

## Installation Guide – AC Surge Protection

### I<sup>2</sup>R Storm 120-10

Part# 1104-15-001



The I<sup>2</sup>R Storm 120 -10 is a type 2 SPD used to protect 120 Vac power supplies from over-voltage caused by transients. This SPD offers bidirectional silicon avalanche diode suppression technology and is intended for installation on the load side of the service equipment over current device. The SPD is installed in parallel with the load. The SPD features visual status indication. The normally black indicator turns red if module needs replacement. Electrically isolated Form C dry contacts provide remote monitoring capability.

### Main Technical Data

Electrical Performance	
Tested To	UL 1449 3 <sup>rd</sup> Edition
UL File	E321582
SPD Type	Type 2 Component Assembly VZCA2, VZCA8
Number Of Ports	Single port device
Technology	Silicon Avalanche Suppression Diode
Nominal Operating Voltage $U_n$	120 Vac
Maximum Continuous Operating Voltage $U_c$	150 Vac
Nominal Discharge Surge Current $I_n$ (8x20 $\mu$ s)	5kA
Maximum Discharge Surge Current $I_{max}$ (8x20 $\mu$ s)	10kA
Voltage Protection Level $U_p$ (6kV/3kA/8x20 $\mu$ s Combination Wave)	$\leq$ 600V
Short Circuit Current Rating	22kA
Leakage Current	<10 $\mu$ A
Response Time	<5ns
Status Monitoring	Visual indication; Black = Normal, Red = Replace Contact Switch; Closed = Normal, Open = Replace
Maximum Contact Switch Rating	125Vac / 1A
Mechanical	
Location Category	Indoor only
Method of Mounting	Fixed 35mm DIN rail
Dimension (H x W x D)	90mm x 18mm x 66.5mm (3.6" x 0.7" x 2.66")
Weight (Max)	0.33kg (0.74lb)
Maximum Wire Size	Stranded: 16mm <sup>2</sup> (#6 AWG); Solid: 25mm <sup>2</sup> (#4AWG)
Stripping Length Terminals	10mm (0.375")
Torque Terminals	4.5 N*m (3.3ft-lb)
Maximum Wire Size Contacts	1.5mm <sup>2</sup> (#16AWG)
Stripping Length Contacts	7mm (0.25")
Torque Contacts	1N*m (0.75ft-lb)
Environmental	
Operating Temperature	-40°C to +70°C
Relative Humidity	$\leq$ 95% non-condensing
Enclosure Protection Level	IP20
Housing Inflammability Rating	PA66; UL94 V-0
Certifications	RoHS compliant

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# ⚠ DANGER

### Electric Shock or Burn

- Install only in a restricted access enclosure or control cabinet that requires a key or tool to open.
- This SPD should only be installed and serviced by qualified electrical personnel.
- All National and Local Electric Codes must be observed.
- Confirm that the SPD is rated for the voltage of the application.
- Before installation, turn off all power to equipment to prevent accidental electrical shock or injury.
- Replace all covers and doors before restoring power to this equipment.

### Structure and Dimensions

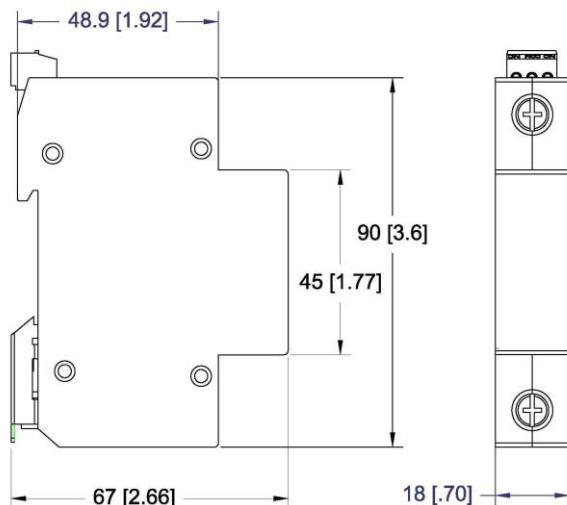
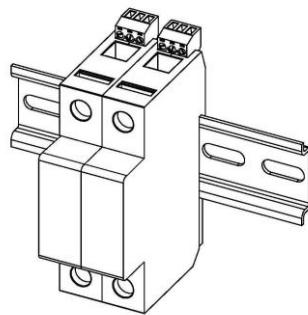
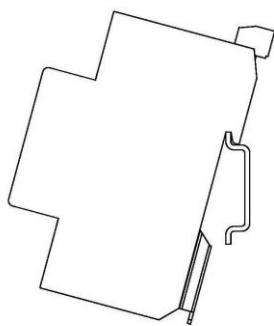


Figure 1. I<sup>2</sup>R Storm 120-10

### Attaching the SPD to the DIN Rail

Position the SPD on the top edge of the 35mm DIN rail, then press down until a 'click' is heard.



