

The *1002MC* is an unmanaged 10/100/1000BaseT to 1000BaseSX/LX Industrial Media Converter. It is housed in a hardened, metal, DIN-Rail enclosure, and is designed for use in industrial data acquisition, control, and Ethernet I/O applications.

PRODUCT FEATURES

- Compact Size, Smaller Footprint
- Unmanaged Operation
- Full IEEE 802.3, 802.3u, 802.3z, and 802.3ab Compliance
- Converts 10/100/1000BaseT to 1000BaseSX/LX
 - Choose from Multimode or Singlemode LC Style SFP (Mini-GBIC) Gigabit Fiber Transceivers
- Extended Environmental Specifications
 - -40°C to 85°C Operating Temperature
 - >2M Hours MTBF
- RJ-45 Port Supports Full/Half Duplex Operation
- Up to 2.0 Gb/s Maximum Throughput
- Supports up to 1,024 MAC Addresses
- Store-and-forward Technology
- RJ-45 Port Auto Senses Speed and Flow Control
- Full Wire Speed Communications
- MDIX Auto Cable Sensing (RJ-45)
- Hardened Metal DIN-Rail Enclosure
- LED Link/Activity Status Indication
- Redundant Power Inputs (10-30 VDC)

PRODUCT OVERVIEW

The *N-TRON*® *1002MC* Industrial Media Converter is designed to allow the connection of 10/100/1000BaseT Ethernet devices to your 1000BaseSX/LX fiber cabling infrastructure.

The *1002MC* provides one RJ-45 auto sensing 10/100/1000BaseT port and one 1000BaseSX/LX SFP port. The RJ-45 port is full/half duplex capable, using "state of the art" Ethernet switching technology. The *1002MC* auto-negotiates the speed and flow control capabilities of the copper port connection, and configures itself automatically. The 1000BaseSX/LX fiber optic port utilizes industry standard SFP transceivers with LC style connectors and is configured for full duplex operation. Both multimode and singlemode fiber models are available.

Since the *1002MC* uses switching technology, unlike most media converters, you can connect your



10Mbps devices today and upgrade them to 1000Mbps tomorrow. The switching fabric simply scales up or down automatically to match your specific network environment.

The *1002MC* supports up to 1,024 MAC addresses, thus enabling these products to support extremely sophisticated and complex network architectures.

The *N-TRON 1002MC* is well suited to convert 10/100/1000 BaseT industrial devices to fiber, allowing you to take advantage of your fiber based infrastructure and it's inherent advantages. Compared to copper based systems, fiber provides increased noise immunity and longer cable lengths.

The *1002MC* is truly engineered to withstand the extremes of the industrial environments and carry an impressive operating temperature rating of -40°C to 85°C. For cost savings and convenience the media converter can be DIN-Rail mounted alongside Ethernet I/O or other Industrial Equipment.

The unique compact size provides a smaller footprint, conserving space in the most critical dimension. In addition, as with other DIN-Rail devices, the *1002MC* can be panel mounted by using our *1000-PM* kit.

To increase reliability, the *1002MC* contains redundant power inputs. LEDs are provided to display the link status and activity of each port, as well as power.

BENEFITS

Industrial Media Converter

- Compact Size, Smaller Footprint
- Converts 10/100/1000BaseT to 1000BaseSX/LX
- High Reliability/Availability
- Extended Environmental Specifications
- Hardened Metal DIN-Rail Enclosure
- High Performance
- High MTBF >2M Hours (measured)
- ESD Protection Diodes on RJ-45 Ports
- Surge Protection Diodes on Power Inputs

Ease of Use

- Plug & Play Operation
- RJ-45 Auto Sensing 10/100/1000BaseT Port
- RJ-45 Port Auto Senses Duplex, Speed, and Cable Type
- Compact DIN-Rail Package

Increased Performance

- Full Wire Speed Capable
- 1000BaseSX/LX Fiber Uplink
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism

Contact Information

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Ordering Information

1002MC-SX 1000BaseSX multimode fiber
1002MC-LX-ZZ 1000BaseLX singlemode fiber
1000-PM Panel Mount Kit
NTPS-24-1.3 DIN-Rail Power Supply
24V@1.3 Amp

Where "ZZ" is: 10 for 10km max. fiber segment length
40 for 40km max. fiber segment length
70 for 70km max. fiber segment length

SPECIFICATIONS

Physical

Height: 4.30" (10.92 cm)
Width: 1.00" (2.54 cm)
Depth Incl. DIN-Rail Clip: 3.91" (9.94 cm)
Weight: 0.60 lbs. (0.22 kg)
DIN-Rail: 35mm

Electrical

Input Voltage: 10-30 VDC
Input Current: 200mA@24V
Inrush: 13Amp/0.8ms@24V

Environmental

Operating Temperature: -40°C to 85°C
Storage Temperature: -40°C to 85°C
Operating Humidity: 10% to 95%
(Non Condensing)
Operating Altitude: 0 to 10,000 ft.

Network Media

10BaseT: >Cat3 Cable
100BaseT: >Cat5 Cable
1000BaseT: >Cat5e Cable
1000BaseSX Multimode: 50-62.5/125µm
1000BaseLX Singlemode: 7-10/125µm

SFP Gigabit Fiber Transceiver Characteristics

| Fiber Length | 550m for 50/125µm* 275m for 62.5/125µm* | 10km** | 40km** | 70km** |
|--------------------|--|--------------|--------------|--------------|
| TX Power Min | -9.5dBm | -9.5dBm | -2dBm | 0dBm |
| RX Sensitivity Max | -17dBm | -20dBm | -22dBm | -23dBm |
| Wavelength | 850nm | 1310nm | 1310nm | 1550nm |
| Assumed Fiber Loss | 3.5 to 3.75 dB/km | .45 dB/km | .35 dB/km | .25 dB/km |
| Laser Type | VCSEL | FP | DFB | DFB |

* SX Fiber Optic Cable

** LX Fiber Optic Cable

Connectors

10/100/1000BaseT: One (1) RJ-45 TX Port
1000BaseSX/LX SFP: One (1) SFP LC Duplex
Gigabit Fiber Port

Recommended Wiring Clearance

Front: 5" (12.70 cm)
Top: 1" (2.54 cm)

Regulatory Approvals

FCC Title 47 Part 15 Class A, CE: EN61000-6-2,4,
EN55011, EN61000-4-2,3,4,5,6
Designed to comply with: UL 1604 (US and Canada),
CLASS I, DIV 2, GROUPS A,B,C,D,T4A,
IEEE 1613 for Electric Utility Substations,
ABS Type Approval for Shipboard Applications,
and NEMA TS1/TS2 for Traffic Control Equipment

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