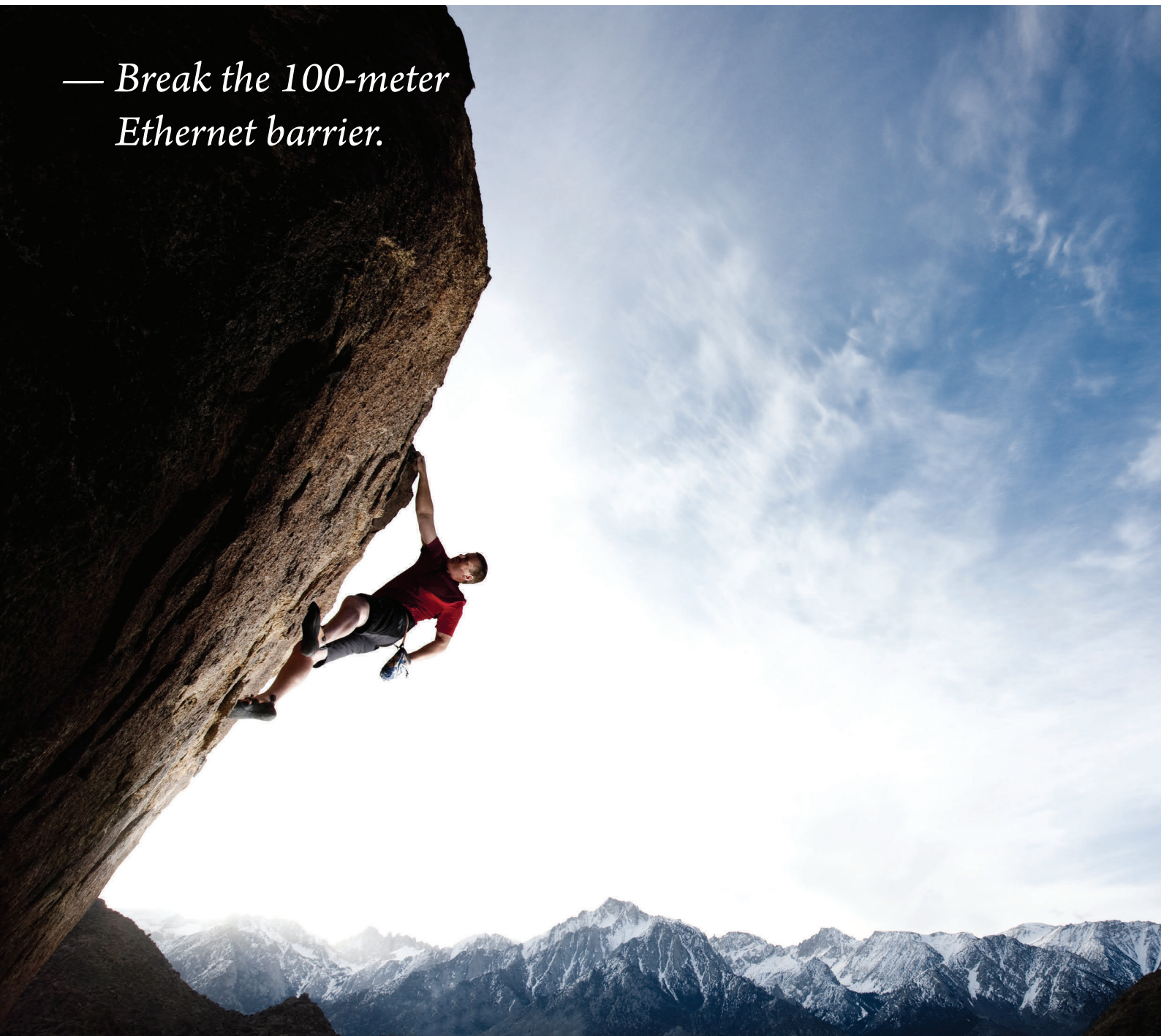


# Ethernet Extenders

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- » Power over Link™ Ethernet Extenders
- » Ethernet Extenders over Copper Wire
- » Ethernet Extenders over Coaxial Cable
- » Ethernet Extenders with Management Features
- » Ethernet Extenders with PoE

— *Break the 100-meter  
Ethernet barrier.*



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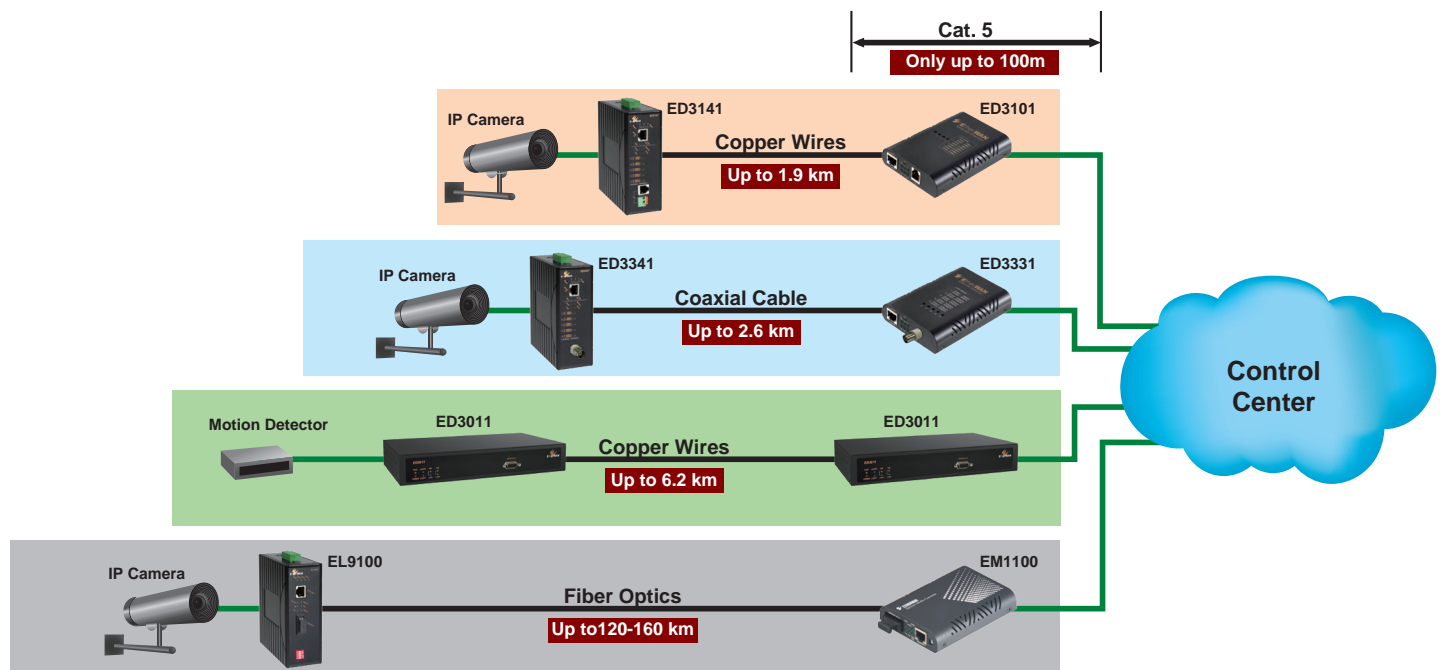
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# Ethernet Extender Glossary

## Ethernet Extender

EtherWAN's Ethernet Extenders allow the extension of IP services beyond normal Ethernet distance limitations without changing cables, breaking the 100-meter Ethernet barrier.

Upgrading an access control and/or surveillance system with new systems that communicate using IP technology can be a monumental task, especially when changing the wiring infrastructure, which can be more costly and time-consuming than upgrading the entire system. EtherWAN offers a solution to this dilemma. EtherWAN has developed a line of Ethernet Extenders that provide Ethernet connectivity over existing coaxial cables or regular telephone/communications cables. Ethernet Extenders are significantly more cost-effective compared to the cost of replacing cables, and they extend the life of existing installed infrastructure.

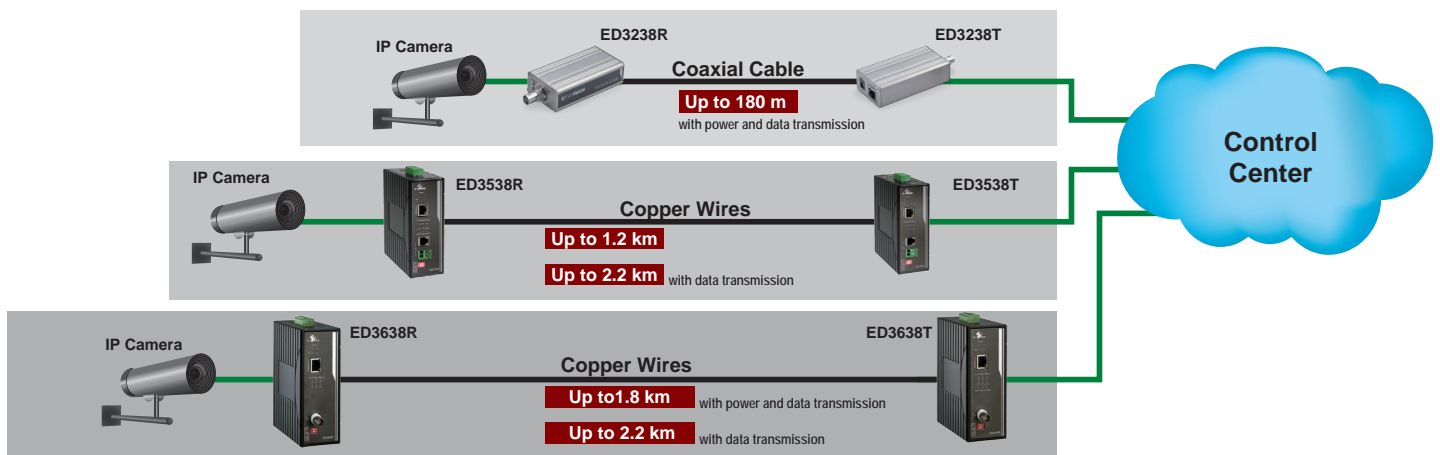


## Power over Link™

Power over Link™ (PoL™) technology allows data and power transmission over existing RJ11 telephone wires or coaxial cables. Like Power over Ethernet (PoE) technology, remote devices can be powered up by electricity in the transmission line without additional power adaptor. The remote device can also provides IEEE802.3af/ at PoE/PSE power up the end device. PoL technology facilitates IP camera installation. In the PoE/PD IP camera application, overall distance can reach 1000 meters and power plug position will not limit IP camera installation position.

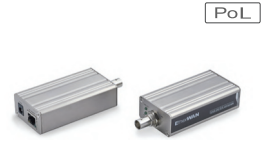
The benefits of using EtherWAN's Ethernet Extenders allow the addition of long-distance Ethernet connectivity to existing infrastructures without needing to install new cables;

- They minimize effort and cost, as there is no need to replace any existing cables.
- They work over longer distances- up to 1.9km (6,232ft) over copper wire or 2.6km (8,530ft) over coaxial cable.
- They have a hardened design for critical environments – models are rated for either -20°C to 60°C or -40°C to 75°C.
- They have Plug & Play capabilities. Simply connect a unit to one end of the wire and set the DIP switch to “local”, then connect another unit to the other end of the wire and set it to “remote”. When power is applied, all devices will be synchronized in just a few seconds to create an Ethernet link.
- PoL™ technology provides data and power transmission over one existing cable to reduce infrastructure construction cost.





