

Media Converters

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— *From Climate Controlled Rooms to Harsh Environments,
We Have You Covered.*



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Media Converter Glossary

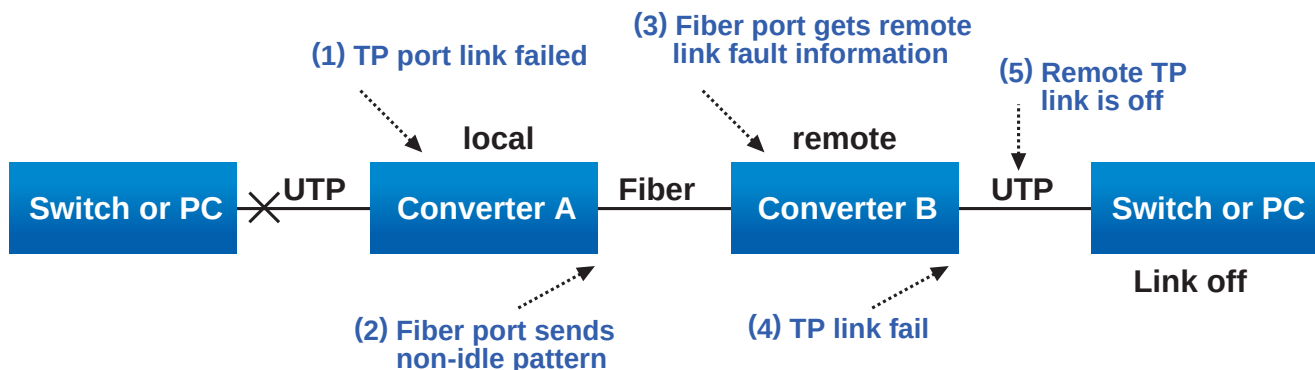
Far End Fault

The optional link integrity check on the 100BASE-FX fiber optic segments is called the Far End Fault function. In operation, Far End Fault detection occurs when a constant stream of IDLE symbols is no longer detected on a 100BASE-FX link. At this point, any device that detects the failure of the IDLE symbols on the receive side of the link will transmit a constant stream of Far End Fault signals. A device equipped with Far End Fault capability will interpret the incoming Far End Fault signals as a link failure and will be able to signal that failure to the management interface in the device.

The Far End Fault detection feature is useful, since fiber links can be very long. A system that can detect a link that is working in one direction but not the other can save valuable time when troubleshooting links.

Link Fault Pass Through

When the link fault pass through function is enabled, the link status on the TX port will inform the FX port of the same device and vice versa. In the link fault pass through explanation shown below, if the link failure occurs on the TX port (1), the local FX port will send a non-idle pattern to notify the remote FX port (2). The remote FX port then forces its TX port to show a link failure, after receiving the non-idle pattern (4). This mechanism will alert the link fault status of the local TX port to the remote converter's TX port, and the link status of the remote TX port will show a fault. The link status LED will also shut off for both ports.



OAM

Operations, administration and management, or operations, administration and maintenance (OA&M or OAM) is a general term used to describe a set of functions to detect the network faults and measure the network performance. They can be processes, activities, tools and standards involved with operating, administering, managing and maintaining a system. It is more commonly used in the context of computer networks or computer hardware.

In particular, Ethernet operations, administration and maintenance (EOAM) refers to protocols for installing, monitoring, and troubleshooting Ethernet metropolitan area networks (MANs) and Ethernet WANs. It relies on a new, optional sub layer in the data link layer of the Open Systems Interconnection (OSI) model. The OAM features covered by this protocol are discovery, link monitoring, remote fault detection, and remote loopback.

Media Converter Connection Guide



ISA 12.12.01



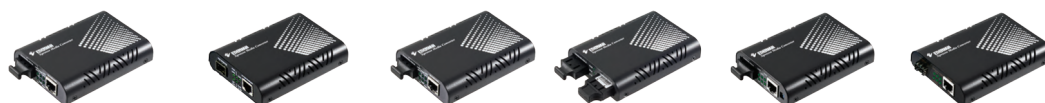
2015 Q4

PoE



Gigabit >>					
Model Name	EL9100	EL9000	EL9020	EL2242 ^{NEW}	EL2321
Interface					
Max. 100 BASE-T	-	-	-	-	-
Max. 10/100 BASE-TX	-	-	-	-	-
Max. 1000 BASE-T	-	1	-	-	-
Max. 10/100/1000 BASE-T	1	-	1	1	1
Max. 100 BASE-FX/BX WDM	-	-	-	-	1
Max. 100 BASE-SFP	-	-	-	-	-
Max. 1000 BASE-SX/LX/BX	1	1	-	1	1
Max. 1000 BASE-SFP	-	-	1	1	-
Max. PoE Ports	-	-	-	1	-
Web Management	-	-	-	-	✓
Alarm Contact	✓	✓	✓	✓	-
Mode of Operations					
Auto-negotiation, Auto-MDI/MDI-X	✓	✓	✓	✓	✓
Flow Control	✓	-	✓	✓	✓
Store & Forward	✓	-	✓	✓	✓
Link Fault Pass Through	✓	✓	✓	✓	✓
Mechanical					
Casing	aluminum	aluminum	aluminum	aluminum	aluminum
Installation*	D, P, R	D, P, R	D, P, R	D	C, W
Dimensions (mm) (W x D x H)	50 x 110 x 135	50 x 110 x 135	50 x 110 x 135	42 x 90 x 100	80.3 x 109.2 x 23.8
Power Input					
No. of Power Inputs	3	2/1	3	2	1
Terminal Block	12 - 48VDC	12 - 48VDC	12 - 48VDC	48 - 57VDC	-
DC Jack	12VDC	12VDC	12VDC	-	12VDC
AC to DC Adapter	-	-	-	-	✓
Operating Temperature					
0°C to 50°C	-	-	-	-	✓
-10°C to 60°C	-	-	-	-	-
-40°C to 75°C	✓	✓	✓	✓	-
Regulatory Approvals					
CE / FCC	✓	✓	✓	✓	✓
VCCI	✓	✓	✓	✓	✓
UL508	✓	-	✓	-	-
ISA12.12.01 / UL1604	-	✓	-	-	-
EN50121-4	-	-	-	-	-
UL/cUL 60950-1	-	✓	-	✓	-

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



Gigabit >>						
Model Name	EL2211	EL2315	EM1100 EM2100	EM1000S EM2000S	EM1000 EM2000	EM1020
Interface						
Max. 100 BASE-T	-	-	-	-	-	-
Max. 10/100 BASE-TX	-	-	-	-	-	-
Max. 1000 BASE-T	-	-	-	-	1	1
Max. 10/100/1000 BASE-T	1	1	1	-	-	-
Max. 100 BASE-FX/BX WDM	-	-	-	-	-	-
Max. 100 BASE-SFP	-	1	-	-	-	-
Max. 1000 BASE-SX/LX/BX	1	-	1	2	1	-
Max. 1000 BASE-SFP	-	1	-	-	-	1
Max. PoE Ports	-	-	-	-	-	-
Web Management	-	-	-	-	-	-
Alarm Contact	-	-	-	-	-	-
Mode of Operations						
Auto-negotiation, Auto-MDI/MDI-X	√	√	√	-	√	√
Flow Control	√	√	√	-	-	-
Store & Forward	√	√	√	-	-	-
Link Fault Pass Through	√	√	-	-	√	√
Mechanical						
Casing	aluminum	aluminum	aluminum	aluminum	aluminum	aluminum
Installation*	C, W	C, W	C, W	C, W	C, W	C, W
Dimensions (mm) (W x D x H)	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8
Power Input						
No. of Power Inputs	1	1	1	1	1	1
Terminal Block	-	-	-	-	-	-
DC Jack	12VDC	12VDC	12VDC	12VDC	12VDC	12VDC
AC to DC Adapter	√	√	√	√	√	√
Operating Temperature						
0°C to 45°C	√	√	√	√	√	√
-10°C to 60°C	-	-	-	-	-	-
-40°C to 75°C	-	-	-	-	-	-
Regulatory Approvals						
CE / FCC	√	√	√	√	√	√
VCCI	√	√	√	√	√	√
UL508	-	-	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-	-	-
EN50121-4	-	-	-	-	-	-
UL/cUL 60950-1	-	-	-	-	-	-

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



ISA 12.12.01



Fast Ethernet >>

Model Name	EL900	EL950 NEW
Interface		
Max. 100 BASE-T	-	-
Max. 10/100 BASE-TX	1	1
Max. 1000 BASE-T	-	-
Max. 10/100/1000 BASE-T	-	-
Max. 100 BASE-FX/BX WDM	1	1
Max. 100 BASE-SFP	-	-
Max. 1000 BASE-SX/LX/BX	-	-
Max. 1000 BASE-SFP	-	-
Max. PoE Ports	-	-
Web Management	-	✓
Alarm Contact	✓	✓
Mode of Operations		
Auto-negotiation, Auto-MDI/MDI-X	✓	✓
Flow Control	✓	✓
Store & Forward	✓	✓
Link Fault Pass Through	✓	✓
Mechanical		
Casing	aluminum	aluminum
Installation*	D, P, R	D
Dimensions (mm) (W x D x H)	50 x 110 x 135	42 x 90 x 100
Power Input		
No. of Power Inputs	2 / 1	3
Terminal Block	10 - 48VDC	12 - 48VDC
DC Jack	12VDC	12VDC
AC to DC Adapter	-	-
Operating Temperature		
0°C to 45°C	-	-
-10°C to 60°C	-	-
-40°C to 75°C	✓	✓
Regulatory Approvals		
CE / FCC	✓	✓
VCCI	✓	✓
UL508	-	-
ISA12.12.01 / UL1604	✓	-
IEC61850-3	-	-
EN50121-4	-	-
UL/cUL 60950-1	✓	✓

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



Fast Ethernet >>

Model Name	EL1032T	EL1141	EX42011
Interface			
Max. 100 BASE-T	-	-	-
Max. 10/100 BASE-TX	1	1	1
Max. 1000 BASE-T	-	-	-
Max. 10/100/1000 BASE-T	-	-	-
Max. 100 BASE-FX/BX WDM	1	1	1
Max. 100 BASE-SFP	-	-	-
Max. 1000 BASE-SX/LX/BX	-	-	-
Max. 1000 BASE-SFP	-	-	-
Max. PoE Ports	PSE (30W)	-	-
Web Management	-	-	-
Alarm Contact	-	✓	-
Mode of Operations			
Auto-negotiation, Auto-MDI/MDI-X	✓	✓	✓
Flow Control	✓	✓	✓
Store & Forward	✓	✓	✓
Link Fault Pass Through	✓	✓	-
Mechanical			
Casing	aluminum	aluminum	plastic
Installation*	D, P	D, P, R	D
Dimensions (mm) (W x D x H)	70 x 110 x 30	50 x 110 x 135	26 x 110 x 70
Power Input			
No. of Power Inputs	2	3	1
Terminal Block	48 - 57VDC	12 - 48VDC	12 - 48VDC
DC Jack	48VDC	12VDC	12VDC
AC to DC Adapter	-	-	-
Operating Temperature			
0°C to 45°C	-	-	-
-10°C to 60°C	✓	-	✓
-40°C to 75°C	-	✓	-
Regulatory Approvals			
CE / FCC	✓	✓	✓
VCCI	✓	✓	✓
UL508	-	✓	-
ISA12.12.01 / UL1604	-	-	-
IEC61850-3	-	✓	-
EN50121-4	-	✓	-
UL/cUL 60950-1	-	-	✓

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



Fast Ethernet >>

Model Name	EL200	EL100	EM120	EL50	EL50 (AC)
Interface					
Max. 100 BASE-T	1	1	-	-	-
Max. 10/100 BASE-TX	1	1	-	1	1
Max. 1000 BASE-T	-	-	-	-	-
Max. 10/100/1000 BASE-T	-	-	-	-	-
Max. 100 BASE-FX/BX WDM	1	1	2	1	1
Max. 100 BASE-SFP	-	-	-	-	-
Max. 1000 BASE-SX/LX/BX	-	-	-	-	-
Max. 1000 BASE-SFP	-	-	-	-	-
Max. PoE Ports	-	-	-	-	-
Web Management	-	-	-	-	-
Alarm Contact	-	-	-	-	-
Mode of Operations					
Auto-negotiation, Auto-MDI/MDI-X	√	√	-	√	√
Flow Control	√	√	-	√	√
Store & Forward	√	√	-	√	√
Link Fault Pass Through	√	√	-	-	-
Mechanical					
Casing	aluminum	aluminum	aluminum	metal	metal
Installation*	C, W	C, W	C, W	W	W
Dimensions (mm) (W x D x H)	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	80.3 x 109.2 x 23.8	54.2 x 80.3 x 21.9	54.2 x 80.3 x 21.9
Power Input					
No. of Power Inputs	1	1	1	1	1
Terminal Block	-	-	-	-	24VAC
DC Jack	12VDC	12VDC	12VDC	12VDC	-
AC to DC Adapter	√	√	√	√	-
Operating Temperature					
0°C to 45°C	√	√	√	√	√
-10°C to 60°C	-	-	-	-	-
-40°C to 75°C	-	-	-	-	-
Regulatory Approvals					
CE / FCC	√	√	√	√	√
VCCI	√	√	√	√	√
UL508	-	-	-	-	-
ISA12.12.01 / UL1604	-	-	-	-	-
EN50121-4	-	-	-	-	-
UL/cUL 60950-1	√	√	-	-	-

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



Multiple Channel >>			
Model Name	EMC1600	EMC400 ^{NEW}	EMC1200R
Interface			
Max. 100 BASE-T	16	4	12
Max. 10/100 BASE-TX	16	4	12
Max. 1000 BASE-T	16	4	12
Max. 10/100/1000 BASE-T	16	4	12
Max. 100 BASE-FX/BX WDM	32	8	24
Max. 100 BASE-SFP	16	4	12
Max. 1000 BASE-SX/LX/BX	32	8	24
Max. 1000 BASE-SFP	16	4	12
Max. PoE Ports	-	-	-
Web Management	-	-	-
Alarm Contact	-	-	-
Mode of Operations			
Auto-negotiation, Auto-MDI/MDI-X	√	√	√
Flow Control	√	√	√
Store & Forward	√	√	√
Link Fault Pass Through	√	√	√
Mechanical			
Casing	metal	metal	metal
Installation*	R	D	R
Dimensions (mm) (W x D x H)	440 x 276 x 90	130 x 164 x 92	440 x 243 x 45
Power Input			
No. of Power Inputs	2	2	2
100 - 240VAC	√	-	√
Terminal Block	±48VDC	12VDC	±48VDC
DC Jack	-	-	-
AC to DC Adapter	-	-	-
Operating Temperature			
0°C to 45°C	√	√	√
-10°C to 60°C	-	-	-
-40°C to 75°C	-	-	-
Regulatory Approvals			
CE / FCC	√	√	√
VCCI	√	√	-
UL508	-	-	-
ISA12.12.01 / UL1604	-	-	-
EN50121-4	-	-	-
UL/cUL 60950-1	√	-	-

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

EL9100 Series

Hardened 10/100/1000BASE-TX to 1000BASE-SX/LX/BX
Media Converter



Overview

The EL9100 Series provides media conversion between 10/100/1000BASE-T(X) and 1000BASE-SX-LX Fiber. Built specifically for mission-critical applications in harsh environments, the EL9100's hardened design features high shock & vibration resistance, electrical noise immunity, wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options, the EL9100 is the ideal media converter for environments where connectivity is crucial.

Spotlight

• Gigabit Connectivity

- Auto 10/100/1000BASE-TX and 1000BASE-SX/LX/BX Ethernet transmission conversion
- 1000Mbps Full duplex, 10/100Mbps Full/Half duplex
- Full wire-speed forwarding rate

• UL508 Certification

- Specific design for industrial communication applications with UL508 safety certification

• 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
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x full duplex and flow control

Forward and Filtering Rate

- 1,488,100pps for 1000Mbps

Processing Type

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

Power

Input Voltage

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

Power Consumption

- 7.68W Max, 0.16A @ 48VDC

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

- 10/100/1000BASE-TX: 1 port
- 1000BASE-SX/LX/BX: 1 port

LED Indicators

- Per Unit: Power1
Power2
Power3
Fault
LFPT
- Per 10/100/1000BASE-TX Port: Link/ACT
100M
1000M
Full-duplex/Collision
- Per 1000SX/LX/BX Port: Link/Act

DIP Switch

- No.1: LFPT on/off
- No.2: Alarm for copper port on/off
- No.3: Alarm for fiber port on/off
- No.4: Auto-negotiation for fiber port on/off

Alarm Contact

- Relay contact rating with current
1A @ 30VDC, 0.5A @ 120VAC

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

EMI

FCC Part 15B, Class A

EN61000-6-4

EN55022

EN61000-3-2

EN61000-3-3

Safety

UL508

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)

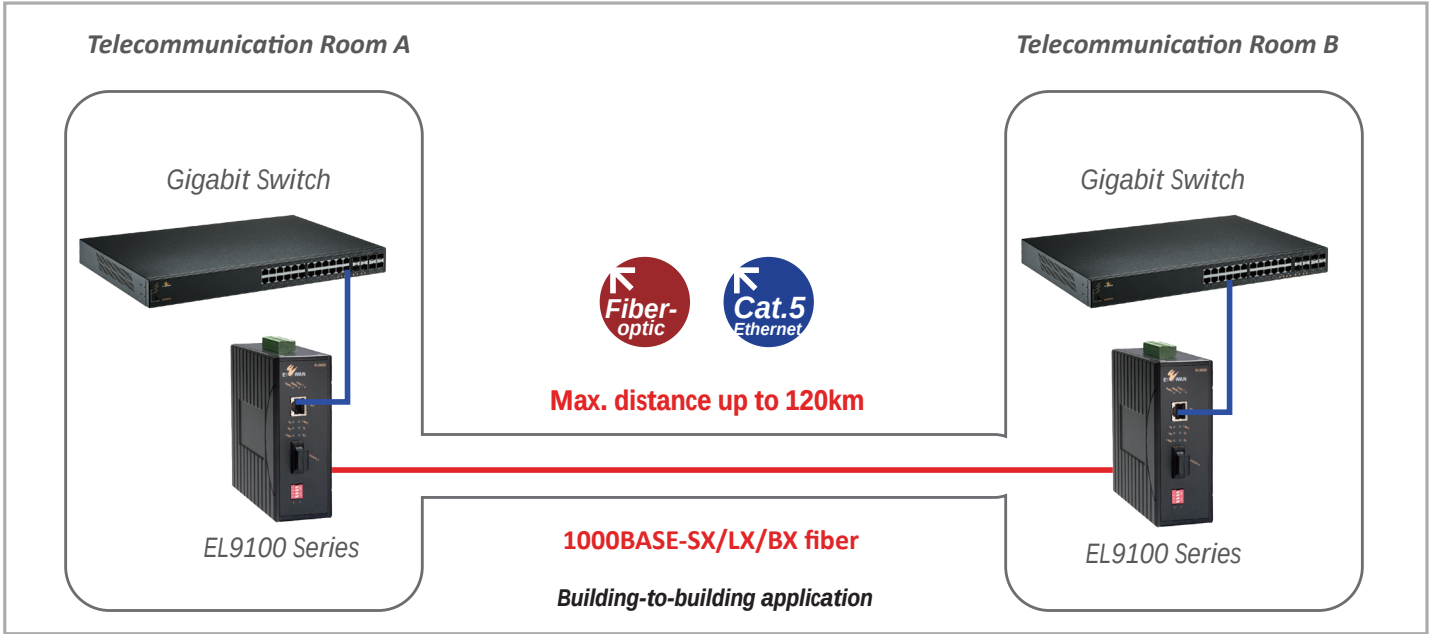
IEC60068-2-27 Ea (Shock)

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

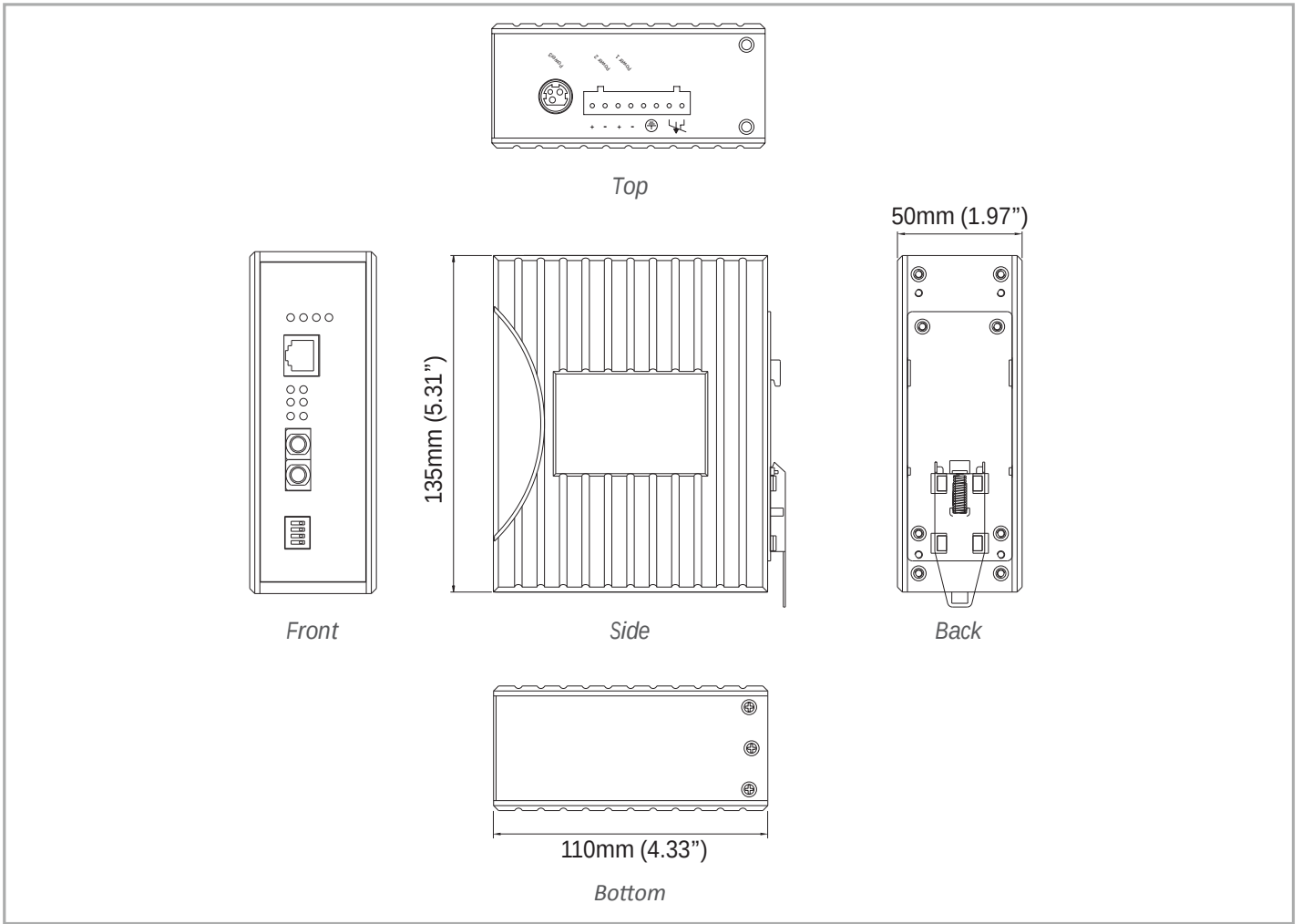
Industrial Compliance

NEMA TS1 & TS2

Application Diagram



Dimensions



Ordering Information

Model

EL9100-X1B	10/100/1000BASE-TX to 1000BASE-SX/LX/BX Hardened Media Converter
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Gigabit Port Options (X)

3	1000BASE-SX(SC) - 550m
4	1000BASE-SX (SC) - 2Km
5	1000BASE-SX (ST) - 550m
A	1000BASE-LX (SC) - 10Km
B	1000BASE-LX (SC) - 20Km
E	1000BASE-LX (SC) - 40Km (1310nm)
H	1000BASE-LX (ST) - 10Km (1310nm)
I	1000BASE-LX (ST) - 20Km (1310nm)
R	1000BASE-BX (SC) WDM-TX:1310nm/RX:1550nm - 20Km
S	1000BASE-BX (SC) WDM-TX:1550nm/RX: 1310nm - 20Km

* DIN-Rail mounting kit included

Optional Accessories

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

EL9000 Series

Hardened 1000BASE-T to 1000BASE-SX/LX/BX Media Converter



Overview

The EL9000 Series provides media conversion between 1000BASE-T(X) and 1000BASE-SX-LX Fiber. Built specifically for mission-critical applications in harsh environments, the EL9000's hardened design features high shock & vibration resistance, electrical noise immunity, wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options, the EL9000 is the ideal media converter for environments where connectivity is crucial.

Spotlight

• Gigabit Connectivity

- 1000BASE-TX and 1000BASE-SX/LX/BX Ethernet transmission conversion
- 1000Mbps Full duplex and full wire-speed forwarding rate

• ISA12.12.01 Certification

- Highly qualified for explosive environmental applications and certified by UL with ISA12.12.01 Class I, Division 2 classified for use in hazardous locations

• Wide Operating Temperature

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

Hardware Specifications

Technology

Standards

- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x full duplex and flow control

Forward and Filtering Rate

- 1,488,100pps for 1000Mbps

Processing Type

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

Power

Input Voltage

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

Power Consumption

- 9.12W Max, 0.76A @ 12VDC, 0.38A @ 24VDC, 0.19A @ 48VDC

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

- 1000BASE-T: 1 port
- 1000BASE-SX/LX: 1 port

LED Indicators

- Per Unit: Power, Power2, Fault
- Per Port: LNK, TX, RX

DIP Switch

- No.1: LFPT on/off
- No.2: Alarm for copper port on/off
- No.3: Alarm for fiber port on/off
- No.4: Auto-negotiation for fiber port on/off

Alarm Contact

- Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

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

EMI

FCC Part 15B, Class A

EN61000-6-3

EN55022

EN61000-3-2

EN61000-3-3

Safety

ISA 12.12.01 (UL1604) for Hazardous Locations

- Class 1, Division 2 group A,B,C&D

UL60950-1

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)

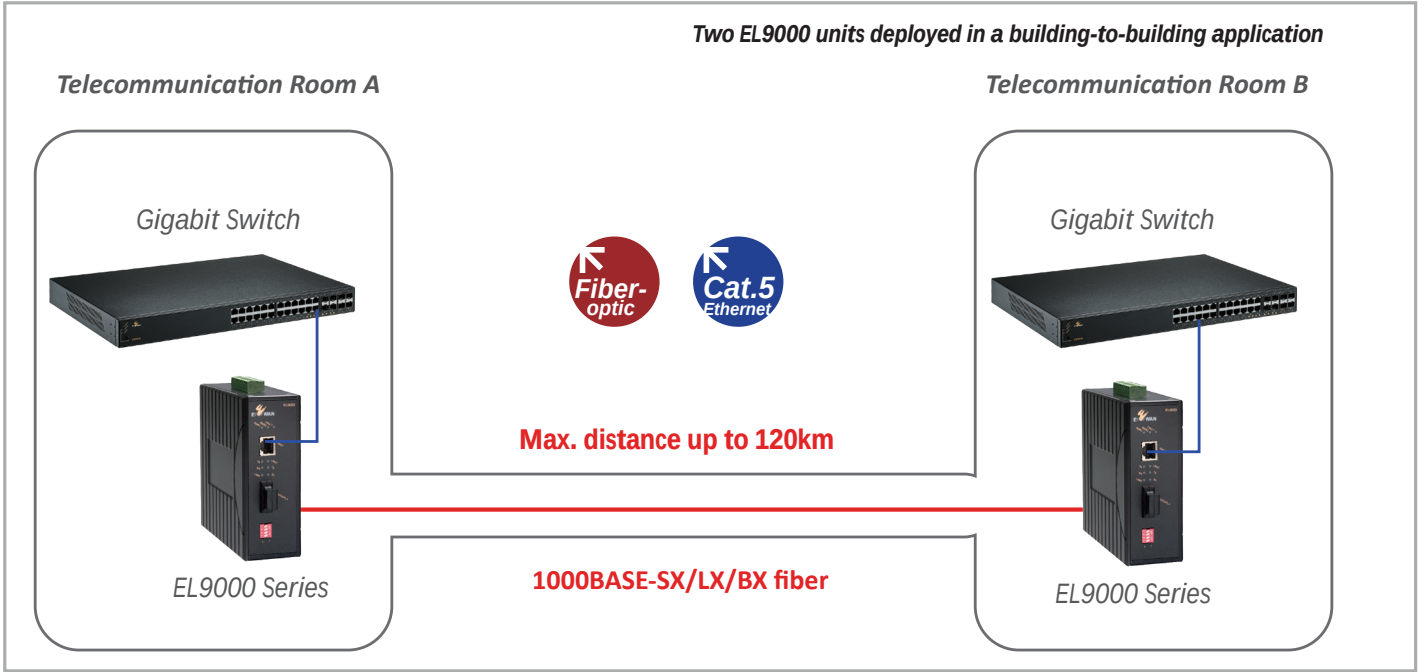
IEC60068-2-27 Ea (Shock)

