ED3538

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

Value

- Power over Ethernet up to 1.2 kilometers over pair copper wire
- Ethernet extension solution with high transmission data rate up to 100Mbps
- Ethernet extension up to 2.2 kilometers

PoL (Power over Link)

Advanced Single Cable Solution for Power and Data

Features

- Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- Ethernet Port: 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- 100Mbps communications link over existing copper telephone wire
- Operates transparent to higher layer protocols
- Six speeds with speed indicator LEDs on front panel of unit, Up to 100Mbps @ about 300meters (984 ft.); 1Mbps @ about 2,200meters (7,2186 ft.)
- ED3538R supports IEEE802.3at PSE standard for PoE/PD applications
- Supports Power Over Link application up to 1,200 meters (3,937 ft.) for Max. 5 watts power consumed PoE powered devices
- Auto data rate negotiation for Ethernet extension interface
- Redundant power inputs with Terminal Block and DC Jack
- -40°C to 75°C (-40°F to 167°F) operating temperature range and tested at -40°C to 85°C (-40°F to 185°F)
- Hardened aluminum case
- Supports DIN-Rail, Panel and Rack mount installation

Ordering Information

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

Note: ED3538T is PoL Transceiver and ED3538R is PoL Receiver

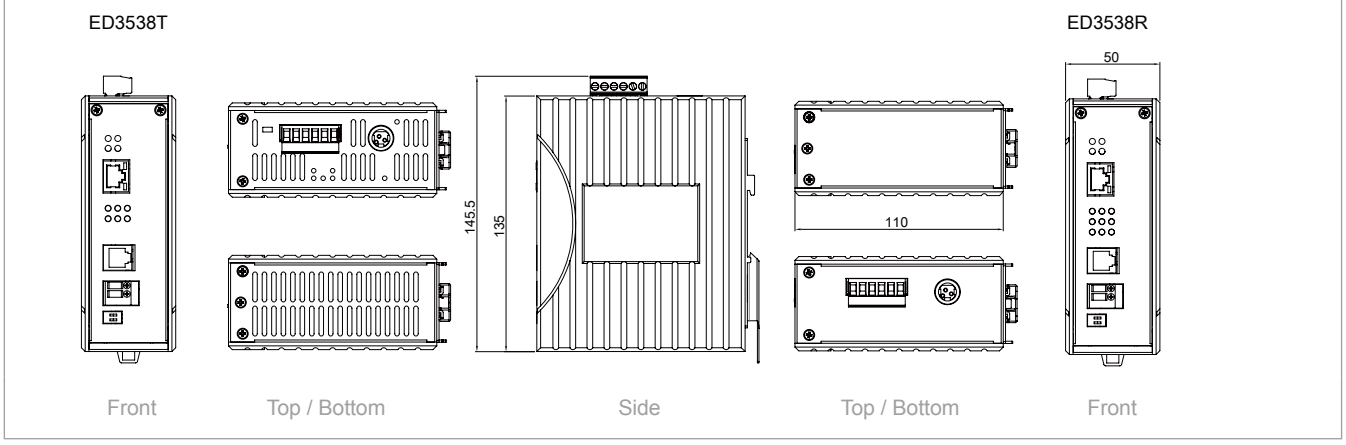
Power Supply:

The Terminal Block type external power supplies are not included. Please order the following part numbers:

Power supply suggestion	30 watts 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

Diagrams

Unit: mm



Specifications

Technology

Standards	• IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX, IEEE802.3x, IEEE802.3af, IEEE802.3at 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 ED3538T: Max. 5W (without PoL / PoE) ED3538R: Max. 5W (without PoL / PoE) Max. 35W (with PoE only)

• Supports overload current protection

• Supports 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, Rack Mounting

Interface

Ethernet Port	• ED3538T/R: 1x RJ-45 port,10/100BASE-TX Full-duplex, ED3538R: 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 RJ-11 One 2-pin Terminal Block (Wire range: 12 - 30 AWG) • Distance:

Power over Link (PoL) Enable

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

Power over Link (PoL) Disable
(Power Supply Applies on ED3538R)

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 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

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 15, Class A • EN61000-6-4 - EN55022 - EN61000-3-2 - EN61000-3-3
EMS	• EN61000-6-2 - EN61000-4-2 (ESD Standards) Contact: + / - 4KV Air: + / - 8KV - EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM - EN61000-4-4 (Burst Standards) Signal Ports: + / - 4KV D.C. Power Ports: + / - 4KV - EN61000-4-5 (Surge Standards) Signal Ports: + / - 2KV; Line-to-Line D.C. Power Ports: + / - 0.5KV; Line-to-earth - EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM - EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz
Environmental Test Compliance	• IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport) • IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport) • IEC60068-2-32 Ed (Free Fall) 1M (3.281ft.)