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Figure 2. Locating on DIN Rail

Figure 3. Ready for Wiring

### General Wiring Instructions

- The SPD is installed in parallel with the load.
- Kelvin or 'V' connections are recommended.
- Keep wires as short as possible (maximum length  $\leq 0.5\text{m}$ ) and free of any sharp bends or loops.
- All conductors should be insulated stranded copper. The ground conductor should be greater than  $16\text{mm}^2$  (#6 AWG) diameter. The power conductors should be greater than  $6\text{mm}^2$  (#10 AWG) diameter. The load capacity of the conductor must be sized according to the load.

### System Configurations

Determine the electrical voltage configuration and then install per the appropriate wiring illustrations

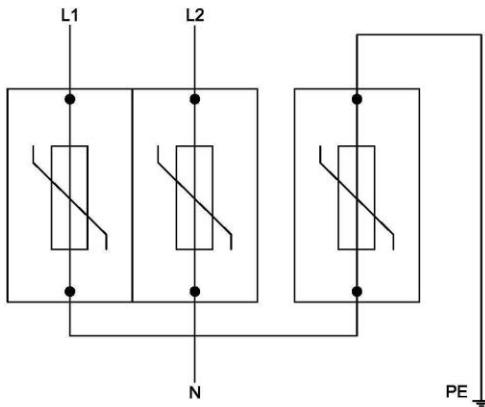
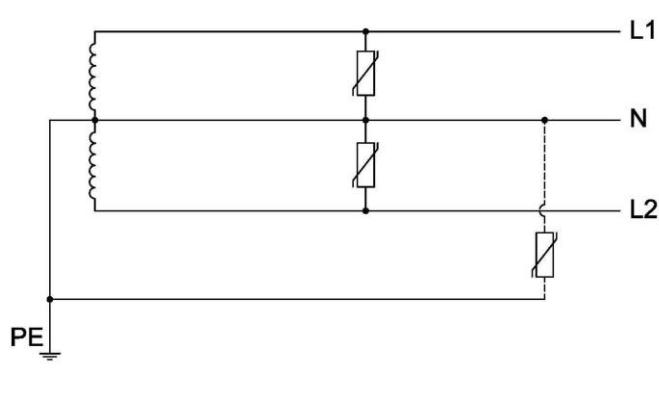


Figure 4. 120/240 Two Phase

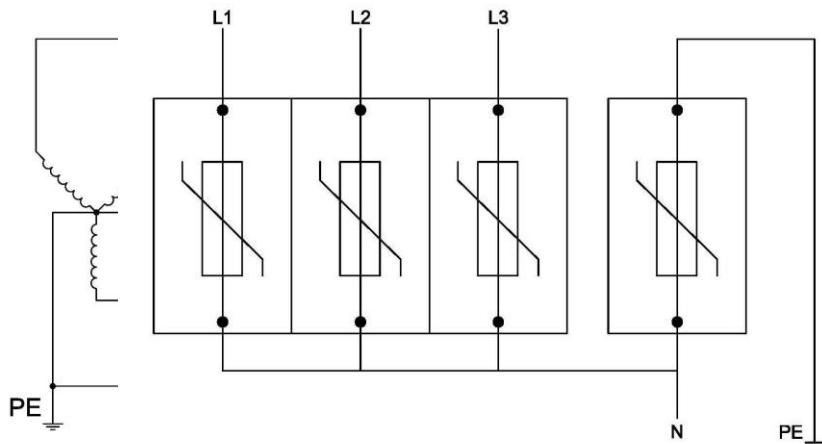


Figure 5. 120/208 Three Phase WYE

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### Remote Annunciation

Electrically isolated Form C dry contacts provide remote monitoring capability. The removable plug accepts #16 - #30 AWG wire. The maximum continuous current rating for the remote indicator is 3A. Strip the wire 0.25", and torque the terminal screw 0.75 ft-lb.

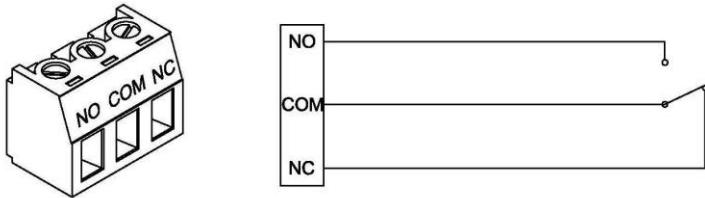


Figure 6. Remote Contact Connections

### Usage and Maintenance

The SPD should be scheduled for periodic inspection to ensure the SPD is operational and all wire connections are tight.

If SPD is damaged, contact Transtector for replacement at +1.208.772.8515 or 1.800.882.9110, or online at [www.transtector.com](http://www.transtector.com)