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

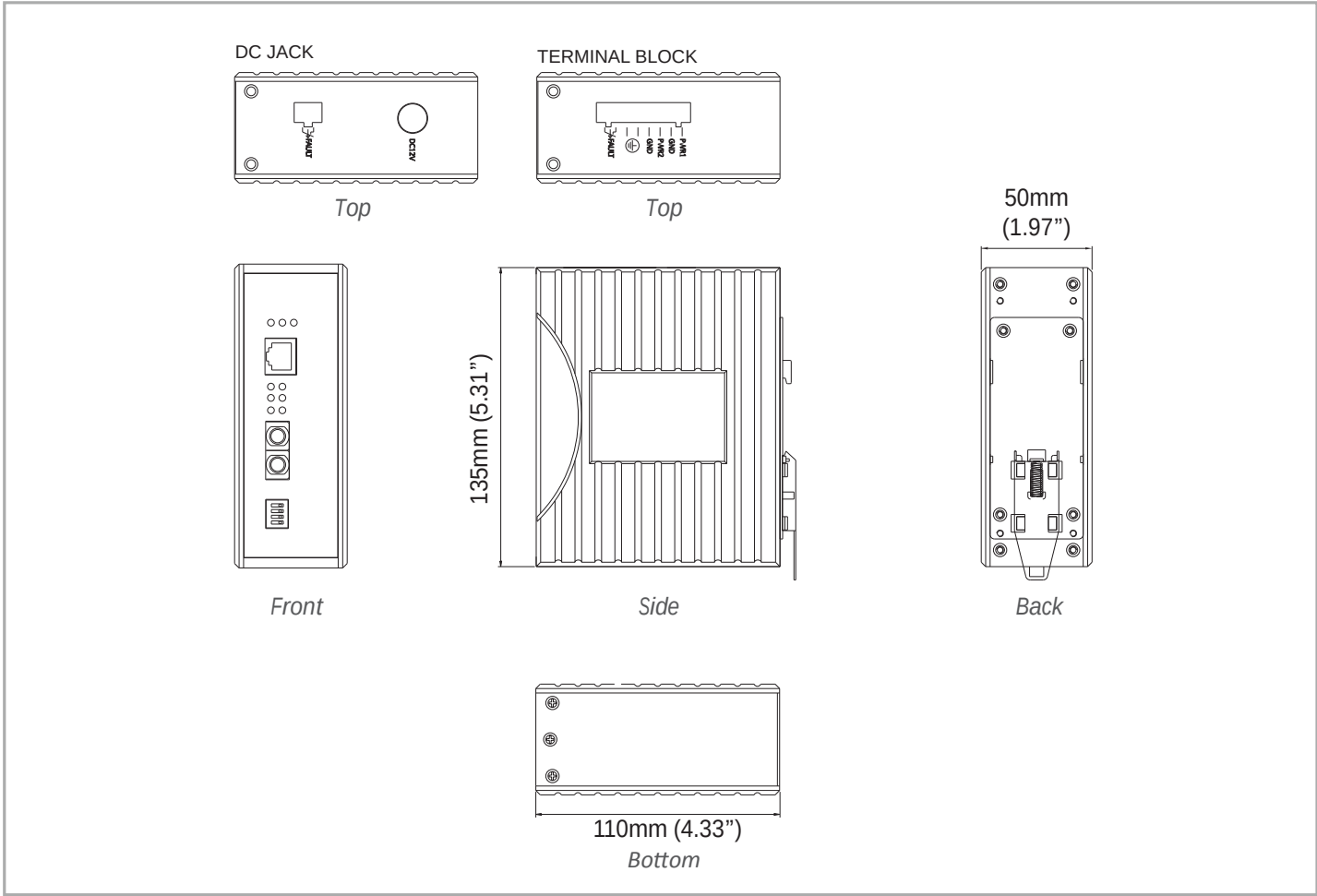
Industrial Compliance

NEMA TS2

Application Diagram



Dimensions



Ordering Information

Model

EL9000-A-Y-1-P	1000BASE-T to 1000BASE-SX/LX Hardened Media Converter
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Gigabit Fiber Options (Y)

B	1000BASE-SX (SC) - 550m (850nm)
C	1000BASE-SX (SC) - 2Km (1310nm)
N	1000BASE-LX (SC) - 10Km (1310nm)
O	1000BASE-LX (SC) - 20Km (1310nm)
R	1000BASE-BX (SC) WDM -TX:1310nm/RX:1550nm - 20Km
S	1000BASE-BX (SC) WDM -TX:1550nm/RX:1310nm - 20Km

* More Gigabit options are also available upon request

Power Connector Options (P)

A	Terminal Block
B	DC Jack

Optional Accessories

KP-AA96-480	Panel mount kit
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

EL9020 Series

Hardened 10/100/1000BASE-TX to Gigabit SFP Media Converter



Overview

The EL9020 Series provides media conversion between 10/100/1000BASE-TX and 1000BASE SFP Fiber. Built specifically for mission-critical applications in harsh environments, the EL9020's hardened design features high shock & vibration resistance, electrical noise immunity, wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options the EL9020 is the ideal media converter for environments where connectivity is crucial.

Spotlight

• Gigabit Connectivity

- Auto 10/100/1000BASE-TX and 1000BASE-SX/LX/BX Ethernet transmission conversion
- 1000Mbps Full duplex, 10/100Mbps Full/Half duplex
- SFP socket flexible for Gigabit fiber optic expansion

• UL508 Certification

- Specific design for industrial communication applications with UL508 safety certification

• 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
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 1,488,100pps for 1000Mbps

Processing Type

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

Power

Input Voltage

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

Power Consumption

- 7.68W Max, 0.16A @ 48VDC

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

- 10/100/1000BASE-TX: 1 port
- Gigabit SFP: 1 port

LED Indicators

- Per Unit: Power1
Power2
Power3
Fault
LFPT
- Per 10/100/1000TX Port : Link/Act
100M
1000M
Full-duplex/Collision
- Per Gigabit SFP Port : Link/Act

DIP Switch

- No.1: LFPT on/off
- No.2: Alarm for copper port on/off
- No.3: Alarm for fiber port on/off
- No.4: Auto-negotiation for fiber port on/off

Alarm Contact

- Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

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

EN61000-6-3

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)

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

Industrial Compliance

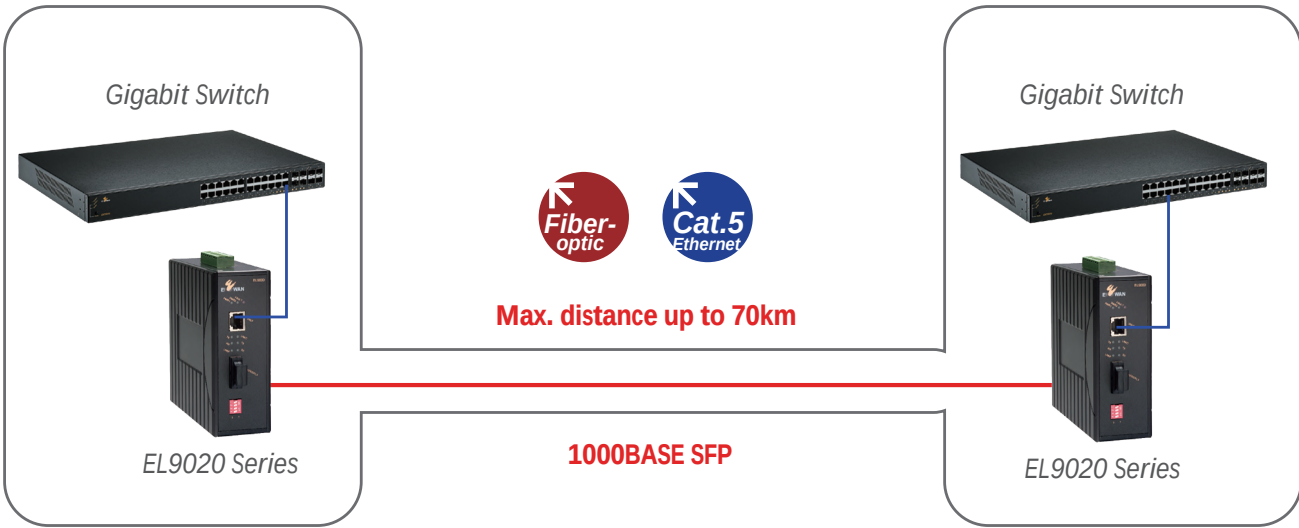
NEMA TS2

Application Diagram

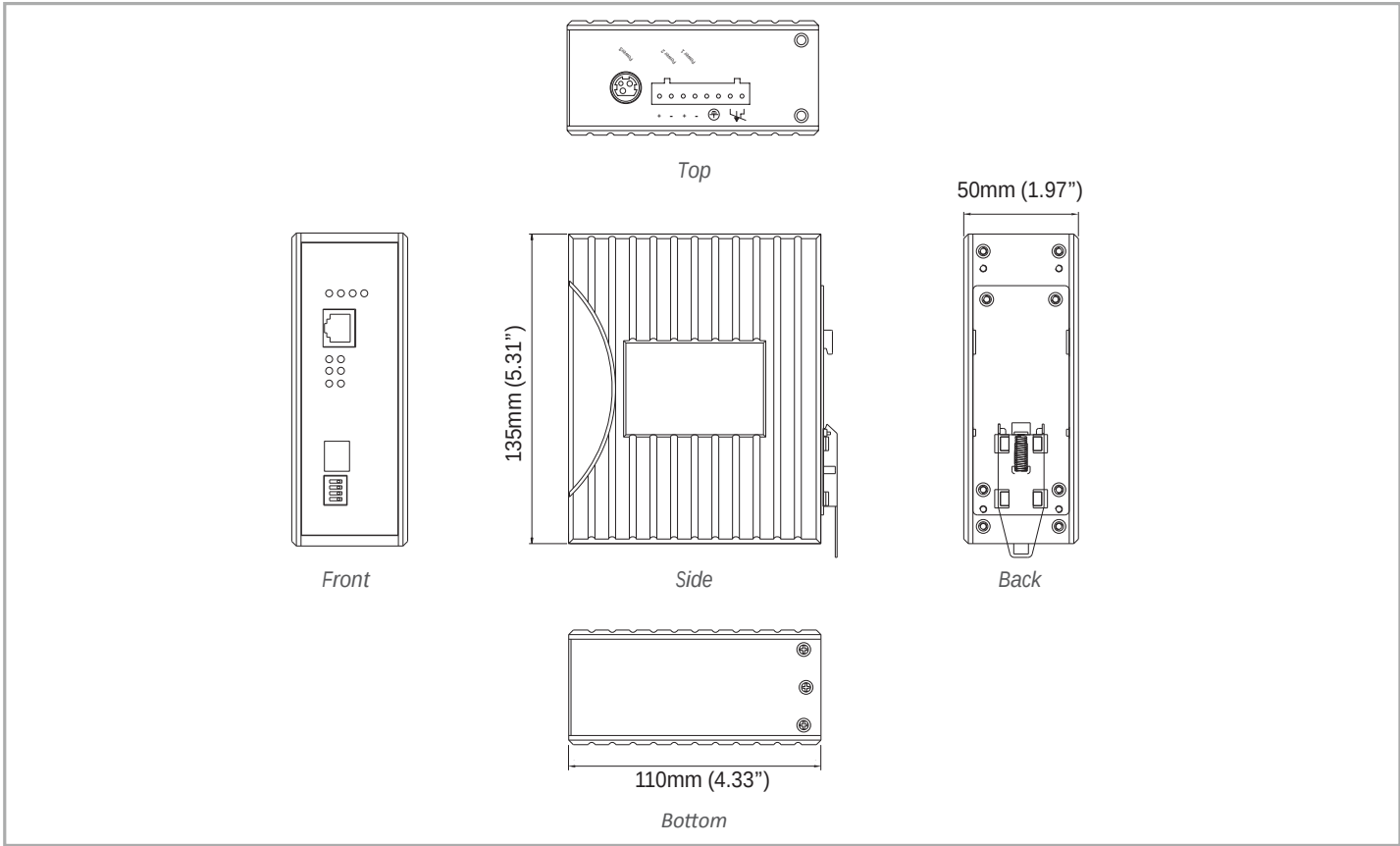
2 EL9020 units deployed in a building-to-building application

Telecommunication Room A

Telecommunication Room B



Dimensions



Ordering Information

Model

EL9020-00B	10/100/1000BASE-TX to Gigabit SFP Hardened Media Converter
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* DIN-Rail mounting kit included

Optional Accessories

KP-AA96-480	Panel mounting kit
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

Hardened SFP Gigabit Fiber Tranceivers

Part Number	Typical Distance	Wavelength (nm)	Cable Type	Conwnector
EX-1250NSP-SB1L-A	275M/550M	850	MM	Duplex LC
EX-1250TSP-MB4L-A	10KM	1310	SM	Duplex LC
EX-1250TSP-NB6L-A	40KM	1310	SM	Duplex LC
EX-1250TSP-KB8L-A	70KM	1550	SM	Duplex LC
EX-1250TBP-MB1L-A	550M	TX:1310 / RX:1550	MM WDM-A	LC
EX-1250TBP-LB1L-A	550M	TX:1550 / RX:1310	MM WDM-B	LC
EX-1250TBP-MB4L-A	10KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB4L-A	10KM	TX:1550 / RX:1310	SM WDM-B	LC
EX-1250TBP-MB5L-A	20KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB5L-A	20KM	TX:1550 / RX:1310	SM WDM-B	LC

*More SFP options also available upon request.

EL2321 Series

Managed 10/100/1000BASE-TX to 100BASE/1000BASE-X Dual Rate Media Converter



Overview

The EL2321 Series provides media conversion between 100BASE/1000BASE-SX-L-FX Fiber or 100/1000BASE-SX/LX Fiber. The EL2321's fiber design is compatible to 100BASE fiber or 1000BASE fiber transceiver.

The EL2321 managed media converter supports Telnet, SNMP v1/v2, and web browser management enabling value-added connectivity and bandwidth control. Key features include; 802.3ah OAM compliance, VLAN tagging, broadcast storm protection, Far-End-Fault, and Link-Fault-Pass-Through resulting in reliable communications between networks. With link down alarming and a wide range of fiber connectivity options the EL2321 is the ideal media converter for environments where connectivity is variable.

Spotlight

• Gigabit Connectivity

- Auto 10/100/1000BASE-T X and 1000BASE-SX/LX/BX Ethernet transmission conversion
- 1000Mbps Full duplex, 10/100Mbps Full/Half duplex
- Fiber interface supports dual rate 100BASE-FX and 1000BASE-SX/LX fiber transmission

• Managed Functions

- Supports IEEE802.3ah OAM standards
- Supports SNMPv1, SNMPv2
- Supports bandwidth control and VLAN base priority tag

• Supports Dying Gasp

- Sends SNMP trap for device failure report

Software Features

Management

- Interface
 - Web Browser
 - SNMP v1/v2c
- Firmware and configuration upgrade and backup via TFTP
- Supports DHCP Server/Client

Security

- MAC Address by port security
- Enable/disable port
- Storm control (broadcast and multicast types)
- IEEE802.1x LAN access control
- SSL for web security

Quality of Service (QoS)

- Priority Queues: 4 queues per port
- Traffic classification based on IEEE802.1p CoS, DSCP, WRR (Weighted round robin)
- Rate Limiting (Ingress/Egress)

Layer 2 Features

- Auto-negotiation for port speed and duplex mode
- Flow Control
 - IEEE802.3x full duplex mode
 - Back-Pressure half duplex mode
- VLANs
 - Port-based VLANs
 - IEEE802.1Q Tag VLANs (4096 VID)
 - GVRP (GARP VLAN Registration Protocol)
 - GMRP (GARP Multicast Registration Protocol)
- IGMP Snooping
 - IGMP snooping v1/v2/v3

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/100BASE-FX
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Processing Type

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

Power Input

- Input Voltage: 12VDC

Power Consumption

- 3W Max. 0.23A @ 12VDC

Mechanical

Casing

- Metal Case
- IP30

Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))

Weight

- 150g (0.336lbs.)

Installation

- Wall mounting

Interface

Ethernet Port

- 10/100/1000BASE-TX: 1 port
- 100/1000BASE SFP slot: 1 port

LED Indicators

- Per Unit: Power Status, OAM loop
- Per Port: TX Speed, Link/Activity, Full-duplex

Environment

Operating Temperature

- 0°C to 50°C (32°F to 121°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

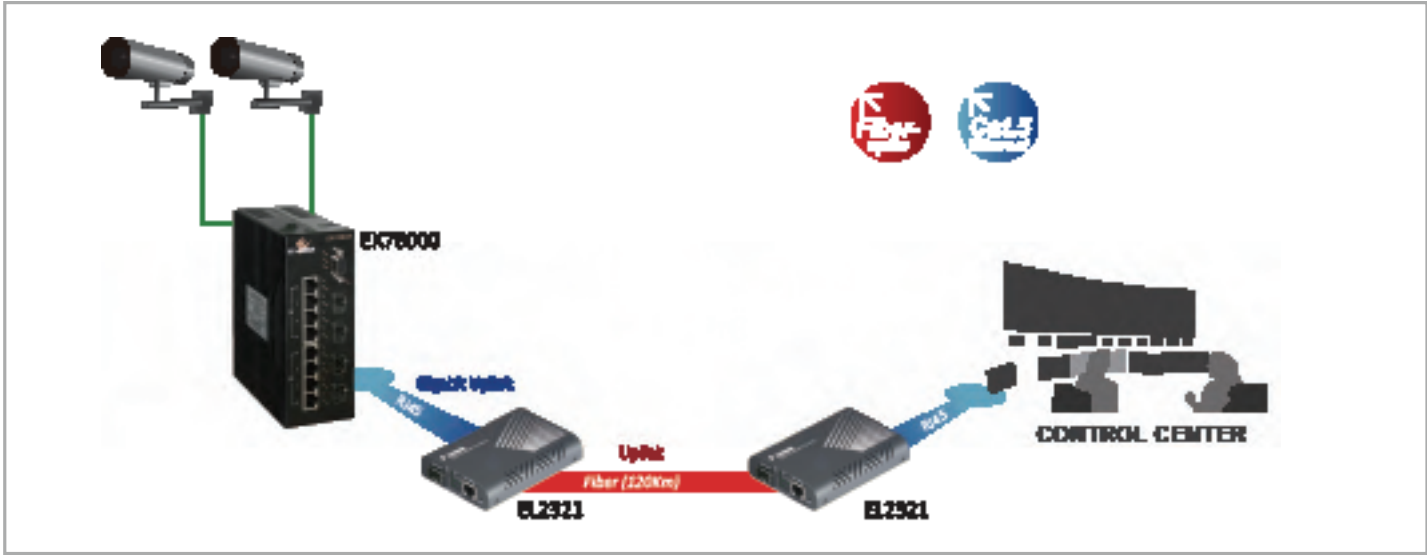
Emission Compliances

CE Mark Class A

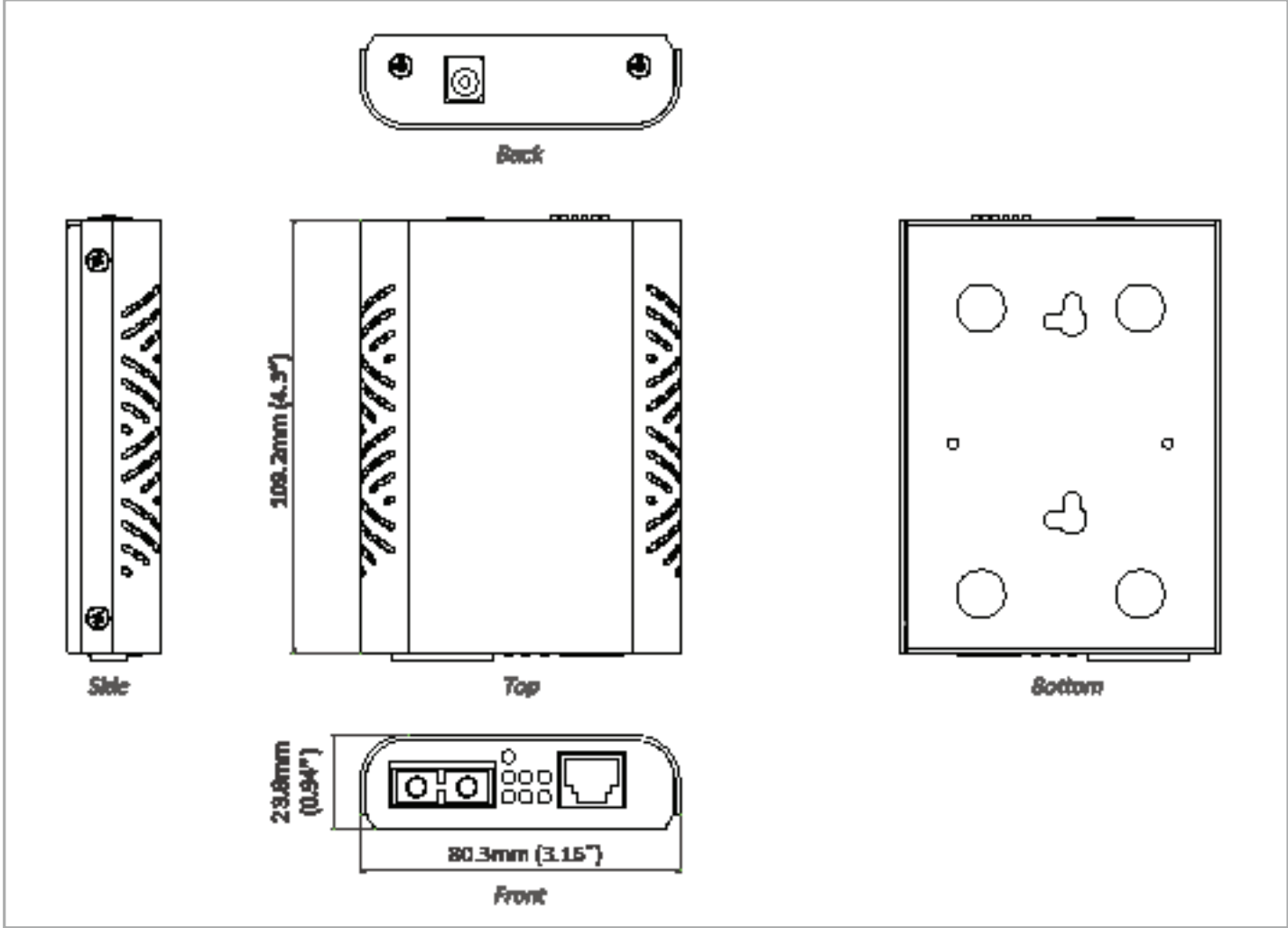
FCC Part 15B Class A

VCCI Class A

Application Diagram



Dimensions



Ordering Information

Model

EL2321-X1Z	Managed 10/100/1000BASE-TX to 100BASE/1000BASE-X Dual Rate Media Converter
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Gigabit Port Options (X)

3	1000BASE-SX (SC) - 550m (850nm)
4	1000BASE-SX (SC) - 2Km (1310nm)
5	1000BASE-SX (ST) - 550Km (850nm)
A	1000BASE-LX (SC) - 10Km (1310nm)
B	1000BASE-LX (SC) - 20Km (1310nm)
E	1000BASE-LX (SC) - 40Km (1310nm)
R	1000BASE-BX (SC) WDM –TX:1310nm/RX:1550nm - 20Km
S	1000BASE-BX (SC) WDM –TX:1550nm/RX:1310nm - 20Km

Power Adapter 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

EL2315 Series

10/100/1000BASE-TX to 100/1000BASE-X Dual Rate SFP
Media Converter



Overview

The EL2315 Series provides media conversion between 10/100/1000BASE-T(X) and 100/1000BASE SFP Fiber. The EL2315's fiber design is compatible to 100BASE fiber or 1000BASE fiber transceiver. Through DIP switch selection, the EL2315's SFP port can support 100BASE SFP fiber or 1000BASE-X SFP fiber port. Also, through DIP switch selection, the Link-Fault-Pass-Through (LFPT) function can be active or disabled.

With Gigabit transmission rate, EL2315 supports Jumbo Frame up to 9K bytes, the EL2315 is the ideal media converter for environments where connectivity is crucial.

Spotlight

• Gigabit Connectivity

- Auto 10/100/1000BASE-T X and 1000BASE-SX/LX/BX Ethernet transmission conversion
- 1000Mbps Full duplex, 10/100Mbps Full/Half duplex
- Fiber interface supports dual rate 100BASE-FX and 1000BASE-SX/LX fiber transmission

• 100/1000BASE-FX Dual Rate SFP Support

- DIP switch controlled 100BASE or 1000BASE SFP options

• Link-Fault-Pass-Through (LFPT)

- LFPT function let network operators be aware of network connection status
- When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/100BASE-FX
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Processing Type

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

Power

Input Voltage

- 12VDC

Power Consumption

- 2.76W Max. 0.23A @ 12VDC

Mechanical

Casing

- Aluminum Case

Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))

Weight

- 150g (0.336lbs.)

Installation

- Wall mounting

Interface

Ethernet Port

- 10/100/1000BASE-TX: 1 port
- 100/1000BASE SFP slot: 1 port

DIP Switch

- No.1: LFPT on/off
- No.2: Auto-Negotiation / Force Mode for TX port
- No.3: Full-duplex / Half-duplex for TX port
- No.4: 100Mbps / 10Mbps Force Mode for TX port
- No.5: 100Mbps / 1000Mbps for SFP
- No.6: Function Reserved

LED Indicators

- Per Unit: Power, LFPT
- Per Port: FX/TX Speed, Link/Activity

Environment

Operating Temperature

- 0°C to 50°C (32°F to 122°F)

Storage Temperature

- -10°C to 70°C (-14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

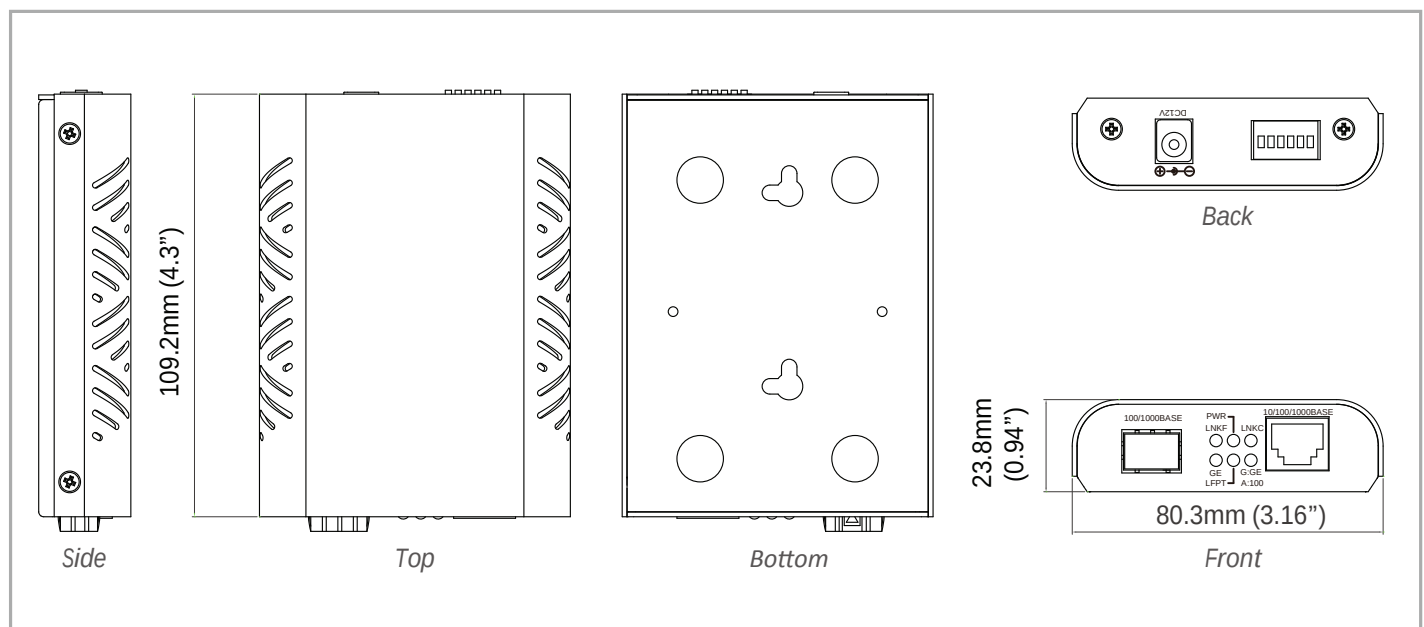
ISO

- Manufactured in an ISO9001 facility

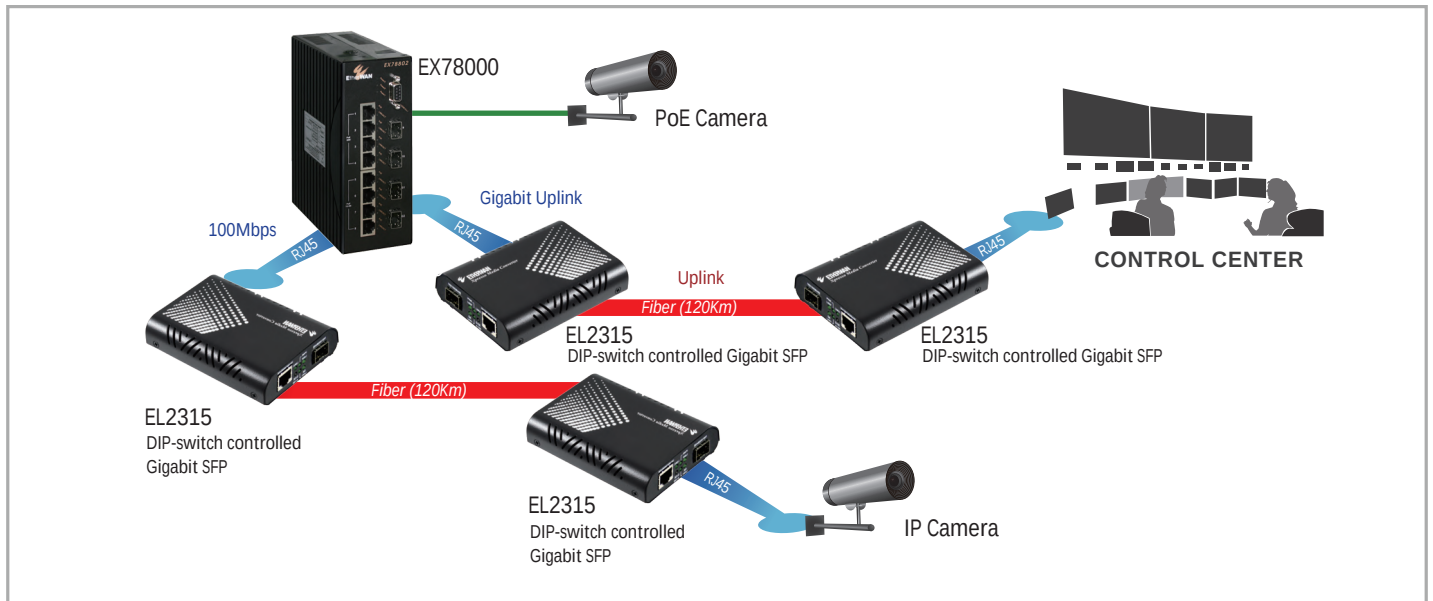
Emission Compliance

CE Mark Class A, FCC Part 15B Class A, and VCCI Class A

Dimensions



Application Diagram



Ordering Information

Model

EL2315-X	10/100/1000BASE-TX to 100BASE/1000BASE-X Dual Rate SFP Media Converter
-----------------	--

Power Adapter 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
3C	with external power adapter for China

Optional SFP Non-Hardened Type Gigabit Fiber Transceivers

Part Number	Typical Distance	Wavelength (nm)	Cable Type	Connector
EX-1250NSP-SB1L	275M/500M	850	MM	Duplex LC
EX-1250TSP-MB4L	10KM	1310	SM	Duplex LC
EX-1250TSP-NB6L	40KM	1310	SM	Duplex LC
EX-1250TBP-MB1L	550M	TX:1310 / RX:1550	MM WDM-A	LC
EX-1250TBP-LB1L	550M	TX:1550 / RX:1310	MM WDM-B	LC
EX-1250TBP-MB4L	10KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB4L	10KM	TX:1550 / RX:1310	SM WDM-B	LC
EX-1250TBP-MB5L	20KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB5L	20KM	TX:1550 / RX:1310	SM WDM-B	LC
EX-1250TBP-NB6L-D	40KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB6L-D	40KM	TX:1550 / RX:1310	SM WDM-B	LC

* More SFP options also available upon request.

