

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 (Imax)	50kA
Nominal discharge current (In) [8x20 μs]	10 – 20kA
Short Circuit Current Rating (SCCR)	200kA
Nominal power frequency	50-60 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)	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	L-1
STP120P05M	120V Single Phase	20	175	-	-	-	600	-	-	-	SP05U175
STP230P05M	240V Single Phase	20	275	-	-	-	900	-	-	-	SP05U275
STP277P05M	277V Single Phase	20	320	-	-	-	1000	-	-	-	SP05U320
STP347P05M	347V Single Phase	10	420	-	-	-	1500	-	-	-	SP05U420

2 Poles - 3 Wires

Catalog Number	Nominal System Voltage (VAC)	I _n (kA)	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	L1, L2
STP120PN05M	120V Single Phase	20	175	-	-	350	600	1200	1200	-	SP05U175
STP240S05M	240/120V Split Phase	20	175	-	-	350	600	-	-	1200	SP05U175
STP480S05M	480/240V Split Phase	20	275	-	-	550	900	-	-	1800	SP05U275

3 Poles - 4 Wires

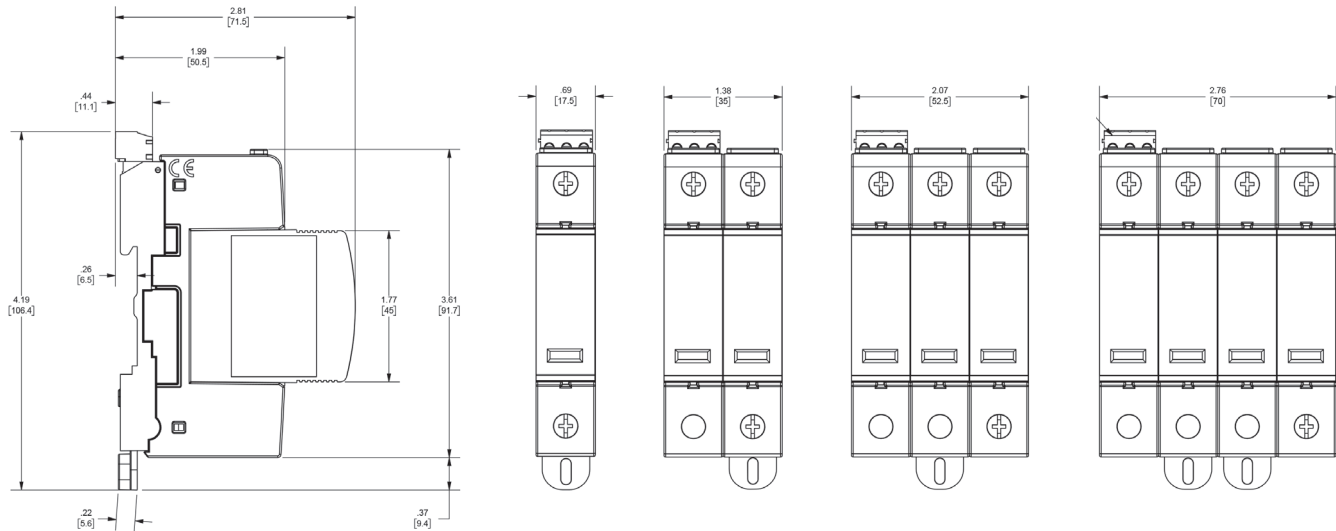
Catalog Number	Nominal System Voltage (VAC)	I _n (kA)	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)				Replacement plugs
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L	L1, L2, L3
STP240SN05M	120/240 - Split Phase	20	175	-	175	350	600	1200	1200	1200	SP05U175
STP208Y05M	208/120V 3-Phase Wye	20	175	-	-	350	600	-	-	1200	SP05U175
STP480Y05M	480/277V 3-Phase Wye	20	320	-	-	640	1000	-	-	2000	SP05U320
STP600Y05M	600/347V 3-Phase Wye	10	420	-	-	840	1500	-	-	2500	SP05U420
STP690Y05M	690/400V 3-Phase Wye	10	550	-	-	1100	1500	-	-	3000	SP05U550
STP240D05M	240V 3-Phase Delta	20	-	275	-	550	-	900	-	1800	SP05U275
STP480D05M	480V 3-Phase Delta	10	-	550	-	1100	-	1500	-	3000	SP05U550

