N-TRON
THE INDUSTRIAL NETWORK COMPANY

102MC

The *102MC* is an unmanaged 10/100BaseTX to 100BaseFX 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 Compliance
- Converts 10/100BaseTX to 100BaseFX
- Extended Environmental Specifications
  - -40ºC to 80ºC Operating Temperature
  - >2M Hours MTBF
- RJ-45 Port Supports Full/Half Duplex Operation
- LED Link/Activity Status Indication
- Store-and-forward Technology
- RJ-45 Port Auto Senses Speed and Flow Control
- MDIX Auto Cable Sensing (RJ-45)
- Hardened Metal DIN-Rail Enclosure
- Redundant Power Inputs (10-30 VDC)

PRODUCT OVERVIEW

The *N-TRON* ® *102MC* Industrial Media Converter is designed to allow the connection of 10/100BaseTX Ethernet devices to your 100BaseFX fiber cabling infrastructure.

The *102MC* provides one RJ-45 auto sensing 10/100BaseTX port and one 100BaseFX port. The RJ-45 port is full/half duplex capable, using "state of the art" Ethernet switching technology. The *102MC* auto-negotiates the speed and flow control capabilities of the TX copper port connection, and configures itself automatically. The 100BaseFX fiber optic port utilizes industry standard ST or SC connectors and is configured for full duplex operation. Both multimode and singlemode fiber models are available.

Since the *102MC* uses switching technology, unlike most media converters, you can connect your 10Mbps devices today and upgrade them to 100Mbps tomorrow. The switching fabric simply scales up or down automatically to match your specific network environment.

The *102MC* supports up to 2,000 MAC addresses, thus enabling these products to support extremely sophisticated and complex network architectures.

The *N-TRON 102MC* is well suited to convert 10/100 BaseTX 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 *102MC* has extended operating environmental specifications to meet the harsh needs of the industrial environment. 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 *102MC* can be panel mounted.

To increase reliability, the *102MC* contains redundant power inputs. LEDs are provided to display the link status and activity of each port, as well as power on/off status.

102MC

BENEFITS

Industrial Media Converter
- Compact Size, Smaller Footprint
- Converts 10/100BaseTX to 100BaseFX
- High Reliability/Availability
- Extended Environmental Specifications
- Hardened Metal DIN-Rail Enclosure
- High Performance
- High MTBF >2M Hours (measured)

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

Increased Performance
- Full Wire Speed Capable
- 100BaseFX Fiber Uplink
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism

Contact Information

N-TRON Corp.
820 S. University Blvd.,
Suite 4E
Mobile, AL 36609 USA
TEL: (251) 342-2164
FAX: (251) 342-6353
Website: www.n-tron.com
Email: info@n-tron.com

N-TRON Europe GmbH
Alte Steinhauserstr 19
6330 Cham / Zg
Switzerland
TEL: +41 41 7406636
FAX: +41 41 7406637

Ordering Information

102MC-XX   100BaseFX multimode fiber
102MCE-XX-YY   100BaseFX singlemode fiber
NTPS-24-1.3   DIN-Rail Power Supply
                  24V@1.3 Amp

Where "XX" is: ST for ST style fiber connector
               SC for SC style fiber connector
Where "YY" is: 15 for 15km max. fiber segment length
               40 for 40km max. fiber segment length
               80 for 80km max. fiber segment length

SPECIFICATIONS

Physical
Height:	2.88"	(7.31 cm)
Width:	1.50"	(3.81 cm)
Depth Incl. DIN-Rail Clip:	4.82"	(12.2 cm)
Weight:	0.49 lbs. (0.22 kg)	
DIN-Rail:	35mm	

Electrical
Input Voltage:	10-30 VDC
Input Current:	140mA@24V
Inrush:	8.5Amp/0.7ms@24V

Environmental
Operating Temperature:	-40°C to 80°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
100BaseTX:	>Cat5 Cable
100BaseFX	
Multimode:	50-62.5/125μm
Singlemode:	7-10/125μm

Fiber Transceiver Characteristics

	2km*	15km**	40km**	80km**
Fiber Length				
TX Power Min	-19dBm	-15dBm	-5dBm	-5dBm
RX Sensitivity Max	-32dBm	-29dBm	-34dBm	-34dBm
Wavelength	1310nm	1310nm	1310nm	1550nm

* Multimode Fiber Optic Cable ** Singlemode Fiber Optic Cable

Connectors
10/100BaseTX:	One (1) RJ-45 TX Port
100BaseFX:	One (1) ST or SC Duplex Port

Recommended Wiring Clearance
Front:	4" (10.16 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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