* EMC1600 (available separately), a proprietary 19" chassis system, can house up to 16 x EL2315 Series media converters.

EL2326 Series

OAM Managed 10/100/1000BASE-TX to 100/1000BASE-X
Dual Rate Media Converter



Overview

The EL2326 Series provides media conversion between 10/100/1000BASE-T(X) and 100BASE-FX Fiber or 1000BASE-SX/LX Fiber. The EL2326's fiber design is compatible to 100BASE fiber or 1000BASE fiber transceiver.

The EL2326 managed media converter supports Telnet, SNMP v1/v2, and web browser management, enabling value-added connectivity and bandwidth control. Key features include; 802.3ah OAM compliance, VLAN tagging, broadcast storm protection, Far-End-Fault, and Link-Fault-Pass-Through resulting in reliable communications between networks.

With link down alarming and a wide range of fiber connectivity options, the EL2326 is the ideal managed media converter for industrial environments where connectivity is crucial.

Spotlight

• Gigabit Connectivity

- Auto 10/100/1000BASE-T X and 1000BASE-SX/LX/BX Ethernet transmission conversion
- 1000Mbps Full duplex, 10/100Mbps Full/Half duplex
- Fiber interface supports dual rate 100BASE-FX and 1000BASE-SX/LX fiber transmission

• Managed Functions

- Supports IEEE802.3ah OAM standards
- Supports SNMPv1, SNMPv2
- Supports bandwidth control and VLAN base priority tag

• Built-in Fiber Tray

Software Features

Management

- Interface
 - Web Browser
 - SNMP v1/v2c/v3
- Firmware and configuration upgrade and backup via TFTP
- Supports DHCP Server/Client
- RMON (Remote monitoring): group 1, 2, 3, 9

Security

- MAC Address by port security
- Enable/disable port
- Storm control (broadcast and multicast types)
- IEEE802.1x LAN access control
- Remote authentication through RADIUS
- SSL for web security

Quality of Service (QoS)

- Priority Queues: 4 queues per port
- Traffic classification based on IEEE802.1p CoS, DSCP, WRR (Weighted round robin)
- Rate Limiting (Ingress/Egress)

Layer 2 Features

- Auto-negotiation for port speed and duplex mode
- Flow Control
 - IEEE802.3x full duplex mode
 - Back-Pressure half duplex mode
- VLANs
 - Port-based VLANs
 - IEEE802.1Q Tag VLANs (4096 VID)
 - GVRP (GARP VLAN Registration Protocol)
 - GMRP (GARP Multicast Registration Protocol)
- IGMP Snooping
 - IGMP snooping v1/v2/v3
- Jumbo Frame
 - Gigabit transmission supports 9K bytes jumbo frame

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/100BASE-FX
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Processing Type

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

Power

Input Voltage

- 12VDC

Power Consumption

- 3W Max. 0.25A @ 12VDC

Mechanical

Casing

- Metal case
- IP30

Dimensions

- 100 mm (W) x 122mm (D) x 32.5mm (H)
(3.94"(W) x 4.8" (D) x 1.28" (H))

Weight

- 350g (0.77lbs.)

Installation

- Wall mounting

Interface

Ethernet Port

- 10/100/1000BASE-TX: 1 port
- 100/1000BASE SFP slot: 1 port

LED Indicators

- Per Unit: Power Status, OAM loop
- Per Port: FX/TX Speed, Link/Activity, Full-duplex

Environment

Operating Temperature

- -5°C to 55°C (-23°F to 131°C)

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

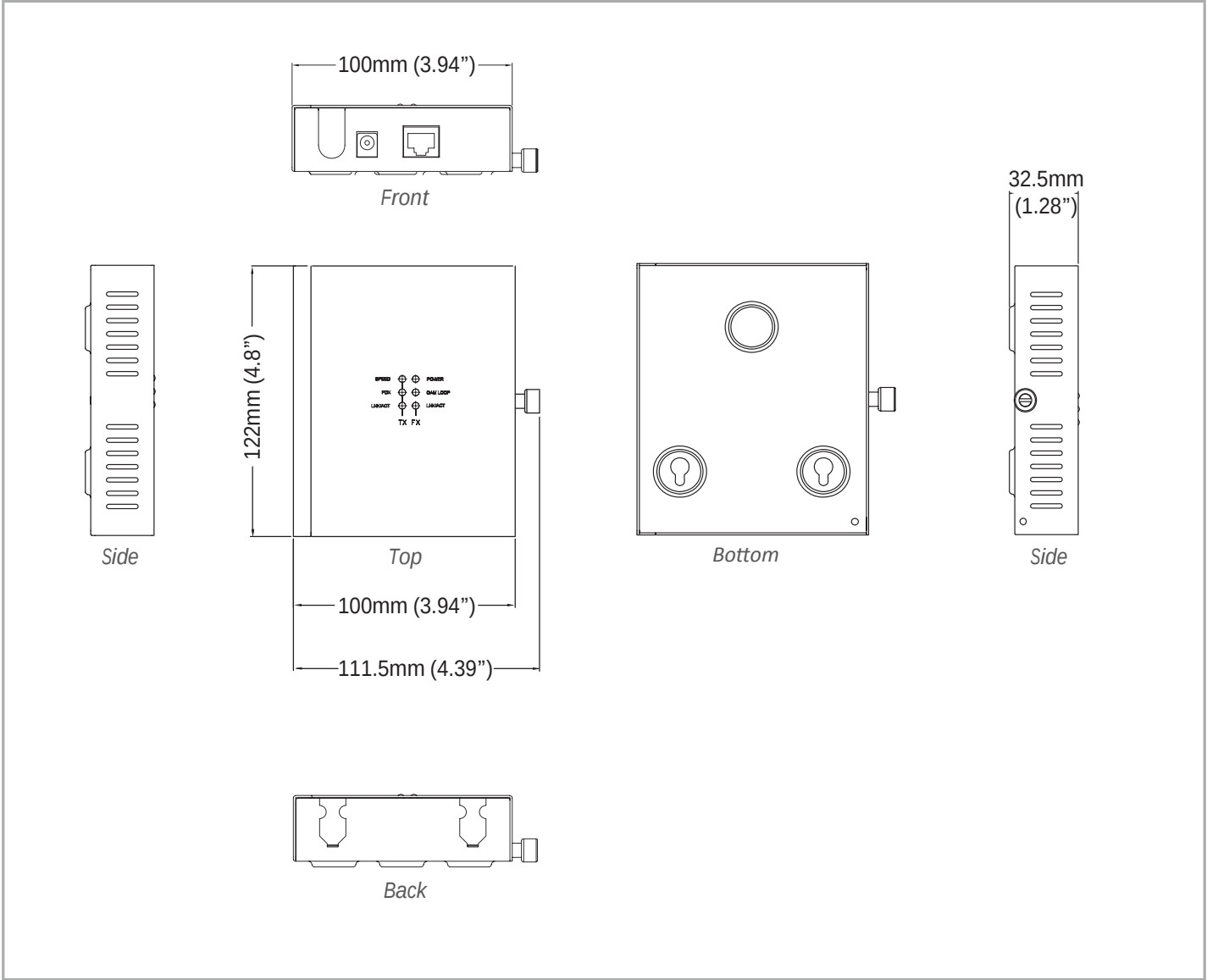
Emission Compliance

CE Mark Class A

FCC Part 15B Class A

VCCI Class A

Dimensions



Ordering Information

Model

EL2326-X1Z	OAM Managed 10/100/1000BASE-TX to 100/1000BASE-X Dual Rate Media Converter
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Gigabit Port Options (X)

3	1000BASE-SX(SC) - 550m
4	1000BASE-SX (SC) - 2Km
5	1000BASE-SX (ST) - 550m
A	1000BASE-LX (SC) - 10Km
B	1000BASE-LX (SC) - 20Km
E	1000BASE-LX (SC) - 40Km (1310nm)
R	1000BASE-BX (SC) WDM - TX:1310nm/RX:1550nm - 20Km
S	1000BASE-BX (SC) WDM - TX:1550nm/RX:1310nm - 20Km
V	100/1000BASE-X SFP

Ordering Information - continued

Power Adapter 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

EL2326L Series

10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media Converter



Overview

The EL2326L Series provides media conversion between 10/100/1000BASE-T(X) and 1000BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction.

The EL2326L series is designed for SC or ST fiber connection applications. The EL2326L's mechanical design prevents physical contact with fiber transceiver while the case is sealed. The compact size of EL2326L is suitable for space limit installation and the EL2326L is the ideal media converter for industrial environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **Plug-and-Play Media Converter**

- Easy installation, plug-and-play without additional configuration, providing store-and-forward data transmission

- **Hidden Fiber Transceiver**

- Mechanical design prevents physical contact with fiber transceiver while the case is sealed

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Processing Type

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

Power

Input Voltage

- 12VDC

Power Consumption

- 3W Max. 0.25A @ 12VDC

Mechanical

Casing

- Metal case
- IP30

Dimensions

- 100 mm (W) x 122mm (D) x 32.5mm (H)
(3.94"(W) x 4.8" (D) x 1.28" (H))

Weight

- 350g (0.77lbs.)

Installation

- Wall mounting

Interface

Ethernet Port

- 10/100/1000BASE-TX: 1 port
- 1000BASE-SX/LX/BX: 1 port

LED Indicators

- Per Unit: Power Status
- Per Port: FX/TX Speed, Link/Activity, Full-duplex

Environment

Operating Temperature

- -5°C to 55°C (-23°F to 131°C)

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

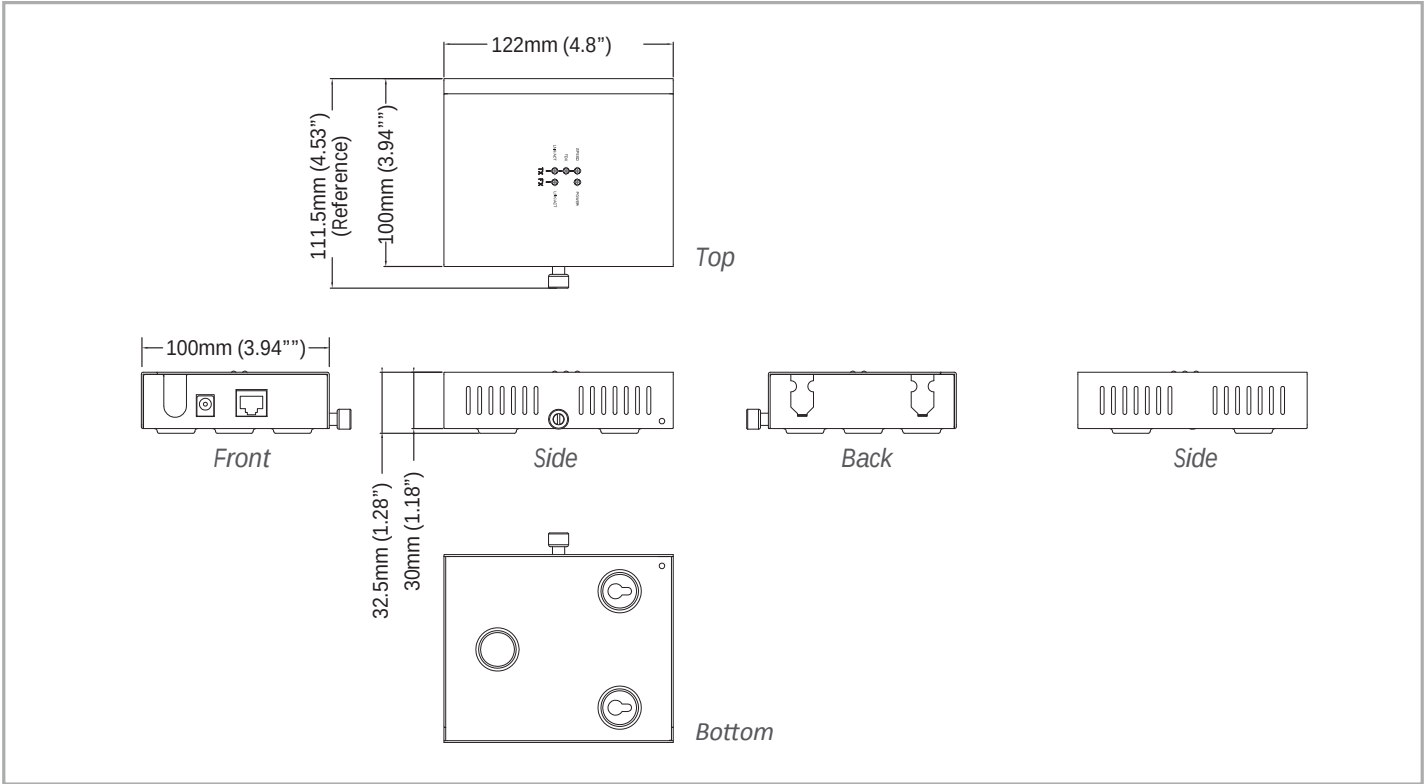
Emission Compliance

CE Mark Class A

FCC Part 15B Class A

VCCI Class A

Dimensions



Ordering Information

Model

EL2326L-X1Z	10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media Converter
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Gigabit Port Options (X)

3	1000BASE-SX (SC) - 550m (850nm)
4	1000BASE-SX (SC) - 2Km (1310nm)
5	1000BASE-SX (ST) - 550m (850nm)
A	1000BASE-LX (SC) - 10Km (1310nm)
B	1000BASE-LX (SC) - 20Km (1310nm)
E	1000BASE-LX (SC) - 40Km (1310nm)
R	1000BASE-BX (SC) WDM-TX:1310nm/RX:1550nm - 20Km
S	1000BASE-BX (SC) WDM –TX:1550nm/RX:1310nm - 20Km
W	1000BASE-BX (SC) WDM –TX:1310nm/RX:1490nm - 20Km
X	1000BASE-BX (SC) WDM –TX:1490nm/RX:1310nm - 20Km

Power Adapter 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

EL1216 Series

10/100ASE-TX to 100BASE-FX Media Converter



Overview

The EL1216 Series provides media conversion between 10/100BASE-T(X) and 100BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction. The EL1216 series is designed for SC or ST fiber connection applications. The EL1216's mechanical design prevents physical contact with fiber transceiver while the case is sealed; The EL1216's compact size is suitable for space limit installation and it is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **Plug-and-Play Media Converter**

- Easy installation, plug-and-play without additional configuration, providing store-and-forward data transmission

- **Hidden Fiber Transceiver**

- Mechanical design prevents physical contact with fiber transceiver while the case is sealed

Hardware Specifications

Technology

Standards

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

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Processing Type

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

Power

Input Voltage

- 12VDC

Power Consumption

- 3W Max. 0.25A @ 12VDC

Mechanical

Casing

- Metal case
- IP30

Dimensions

- 100 mm (W) x 122mm (D) x 32.5mm (H)
(3.94"(W) x 4.8" (D) x 1.28" (H))

Weight

- 350g (0.77lbs.)

Installation

- Wall mounting

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power Status
- Per Port: TX Speed, Link/Activity, Duplex Mode/Collision

Environment

Operating Temperature

- 0°C to 50°C (32°F to 122°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

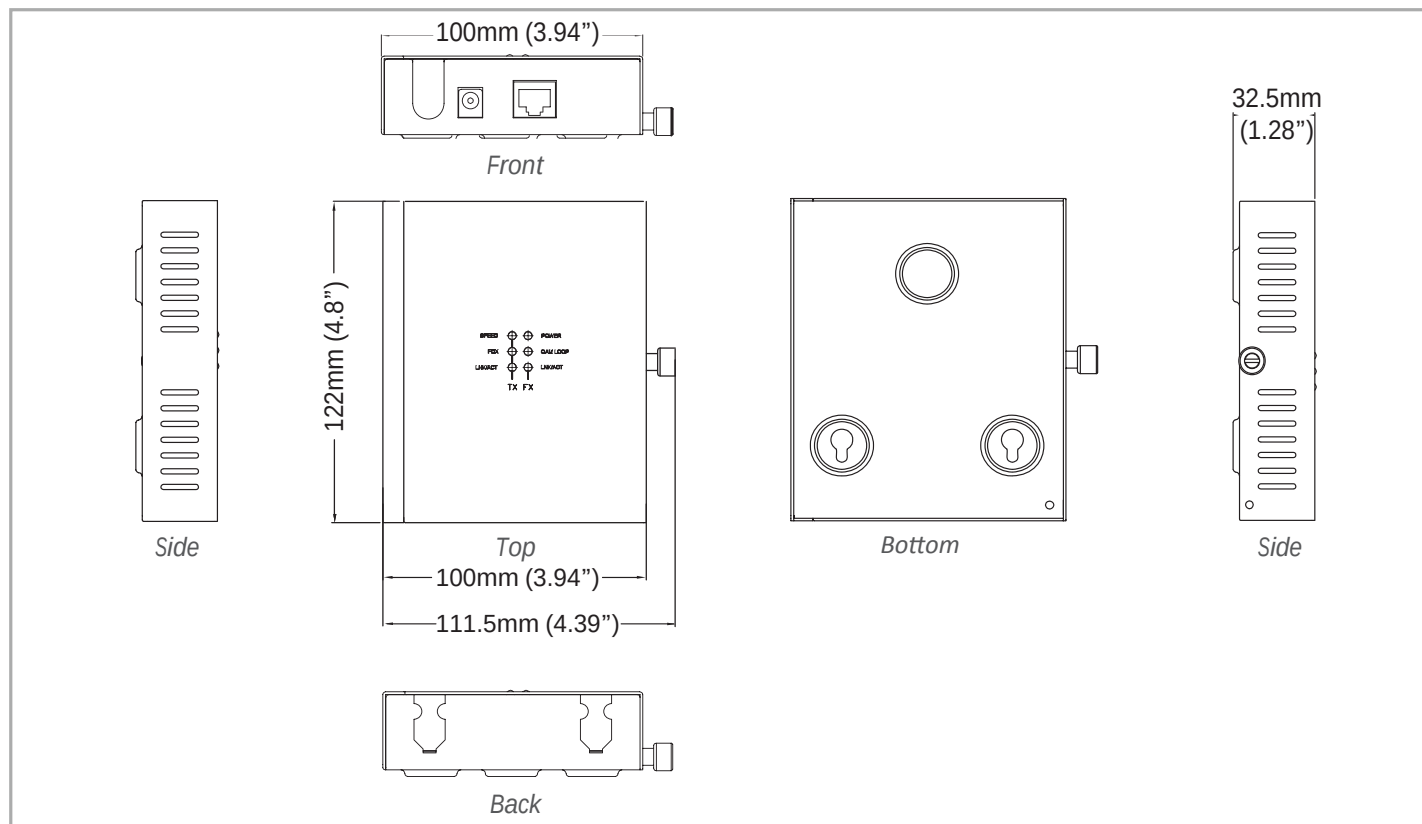
Emission Compliance

CE Mark Class A

FCC Part 15B Class A

VCCI Class A

Dimensions



Ordering Information

Model

EL1216-X1Z	10/100ASE-TX to 100BASE-FX Media Converter
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100FX Fiber Options (X)

1	Multi Mode (SC) - 2Km (1310nm)
2	Multi Mode (ST) - 2Km (1310nm)
A	Single Mode (SC) - 20Km (1310nm)
B	Single Mode (SC) - 40Km (1310nm)
H	Single Mode (ST) - 20Km (1310nm)
6	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 2Km
7	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 2Km
8	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 5Km
9	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 5Km
P	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 20Km
Q	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km
R	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km
S	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km

* More 100FX Fiber options also available upon request

Power Adapter 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

EL2211 Series

10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media Converter



Overview

The EL2211 Series provides media conversion between 10/100/1000BASE-T(X) and 1000BASE-SX/LX/BX Fiber. Through DIP switch selection, Link-Fault-Pass-Through (LFPT) function can be active or disabled. With Gigabit transmission rate, the EL2211 supports Jumbo Frame up to 9K bytes. The EL2211 is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **Gigabit Connectivity**
 - Auto 10/100/1000BASE-TX and 1000BASE-SX/LX/BX Ethernet transmission conversion
 - 1000Mbps Full duplex, 10/100Mbps Full/Half duplex
- **Link-Fault-Pass-Through (LFPT)**
 - LFPT function let network operators be aware of network connection status
 - When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa
- **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
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Processing Type

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

Power

Input Voltage

- 12VDC

Power Consumption

- 2.76W Max. 0.23A @ 12VDC

Mechanical

Casing

- Aluminum Case

Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))

Weight

- 150g (0.33lbs.)

Installation

- Wall mounting, or in EMC1600 Chassis System

Interface

Ethernet Port

- 10/100/1000BASE-TX: 1 port
- 1000BASE-SX/LX/BX: 1 port

LED Indicators

- Per Unit: Power, LFPT
- Per Port: Link/Act, Speed

Environment

Operating Temperature

- 0°C to 50°C (32°F to 122°F)

Storage Temperature

- -10°C to 70°C (-14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO9001 facility

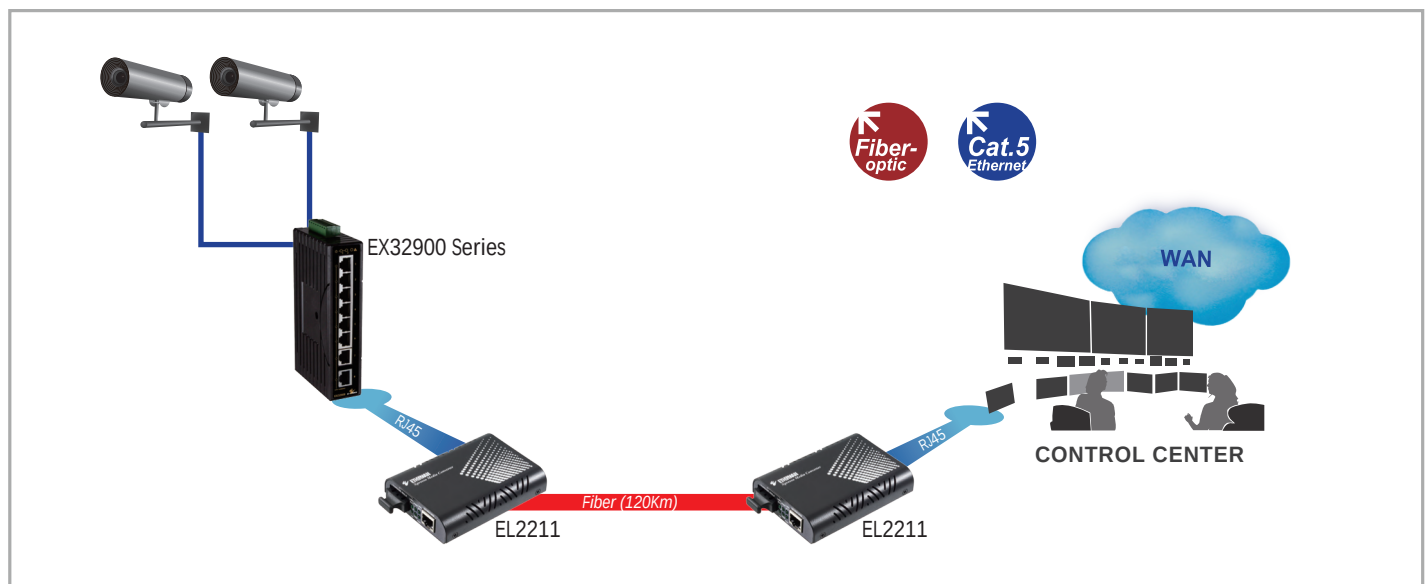
Emission Compliance

CE Mark Class A

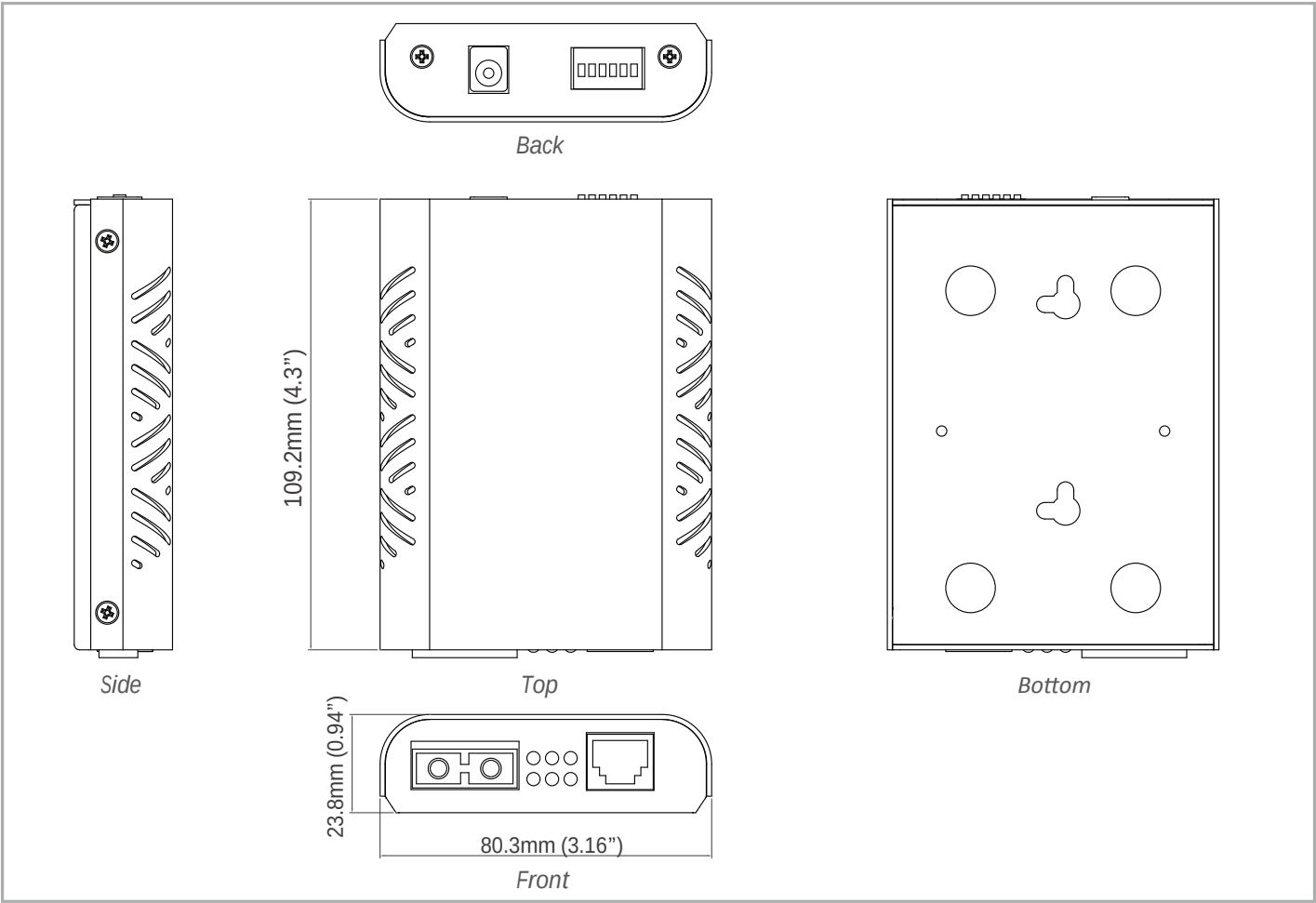
FCC Part 15B Class A

VCCI Class A

Application Diagram



Dimensions



Ordering Information

Model

EL2211-X1Z	10/100/1000BASE-TX to 1000BASE-SX/LX/BX Media Converter
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Gigabit Port Options (X)

3	1000BASE-SX(SC) - 550m (850nm)
4	1000BASE-SX (SC) - 2Km (1310nm)
5	1000BASE-SX (ST) - 550m (850nm)
A	1000BASE-LX (SC) - 10Km
B	1000BASE-LX (SC) - 20Km (1310nm)
E	1000BASE-LX (SC) - 40Km (1310nm)
R	1000BASE-BX (SC) WDM - TX:1310nm/RX:1550nm - 20Km
S	1000BASE-BX (SC) WDM - TX:1550nm/RX:1310nm - 20Km

Ordering Information - continued

Power Adapter 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

EM1100 / EM2100 Series

10/100/1000BASE-TX to 1000BASE-FX Media Converter



Overview

The EM1100/EM2100 Series provides media conversion between 10/100/1000BASE-T(X) and 1000BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction. Also, this commercial grade Gigabit media converter supports EtherWAN EMC1600 chassis system for easy group installation. The EM1100/EM2100 is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **Gigabit Connectivity**
 - Auto 10/100/1000BASE-TX and 1000BASE-SX/LX/BX Ethernet transmission conversion
 - 1000Mbps Full duplex, 10/100MBps Full/Half duplex
 - Full wire-speed forwarding rate
- **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-T
- IEEE802.3ab 1000BASE-T
- IEEE802.3z 1000BASE-SX/1000BASE-LX
- IEEE802.3x full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps
- 1,488,100pps for 1000Mbps

Packet Buffer Memory

- 256K bits

Processing Type

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

Power

Input Voltage

- 12VDC

Power Consumption

- 4.25W Max. 0.35A @ 12VDC

Mechanical

Casing

- Aluminum Case

Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))

Weight

- 150g (0.336lbs.)

