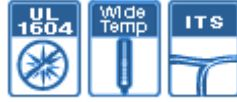


# EL9000

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



### Overview



The EL9000 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 EL9000 will provide flawless communications when you need it most. The EL9000 series supports multi-mode/single-mode fibre optics. The RJ-45 port on this unit provides Auto-MDIX and auto-negotiation. The link fault-pass-through feature allows the network management agent on adjacent equipment to react to a broken link. Flexibility is the main feature of the EL9000, it may be DIN rail or panel mounted, and comes with power options to match the applications that require a tough, environmentally hardened, Gigabit 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", fibre Auto/force mode, link down alarm
- 1000Mbps-Auto/Full-duplex, Auto-Negotiation, Auto-MDI/MDIX
- Full wire-speed forwarding rate
- Alarms for power and port link failure by relay output
- Redundant power inputs with Terminal Block or DC Jack
- -40°C to 75°C (-40°F to 167°F) operating temperature range
- Hardened aluminium case
- Supports DIN-Rail, Panel or Rack Mounting installation

### Ordering Information

EL9000-X-Y-I-P 1000BASE-T to 1000BASE-SX/LX Hardened Media Converter

#### Gigabit Options:

- (X) = A: 1000BASE-T (for Port 1 only)
  - (Y) = B: 1000BASE-SX (SC)
  - N: 1000BASE-LX (SC) -10Km
  - O: 1000BASE-LX (SC) -20Km
  - R: 1000BASE-BX (SC) WDM -TX: 1310nm/RX: 1550nm -20Km
  - S: 1000BASE-BX (SC) WDM -TX: 1550nm/RX: 1310nm -20Km
- More Gigabit options are available upon request.

#### Installation Type:

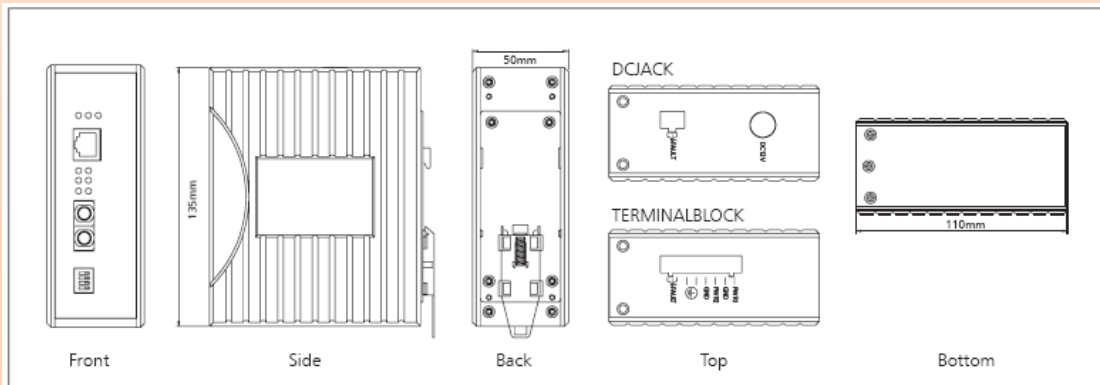
- (I) = 1: DIN Rail (mounting kit is included)
- Optional Panel mount kit, part number: [KP-AA96-480](#)



#### Power Connector Options:

- (P) = A: Terminal Block\* / B: DC Jack\*\*
- \*Options A -The Terminal Block type external power supply are not included. Please order the following part numbers, as required: [DR-30-24](#), [DR-60-24](#), [DR-75-24](#), [DR-120-24](#) or [41-136046-X X=1, 2,3,4,5](#)
- \*\*Options B -The external power adapter and power cord are not included. Please order the following part numbers, as required: [41-136044-X X=1, 2,3,4,5](#)

### Diagrams



### Specifications

#### Technology

##### Standards:

- IEEE802.3ab 1000BASE-T, IEEE802.3z 1000BASE-SX/1000BASE-LX, IEEE802.3x

##### Forward and Filtering Rate:

- 1,488,100pps for 1000Mbps

#### Power

##### Input:

- Input Voltage: 10 to 48VDC (Terminal Block); 12VDC (DC Jack)

##### Power Consumption:

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

##### Overload Current Protection:

- Present

##### Reverse Polarity Protection:

- Present

#### Mechanical

##### Casing:

- Aluminium case
- IP30

##### Dimensions:

- 50mm (W) x 110mm (D) x 135mm (H)  
(1.97" (W) x 4.33" (D) x 5.31" (H))

##### Weight:

- 0.8Kg (1.76lbs.)

##### Installation:

- DIN-Rail (Top hat type 35mm), Panel, Rack Mounting

#### Interface

##### Ethernet Port:

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

##### LED Indicators:

- Per Unit: Power Status (Power1, Power2, Fault)
- Per Port: 1000T, 1000SX/LX: LNK, TX, RX

##### 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:

- UL1604, Hazardous locations: Class 1, Division 2 group A,B,C&D  
UL60950-1, EN60950-1, IEC60950-1

##### EMI:







- FCC Part 15, Class A
- EN61000-6-3
- EN55022
- EN61000-3-2
- EN61000-3-3






##### EMS:

- EN61000-6-2
- EN61000-4-2 (ESD Standards)  
Contact: + / - 4KV; Criteria B  
Air: + / - 8KV; Criteria B
- EN61000-4-3 (Radiated RFI Standards)  
10V/m, 80 to 2.7GHz; 80% AM Criteria A
- EN61000-4-4 (Burst Standards)  
Signal Ports: + / - 4KV; Criteria B  
D.C. Power Ports: + / - 4KV; Criteria B
- EN61000-4-5 (Surge Standards)  
Signal Ports: + / - 1KV; Line-to-Line; Criteria B  
D.C. Power Ports: + / - 0.5KV; Line-to-earth; Criteria B
- EN61000-4-6 (Induced RFI Standards)  
Signal Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A  
D.C. Power Ports: 10Vrms @ 0.15~80MHz; 80% AM Criteria A
- EN61000-4-8 (Magnetic Field Standards)  
30A/m @ 50, 60Hz; Criteria A

##### Environmental Test Compliance:



- IEC60068-2-6 Fc (Vibration Resistance)  
5g @ 10~150 KHz, Amplitude 0.35mm  
(Operation/Storage/Transport)
- IEC60068-2-27 Ea (Shock)  
25g @ 11ms (Half-Sine Shock Pulse; Operation)  
50g @ 11ms (Half-Sine Shock Pulse; Storage/Transport)
- IEC60068-2-32 Ed (Free Fall)  
1M (3.281ft.)

Terminal Assignments			
PWR1	Power Input 0.19A@48VDC(10~48VDC)		
GND	Power Ground		
PWR2	Power Input 0.19A@48VDC(10~48VDC)		
GND	Power Ground		
	Earth Ground		
	1. The relay opens if PWR1 or PWR2 fails 2. The relay opens if Per Port Link is Broken (When Link Down Detection is Enabled)		
	1 LFP Enable	FIBER F. Mode	COPPER LNK_DOWN_Det.ON
			FIBER LNK_DOWN_Det.ON
	0 LFP Disable	FIBER Auto Mode	COPPER LNK_DOWN_Det.OFF
			FIBER LNK_DOWN_Det.OFF

Power Input	
PWR	Power Input 0.76A@12VDC
	1. The relay opens if PWR1 or PWR2 fails 2. The relay opens if Per Port Link is Broken (When Link Down Detection is Enabled)
	1 LFP Enable
	
	0 LFP Disable
	





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