

Installation Guide – AC Surge Protection

1104-15-106-M Rev D

230 Vac Three Phase I2R LSA 230W 150/20

Part# 1104-15-106



A Din rail mounted SPD, offering MOV and Spark Gap technology, typically installed to protect AC three phase power supply systems with 220 V to 240 V rated voltage. If the lightning protection zone concept is used, this SPD installs at the boundary of LPZ0_B and LPZ1.

Protection mode: L-N, N-PE

Main Technical Data

Electrical Performance	
Arrester Class	Class II
Number Of Ports	Single port device
Technology	MOV (L-N) / Spark Gap (N-PE)
Nominal Operating Voltage U _n	230 Vac ~50/60 HZ
Maximum Continuous Operating Voltage U _c	320 Vac (L-N); 260 Vac (N-PE)
Nominal Discharge Current I _n (8x20μs)	40 kA
Maximum Discharge Surge Current I _{max} (8x20μs)	150 kA
Voltage Protection Level U _p (8x20μs)	1.5 kV (L-N)
Follow Current Interrupt Rating	100 A (N-PE)
Temporary Overvoltage Characteristic (HV/MV System)	Failure; U _T = 1200 V, t _T = 200 ms
Temporary Overvoltage Characteristic (LV System)	Withstand; U _T = 385 V, t _T = 5s
Response Time	< 25 ns
Recommended Over-Current Protection Device	63 A circuit breaker with C tripping characteristic (per IEC 60364-4-43)
Status Indication	Visual status window; Black = normal, Red = replace
	Contact switch for remote annunciation
Maximum Contact Switch Rating	250 Vac / 1 A
Electrical Isolation Between Circuits (En60950-1)	U _o < 250 Vac, Dielectric strength 3000 V _{rms}
Mechanical	
Location Category	Indoor only
Method of Mounting	Fixed 35mm DIN rail
Dimension (H x W x D)	90mm x 126mm x 68mm (3.6" x 5" x 2.7")
Weight (Max)	0.98kg (2.2lb)
Maximum Wire Size	Stranded: 16mm ² (#6 AWG) or Solid: 35mm ² (#2 AWG)
Stripping Length Terminals	7mm (0.25")
Torque Contacts	1Nm (0.75ft-lb)
Environmental	
Operating Temperature	-40°C to +70°C
Relative Humidity	≤95% non-condensing
Enclosure Protection Level	IP20
Housing Inflammability Rating	FRNC-UL94 V-0
Certificates	RoHS compliant



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

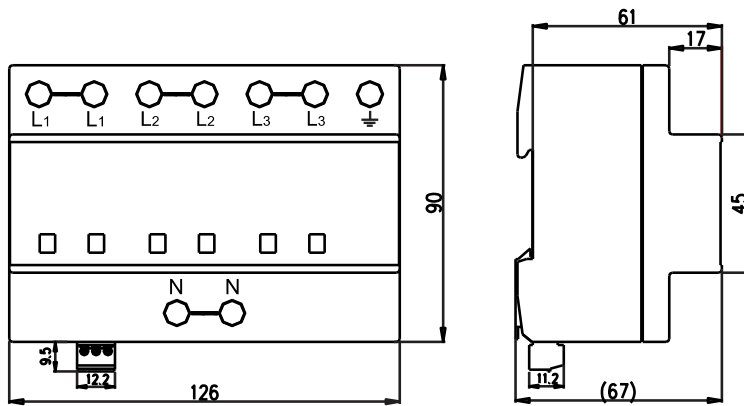


Figure 1. I²R LSA 230W 150/20

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.

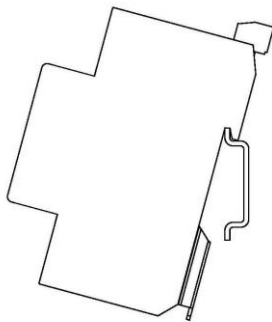


Figure 2. Locating on DIN Rail

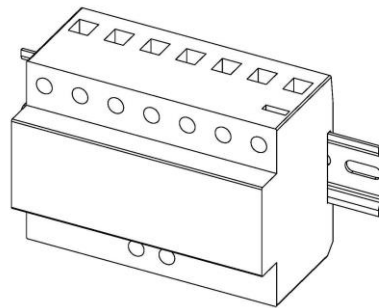


Figure 3. Ready for Wiring

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General Wiring Instructions

Kelvin or 'V' connections are recommended. Keep all wires as short as possible (less than 0.5m) and free of sharp bends. Before installation, shut off power to prevent accidental electrical shock or injury. Over-current protection device should be used on the power supply side of SPD. Reference IEC 60364-4-43. The ground conductor should be insulated stranded copper greater than 25 mm² (#4 AWG) diameter. The power conductors should be insulated stranded copper greater than 16 mm² (#6 AWG) diameter. The load capacity of the conductor must be sized according to the load. Reference IEC 60364-5-532.

System Configurations

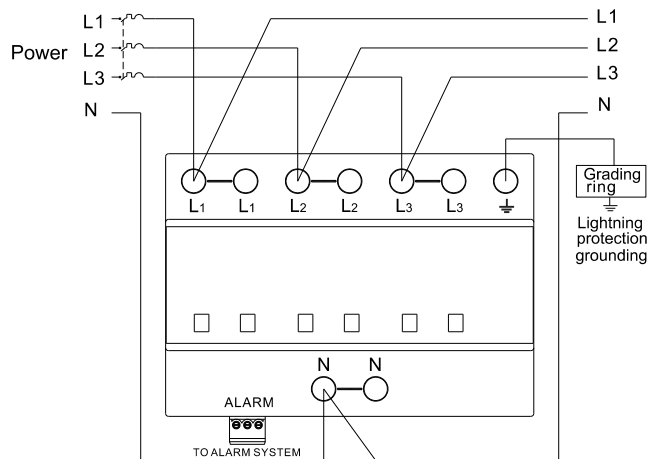


Figure 4. Kelvin Connection

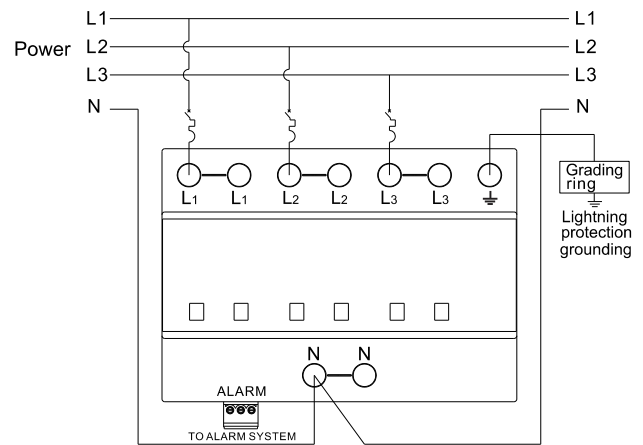


Figure 5. Parallel Connection

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.

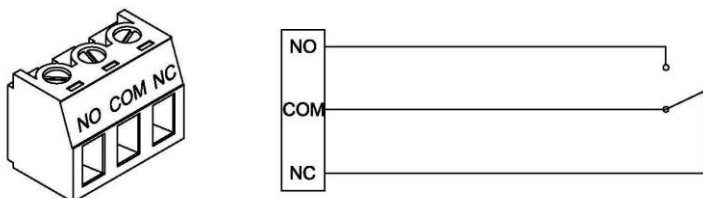


Figure 6. Remote Contact Connections

Usage and Maintenance

- The SPD should be scheduled for periodic inspection to ensure the SPD is operational, 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