## Ethernet Extender Connection Guide



### Power over Link >>

Model Name	ED3638	ED3538	ED3238
<b>Interface</b>			
10/100 BASE-TX	1	1	1
Max. PoE Ports	1 (30W)	1 (30W)	1 (15.4W)
<b>Extension Interface</b>			
RJ-11	-	1	-
RJ-48	-	-	-
Terminal Block	-	1	-
BNC	1	-	1
<b>Mode of Operations</b>			
Auto-negotiation, Auto-MDI/MDI-X	✓	✓	✓
Store & Forward	✓	✓	✓
<b>Mechanical</b>			
Casing	aluminum	aluminum	aluminum
Installation*	D	D	C
Dimensions (mm) (W x D x H)	50 x 110 x 135	50 x 110 x 135	46 x 98 x 25
<b>Power Input</b>			
No. of Power Inputs	3	3	1
Terminal Block	46 - 57VDC	46 - 57VDC	-
DC Jack	48VDC	48VDC	57VDC
AC to DC Adapter	-	-	✓
<b>Operating Temperature</b>			
-10°C to 50°C	-	-	✓
-40°C to 75°C	✓	✓	-
<b>Management Function</b>			
RS-232 console Port	-	-	-
Web Management	-	-	-
α-Ring / α-Chain	-	-	-
Layer 2 Features**	-	-	-
<b>Regulatory Approvals</b>			
CE / FCC	✓	✓	✓
VCCI	✓	✓	✓
UL508	-	-	-
ISA12.12.01 / UL1604	-	-	-
IEC61850-3 / IEEE1613	-	-	-
UL/cUL 60950-1	✓	✓	✓
EN50121-4	-	-	-
EN50155	-	-	-

\* C: Chassis, D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

\*\* Layer 2 Features include STP/RSTP/MSTP, VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, LACP, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1xSecurity, RMON



015 Q4

## Copper >>

Model Name	ED3575 <sup>NEW</sup>
<b>Interface</b>	
10/100 BASE-TX	6
Max. 10/100/1000BASE-T	2
Max. 100/1000BASE-SFP	2
<b>Extension Interface</b>	
RJ-11	2
RJ-48	-
Terminal Block	2
BNC	-
<b>Mode of Operations</b>	
Auto-negotiation, Auto-MDI/MDI-X	✓
Store & Forward	✓
<b>Mechanical</b>	
Casing	aluminum
Installation*	D
Dimensions (mm) (W x D x H)	60 x 125 x 145
<b>Power Input</b>	
No. of Power Inputs	2
Terminal Block	12 - 48VDC
DC Jack	-
AC to DC Adapter	-
<b>Operating Temperature</b>	
-10°C to 60°C	-
-40°C to 70°C	-
-40°C to 75°C	✓
<b>Management Function</b>	
RS-232 console Port	✓
Web Management	✓
α-Ring / α-Chain	✓
Layer 2 Features**	✓
<b>Regulatory Approvals</b>	
CE / FCC	✓
VCCI	✓
UL508	-
ISA12.12.01 / UL1604	-
IEC61850-3 / IEEE1613	-
UL/cUL 60950-1	✓
EN50121-4	-
EN50155	-

\* C: Chassis, D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

\*\* Layer 2 Features include STP/RSTP/MSTP, VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, LACP, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1xSecurity, RMON



Copper >>		
Model Name	ED3541 <small>NEW</small>	ED3501 <small>NEW</small>
<b>Interface</b>		
10/100 BASE-TX	1	1
Max. PoE Ports	-	-
<b>Extension Interface</b>		
RJ-11	1	1
RJ-48	-	-
Terminal Block	1	1
BNC	-	-
<b>Mode of Operations</b>		
Auto-negotiation, Auto-MDI/MDI-X	√	√
Store & Forward	√	√
<b>Mechanical</b>		
Casing	aluminum	aluminum
Installation*	D	C, D, W
Dimensions (mm) (W x D x H)	42 x 190 x 100	80.3 x 109.2 x 23.8
<b>Power Input</b>		
No. of Power Inputs	2	1
Terminal Block	12 - 48VDC	-
DC Jack	-	12VDC
AC to DC Adapter	-	√
<b>Operating Temperature</b>		
-10°C to 60°C	-	√
-40°C to 70°C	-	-
-40°C to 75°C	√	-
<b>Management Function</b>		
RS-232 console Port	-	-
Web Management	-	-
α-Ring / α-Chain	-	-
Layer 2 Features**	-	-
<b>Regulatory Approvals</b>		
CE / FCC	√	√
VCCI	√	√
UL508	-	-
ISA12.12.01 / UL1604	√ (pending)	-
IEC61850-3 / IEEE1613	-	-
UL/cUL 60950-1	√	√
EN50121-4	-	-
EN50155	-	-

\* C: Chassis, D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

\*\* Layer 2 Features include STP/RSTP/MSTP, VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, LACP, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1xSecurity, RMON



Coaxial >>			
Model Name	ED3341	ED3344	ED3331
<b>Interface</b>			
10/100 BASE-TX	1	1 (M12)	1
Max. PoE Ports	-	-	-
<b>Extension Interface</b>			
RJ-11	-	-	-
RJ-48	-	-	-
Terminal Block	-	-	-
BNC	1	1	1
<b>Mode of Operations</b>			
Auto-negotiation, Auto-MDI/MDI-X	√	√	√
Store & Forward	√	√	√
<b>Mechanical</b>			
Casing	aluminum	aluminum	aluminum
Installation*	D, P, R	D, P, R	C, D, W
Dimensions (mm) (W x D x H)	50 x 110 x 135	50 x 110 x 135	80.3 x 109.2 x 23.8
<b>Power Input</b>			
No. of Power Inputs	3	3	1
Terminal Block	12 - 48VDC	12 - 48VDC	-
DC Jack	12VDC	12 - 48VDC	12VDC
AC to DC Adapter	-	-	√
<b>Operating Temperature</b>			
-10°C to 60°C	-	-	√
-40°C to 70°C	√	-	-
-40°C to 75°C	-	√	-
<b>Management Function</b>			
RS-232 console Port	-	-	-
Web Management	-	-	-
α-Ring / α-Chain	-	-	-
Layer 2 Features**	-	-	-
<b>Regulatory Approvals</b>			
CE / FCC	√	√	√
VCCI	√	√	√
UL508	√	√	√
ISA12.12.01 / UL1604	-	-	-
IEC61850-3 / IEEE1613	-	-	-
UL/cUL 60950-1	-	-	-
EN50121-4	√	√	-
EN50155	√	√	-

\* C: Chassis, D: DIN-Rail Mounting, P: Panel Mounting, R: Rack Mounting, W: Wall Mounting

\*\* Layer 2 Features include STP/RSTP/MSTP, VLAN, QoS, IGMP, GMRP, Bandwidth Rate Control, LACP, Port Trunking, Port Mirroring, Packet Filtering, IEEE802.1xSecurity, RMON



# 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 an ED3638 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 ED3638 transceiver connected with an AC/DC power provides 30 watts of power and a bandwidth of 100Mbps to be delivered to the ED3638 receiver. The ED3638 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 ED3638 can also be connected with power at both ends, to maximize the transmission distance to 2400 meters.

The ED3638 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 1.8 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

- 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

- 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°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 and IEC60950-1

### EMI

#### FCC Part 15B, Class A

#### EN61000-6-4

#### EN55022

#### EN61000-3-2

#### 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)

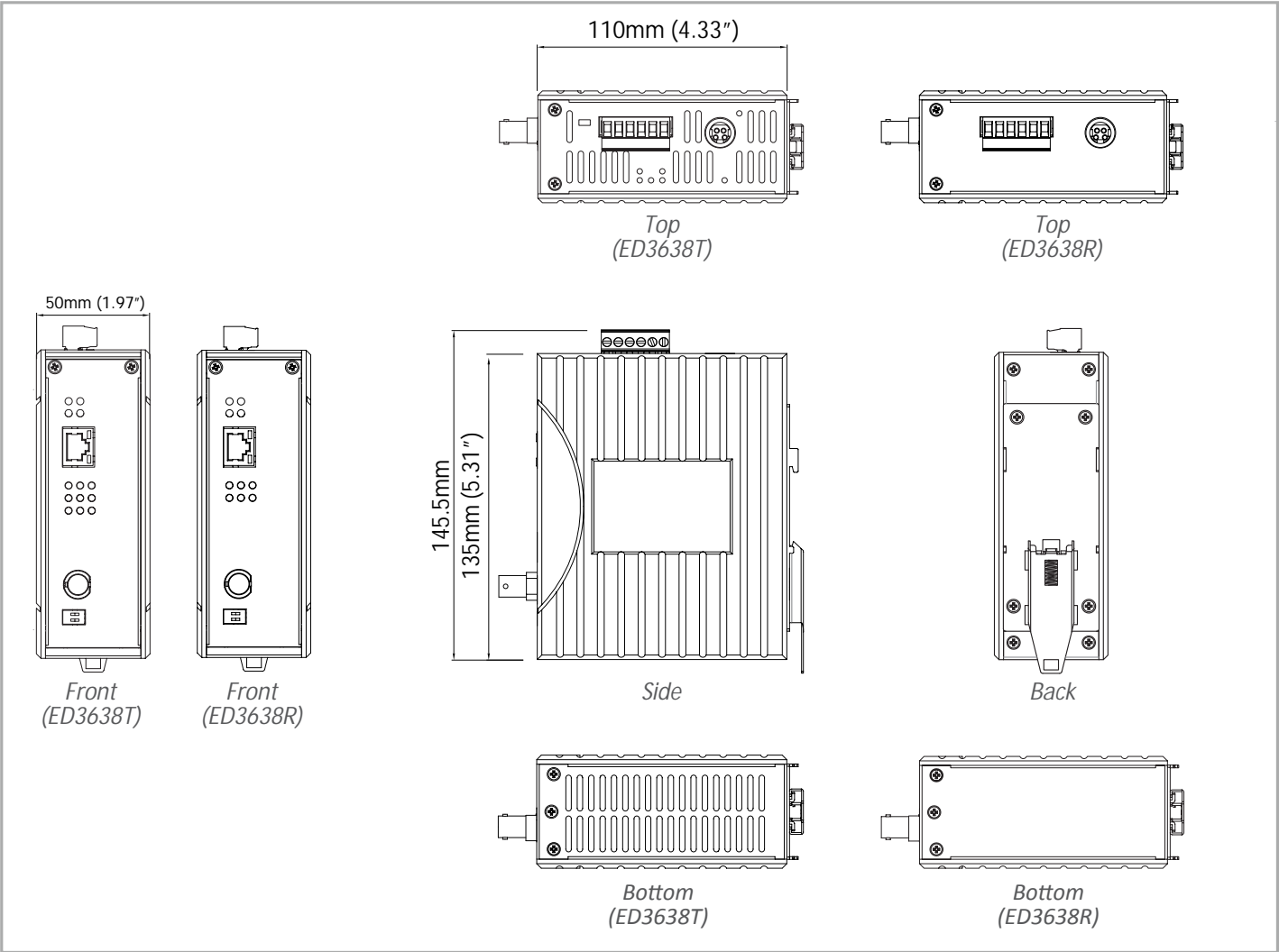
### Environmental Test Compliance

#### IEC60068-2-6 Fc (Vibration Resistance)

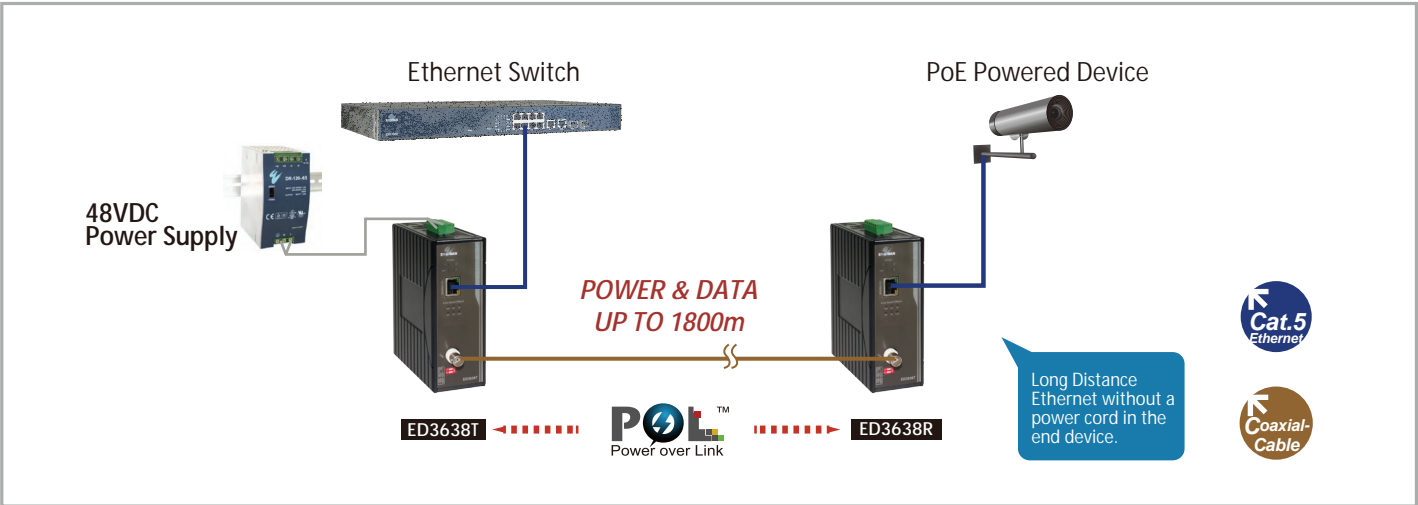
#### IEC60068-2-27 Ea (Shock)

