ED3538

Hardened 10/100BASE-TX PoL/PoE Ethernet Extender over Copper Wires

Overview

The ED3538 Hardened Ethernet Extender utilizes EtherWAN's exclusive Power over Link (PoL) technology to deliver both PoE power and Ethernet communications over a single legacy twisted pair cable, such as a telephone line. The ED3538 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 ED3538 provides a maximum of 30 watts of power and a bandwidth of 100Mbps to the ED3538 receiver, at distances up to 300 meters. Under this setup, transmission over longer distances can be achieved with lower data and power throughput — up to 1200 meters at a data rate of 20Mbps and 5 watts of power. However, for applications that require even longer distances, the ED3538 can be connected to power at both the transmitter and the receiver unit, increasing the transmission distance to a remarkable 2200 meters, with a data rate of 1Mbps and a full 30 watts. The current data transmission rate and power sourcing equipment output is displayed by LED indicators.

The ED3538 is highly resistant to electromagnetic interference, shock, and vibration, ensuring connection reliability even in harsh environments.

EtherWAN — "**When Connectivity is Crucial.**"

Spotlight

Power over Link™ up to 1.2 km (3936 ft.)

Over an 1200 meters long RJ11 cable, a guaranteed 5 watts power with 20Mbps bandwidth is delivered to the receiving side

Ethernet extension solution with high transmission data rate up to 100Mbps

Up to 300 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

Specifications

Technology

Standards
IEEE 802.3 10BASE-T
IEEE 802.3u 100BASE-TX
IEEE 802.3x full duplex and flow control
IEEE 802.3af/at PoE/PSE

Protocols
Transparent to higher layer protocols

Processing Type
IEEE 802.3x Full-duplex flow control
Auto-Negotiation
Auto MDI/MDIX

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
ED3538T: Max. 5W (without PoL/PoE)
ED3538R: Max. 5W (without PoL/PoE), Max. 35W (with PoE only)

Protection
Overload 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

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-condensing)

Interface

Ethernet Ports
ED3538T/R: 1 x 10/100BASE-TX Full-duplex RJ-45 port
ED3538R: 1 x PoE/PSE port
Speed: 10/100Mbps
Cable: 100BASE-TX, UTP CAT. 5 (4-pair wire)
Distance: 100 meters (328ft.)

Ethernet Extender Port
1 x RJ11 port
1 x 2-pin Terminal Block (Wire range: 12-30AWG)

DIP Switch
ED3538T: PoL: On/Off, Type: Perf/Std
ED3538R: Mode: Loc/Rmt, Type: Perf/Std

LED Indicators
Per Unit: Power
Per 10/100TX Port: 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	ED3538R PoE Output
300m	100Mbps	30.0W
400m	90Mbps	15.4W
600m	60Mbps	14.0W
800m	45Mbps	9.5W
1000m	35Mbps	7.0W
1200m	20Mbps	5.0W

* **PoL™ Disabled (Power Supply Applies on 3538R)**

Distance	Data Rate	ED3538R PoE Output
1400m	15Mbps	30.0W
1600m	10Mbps	30.0W
1800m	3Mbps	30.0W
Up to 2200m	1Mbps	30.0W

Note: Reference performance on 24AWG copper wire (0.5mm diameter, 1-pair wire, Cable impendence: 100ohm)

Regulatory Approvals

ISO
Manufactured in an ISO 9001 facility

Safety
UL 60950-1
IEC 60950-1

Industrial Compliance
EN 50121-4

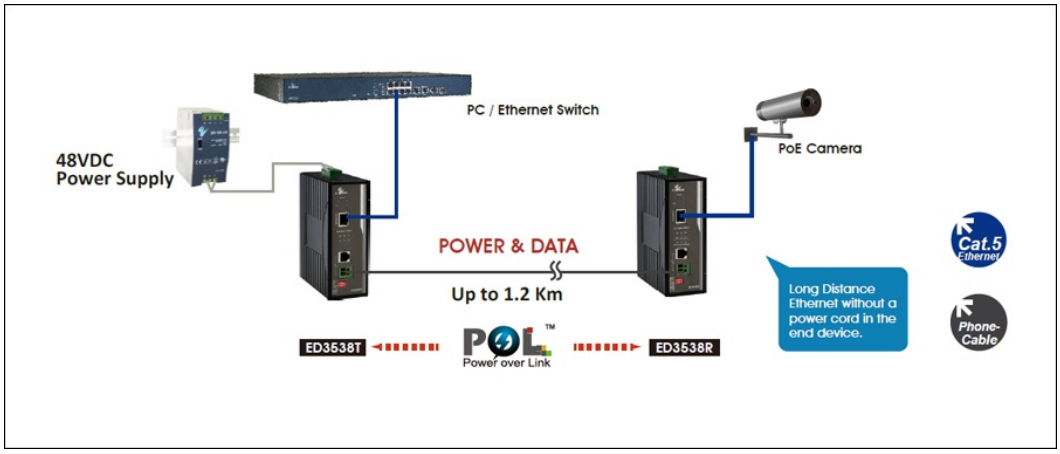
EMI
FCC Part 15B Class A
EN 61000-6-4
EN 55022

