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 one transmitter and one receiver working together to provide reliable communications and power to remote PoE Powered Devices such as IP cameras, wireless access points, emergency intercoms, or VoIP phones.

With just the transmitter connected to power, the ED3638 provides a maximum of 30 watts of power and a bandwidth of 100Mbps to the ED3638 receiver, at distances up to 400 meters. Under this setup, transmission over longer distances can be achieved with lower data and power throughput — up to 1800 meters at a data rate of 15Mbps and 4 watts of power. However, for applications that require even longer distances, the ED3638 can be connected to power at both the transmitter and the receiver unit, increasing the transmission distance to a remarkable 2400 meters, with a data rate of 4Mbps and a full 30 watts. The current data transmission rate and power sourcing equipment output is displayed by LED indicators.

The ED3238 is highly resistant to electromagnetic interference, shock, and vibration, ensuring connection reliability even in 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
- 50 x 110 x 135mm (W x D x H)
  (1.97" x 4.33" x 5.31")

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

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

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

Regulatory Approvals

ISO
- Manufactured in an ISO 9001 facility

Safety

UL 60950-1 and IEC 60950-1

EMI

FCC Part 15B, Class A

EN 61000-6-4

EN 55022

EN 61000-3-2

EN 61000-3-3

EMS

EN 61000-6-2
- EN 61000-4-2 (ESD Standards)
- EN 61000-4-3 (Radiated RFI Standards)
- EN 61000-4-4 (Burst Standards)
- EN 61000-4-5 (Surge Standards)
- EN 61000-4-6 (Induced RFI Standards)
- EN 61000-4-8 (Magnetic Field Standards)

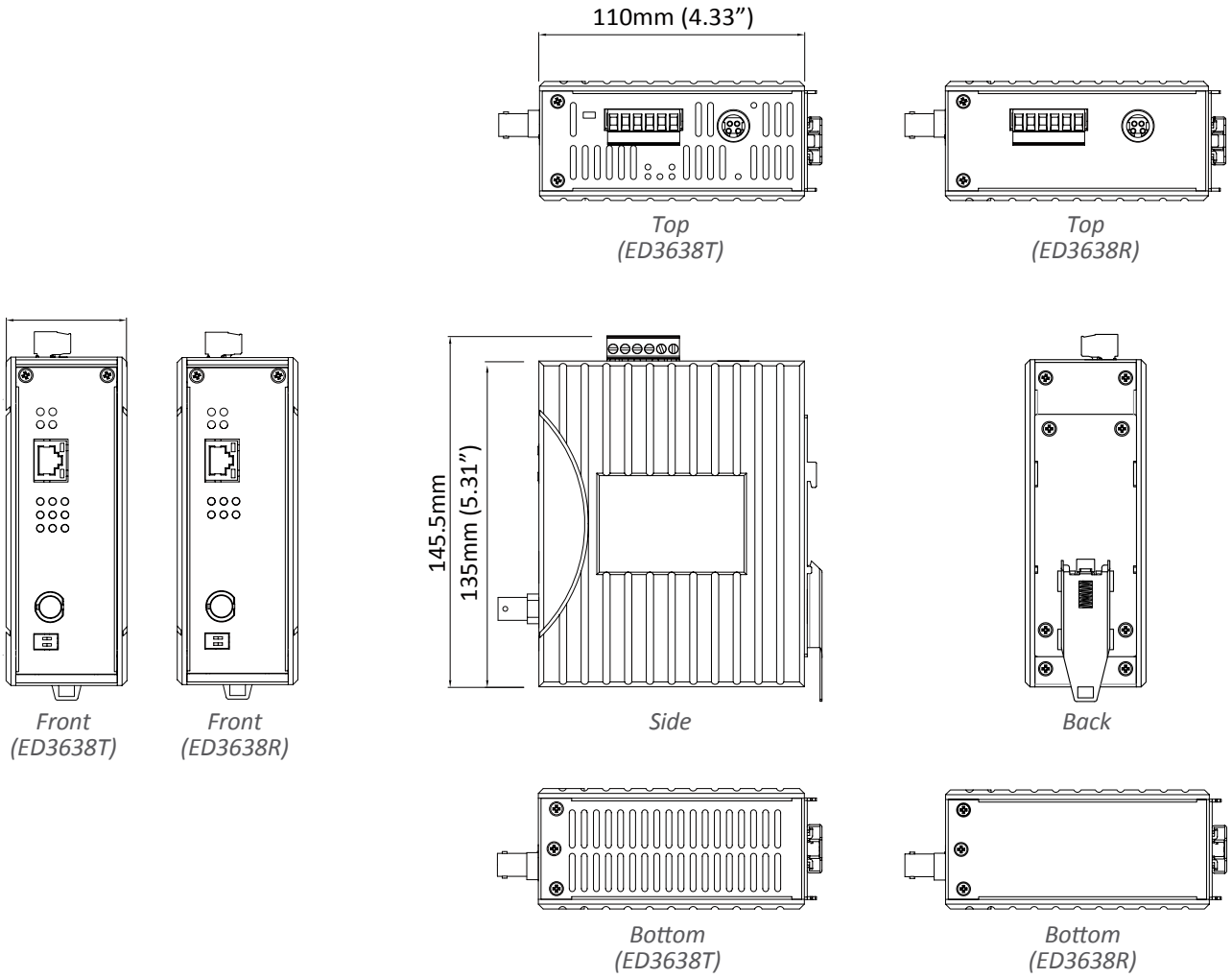
Environmental Test Compliance

IEC 60068-2-6 Fc (Vibration Resistance)

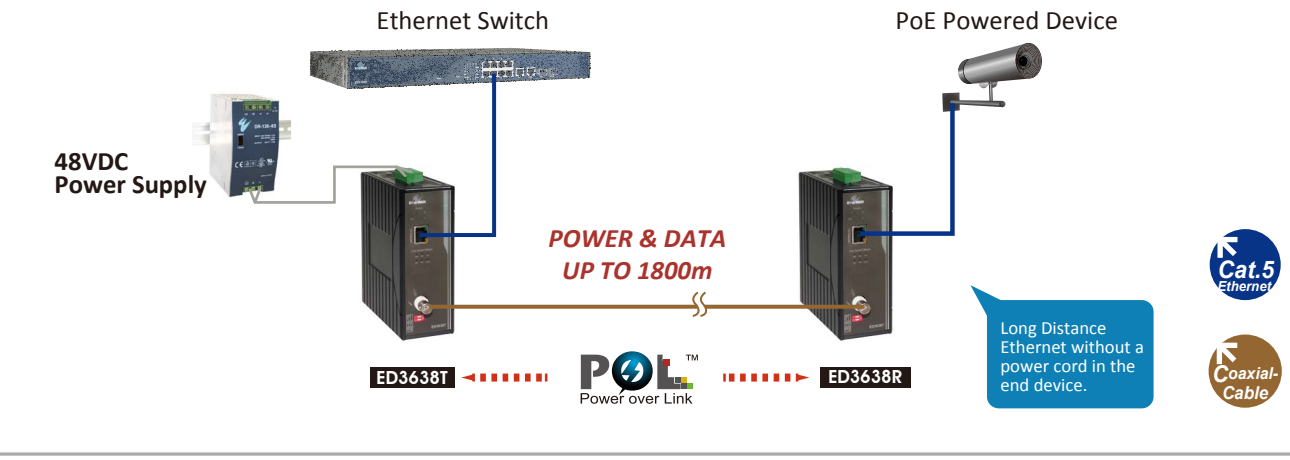
IEC 60068-2-27 Ea (Shock)

IEC 60068-2-32 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