

## 10/100Base-TX to 100Base-FX Media Converter



### Overview

The EL900 series, Fast Ethernet media converters are designed to operate in harsh environments. The EL900 functions at temperatures ranging from -40°C to 75°C (-40°F to 167°F) and is tested for functional operation @ -40°C to 85°C (-40°F to 185°F). Whether on the factory floor or the street corner, the EL900 will provide flawless communications when you most need it most. EL900 series are available in all types of fiber cabling and connector types. The RJ-45 port on this unit provides Auto-MDIX and auto-negotiation. The link-fault-pass-through feature gives the network management agent on adjacent equipment a chance to react to a broken link. Flexibility is the main feature of the EL900, it may be DIN rail or panel mounted, and comes with power options to match the applications that require a tough, environmentally hardened, Fast Ethernet media converter.

### Features

- ▶ Complies with NEMA TS1 & TS2 Environmental requirements for Traffic control equipment
- ▶ Complies with IEC61000-6-2 EMC Generic standard immunity for Industrial environment
- ▶ UL 1604 Class 1, Division 2 Classified for use in hazardous locations (Applicable to versions with Terminal Block power option)
- ▶ DIP switch configuration for "Link-Fault-Pass-Through", link down alarm, speed, duplex mode
- ▶ 2048 MAC addresses
- ▶ 768K bits buffer memory
- ▶ 10/100Mbps-Full/Half-duplex, Auto-Negotiation, Auto-MDI/MDIX
- ▶ Full wire-speed forwarding rate
- ▶ Alarms for power and port link failure by relay output
- ▶ Redundant 1.5A 24VDC Power inputs or 3A 12VDC Jack
- ▶ -40°C to 75°C (-40°F to 167°F) operating temperature range
- ▶ Hardened aluminum case
- ▶ Supports DIN-Rail, Panel, or Rack Mounting installation

### Specifications

#### Technology

##### Standards:

- IEEE802.3 10Base-T, IEEE802.3u 100Base-TX/100Base-FX, IEEE802.3x

##### Forward and Filtering Rate:

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

##### Packet Buffer Memory:

- 768K bits

##### Processing Type:

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

##### Address Table Size:

- 2048 MAC addresses

##### Latency:

- Less than 128.9µs

#### Power

##### Input:

- Input Voltage: 12VDC (Power Jack); 10 to 48VDC (Terminal Block)
- Input Current: 3A Max. (Power Jack); 1.5A Max. (Terminal Block)

##### Power Consumption:

- 12VDC @ 0.33A, 24VDC @ 0.2A, 48VDC @ 0.19A, 9.12W Max.

#### Mechanical

##### Casing:

- Aluminum case

##### Dimensions:

- 50mm (W) x 110mm (D) x 136mm (H)  
(1.97" (W) x 4.33" (D) x 5.35" (H))

##### Weight:

- 0.8Kg (1.76lbs.)

##### Installation:

- DIN-Rail, Panel, Rack Mounting

#### 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:

- 10% to 95% (non-condensing)

#### Interface

##### LED Indicators:

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

##### Alarm Contact:

- One relay output with current 1A @ 24VDC

Designation	Typical Distance*	Nominal Wavelength	Cable Type	Connector	Optical Budget
100Base-FX	2 Km	1310 nm	62.5/125 MM	ST	15 dB
100Base-FX	2 Km	1310 nm	62.5/125 MM	SC	15 dB
100Base-FX	20 Km	1310 nm	10/125 SM	SC	19 dB
100Base-FX	75 Km	1310 nm	10/125 SM	SC	34 dB
10Base-T	100 m	N/A	Cat 5e	RJ-45	N/A
100Base-TX	100 m	N/A	Cat 5e	RJ-45	N/A

## Regulatory Approvals

### ISO:

- Manufactured in an ISO9001 facility

### Safety:

- UL 1604: Classified for ITE Equipment for use in hazardous locations: Class 1, Division 2 group A,B,C&D: Temp Code T4A; -25C < Tamb < 74C (Applicable to versions with Terminal Block power option)
- UL 60950, EN 60950, IEC 60950, IEC 61000-6-2

### Emission Compliance:

- FCC Part 15, Class A

### CE Approve:

- EN55022 (CISPR22 Class A)
- EN55024 (CISPR24 Class A)

### ESD Standards (IEC 61000-4-2)

- Enclosure Contact: + / - 4KV; Criteria B
- Enclosure Air: + / - 8KV; Criteria B

### Radiated RFI Standards (IEC 61000-4-3)

- Enclosure Ports: 10V/m, 80 to 1000MHz; Criteria A

### Burst Standards (IEC 61000-4-4)

- Enclosure Ports: + / - 4KV @ 2.5KHz; Criteria B
- D.C. Power Ports: + / - 4KV; Criteria B
- A.C. Power Ports: + / - 4KV; Criteria B