Installation

- Wall mounting, or installs with EMC1600 media converter chassis system

Interface

Ethernet Port

- 10/100/1000BASE-T: 1 port
- 1000BASE-SX/LX/BX: 1 port

LED Indicators

- Per Unit: Power Status (Power)
- Per Port: 1000T, 1000SX/LX: Link, Full-duplex/Collision
- Per Port 1000SX/LX: Link/Activity

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (-14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

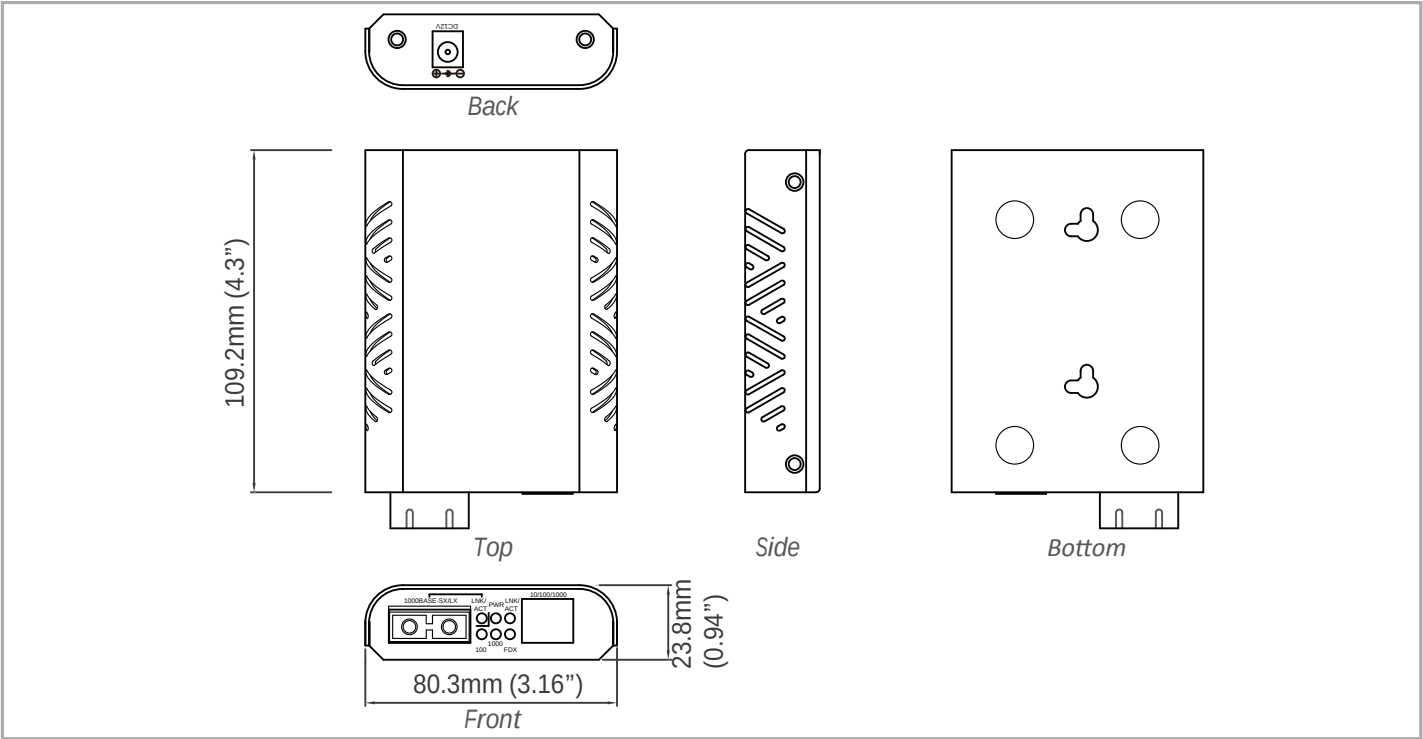
ISO

- Manufactured in an ISO9001 facility

Emission Compliances

CE Mark Class A, FCC Part 15B Class A, and VCCI Class A

Dimensions



Ordering Information

Model	
EM1100TSC	10/100/1000BASE-TX to 1000BASE-SX (SC) - 550m Media Converter (850nm)
EM1100TSC-2	10/100/1000BASE-TX to 1000BASE-SX (SC) - 2Km Media Converter (1310nm)
EM1100TLC-10	10/100/1000BASE-TX to 1000BASE-LX (SC) - 10Km Media Converter (1310nm)
EM1100TLC-20	10/100/1000BASE-TX to 1000BASE-LX (SC) - 20Km Media Converter (1310nm)
EM2100TLCA-20	10/100/1000BASE-TX to 1000BASE-BX (SC) WDM -TX:1310nm/RX:1550nm - 20Km Media Converter
EM2100TLCB-20	10/100/1000BASE-TX to 1000BASE-BX (SC) WDM -TX:1550nm/RX:1310nm - 20Km Media Converter
EM2100TLCA-60	10/100/1000BASE-TX to 1000BASE-BX (SC) WDM -TX:1310nm/RX:1550nm - 60Km Media Converter
EM2100TLCB-60	10/100/1000BASE-TX to 1000BASE-BX (SC) WDM -TX:1550nm/RX:1310nm - 60Km Media Converter

* More Gigabit fiber options are also available upon request.

* EMC1600 (available separately), a proprietary 19" chassis system, can house up to 16 x EM1100 / EM2100 Series media converters.

EM1000 / EM2000 Series

1000BASE-T to 1000BASE-SX/LX/BX Media Converter



Overview

The EM1000/EM2000 Series provides media conversion between 1000BASE-T(X) and 1000BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction. Also, this commercial grade Gigabit media converter supports EtherWAN EMC1600 chassis system for easy group installation. The EM1000/EM2000 is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• Gigabit Connectivity

- Auto 1000BASE-T and 1000BASE-SX/LX/BX Ethernet transmission conversion
- 1000Mbps Full duplex
- Full wire-speed forwarding rate

• Optional Chassis System

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

Hardware Specifications

Technology

- Standards**
- IEEE802.3ab 1000BASE-T
 - IEEE802.3z 1000BASE-SX/1000BASE-LX
 - IEEE802.3x full duplex and flow control

- Forward and Filtering Rate**
- 1,488,100pps for 1000Mbps

- Processing Type**
- Auto Negotiation
 - Auto MDI/MDIX

Power

- Input Voltage**
- 12VDC
- Power Consumption**
- 2.4W Max. 0.2A @ 12VDC

Mechanical

- Casing**
- Aluminum Case
- Dimensions**
- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))
- Weight**
- 150g (0.336lbs.)
- Installation**
- Wall mounting or use with EMC1600 media converter chassis system

Interface

- Ethernet Port**
- 1000BASE-T: 1 port
 - 1000BASE-SX/LX/BX: 1 port

- LED Indicators**
- Per Unit: Power Status (Power)
 - Per Port: 1000T, 1000SX/LX: Link, Full-duplex/Collision
 - Per Port 1000SX/LX: Link, Transmit, Receive

Environment

- Operating Temperature**
- 0°C to 45°C (32°F to 113°F)
- Storage Temperature**
- -10°C to 70°C (-14°F to 158°F)
- Ambient Relative Humidity**
- 5% to 95% (non-condensing)

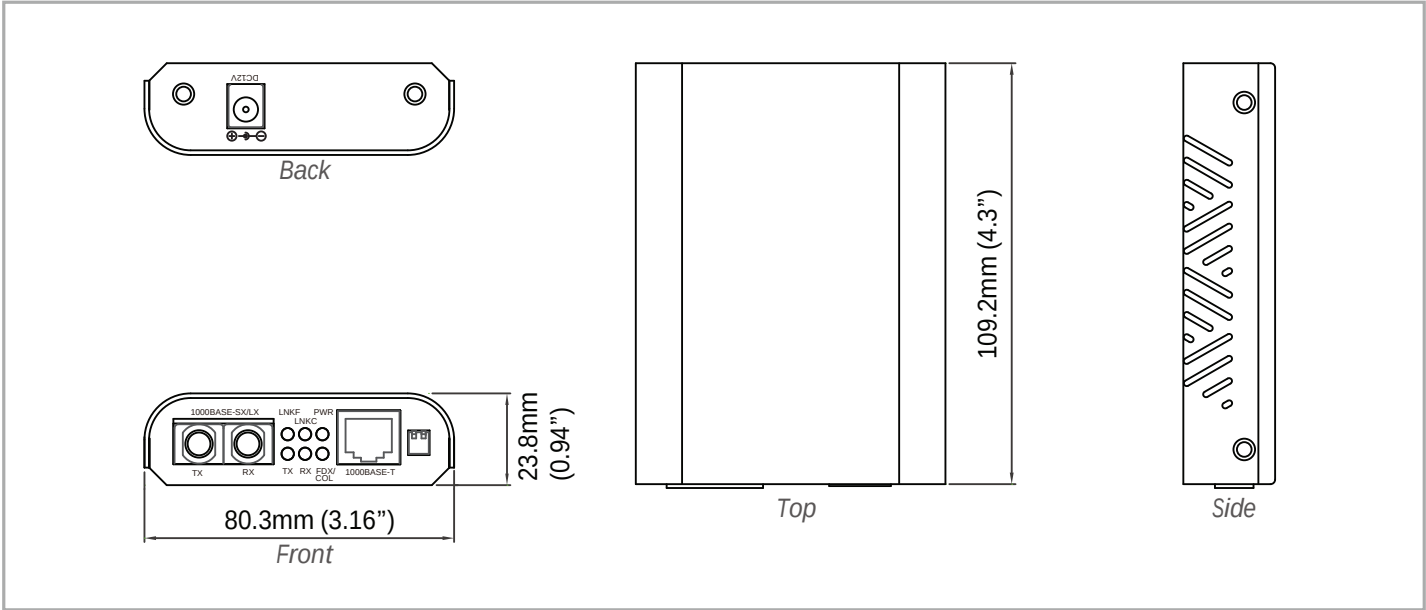
Regulatory Approvals

- ISO**
- Manufactured in an ISO9001 facility

Emission Compliances

- CE Mark Class A**
- FCC Part 15B Class A**
- VCCI Class A**

Dimensions



Ordering Information

Model

EM1000TSC	1000BASE-T to 1000BASE-SX (SC) - 550m Media Converter (850nm)
EM1000TSC-2	1000BASE-T to 1000BASE-SX (SC) - 2Km Media Converter (1310nm)
EM1000TLC-10	1000BASE-T to 1000BASE-LX (SC) - 10Km Media Converter (1310nm)
EM1000TLC-20	1000BASE-T to 1000BASE-LX (SC) - 20Km Media Converter (1310nm)
EM2000TLCA-20	1000BASE-T to 1000BASE-LX (SC) WDM -TX:1310nm/RX:1550nm - 20Km Media Converter
EM2000TLCB-20	1000BASE-T to 1000BASE-LX (SC) WDM -TX:1550nm/RX:1310nm - 20Km Media Converter
EM2000TLCA-60	1000BASE-T to 1000BASE-LX (SC) WDM -TX:1310nm/RX:1550nm - 60Km Media Converter
EM2000TLCB-60	1000BASE-T to 1000BASE-LX (SC) WDM -TX:1550nm/RX:1310nm - 60Km Media Converter

* EMC1600 (available separately), a proprietary 19" chassis system, can house up to 16 x EM1000S/EM2000 Series media converters.

EM1000S / EM2000S Series

1000BASE-SX/LX to 1000BASE-LX/BX Media Converter



Overview

The EM1000S/EM2000S Series provides media conversion between two 1000BASE-FX Fiber interfaces. Easy plug-and-play design facilitates network infrastructure construction. Also, this commercial grade Gigabit media converter supports EtherWAN EMC1600 chassis system for easy group installation. The EM1000S/EM2000S is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• Gigabit Connectivity

- 1000BASE- SX/LX/BX to 1000BASE-SX/LX/BX fiber transmission conversion
- 1000Mbps Full duplex
- Full wire-speed forwarding rate

• Optional Chassis System

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

Hardware Specifications

Technology

Standards

- IEEE802.3ab, 1000BASE-T
- IEEE802.3z, 1000BASE-SX/1000BASE-LX
- IEEE802.3x, Full duplex and flow control

Forward and Filtering Rate

- 1,488,100pps for 1000Mbps

Processing Type

- Auto Negotiation
- Auto MDI/MDIX

Power

Input

- Input Voltage: 12VDC

Power Consumption

- 2.4W Max. 0.2A @ 12VDC

Mechanical

Casing

- Aluminum Case

Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))

Weight

- 150g (0.336lbs.)

Installation

- Wall mounting or use with EMC1600 media converter chassis system

Interface

Ethernet Port

- 1000BASE-SX/LX/BX: 2 ports

LED Indicators

- Per Unit: Power Status (Power)
- Per Port: 1000SX/LX: Link

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO9001 facility

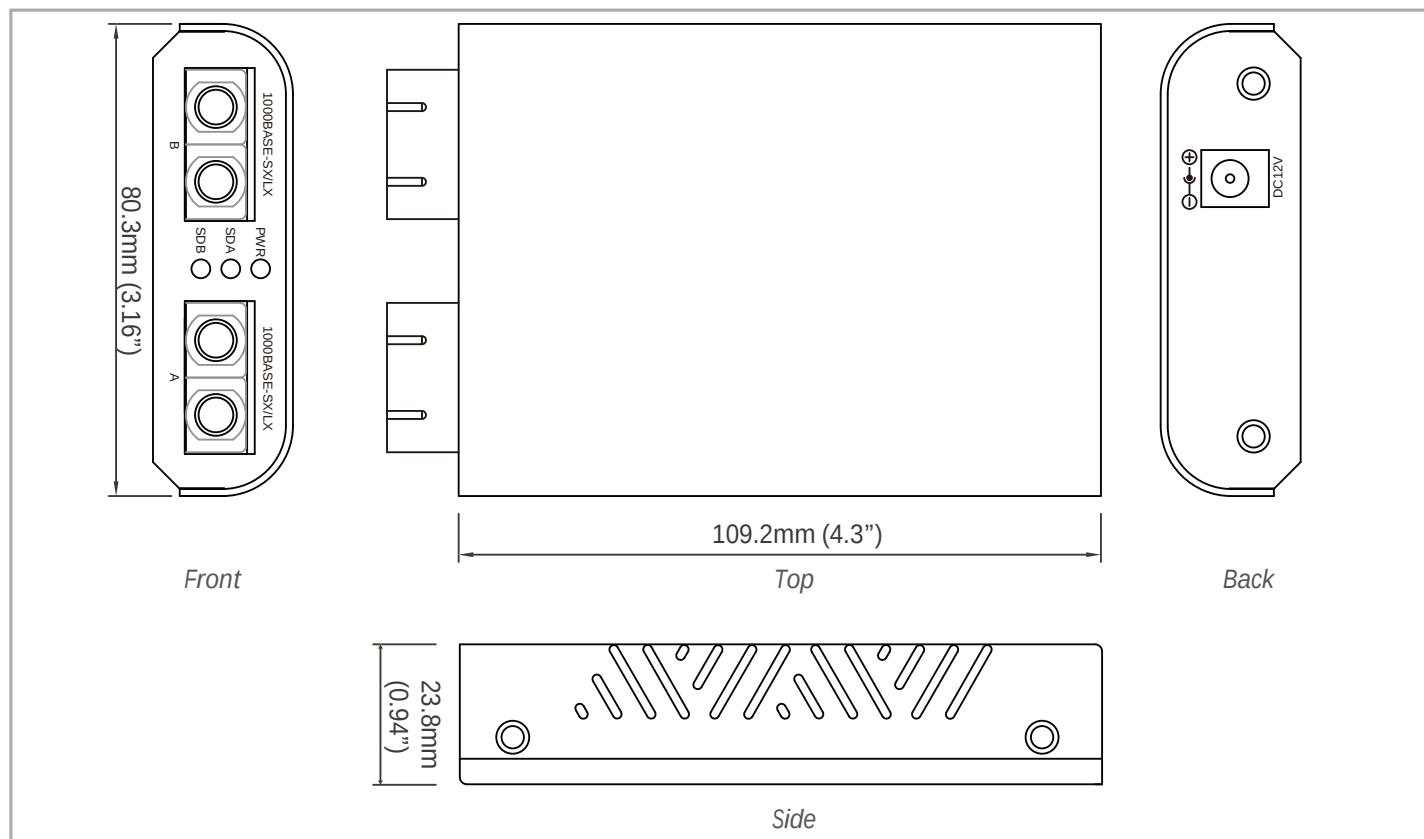
Emission Compliances

CE Mark Class A

FCC Part 15B Class A

VCCI Class A

Dimensions



Ordering Information

Model

EM1000SLC-10	1000BASE-SX(SC)-550m to 1000BASE-LX(SC)-10Km Media Converter (1310nm)
EM1000SLC-20	1000BASE-SX(SC)-550m to 1000BASE-LX(SC)-20Km Media Converter (1310nm)
EM2000SLCA-20	1000BASE-SX(SC)-550m to 1000BASE-BX(SC)WDM-TX:1310nm/RX:1550nm-20Km Media Converter
EM2000SLCB-20	1000BASE-SX(SC)-550m to 1000BASE-BX(SC)WDM-TX:1550nm/RX:1310nm-20Km Media Converter
EM2000SLCA-60	1000BASE-SX(SC)-550m to 1000BASE-BX(SC)WDM-TX:1310nm/RX:1550nm-60Km Media Converter
EM2000SLCB-60	1000BASE-SX(SC)-550m to 1000BASE-BX(SC)WDM-TX:1550nm/RX:1310nm-60Km Media Converter

* EMC1600 (available separately), a proprietary 19" chassis system, can house up to 16xEM1000S/EM2000S Series media converters.

* More Gigabit fiber options are available upon request.

* 1000BASE-LX to 1000BASE-LX converters are also available.

EM1020 Series

1000BASE-T to Gigabit SFP Media Converter



Overview

The EM1020 Series provides media conversion between 1000BASE-T(X) and 1000BASE SFP Fiber. The EM1020's fiber design is compatible to 1000BASE SFP fiber transceiver. Also, through DIP switch selection, Link-Fault-Pass-Through (LFPT) function can be active or disabled.

With Gigabit transmission rate, the EM1020 supports Jumbo Frame up to 9K bytes. Also, this commercial grade Gigabit media converter supports EtherWAN's EMC1600 chassis system for easy group installation. the EM1020 is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• Gigabit Connectivity

- 1000BASE-TX and 1000BASE-SX/LX/BX Ethernet SFP transmission conversion
- 1000Mbps Full duplex SFP

• Link-Fault-Pass-Through (LFPT)

- LFPT function let network operators be aware of network connection status
- When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vise versa

• Optional Chassis System

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

Hardware Specifications

Technology

Standards

- IEEE802.3ab, 1000BASE-T
- IEEE802.3z, 1000BASE-SX/1000BASE-LX
- IEEE802.3x, Full duplex and flow control

Forward and Filtering Rate

- 1,488,100pps for 1000Mbps

Processing Type

- Auto Negotiation
- Auto MDI/MDIX

Power

Input

- Input Voltage: 12VDC

Power Consumption

- 2.4W Max. 0.2A @ 12VDC

Mechanical

Casing

- Aluminum Case

Dimensions

- 80.3mm (W) x 109.2mm (D) x 23.8mm (H)
(3.16" (W) x 4.3" (D) x 0.94" (H))

Weight

- 150g (0.33lb.)

Installation

- Wall mounting or use with EMC1600 media converter chassis system

Interface

Ethernet Port

- 1000BASE-T: 1 port
- Gigabit SFP: 1 port

LED Indicators

- Per Unit: Power Status (Power)
- Per Port: 1000T: Link, Full-duplex/Collision Gigabit SFP: Link, Transmit, Receive

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (-14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO9001 facility

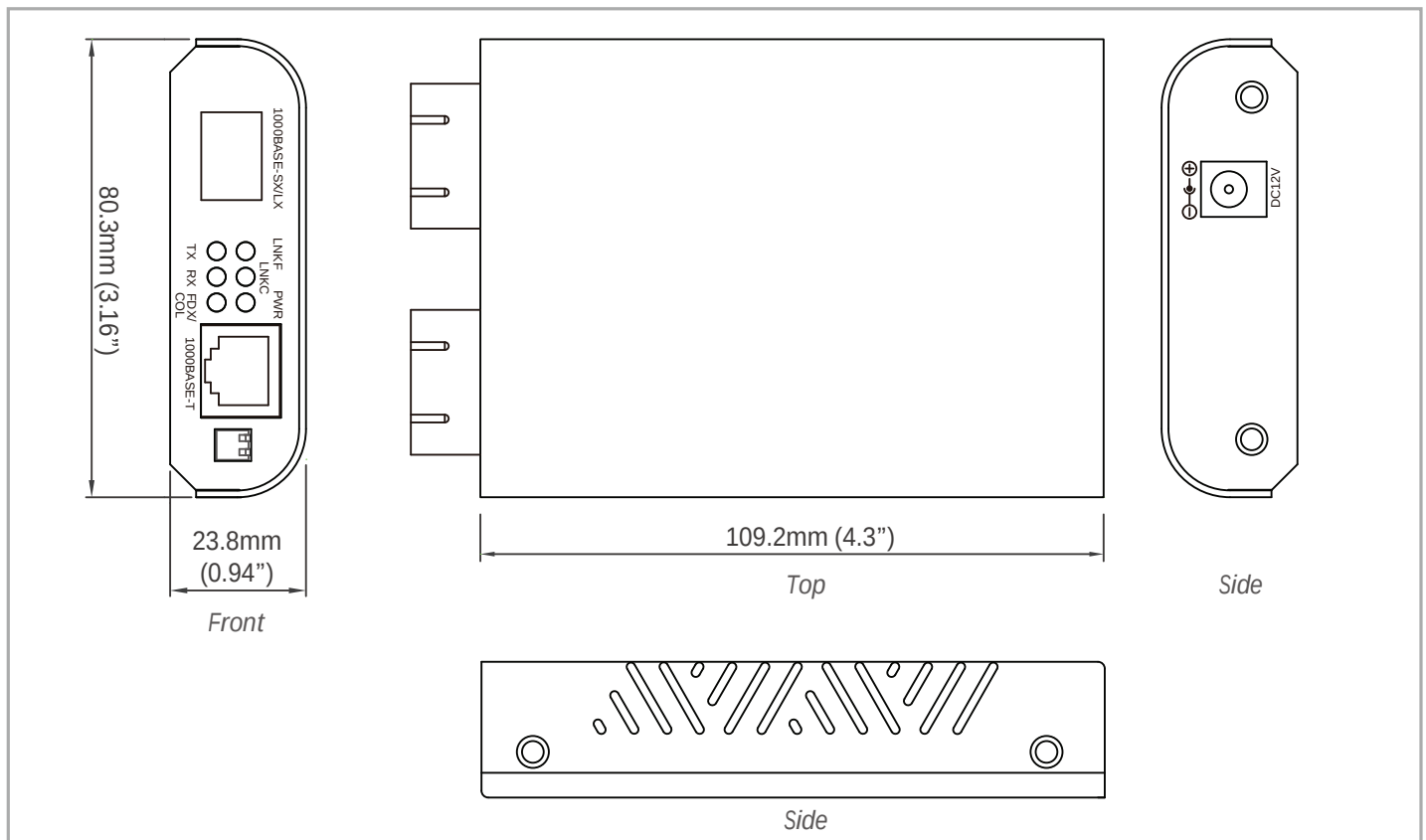
Emission Compliance

CE Mark Class A

FCC Part 15B Class A

VCCI Class A

Dimensions



Ordering Information

Model

EM1020-X	1000BASE-T to Gigabit SFP Media Converter
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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
3C	with external power adapter for China

Optional Accessories

SFP Non-Hardened Type Gigabit Fiber Transceivers

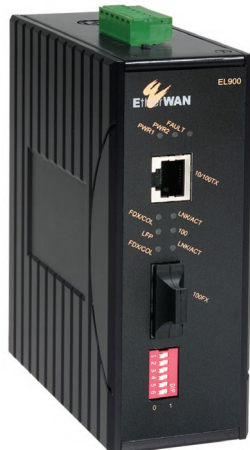
Part Number	Typical Distance	Wavelength (nm)	Cable Type	Connector
EX-1250NSP-SB1L	275M/500M	850	MM	Duplex LC
EX-1250TSP-MB4L	10KM	1310	SM	Duplex LC
EX-1250TSP-NB6L	40KM	1310	SM	Duplex LC
EX-1250TBP-MB1L	550M	TX:1310 / RX:1550	MM WDM-A	LC
EX-1250TBP-LB1L	550M	TX:1550 / RX:1310	MM WDM-B	LC
EX-1250TBP-MB4L	10KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB4L	10KM	TX:1550 / RX:1310	SM WDM-B	LC
EX-1250TBP-MB5L	20KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB5L	20KM	TX:1550 / RX:1310	SM WDM-B	LC
EX-1250TBP-NB6L-D	40KM	TX:1310 / RX:1550	SM WDM-A	LC
EX-1250TBP-KB6L-D	40KM	TX:1550 / RX:1310	SM WDM-B	LC

* More SFP options also available upon request.

* EMC1600 (available separately), a proprietary 19" chassis system, can house up to 16 x EM1020 Series media converters.

