ED3638

Hardened 10/100BASE-TX PoL™/PoE Ethernet Extender over Coaxial Cable

Overview

The ED3638 Hardened Ethernet Extender utilizes EtherWAN's exclusive Power over Link™ (PoL™) technology to deliver both PoE power and Ethernet communications over a single legacy coaxial cable. The ED3638 PoL™ solution is comprised of an ED3638 Transmitter and Receiver working together to provide reliable communications and power to remote PoE Powered Devices (PD).

When remote connectivity and power is required on legacy cable, the ED3638 transceiver connected with an AC/DC power provides 30 watts of power and a bandwidth of 100Mbps to be delivered to the ED3638 receiver. The ED3638 receiver in turn powers up a remote PoE device such as an IP camera, a wireless access point, an emergency intercom, or a VoIP phone.

When the application demands long-distance and more power delivery, the ED3638 can also be connected with power at both ends, to maximize the transmission distance to 2400 meters.

The ED3638 is compliant with UL60950-1 / IEC60950-1 / EN61000-6-4 / EN61000-6-2 standards with high electromagnetic sustainability and IEC60068 standards against shock and vibration, ensuring a reliable connection under harsh environments.

Spotlight

- **Power over Link™ up to 1.8 km (5905 ft.)**
  - Over an 1800 meters long coaxial cable, a guaranteed 4 watts power with 15Mbps bandwidth is delivered to the receiving side
- **Ethernet extension solution with high transmission data rate up to 100Mbps**
  - Up to 400 meters transmission distance with 100Mbps data rate
- **Transmission rate and PSE output power indicator LEDs**
  - Six transmission rate LEDs and three PoE/PSE output power LEDs on the front panel

Hardware Specifications

Technology

Standards
- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX,
- IEEE802.3x, full duplex and flow control
- IEEE802.3af/at PoE/PSE

Protocols
- Transparent to higher layer protocols

Processing Type
- IEEE802.3x Full-duplex flow control

Power

Input
- Terminal Block: 46 - 57VDC
- DC JACK: 48VDC
- 2.5A @ 48VDC (Peak current 3.26A)

Power Consumption
- Max. 65W with Power over Link (PoL) function enabled
- ED3638T: Max. 5W (without PoL / PoE)
- ED3638R: Max. 5W (without PoL / PoE)
  Max. 35W (with PoE only)

Protection
- Over current protection
- Reverse polarity protection

Mechanical

Casing
- Aluminum case
- IP30

Dimensions
- 50mm (W) x 110mm (D) x 135mm (H)
  (1.97" (W) x 4.33" (D) x 5.31" (H))

Weight
- 0.8Kg (1.76lbs.)

Installation
- DIN-Rail (Top hat type 35mm), Panel, or Rack mounting

Interface

Ethernet Port
- ED3638T/R: 1x RJ-45 port,10/100BASE-TX Full-duplex
- ED3638R: 1x PoE/PSE port
- Auto-Negotiation, Auto-MDI/MDIX
- Speed: 10/100Mbps
- Distance: 100meters (328ft.)
- Cable: 100BASE-TX: UTP CAT. 5 (4-pair wire)

Ethernet Extender Port
- Port: One 75Ω BNC Port (with F-type connector)
- Cable: Coaxial Cable (5C2V / RG6)
- Coaxial Cable (5C2V / RG6)

DIP Switch
- ED3638T: PoL: ON/OFF, Type: Perf/Std
- ED3638R: Mode: Loc/Rmt, Type: Perf/Std

LED Indicators
- Per Unit: Power Status (Power)
- Per Port 10/100TX: Link/Activity, Full-duplex
- Line Speed: Six indicators for 100/80/60/40/20Mbps and Link below 20Mbps
- PoE: Power over Ethernet function availability

