

## EF24L Series

## Industrial Gigabit Ethernet to Fiber Media Converter



### FEATURE HIGHLIGHTS

- Supports auto MDI/MDI-X and auto negotiation
- Available in both SC and SFP Fiber Connectors
- Redundant Power Input
- Jumbo packets up to 10K bytes
- Link Fault Pass-Through (LFP)
- Operating Temperature : -10°C to +70°C,  
-40°C to +70°C for -T models

### PRODUCT DESCRIPTION

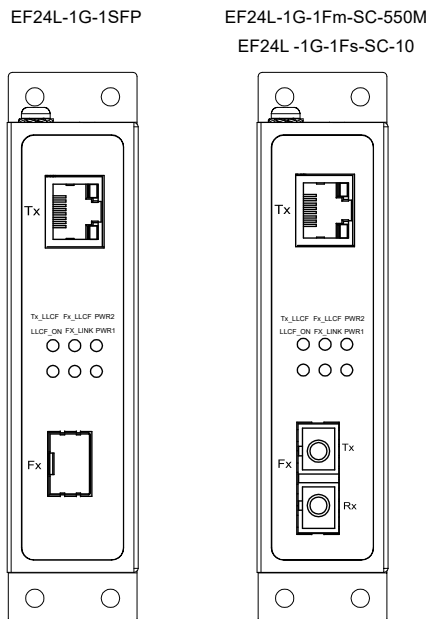
The EF24L Series is a lite Industrial Gigabit Ethernet to Fiber Converter providing media conversion between 10/100/1000 BASE-T(X) and 100/1000 BASE-(F)X (available in both SC and SFP fiber connectors). Whether you're upgrading your system or simply replacing an obsolete device with a newer model, EF24L ensures that the process is both easy and cost-efficient.

On top of basic media conversion, the EF24L Series comes with a DIP switch to configure or enable more advanced functions including fiber speed, fiber auto negotiation, link fail pass-through, and jumbo frame limitation to allow maximal flexibility. Although small and slim, it is no doubt rugged and ready for any application.

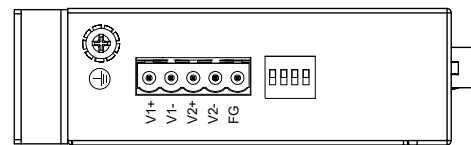
The EF24L Series Media Converter also provides auto MDI/MDI-X, Auto Negotiation, and Link Fault Pass-Through (LFP) function and one 5 pin DIP switch to configure the functions, such as the TX\_Duplex mode, FX\_Duplex mode, Speed mode, LFP, Auto Negotiation.