EL900 Series

Hardened 10/100BASE-TX to 100BASE-FX Media Converter



Overview

The EL900 Series provides media conversion between 10/100BASE-T and 100BASE-SX-LX Fiber. Built specifically for mission-critical applications in harsh environments, the EL900's hardened design features high shock & vibration resistance, electrical noise immunity, wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options, the EL900 is the ideal media converter for harsh environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• ISA12.12.01 Certification

- Highly qualified for explosive environmental applications and certified by UL with ISA12.12.01 Class I, Division 2 classified for use in hazardous locations

• Wide Operating Temperature

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

• Link-Fault-Pass-Through (LFPT)

- LFPT function let network operators be aware of network connection status
- When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

Hardware Specifications

Technology

Standards

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

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 128K bits

Processing Type

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

Power

Input Voltage

- 10 to 48VDC (DC Terminal Block)
- 12VDC (DC Jack) or 24VAC, 0.185A (AC Terminal Block)

Power Consumption

- 4.32W MAX. 0.36A @ 12VDC, 0.09A @ 48VDC

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

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power, LFPT
- Per 10/100TX Port: Link/Activity, Full-duplex/Collision, Speed
- Per 100FX port: Link/Activity, Full-duplex/Collision

Relay Contact

- Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

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

ISA12.12.01

- Class 1, Division 2 group A, B, C & D for hazardous locations

UL60950-1

EN60950-1

IEC60950-1

EMI

FCC Part 15B, Class A

EN61000-6-3

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)

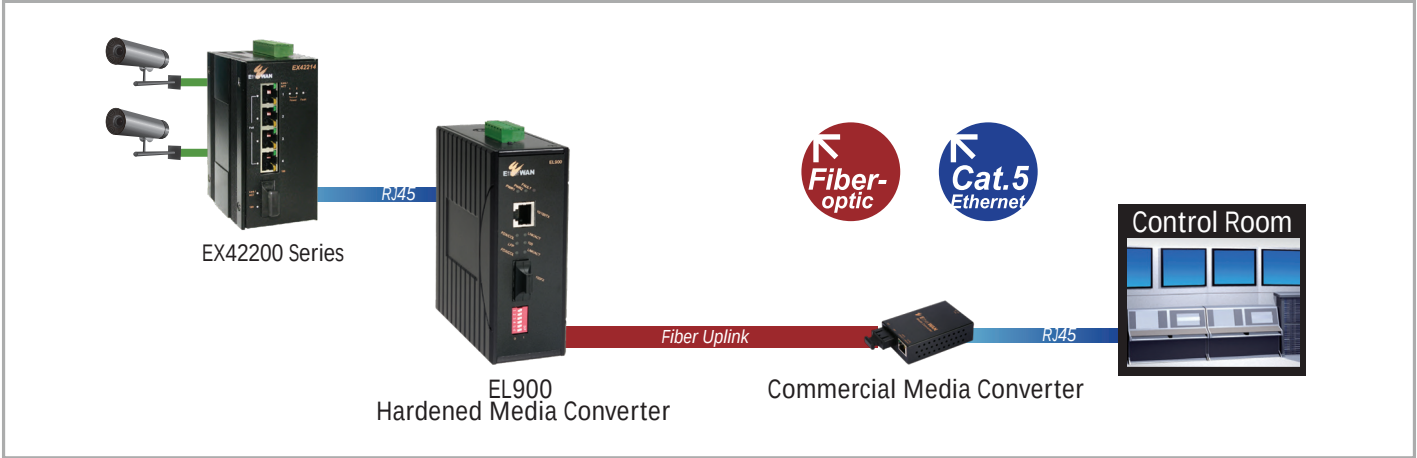
IEC60068-2-27 Ea (Shock)

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

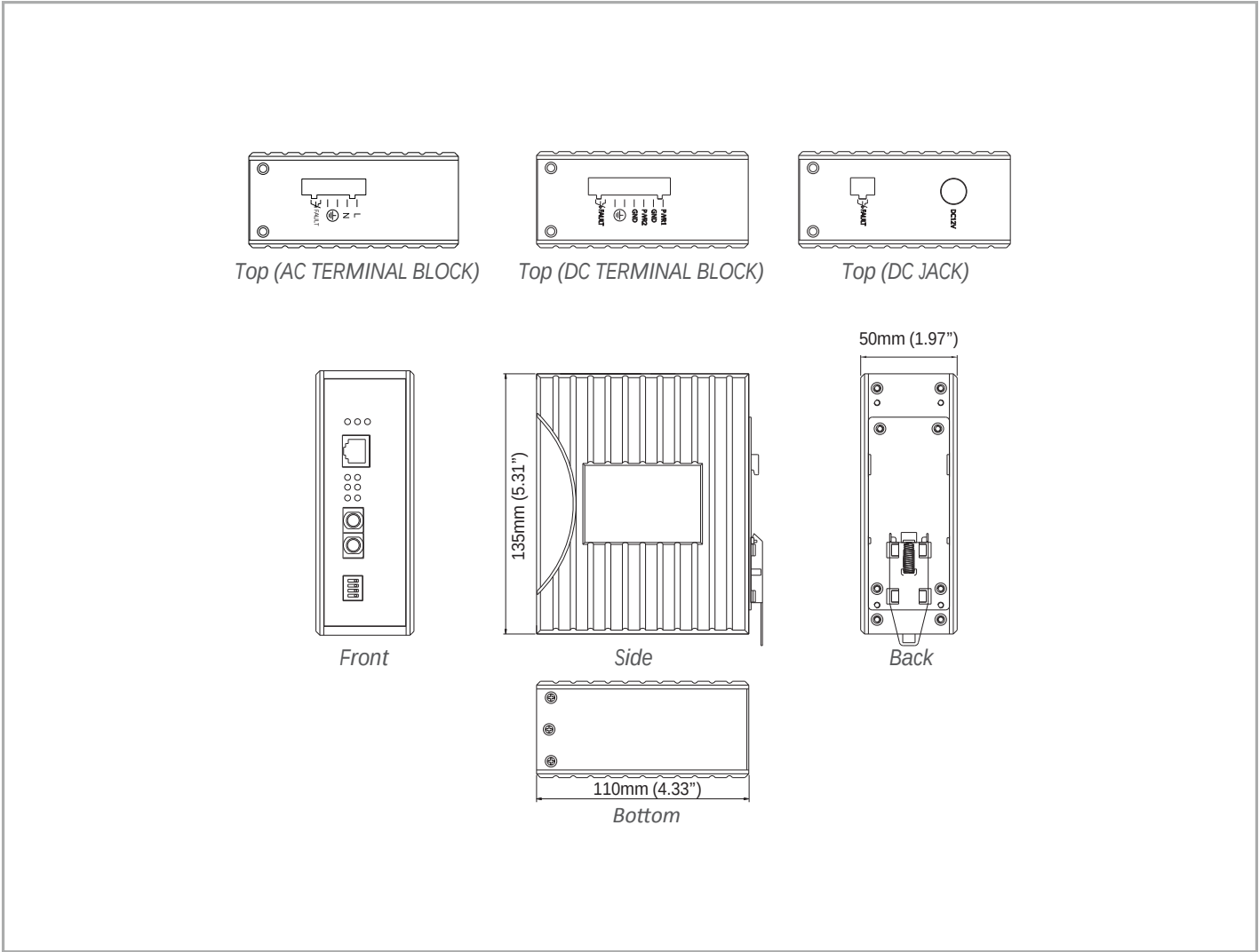
NEMA TS1/2

- Environmental requirements for traffic control equipment

Application Diagram



Dimensions



Ordering Information

Model

EL900-A-Y-1-P	Hardened 10/100BASE-TX to 100BASE-FX Media Converter
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* DIN-Rail mounting kit included

100FX Fiber Options (Y)

B	Multi Mode (SC) - 2Km (1310nm)
C	Multi Mode (ST) - 2Km (1310nm)
D	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 2Km
E	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 2Km
F	Multi Mode (SC) WDM-TX:1310nm/RX:1550nm - 5Km
G	Multi Mode (SC) WDM-TX:1550nm/RX:1310nm - 5Km
Q	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 20Km
R	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km
S	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km
T	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km
M	Single Mode (ST) - 20Km (1310nm)
N	Single Mode (SC) - 20Km (1310nm)
O	Single Mode (SC) - 40Km (1310nm)

Power Connector Options (P)

A	DC Terminal Block
B	DC Jack
C	24VAC Terminal Block

Optional Accessories

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

EL910 Series

Hardened 10/100BASE-TX to 100BASE-SX/LX Media Converter



Overview

The EL910 Series provides media conversion between 10/100BASE-T and 100BASE-SX-LX Fiber. Built specifically for mission-critical applications in harsh environments, the EL910'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. Compared to legacy EL900 product, EL910 has smaller size to facilitate installation in small cabinet or space. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options the EL910 is the ideal media converter for environments where connectivity is crucial.

Spotlight

- **Wide Operating Temperature**

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

- **Link-Fault-Pass-Through (LFPT)**

- LFPT function let network operators be aware of network connection status
- When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

- **UL60950-1 Certification**

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

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/100BASE-FX

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Processing Type

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

Power

Input

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

Power Consumption

- 3.36W MAX., 0.28A @ 12VDC, 0.07A @ 48VDC

Protection

- Overload 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

- 0.32Kg (0.7lbs.)

Installation

- DIN-Rail

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power 1, Power 2, Fault, Link-Fault-Pass-Through (LFPT)
- Per 10/100TX Port: Link/Act, Speed
- Per 100FX Port: Link/Act

Relay Contact

- Relay contact rating with current Max. 1A @ 60VDC

Environment

Operating Temperature

- -40°C to 75°C (-40°F to 167°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

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)

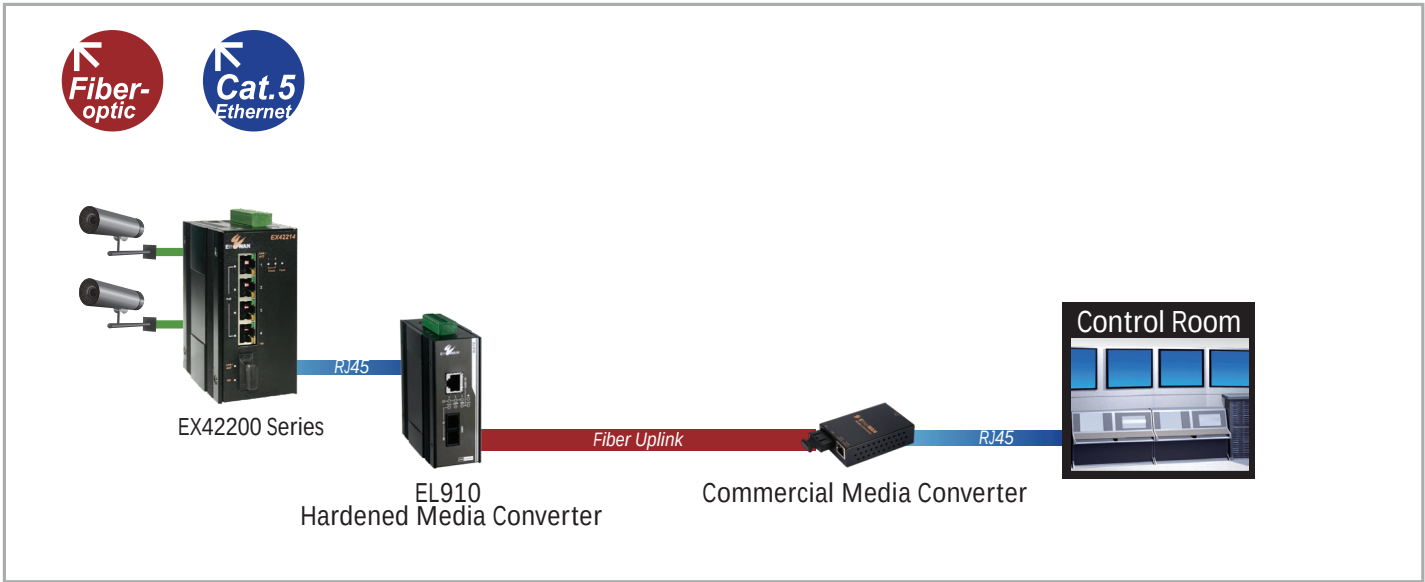
IEC60068-2-27 Ea (Shock)

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

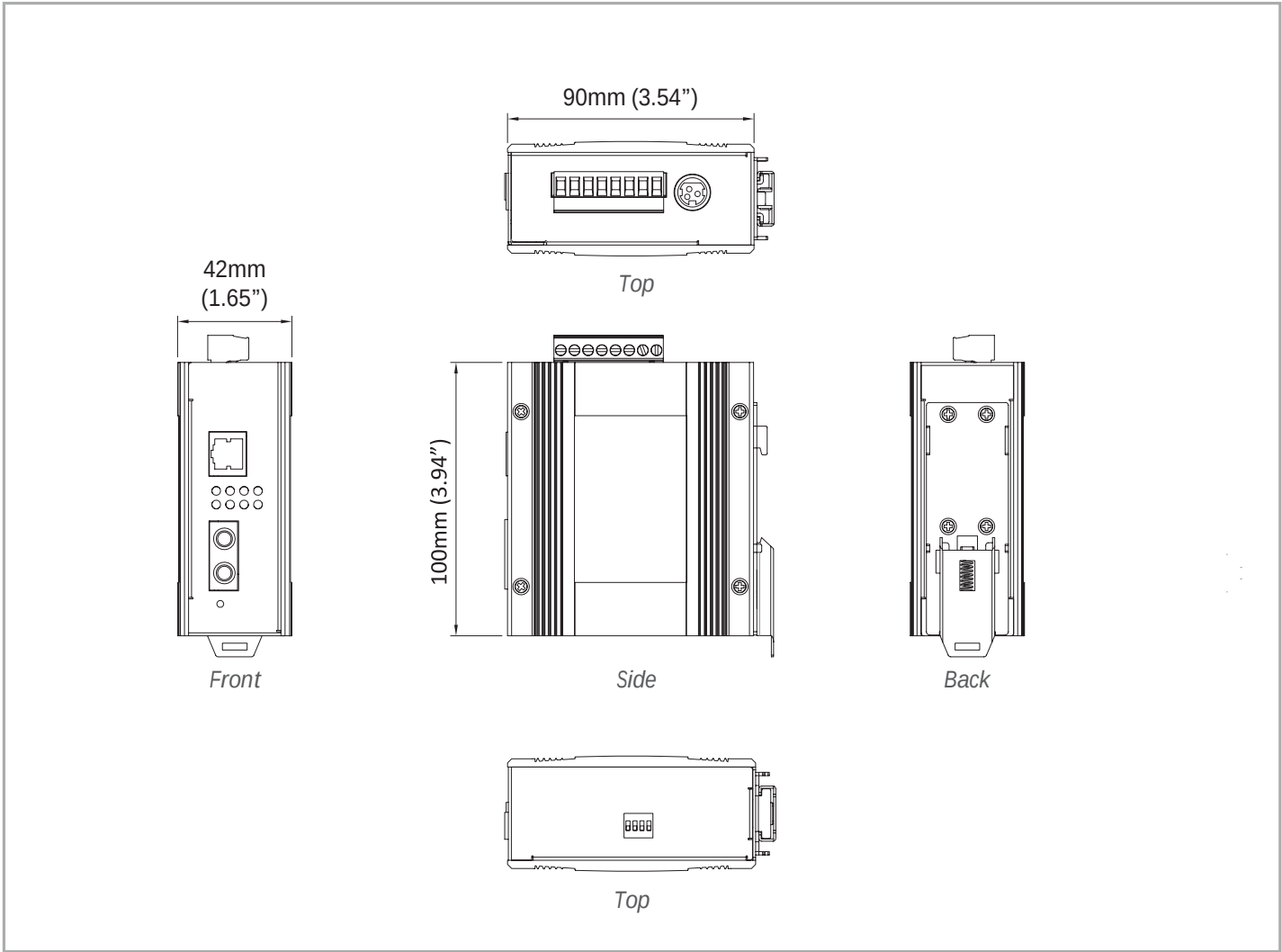
NEMA TS1/2

- Environmental requirements for traffic control equipment

Application Diagram



Dimensions



Ordering Information

Model

EL910-A-Y-1-B	10/100BASE-TX to 100BASE-FX Hardened Media Converter
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* DIN-Rail mounting kit included

100FX Fiber Options (Y)

B	Multi Mode (SC) - 2Km
C	Multi Mode (ST) - 2Km
D	Multi Mode (SC) WDM - TX: 1310nm / RX: 1550nm - 2Km
E	Multi Mode (SC) WDM - TX: 1550nm / RX: 1310nm - 2Km
F	Multi Mode (SC) WDM - TX: 1310nm / RX: 1550nm - 5Km
G	Multi Mode (SC) WDM - TX: 1550nm / RX: 1310nm - 5Km
M	Single Mode (ST) - 20KM
N	Single Mode (SC) - 20KM
O	Single Mode (SC) - 40KM
Q	Single Mode (SC) WDM - TX: 1310nm / RX: 1550nm - 20Km
R	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km
S	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km
T	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km

* More 100FX Fiber options also available upon request

Optional Accessories

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

EL950 Series

Hardened Managed 10/100BASE-TX to 100BASE-SX/LX Media Converter



Overview

The EL950 Series provides media conversion between 10/100BASE-T and 100BASE-SX-LX Fiber. Built specifically for mission-critical applications in harsh environments, the EL950'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 EL950 managed media converter supports Telnet, SNMP v1/v2, and web browser management enabling value-added connectivity and bandwidth control. Key features include; 802.3ah OAM compliance, VLAN tagging, broadcast storm protection, Far-End-Fault, and Link-Fault-Pass-Through resulting in reliable communications between networks. With link down alarming and a wide range of fiber connectivity options the EL950 is the ideal media converter for environments where connectivity is variable.

EtherWAN — "When Connectivity is Crucial."

Spotlight

• Managed Functions

- Supports IEEE802.3ah OAM standards
- Supports SNMPv1, SNMPv2
- Supports bandwidth control and VLAN base priority tag

• Wide Operating Temperature

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

• Link-Fault-Pass-Through (LFPT)

- LFPT function let network operators be aware of network connection status
- When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

Hardware Specifications

Technology

Standards

- IEEE802.3ab, 1000BASE-T
- IEEE802.3z, 1000BASE-SX/1000BASE-LX
- IEEE802.3x, Full duplex and flow control
- IEEE802.1p, QoS/CoS
- IEEE802.3ah, OAM

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Processing Type

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

Power

Input

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

Power Consumption

- 3.36W MAX., 0.28A @ 12VDC, 0.07A @ 48VDC

Protection

- Overload 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

- 0.32Kg (0.7lbs.)

Installation

- DIN-Rail

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power Status (Power 1, Power 2, Fault), Link-Fault-Pass-Through
- Per Port: 10/100TX: LNK/ACT, Speed
- Per Port 100FX: LNK/ACT

Relay Contact

- Relay contact rating with current Max. 1A @ 60VDC

Environment

Operating Temperature

- 40°C to 75°C (-40°F to 167°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

EN61000-6-3

EN55022

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)

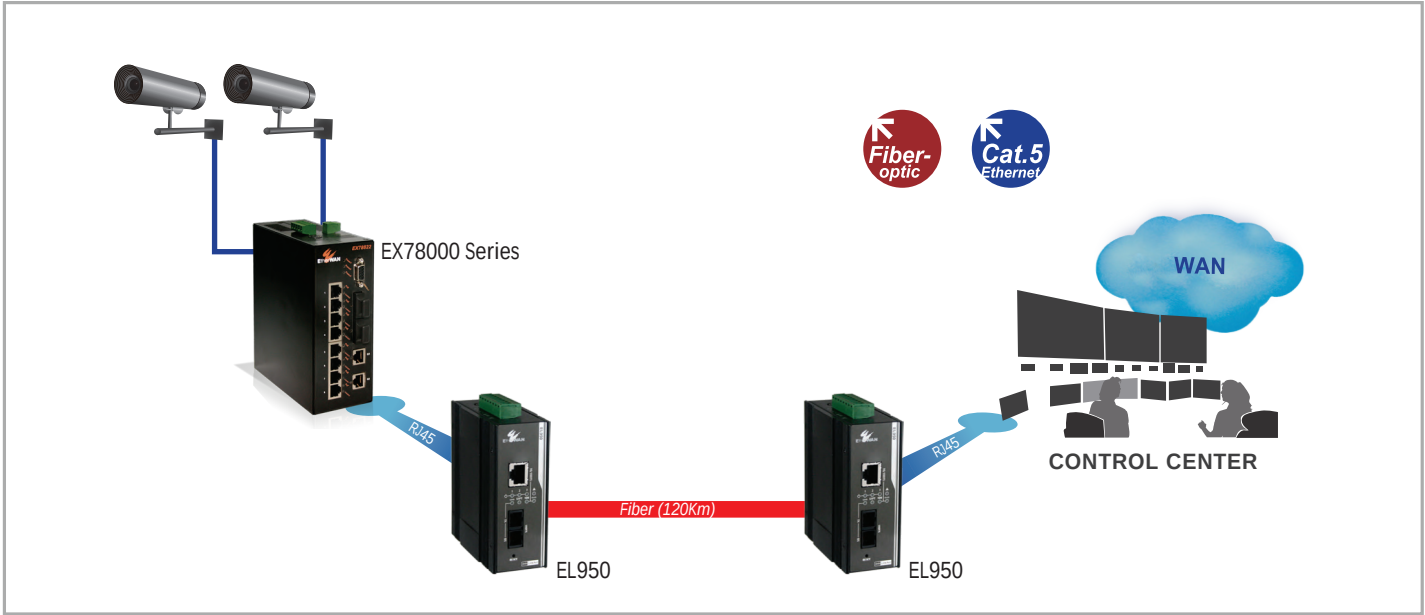
IEC60068-2-27 Ea (Shock)

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

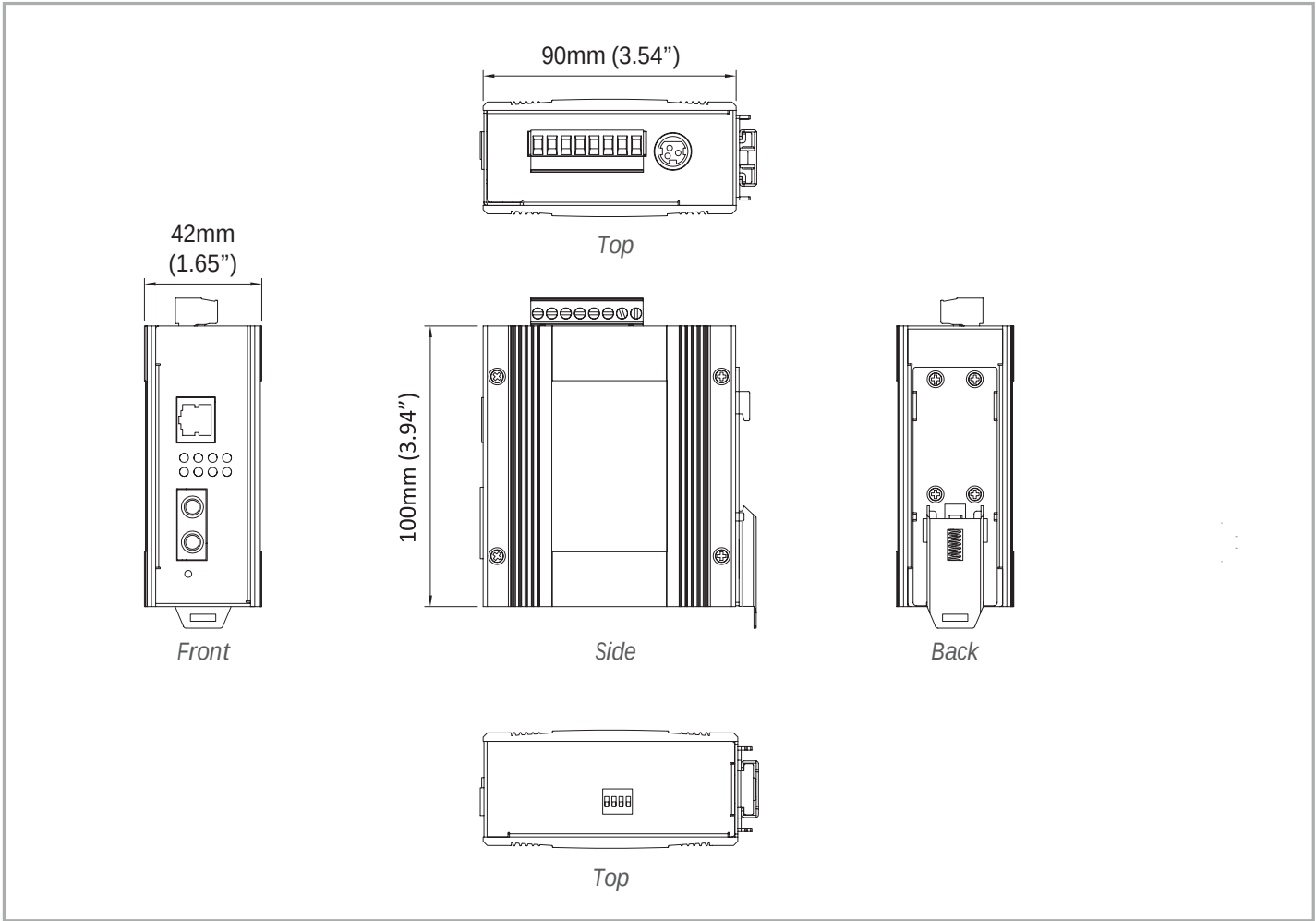
NEMA TS1/2

- Environmental requirements for traffic control equipment

Application Diagram



Dimensions



Ordering Information

Model

EL950-A-Y-1-B	10/100BASE-TX to 100BASE-FX Hardened Media Converter
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* DIN-Rail mounting kit included

100FX Fiber Options (Y)

B	Multi Mode (SC) - 2Km
C	Multi Mode (ST) - 2Km
D	Multi Mode (SC) WDM - TX: 1310nm / RX: 1550nm - 2Km
E	Multi Mode (SC) WDM - TX: 1550nm / RX: 1310nm - 2Km
F	Multi Mode (SC) WDM - TX: 1310nm / RX: 1550nm - 5Km
G	Multi Mode (SC) WDM - TX: 1550nm / RX: 1310nm - 5Km
M	Single Mode (ST) - 20KM
N	Single Mode (SC) - 20KM
O	Single Mode (SC) - 40KM
Q	Single Mode (SC) WDM - TX: 1310nm / RX: 1550nm - 20Km
R	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km
S	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km
T	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km

* More 100FX Fiber options also available upon request

Optional Accessories

DR-30-24	30W/1.5A DIN-Rail 24VDC Industrial Power Supply (Optional, For Terminal Block)
DR-60--24	60W/2.5A DIN-Rail 24VDC Industrial Power Supply (Optional, For Terminal Block)
DR-75-24	75W/3.2A DIN-Rail 24VDC Industrial Power Supply (Optional, For Terminal Block)
DR-120-24	120W/5A DIN-Rail 24VDC Industrial Power Supply (Optional, For Terminal Block)
41-136046-X	36W/3A 12VDC hardened power adapter with open wire in aluminum housing (Optional, For Terminal Block); (X) = 1: US, 2: EU, 3: UK, 4: AU, 5: JP, 6: SA

EL1032T Series

Industrial 10/100BASE-TX to 100BASE-FX Media Converter
with PoE/PSE



Overview

The EL1032T Series provides media conversion between 10/100BASE-T(X) and 100BASE-FX Fiber. Through DIP switch selection, Link-Fault-Pass-Through (LFPT) function can be active or disabled. EL1032T supports IEEE802.3at PoE/PSE standard and can transmit power and data over one RJ45 cable. The EL1032T's industrial design features high shock/vibration resistance, electrical noise immunity and a wide operating temperature range from -10°C to 60°C. EL1032T is the ideal media converter for industrial environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **Power over Ethernet**

- Supports IEEE802.3at PoE/PSE standard and IEEE802.3af PoE/PSE compatible

- **Dual Power Interfaces**

- Supports both terminal block and DC jack for power input selections

- **Industrial operating temperature range**

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

Hardware Specifications

Technology

Standards

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

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 228Kb

Processing Type

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

Power

Input Voltage

- 48 to 57VDC

Power Consumption

- Device: Max. 3.6W (without PoE)
- PoE power budget: 30W Max. (depends on power input)

PoE Power Output

- IEEE802.3at: up to 30W/port, 50-57VDC, 500mA Max.

Protection

- Overload current protection
- Reverse polarity protection

Mechanical

Casing

- Aluminum Case

Dimensions

- 70mm (W) x 110mm (D) x 30mm (H)
(2.76" (W) x 4.33" (D) x 1.18" (H))

Weight

- 0.25Kg (0.55lb.)

