302MC-N Industrial Media Converter

N-Tron Networking Series

Industrial Media Converter

The N-Tron® 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

N-Tron's 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.

Unlike most media converters, the 302MC uses switching technology. This means 10Mbps devices can be connected today and upgraded to 100Mbps later. The switching fabric simply scales up or down automatically to match the specific network environment.

The 302MC supports up to 4,000 MAC addresses, 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 access to 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 be DIN-RAIL mounted alongside Ethernet I/O or other Industrial Equipment. The unique compact size provides a small footprint, conserving space in the most critical dimension. The 302MC can also 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 (With -N Option Only)

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 five 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-N Specifications

SPECIFICATIONS

Case Dimensions

Height:	3.0"	(7.7 cm)
Width:	2.1"	(5.4 cm)
Depth:	3.2"	(8.2 cm)
Weight:	0.75 lbs	(0.3 kg)

Electrical

Input Voltage:	10-30 VDC
Input Current:	250 mA@24V
BTU/hr:	20.5@24 VDC
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

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)

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

Regulatory Approvals

FCC Part 15 Class A
UL Listed 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
ABS Type Approval for Shipboard Applications
IEEE 1613 for Electric Utility Substations
GOST-R Certified
RoHS Compliant

Fiber Transceiver Characteristics

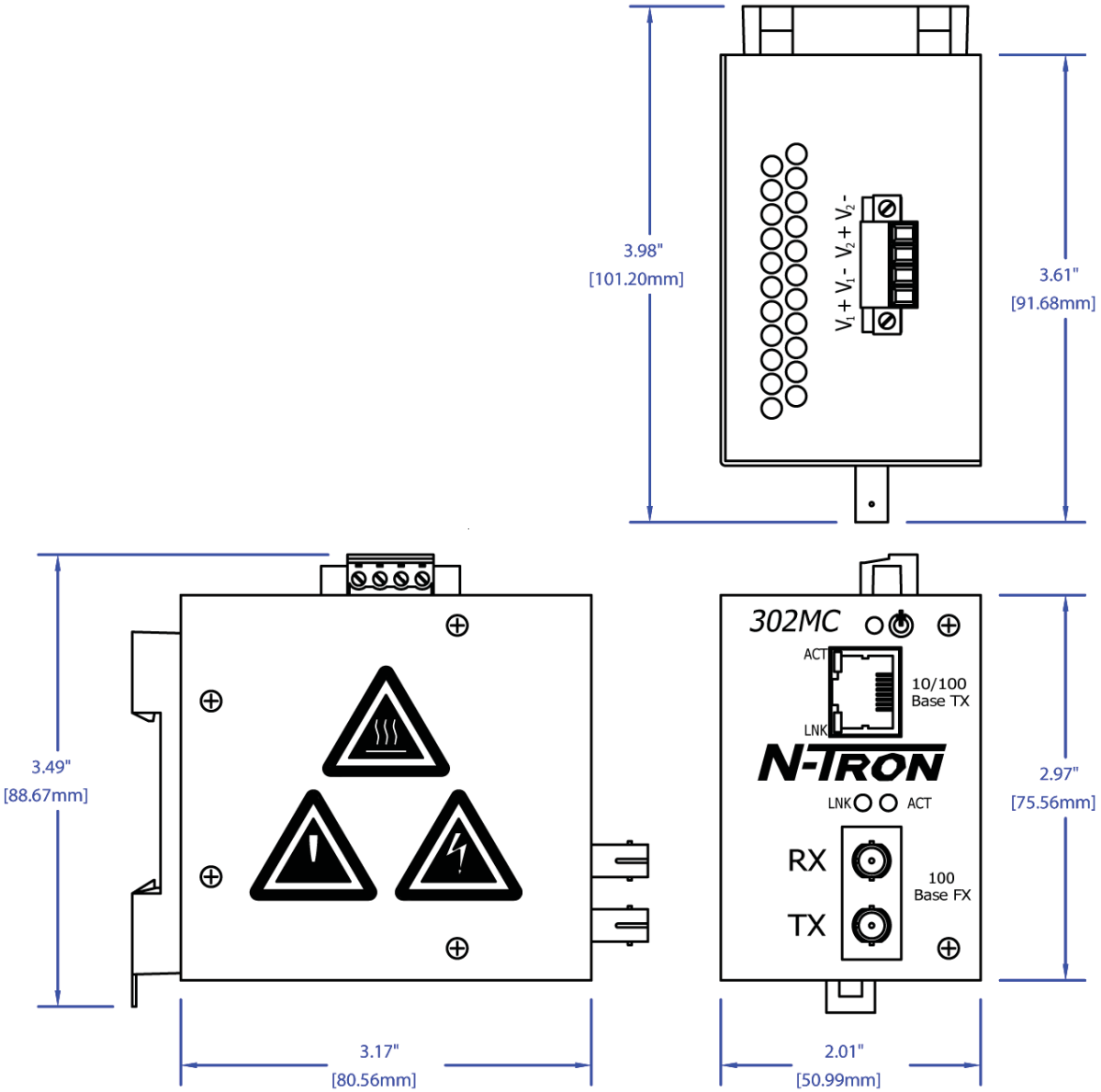
Fiber Length	*2km**	*15km***	*40km***	*80km***
TX Power Min	*-19dBm*	*-15dBm*	*-5dBm*	*-5dBm*
RX Sensitivity Max	*-31dBm*	*-31dBm*	*-34dBm*	*-34dBm*
Wavelength	*1310nm*	*1310nm*	*1310nm*	*1550nm*

* Multimode Fiber Optic Cable
** Singlemode Fiber Optic Cable

ORDERING INFORMATION

PART NUMBER	DESCRIPTION
302MC-XX	10/100BaseTX to 100BaseFX Media Converter; multimode
302MC-N-XX	10/100BaseTX to 100BaseFX Media Converter with N-View Firmware Option
302MCE-XX-YY	10/100BaseTX to 100BaseFX Media Converter; singlemode
302MCE-N-XX-YY	10/100BaseTX to 100BaseFX Media Converter with N-View Firmware Option; singlemode

Where: N = N-View Firmware Option
E = Singlemode
XX = ST for ST style fiber connector, SC for SC style fiber connector
YY = Segment length:
15 for 15km max. fiber segment length
40 for 40km max. fiber segment length
80 for 80km max. fiber segment length



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