## DIMENSIONS & LAYOUT

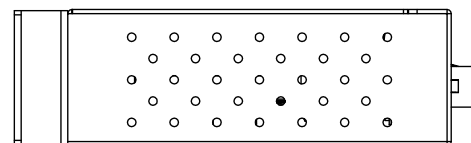
**Front View**



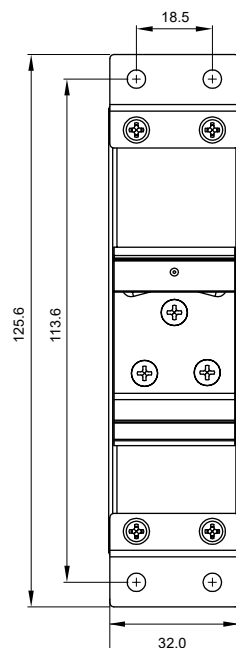
**Top View**



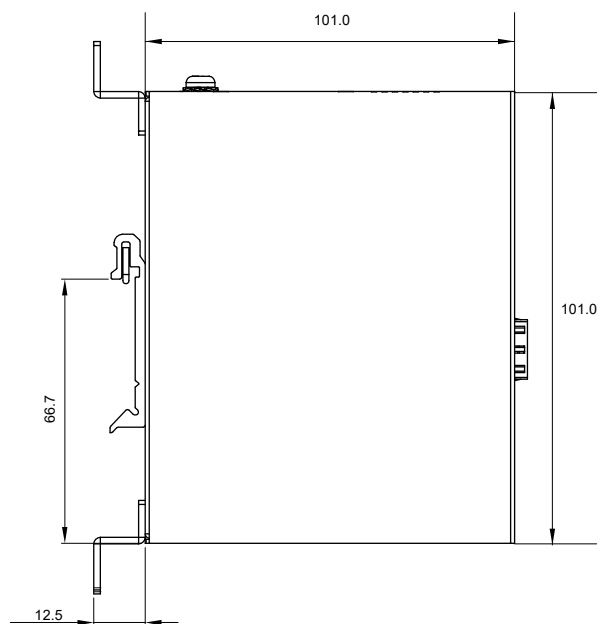
**Bottom View**



**Rear View**



**Side View**



## SPECIFICATIONS

| Technical Specifications     |                                                                                                                                        |                    |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| Model Name                   | EF24L                                                                                                                                  |                    |
| Technology                   |                                                                                                                                        |                    |
| Standards                    | IEEE 802.3 for 10BASE T<br>IEEE 802.3u for 100BASE-T(X) and 100BASE-FX<br>IEEE 802.3ab for 1000BASE-T(X)<br>IEEE 802.3z for 1000BASE-X |                    |
| Interface                    |                                                                                                                                        |                    |
| RJ45 Ports                   | 10/100/1000Base-T(X) Full-Duplex / Half-Duplex auto negotiation                                                                        |                    |
| Fiber Ports                  | 100/1000BASE-(F)X or SFP Slot                                                                                                          |                    |
| LED Indicators               | PWR1, PWR2, F_Mode, Fx_Link, LLCF_ON, Tx_LLCF, Fx_LLCF                                                                                 |                    |
| DIP Switch                   | Speed mode, Link Transparency, Fiber Auto Negotiation, Jumbo Frame                                                                     |                    |
| Power Management             |                                                                                                                                        |                    |
| Input Voltage                | 9-48 VDC                                                                                                                               |                    |
| Input Current                | 0.3A max, 9 VDC                                                                                                                        |                    |
| Connector                    | Removable 5-pin Terminal Block                                                                                                         |                    |
| Reverse Polarity Protection  | Present                                                                                                                                |                    |
| Physical Characteristics     |                                                                                                                                        |                    |
| Housing                      | Metal, IP30 protection                                                                                                                 |                    |
| Dimensions(W x H x D mm)     | 32 x 101 x 101 (1.26 x 3.98 x 3.98 in)                                                                                                 |                    |
| Weight                       | EF24L-1G-1Fm-SC-550M / EF24L-1G-1Fs-SC-10 : 320g<br>EF24L-1G-1SFP : 330g                                                               |                    |
| Installation                 | DIN-Rail, Wall-Mount (optional kit)                                                                                                    |                    |
| Environmental Limits         |                                                                                                                                        |                    |
| Operating Temperature        | -10°C to +70°C (14°F to +158°F)<br>-40°C to +70°C (-40°F to +158°F) for -T models                                                      |                    |
| Storage Temperature          | -40°C to +85°C (-40°F to +185°F)                                                                                                       |                    |
| Ambient Relative Humidity    | 5 to 95%, 55°C (non-condensing)                                                                                                        |                    |
| Optical Fiber Specifications |                                                                                                                                        |                    |
| Mode                         | Multi-mode                                                                                                                             | Single-mode        |
| Distance                     | 550M                                                                                                                                   | 10KM               |
| Bit Rate                     | 1250Mbps                                                                                                                               | 1250Mbps           |
| Wavelength (nm)              | 1310                                                                                                                                   | 1310               |
| Application                  | 1000Base-SX                                                                                                                            | 1000Base-LX        |
| Tx Power (dBm)               | -9.5 to -4                                                                                                                             | -9.5 to -3         |
| Rx Sensitivity (dBm)         | < -18                                                                                                                                  | < -20              |
| Remark                       | EF24L-1G-1Fm-SC-550M                                                                                                                   | EF24L-1G-1Fs-SC-10 |

## REGULATORY APPROVALS

| Regulatory Approvals |                                                                                                                       |                      |                     |       |
|----------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------|---------------------|-------|
| Safety               | EN62368-1                                                                                                             |                      |                     |       |
| EMC                  | FCC Part 15, Subpart B, Class A<br>EN55032<br>EN61000-6-4<br>EN 61000-3-2<br>EN 61000-3-3<br>EN 55035<br>EN 61000-6-2 |                      |                     |       |
| Test Item            | Item                                                                                                                  |                      | Value               | Level |
| IEC 61000-4-2        | ESD                                                                                                                   | Contact Discharge    | ±6KV                | 3     |
|                      |                                                                                                                       | Air Discharge        | ±8KV                | 3     |
| IEC 61000-4-3        | RS                                                                                                                    | 80-1000MHz           | 10 V/m              | 3     |
| IEC 61000-4-4        | EFT                                                                                                                   | DC Power Port        | ±2.0KV              | 3     |
|                      |                                                                                                                       | Signal Port          | ±1.0KV              | 3     |
| IEC 61000-4-5        | Surge                                                                                                                 | DC Power Port        | Line-to Line±1.0KV  | 3     |
|                      |                                                                                                                       | Signal Port          | Line-to Earth±1.0KV | 2     |
|                      |                                                                                                                       | DC Power Port        | Line-to Earth±1.0KV | 2     |
| IEC 61000-4-6        | CS                                                                                                                    | Conducted(Enclosure) | 10 Vrms             | 3     |
| IEC 61000-4-8        | PFMF                                                                                                                  | (Enclosure)          | 50/60 Hz 30 A/m     | 4     |
| IEC 61000-4-11       | DIP                                                                                                                   | AC Power Port        | -                   | -     |
| Shock                | MIL-STD-810G Method 516.7                                                                                             |                      |                     |       |
| Drop                 | MIL-STD-810G Method 516.7                                                                                             |                      |                     |       |
| Vibration            | MIL-STD-810G Method 514.7                                                                                             |                      |                     |       |
| RoHS                 | Yes                                                                                                                   |                      |                     |       |
| MTBF                 | 415,681.88 hrs / 47.45 years (25°C)                                                                                   |                      |                     |       |
| Warranty             | 5 years                                                                                                               |                      |                     |       |

