

The *N-TRON*® 7506GX2 Fully Managed Industrial Ethernet Switch provides all gigabit performance in a compact form factor. The 7506GX2 is ideally suited for use in high traffic industrial applications such as security and video surveillance where maximum throughput, a small footprint and industrial ruggedness are required.

## PRODUCT FEATURES

- Four 10/100/1000BaseT(X) RJ-45 Ports
- Two SFP (Mini-GBIC) Gigabit Transceivers (Optional)
  - 1000BaseSX/LX Fiber with LC style connectors or
  - 1000BaseT Copper with RJ-45 connectors
- -40° to 80°C Operating temperature
- ESD and Surge Protection Diodes on all Ports
- Auto Sensing 10/100/1000BaseT(X), Duplex, and MDIX
- Store-and-forward Technology
- Rugged DIN-Rail Enclosure
- Onboard Temperature Sensor
- Redundant Power Inputs (10-49VDC)
- Configurable Bi-Color Fault Status LED

## Fully Managed Features:

- SNMP v1, v2, v3 and Web Browser Management
- Configuration backup via Optional SD card (NTCD)
- Jumbo Frame Support (9720 Bytes)
- EtherNet/IP™ CIP Messaging
- Detailed Ring Map and Fault Location Charting
- N-Ring™ Technology with ~30ms Healing
- N-View™ OPC Monitoring
- N-Link™ Redundant N-Ring Coupling
- IGMP Auto Configuration
- 802.1Q tag VLAN and Port VLAN
- 802.1p QoS and Port QoS, and DSCP
- LLDP (Link Layer Discovery Protocol)
- Port Trunking
- Port Mirroring
- 802.1d, 802.1w, 802.1D RSTP
- DHCP Server, Option 82 relay, Option 61
- Local Port IP Addressing

## Management Features

The 7506GX2 offers several management functions that can be easily configured using a web browser.

**Automatic IGMP Snooping** - Internet Group Management Protocol is a feature that allows the 7506GX2 switch to forward and filter multicast traffic intelligently.

**VLAN** - Virtual Local Area Network allows you to segment the switch in order to create two or more separate local area network domains.

**QoS** - Quality of Service provides prioritization of network traffic in order to provide better network service. The primary goal of QoS is to improve the latency of prioritized Ethernet packets required for ring management, real-time video, and other interactive applications.

**Port Trunking** - Trunking (link aggregation) enables multiple physical ports to be linked together and function as one uplink to another *N-TRON* trunking capable switch configured in the same manner, thereby increasing the bandwidth between switches. This configuration can provide increased bandwidth and redundancy to applications requiring high levels of fault tolerant operation.

**Port Mirroring** - This function allows the traffic on one port to be duplicated and sent to a designated mirror port. Port mirroring can be used to monitor Ethernet traffic on the designated source port using the assigned mirror port.

**Rapid Spanning Tree Protocol** - RSTP allows the switch to be configured in a ring or mesh topology, and provides support for redundant path communications with high speed (rapid) healing.



**Remote Monitoring Options** - For ease of configuration and monitoring, the 7506GX2 offers web browser management and *N-View* OLE for process control (OPC) server software. The *N-TRON N-View* software can be combined with popular HMI software packages to add network traffic monitoring, trending, and alarming to any application using *N-TRON* switches. In addition, SNMP is available for switch link and status monitoring. The status LED can be configured to respond to power failure on power input 1 or input 2, *N-Link* fault, port usage fault, *N-Ring* broken, partial break high, partial break low, or if multiple ring managers are detected.

**N-Ring Technology** - *N-TRON's* 7506GX2 ring manager using *N-TRON's* *N-Ring* technology offers expanded ring size capacity, detailed fault diagnostics, and a standard healing time of ~30ms. The 7506GX2 ring manager periodically checks the health of the ring via heart beat packets. If the ring manager stops receiving these health check packets, it converts the ring to a linear topology within ~30ms. When all switches in the ring are *N-TRON* fully managed switches, a detailed ring map and fault location chart will also be provided on the ring manager's web browser and OPC server to identify the health status of the ring. *N-Link*™ allows the linking of two *N-Rings*. Up to 250 fully managed *N-TRON* switches can participate in *N-Ring* topologies.

**LLDP** - Link Layer Discovery Protocol is a vendor neutral discovery protocol that allows switches and other LLDP capable devices on an IEEE802 LAN to advertise their capabilities to, and discover information from neighboring LAN members. Discovered information is stored in a MIB accessible through SNMP management tools such as *N-TRON's* iSNMP.