Speed / Distance / PoE Output Reference

PoL™ Enabled

Distance	Data Rate	ED3638R PoE Output
400m	100Mbps	30.0W
800m	60Mbps	15.4W
1000m	50Mbps	12.0W
1200m	45Mbps	8.0W
1600m	20Mbps	6.0W
1800m	15Mbps	4.0W

PoL™ Disabled
(Power Supply Applies on ED3638R)

Distance	Data Rate	ED3638R PoE Output
2000m	9Mbps	30.0W
2200m	6Mbps	30.0W
Up to 2400m	4Mbps	30.0W

Environment

Operating Temperature
- -40°C to 75°C (-40°F to 167°F)
  Tested @ -40°C to 85°C (-40°F to 185°F)

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

Ambient Relative Humidity
- 5% to 95% (non-condensing)

Regulatory Approvals

ISO
- Manufactured in an ISO9001 facility

Safety

UL60950-1 and IEC60950-1

EMI

FCC Part 15B, Class A

EN61000-6-4

EN55022

EN61000-3-2

EN61000-3-3

EMS

EN61000-6-2
- EN61000-4-2 (ESD Standards)
- EN61000-4-3 (Radiated RFI Standards)
- EN61000-4-4 (Burst Standards)
- EN61000-4-5 (Surge Standards)
- EN61000-4-6 (Induced RFI Standards)
- EN61000-4-8 (Magnetic Field Standards)

