

# TECHNICAL DATA SHEET

## LIGHTNING PROTECTION INTERNATIONAL PTY LTD Comprehensive Lightning and Surge Protection

ABN 11 099 190 897

- Direct Strike Protection
- Earthing Products & Solutions
- Surge & Transient Protection for Power, Data, Communications and RF Lines



### LPI® MOV Shunt Protector - SST150

#### Features

- High performance surge protector for an operating voltage of 220 - 240Vac
- Nominal impulse discharge current 50kA, 8/20µs / Single Mode
- 35mm DIN rail mount



#### Product Description

The LPI SST150 is a single mode power line shunt surge protection device rated for 50kA 8/20µs single shot surge capacity (I<sub>max</sub>). The unit is designed for mounting at main power switchboards and distribution boards in category C locations as per the IEC and other international standards.

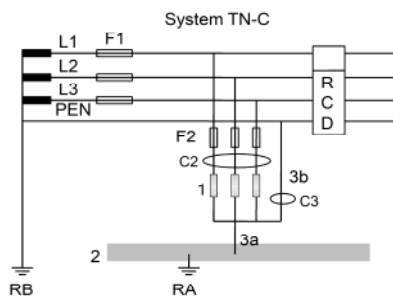
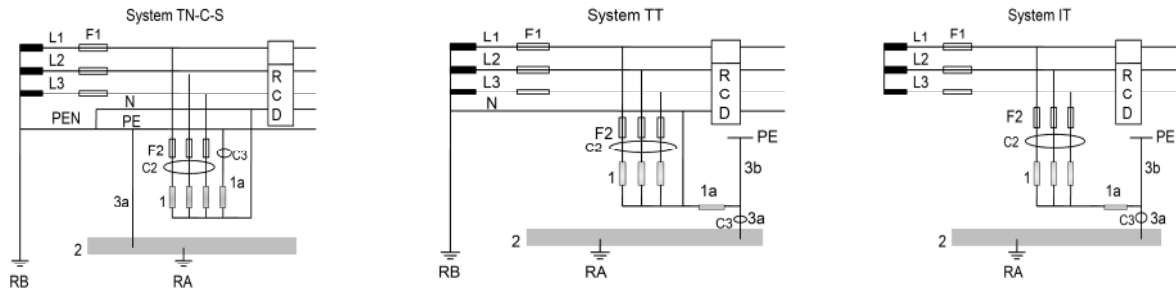
The LPI SST150 is designed to provide surge and transient protection in compliance to IEC 61643 international standards. The surge protection design allows it to be configured for Ph-N or Ph-E or N-E protection applications for single or multiple phases as required, it is also designed for easy mounting on standard 35mm DIN rail.

The unit comes with fast, responsive Metal Oxide Varistors (MOV) to provide effective surge protection with low let-through voltage to protect sensitive electronics and electrical circuits. The SST150 is fitted with thermal disconnects which will respond should the varistors be overloaded. In this case, the indicator changes status to red, and alarm contacts change over.

The unit comes as a two part item. The base is hardwired into the circuit to be protected, and the protection module is plugged into this base. This enables easy replacement of protection modules should they be degraded or damaged by excessive transient activity.

Ordering Code	SST150
Application:	Single Mode Protector, 50kA 8/20µs
Surge rating (I <sub>max</sub> ):	50kA 8/20µs single shot surge capacity
Nominal Operating Voltage Un:	220 – 240Vac @ 50/60Hz
Max Continuous Operating Voltage Uc:	385 Vrms meets IEC61643 recommendations for IT systems (exceeds for TT/TN systems)
Response time:	< 5ns
Protection Modes:	Ph-N or Ph-E or N-E
Protection status indication:	Green/Red display showing operational condition
Dimensions:	18(W) x 90(L) x 63(H) mm
Mounting:	Standard 35 mm – DIN43880 Din rail
Weight:	Approx. 100 grams
IP rating:	IP 20
Colour:	Blue
Conductor size:	25mm <sup>2</sup> (Max)
Operating temperatures:	-40 to +80°C, 0 – 95% humidity
Standards:	IEC 61643-1
Surge withstand:	ANSI C62.41 Cat A, Cat B, Cat C AS/NZS 1768-1991 Cat A, Cat B, Cat C
Application:	Main and sub-distribution boards
Configuration:	Hardwired base and pluggable module with built-in changeover alarm contacts.
Warranty:	5 Years

## Schematic Diagram for different distribution system



### Legend

- 1 LPI SST150
- 1a LPI NE100
- 2 Main equipotential bus bar
- 3a, 3b Grounding wires for arresters
- F1 Main fuse of service main
- F2 Recommended back-up fuse 160AgL/gG (only if the main fuse F1 is fitted with fuses >160AgL/gG)
- RA Equipment grounding
- RB Grounding system
- RCD RCD/ELCB

### Installation

Shunt diverters should be installed upstream of any RCD/ELCBs (Residual Current Devices/ Earth Leakage Circuit Breakers). Refer to table for recommended fuse and cable sizes.

Fuse F1 gL/gG	C2 (mm sq.)	C3 (mm sq.)	Fuse F2 gL/gG
25A up to 80A	10	16	Not required
100A	16	16	Not required
125A	16	16	Not required
160A	25	25	Not required
> 160A	25	25	160A

Table 1: Recommended fuse size and cable size



Figure 1. Remote Status Monitoring voltage-free contacts on protection module

### Remote Status Indication

A set of voltage-free contacts integral to each of the SST150 protection modules provides the facility to monitor the protection status. With the protection module fully operational, the status indicator will be green and terminals 1 & 2 on the remote monitoring terminals will be connected. When the SST150 protection module MOV material degrades to a point where replacement is necessary, the status indicator will change to red and the voltage free contacts will change state so that terminals 2 & 3 are connected (see Figure 1)