## ORDERING INFORMATION

| Ordering information   |                 |                                                                                                                                                     |
|------------------------|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|
| Model name             | Part Number     | Description                                                                                                                                         |
| EF24L-1G-1Fm-SC-550M   | 1P1EF24L000001G | Industrial Gigabit Ethernet-to-Fiber Media Converter, multimode, SC connector, Link Fault Pass-Through, Auto Speed, 550 M                           |
| EF24L-1G-1Fs-SC-10     | 1P1EF24L000002G | Industrial Gigabit Ethernet-to-Fiber Media Converter, single-mode, SC connector, Link Fault Pass-Through, Auto Speed, 10 KM                         |
| EF24L-1G-1SFP          | 1P1EF24L000003G | Industrial Gigabit Fast Ethernet-to-Fiber Media Converter, Link Fault Pass-Through, Auto Speed, SFP                                                 |
| EF24L-1G-1Fm-SC-550M-T | 1P1EF24LT00001G | Industrial Gigabit Ethernet-to-Fiber Media Converter, multimode, SC connector, Link Fault Pass-Through, Auto Speed, 550 M, wide temperature range   |
| EF24L-1G-1Fs-SC-10-T   | 1P1EF24LT00002G | Industrial Gigabit Ethernet-to-Fiber Media Converter, single-mode, SC connector, Link Fault Pass-Through, Auto Speed, 10 KM, wide temperature range |
| EF24L-1G-1SFP-T        | 1P1EF24LT00003G | Industrial Gigabit Fast Ethernet-to-Fiber Media Converter, Link Fault Pass-Through, Auto Speed, SFP, wide temperature range                         |

| Optional Accessories |                 |                                                                                    |
|----------------------|-----------------|------------------------------------------------------------------------------------|
| Model name           | Part Number     | Description                                                                        |
| WMK-450-Black        | 70100000000052G | Metal Wall Mount Kit, Black                                                        |
| AD1120-48F           | 50501201480001G | 120W/2.5A DIN-Rail 48 VDC power supply with universal 100~240VAC/120-370VDC input  |
| AD1240-48C           | 50502401550001G | 240W/5A DIN-Rail 48 VDC power supply with universal 100 to 240VAC/120-370VDC input |
| AXFD-1314-0523       | 522AXFD1314001G | SFP Transceiver, 155Mbps, Multi-mode, 1310nm, 2km, -40°C to +85°C, DDMI            |
| AXFD-1314-0553       | 522AXFD1314011G | SFP Transceiver, 155Mbps, Single-mode, 1310nm, 30km, -40°C to +85°C, DDMI          |
| AXGD-5854-0513       | 522AXGD5854001G | SFP Transceiver, 1250Mbps, 850nm, Multi-mode, 550m, 3.3V, -40°C to +85°C, DDMI     |
| AXGD-1354-0523       | 522AXGD1354001G | SFP Transceiver, 1250Mbps, 1310nm, Multi-mode, 2km, 3.3V, -40°C to +85°C, DDMI     |
| AXGD-1354-0533       | 522AXGD1354011G | SFP Transceiver, 1250Mbps, 1310nm, Single-mode, 10km, 3.3V, -40°C to +85°C, DDMI   |
| AXGD-3354-0593       | 522AXGD3354001G | SFP Transceiver, 1250Mbps, 1310nm, Single-mode, 40km, 3.3V, -40°C to +85°C, DDMI   |
| AXXE-5886-05B3       | 522AXXE5886001G | SFP Transceiver, 10Gbps Multi, 850nm, 300m, -40°C to +85°C                         |