

# 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 + Wide Temperature Range

Provides pair-to-pair protection through RJ45 connector

Provides -40 to 75°C operating temperature range for extreme environments

### + Flexible Installation

Supports DIN-rail or desktop installation

### + Compatible with 10/100BASE-T, Gigabit and PoE products

Pass-through Data and PoE Power

## Specifications

### + Electrical

Maximum continuous operating voltage UC  
 $\leq 3.3\text{VDC}$

Maximum continuous voltage UC (Wire-Wire)  
 $\leq 3.3\text{VDC}$  ( $\pm 60\text{VDC/PoE+}$ )

Maximum continuous voltage UC (Wire-Ground)  
 $\leq 180\text{VDC}$

Nominal current  $I_N$   
 $\leq 1.5\text{A}$  ( $25^\circ\text{C}$ )

Operating effective current  $I_C$  at UC  
 $\leq 1\mu\text{A}$

Residual current IPE  
 $\leq 8\mu\text{A}$

Nominal discharge surge current  $I_n$  (8/20)  $\mu\text{s}$   
(Core-Core)  
100A

Nominal discharge surge current  $I_n$  (8/20)  $\mu\text{s}$   
(Core-Earth)  
2kA (per signal pair)

Total surge current (8/20)  $\mu\text{s}$   
10kA

Nominal pulse current  $I_{an}$  (10/700)  $\mu\text{s}$  (Core-Core)  
 $\leq 40\text{A}$

Nominal pulse current  $I_{an}$  (10/700)  $\mu\text{s}$  (Core-Earth)  
160A

Output voltage limitation at  $1\text{kV}/\mu\text{s}$  (Core-Core)  
spike  
 $\leq 85\text{V}$  (PoE)

Output voltage limitation at  $1\text{kV}/\mu\text{s}$  (Core-Earth)  
spike  
 $\leq 700\text{V}$

Output voltage limitation at  $1\text{kV}/\mu\text{s}$  (Core-Core)  
static  
 $\leq 9\text{V}$

Output voltage limitation at  $1\text{kV}/\mu\text{s}$  (Core-Earth)  
static  
 $\leq 700\text{V}$

Output voltage limitation at  $100\text{V}/\text{s}$  (Core-Core)  
 $\leq 9\text{V}$

Output voltage limitation at  $100\text{V}/\text{s}$  (Core-Earth)  
 $\leq 300\text{V}$

Output voltage limitation at 100V/ $\mu$ s (Core-Core)  
 $\leq 9V$

Output voltage limitation at 100V/ $\mu$ s (Core-Earth)  
 $\leq 600V$

Residual voltage at IN, (Conductor-Conductor)  
 $\leq 15V$   
 $\leq 100V$  (PoE)

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

Voltage protection level Up (Core-Earth)  
 $\leq 600V$   
 $\leq 700V$  (C2-4kV/2kA)

Response time  $t_A$  (Core-Core)  
 $\leq 1ns$

Response time  $t_A$  (Core-Earth)  
 $\leq 100ns$

Input attenuation aE, sym.  
1dB ( $\leq 250MHz$ )

Near-end crosstalk attenuation  
 $\leq 35dB$  (At 250MHz/100 $\Omega$ )

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

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

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

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

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

## + Mechanical

**Casing**  
Aluminum Case  
IP20

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

**Weight**  
184g  $\pm 5\%$

**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

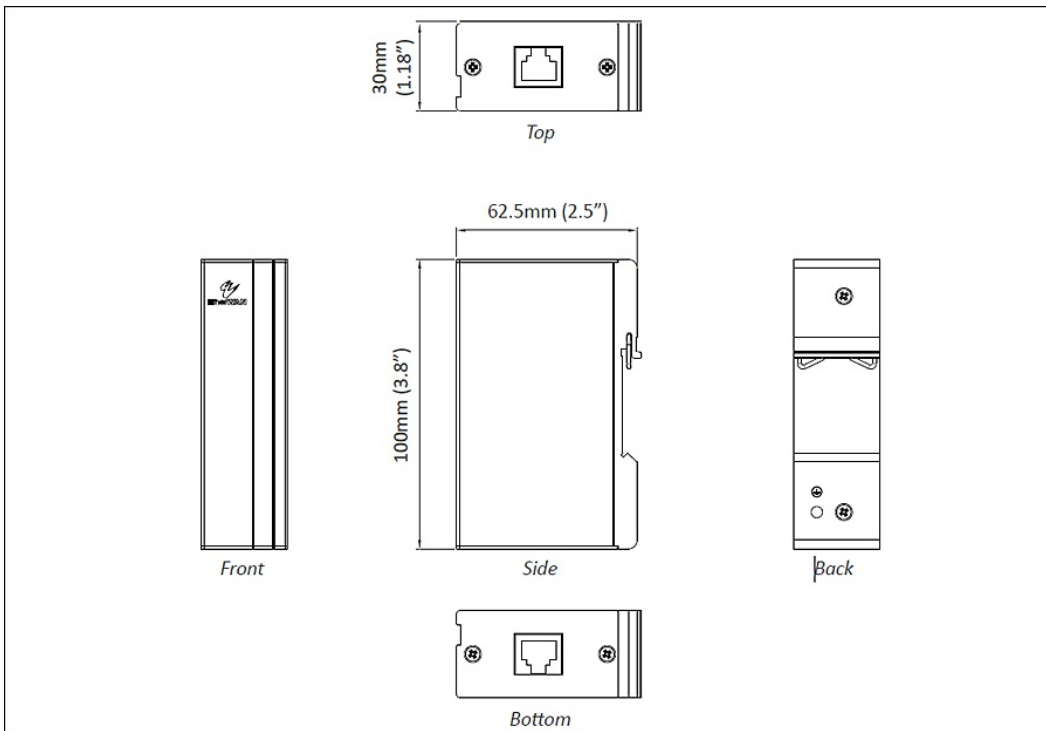
**ISO**  
Manufactured in an ISO 9001 facility

**Safety**  
UL 497B

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

**Industrial Compliance**  
IEC 61643-21

## Dimensions



## Ordering Info

### Model

<b>PD1041</b>	Hardened Surge Protection Device – RJ45
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\* Note: Cat.6 cable is recommended.

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