

EL9020 Series

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

DIREKTRONIK

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Overview

The EL9020 series, Gigabit Ethernet media converters are designed to operate in harsh environments. The EL9020 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 EL9020 will provide flawless communications when you need it most. EL9020 series offers 1000Base SFP socket to support multi-mode/single-mode fiber 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 EL9020, 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
- ▶ DIP switch configuration for "Link-Fault-Pass-Through", fiber auto/force mode, link down alarm
- ▶ 1000Mbps-Full-duplex, Auto-Negotiation, Auto-MDI/MDIX
- ▶ SFP socket for Gigabit fiber optic expansion
- ▶ Full wire-speed forwarding rate
- ▶ Alarms for power and port link failure by relay output
- ▶ Redundant power inputs with Terminal Block and DC 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

Power Supply: (Optional)

*Option 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

**Option 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

*See page 5-8 to 5-15 for more detailed information about optional accessories (Din-Rail Power supply, Power adapter)

Installation Type: DIN Rail (mounting kit is included)

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



Specifications

Technology

Standards:

- IEEE802.3 10Base-T, IEEE802.3u 100Base-TX, 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: 12 to 48VDC (Terminal Block); 12VDC (DC Jack)

Power Consumption:

- 10.56W, 0.88A@12VDC, 0.44A@24VDC, 0.22A@48VDC

Overload Current Protection:

- Present

Reverse Polarity Protection:

- Present

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, Rack Mounting

Interface

Ethernet Port:

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

LED Indicators:

- Per Unit: Power Status (Power1, Power2, Power3, Fault), LFPT
- Per Port: 10/100/1000TX: Link/Activity, Speed, Full-duplex/Collision
Gigabit SFP: Link/Activity

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, EN60950-1, IEC60950-1

EMI:

- FCC Part 15, Class A
- VCCI, 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 1000MHz; 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 @ 10~150KHz, 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.)

NEMA TS1/2 Environmental requirements for Traffic control equipment

Diagrams

