

The 1003GX2 is an unmanaged three port Gigabit Industrial Ethernet Switch. 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
- One 10/100/1000BaseT RJ-45 Port
- Two 1000BaseSX/LX SFP (Mini-GBIC) Ports
  - Mix-and-Match Multimode and Singlemode LC Style SFP 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 6.0 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® 1003GX2 Gigabit Industrial Ethernet Switch is designed to solve the most demanding industrial communications requirements while providing high throughput and minimum downtime.

The 1003GX2 provides one RJ-45 auto sensing 10/100/1000BaseT port and two 1000BaseSX/LX SFP port. The RJ-45 port is full/half duplex capable, using "state of the art" Ethernet switching technology. The 1003GX2 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 TX port of the 1003GX2 is auto sensing, there will be no need to make extensive wiring changes



if upgrades are made to the host computers, plant systems, or Ethernet I/O modules. The switching fabric simply scales up or down automatically to match your specific network environment.

The 1003GX2 supports up to 1,024 MAC addresses, thus enabling these products to support extremely sophisticated and complex network architectures.

The N-TRON 1003GX2 is an ideal candidate for upgrading existing hubs and repeaters to increase bandwidth and determinism by virtually eliminating network collisions. The product also keeps the network affordable, while maintaining the plug & play simplicity of the unmanaged hub.

The 1003GX2 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 1003GX2 can be panel mounted by using our 1000-PM kit.

To increase reliability, the 1003GX2 contains redundant power inputs. LEDs are provided to display the link status and activity of each port, as well as power on/off status.

## BENEFITS

### Industrial Ethernet Switch

- Compact Size, Smaller Footprint
- 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
- Two 1000BaseSX/LX Fiber Uplinks
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism

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## Ordering Information

1003GX2-B	One 10/100/1000BaseT Port Two 1000BaseSX/LX Ports with mix-and-match SFP Transceivers*
1003GX2-SX	One 10/100/1000BaseT Port Two 1000BaseSX SFP Transceivers
1003GX2-LX-10	One 10/100/1000BaseT Port Two 1000BaseLX-10 SFP Transceivers
1003GX2-LX-40	One 10/100/1000BaseT Port Two 1000BaseLX-40 SFP Transceivers
1003GX2-LX-70	One 10/100/1000BaseT Port Two 1000BaseLX-70 SFP Transceivers
1000-PM	Panel Mount Kit
NTPS-24-1.3	DIN-Rail Power Supply 24V@1.3 Amp
NTSFP-SX	One 1000BaseSX Multimode SFP Gigabit Transceiver (two required per unit)
NTSFP-LX-ZZ	One 1000BaseLX Singlemode SFP Gigabit Transceiver (two required per unit)

ZZ = 10, 40, or 70 for GB Singlemode SFP Transceiver  
\*Unit must be fully populated with **two** SFP transceivers  
upon shipment.

## 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:	0.64 lbs. (0.29 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:	Two (2) SFP LC Duplex Gigabit Fiber Ports

## 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, UL Listed 1604 (US and Canada) per ANSI/ISA-12.12.01-2000 Class I, Div 2, Groups A,B,C,D,T4A, RoHS Compliant, Submitted for type approval from ABS for Shipboard Applications, Designed to comply with: IEEE 1613 for Electric Utility Substations, and NEMA TS1/TS2 for Traffic Control Equipment

REV 080904