



I*10/100TX to I*100FX extended temperature Industrial Media Converter

OVERVIEW:

The MUI-A1 series, Fast Ethernet media converters are designed to operate in harsh environments. The MUI-A1 series 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 MUI-A1 series will provide flawless communications when you most need it most. MUI-A1 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 allows the network management agent on adjacent equipment to react to a broken link. Flexibility is the main feature of the MUI-A1 series, 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 power inputs with Terminal Block or 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

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: 12 to 48VDC (Terminal Block); 12VDC (DC Jack)

Power Consumption:

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

Power Supply References:

- Terminal Block: 12 to 24VDC, 1.5A
- DC Jack: 12VDC, 3A

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, Panel, Rack Mounting

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: Link/Activity, Full-duplex/Collision, Speed 100FX: Link/Activity, Full-duplex/Collision

Alarm Contact:

- One relay output with current 1A @ 24VDC

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:

- 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 1000MHz; 80% AM
Criteria A
 - EN61000-4-4 (Burst Standards)
Signal Ports: + / - 4KV; Criteria B
D.C. Power Ports: + / - 4KV; Criteria B
A.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
A.C. Power Ports: + / - 2KV;
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
A.C. Power Ports: 10Vrms @
0.15~80MHz; 80% AM Criteria A
 - EN61000-4-8 (Magnetic Field
Standards)

30A/m @ 50, 60Hz; Criteria A

- EN61000-4-11 (Voltage Dip Standards)
A.C. Power Ports: 30% Reduction for
0.5 period; Criteria B

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.)

ORDERING INFORMATION:

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|------------------------|-----------------------------------------------------------------------------------------------|
| MUI-A1101E-M-SC | 10/100TX to 100FX(Multi mode; SC; 2Km) extended temperature industrial media converter |
|------------------------|-----------------------------------------------------------------------------------------------|

TYPE OF 100BASE-FX:

| Designation | Typical Distance* | Nominal Wavelength | Cable Type | Connector | Optical Budget |
|-------------|-------------------|--------------------|-------------|-----------|----------------|
| 100FX | 2 Km | 1310 nm | 62.5/125 MM | SC/ST | 15 dB |
| 100FX | 20 Km | 1310 nm | 10/125 SM | SC/ST | 19 dB |
| 100FX | 40 Km | 1310 nm | 10/125 SM | SC/ST | 30 dB |
| 100FX | 60 Km | 1310 nm | 10/125 SM | ST | 33 dB |
| 100FX | 70 Km | 1310 nm | 10/125 SM | SC | 34 dB |
| 100FX | 80 Km | 1550 nm | 10/125 SM | ST | 29 dB |
| 100FX | 90 Km | 1550 nm | 10/125 SM | SC | 32 dB |

MM: Multi mode

SM: Single mode

INSTALLATION TYPE:

DIN Rail (mounting kit is included)

POWER CONNECTOR:

Terminal Block