

# Surge-Trap<sup>®</sup> Monobloc ST Series

Surge Protective Device

## SURGE PROTECTION

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



Surge-Trap<sup>®</sup> Monobloc Surge Protective Device (SPD) ST Series is a no-fuse, fail-safe surge suppressor featuring Mersen's patented TPMOV<sup>®</sup> technology inside - No need for additional overcurrent protection. UL 1449 5th Edition approved, DIN-rail mountable featuring a fail-safe self-protected design, visual indicator, and a small footprint. A remote indicator provides status to the critical control circuitry. A 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 Rating (I <sub>n</sub> ) (8x20 μs):	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	6 - 14AWG (25mm <sup>2</sup> - 2.5mm <sup>2</sup> ) Solid Stranded CU
Torque	14.75 lbs-in (1.67 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	Visual Tab - Tab Out = Replace
Remote Status Indicator	Form C Dry Contacts

## FEATURES/BENEFITS

- Designed with industry leading Mersen TPMOV technology
- Easy installation
- Cost-effective protection
- Remote Indicator (optional)
- 2-year warranty

## APPLICATIONS

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

## APPROVALS/STANDARDS

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



## CATALOG NUMBERS AND ELECTRICAL CHARACTERISTICS

### 1 Pole

Catalog Number	Nominal Voltage [VAC]	I <sub>n</sub> [kA]	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)			
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L
ST1201PGM	120 - 10, 2W	20	180	180	-	-	500	500	-	-
ST2301PGM	240 - 10, 2W	20	270	270	-	-	800	800	-	-
ST2771PGM	277 - 10, 2W	20	320	320	-	-	900	900	-	-

### 2 Poles

Catalog Number	Nominal Voltage [VAC]	I <sub>n</sub> [kA]	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)			
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L
ST240SPGM	120/240 - Split 0, 3W	20	180	180	-	360	500	500	-	900
ST480SPGM	240/480 - Split 0, 3W	20	270	270	-	540	800	800	-	1500

### 3 Poles

Catalog Number	Nominal Voltage [VAC]	I <sub>n</sub> [kA]	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)			
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L
ST2083PYGM	120/208 - 30 Wye, 4W	20	180	18	-	360	500	500	-	900
ST4803PYGM	277/480 - 30 Wye, 4W	20	320	320	-	640	900	900	-	1800
ST6003PYGM	347/600 - 30 Wye, 4W	20	420	420	-	840	1200	1200	-	2000
ST6903PYGM	400/690 - 30 Wye, 4W	20	510	510	-	1020	1500	1500	-	3000
ST2403PDGM	240 - 30 Delta, 4W	20	270	270	-	540	800	800	-	1500
ST4803PDGM	480 - 30 Delta, 4W	20	550	550	-	1100	1500	1500	-	3000

### 4 Poles

Catalog Number	Nominal Voltage [VAC]	I <sub>n</sub> [kA]	Maximum Continuous Operating Voltage (MCOV, VAC)				Voltage Protection Rating (VPR, VAC)			
			L-N	L-G	N-G	L-L	L-N	L-G	N-G	L-L
ST2083PYM	120/208 - 30 Wye, 5W	20	180	360	180	360	500	900	500	900
ST4803PYM	277/480 - 30 Wye, 5W	20	320	470	150	640	1000	1500	500	1800
ST6006PYM	347/600 - 30 Wye, 5W	20	420	690	270	840	1500	2500	800	2500
ST6903PYM	400/690 - 30 Wye, 5W	20	1020	510	510	1020	3000	1500	1500	3000

