ED3538

株式会社サイバネテック

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. The ED3538 PoL solution is comprised of an ED3538 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 ED3538 transceiver connected with an AC/DC power provides 30 watts of power and a bandwidth of 100Mbps to be delivered to the ED3538 receiver. The ED3538 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 ED3538 can also be connected with power at both ends, to maximize the transmission distance to 2200 meters.

The ED3538 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 1.2 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

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
- 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
- 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
- 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 - 30 AWG)

Distance / Speed / 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 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 24 AWG copper wire (0.5mm diameter, 1-pair wire, Cable impendence: 100ohm)

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

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, IEC60950-1

EMI

FCC Part 15B, Class A

EN61000-6-4, EN55022, EN61000-3-2 and 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), IEC60068-2-27 Ea (Shock), IEC60068-2-32 Ed (Free fall w/ package)

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