#### IEC60068-2-32 Ed (Free Fall)

# Dimensions



# Application Diagram



# Ordering Information

## Model

ED3638	Hardened PoL/PoE Ethernet Extender over Coaxial Cable (including one ED3638T and one ED3638R)
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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



# 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. 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)

### 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

## 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 impedance: 100ohm)

## 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

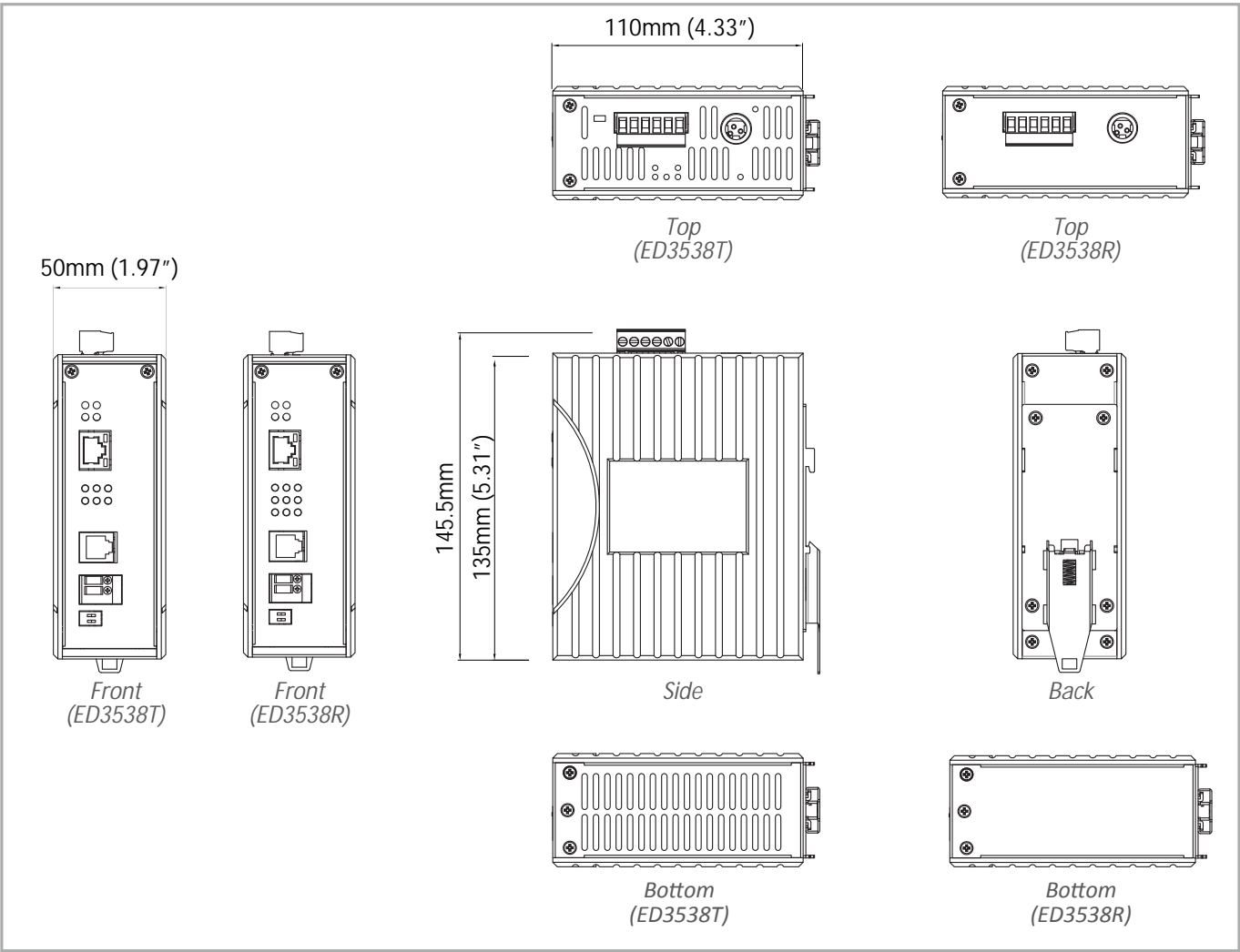
EN61000-6-2

- 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)

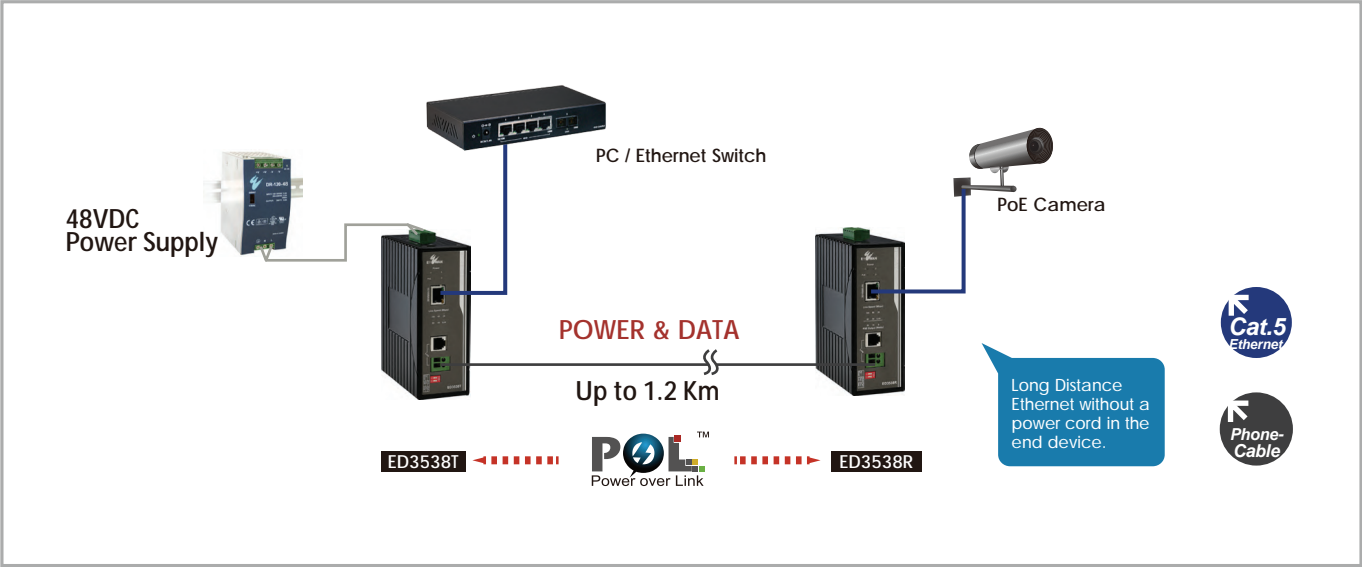
### Environmental Test Compliance

IEC60068-2-6 Fc (Vibration), IEC60068-2-27 Ea (Shock),  
IEC60068-2-32 Ed (Free fall w/ package)

# Dimensions



# Application Diagram



# Ordering Information

## Model

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

Note:

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

\* DIN-Rail mounting kit included

## Optional Power Supplies

Power supply suggestion	30 watts PoE application
SDR-120-48 / DR-120-48 (120W 48VDC)	For 1 pair
SDR-240-48 (240W 48VDC)	For 3 pairs
SDR-480-48 (480W 48VDC)	For 7 pairs



# ED3238

10/100BASE-TX IEEE802.3af PoE Ethernet Extender  
over Coaxial Cable



## Overview

The ED3238 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 ED3238 PoL solution is comprised of an ED3238 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 ED3238 transceiver connected with an AC/DC power adaptor which provides 15.4 watts of power and a bandwidth of 100Mbps to be delivered to the ED3238 receiver. The ED3238 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.

The ED3238 is compliant with UL60950-1 / IEC60950-1 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 180 m (590 ft.)**
  - Over an 180 meters long coaxial cable, a guaranteed 15.4 watts power with 100Mbps bandwidth is delivered to the receiving side
- **Ethernet extension solution with high transmission data rate up to 100Mbps**
  - Up to 180 meters transmission distance with 100Mbps data rate
- **Powered by IEEE802.3at Devices**
  - ED3238 transmitter side can be powered either by an IEEE802.3at PoE/PSE device or a 57VDC adaptor

# Hardware Specifications

## Technology

### Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3af PoE/PSE

### Forward and Filtering Rate

- 1,488,100pps for 1000Mbps

### Processing Type

- IEEE802.3x Full-duplex flow control
- Auto Negotiation
- Auto MDI/MDIX

## Power

### Input

- DC Jack: 57VDC
- ED3238T PoE/PD port: 50VDC to 57VDC

### Power Consumption

- Device: Max. 6W
- PoE power budget: 15.4W max.  
(depending on power input)

### Input Voltage v.s. Output Power

DC Jack Input Voltage	RG6 18AWG CCS	ED3238R PoE/PSE Output Power	RG11 14AWG CCS	ED3238R PoE/PSE Output Power
50VDC	180m	5.5W	250m	11W
51VDC	180m	7.0W	250m	13W
52VDC	180m	9.0W	250m	15W
52VDC	180m	10.5W	250m	16W
54VDC	180m	12.0W	250m	17W
55VDC	180m	14.0W	250m	17W
56VDC	180m	15.4W	250m	18W
57VDC	180m	15.4W	250m	18W

## Mechanical

### Casing

- Aluminum Case
- IP30

### Dimensions

- 46mm (W) x 98mm (D) x 25mm (H)  
(1.81" (W) x 3.86" (D) x 0.98" (H))

### Weight

- 0.1Kg (0.221 lbs.)