**DHCP** - Dynamic Host Configuration Protocol is a network application protocol used by devices (DHCP clients) to obtain configuration information for operation in an Internet Protocol network. DHCP can make it easy to add new machines to the network. *N-TRON* supports DHCP Server, Client, Option 61, and Option 82. The 7506GX2 also supports Local Port IP Addressing. This allows an IP address to be assigned to a specific port without using DHCP.

**Industrial Packaging and Specifications** - The 7506GX2 is designed to operate in industrial environments. It is housed in a rugged extruded aluminum DIN-Rail enclosure. It has extended industrial specifications and features to meet or exceed the operating parameters of connected equipment. These include extended temperature ratings, extended shock and vibration specs, redundant power inputs, and high MTBF (greater than 2M hours).

**Ease of Use** - The 10/100/1000BaseT(X) ports are auto sensing and auto configuring. Each copper port is automatically negotiated for maximum speed and performance by default, but can also be hard coded through the user interface. A high speed processor allows wire speed capability on all 10/100/1000BaseT(X) ports simultaneously.

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## 7506GX2 Industrial Ethernet Switch Ordering Information

7506GX2	Four 10/100/1000BaseT(X) Ports and two SFP ports without (optional) modules
7506GX2-SX	Four 10/100/1000BaseT(X) Ports and two SFP ports with 2 NTSFP-SX Multimode modules installed
7506GX2-LX-10	Four 10/100/1000BaseT(X) Ports and two SFP ports with 2 NTSFP-LX-10 Singlemode modules installed
NTSFP-TX	Optional SFP (Mini-GBIC) Transceiver with One 1000BaseT GB Copper Port
NTSFP-SX	Optional SFP (Mini-GBIC) Transceiver with One 1000BaseSX Multimode GB Fiber Optic Port
NTSFP-LX-ZZ	Optional SFP (Mini-GBIC) Transceiver with One 1000BaseLX Singlemode GB Fiber Optic Port
NTCD-128	Optional SD Card, Configuration Device
NTPS-24-1.3	N-TRON Power Supply - (1.3 Amp @ 24VDC)
1000-PM	Panel Mount kit
URMK	Universal Rack Mount Kit

Where: ZZ = 10, 40, or 70 for GB Singlemode

## 7506GX2 Specifications

### Switch Properties

Number of MAC Addresses:	4000
Aging Time:	Programmable
Latency Typical:	1.6 $\mu$ s
Switching Method:	Store-and-Forward

### Case Dimensions

Height:	3.8" (9.6cm)
Width:	2.0" (5.1cm)
Depth:	3.9" (9.9cm)
Weight (max):	1.1lbs (0.48kg)
DIN-Rail Mount:	35mm

### Electrical

Redundant Input Voltage:	10-49 VDC (Regulated)
Input Current (max):	440mA max. @24VDC
N-TRON Power Supply:	NTPS-24-1.3 (1.3A@24V)

### Environmental

Operating Temperature:	-40°C to 80°C
Storage Temperature:	-40°C to 85°C
Operating Humidity:	5% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

### Shock and Vibration (bulkhead mounted)

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

### Reliability

MTBF:	>2 Million Hours
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### Recommended Wiring Clearance

Front:	4" (10.16 cm)
Side:	1" (2.54 cm)

## Contact Information

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REV 091202

## SFP Gigabit Fiber Transceiver Characteristics

Fiber Length	550m for 50/125 $\mu$ m*	10km**	40km**	70km**
TX Power Min	-9.5dBm/-4dBm	-9.5dBm/-3.5dBm	-2dBm/3dBm	0dBm/5dBm
RX Sensitivity Max	-17dBm	-20dBm	-22dBm	-24dBm
Wavelength	850nm	1310nm	1310nm	1550nm
Assumed Fiber Loss		-0.5dB/km	-0.35dB/km	-0.25dB/km
Laser Type	VCSEL	FP	DFB	DFB