### Surge Standards (IEC 61000-4-5)

- Signal Ports: + / - 1KV Line-to-earth; Criteria B
- D.C. Power Ports: + / - 0.5KV Line-to-earth; Criteria B
- A.C. Power Ports: + / - 2KV; Line-to-earth; Criteria B

### Induced RFI Standards (IEC 61000-4-6)

- Signal Ports: 10V @ 0.15 - 80MHz; Criteria A
- D.C. Power Ports: 10V @ 0.15 - 80MHz; Criteria A
- A.C. Power Ports: 10V @ 0.15 - 80MHz; Criteria A
- Earth Ground Ports: 10V @ 0.15 - 80MHz; Criteria A

### Magnetic Field Standards (IEC 61000-4-8)

- Enclosure Ports: 30A/m @ 50, 60Hz; Criteria A

### Voltage Dip Standards (IEC 61000-4-11)

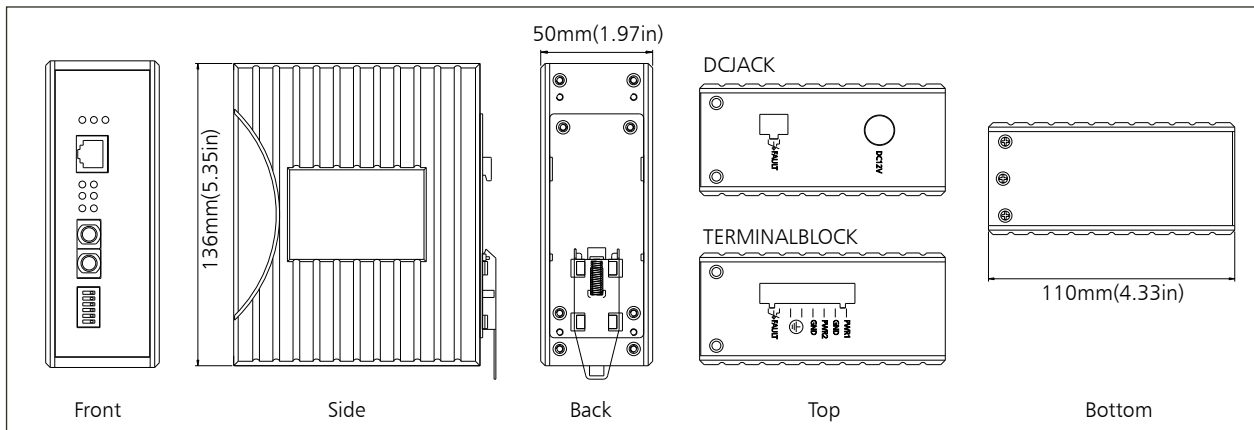
- A.C. Power Ports: 30% Reduction for 0.5 period; Criteria B

### Environmental Test Compliance:

- (IEC 60068-2-6) Vibration Resistance: 5G @ 150Hz; Criterion 3 (Operation/Storage/Transport)
- (IEC 60068-2-27) Shock: 25G @ 11ms (Half-Sine Shock Pulse; Operation) 50G @ 11ms (Half-Sine Shock Pulse; Storage/Transport)
- (IEC 60068-2-32) Free Fall: 1M (3.281ft.)

### NEMA TS1/2 Environmental requirements for traffic control equipment

## Diagrams



## Ordering Information

EL900-X-Y-I-P 10/100Base-TX to 100Base-FX Media Converter

### 10/100TX Options :

(X) = A : 10/100Base-TX (for Port 1 only)

### 100FX Fiber Options :

(Y) = B : Multi Mode (SC)  
C : Multi Mode (ST)  
M : Single Mode (ST) -20Km  
N : Single Mode (SC) -20Km  
O : Single Mode (SC) -40Km

P : Single Mode (SC) WDM-TX:1310nm/RX:1550nm-20KM  
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

### Installation Type : (I) = 1 : DIN Rail (mounting kit is included)

Optional Panel mount kit, ordered separately, part number: **KP-AA96-480**



Optional Rack mount kit, ordered separately, part number: **KR-BK43-400**



### Power Connector Options : (P) = A : Terminal Block\* / B : DC Jack\*\*

\*Options A -The Terminal Block option does not include an external Power supply. Please order the following part numbers, as required: **DR-30-24, DR-60-24, DR-75-24, or DR-120-24, 41-136046-1~5**

\*\*Options B -The external power adapter and power cord are not included with the switch. Please order the following part numbers, as required: **41-136044-1~5**