Installation

- DIN-Rail (top hat type 35mm), Panel, or Wall mounting

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power
- Per 10/100TX Port : Link/ACT, full-duplex/collision
- Per 100FX Port : Link/ACT
- PoE: PD connect/PD disconnect

Environment

Operating Temperature

- -10°C to 60°C (14°F to 140°F)
Tested @ -20°C to 70°C (-4°F to 158°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

EMI

FCC Part 15B, Class A

EN61000-6-4

EN55022

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)

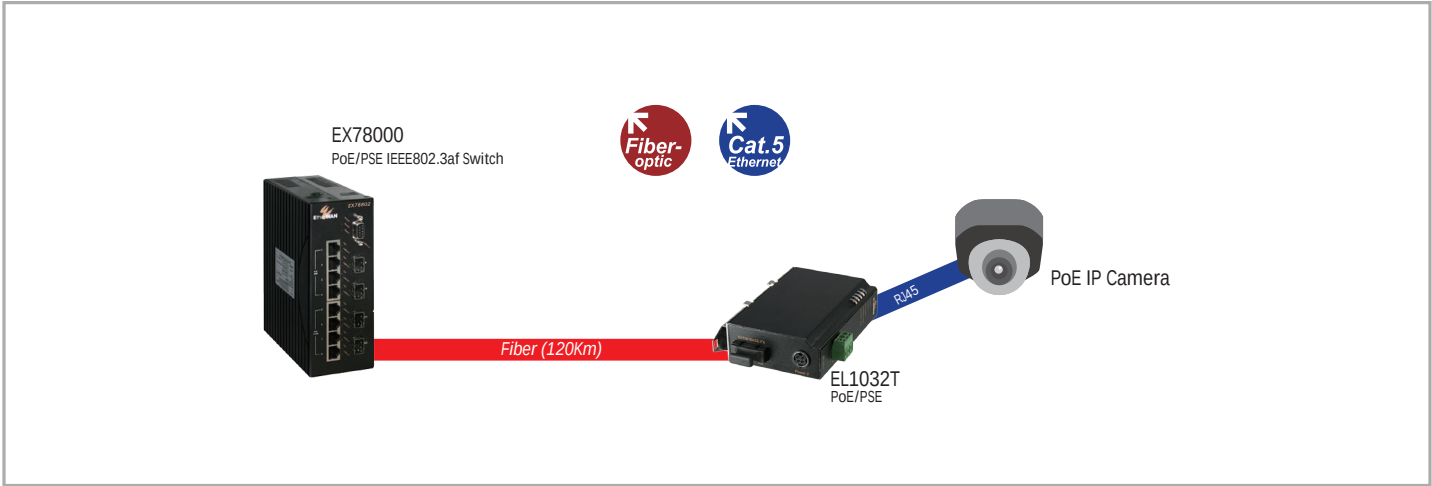
Environmental Test Compliance

IEC60068-2-6 Fc (Vibration Resistance)

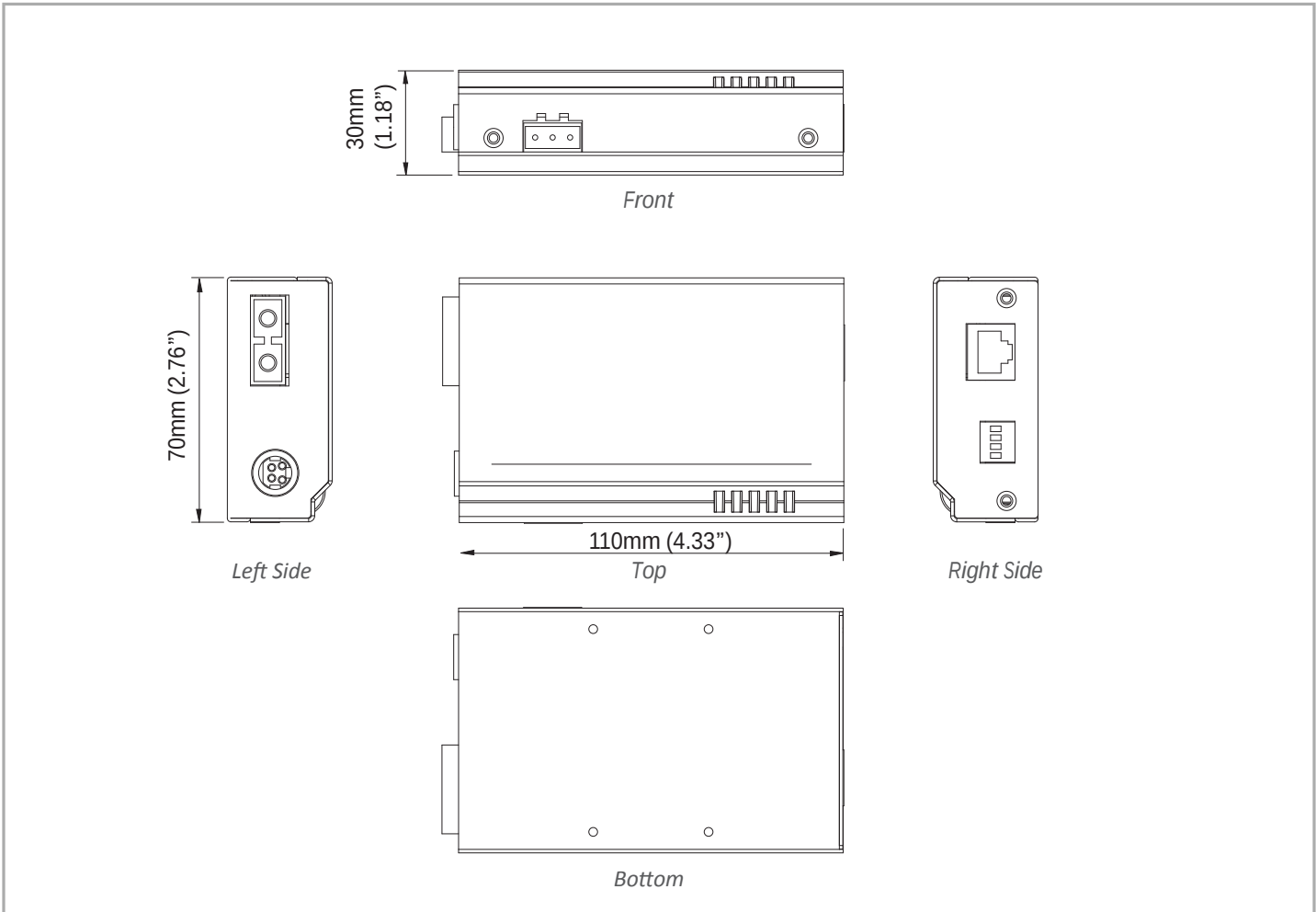
IEC60068-2-27 Ea (Shock)

FED STD 101C Method5007.1 (Free fall w/ package)

Application Diagram



Dimensions



Ordering Information

Model

EL1032T-X0B	Industrial 10/100BASE-TX to 100BASE-FX media converter with IEEE802.3af 15.4W and IEEE802.3at 30W PoE/PSE
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* DIN-Rail mounting kit included

100FX Fiber Options (X)

1	Multi Mode (SC)
2	Multi Mode (ST)
A	Single Mode (SC) - 20Km (1310nm)
B	Single Mode (SC) - 40Km (1310nm)
H	Single Mode (ST) - 20Km (1310nm)
6	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 2Km
7	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 2Km
8	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 5Km
9	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 5Km
P	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 20Km
Q	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km
R	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km
S	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km

* More 100FX Fiber options also available upon request

Optional Accessories

DR-75-48	75W/1.6A DIN-Rail 48VDC Industrial Power Supply (for terminal block)
MDR-40-48	40W/0.83A 48VDC Industrial Power Supply (for terminal block)
DD-85-48	85W/1.78A 48VDC industrial Power Supply (for terminal block)
DD-85-55	85W/1.78A 55VDC Industrial Power Supply (for terminal block)
GS120A-48	120W/2.5A 48VDC Power Adapter with latched DC jack in plastic housing (for DC jack)

EL1141 Series

IEC61850/IEEE1613 Hardened 10/100BASE-TX to 100BASE-FX Media Converter



Overview

The EL1141 Series provides media conversion between 10/100BASE-T and 100BASE-SX-LX Fiber. Built specifically for mission-critical applications in harsh environments, the EL1141's hardened design features high shock & vibration resistance, electrical noise immunity, wide operating temperature range from -40°C to 75°C, and ruggedized aluminum housing. The EL1141 passes IEC61850-3/IEEE1613 certifications and is suitable for power substation applications. With triple power inputs, link down alarming, Link-Fault-Pass-Through and a wide range of fiber connectivity options the EL1141 is the ideal media converter for harsh environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• IEC61850-3/IEEE1613 Certification

- Specific design for power automation applications

• EN50121-4 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 cabinets

• Link-Fault-Pass-Through (LFPT)

- LFPT function let network operators be aware of network connection status
- When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/FX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 128K bits

Processing Type

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

Power

Input Voltage

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

Power Consumption

- 2.4W MAX. 0.2A @ 12VDC, 0.05A @ 48VDC

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

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power 1, Power 2, Fault, Link-Fault-Pass-Through
- Per port 10/100TX: Link/Activity, Full-duplex/Collision, Speed
- Per port 100FX: Link/Activity, Full-duplex/Collision

Relay Contact

- Relay contact rating with current 1A @ 30VDC, 0.5A @ 120VAC

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

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)

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

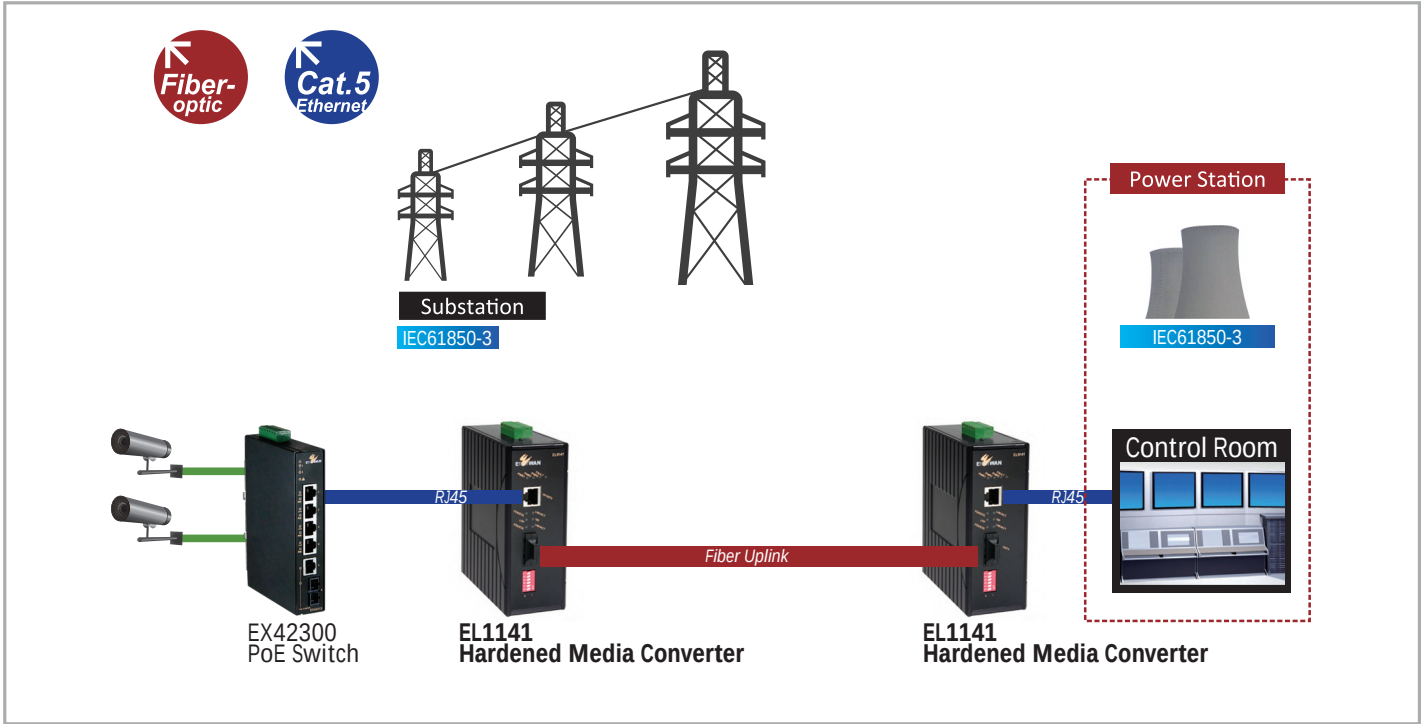
EMS

IEC61850-3 / IEEE1613

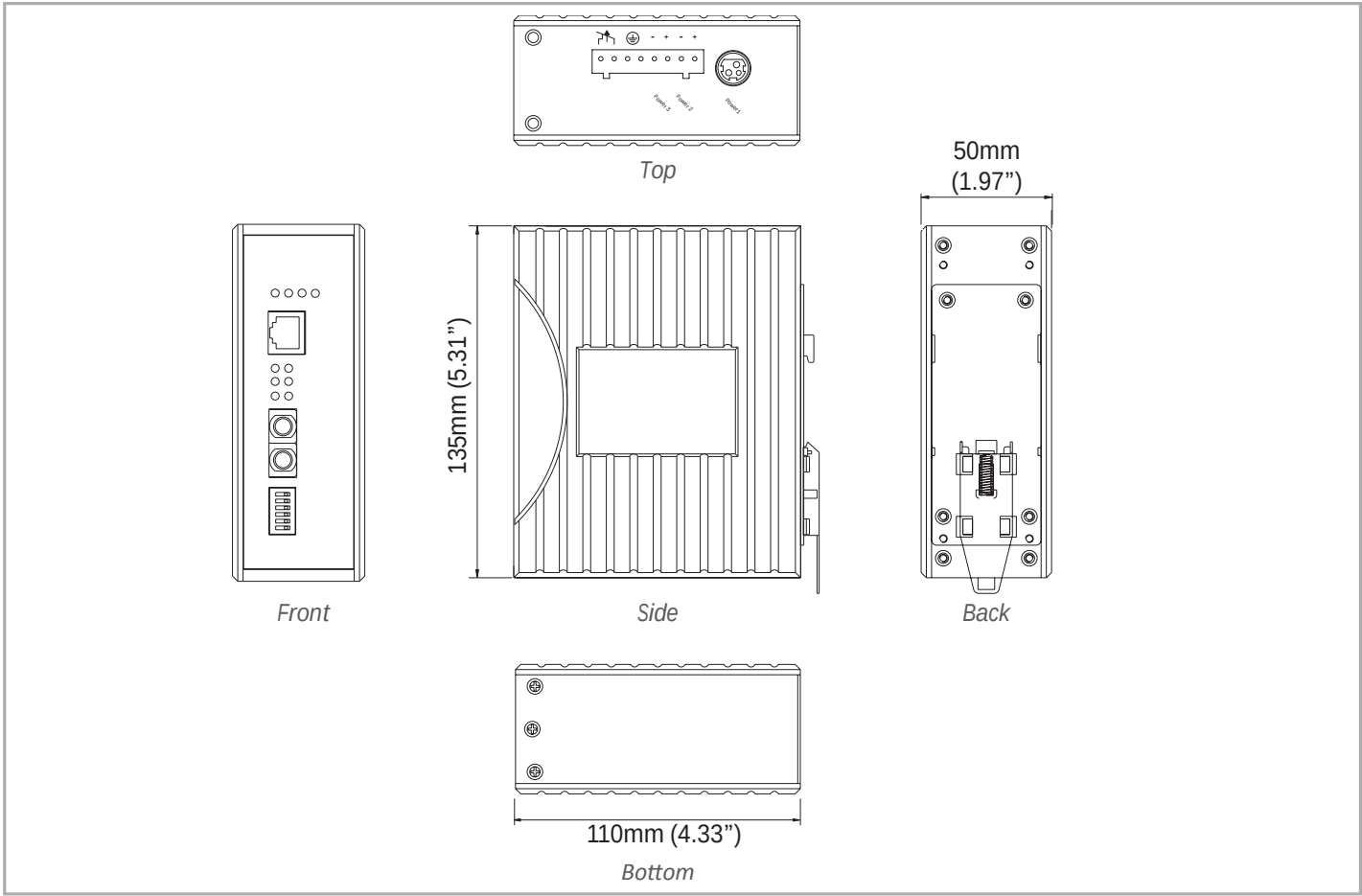
EN50121-4

NEMA TS2

Application Diagram



Dimensions



Ordering Information

Model

EL1141-X0B	10/100BASE-TX to 100BASE-FX Hardened Media Converter
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* DIN-Rail mounting kit included

100FX Fiber Options (X)

1	Multi Mode (SC) - 2Km (1310nm)
2	Multi Mode (ST) - 2Km (1310nm)
A	Single Mode (SC) - 20Km (1310nm)
B	Single Mode (SC) - 40Km (1310nm)
H	Single Mode (ST) - 20Km (1310nm)
6	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 2Km
7	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 2Km
8	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 5Km
9	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 5Km
P	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 20Km
Q	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km
R	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km
S	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km

* More 100FX Fiber options also available upon request

Optional Accessories

KP-AA96-480	Panel mounting kit
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

EX42011 Series

Industrial 10/100BASE-TX to 100BASE-FX Media Converter



Overview

The EX42011 Series provides media conversion between 10/100BASE-T and 100BASE-FX Fiber. Built specifically for mission-critical applications in harsh environments, the EX42011's industrial design features high shock/vibration resistance, electrical noise immunity, a wide operating temperature range from -10°C to 60°C. With link down alarming and a wide range of fiber connectivity options, the EX42011 is the ideal media converter for industrial environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• Plug-and-Play Media Converter

- Easy installation, plug-and-play without additional configuration, providing store-and-forward data transmission

• Wide Power Input Range

- From 12VDC to 48VDC voltage input range

• Industrial operating temperature range

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

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/FX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 384K bits

Processing Type

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

Power

Input Voltage

- 12 to 48VDC (Terminal Block)

Power Consumption

- 4.3W MAX. 0.3A @ 12VDC, 0.15A @ 24VDC

Protection

- Overload current protection
- Reverse polarity protection

Mechanical

Casing

- Plastic case
- IP30

Dimensions

- 26mm (W) x 70mm (D) x 110mm (H)
(1.02" (W) x 2.76" (D) x 4.33" (H))

Weight

- 0.2Kg (0.44lbs.)

Installation

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

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power 1
- Per port: Link/Activity (Green)
Speed (Yellow)

Environment

Operating Temperature

- -10°C to 60°C (-40°F to 167°F)
Tested @ -20°C to 70°C (-4°F to 158°F)

Storage Temperature

- -25°C to 85°C (-133°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

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)

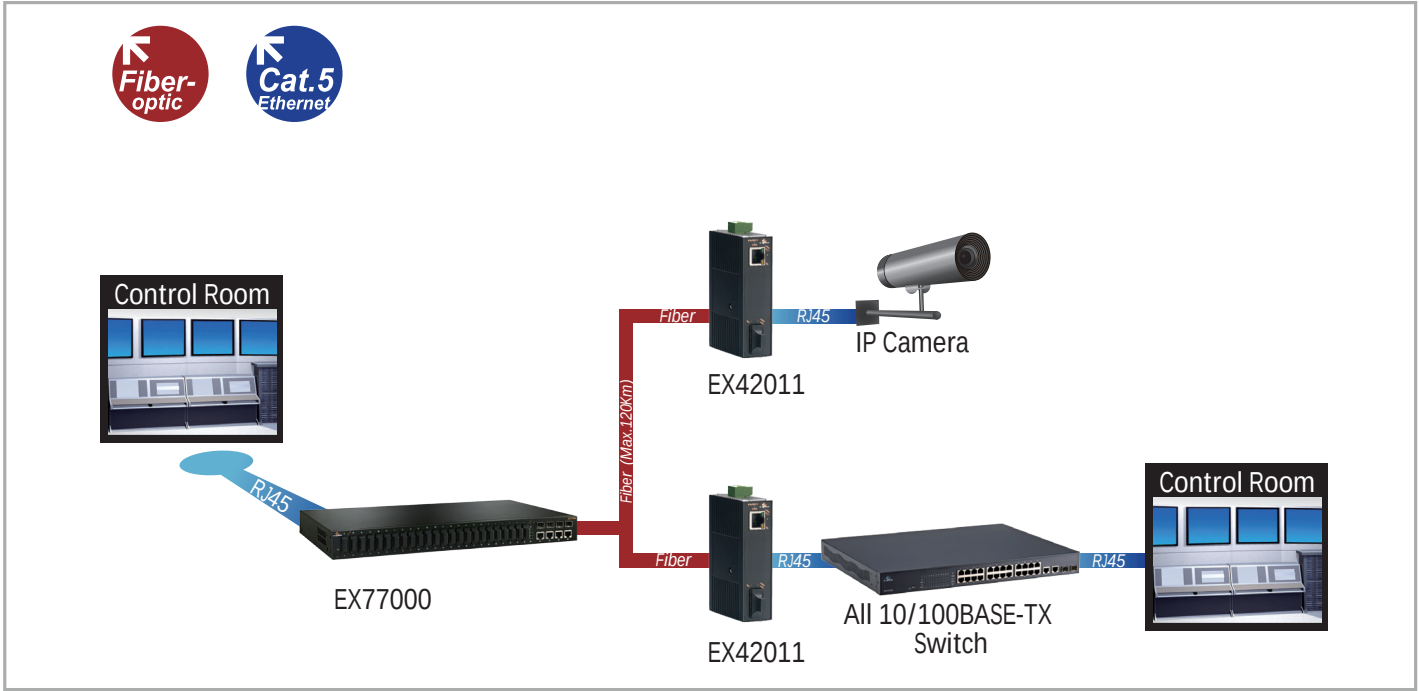
Environmental Test Compliance

IEC60068-2-6 Fc (Vibration Resistance)

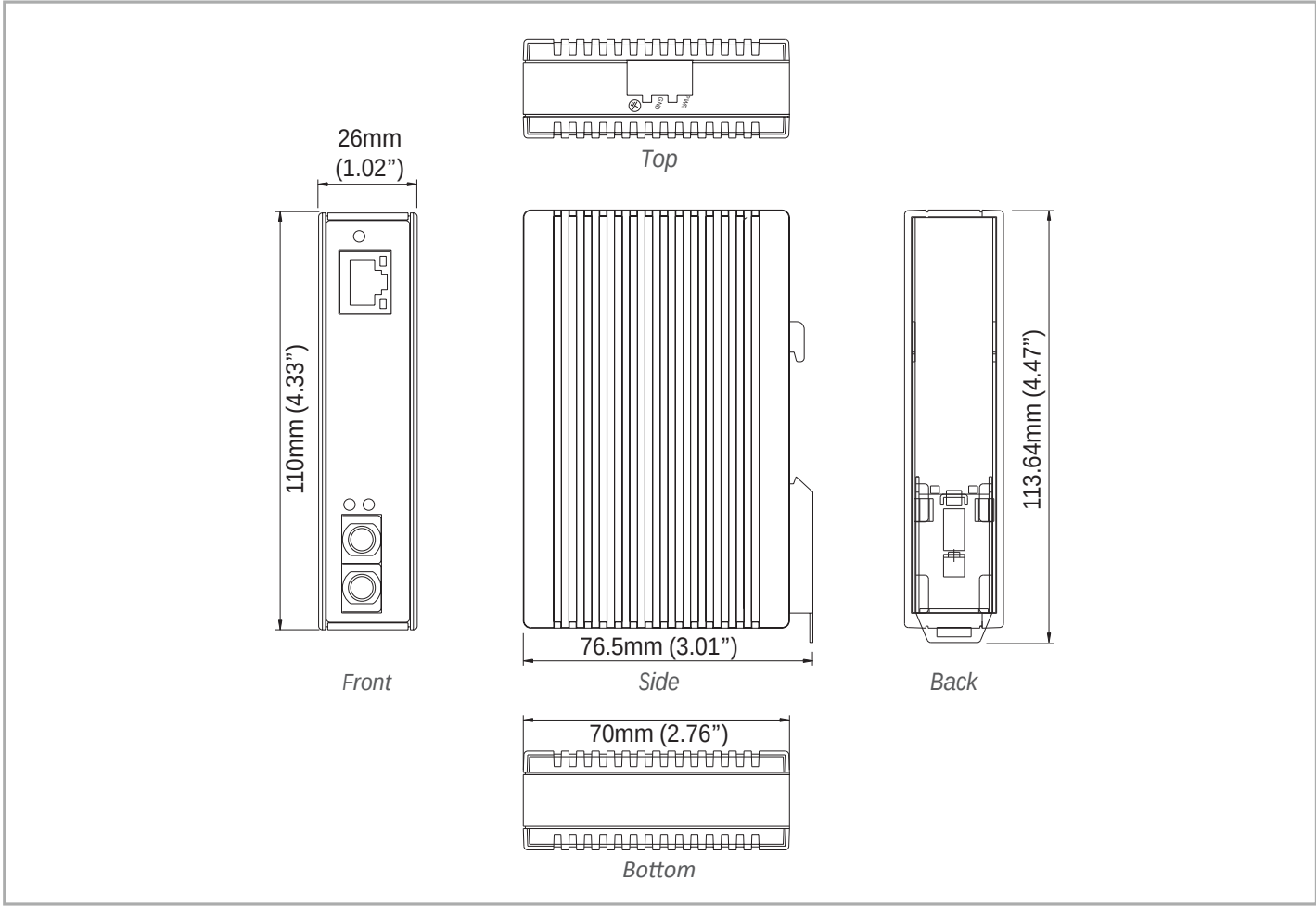
IEC60068-2-27 Ea (Shock)

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

Application Diagram



Dimensions



Ordering Information

Model

EX42011-XY-1-A	Industrial 10/100BASE-TX to 100BASE-FX Media Converter
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* DIN-Rail mounting kit included

100FX Fiber Options (XY)

1A	Multi Mode (SC) -2Km (1310nm)
1B	Multi Mode (ST) -2Km (1310nm)
2A	Single Mode (SC) -20Km (1310nm)
2B	Single Mode (SC) -40Km (1310nm)
2D	Single Mode (ST) -20Km (1310nm)
1H	Multi Mode (SC) WDM-TX: 1310nm/RX:1550nm -2Km
1J	Multi Mode (SC) WDM-TX: 1310nm/RX:1550nm -5Km
2E	Single Mode (SC) WDM-TX:1310nm/RX:1550nm -20Km
2F	Single Mode (SC) WDM-TX:1310nm/RX:1550nm -40Km
1I	Multi Mode (SC) WDM-TX: 1550nm/RX:1310nm -2Km
1K	Multi Mode (SC) WDM-TX: 1550nm/RX:1310nm -5Km
2G	Single Mode (SC) WDM-TX:1550nm/RX:1310nm -20Km
2H	Single Mode (SC) WDM-TX:1550nm/RX:1310nm -40Km

* More 100FX Fiber options also available upon request

Optional Accessories

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

EL200 / EL210 Series

10/100BASE-TX to 100BASE-BX WDM Media Converter



Overview

The EL200 / EL210 Series provide media conversion between 10/100BASE-T(X) and 100BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction. Through DIP switch selection, Link-Fault-Pass-Through (LFPT) function can be active or disabled.

