

# ED3538T/ED3538R

## Hardened 10/100BASE-TX PoL/PoE Ethernet Extender Kit



### 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

ED3538T	Hardened 10/100BASE-TX Ethernet Extender with PoL Transceiver
ED3538R	Hardened 10/100BASE-TX PoE Ethernet Extender with PoL Receiver

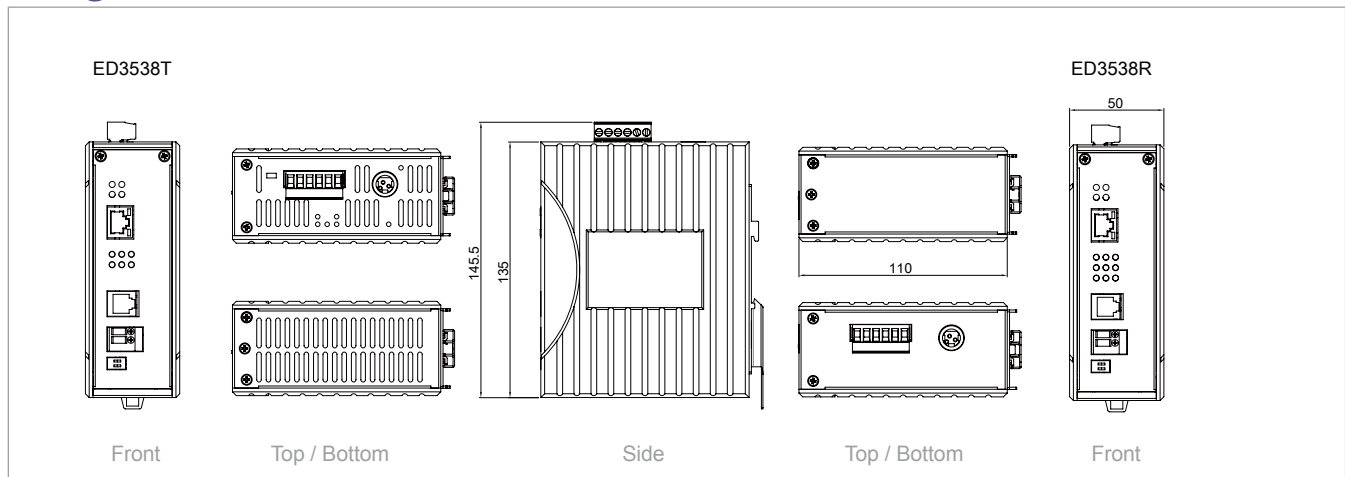
### Power Supply : (Optional)