EN 61000-3-2
EN 61000-3-3

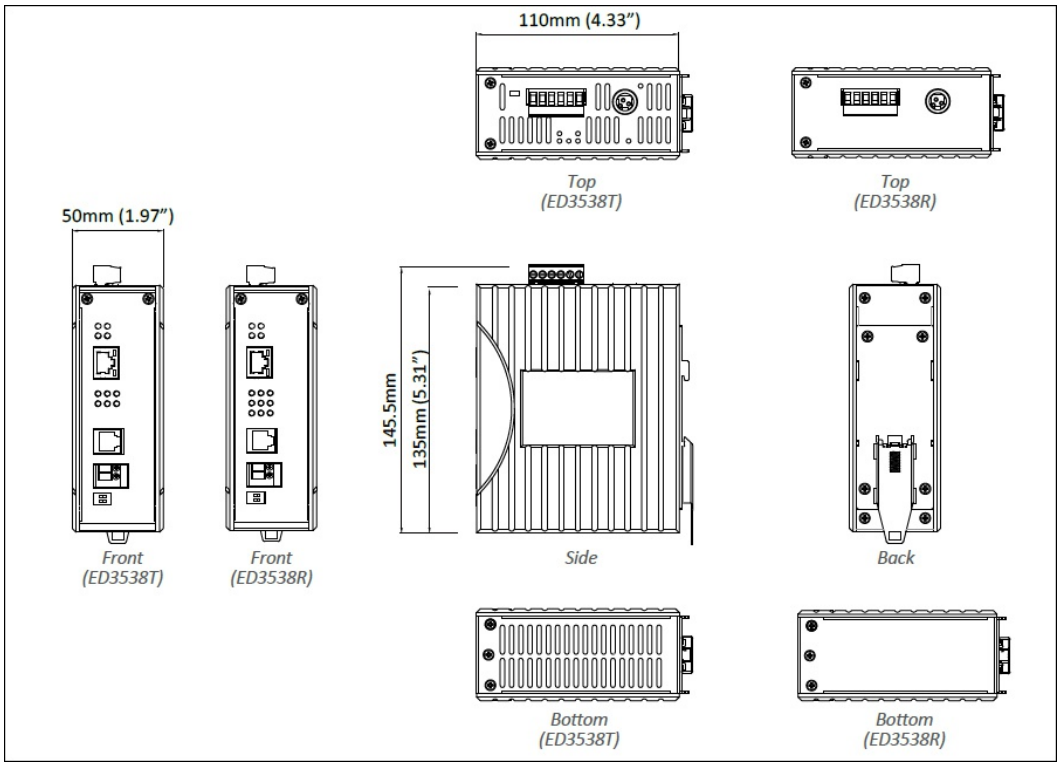
EMS
EN 61000-6-2
• EN 61000-4-2 (ESD Standards)
• EN 61000-4-3 (Radiated RFI Standards)
• EN 61000-4-4 (Burst Standards)
• EN 61000-4-5 (Surge Standards)
• EN 61000-4-6 (Induced RFI Standards)
• EN 61000-4-8 (Magnetic Field Standards)

Environmental Test Compliances
IEC 60068-2-6 Fc (Vibration)
IEC 60068-2-27 Ea (Shock)
IEC 60068-2-32 Ed (Free fall w/package)

Application



Dimensions



Ordering Info

Model

ED3538	Hardened PoL/PoE Ethernet Extender over Copper Wires (Including one ED3538T and one ED3538R)

* ED3538T is the power transmitter of PoL and ED3538R is the power receiver of PoL.

* DIN-Rail mounting kit included.

Optional Power Supplies

EDR-120-48	120W/2.5A DIN-Rail 48VDC Industrial Power Supply
NDR-120-48	120W/2.5A DIN-Rail 48VDC Industrial Power Supply
SDR-480-48	480W/10A DIN-Rail 48VDC Industrial Power Supply