The EL200 / EL210 series is designed for WDM fiber connection applications. This commercial grade media converter supports EtherWAN EMC1600 chassis system for easy group installation. The EL200 / EL210 are the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• WDM Media Converter

- Supports multi-mode and single mode fiber line with WDM fiber port

• DIP Switch Configurable

- Link-fault-pass-through enable or disable
- Full-duplex or half-duplex of Ethernet port enable or disable
- Full-duplex or half-duplex of fiber port enable or disable

• Link-Fault-Pass-Through (LFPT)

- LFPT function let network operators be aware of network connection status
- When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/FX
- IEEE802.3x Full duplex and flow control

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 128K bits

Processing Type

- Store-and-forward
- Half-duplex back-pressure and IEEE802.3x full-duplex flow control

Power

Input Voltage

- 12VDC

Power Consumption

- 1.92W Max. 0.16A @ 12VDC

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

- Wall mounting or use with EMC1600 media converter chassis system

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power Status (Power)
- Per Port: 10/100TX: Link/Activity, Full-duplex/Collision, Speed
- Per port 100FX: Link/Activity, Full-duplex/Collision

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO9001 facility

Safety

UL60950-1

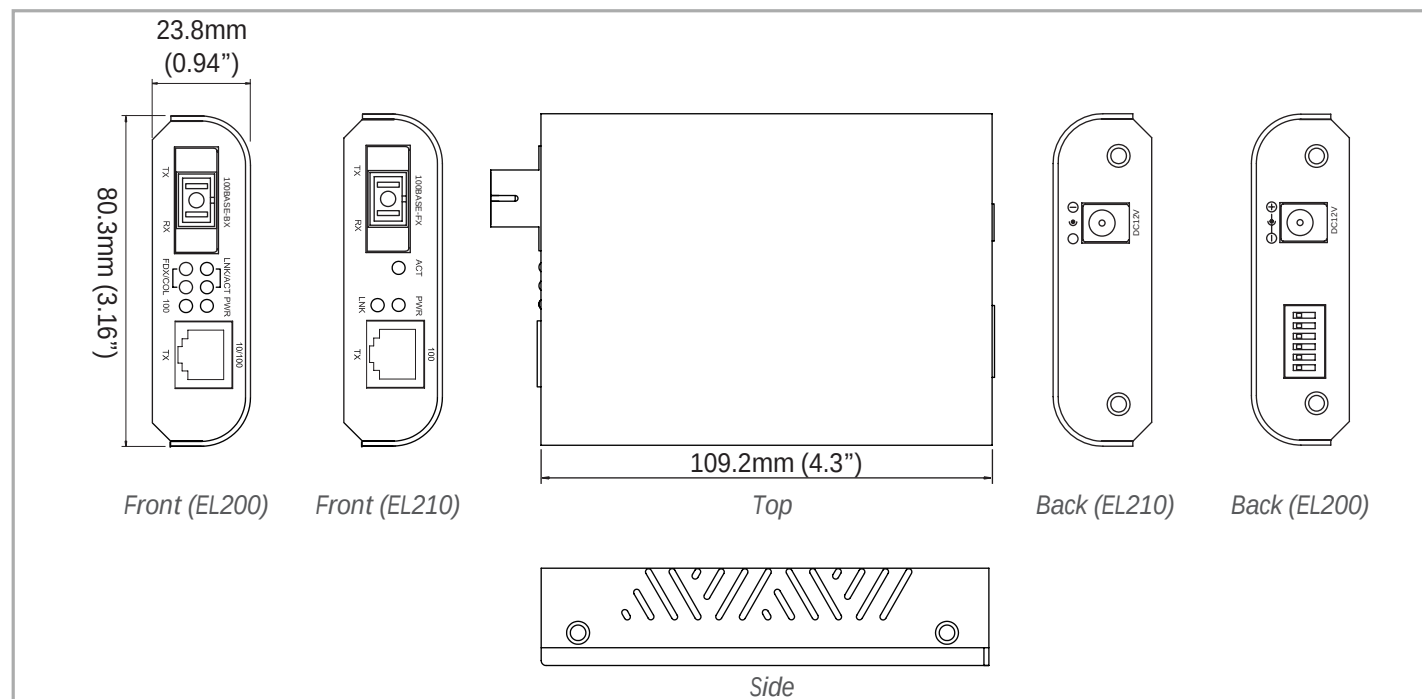
Emission Compliances

CE Mark Class A

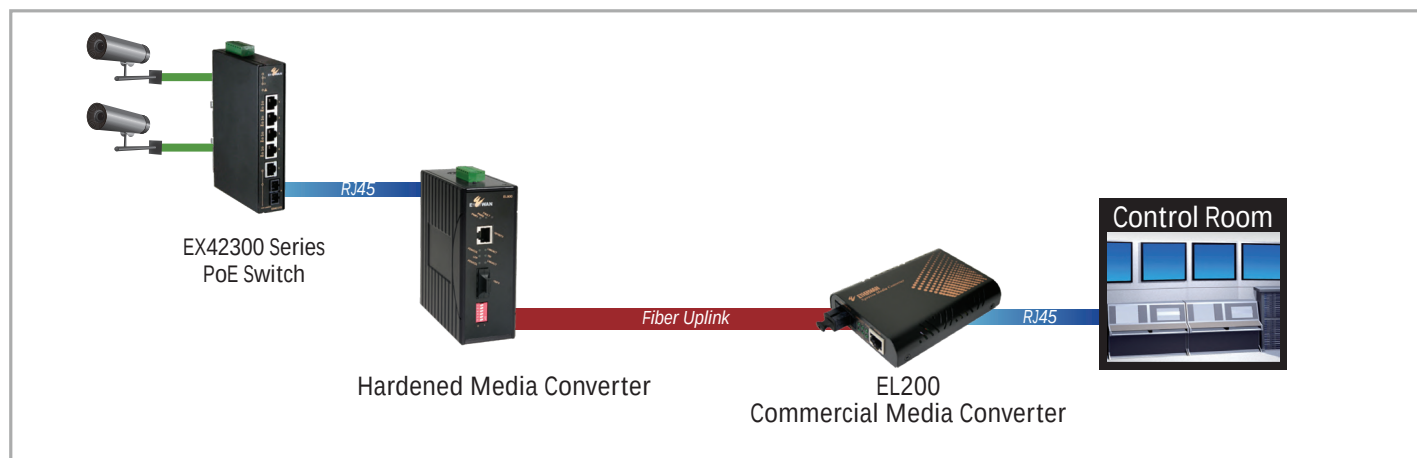
FCC Part 15 Class A

VCCI Class A

Dimensions



Application Diagram



Ordering Information

EL200 Model

EL200CA-2	10/100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1310nm/RX:1550nm -2Km Media Converter
EL200CB-2	10/100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1550nm/RX:1310nm -2Km Media Converter
EL200CA-5	10/100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1310nm/RX:1550nm -5Km Media Converter
EL200CB-5	10/100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1550nm/RX:1310nm -5Km Media Converter
EL200CA-20	10/100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1310nm/RX:1550nm -20Km Media Converter
EL200CB-20	10/100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1550nm/RX:1310nm -20Km Media Converter
EL200CA-40	10/100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1310nm/RX:1550nm -40Km Media Converter
EL200CB-40	10/100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1550nm/RX:1310nm -40Km Media Converter

EL210 Model

EL210CA-2	100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1310nm/RX:1550nm -2Km Media Converter
EL210CB-2	100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1550nm/RX:1310nm -2Km Media Converter
EL210CA-5	100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1310nm/RX:1550nm -5Km Media Converter
EL210CB-5	100BASE-TX to 100BASE-BX Multi Mode (SC) WDM -TX:1550nm/RX:1310nm -5Km Media Converter
EL210CA-20	100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1310nm/RX:1550nm -20Km Media Converter
EL210CB-20	100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1550nm/RX:1310nm -20Km Media Converter
EL210CA-40	100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1310nm/RX:1550nm -40Km Media Converter
EL210CB-40	100BASE-TX to 100BASE-BX Single Mode (SC) WDM -TX:1550nm/RX:1310nm -40Km Media Converter

NOTES :

*EMC1600, proprietary 19" chassis system, can house up to 16 x EL200/EL210 Series Converters

*EMC1600 Chassis System is available separately

*More 100FX fiber options are also available upon request

EM120 Series

100BASE-FX Multi-Mode/Single-Mode to 100BASE-FX
Single-Mode Media Converter



Overview

The EM120 Series provides media conversion between 100BASE-FX Fiber and 100BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction. The EM120 series is designed for SC, ST and WDM fiber connection selections. The commercial grade media converter supports EtherWAN EMC1600 chassis system for easy group installation. The EM120 is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

• Plug-and-Play Media Converter

- Easy installation, plug-and-play without additional configuration, providing store-and-forward data transmission

• Fiber to Fiber Conversion

- Supports single mode or multi-mode fiber connector
- Supports SC/ST/WDM fiber connector

• Optional Chassis System

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

Hardware Specifications

Technology

Standards

- IEEE802.3u 100BASE-TX/FX

Forward and Filtering Rate

- 148,810pps for 100Mbps

Power

Input Voltage

- 12VDC

Power Consumption

- 2.76W Max. 0.23A @ 12VDC

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

- Wall mounting or use with EMC1600 media converter chassis system

Interface

Ethernet Port

- 100BASE-FX: 2 ports

LED Indicators

- Per Unit: Power Status (Power), Link

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

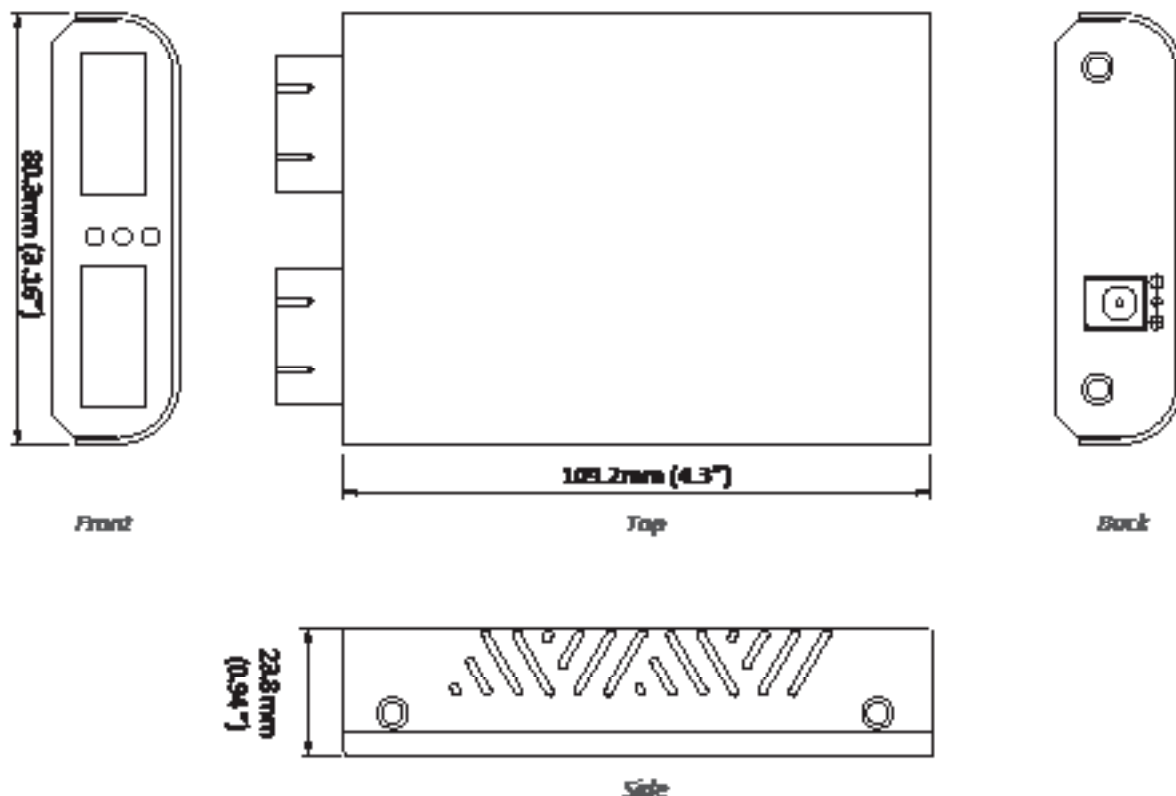
- Manufactured in an ISO9001 facility

Emission Compliances

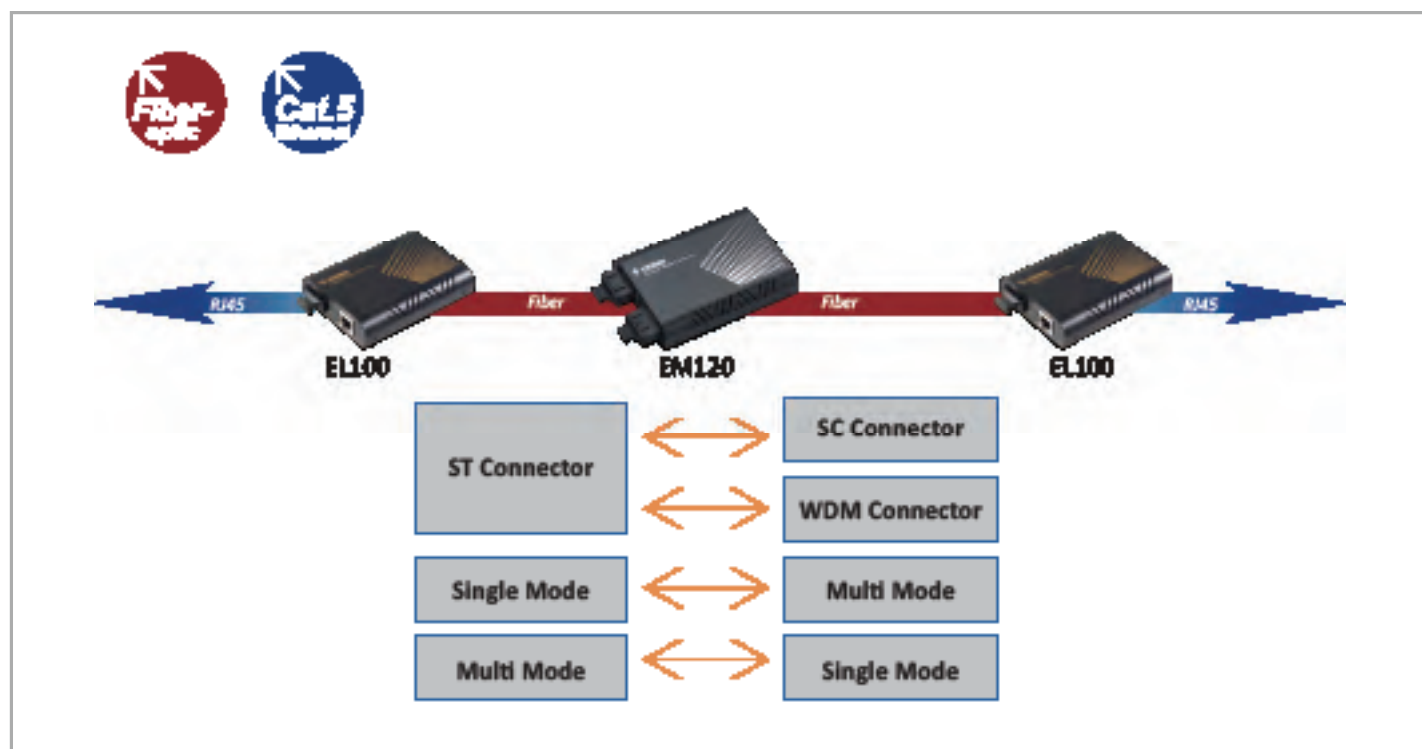
CE Mark Class A

FCC Part 15B Class A

Dimensions



Application Diagram



Ordering Information

Model

EM120MCC-40	100BASE-FX MultiMode(SC) to 100BASE-FX Single Mode(SC)-40Km Media Converter(1310nm)
EM120MTC-40	100BASE-FX MultiMode(ST) to 100BASE-FX Single Mode(SC)-40Km Media Converter(1310nm)
EM120MCT-20	100BASE-FX MultiMode(SC) to 100BASE-FX Single Mode(ST)-20Km Media Converter(1310nm)
EM120MTT-20	100BASE-FX MultiMode(ST) to 100BASE-FX Single Mode(ST)-20Km Media Converter(1310nm)
EM120MCCA-20	100BASE-BX MultiMode(SC) to 100BASE-FX Single Mode(SC) WDM-TX:1310nm/RX:1550nm-20Km Media Converter
EM120MCCB-20	100BASE-BX MultiMode(SC) to 100BASE-FX Single Mode(SC) WDM-TX:1550nm/RX:1310nm-20Km Media Converter
EM120MTCA-20	100BASE-BX MultiMode(ST) to 100BASE-FX Single Mode(SC) WDM-TX:1310nm/RX:1550nm-20Km Media Converter
EM120MTCB-20	100BASE-BX MultiMode(ST) to 100BASE-FX Single Mode(SC) WDM-TX:1550nm/RX:1310nm-20Km Media Converter

NOTES :

- * Single Mode to Single Mode version converters are also available
- * EMC1600, proprietary 19" chassis system, can house up to 16 x EM120 Series Converters
- * EMC1600 Chassis System is available separately
- * More 100FX fiber options are also available upon request

EL100 / EL110 Series

10/100BASE-TX to 100BASE-FX Media Converter



Overview

The EL100 / EL110 Series provide media conversion between 10/100BASE-T(X) and 100BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction. Through DIP switch selection, Link-Fault-Pass-Through (LFPT) function can be active or disabled. The EL100 / EL110 series is designed for SC or ST fiber connection applications. The commercial grade media converter supports EtherWAN EMC1600 chassis system for easy group installation. The EL100 / EL110 is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **SC and ST Media Converter**
 - Supports multi-mode and single mode fiber line with SC and ST fiber port
- **DIP Switch Configurable**
 - Link-fault-pass-through enable or disable
 - Full-duplex or half-duplex of Ethernet port enable or disable
 - Full-duplex or half-duplex of fiber port enable or disable
- **Link-Fault-Pass-Through (LFPT)**
 - LFPT function let network operators be aware of network connection status
 - When fiber link is down, LFPT function will turn down Ethernet port to inform connected device that the link is down and vice versa

Hardware Specifications

Technology

Standards

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

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 128K bits

Processing Type

- Store-and-forward
- Half-duplex back-pressure and IEEE802.3x full-duplex flow control

Power

Input Voltage

- Input: 12VDC

Power Consumption

- 1.92W Max. 0.16A @ 12VDC

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

- Wall mounting or use with EMC1600 media converter chassis system

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Unit: Power Status (Power)
- Per Port: 10/100TX: Link/Activity, Full-duplex/Collision, Speed
- Per port 100FX: Link/Activity, Full-duplex/Collision

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO9001 facility

Safety

UL60950-1

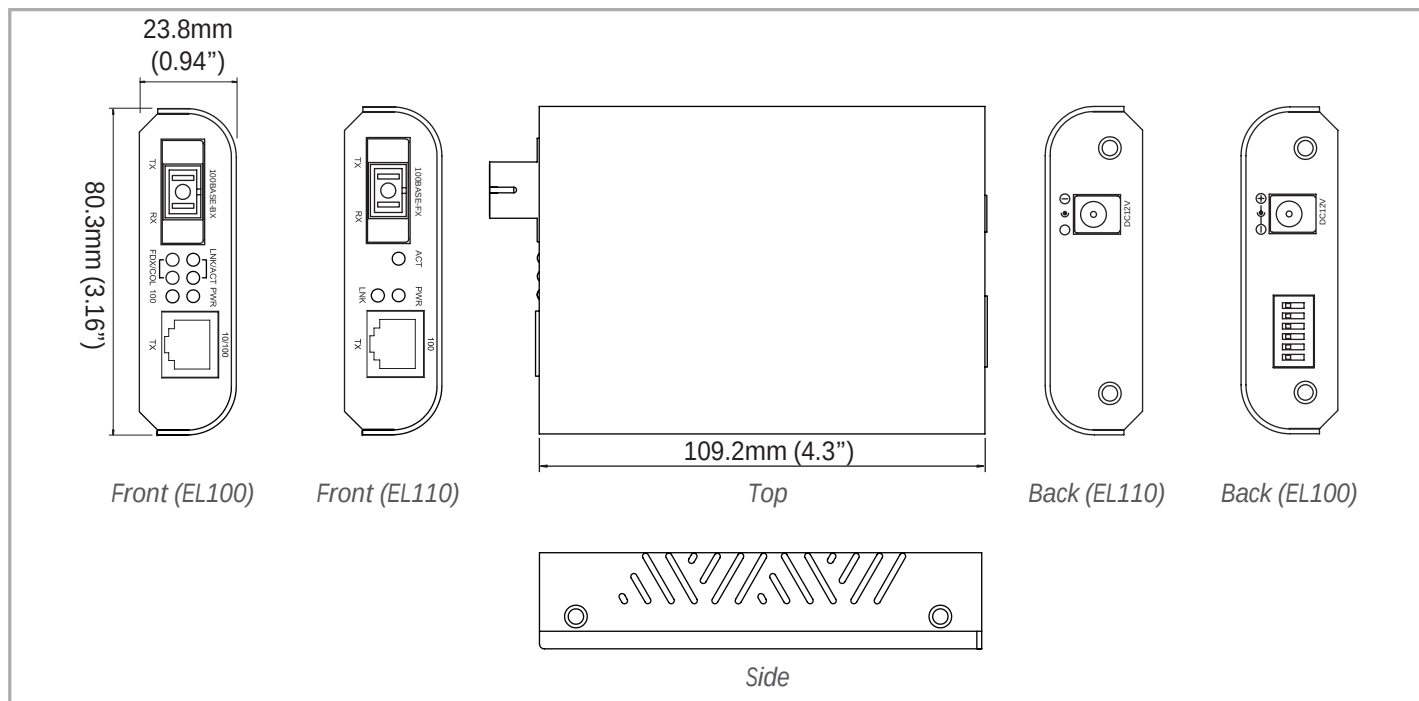
Emission Compliance

CE Mark Class A

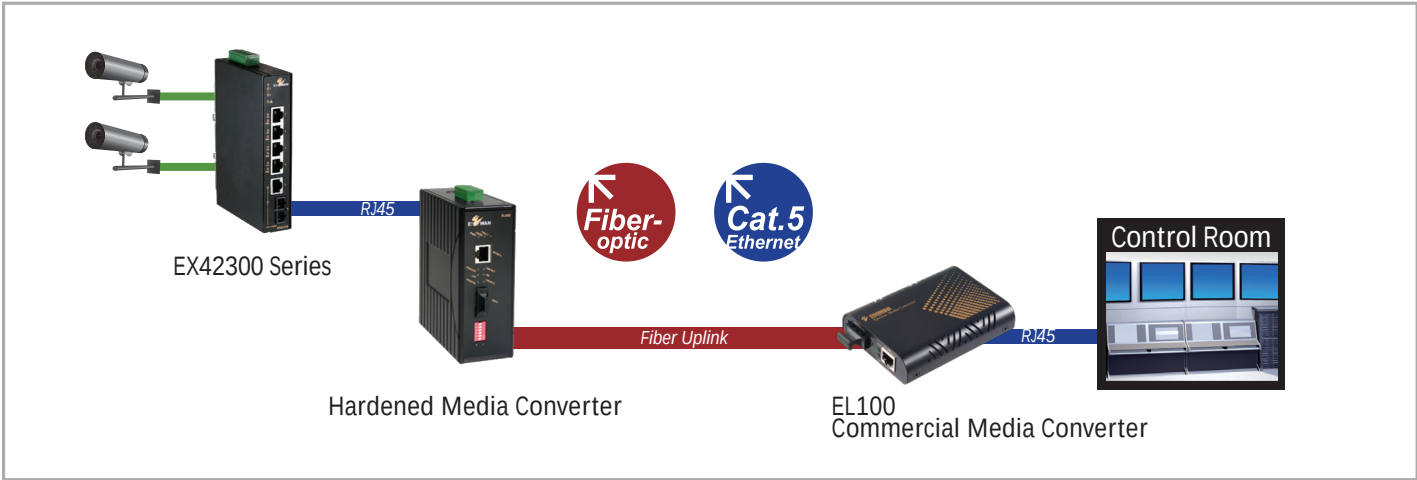
FCC Part 15B Class A

VCCI Class A

Dimensions



Application Diagram



Ordering Information

EL100 Series

EL100C	10/100BASE-TX to 100BASE-FX Multi Mode (SC) 2Km Media Converter (1310nm)
EL100T	10/100BASE-TX to 100BASE-FX Multi Mode (ST) 2Km Media Converter (1310nm)
EL100C-20	10/100BASE-TX to 100BASE-FX Single Mode (SC) -20Km Media Converter (1310nm)
EL100T-20	10/100BASE-TX to 100BASE-FX Single Mode (ST) -20Km Media Converter (1310nm)
EL100L-20	10/100BASE-TX to 100BASE-FX Single Mode (SFF Dual LC) -20Km Media Converter (1310nm)
EL100C-40	10/100BASE-TX to 100BASE-FX Single Mode (SC) -40Km Media Converter (1310nm)

EL110 Series

EL110C	100BASE-TX to 100BASE-FX Multi Mode (SC) Media Converter
EL110T	100BASE-TX to 100BASE-FX Multi Mode (ST) Media Converter
EL110C-20	100BASE-TX to 100BASE-FX Single Mode (SC) -20Km Media Converter (1310nm)
EL110T-20	100BASE-TX to 100BASE-FX Single Mode (ST) -20Km Media Converter (1310nm)
EL110C-40	100BASE-TX to 100BASE-FX Single Mode (SC) -40Km Media Converter (1310nm)

NOTES :

- *EMC1600, proprietary 19" chassis system, can house up to 16 x EL100/EL110 Series Converters
- *EMC1600 Chassis System is available separately
- *More 100FX fiber options are also available upon request

EL50 Series

Mini-Sized 10/100BASE-TX to 100BASE-FX Media Converter



Overview

The EL50 Series provides media conversion between 10/100BASE-T(X) and 100BASE-FX Fiber. Easy plug-and-play design facilitates network infrastructure construction. The EL50 series is designed for SC or ST fiber connection applications. The compact size of EL50 is suitable for space limit installation and EL50 is the ideal media converter for enterprise environments.

EtherWAN – “When Connectivity is Crucial”.

Spotlight

- **Mini-Sized Media Converter**
 - Supports SC/ST/WDM and both single mode and multi-mode fiber connectors
- **Plug-and-Play Media Converter**
 - Easy installation, plug-and-play without additional configuration, providing store-and-forward data transmission
- **UL60950-1 Certification**
 - Certified by UL60950-1 standard and providing protections to installers from risk of injury or damage

Hardware Specifications

Technology

Standards

- IEEE802.3 10BASE-T
- IEEE802.3u 100BASE-TX/100BASE-FX

Forward and Filtering Rate

- 14,880pps for 10Mbps
- 148,810pps for 100Mbps

Packet Buffer Memory

- 128K bits

Processing Type

- Store-and-Forward

Power

Input

- DC Jack : 12VDC, 1.92W MAX. 0.08A
- Terminal Block : 24VAC, 0.17A

Power Consumption

- 1.92W Max. 0.16A @ 12VDC

Mechanical

Casing

- Metal case

Dimensions

- 54.2mm (W) x 80.3mm (D) x 21.9mm (H)
(2.13" (W) x 3.16" (D) x 0.86" (H))

Weight

- 140g (0.31lb.)

Installation

- Desktop

Interface

Ethernet Port

- 10/100BASE-TX: 1 port
- 100BASE-FX: 1 port

LED Indicators

- Per Port 10/100TX: Link/Activity
- Per port 100FX: Link/Activity

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO9001 facility

Safety

UL60950-1

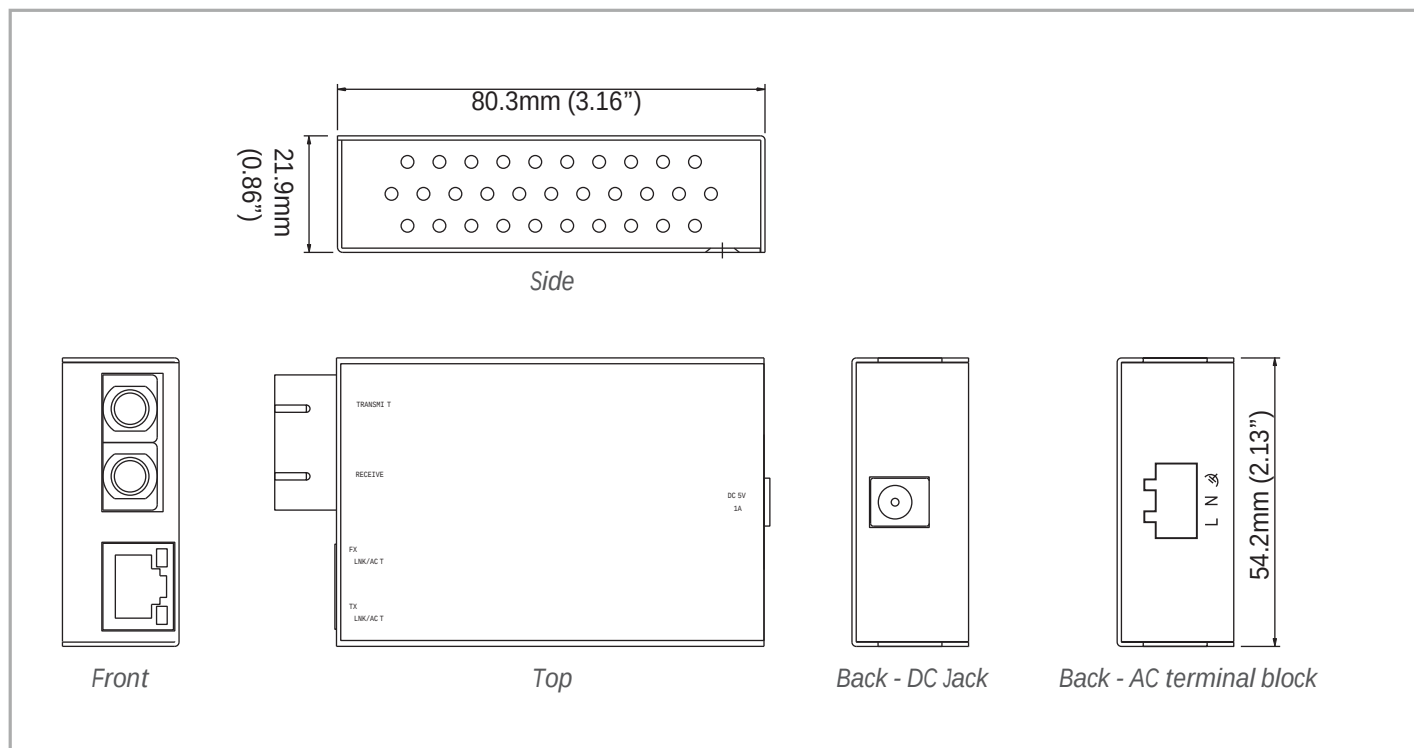
Emission Compliances

CE Mark Class A

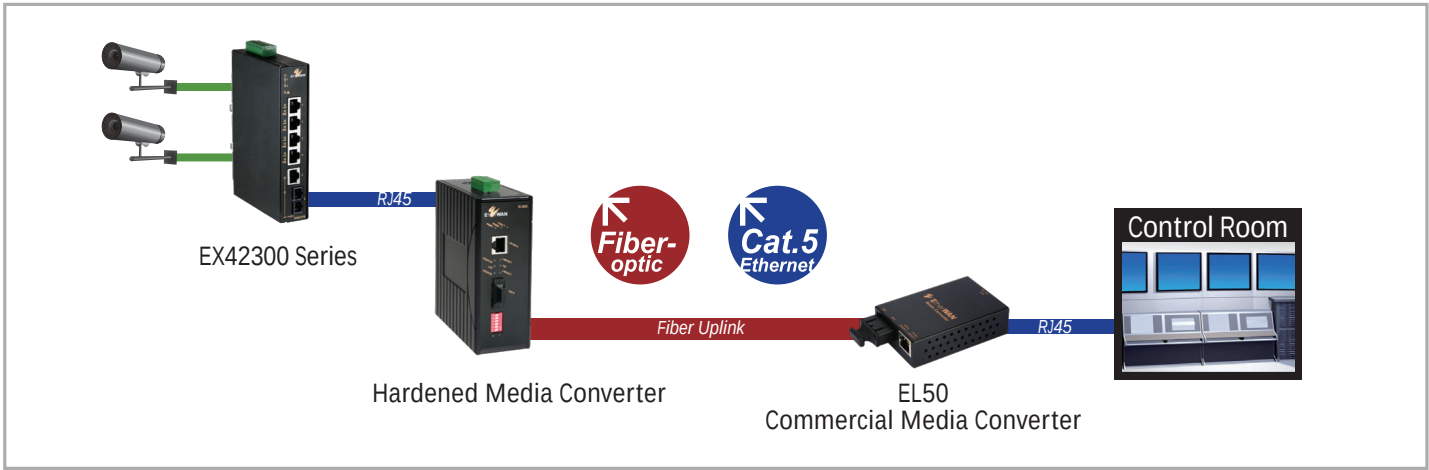
FCC Part 15B Class A

VCCI Class A

Dimensions



Application Diagram



Ordering Information

Model

EL50XX-YY-ZZ	10/100BASE-TX to 100BASE-FX Media Converter
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100FX Fiber Type-Distance Options (XX-YY)

T	Multi Mode (ST) -2Km (1310nm)
C	Multi Mode (SC) -2Km (1310nm)
T-20	Single Mode (ST) - 20Km (1310nm)
C-20	Single Mode (SC) - 20Km (1310nm)
C-40	Single Mode (SC) - 40Km (1310nm)
CA-2	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 2Km
CB-2	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 2Km
CA-5	Multi Mode (SC) WDM -TX:1310nm/RX:1550nm - 5Km
CB-5	Multi Mode (SC) WDM -TX:1550nm/RX:1310nm - 5Km
CA-20	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 20Km
CB-20	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 20Km
CA-40	Single Mode (SC) WDM -TX:1310nm/RX:1550nm - 40Km
CB-40	Single Mode (SC) WDM -TX:1550nm/RX:1310nm - 40Km

Power Adapter Options (ZZ)

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
AC	with 24VAC Terminal Block Power Interface

**More 100FX fiber options are also available upon request*

EMC400

4-Bay Commercial Media Converter Chassis



Overview

The EMC400, 4-slot Din-Rail mount chassis brings Flexibility, Reliability and Redundancy to mission critical network infrastructures. Its flexible design allows for a variety of EtherWAN Media Converters and Ethernet Extenders to be combined into one chassis giving users a solution that fits the needs of each individual network installation. Designed with dual power inputs, the EMC400 allows for two separate power sources to increase reliability and dependability eliminating the single point of failure of a single power source. With its hot swappable design, the EMC400 allows existing communications to remain uninterrupted during the simple installation of EtherWAN Media Converters and Ethernet Extenders. In addition, the EMC400 incorporates Electrical Isolation with fused overcurrent protection between devices within its chassis. With its solid metal enclosure, DIN-Rail mount design, and hot swappable technology, the EMC400 is the ideal solution for reliably interconnecting separated network media and pushing Ethernet beyond its boundaries.

