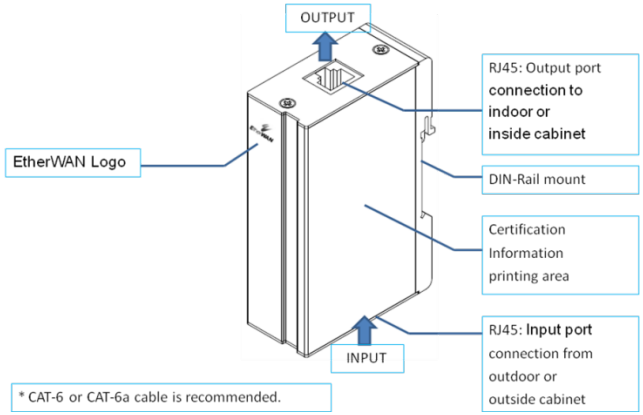
PD1041 Hardened Surge Protection Device Quick-Start Guide

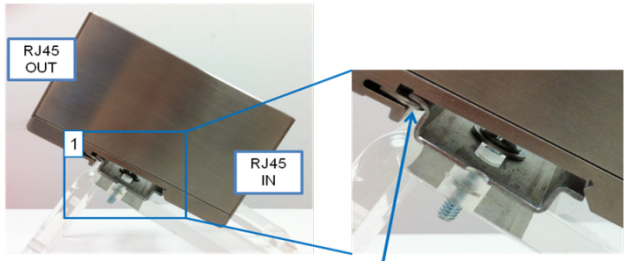
1 Introduction

Application Field

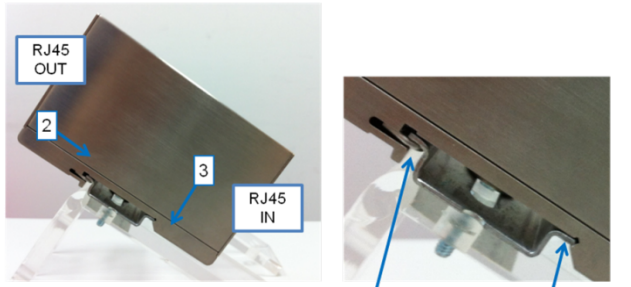
- Telecommunication interface and data transmission interface.
- Protection of signal pairs via RJ-45 connector.



2 Installation on the DIN-Rail

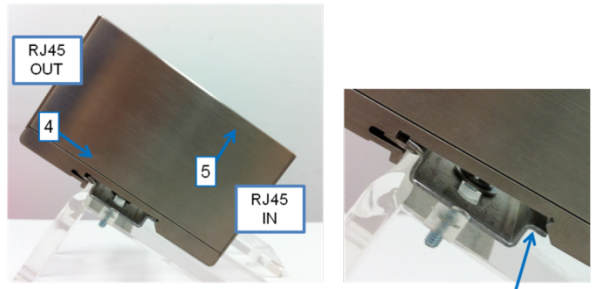


1. Put upper part of the DIN-Rail mount on the DIN-Rail



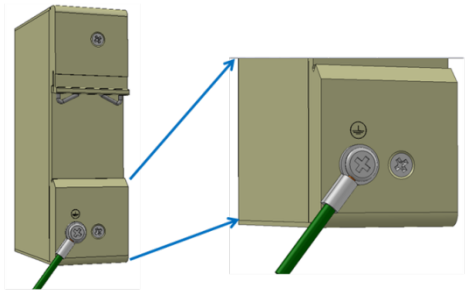
2. Press down the PD1041 and let DIN-Rail mount part fit into the DIN-Rail
3. Press PD1041 toward the DIN-Rail and PD1041 will clamp the DIN-Rail

3 Release from the DIN-Rail



4. Press down the PD1041
5. Uplift PD1041 and PD1041 release from DIN-Rail

4 Grounding



1. For DIN-Rail installation, the ground is via DIN-Rail rack in the cabinet
2. For other installation, an extra ground point is available via a screw and ground wire

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Electrical Specification

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

Weight
- 184g ± 5%

Installation
- DIN-Rail

Connection (input / output)
- RJ45 connector / RJ45 connector

Environment

Operating Temperature
- -40°C to 50°C (-40°F to 122°F) @ 1000Mbps
- -40°C to 75°C (-40°F to 167°F) @ 100Mbps

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

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

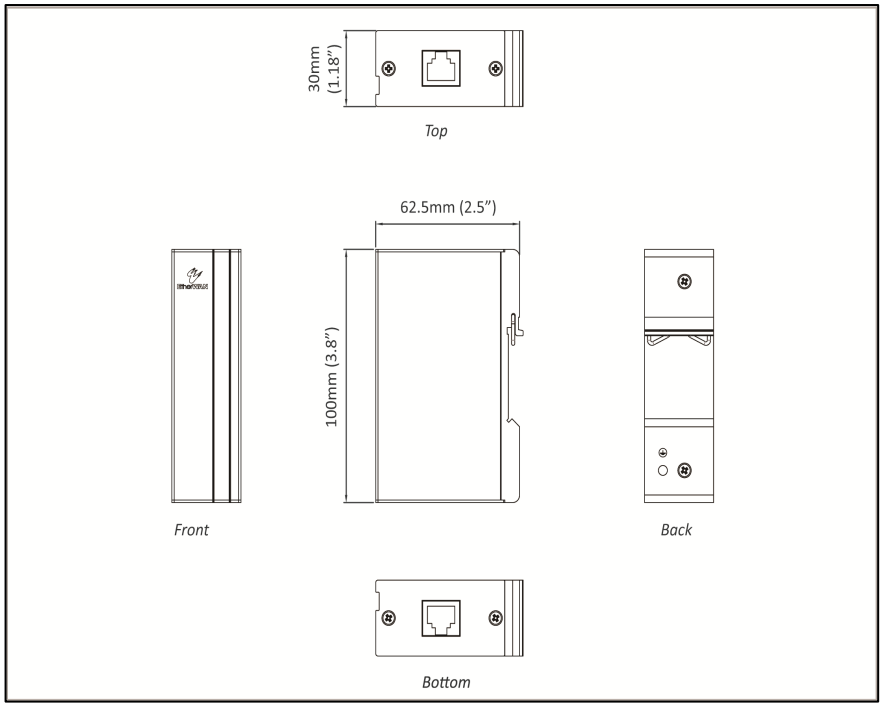
Regulatory Approvals

ISO
- Manufactured in an ISO9001 facility

UL
- UL497B

Mechanical Specification

Dimensions



Application Distance Limitation