4 Poles - 5 Wires

Catalog Number	Nominal System Voltage (VAC)	I _n (kA)	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	L1, L2, L3	
STP208YN05M	208/120V 3-Phase Wye	20	175	175	175	350	600	1200	600	1200	SP05U175	
STP480YN05M	480/277V 3-Phase Wye	20	320	495	175	640	1000	1500	1000	2000	L1,2,3	SP05U320
											N-G	SP05U175
STP600YN05M	600/347V 3-Phase Wye	10	420	695	275	840	1500	2000	800	2500	L1,2,3	SP05U420
											N-G	SP05U275
STP690YN05M	690/400V 3-Phase Wye	10	550	870	320	1100	1500	2500	1000	3000	L1,2,3	SP05U550
											N-G	SP05U320
STP240HN05M	240/120V Hi-Leg Delta	20	350	175	450	275	1200	600	1500	800	L1,3	SP05U175
											L2	SP05U275
											N-G	SP05U175
STP480HN05M	480/240V Hi-Leg Delta	10	550/450	275/175	825/725	550	1500	800 / 600	2500 / 2000	1500	L1,3	SP05U275
											L2	SP05U550
											N-G	SP05U175

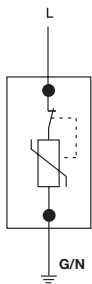
The unit comes equipped with a set of Form C Dry contacts. Omit the letter "M" at the end of the part number to remove this feature.

PRODUCT DIMENSIONS

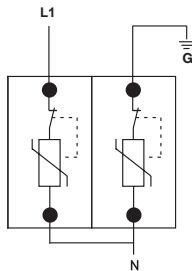


WIRING DIAGRAMS

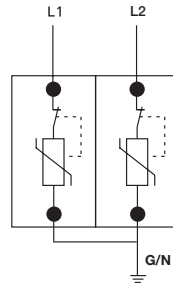
Single Phase
1 Pole - 2 Wire



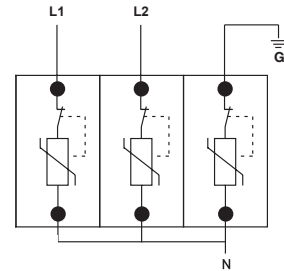
Single Phase
2 Pole - 3 Wire



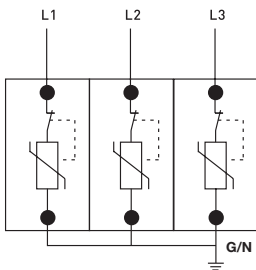
Split Phase
2 Pole - 3 Wire



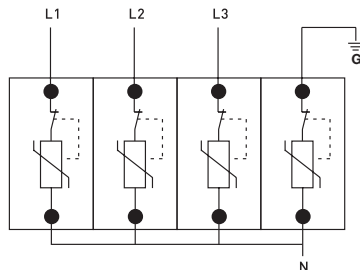
Split Phase
3 Pole - 4 Wire



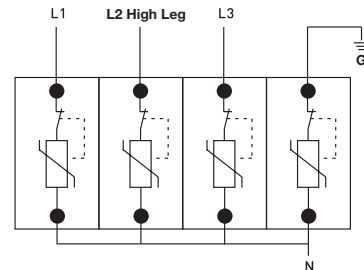
3 Phase Delta / 3 Phase Wye
3 Pole - 4 Wire



3 Phase Wye
4 Pole - 5 Wire



3 Phase Delta High-Leg
4 Pole - 5 Wire



REMOTE STATUS INDICATOR SPECIFICATIONS

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

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.