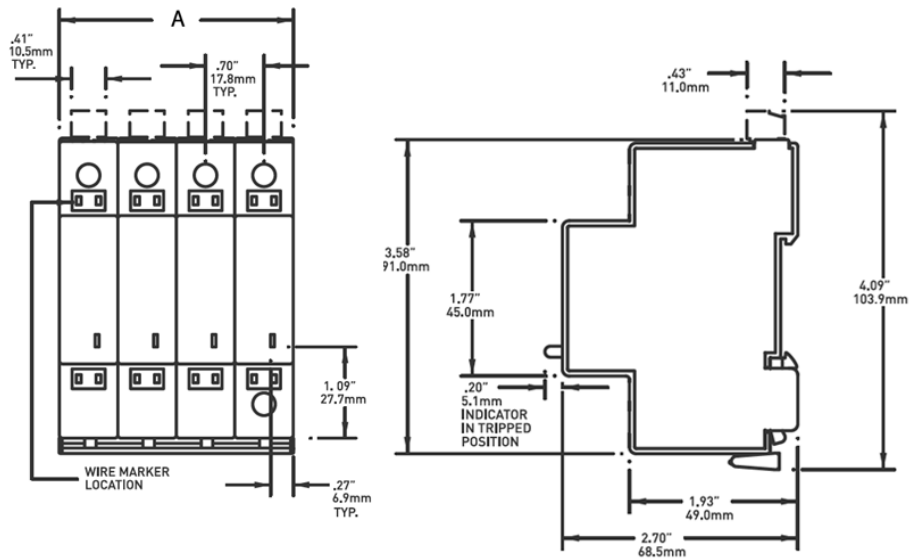
### PV

Catalog Number	Nominal Voltage [VDC]	I <sub>n</sub> [kA]	SCCR [kA]	Maximum Continuous Operating Voltage [MCOV, VAC]	Voltage Protection Rating [VPR, VAC]
ST600PVM	600 (2 Poles)	20	10	720	1500
ST600YPVM	600 (3 Poles)	20	10	750	2400
ST1000PVM	1000 (3 Poles)	20	10	1250	3000

Product is available without Form C Dry contacts. Omit the letter "M" at the end of the part number to remove this feature.

## PRODUCT DIMENSIONS

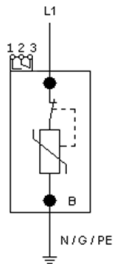
Poles	A	
	In	mm
1 Pole	0.70	17.8
2 Pole	1.39	35.5
3 Pole	2.10	53.3
4 Pole	2.80	71.0



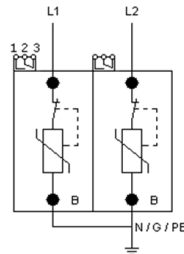
## WIRING DIAGRAMS

For more information on wiring, please refer to the installation manual

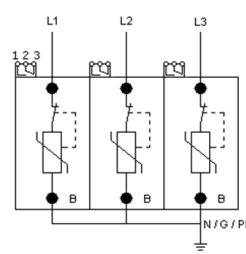
Single Phase  
1 Pole - 2 wire



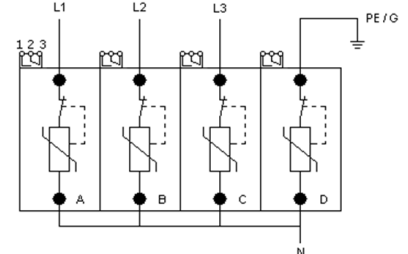
Single Phase  
2 Pole - 3 wire



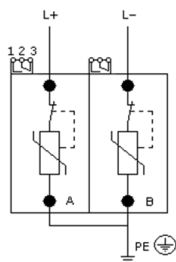
3 Phase Delta / 3 Phase Wye  
3 Pole - 4 wire



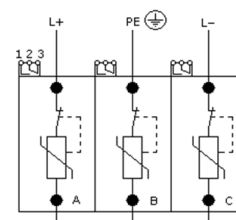
3 Phase Wye  
4 Pole - 5 wire



2 Pole - Photovoltaic

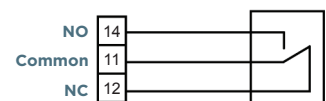
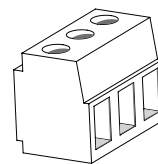


3 Pole - Photovoltaic



## REMOTE STATUS INDICATOR SPECIFICATIONS

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.