### Installation

- Panel or Rack mounting

## Interface

### Ethernet Port

- ED3238T/R: 1 x RJ-45 port
- ED3238T/R: 1 x PoE/PD port
- Speed: 10/100Mbps
- Distance: 100 meters (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 / RG6AU)
- Distance: 250m (820ft) RG11 AWG 14 CCS coaxial cable  
180m (590ft) RG6 AWG18 CCS coaxial cable  
120m (394ft) RG59 coaxial cable

### LED Indicators

- Power: Power status
- LINK/ACT: Data transmission and power delivery
- PoE: PD status

## Environment

### Operating Temperature

- -10°C to 50°C (14°F to 113°F)

### Storage Temperature

- -20°C to 70°C (-4°F to 158°F)

### Ambient Relative Humidity

- 5% to 95% (non-condensing)

## Regulatory Approvals

### ISO

- Manufactured in an ISO9001 facility

### Safety

#### UL60950-1 and IEC60950-1

### EMI

#### CE

#### EN55022

#### EN55024

#### EN61000-3-2

#### EN61000-3-3

#### FCC Part 15B, Class A

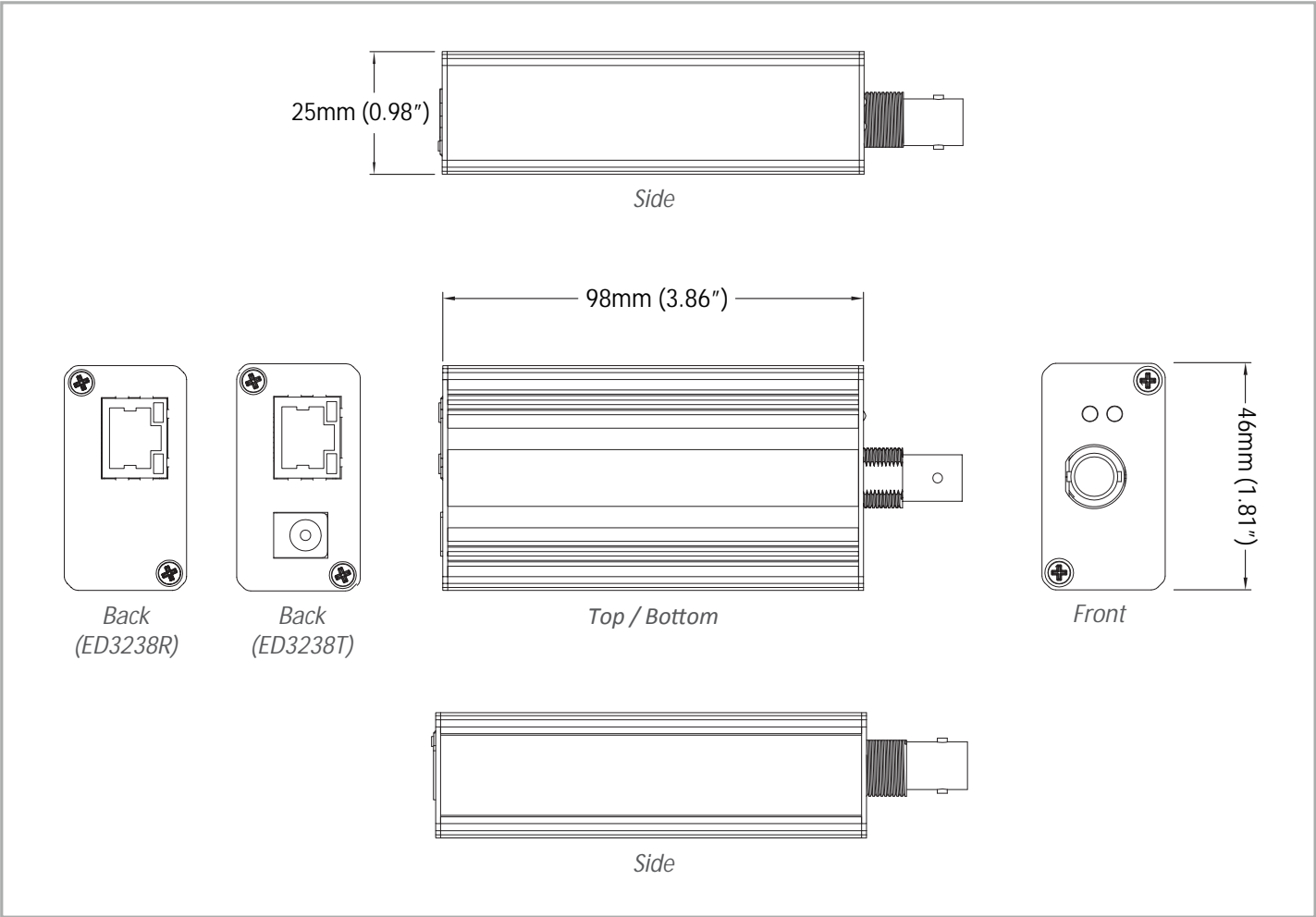
#### VCCI

### EMS

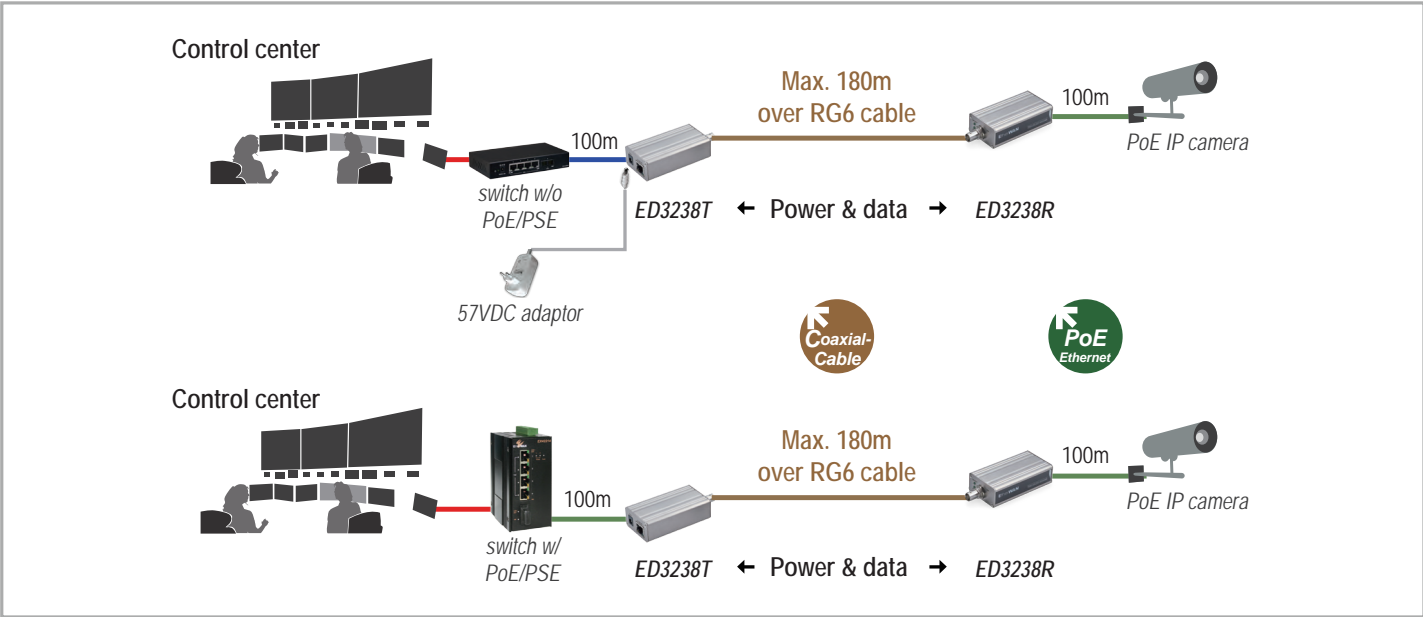
#### EN61000-6-2

- 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)

# Dimensions



# Application Diagram



# Ordering Information

Model	
ED3238-TRU	PoL/PoE Ethernet extender over coaxial cable (including one ED3238T, one ED3238R and one 57VDC adaptor, USA type)
ED3238-TRE	PoL/PoE Ethernet extender over coaxial cable (including one ED3238T, one ED3238R and one 57VDC adaptor, Europe type)
ED3238-TRX	PoL/PoE Ethernet extender over coaxial cable (including one ED3238T and one ED3238R)



# ED3541 Series

Hardened 10/100BASE-TX Ethernet Extender



## Overview

The ED3541 Ethernet extender allows the extension of IP services beyond normal Ethernet distance limitations without changing cables, breaking the 100-meter Ethernet barrier.

The ED3541's hardened design features high shock and vibration, electrical noise immunity, a wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. The ED3541 is the ideal Ethernet extender for environments where connectivity is crucial.

## Spotlight

### • UL60950 Certification

- Certified by UL60950-1 standard, providing protections to installers from risk of injury or damage

### • High Speed Performance

- Up to 100Mbps at 300 meters distance
- Up to 1Mbps at 2600 meters distance

### • Wide Operating Temperature

- -40°C to 75°C wide operating temperature range design is suitable for installation in outdoor cabinets

# Hardware Specifications

## Technology

### Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3x full duplex and flow control

### Processing Type

- Half-duplex back-pressure and IEEE802.3x Full-duplex flow control
- Auto Negotiation
- Auto MDI/MDIX

## Power

### Input Voltage

- 12 to 48VDC (Terminal Block)

### Power Consumption

- 4.56W max. 0.38A @ 12VDC  
0.07A @ 48VDC

### Protection

- Over current protection
- Reverse polarity protection

## Mechanical

### Casing

- Aluminum case
- IP30

### Dimensions

- 42mm (W) x 90mm (D) x 100mm (H)  
(1.65" (W) x 3.54" (D) x 3.94" (H))

### Weight

- 0.41 Kg (0.9 lbs.)

### Installation

- DIN-Rail (Top hat type 35mm) mounting

## Interface

### Ethernet Port

- Port: One RJ-45 port
- Speed: 10/100Mbps
- Distance: 100 meters (328ft.)
- Cable: 10BASE-T: UTP CAT. 3, 4, 5 (2-pair wire)  
100BASE-TX: UTP CAT. 5 (4-pair wire)

### Ethernet Extender Port

- Port: One RJ-11/Terminal Block port
- Speed: Up to 100Mbps
- Distance: 2600 meters (8,530 ft.)
- Cable: Telephone wire 24 AWG  
(0.5mm diameter, 1-pair wire) or larger

### DIP-Switch

- DIP 1 Site: Auto/Loc
- DIP 2 LDR: ON/OFF

### LED Indicators

- Per Unit: Power 1, 2
- Per 10/100TX Port: Link/Activity, Full-duplex
- Line Speed: 100/80/60/40/20Mbps and Link below 20Mbps

### Speed / Distance Reference

Distance (m)	Data rate (Mbps)
300	100
400	80
600	60
800	40
...	...
2600	1

### Note:

- All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet
- The data rate will vary according to line quality

## 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, EN60950-1, IEC60950-1

### EMI

FCC Part 15B, Class A

VCCI, Class A

EN61000-6-4

### 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)

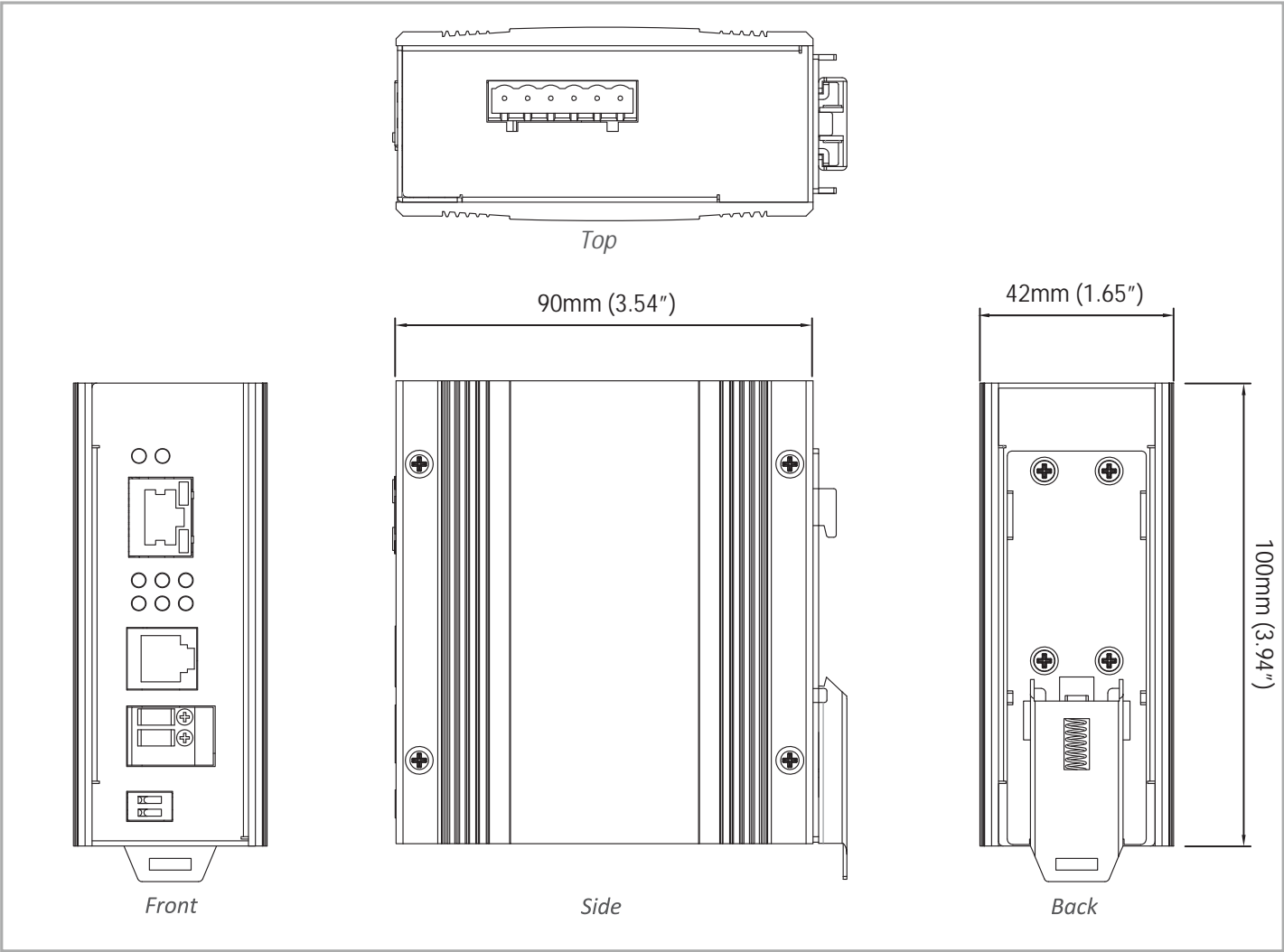
### Environmental Test Compliance

IEC60068-2-6 Fc (Vibration Resistance)

