual Status Indicator flag	Green = Functional / Red = Replace
Remote Status Indicator	Form C Dry Contacts

For applications requiring a higher kA rating, Mersen's Surge-Trap STP-75 is available.

FEATURES/BENEFITS

- Designed with industry leading Mersen TPMOV[®] technology
- Easy installation or retrofit
- Reversible chassis allows cable entry from top or bottom
- Replaceable modules with mechanical coding to avoid replacement errors
- 5-year warranty

APPLICATIONS

- Industrial Control Panels
- Water treatment
- Smart grid & LV Metering
- Traffic / ITS applications.
- Intended for use on a wide range of low voltage applications inside appropriate enclosures

APPROVALS/STANDARDS

- ANSI/UL 1449 5th Edition, Open Type 1 SPD Listed, File E210793
- ANSI/IEEE C62.41.1, C62.41.2, C62.45
- RoHS Compliant



CATALOG NUMBERS AND ELECTRICAL CHARACTERISTICS

1 Pole - 2 Wires

Catalog Number	Nominal System Voltage (VAC)	I _n (kA)	Surge Current Rating	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)				Replacement plugs
				L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L	
STP120P05M	120V Single Phase	20	50 kA	175	-	-	-	600	-	-	-	SP05U175
STP230P05M	240V Single Phase	20	50 kA	275	-	-	-	900	-	-	-	SP05U275
STP277P05M	277V Single Phase	20	50 kA	320	-	-	-	1000	-	-	-	SP05U320
STP347P05M	347V Single Phase	10	50 kA	420	-	-	-	1500	-	-	-	SP05U420

2 Poles - 3 Wires

Catalog Number	Nominal System Voltage (VAC)	I _n (kA)	Surge Current Rating	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)				Replacement plugs
				L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L	
STP120PN05M	120V Single Phase	20	50 kA	175	-	-	350	600	1200	1200	-	SP05U175
STP240S05M	240/120V Split Phase	20	50 kA	175	-	-	350	600	-	-	1200	SP05U175
STP480S05M	480/240V Split Phase	20	50 kA	275	-	-	550	900	-	-	1800	SP05U275

3 Poles - 4 Wires

Catalog Number	Nominal System Voltage (VAC)	I _n (kA)	Surge Current Rating	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)				Replacement plugs
				L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L	
STP240SN05M	120/240 - Split Phase	20	50 kA	175	-	175	350	600	1200	1200	1200	SP05U175
STP208Y05M	208/120V 3-Phase Wye	20	50 kA	175	-	-	350	600	-	-	1200	SP05U175
STP480Y05M	480/277V 3-Phase Wye	20	50 kA	320	-	-	640	1000	-	-	2000	SP05U320
STP600Y05M	600/347V 3-Phase Wye	10	50 kA	420	-	-	840	1500	-	-	2500	SP05U420
STP690Y05M	690/400V 3-Phase Wye	10	50 kA	550	-	-	1100	1500	-	-	3000	SP05U550
STP240D05M	240V 3-Phase Delta	20	50 kA	-	275	-	550	-	900	-	1800	SP05U275
STP480D05M	480V 3-Phase Delta	10	50 kA	-	550	-	1100	-	1500	-	3000	SP05U550