\* SX Fiber Optic Cable  
\*\* LX Fiber Optic Cable

## Network Media

10BaseT:	>Cat3 Cable
100BaseTX:	>Cat5 Cable
1000BaseT:	>Cat5e Cable

## Connectors

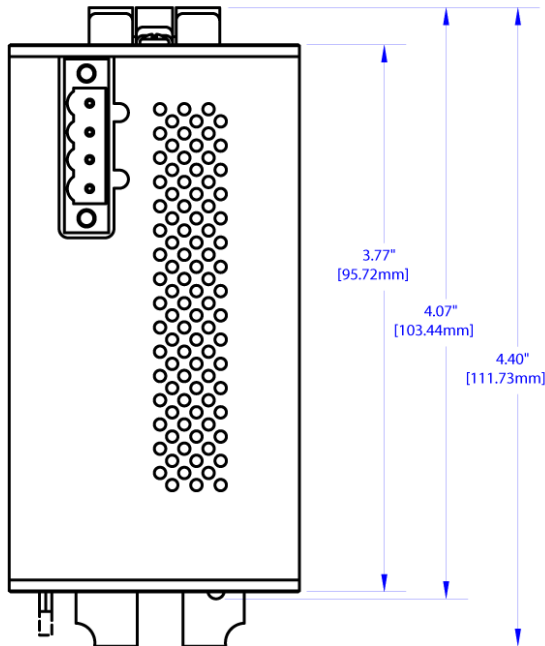
10/100/1000BaseT(X):	Four (4) RJ-45 Copper Ports
1000BaseT:	Up to Two (2) RJ-45 Gigabit Copper Ports (optional)
1000BaseSX/LX:	Up to Two (2) LC Duplex Gigabit Fiber Ports (optional)

## Regulatory Approvals

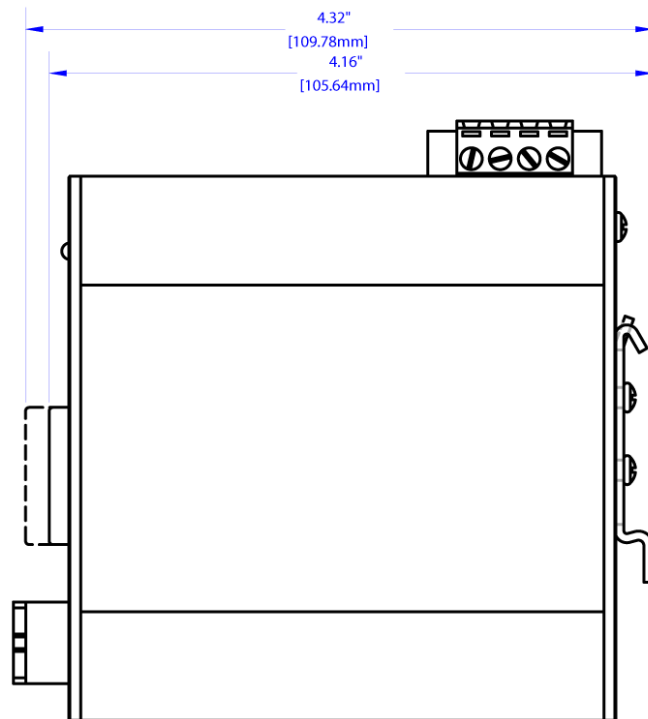
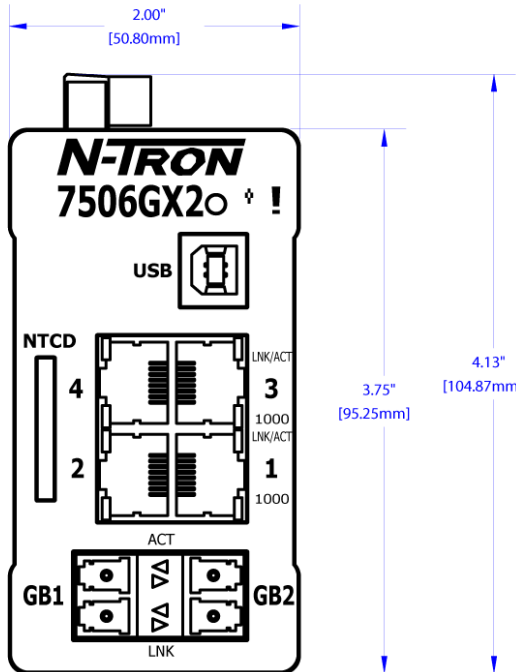
FCC Title 47, Part 15, Subpart B - Class A; ICES-003 - Class A  
CE: EN61000-6-2:2001; EN61000-6-4:2007  
EN61000-4-2, 3, 4, 5, 6  
GOST-R Certified, RoHS Compliant

Designed to comply with:

UL Listed (US and Canada) 1604; ANSI/ISA-12.12.01-2007  
Class I, Div. 2, Groups A, B, C, D, and T4A  
IEEE 1613 for Electric Utility Substations  
NEMA TS1/ TS2 for Traffic control



## 7506GX2



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