102MC Media Converter

N-Tron Networking Series

▶▶▶ Industrial Media Converter

The N-TRON® 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, space saving footprint
- Full IEEE 802.3 Compliance
- American Bureau of Shipping (ABS) Type Approval
- EN50155 for Railway applications
- Converts 10/100BaseTX to 100BaseFX
- Unmanaged Operation
- 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)
- ESD Protection Diodes on RJ-45 Port
- Surge Protection Diodes on Power Inputs

PRODUCT OVERVIEW

The 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.

Unlike most media converters the 102MC uses switching technology. This means that 10Mbps devices can be connected today and upgraded to 100Mbps devices later. The switching fabric simply scales up or down automatically to match specific network environments.



The 102MC supports up to 2,000 MAC addresses, 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 the inherent advantages of fiber based infrastructure. 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 small footprint, conserving space in the most critical dimension. The 102MC can also be panel mounted if desired.

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

102MC SPECIFICATIONS

Case Dimensions

Height:	2.9"	(7.4 cm)
Width:	1.5"	(3.9 cm)
Depth	3.6"	(12.3 cm)
Weight:	0.5 lbs.	(0.22 kg)
DIN-Rail:	35mm	

Electrical

Input Voltage:	10-30 VDC
Input Current:	140mA@24V
BTU/hr:	11.5 @24VDC
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

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)

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

BENEFITS

Industrial Media Converter

- Compact Size, Small Footprint
- Converts 10/100BaseTX to 100BaseFX
- 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 10/100BaseTX 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

Regulatory Approvals

FCC Title 47 Part 15 Subpart BClass A
ICES-003- Class A
CE: EN61000-6-2,4
EN61000-4-2,3,4,5,6
UL Listed (US and Canada) per ANSI/ISA-12.12.01-2000, Class I, Div 2, Groups A,B,C,D,T5;
EN55011 Class A
GOST-R Certified
RoHS Compliant
ABS Type Approval for Shipboard Applications
DNV-GL Type Approval Certification
EN50155 for Railway Applications

Designed to comply with:

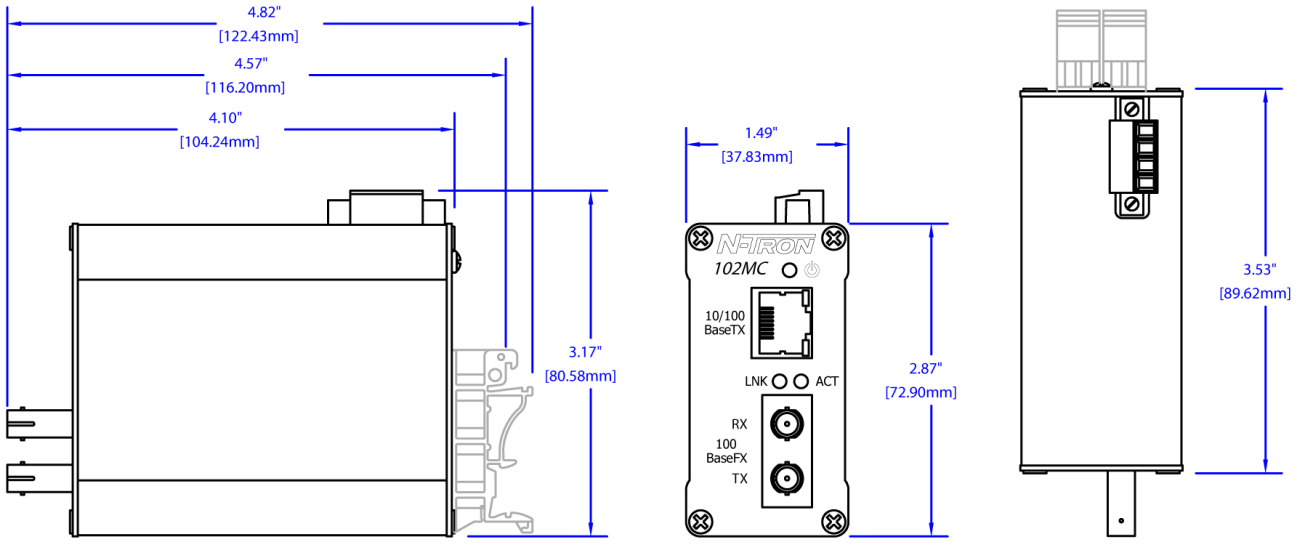
IEEE 1613 for Electric Utility Substations
NEMA TS1/TS2 for Traffic Control Equipment

Ordering Information

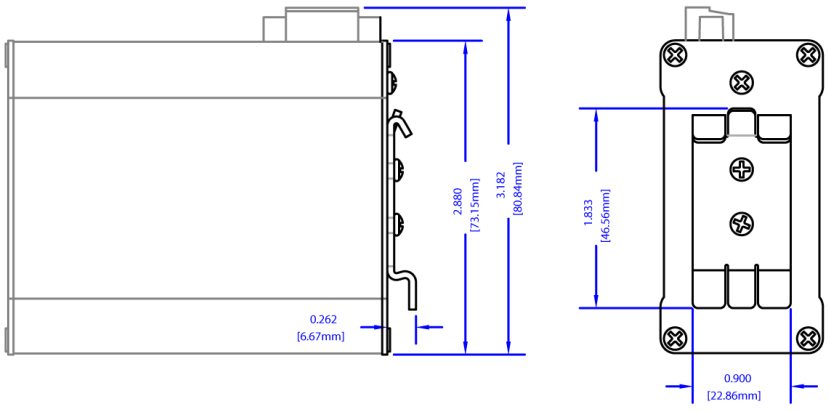
102MC-XX	100BaseFX multimode fiber
102MCE-XX-YY	100BaseFX singlemode fiber
NTPS-24-1.3	DIN-Rail Power Supply 24V@1.3 Amp
100-MDR-1	Metal Din Rail Option*
Where "XX" is:	ST for ST style fiber connector SC for SC style fiber connector
Where "YY" is:	15 for 15km max. fiber segment length 40 for 40km max. fiber segment length 80 for 80km max. fiber segment length

* MDR option must be specified with switch order - not field upgradable

102MC with Standard DIN rail Mount



Optional 100-MDR-1 Metal DIN Rail Mount



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As the global experts in communication, monitoring and control for industrial automation and networking, Red Lion has been delivering innovative solutions for over forty years. Our automation, Ethernet and cellular M2M technology enables companies worldwide to gain real-time data visibility that drives productivity. Product brands include Red Lion, N-Tron and Sixnet. With headquarters in York, Pennsylvania, the company has offices across the Americas, Asia-Pacific and Europe. Red Lion is part of Spectris plc, the productivity-enhancing instrumentation and controls company. For more information, please visit www.redlion.net.

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