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

DR-120-48, SDR-120-48, SDR-240-48, SDR-480-48

## Diagrams

Unit: mm



# Specifications

Technology																																											
Standards	<ul style="list-style-type: none"> <li>IEEE802.3 10BASE-T, IEEE802.3u 100BASE-TX, IEEE802.3x, IEEE802.3af, IEEE802.3at PoE/PSE</li> </ul>																																										
Protocols	<ul style="list-style-type: none"> <li>Transparent to higher layer protocols</li> </ul>																																										
Processing Type	<ul style="list-style-type: none"> <li>IEEE802.3x Full-duplex flow control</li> </ul>																																										
Power																																											
Input	<ul style="list-style-type: none"> <li>Terminal Block: 46 - 57VDC</li> <li>DC JACK: 48VDC</li> <li>2.5A @ 48VDC (Peak current 3.26A)</li> </ul>																																										
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)																																										
<ul style="list-style-type: none"> <li>Supports overload current protection</li> <li>Supports reverse polarity protection</li> </ul>																																											
Mechanical																																											
Casing	<ul style="list-style-type: none"> <li>Aluminum case</li> <li>IP30</li> </ul>																																										
Dimensions	<ul style="list-style-type: none"> <li>50mm (W) x 110mm (D) x 135mm (H) (1.97" (W) x 4.33" (D) x 5.31" (H))</li> </ul>																																										
Weight	<ul style="list-style-type: none"> <li>0.8Kg (1.76lbs.)</li> </ul>																																										
Installation	<ul style="list-style-type: none"> <li>DIN-Rail (Top hat type 35mm), Panel, Rack Mounting</li> </ul>																																										
Interface																																											
Ethernet Port	<ul style="list-style-type: none"> <li>ED3538T/R: 1x RJ-45 port, 10/100BASE-TX Full-duplex, ED3538R: 1x PoE/PSE port</li> <li>Auto-Negotiation, Auto-MDI/MDIX</li> <li>Speed: 10/100Mbps</li> <li>Distance: 100meters (328ft.)</li> <li>Cable: 100BASE-TX: UTP CAT. 5 (4-pair wire)</li> </ul>																																										
Ethernet Extender Port	<ul style="list-style-type: none"> <li>Port: One RJ-11 and one 2-pin Terminal Block</li> <li>Distance:</li> </ul> <table border="1"> <thead> <tr> <th colspan="3">Power over Link (PoL) Enable</th> </tr> <tr> <th>Distance</th> <th>Data Rate</th> <th>ED3538R PoE Output</th> </tr> </thead> <tbody> <tr> <td>300M</td> <td>100Mbps</td> <td>30.0W</td> </tr> <tr> <td>400M</td> <td>90Mbps</td> <td>15.4W</td> </tr> <tr> <td>600M</td> <td>60Mbps</td> <td>14.0W</td> </tr> <tr> <td>800M</td> <td>45Mbps</td> <td>9.5W</td> </tr> <tr> <td>1000M</td> <td>35Mbps</td> <td>7.0W</td> </tr> <tr> <td>1200M</td> <td>20Mbps</td> <td>5.0W</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th colspan="3">Power over Link (PoL) Disable (Power Supply Applies on ED3538R)</th> </tr> <tr> <th>Distance</th> <th>Data Rate</th> <th>ED3538R PoE Output</th> </tr> </thead> <tbody> <tr> <td>1400M</td> <td>15Mbps</td> <td>30.0W</td> </tr> <tr> <td>1600M</td> <td>10Mbps</td> <td>30.0W</td> </tr> <tr> <td>1800M</td> <td>3Mbps</td> <td>30.0W</td> </tr> <tr> <td>UP to 2200M</td> <td>1Mbps</td> <td>30.0W</td> </tr> </tbody> </table> <p>NOTE: Reference Performance on 24 AWG copper wire (0.5mm diameter, 1-pair wire, Cable impedance: 100ohm)</p>	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
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DIP switch	<ul style="list-style-type: none"> <li>ED3538T: PoL: ON/OFF, Type: Perf/Std</li> <li>ED3538R: Mode: Loc/Rmt, Type: Perf/Std</li> </ul>																																										
LED Indicators	<ul style="list-style-type: none"> <li>Per Unit: Power Status (Power)</li> <li>Per Port: 10/100TX: Link/Activity, Full-duplex</li> <li>Line Speed: Six indicators for 100/80/60/40/20Mbps and Link below 20Mbps</li> <li>PoE: Power over Ethernet function availability</li> </ul>																																										

Environment	
Operating Temperature	<ul style="list-style-type: none"> <li>-40°C to 75°C (-40°F to 167°F)</li> <li>Tested @ -40°C to 85°C (-40°F to 185°F)</li> </ul>
Storage Temperature	<ul style="list-style-type: none"> <li>-40°C to 85°C (-40°F to 185°F)</li> </ul>
Ambient Relative Humidity	<ul style="list-style-type: none"> <li>5% to 95% (non-condensing)</li> </ul>
Regulatory Approvals	
ISO	<ul style="list-style-type: none"> <li>Manufactured in an ISO9001 facility</li> </ul>
Safety	<ul style="list-style-type: none"> <li>UL60950-1, IEC60950-1</li> </ul>
EMI	<ul style="list-style-type: none"> <li>FCC Part 15, Class A</li> <li>EN61000-6-4               <ul style="list-style-type: none"> <li>EN55022</li> <li>EN61000-3-2</li> <li>EN61000-3-3</li> </ul> </li> </ul>
EMS	<ul style="list-style-type: none"> <li>EN61000-6-2               <ul style="list-style-type: none"> <li>EN61000-4-2 (ESD Standards) Contact: +/- 4KV Air: +/- 8KV</li> <li>EN61000-4-3 (Radiated RFI Standards) 10V/m, 80 to 1000MHz; 80% AM</li> <li>EN61000-4-4 (Burst Standards) Signal Ports: +/- 4KV D.C. Power Ports: +/- 4KV</li> <li>EN61000-4-5 (Surge Standards) Signal Ports: +/- 2KV; Line-to-Line D.C. Power Ports: +/- 0.5KV; Line-to-earth</li> <li>EN61000-4-6 (Induced RFI Standards) Signal Ports: 10Vrms @ 0.15 - 80MHz; 80% AM D.C. Power Ports: 10Vrms @ 0.15 - 80MHz; 80% AM</li> <li>EN61000-4-8 (Magnetic Field Standards) 30A/m @ 50, 60Hz</li> </ul> </li> </ul>
Environmental Test Compliance	<ul style="list-style-type: none"> <li>IEC60068-2-6 Fc (Vibration Resistance) 5g @ 10 - 150Hz, Amplitude 0.35mm (Operation/Storage/Transport)</li> <li>IEC60068-2-27 Ea (Shock) 25g @ 11ms (Half-Sine Shock Pulse; Operation) 50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)</li> <li>IEC60068-2-32 Ed (Free Fall) 1M (3.281ft.)</li> </ul>