EtherWAN – “When Connectivity is Crucial.”

Spotlight

• Hot-Swap Installation

- Hot-swappable installation of Media Converters and Ethernet Extenders.

• 4-Slot DIN-Rail Chassis

- Supports redundant terminal block power inputs.

• Supports EtherWAN's Ethernet Extenders and Media Converters

- Supported models include EL2321, EL2211, EL2315, EM1100/EM2100, EM1000/EM2000, EM1000S/EM2000S, EM1020, EM120, EL100/EL200, EL110/EL210, ED3331 and ED3501 series.

Hardware Specifications

Power

Input

- Power supply input: 90 - 264VAC
- EMC400 chassis input: 12VDC

Wiring

- Minimum cable AWG: 16 AWG

Power Consumption

- Max. 19W@ Full installation, depending on installed devices

Protection

- Over current protection

Mechanical

Casing

- Steel Electrogalvanized ColdRolled Coil (SECC)

Dimensions

- 130mm(W) x 164mm(D) x 92.1mm(H)
(5.12"(W) x 6.46"(D) x 3.63"(H))

Weight

- 1.37kg (3.02lb)

Installation

- DIN-Rail

Interface

LED Indicators

-  1: On, power input 1 is connected
Off, power input 1 is disconnected
-  2: On, power input 2 is connected
Off, power input 2 is disconnected

Environment

Operating Temperature

- -20°C to 60°C (-4°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

EMI

FCC Part 15B, Class A

EN61000-6-4

- EN55022

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)

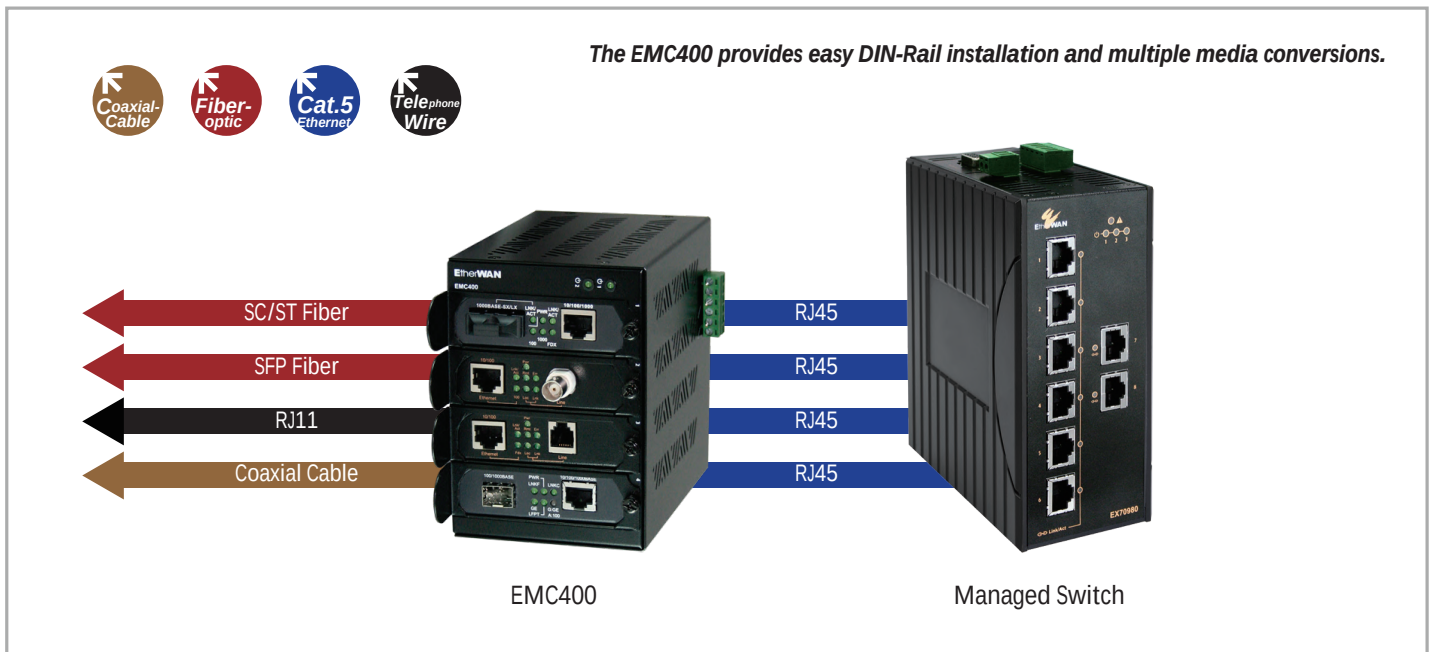
Environmental Test Compliance

IEC60068-2-6 Fc (Vibration)

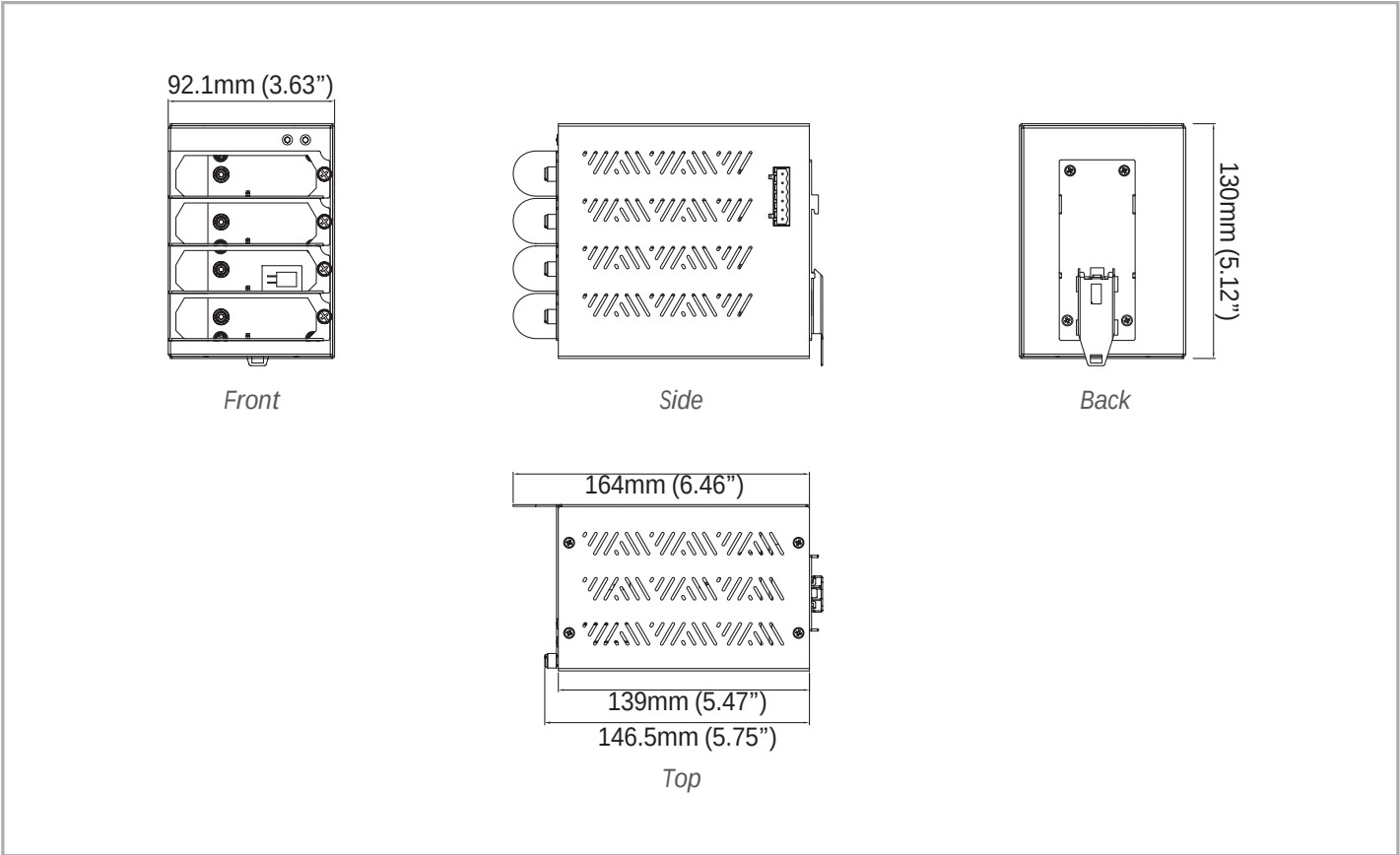
IEC60068-2-27 Ea (Shock)

IEC60068-2-32 Ed (Free fall)

Application Diagram



Dimensions



Ordering Information

Model	
EMC400-EPWS	4-Slot DIN-Rail Media Converter Chassis with two DR-30-12 Power Supplies in the Package
EMC400	4-Slot DIN-Rail Media Converter Chassis

* DIN-Rail mounting kit is included

EMC1200R Series

12-Bay Media Converter System



Overview

The EMC1200R is a 12-Bay chassis system specifically designed to house and power selected EtherWAN Media Converters and Ethernet Extenders in a 19" rack enclosure.

The dynamic selections of EtherWAN's media converter and Ethernet extender family provide flexible system combinations. Each bay is electrically isolated from each other with fused over-current protection resulting in unprecedented reliability. The redundant internal power supplies provide both power redundancy and load sharing. Support for both AC & DC power input options allows the EMC1200R to be used worldwide. With its solid metal enclosure, standard 19" rack-mount and one-unit height design, the EMC1200R is ideal for interconnecting disparate network media and extending Ethernet beyond its boundaries.

EtherWAN – "When Connectivity is Crucial".

Spotlight

• 12-Bay Rackmount Chassis

- Powers up 12 media converters with redundant terminal block power inputs

• Supports EtherWAN's Ethernet extenders and media converters

- Supported media converter Model include, EL2321, EL2211, EL2315, EM1100/EM2100, EM1000/EM2000, EM1000S/EM2000S, EM1020, EM120, EL100/EL200, and EL110/EL210 Series

Hardware Specifications

Power

Input

- 100 - 240VAC, 50 - 60Hz Internal Universal PSU

Power Consumption

- 9.4Watts, system w/o media converters, but with redundant PSUs.
- For total EMC1200R power consumption, please calculate with the selected media converters' datasheets.

Mechanical

Casing

- Metal case

Dimensions

- 440mm (W) x 243mm (D) x 45mm (H)
(17.32" (W) x 9.57" (D) x 1.77" (H))

Weight

- 3.1Kg (6.82lbs.)

Installation

- Rack mounting

Environment

Operating Temperature

- 0°C to 45°C (32°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

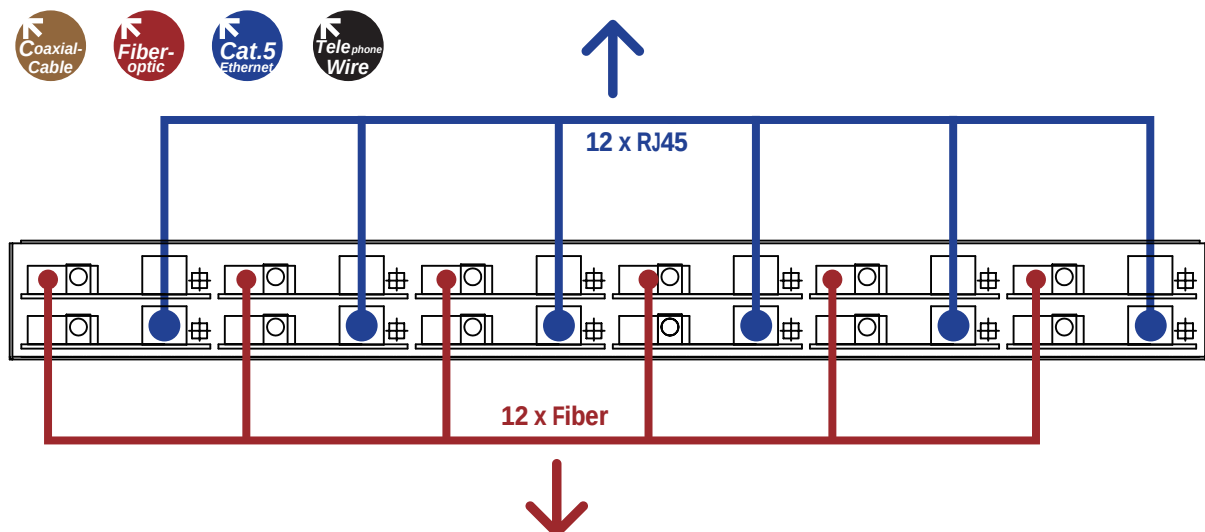
Emission Compliance

FCC Part 15B, Class A

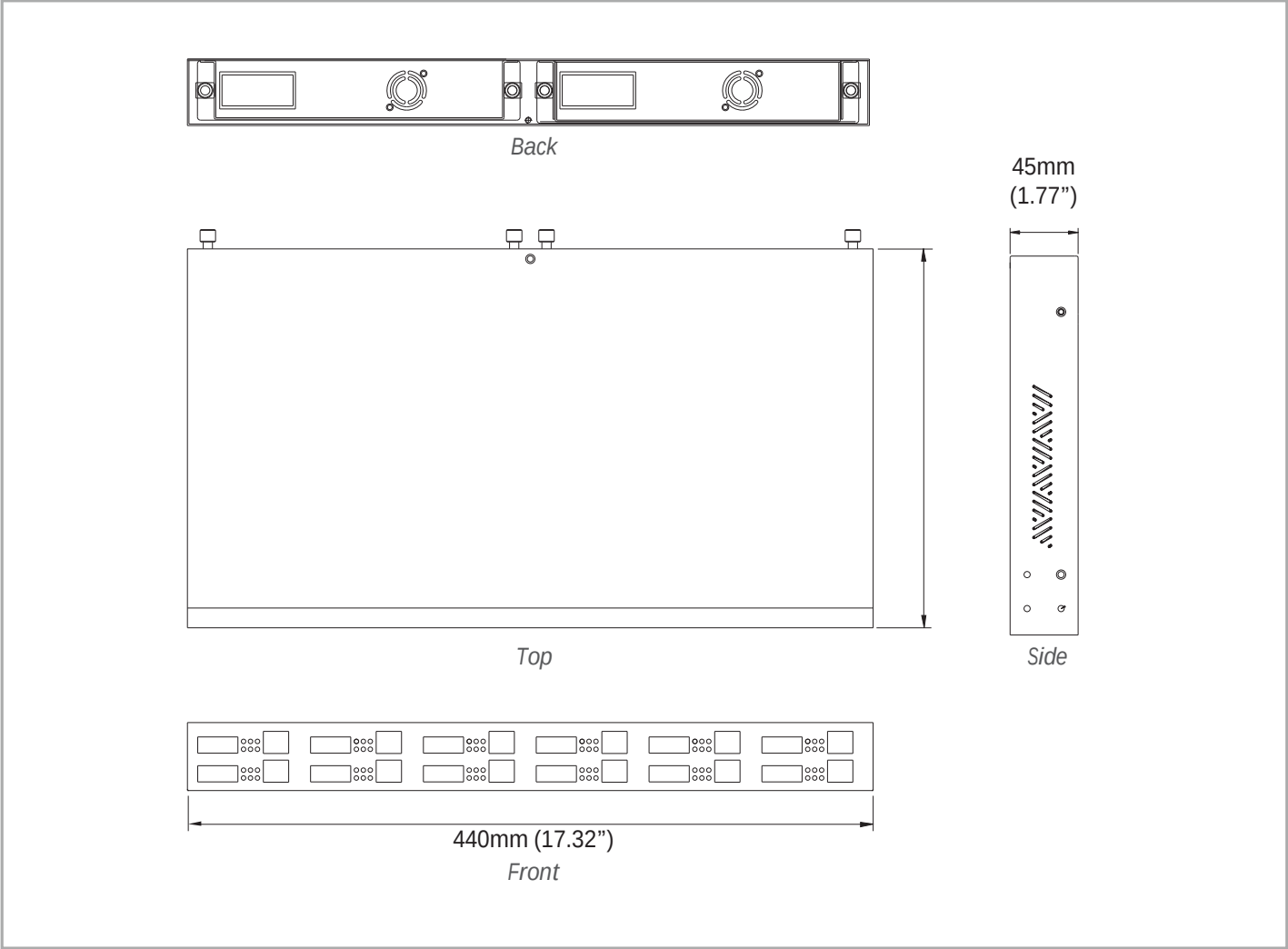
CE Mark Class A

Application Diagram

The EMC1200R provides rack mount installation for medium network system



Dimensions



Ordering Information

Model

EMC1200RC	12-Bay EL100C Media Converter System
EMC1200RT	12-Bay EL100T Media Converter System
EMC1200RL	12-Bay EL100L Media Converter System
EMC1210RC	12-Bay EL110C Media Converter System
EMC1210RT	12-Bay EL110T Media Converter System
EMC1210RL	12-Bay EL110L Media Converter System
EMC1220RCC-15	12-Bay EM120MCC-15 Media Converter System
EMC1220RTC-15	12-Bay EM120MTC-15 Media Converter System
EMC1220RLC-15	12-Bay EM120MLC-15 Media Converter System

Notes:

- * ST fiber also available in Single Mode, 20Km
- * SC fiber also available in Single Mode, 20/40/60/100/120Km
- * SC fiber also available in WDM Type A and Type B, Single Mode 20/40Km, and Multi Mode 2/5Km
- * More SFP options are available upon request. Please visit Etherwan.com for the latest SFP module datasheet.

Ordering Information - continued

Model

EMC1200RGS	12-Bay Gigabit SFP Media Converter System
EMC1230RTSC	12-Bay EL2211-31 Media Converter System
EMC1230RTLC-10	12-Bay EL2211-A1 Media Converter System
EMC1230RTLC-20	12-Bay EL2211-B1 Media Converter System
EMC1200RTSC	12-Bay EM1000TSC Media Converter System
EMC1200RTLC-10	12-Bay EM1000TLC-10 Media Converter System
EMC1200RTLC-20	12-Bay EM1000TLC-20 Media Converter System
EMC1210RTSC	12-Bay EM1100TSC Media Converter System
EMC1210RTLC-10	12-Bay EM1100TLC-10 Media Converter System
EMC1210RTLC-20	12-Bay EM1100TLC-20 Media Converter System
EMC1200RSLC-10	12-Bay EM1000SLC-10 Media Converter System
EMC1200RSLC-20	12-Bay EM1000SLC-20 Media Converter System
EMC1200RLLC-10	12-Bay EM1000LLC-10 Media Converter System
EMC1200RLLC-20	12-Bay EM1000LLC-20 Media Converter System

Note:

* SC fiber also available in WDM Type A and Type B, Single Mode 10/20Km, and Multi Mode 2/5Km

* More SFP options are available upon request. Please visit Etherwan.com for the latest SFP modules datasheet.

EMC1600 Series

16-Bay Media Converter and Ethernet Extender Chassis



Overview

The EMC1600 is a 16-Bay chassis specifically designed to house and power selected EtherWAN Media Converters and Ethernet Extenders in a 19" rack enclosure.

The hot swappable design enables easy installation, product additions, and deletions of EtherWAN Media Converters and Ethernet Extenders without interrupting existing communications within the chassis. Each bay is electrically isolated from each other with fused over-current protection resulting in unprecedented reliability. The redundant internal power supplies provide both power redundancy and load sharing. Support for both AC & DC power input options allows the EMC1600 to be used worldwide. With its solid metal enclosure, standard 19" rack-mount and two-unit height design, the EMC1600 is ideal for interconnecting disparate network media and extending Ethernet beyond its boundaries.

EtherWAN — "When Connectivity is Crucial."

Spotlight

• Hot-Swappable

- The chassis system is capable of hot-swap installations of selected EtherWAN's media converter and Ethernet extender Model

• 16-Bay Rackmount Chassis

- Powers up 16 media converters with redundant power supply modules

• Supports EtherWAN's Ethernet Extenders and Media Converters

- Supported media converter models include EL2321, EL2211, EL2315, EM1100/EM2100, EM1000/EM2000, EM1000S/EM2000S, EM1020, EM120, EL100/EL200 and EL110/EL210 series
- Supported Ethernet extender models include ED3101 and ED3331 Series, but the operating temperature is limited from 0°C to 45°C

Hardware Specifications

Power

Input

- 100 - 240VAC, 50 - 60Hz Internal Universal PSU
- ± 48 VDC

Power Consumption

- System: 5.4W Max

Protection

- Over current protection

Mechanical

Casing

- Metal case

Dimensions

- 440mm (W) x 276mm (D) x 90mm (H)
(17.32" (W) x 10.87" (D) x 3.54" (H))
- Standard 19" rack-mount size, two-unit-height

Weight

- 6.8Kg (14.96lbs.)

Installation

- Rack mounting

Interface

LED Indicators

- Per Unit: Power Status (Power)

Environment

Operating Temperature

- 0°C to 45°C (32°F to 113°F)

Storage Temperature

- -10°C to 70°C (14°F to 158°F)

Ambient Relative Humidity

- 5% to 95% (non-condensing)

Regulatory Approvals

ISO

- Manufactured in an ISO9001 facility

Safety

UL60950-1

Emission Compliances

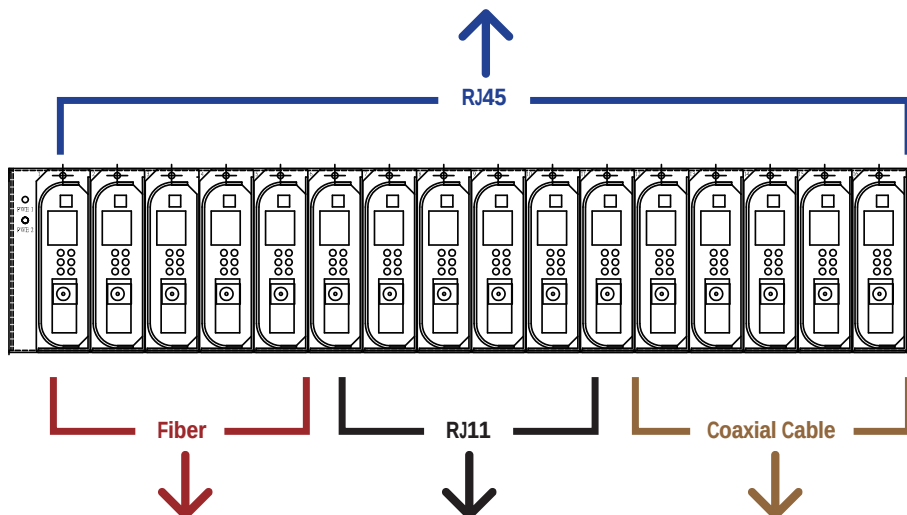
CE Mark Class A

FCC Part 15B Class A

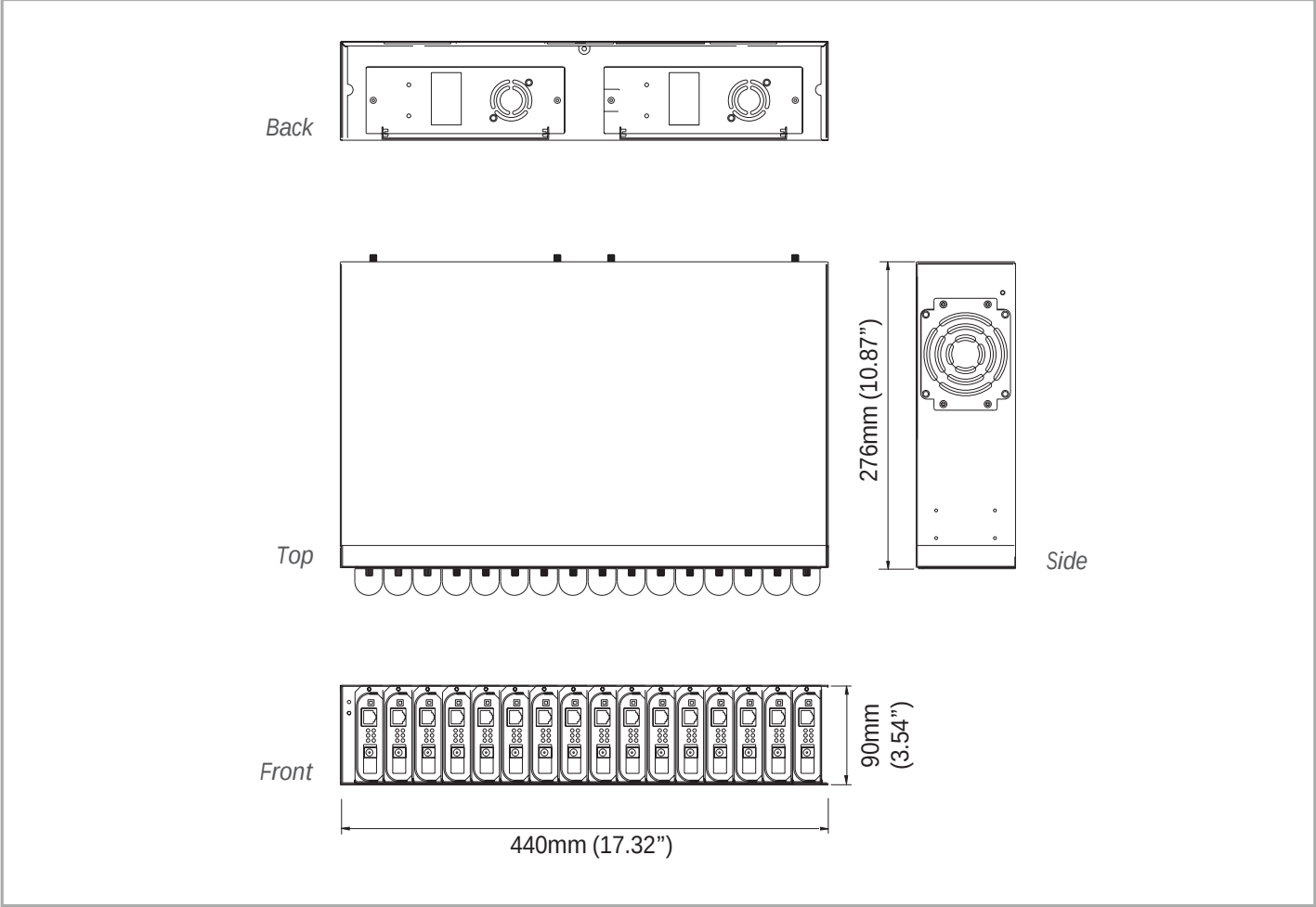
Application Diagram



The EMC1600 provides rack mount installation for large network systems



Dimensions



Ordering Information

Model	
EMC1600	16-Bay Media Converter and Ethernet Extender Chassis, including 2 AC Power Supplies (EMC1600-RPSA)
EMC1600-RPSA	Redundant AC Power Supply (84W) for EMC1600
EMC1600-RPSA2	Redundant AC Power Supply (108W) for EMC1600
EMC1600-RPSD	Redundant DC 48V Power Supply (65W) for EMC1600