N-TRON
THE INDUSTRIAL NETWORK COMPANY

302MC

The *302MC* is a 10/100BaseTX to 100BaseFX Industrial Media Converter. It is housed in a ruggedized DIN-Rail enclosure, and is designed for use in industrial data acquisition, control, and Ethernet I/O applications.

PRODUCT FEATURES

- Compact Size, Smaller Footprint
- Full IEEE 802.3 and 1613 Compliance
- NEMA TS1/TS2 Compliance
- American Bureau of Shipping (ABS) Type Approval
- Converts 10/100BaseTX to 100BaseFX
- Extended Environmental Specifications
- 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)
- Rugged Industrial DIN-Rail Enclosure
- Redundant Power Inputs (10-30 VDC)
- N-View™ OPC Port Monitoring Option

PRODUCT OVERVIEW

The *N-TRON® 302MC* Industrial Media Converter is designed to allow the connection of 10/100BaseTX Ethernet devices to your 100BaseFX fiber cabling infrastructure.

The *302MC* 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 *302MC* 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 *302MC* 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 *302MC* supports up to 4,000 MAC addresses, thus enabling these products to support extremely sophisticated and complex network architectures.

The *N-TRON 302MC* 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 *302MC* has extended operating environmental specifications to meet the harsh needs of the industrial environment. For cost savings and convenience the media converter can now 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 *302MC* can be panel mounted.

To increase reliability, the *302MC* contains redundant power inputs. LED's are provided to display the link status and activity of each port, as well as power on/off status.

N-VIEW OPC PORT MONITORING OPTION

The *N-TRON* N-View OLE for Process Control (OPC) Server Software can be combined with popular HMI software packages to add network traffic monitoring, trending and alarming to any application using *N-TRON* switches configured with the N-View option. *N-TRON's* N-View OPC Server collects 41 different traffic variables per port and 5 system level variables per switch. This information can provide a complete overview of the network load, service quality, and packet traffic. OPC client software can use N-View OPC Server data to resolve network problems quickly and improve system reliability.

302MC

BENEFITS

Industrial Media Converter

- Compact Size, Smaller Footprint
- Converts 10/100BaseTX to 100BaseFX
- High Reliability/Availability
- Extended Environmental Specifications
- Ruggedized 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
- N-View Port Viewing Option

Contact Information

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Ordering Information

302MC-XX	100BaseFX multimode fiber
302MC-N-XX	with N-View Firmware Option
302MCE-XX-YY	100BaseFX singlemode fiber
302MCE-N-XX-YY	with N-View Firmware Option

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:	3.0"	(7.62 cm)
Width:	2.0"	(5.08 cm)
Depth:	3.17"	(8.052 cm)
Weight:	0.75 lbs	(0.3 kg)

Electrical

Input Voltage:	10-30 VDC
Input Current:	250 mA@24V
Inrush:	9.5Amp/0.9ms@24V

Environmental

Operating Temperature:	-20°C to 70°C
Storage Temperature:	-40°C to 85°C
Operating Humidity:	10% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

Shock and Vibration (bulkhead mounting)

Shock:	200g @ 10ms
Vibration/Seismic:	50g, 5-200Hz, Triaxial

Network Media

10BaseT:	>Cat3 Cable
100BaseTX:	>Cat5 Cable
100BaseFX	
Multimode:	50-62.5/125μm
Singlemode:	7-10/125μm

Fiber Transceiver Characteristics

Fiber Length	2km*	15km**	40km**	80km**
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 Part 15 Class A, UL 1604 (US and Canada)
CLASS I, DIV 2, GROUPS A,B,C,D,T4A
CE: EN61000-6-2,4, EN55011, EN61000-4-2,3,4,5,6

REV 070316