

The *405FX* is an unmanaged 5 port Industrial Ethernet Switch. It is housed in a ruggedized DIN-Rail enclosure, and is designed for use in mission critical data acquisition, control, and Ethernet I/O applications.

## PRODUCT FEATURES

- Full IEEE 802.3 & 100BASE-FX Compliance
- Extended Environmental Specifications
- Support for Full/Half Duplex Operation
- LED Link/Activity Status Indication
- Auto Sensing Speed and Flow Control
- Up to 1.0 Gb/s Maximum Throughput
- Plug and Play with Ethernet I/O
- Compact, Space Saving Package
- Rugged Industrial DIN-Rail Enclosure
- Redundant Power Inputs (10-30 VDC)

## PRODUCT OVERVIEW

The N-TRON™ *405FX* Industrial Network Switch is designed to solve the most demanding industrial communications requirements while providing high throughput and minimum downtime.

The *405FX* provides 4 RJ-45 auto-sensing 10/100BaseT ports, plus a fiber based Fast Ethernet uplink port. All ports are full/half duplex capable, using "state of the art" Ethernet switching technology. The *405FX* auto-negotiates the speed and flow control capabilities of the 4 UTP port connections, and configures itself automatically. The 5th port is a 100BaseFX fiber optic uplink utilizing industry standard ST or SC duplex connectors and is user configurable for full or half duplex operation.

Since the *405FX* 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 *405FX* supports up to 4,000 MAC addresses, thus enabling these products to support extremely sophisticated and complex network architectures.

The N-TRON *405FX* 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 *405FX* can simplify plant wiring by eliminating the need to bring data acquisition and control network connections back to a climate controlled environment. The *405FX* has extended operating environmental specifications to meet the harsh needs of the industrial environment. For cost savings and convenience the network switch can now be DIN-Rail mounted alongside Ethernet I/O or other Industrial Equipment.

A unique feature of the packaging allows horizontal or vertical mounting on the rail, conserving space in the most critical dimension. In addition, as with other DIN-Rail devices, the *405FX* can be panel mounted.

To increase reliability, the *405FX* 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 and any controller detected errors.

## BENEFITS

### Industrial Network Switch

- High Reliability/Availability
- Extended Environmental Specifications
- Ruggedized DIN-Rail Enclosure
- High Performance
- High MTBF

### Ease of Use

- Plug & Play Operation
- Auto-sensing 10/100BaseT
- Auto-sensing Full/Half Duplex
- Unmanaged Operation
- Compact DIN-Rail Package

### Increased Performance

- Full Wire Speed Capable
- 100BaseFX Fiber Uplink
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism

## SPECIFICATIONS

### Physical

<i>Height:</i>	2.3"	(5.84 cm)
<i>Width:</i>	5.1"	(12.95 cm)
<i>Depth:</i>	3.1"	(7.87 cm)
<i>Weight:</i>	1.25 lbs	(0.6 kg)

(note: can be mounted horizontally or vertically)

### Electrical

<i>Input Voltage:</i>	10-30 VDC
<i>Input Current:</i>	0.25A@24V

### Environmental

<i>Operating Temperature:</i>	0°C to 70°C 32°F to 158°F
<i>Storage Temperature:</i>	-20°C to 85°C -4°F to 185°F
<i>Operating Humidity:</i>	10% to 90% (Non Condensing)
<i>Operating Altitude:</i>	0 to 10,000 ft.

### Network Media

<i>10BaseT:</i>	Category 3,4,5 Cable
<i>100BaseT:</i>	Category 5 Cable
<i>100BaseFX:</i>	62.5/125µm Fiber @ 1300nm or 50/125µm Fiber @ 1300nm

### Fiber Transceiver Characteristics

(multimode/singlemode)	
<i>Transmit Power:</i>	-17/-3dBm (typical)
<i>Receiver Sensitivity:</i>	-33/-35dBm (typical)
<i>Segment Length:</i>	up to 2/15km

### Connectors

<i>10/100BaseT:</i>	Four (4) RJ-45 UTP ports
<i>100BaseFX:</i>	SC or ST Duplex Port

### Recommended Wiring Clearance:

<i>Front:</i>	2" (5.08 cm)
<i>Side:</i>	1" (2.54 cm)

### Emissions and Safety Approvals:

FCC Part 15 Class A, CE, UL Listed  
CLASS I, DIV 2 (Zone 2), GROUPS A,B,C,D

### Contact Information

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### Ordering Information:

405FX-XX 100BaseFX multimode fiber

405FXE-XX-YY 100BaseFX singlemode fiber

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