# PD1041

## Hardened Surge Protection Device – RJ45


## Overview

EtherWAN's PD1041 Hardened Surge Protection Device is designed to protect your EtherWAN Switch investment; however any Ethernet network device can be protected from dangerous electrical surges. Designed for harsh environments, the PD1041 can be placed where you need it to protect your valuable network equipment.

EtherWAN – When Connectivity is Crucial.

## Spotlight

- **Protection Solution Against Voltage Surge**
  - Provides pair-to-pair protection through RJ45 connector
- **Flexible Installation**
  - Supports DIN-rail or desktop installation
- **Wide Temperature Range**
  - Provides -40 to 75°C operating temperature range for extreme environments
- **Compatible with 10/100BASE-T, Gigabit and PoE products**
  - Pass-through Data and PoE Power

# Hardware Specifications

## Electrical

**Maximum continuous operating voltage $U_C$**
- ≤ 3.3V DC

**Maximum continuous voltage $U_C$ (wire-wire)**
- ≤ 3.3 V DC (± 60 V DC/PoE+)

**Maximum continuous voltage $U_C$ (wire-ground)**
- ≤ 180 V DC

**Nominal current $I_N$**
- ≤ 1.5 A (25 °C)

**Operating effective current IC at $U_C$**
- ≤ 1 µA

**Residual current $I_{PE}$**
- ≤ 8 µA

**Nominal discharge surge current $I_n$ (8/20) µs (Core-Core)**
- 100 A

**Nominal discharge surge current $I_n$ (8/20) µs (Core-Earth)**
- 2 kA (per signal pair)

**Total surge current (8/20) µs**
- 10 kA

**Nominal pulse current $I_{an}$ (10/700) µs (Core-Core)**
- ≤ 40 A

**Nominal pulse current $I_{an}$ (10/700) µs (Core-Earth)**
- ≤ 160 A

**Output voltage limitation at 1 kV/µs (Core-Core) spike**
- ≤ 85 V (PoE)

**Output voltage limitation at 1 kV/µs (Core-Earth) spike**
- ≤ 700 V

**Output voltage limitation at 1 kV/µs (Core-Core) static**
- ≤ 9 V

**Output voltage limitation at 1 kV/µs (Core-Earth) static**
- ≤ 700 V

**Output voltage limitation at 100V/s (Core-Core)**
- ≤ 9 V

**Output voltage limitation at 100V/s (Core-Earth)**
- ≤ 300 V

**Output voltage limitation at 100V/µs (Core-Core)**
- ≤ 9 V

**Output voltage limitation at 100V/µs (Core-Earth)**
- ≤ 600 V

**Residual voltage at $I_N$, (conductor-conductor)**
- ≤ 15 V
- ≤ 100 V (PoE)

**Voltage protection level Up (Core-Core)**
- ≤ 9 V (B2 - 1 kV/25 A
- ≤ 100 V (B2 - 1 kV/25 A - PoE)
- ≤ 15 V (500 V/100 A)