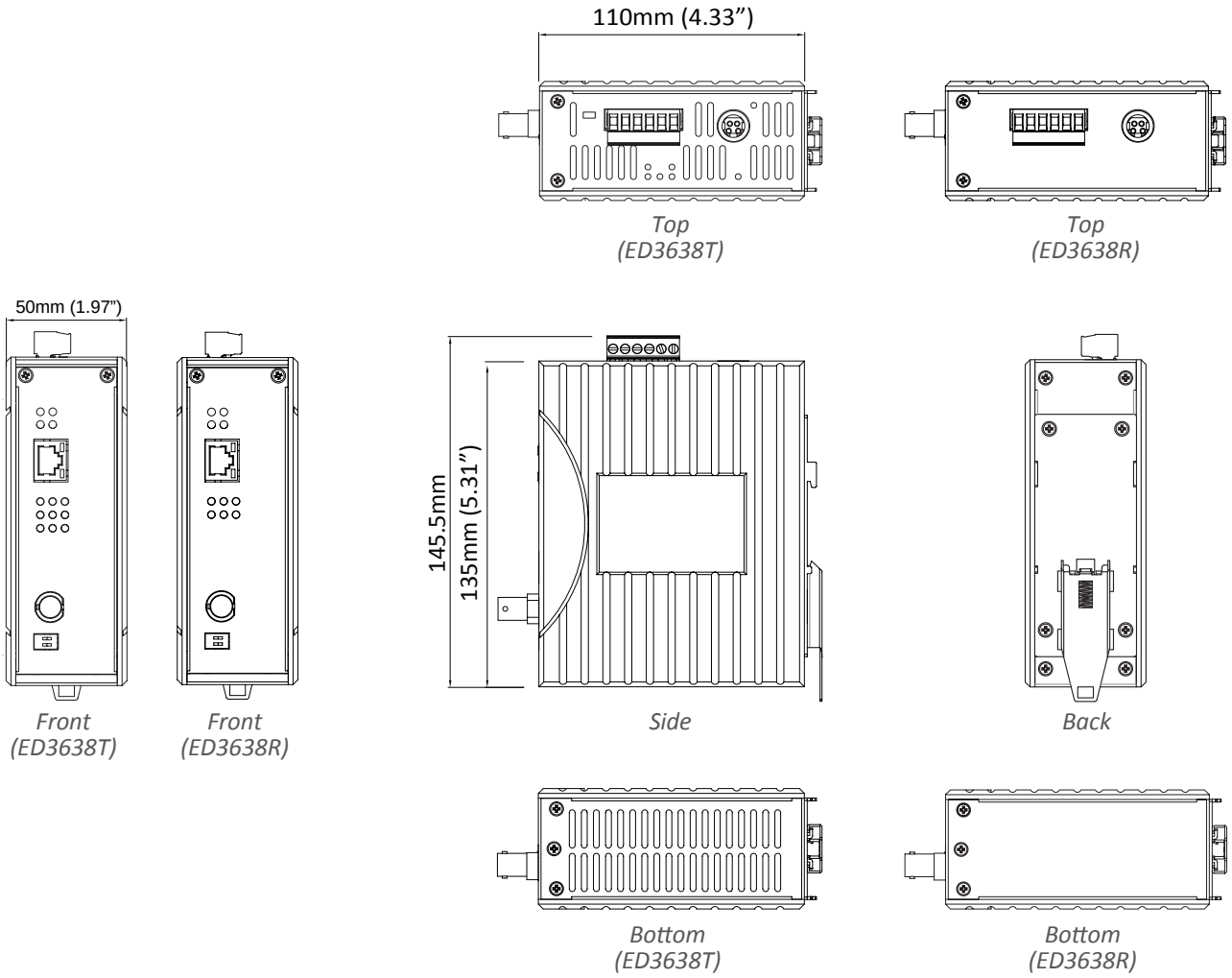
Environmental Test Compliance

IEC60068-2-6 Fc (Vibration Resistance)

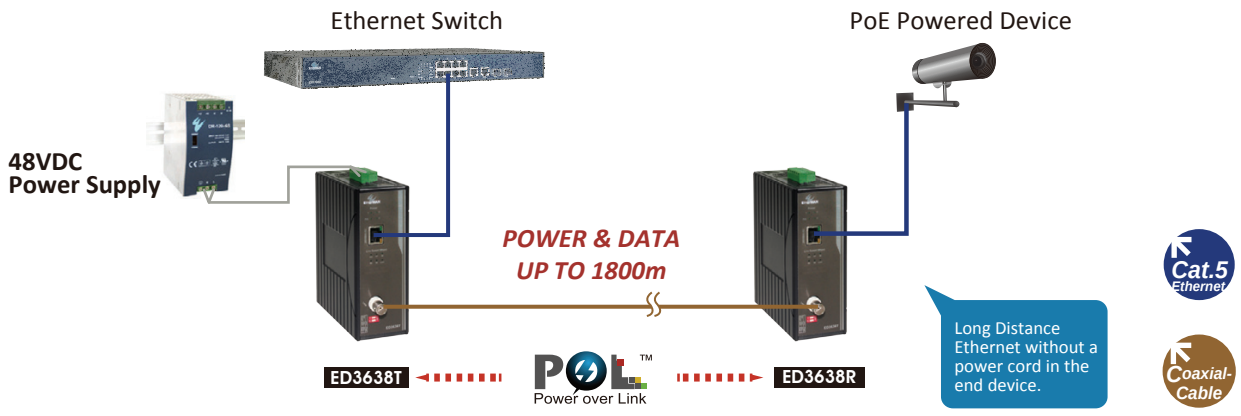
IEC60068-2-27 Ea (Shock)

IEC60068-2-32 Ed (Free Fall)

Dimensions



Application Diagram



Ordering Information

Model

ED3638	Hardened PoL/PoE Ethernet Extender over Coaxial Cable (including one ED3638T and one ED3638R)

Note:
** ED3638T is the power Transmitter of PoL and ED3638R is the power Receiver of PoL*
** DIN-Rail mounting kit included*

Optional Power Supplies

Power supply suggestion	30-watt PoE application
SDR-120-48 / DR-120-48 (120W 48VDC)	For one pair
SDR-240-48 (240W 48VDC)	For three pairs
SDR-480-48 (480W 48VDC)	For seven pairs

株式会社サイバネテック

〒104-0028　東京都中央区八重洲2-11-4
TEL：03-3272-8503　FAX：03-3274-9550
https ：//www.cybernetech.co.jp