

# Surge-Trap<sup>®</sup> Pluggable STP-50 Series

Surge-Trap

## SURGE PROTECTIVE DEVICE

### DIN-RAIL PLUGGABLE SPD 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<sup>®</sup> 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 <sub>max</sub> )	50kA
Nominal discharge current (I <sub>n</sub> ) (8x20 μs)	10 – 20kA
Short Circuit Current Rating (SCCR)	200kA
Nominal power frequency	50-60 Hz
Mounting	35mm DIN-Rail
Wire Range	4 - 14AWG (25mm <sup>2</sup> – 2.5mm <sup>2</sup> ) 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

- Mersen TPMOV Technology – does not require additional overcurrent protection
- 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 <sub>n</sub> (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	
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 <sub>n</sub> (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	
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

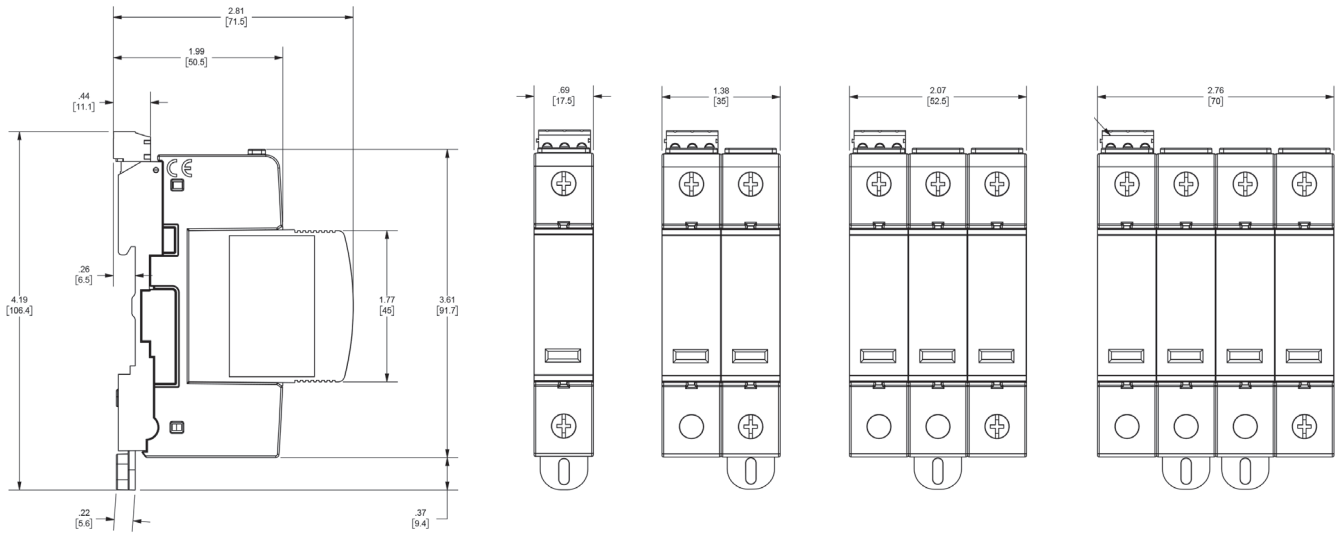
Catalog Number	Nominal System Voltage (VAC)	I <sub>n</sub> (kA)	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)				Replacement plugs
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L	
STP240SN05M	120/240 - Split Phase	20	175	-	175	350	600	1200	1200	1200	SP05U175
STP208Y05M	208/120V 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 <sub>n</sub> (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

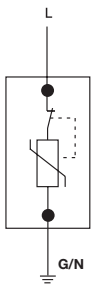
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## PRODUCT DIMENSIONS

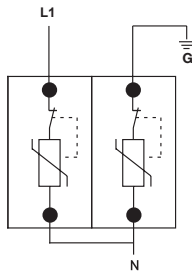


## WIRING DIAGRAMS

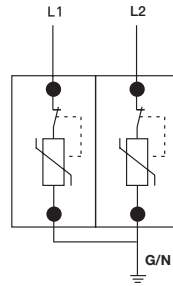
Single Phase  
1 Pole - 2 Wire



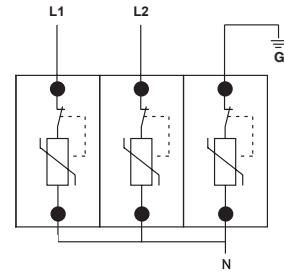
Single Phase  
2 Pole - 3 Wire



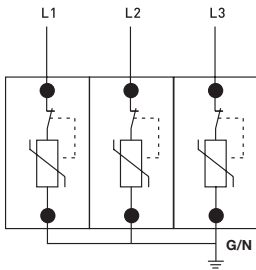
Split Phase  
2 Pole - 3 Wire



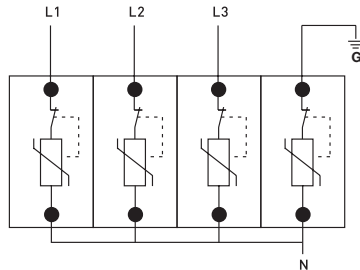
Split Phase  
3 Pole - 4 Wire



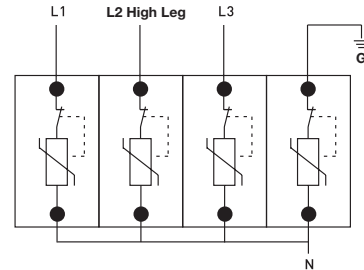
3 Phase Delta / 3 Phase Wye  
3 Pole - 4 Wire



3 Phase Wye  
4 Pole - 5 Wire

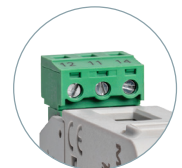
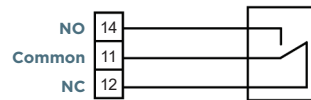


3 Phase Delta High-Leg  
4 Pole - 5 Wire



## REMOTE STATUS INDICATOR SPECIFICATIONS

REMOTE STATUS INDICATOR SPECIFICATION	
Signal Wire Range	#16 to #30 AWG (1.5 mm <sup>2</sup> – 0.05 mm <sup>2</sup> )
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.