

# LPN-OVP (Rev 1)

## Over Voltage Protection Unit

### DESCRIPTION.

This over voltage protection unit is characterized by its high level of protection, concentrated in a compact space. The LPN-OVP (Rev 1) is suitable for installing in the narrowest of places, making it ideal for automated process industrial and building service systems.

The circuit design is simple but very effective. Gas discharge tubes provide the first stage protection and can discharge up to 5000A when exposed to a 8x20 $\mu$ s waveform. Transient voltage suppressors provide the second stage protection, and typically operate within 5ns, and can discharge 600W when exposed to a 10x1000 $\mu$ s waveform.

For Maximum protection, an LPN-OVP (Rev 1) should be used at each end of a field cable to protect process control equipment at both ends.



### FEATURES.

Two stage protection:

- Gas discharge tubes provide the first stage.
- Transient voltage suppressors provide the second stage.

### ORDERING INFORMATION.

LPN-OVP (Rev 1) Standard DIN Rail Mount

### SPECIFICATIONS.

#### Gas discharge tubes

8x20 $\mu$ s	5000A
10x1000 $\mu$ s	10A
DC spark voltage	60~90V at 100V/s
Impulse spark over voltage	<600V at 1kV/ $\mu$ s

#### Transient voltage suppressors

10x1000 $\mu$ s	600W
Response time	<5ns from 0~41V
Stand off voltage	33V typical

Operating temperature 0~60°C

Storage temperature -20~80°C

Operating humidity 5~85% RH max

#### EMC compliances

Emissions	EN55022-A
Immunity	EN 50082-1, <1% effect FSO typical

Leakage current 10 $\mu$ A at 24Vdc

Dimensions 79x20x68mm (HxWxD)

**Product Liability.** This information describes our products. It does not constitute guaranteed properties and is not intended to affirm the suitability of a product for a particular application. Due to ongoing research and development, designs, specifications, and documentation are subject to change without notification. Regrettably, omissions and exceptions cannot be completely ruled out. No liability will be accepted for errors, omissions or amendments to this specification. Technical data are always specified by their average values and are based on Standard Calibration Units at 25C, unless otherwise specified. Each product is subject to the 'Conditions of Sale'.

**Warning:** These products are not designed for use in, and should not be used for patient connected applications. In any critical installation an independent fail-safe back-up system must always be implemented.

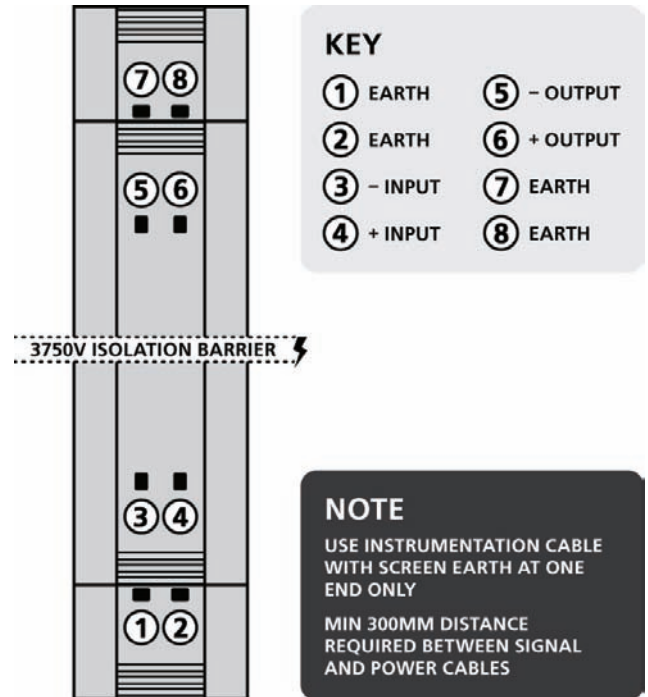
## The Proper Installation & Maintenance of LPN-OVP Rev 1.

### MOUNTING.

- 1) Mount in a clean environment in an electrical cabinet on DIN or EN rail.
- 2) Do not subject to vibration or excess temperature or humidity variations.
- 3) Avoid mounting in cabinets with power control equipment.
- 4) To maintain compliance with the EMC Directives the LPN-OVP (Rev 1) is to be mounted in a fully enclosed steel cabinet. The cabinet must be properly earthed, with appropriate input / output entry points, filtering, and cabling.

### WIRING.

- 1) All cables should be good quality overall screened INSTRUMENTATION CABLE with the screen earthed at one end only.
- 2) Signal cables should be laid a minimum distance of 300mm from any power cables.
- 3) For 2 wire current loops Austral Standard Cables B5102ES is recommended. For three wire transmitters and RTD's Austral Standard Cables B5103ES is recommended.
- 4) Refer to diagram for connection information.



### COMMISSIONING.

- 1) Once all the above conditions have been carried out and the wiring checked apply power to the LPN-OVP (Rev 1) loop and allow five minutes for the loop to stabilize.
- 2) Take a low (approx. 10%) and a high (approx. 90%) reading of the value being measured on the field instrument, and ensure that this agrees with the value being indicated by the indicator, data Logger, PLC, etc. for that field instrument.

### MAINTENANCE.

- 1) Repeat 2) of commissioning.  
Do it regularly - at least once every twelve months.

**Note:** A close proximity or direct lightning strike may compromise the OVP protection.

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