

# LPS® LF Series

## SURGE PROTECTIVE DEVICES



Protect 12 V, 24 V or 48 V low frequency signals for instrumentation interfaces equipment against lightning induced surges



The LPS® LF Series devices are reliable surge protectors with convenient screw terminals. They are specially designed to protect low-frequency signals of 12 V, 24 V or 48 V for instrumentation interfaces equipment which include intercoms, lift controllers, fire alarm systems and weighbridges. We can also customise special units for any signal voltage of up to 110 V. Following extensive R&D, these devices have been created to deploy state-of-the-art engineering technology to protect your equipment effectively even in the most lightning prone regions in the world.



### How they work

The LPS® LF Series devices provide unsurpassed performance in lightning surge protection. They deploy multi-stage protection with GDT (Gas Discharge Tube) for primary defence. They are then linked to a second stage surge attenuate component and finally to a MOV (Metal Oxide Varistor). When a transient surge occurs, the LPS® LF Series of surge protective devices will switch to a fully conductive state to divert high current. They will then reset automatically to a non-conducting state when the current falls below the holding current.

Under excessive surge conditions, these devices will fail in shorted mode to earth to continue to keep the circuit protected. For a more comprehensive protection, we recommend that they are installed at both ends of a data cable especially when connecting equipment are located more than 30 metres away, in adjacent buildings or outdoors. All equipment and SPD earth must be linked to the system's common earth.



### HIGHLIGHTS

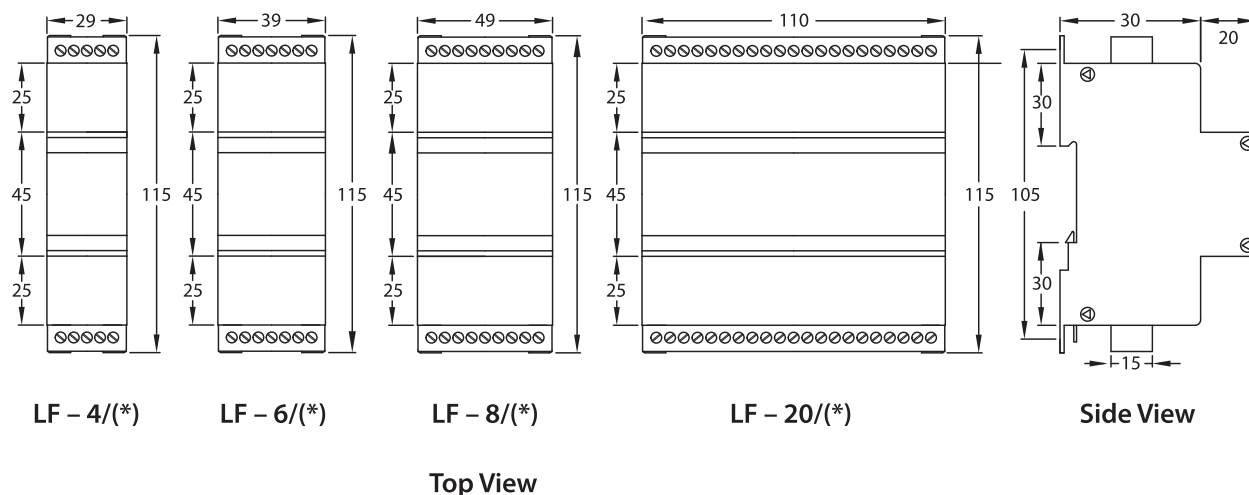
- ▶ They are 3-stage hybrid protectors
- ▶ They protect low frequency signalling application with 12 V, 24 V or 48 V working voltages
- ▶ They provide all modes of protection – signal to earth as well as signal to signal
- ▶ They are compact built for in-line installation that accommodates a maximum of 20 wires
- ▶ They are housed in a fail-safe metal enclosures with Din Rail / panel mount

## Technical Specifications

Technical Data	LF – (*)/12	LF – (*)/24	LF – (*)/48
Nominal Operating Signal Voltage (Line to Earth)	±12 V	±24 V	±48 V
Maximum Operating Signal Voltage (Line to Earth)	±18 V	±30 V	±60 V
Standard Clamp Voltage @ 1 mA (Line to Earth)	22 V	39 V	82 V
Let-through Voltage (Line to Earth) @ IEEE C62.36 – 1994 (CCITT) / ITU-T k.20, Enhanced 6 kV @ 10/700 µs, 150 A @ 5/310 µs	30 V	60 V	110 V
Protection Modes	Common and Transverse Modes		
Maximum Surge Current @ 8/20 µs per wire	10 kA		
– 3db Bandwidth (Line to Earth)	DC to 40 kHz	DC to 80 kHz	
Insertion Loss	< 0.5 db		
Series Resistance per wire	2 Ω		
Maximum Signal Current (Line to Earth)	350 mA		
Connector Interface	Pluggable Screw Terminal		
Mounting Interface	DIN-Rail / Panel Mount		
Maximum Conductor Size	2.5 mm <sup>2</sup>		
Operation and Storage Temperatures	– 40° C to 70° C		
Warranty	5 years		

Protected Wires	Model Number			Weight
	12 V Signal	24 V Signal	48 V Signal	
4 Wires	LF – 4/12	LF – 4/24	LF – 4/48	240 g
6 Wires	LF – 6/12	LF – 6/24	LF – 6/48	280 g
8 Wires	LF – 8/12	LF – 8/24	LF – 8/48	320 g
20 Wires	LF – 20/12	LF – 20/24	LF – 20/48	550 g

## Dimensions



All dimensions in millimetres

All the above specifications are subjected to changes without prior notice.  
Customised products are available upon request.

Awarded the National Mark of  
Malaysian Brand 2015



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