Installation Guide – AC Surge Protection

1104-11-101-M Rev D

Solar Applications
I2R SPV1000 3-40
Part# 1104-11-101



DIN rail mounted DC surge protection device, designed with MOV technology to meet Type 2 requirements. Equipped with suppression status visual indication and electrically isolated 'Form C' dry contacts to allow remote monitoring.

Main Technical Data

Electrical Performance	
Number Of Ports	Single port device
Technology	MOV
Nominal Operating Voltage U_n	1000 Vdc
Maximum Continuous Operating Voltage U_c	1350 Vdc
Nominal Discharge Surge Current I_n (8x20µs)	20 Ka
Maximum Discharge Surge Current I_{max} (8x20µs) Type 2	40 kA
Voltage Protection Level U_p	5 kV
Response Time	< 25 ns
Recommended Over-Current Protection Device	32A circuit breaker with C tripping characteristic (per IEC 60364-4-43)
Status Indication	Visual indication LED: Black = normal, Red = replace
	Contact switch for remote annunciation
Maximum Contact Switch Rating	250 Vac / 3 A
Mechanical	
Location Category	Indoor only
Method of Mounting	Fixed 35mm DIN rail
Dimension (H x W x D)	90mm x 54mm x 68mm (3.6" x 2.2" x 2.7")
Weight (Max)	0.33kg (0.74lb)
Maximum Wire Size	25 mm^2 (#4 AWG)
Stripping Length Terminals	10mm (0.375")
Torque Terminals	4.5 Nm (3.3ft-lb)
Maximum Wire Size Contacts	1.5mm^2 (#16AWG)
Stripping Length Contacts	7mm (0.25")
Torque Contacts	1Nm (0.75ft-lb)
Environmental	
Operating Temperature	-40ºC to +70ºC
Relative Humidity	≤95% non condensing
Enclosure Protection Level	IP20
Housing Inflammability Rating	PA66; UL94 V-0
Certifications	RoHS compliant

DANGER

Electrical 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

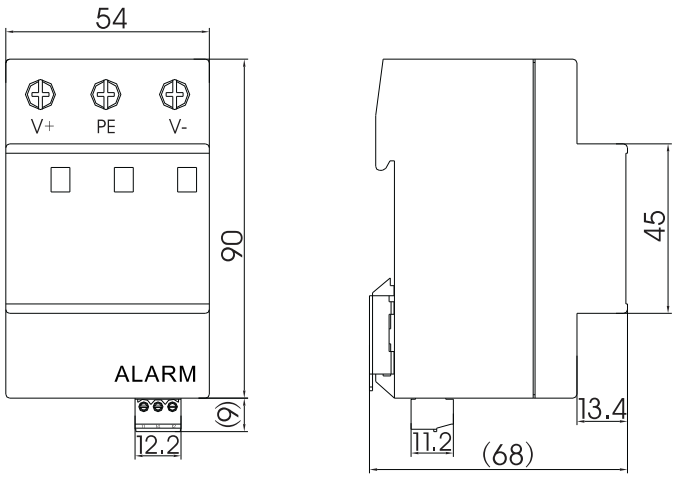


Figure 1. I^2R SPV 1000 3-40

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.

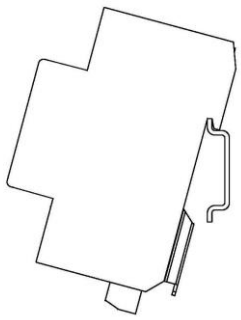


Figure 2. Locating on DIN Rail

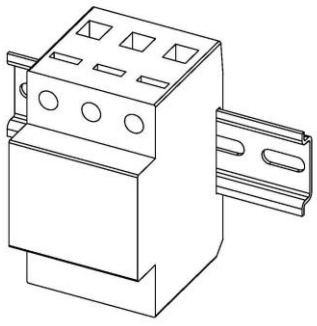


Figure 3. Ready for Wiring

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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 ≤0.5m) and free of any sharp bends or loops.
- All conductors should be insulated stranded copper. The ground conductor should be greater than 16mm^2 (#6 AWG) diameter. The power conductors should be greater than 6 mm^2 (#10 AWG) diameter. If Kelvin connections are used, 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.

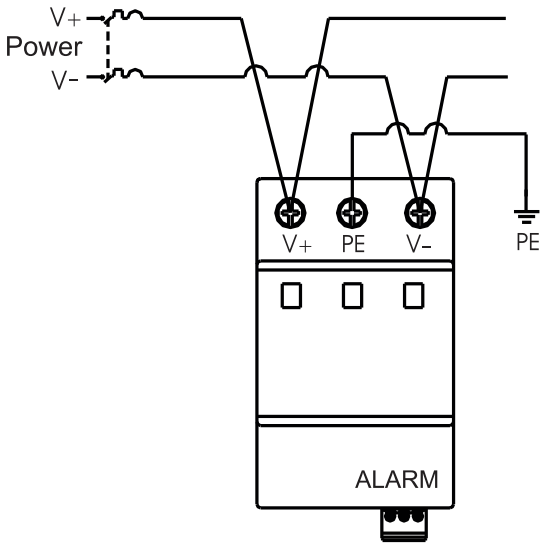


Figure 4. Kelvin Connections

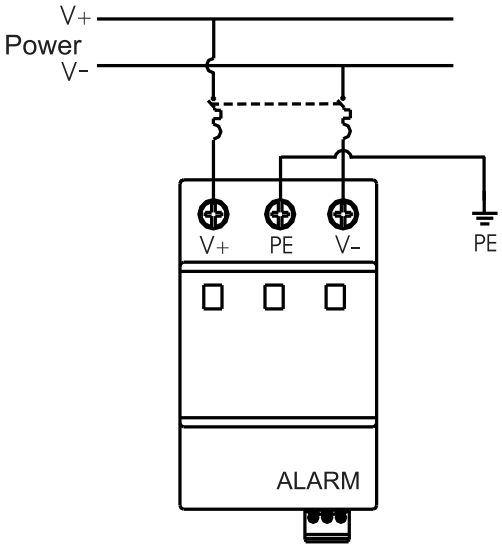


Figure 5. Parallel Connections

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.

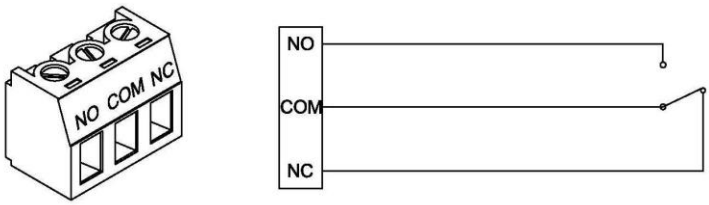


Figure 6. Remote Contact Connections

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Usage and Maintenance

The SPD should be scheduled for periodic inspection to ensure the SPD is operations, the module is secure in the base 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**.