

#### **ESP-1000**

### **Ethernet Surge Protector**



Electrical surges can occur in a number of different ways and may potentially cause a great deal of damage to electrical devices that receive such a surge. These surges typically occur because of an excessive amount of electrical current running through a system. This can occur when a bolt of lightning strikes a home or business, and an Ethernet surge protector can help protect various devices from damage due to such a surge.

LevelOne ESP-1000 is designed to work on Category 5/5e transmission lines as well as PoE Ethernet applications. It is ideal kit to protect expensive equipment against surges and transients entering a building on exposed transmission lines.

### **Key Feature**

- Shielded RJ45 jack and metal housing for EMI noise suppression
- Bi-Directional Protection on standard and PoE Ethernet
- CAT5 / CAT5e compatible
- Cast aluminium construction
- Integral mounting feet
- PoE Compatible

## **Diagram**

# Installation / Application:



<sup>\*\*</sup> The Protector is Bi-Directional so it's no issue in connection between Host and slave devices.



# **Technical Specification**

#### Hardware

- Operating Voltage Data 5V PoE 48V
- Break Down Voltage (1) Data 90V Power 82V
- Max. Surge Discharge Current Data 10KA Power 2.5KA (8/20uS)
- Peak Pulse Current 100A (10/1000uS)
- Pin Protected (2) All 8 pin protected
- Protection Mode Differential & Common mode
- Insulation Impedance > 1000Mohm
- Max. Shut Capacitance (3) Power < 2100pF Data < 2.5pF</li>
- Data Rate 100Mbps
- Impulse Protected Voltage (4) < 500V
- Response Time < 5nS</li>
- Ground Lug Wire 16AWG

#### Data over-current protection in one device

- Note 1: Data port 90V, Power port 82V.
- Note 2: Pin to Pin & Pin to Ground
- 4/5 pin to 7/8 pin & 4/5 pin to ground & 7/8 pin to ground.
- 1/2 pin to ground & 3/6 pin to ground.
- 1 pin to 2 pin over current protection, 3 pin to 6 pin over current protection

#### Over current protection turn-off point 180mA ~ 360mA

- Note 3: Data < 2.5pF.</li>
- Note 4: Data < 500Vdc (1/2 to ground, 3/6 to ground)
- PoE < 135Vdc (4/5 to 7/8, 4/5 to ground, 7/8 to ground)</li>

#### **RJ45 Connected and Pin Out**

- RJ-45 Output (Data & Power) RJ-45 Input (Data Only)
- Pin Symbol Description Symbol Description
- 1 Rx+ Data Receive Rx+ Data Receive
- 2 Rx- Data Receive Rx- Data Receive
- 3 Tx+ Data Transmit Tx+ Data Transmit
- 4 -Vdc Feeding power(+) -Vdc Not Connected
- 5 -Vdc Feeding power(+) -Vdc Not Connected
- 6 Tx- Data Transmit Tx- Data Transmit
- 7 -Vdc\_return(+) Feeding power(-) -Vdc\_return(+)
  Not Connected
- 8 -Vdc\_return(+) Feeding power(-) -Vdc\_return(+)
  Not Connected
- Pin 4,5 / 7,8 is POE Supply 48V Output.
- Pin 1,2 / 3,6 is POE Data Output

#### **Environment**

- Operating Temperature -40°C ~ +85°C
- Storage Temperature -40°C ~ +125°C
- Operating Humidify 0 ~ 95% non-condensing

#### Certificate

- FCC
- CE

#### **Dimension & Weight**

- 88 x 54.7 x 25mm
- 130g

# **Ordering Information**

**ESP-1000** Ethernet Surge Protector