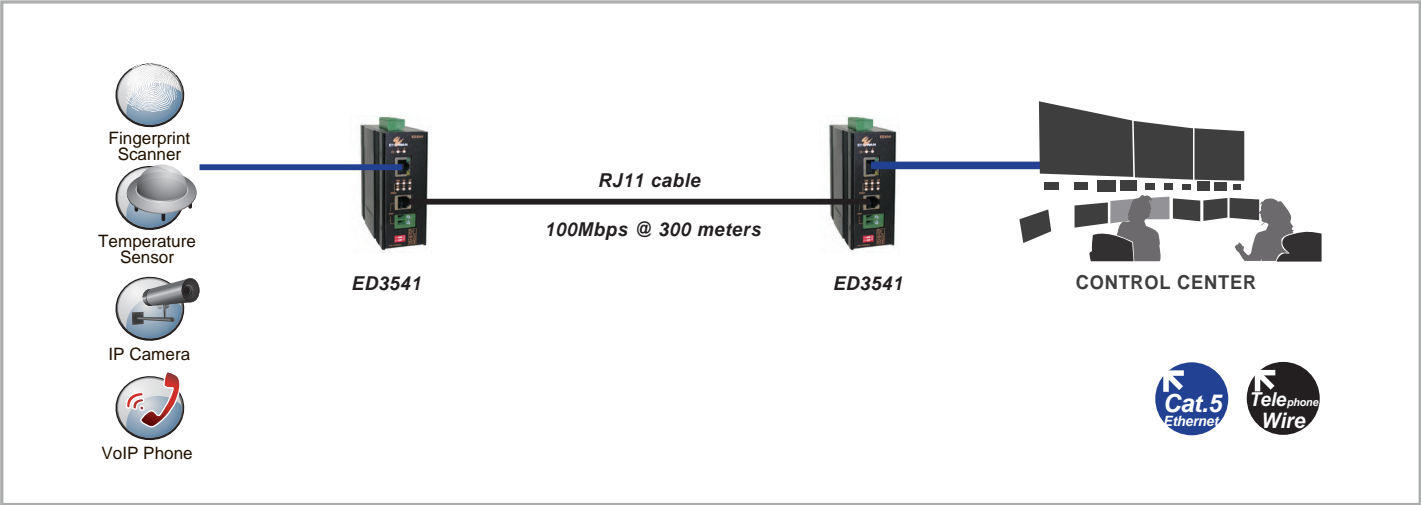
IEC60068-2-27 Ea (Shock)

FED STD 101C Method 5007.1 (Free fall w/ package)

# Dimensions



# Application Diagram



# Ordering Information

Model	
ED3541-00B	Hardened 10/100BASE-TX Ethernet Extender

\* DIN-Rail mounting kit included

Optional Accessories	
DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
MDR-40-48	40W/0.83A 48VDC Industrial Power Supply (for Terminal Block)

# ED3501 Series

Industrial 10/100BASE-TX Ethernet Extender



## Overview

The ED3501 Ethernet extender allows the extension of IP services beyond normal Ethernet distance limitations without changing cables, breaking the 100-meter Ethernet barrier.

The ED3501's design features high shock, vibration, and electrical noise immunity, a wide operating temperature range from -10°C to 60°C, and ruggedized aluminum housing. The ED3501 is the ideal Ethernet extender for environments where connectivity is crucial.

## Spotlight

### • UL60950 Certification

- Certified by UL60950-1 standard, providing protections to installers from risk of injury or damage

### • High Speed Performance

- Up to 100Mbps at 300 meters distance
- Up to 20Mbps at 1200 meters distance
- Up to 1Mbps at 2600 meters distance

### • Wide Operating Temperature

- -10°C to 60°C wide operating temperature range design is suitable for installation in outdoor cabinets

# Hardware Specifications

## Technology

### Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3x full duplex and flow control

### Processing Type

- Half-duplex back-pressure and IEEE802.3x Full-duplex flow control
- Auto Negotiation
- Auto MDI/MDIX

## Power

### Input Voltage

- 12VDC (DC Jack)

### Power Consumption

- 4.56W max.  
0.38A@12VDC

### Protection

- Over current protection
- Reverse polarity protection

## Mechanical

### Casing

- Aluminum case
- IP30

### Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)  
(3.16" (W) x 4.30" (D) x 0.94" (H))

### Weight

- 150g (0.33 lbs.)

### Installation

- DIN-Rail (Top hat type 35mm) or wall mounting

## Interface

### Ethernet Port

- Port: One RJ-45 port
- Speed: 10/100Mbps
- Distance: 100 meters (328ft.)
- Cable: 10BASE-T: UTP CAT. 3, 4, 5 (2-pair wire)  
100BASE-TX: UTP CAT. 5 (4-pair wire)

### Ethernet Extender Port

- Port: One RJ-11/Terminal Block port
- Speed: Up to 100Mbps
- Distance: 2600 meters (8,530 ft.)
- Cable: Telephone wire 24 AWG  
(0.5mm diameter, 1-pair wire) or larger

### DIP-Switch

- DIP 1: AUTO/LOC
- DIP 2: SYM/ASM
- DIP 3: Perf./Std.

### LED Indicators

- Per Unit: Power 1
- Per 10/100TX Port: Link/Activity, full-duplex
- Line Speed: 100/80/60/40/20Mbps and link below
- SYM: Symmetric mode (distance ≤ 1000m)
- ASM: Asymmetric mode
- RMT: Remote mode
- LOC: Local mode
- Per: On/Performance mode; Off/Standard mode

Distance (m)	Data rate (Mbps)
300	100
400	80
600	60
800	40
...	...
2600	1

### Note:

- All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet
- The data rate will vary according to the line quality

## Environment

### Operating Temperature

- -10°C to 60°C (14°F to 140°F)

### Storage Temperature

- -20°C to 70°C (-4°F to 158°F)

### Ambient Relative Humidity

- 5% to 95% (non-condensing)