**Voltage protection level Up (Core-Earth)**
- ≤ 600 V
- ≤ 700 V (C2 - 4 kV/2 kA)

**Response time tA (Core-Core)**
- ≤ 1 ns

**Response time tA (Core-Earth)**
- ≤ 100 ns

**Input attenuation aE, sym.**
- 1 dB (≤ 250 MHz)

**Near-end crosstalk attenuation**
- ≤ 35 dB (At 250 MHz / 100 Ω)

**Cut-off frequency fg (3 dB), sym. in 100 Ohm system**
- > 500 MHz

**Capacity (Core-Core)**
- typ. 5 pF (f= 1 MHz / VR= 0 V)

**Capacity (Core-Earth)**
- typ. 2 pF (f= 1 MHz / VR= 0 V)

**Surge carrying capacity in acc. with IEC 61643-21 (Core-Core)**
- B2 (1 kV/25 A)

**Surge carrying capacity in acc. with IEC 61643-21 (Core-Earth)**
- B2 (4 kV / 100 A)
- C2 (4 kV / 2 kA)
- D1 (1 kA)

## Mechanical

**Casing**
- Aluminum case
- IP20

**Dimensions**
- 62.5 x 100 x 30mm (W x D x H) (2.5” x 3.8” x 1.18”)

**Weight**
- 184g ± 5%

**Installation**
- DIN-Rail

**Connection**
- RJ45 connector

## Environment

**Operating Temperature**
- -40 to 75°C (-40 to 167°F)

**Storage Temperature**
- -40 to 85°C (-40 to 185°F)

**Ambient Relative Humidity**
- 5% to 95%, non-condensation

## Regulatory Approvals

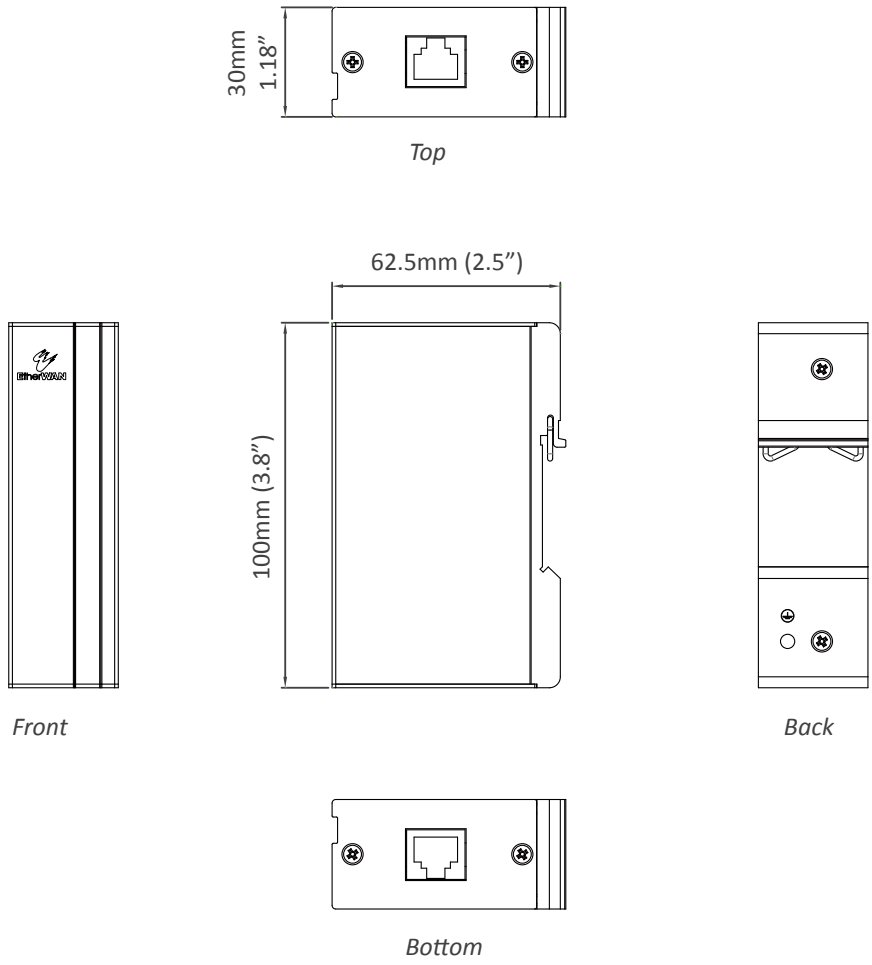
**ISO**
- Manufactured in an ISO 9001 facility

**EMI**
- CE
- FCC Part 15 Class B
- VCCI

**TUV**
- IEC 61643-21

**UL**
- UL 497B

# Dimensions




# Ordering Information

| Model | |
|---|---|
| **PD1041** | Hardened Surge Protection Device – RJ45 |

**Note: CAT6 cable is recommended*