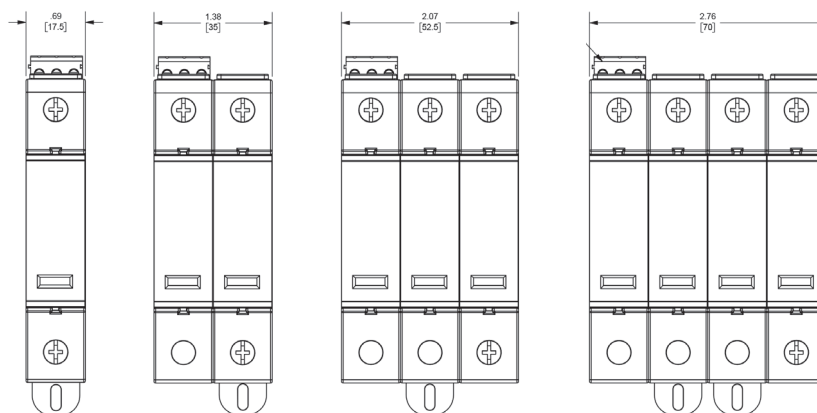
4 Poles - 5 Wires

Catalog Number	Nominal System Voltage (VAC)	I _n (kA)	Surge Current Rating	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)				Replacement plugs	
				L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L		
STP208YN05M	208/120V 3-Phase Wye	20	50 kA	175	175	175	350	600	1200	600	1200	SP05U175	
STP480YN05M	480/277V 3-Phase Wye	20	50 kA	320	495	175	640	1000	1500	1000	2000	L1,2,3	SP05U320
												N-G	SP05U175
STP600YN05M	600/347V 3-Phase Wye	10	50 kA	420	695	275	840	1500	2000	800	2500	L1,2,3	SP05U420
												N-G	SP05U275
STP690YN05M	690/400V 3-Phase Wye	10	50 kA	550	870	320	1100	1500	2500	1000	3000	L1,2,3	SP05U550
												N-G	SP05U320
STP240HN05M	240/120V High-Leg Delta	20	50 kA	350	175	450	275	1200	600	1500	800	L1,3	SP05U175
												L2	SP05U275
												N-G	SP05U175
STP480HN05M	480/240V High-Leg Delta	10	50 kA	550/450	275/175	825/725	550	1500	800 / 600	2500 / 2000	1500	L1,3	SP05U275
												L2	SP05U550
												N-G	SP05U175

The unit comes equipped with a set of Form C dry contacts. Omit the letter "M" at the end of the part number to remove this feature.

Technical drawing showing the front view of the device with dimensions:

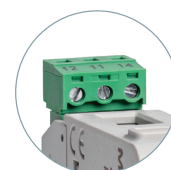
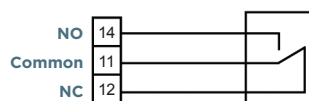
- Total width: 2.81 [71.5]
- Width of the main body: 1.99 [50.5]
- Height of the main body: 4.19 [106.4]
- Height of the top section: .44 [11.1]
- Height of the bottom section: .26 [6.5]
- Height of the right side panel: 1.77 [45]
- Height of the bottom right corner: .37 [9.4]
- Height of the bottom left corner: .22 [5.6]



The diagram shows a two-pole RCCB. It has two input terminals at the top labeled L1 and L2. Each terminal is connected to a vertical line representing the pole. These lines pass through a horizontal bar at the top, which is connected to a common ground line at the bottom labeled G/N. The ground line is connected to a ground symbol. The two poles are connected to two separate residual current detectors (RCDs), represented by rectangles with a diagonal line. The RCDs are connected in parallel to the common ground line. The diagram illustrates the internal wiring of the RCCB, showing how the two poles are connected to the common ground line.

The diagram illustrates a four-channel relay-based multiplexer. It consists of four vertical channels, each containing a switch. The switches are controlled by four input lines labeled L1, L2, L3, and L4. Each switch is connected to a common output line labeled N. A ground symbol is shown on the right side of the diagram.

Signal Wire Range	#16 to # 30 AWG (1.5 mm ² – 0.05 mm ²)
Terminal Torque	2.2 lb-in (0.25 Nm)
Max Voltage - Current	125VAC – 3A
Cont. between Comm + NO	Product Offline, Not Protected
Cont. between Comm + NC	Product Online, Protected



*Screwless Pluggable
RC Connector*

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[STP120PN07M](#) [STP208Y05M](#) [STP240HN05](#) [STP230P05](#) [STP120PN05M](#) [STP120P05](#) [STP120PN05](#) [STP208Y05](#)
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