## Regulatory Approvals

### ISO

- Manufactured in an ISO9001 facility

## Safety

### UL60950-1

### EN60950-1

### IEC60950-1

## EMI

### FCC Part 15B, Class A

### VCCI, Class A

### EN61000-6-4

### 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)

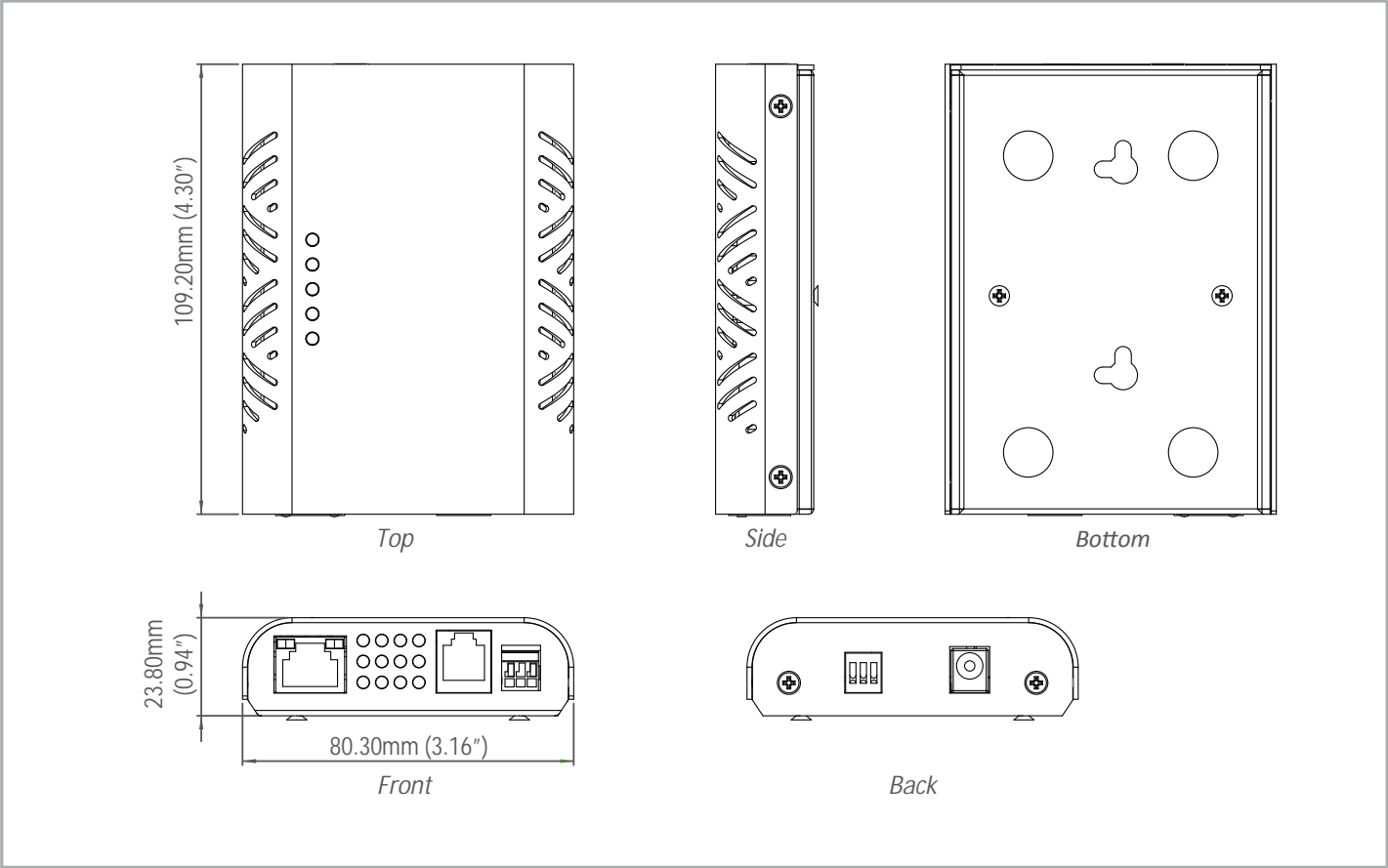
## Environmental Test Compliance

### IEC60068-2-6 Fc (Vibration Resistance)

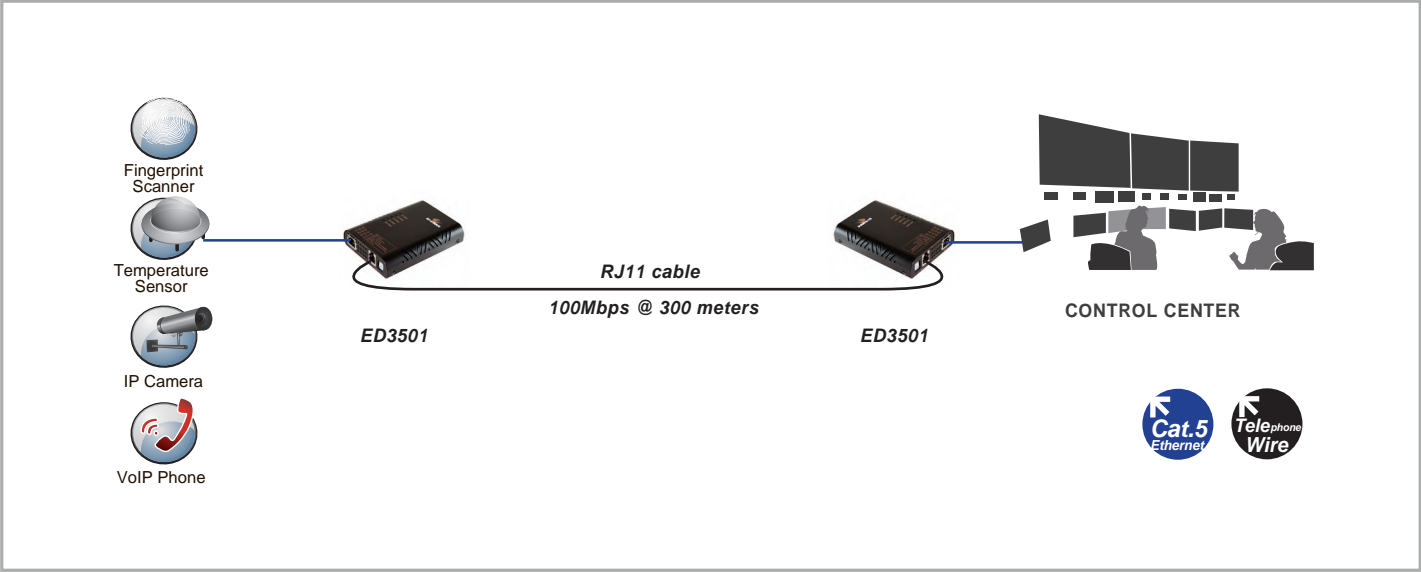
### IEC60068-2-27 Ea (Shock)

### FED STD 101C Method 5007.1 (Free fall w/ package)

# Dimensions



# Application Diagram



# Ordering Information

Model	
ED3501-X	Industrial 10/100BASE-TX Ethernet Extender
ED3501-D-X	Industrial 10/100BASE-TX Ethernet Extender with DIN-Rail Mounting Kit

External Power Adaptor Options (X)	
A	with external power adapter for AU
E	with external power adapter for EU
J	with external power adapter for JP
K	with external power adapter for UK
U	with external power adapter for USA (China CCC certified)



# ED3341 Series

Hardened 10/100BASE-TX Ethernet Extender over Coaxial Cable



## Overview

The ED3341 Series Ethernet Extender enables the extension of Ethernet connectivity over existing coaxial cable allowing legacy infrastructure to be leveraged for IP networks and extending the Ethernet distance limitations of 100 meters.

Upgrading an existing legacy control or surveillance system to a new IP-based system is a complicated task, especially when existing cable infrastructure is an old coaxial cable. EtherWAN's ED3341 Series provides Ethernet connection and extension over these existing coaxial cables, minimizing the expense of pulling new cable infrastructure.

The ED3341 Series is built with hardened specifications, providing wide temperature operation range from -40°C to 75°C to overcome severe outdoor environments. Incorporating VDSL technology, the ED3341's BNC extender ports provide long distance transmission with 75Mbps rate at 200 meters, or 1Mbps at 2600 meters; 10 speed LED indicators in the front panel provide easy lookup for the connection speed.

## Spotlight

### • UL508 Certification

- Specific design for industrial communication applications with UL508 safety certification

### • EN50121-4 and EN50155 Certification

- Specific design for railway environment application

### • Wide Operating Temperature

- -40°C to 75°C wide operating temperature range design is suitable for installation in outdoor cabinet

# Hardware Specifications

## Technology

### Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3x full duplex and flow control

### Processing Type

- Half-duplex back-pressure and IEEE802.3x Full-duplex flow control
- Auto Negotiation
- Auto MDI/MDIX

## Power

### Input Voltage

- 12VDC (DC Jack)
- 12 to 48VDC (Terminal Block)

### Power Consumption

- 7.2W Max. 0.6A @ 12VDC, 0.15A @ 48VDC

### Protection

- Over 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

- Port: One RJ-45 port
- Speed: 10/100Mbps
- Distance: 100meters (328ft.)
- Cable: 10BASE-T: UTP CAT. 3, 4, 5 (2-pair wire)  
100BASE-TX: UTP CAT. 5 (4-pair wire)

### Ethernet Extender Port

- Port: One 75Ω BNC Port (with F-type connector)
- Speed: 1/5/10/20/30/40/50/60/70/75Mbps
- Distance: 2600 meters (8,530ft.)
- Cable: Coaxial Cable (5C2V/RG6AU)

### DIP-Switch

- One DIP Switch: Local (CO) or Remote (CPE)

### Console Port

- Port: One DB9 RS-232 port

### LED Indicators

- Per Unit: Power Status (Power)
- Per Port 10/100TX: Link/Activity, Full-duplex
- Line: Error, Link, Local, Remote

## Speed / Distance Reference

Speed	Distance
1-5Mbps	2,600M(8,530ft.)
6-10Mbps	2,400M(7,874ft.)
11-16Mbps	2,000M(6,561ft.)
17-20Mbps	1,800M(5,905ft.)
21-29Mbps	1,600M(5,249ft.)
30-43Mbps	1,400M(4,593ft.)
44-54Mbps	1,200M(3,937ft.)
55-63Mbps	1,000M(3,280ft.)
64-74Mbps	600M(1,968ft.)
75-85Mbps	200M(656ft.)

- Note: All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet

## Environment

### Operating Temperature

- -40°C to 70°C (-40°F to 158°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

### UL508

## 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 Resistance)

### IEC60068-2-27 Ea (Shock)

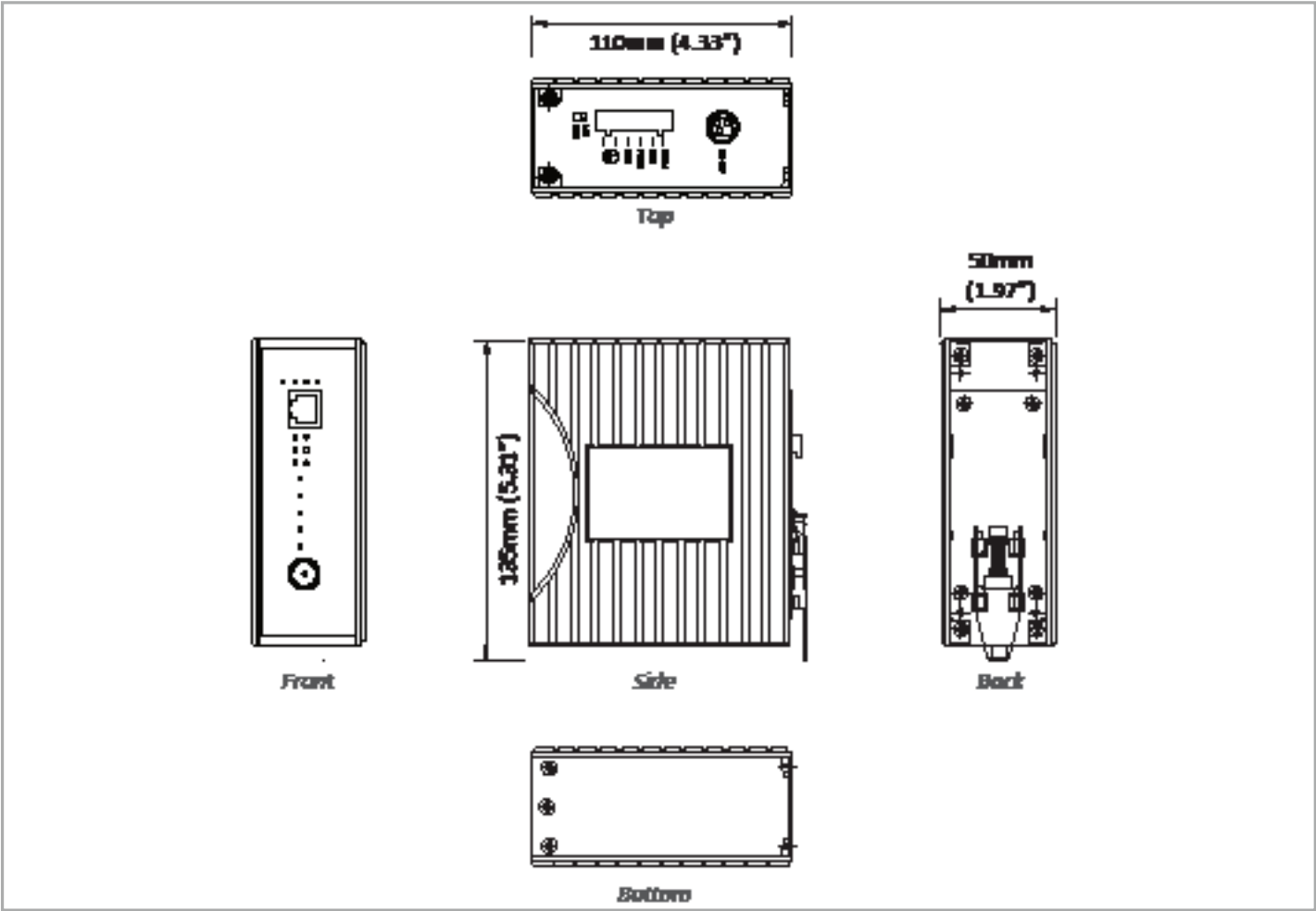
### FED STD 101C Method 5007.1 (Free fall w/ package)

## Industrial Compliance

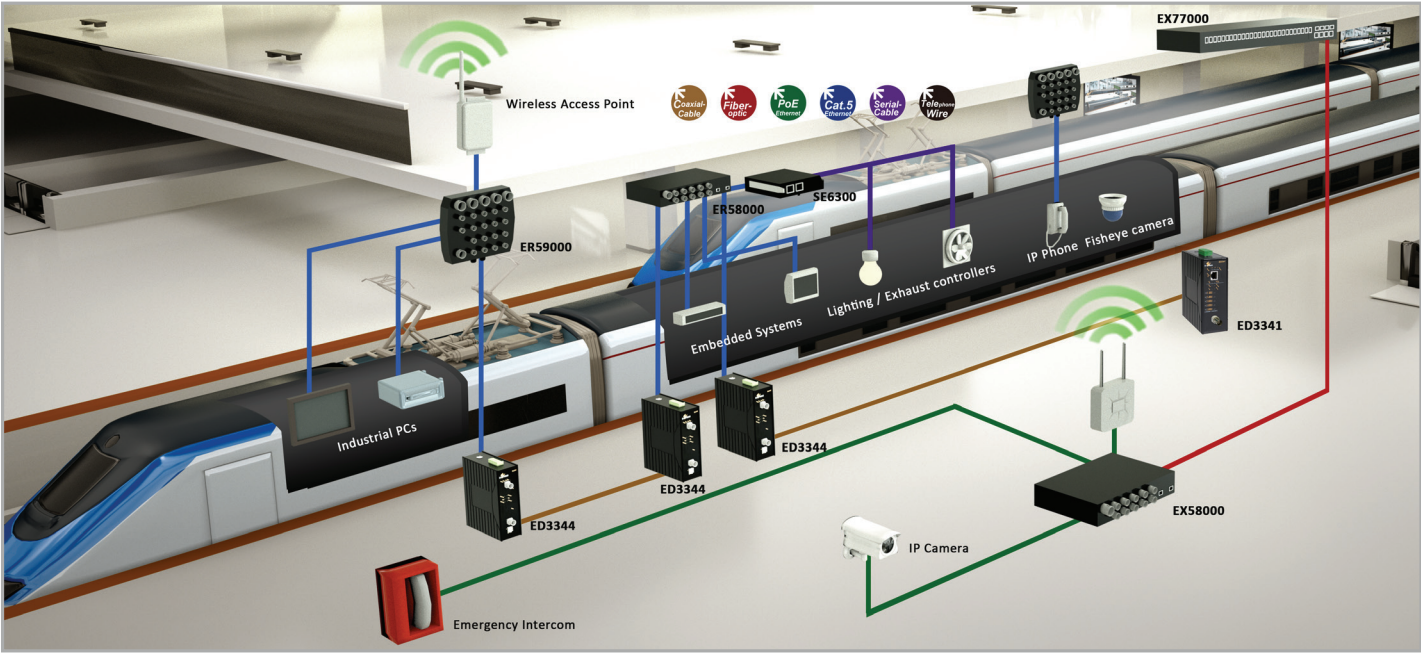
### EN50121-4

### EN50155

# Dimensions



# Application Diagram



# Ordering Information

## Model

ED3341-00B	Managed Hardened 10/100BASE-TX Ethernet Extender Over Coaxial Cable
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## Optional Accessories

KP-AA96-480	Panel mounting kit
MDR-40-48	40W/0.83A DIN-Rail 48VDC Industrial Power Supply (for Terminal Block)
DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-60-24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
41-136046-X	36W/3A 12VDC hardened power adapter with open wire in aluminum housing (for Terminal Block) (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA
41-136044-X	36W/3A 12VDC hardened power adapter with latched DC jack in aluminum housing (for DC Jack) (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA

# ED3344 Series

Hardened 10/100/BASE-TX M12 Ethernet Extender over Coaxial Cable



## Overview

The ED3344 Series Ethernet Extender enables the extension of Ethernet connectivity over existing coaxial cable allowing legacy infrastructure to be leveraged for IP networks and extending the Ethernet distance limitations of 100 meters.

Upgrading an existing legacy control or surveillance system to a new IP-based system is a complicated task, especially when existing cable infrastructure is old coaxial cable. EtherWAN's ED3344 Series provides Ethernet connection and extension over these existing coaxial cables minimizing the expense of pulling new cable infrastructure.

The ED3344 Series is built with hardened specifications, providing wide temperature operation range from -40°C to 75°C to overcome severe outdoor environments. Featured with a M12 Ethernet connector, The ED3344 provides high mechanical strength and suitable for railway applications. Incorporating VDSL technology, the ED3344's BNC extender ports provide long distance transmission with 75Mbps rate at 200 meters, or 1Mbps at 2600 meters; 10 speed LED indicators in the front panel provide easy lookup for the connection speed

## Spotlight

### • UL508 Certification

- Specific design for industrial communication applications with UL508 safety certification

### • EN50121-4 and EN50155 Certification

- Specific design for railway environment application

### • Wide Operating Temperature

- -40°C to 75°C wide operating temperature range design is suitable for installation in outdoor cabinet

### • M12 Ethernet Connector

- M12 Ethernet port provides strong mechanical strength

# Hardware Specifications

## Technology

### Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3x full duplex and flow control

### Processing Type

- Half-duplex back-pressure and IEEE802.3x Full-duplex flow control
- Auto Negotiation
- Auto-MDI/MDIX

## Power

### Input Voltage

- 12 to 48VDC (Terminal Block and Latched DC Jack)

### Power Consumption

- 7.2W Max. 0.6A @ 12VDC, 0.15A @ 48VDC

### Protection

- Over 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

- Port: One M12, 4Pin, D-type port
- Speed: 10/100Mbps
- Distance: 100meters (328ft.)
- Cable: 10BASE-T: UTP CAT. 3, 4, 5 (2-pair wire)  
100BASE-TX: UTP CAT. 5 (4-pair wire)

### Ethernet Extender Port

- One 50Ω BNC Port (with F-type connector)
- Speed: 1/5/10/20/30/40/50/60/70/75Mbps
- Distance: 2600 meters (8,530ft.)
- Cable: Coaxial Cable (5C2V/RG6AU)

### DIP-Switch

- One DIP Switch: Local (CO) or Remote (CPE)

### Console Port

- Port: One DB9 RS-232 port

### LED Indicators

- Per Unit: Power
- Per 10/100TX Port: Link/Activity, Full-duplex
- Line: Error, Link, Local, Remote

## Speed / Distance Reference

Speed	Distance
1-5Mbps	2,600M(8,530ft.)
6-10Mbps	2,400M(7,874ft.)
11-16Mbps	2,000M(6,561ft.)
17-20Mbps	1,800M(5,905ft.)
21-29Mbps	1,600M(5,249ft.)
30-43Mbps	1,400M(4,593ft.)
44-54Mbps	1,200M(3,937ft.)
55-63Mbps	1,000M(3,280ft.)
64-74Mbps	600M(1,968ft.)
75-85Mbps	200M(656ft.)

- Note: All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet

## 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

### UL508

## EMI

### FCC Part 15B, Class A

### VCCI, Class A

### EN61000-6-4, EN55022, EN61000-3-2 and EN61000-3-3

## EMS

### EM50121-3-2

- 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

### EN61373 (Vibration and Shock)

### IEC60068-2-6 Fc (Vibration Resistance)

### IEC60068-2-27 Ea (Shock)

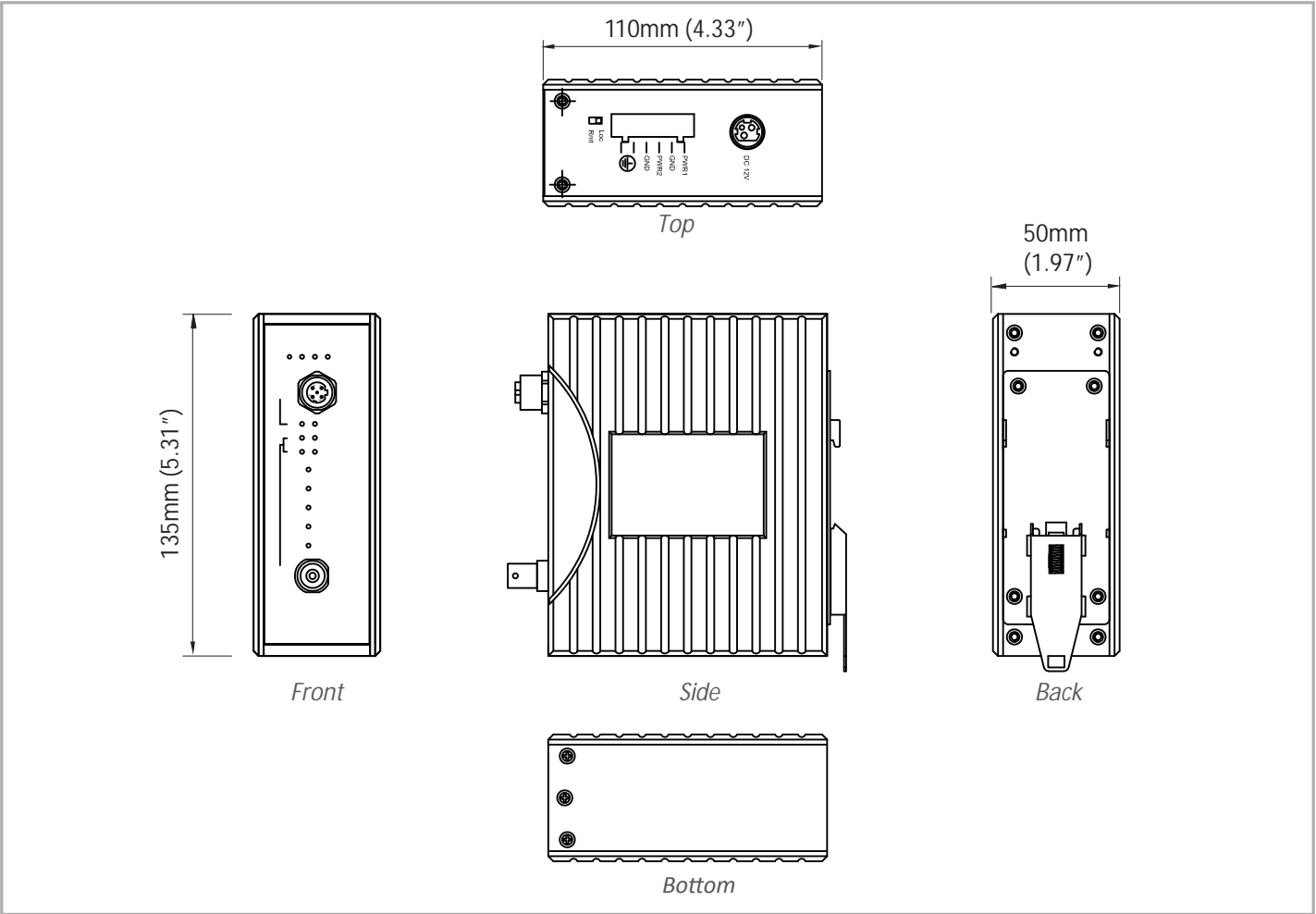
### FED STD 101C Method 5007.1 (Free fall w/ package)

## Industrial Compliance

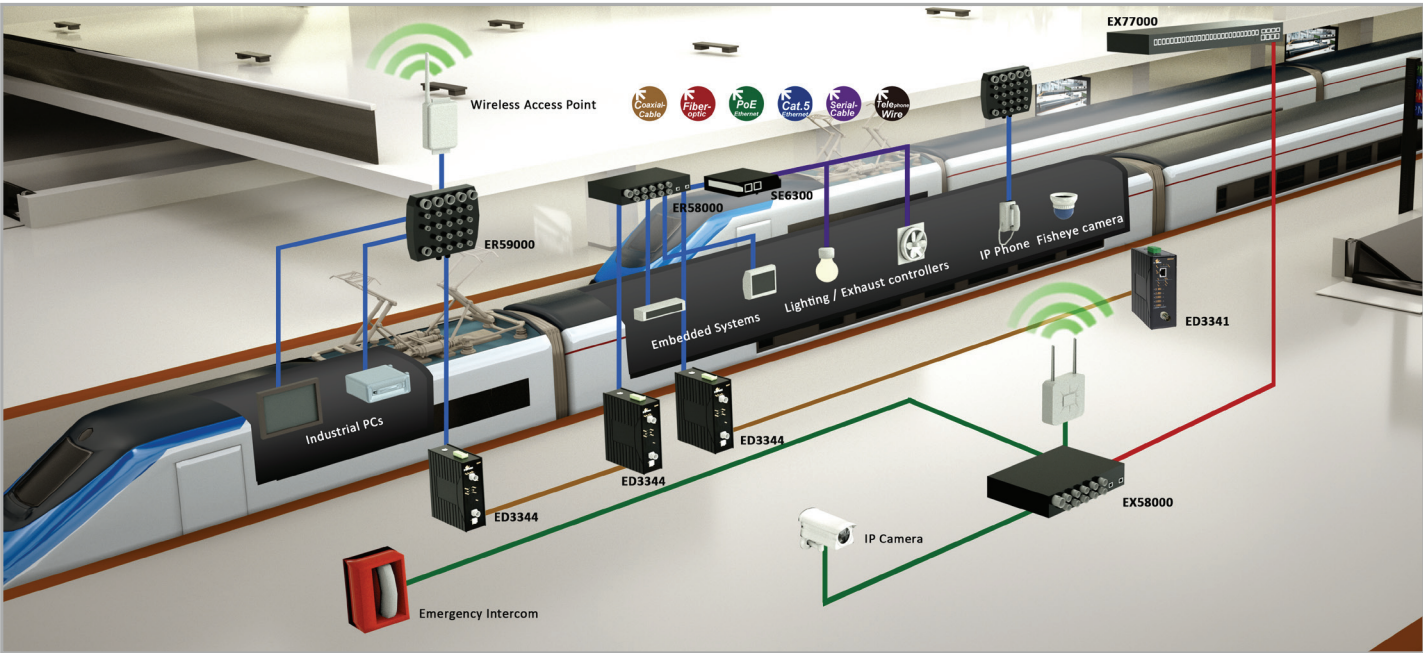
### EN50155 and EN50121-4



# Dimensions



# Application Diagram



# Ordering Information

## Model

ED3344-00B	Hardened 10/100Base-TX M12 Ethernet Extender over Coaxial Cable
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## Optional Accessories

KP-AA96-480	Panel mounting kit
MDR-40-48	40W/0.83A DIN-Rail 48VDC Industrial Power Supply (for Terminal Block)
DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-60-24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
DR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply (for Terminal Block)
41-136046-X	36W/3A 12VDC hardened power adapter with open wire in aluminum housing (for Terminal Block) (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA
41-136044-X	36W/3A 12VDC hardened power adapter with latched DC jack in aluminum housing (for DC Jack) (X)=1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA



# ED3331 Series

Industrial 10/100BASE-TX Ethernet Extender over Coaxial Cable



## Overview

The ED3331 Series Ethernet Extender enables the extension of Ethernet connectivity over existing coaxial cable allowing legacy infrastructure to be leveraged for IP networks and extending the Ethernet distance limitations of 100-meters.

Upgrading an existing legacy control or surveillance system to a new IP-based system is a complicated task, especially when existing cable infrastructure is old coaxial cable. EtherWAN's ED3331 Series provides Ethernet connection and extension over these existing copper wire cables minimizing the expense of pulling new cable infrastructure.

The ED3331 Series is built with industrial grade specifications, providing wide temperature operation range from -10°C to 60°C to overcome industrial environments. Incorporating VDSL technology, the ED3331's BNC extender ports provide long distance transmission with 75Mbps rate at 200 meters, or 1Mbps at 2600 meters; 5 speed LED Indicators in the front panel provide easy lookup for the connection speed.

## Spotlight

### • UL508 Certification

- Specific design for industrial communication applications with UL508 safety certification

### • Transmission Speed LED Indication

- Supports ten speed LED Indicators

### • Industrial Operating Temperature Range

- From -10°C to 60°C, wide operating temperature is suitable for outdoor cabinet installation

### • Optional Chassis System

- Supports wall mounting or EtherWAN's EMC1600 chassis system for easy group installation with power redundancy

# Hardware Specifications

## Technology

### Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3x full duplex and flow control

### Processing Type

- Half-duplex back-pressure and IEEE802.3x Full-duplex flow control
- Auto Negotiation
- Auto-MDI/MDIX

## Power

### Input Voltage

- 12VDC

### Power Consumption

- 5.76W Max. 0.48A @ 12VDC

### Protection

- Over current protection
- Reverse polarity protection

## Mechanical

### Casing

- Aluminum case

### Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)  
(3.16" (W) x 4.30" (D) x 0.94" (H))

### Weight

- 150g (0.33lb.)

### Installation

- DIN-Rail (Top hat type 35mm) mounting
- Wall mounting
- Install with EMC1600 Chassis

## Interface

### Ethernet Port

- Port: One RJ-45 port
- Speed: 10/100Mbps
- Distance: 100meters (328ft.)
- Cable: 10BASE-T: UTP CAT. 3, 4, 5 (2-pair wire)  
100BASE-TX: UTP CAT. 5 (4-pair wire)

### Ethernet Extender Port

- One 75Ω BNC Port (with F-type connector)
- Speed: 1/5/10/20/30/40/50/60/70/75Mbps
- Distance: 2600 meters (8,530ft.)
- Cable: Coaxial Cable (5C2V/RG6AU)

### DIP-Switch

- One DIP Switch: Local (CO) or Remote (CPE)

### Console Port

- Port: One DB9 RS-232 port

### LED Indicators

- Per Unit: Power
- Per 10/100TX Port: Link/Activity, Full-duplex
- Line: Error, Link, Local, Remote

## Speed / Distance Reference

Speed	Distance
1-5Mbps	2,600M(8,530ft.)
6-10Mbps	2,400M(7,874ft.)
11-16Mbps	2,000M(6,561ft.)
17-20Mbps	1,800M(5,905ft.)
21-29Mbps	1,600M(5,249ft.)
30-43Mbps	1,400M(4,593ft.)
44-54Mbps	1,200M(3,937ft.)
55-63Mbps	1,000M(3,280ft.)
64-74Mbps	600M(1,968ft.)
75-85Mbps	200M(656ft.)

- Note: All speed selections are Symmetrical on the DSL and Full-duplex on the Ethernet

## Environment

### Operating Temperature

- -10°C to 60°C (14°F to 140°F)

### Storage Temperature

- -20°C to 70°C (-4°F to 158°F)

### Ambient Relative Humidity

- 5% to 95% (non-condensing)

## Regulatory Approvals

### ISO

- Manufactured in an ISO9001 facility

## Safety

### UL508

## EMI

### FCC Part 15B, Class A

### VCCI, Class A

### EN61000-6-3

### EN55022

### 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)

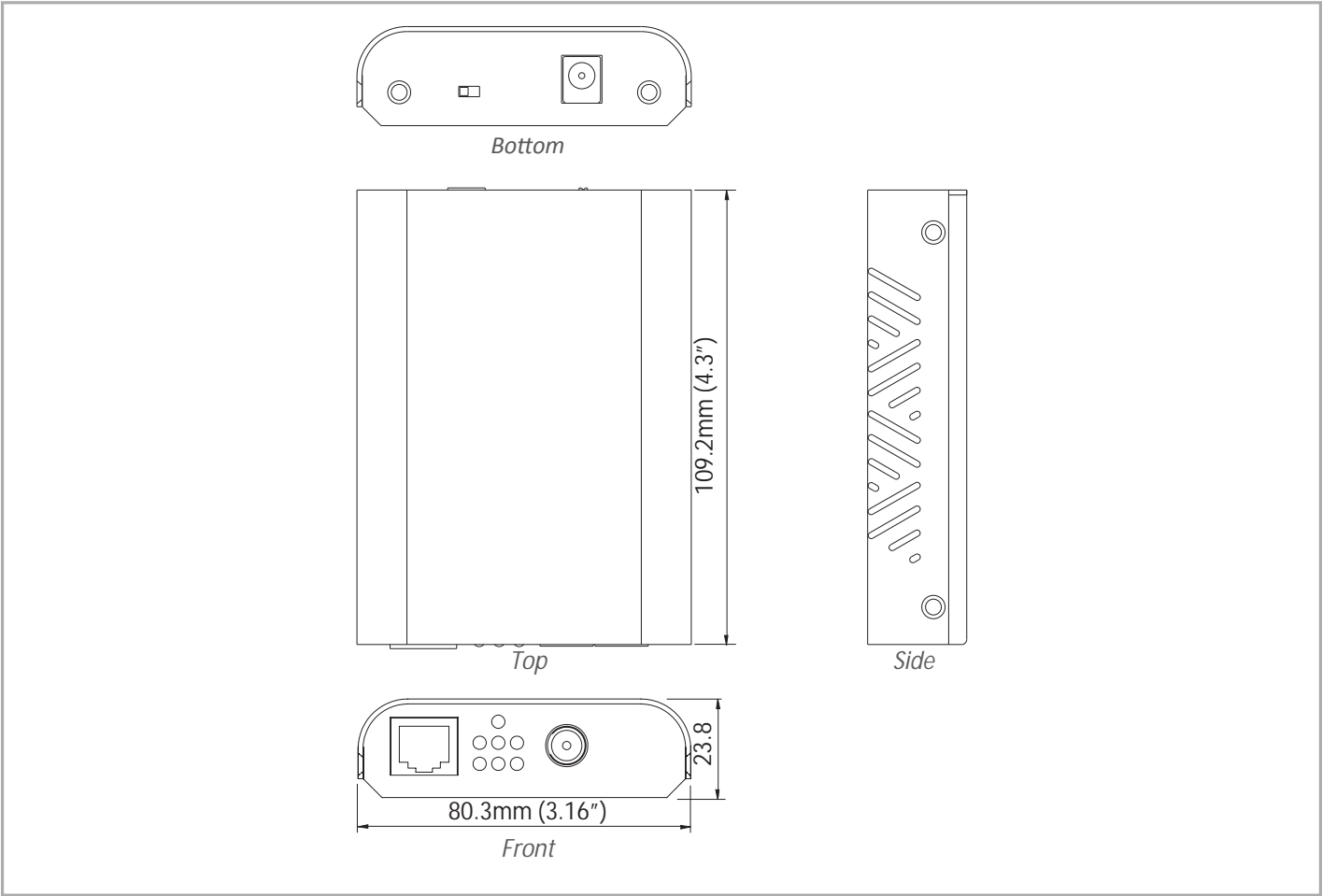
## Environmental Test Compliance

### IEC60068-2-6 Fc (Vibration Resistance)

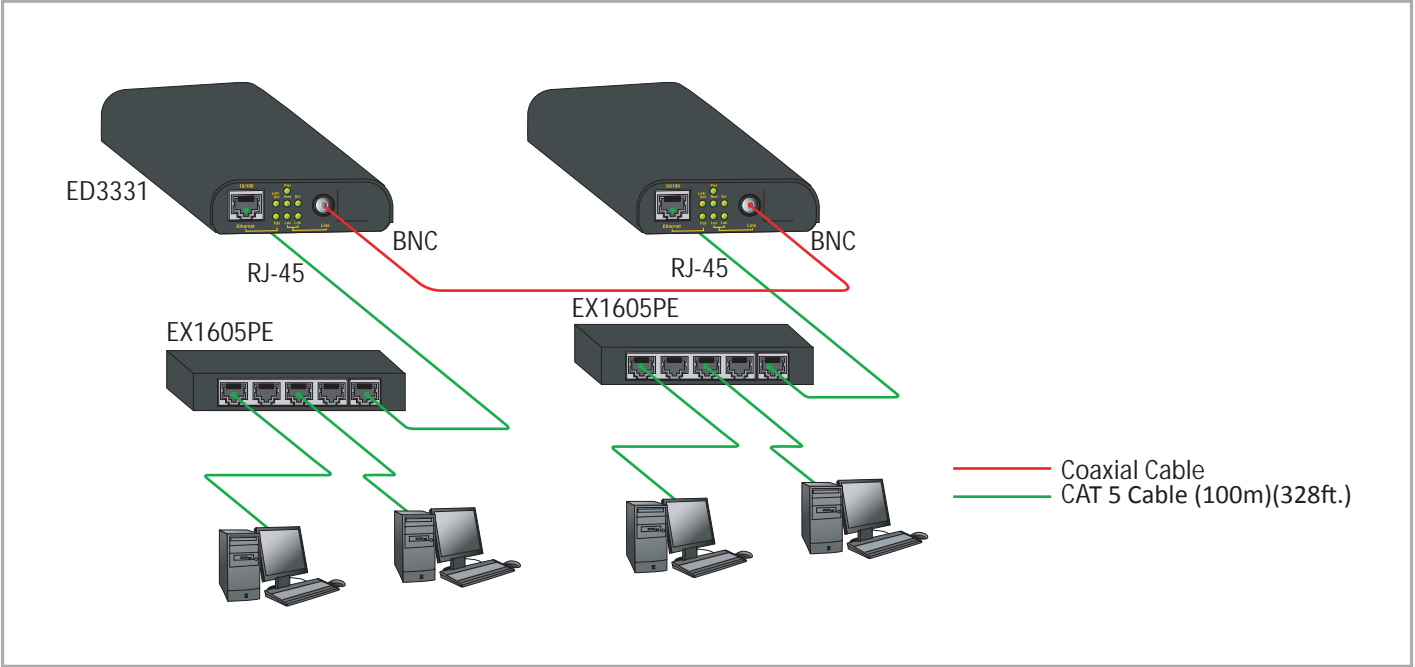
### IEC60068-2-27 Ea (Shock)

### FED STD 101C Method 5007.1 (Free fall w/ package)

# Dimensions



# Application Diagram



# Ordering Information

## Model

ED3331-00Z	Industrial 10/100BASE-TX Ethernet Extender over Coaxial Cable
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## External Power Adaptor Options (Z)

A	with external power adapter for AU
E	with external power adapter for EU
J	with external power adapter for JP
K	with external power adapter for UK
U	with external power adapter for USA
3C	with external power adapter for China