N-TRON
THE INDUSTRIAL NETWORK COMPANY

405FX

The *405FX* is an unmanaged five 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 802.3Compliance
- Four 10/100BaseTX RJ-45 Ports
- One 100BaseFX Port ST (shown) or SC
- Extended Environmental Specifications
- Support for Full/Half Duplex Operation
- LED Link/Activity Status Indication
- Auto Sensing Speed and Flow Control
- Store-and-forward Technology
- Auto Cable Sensing (MDIX)
- Up to 1.0 Gb/s Maximum Throughput
- Rugged Industrial DIN-Rail Enclosure
- Redundant Power Inputs (10-30 VDC)
- N-View Switch Monitoring Option

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 four RJ-45 auto sensing 10/100BaseTX 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 TX 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.

N-VIEW OPC SWITCH MONITORING OPTION

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 41different traffic variables per port and 5 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.

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BENEFITS

Industrial Network Switch

- High Reliability/Availability
- Extended Environmental Specifications
- Ruggedized DIN-Rail Enclosure
- High Performance
- High MTBF - >2M Hours (measured)

Ease of Use

- Plug & Play Operation
- Auto Sensing 10/100BaseTX
- Auto Sensing Full/Half Duplex
- Auto Cable Sensing (MDIX)
- Unmanaged Operation
- Compact DIN-Rail Package

Increased Performance

- Full Wire Speed Capable
- 100BaseFX Fiber Uplink
- Full Duplex Capable
- Eliminates Network Collisions
- Increases Network Determinism
- N-View Switch Viewing Option

Contact Information

PACIFIC PARTS & CONTROLS, INC.
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www.pacificparts.com
Electrical Supply Distributor

Ordering Information

405FX-XX	100BaseFX multimode fiber
405FX-N-XX	with N-View Firmware Option
405FXE-XX-YY	100BaseFX singlemode fiber
405FXE-N-XX-YY	with N-View Firmware 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

SPECIFICATIONS

Physical

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

(note: can be mounted horizontally or vertically)

Electrical

Input Voltage:	10-30 VDC
Input Current:	0.25A@24V
Inrush:	14.0Amp/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.

Network Media

10BaseT:	>Cat3 Cable
100BaseTX:	>Cat5 Cable
100BaseFX	
Multimode:	50-62.5/125µm
Singlemode:	7-10/125µm

Fiber Transceiver Characteristics

Fiber Length	*2km**	*15km***	*40km***	*80km***
TX Power Min	*-19dBm*	*-15dBm*	*-5dBm*	*-5dBm*
RX Sensitivity Max	*-32dBm*	*-29dBm*	*-34dBm*	*-34dBm*
Wavelength	*1310nm*	*1310nm*	*1310nm*	*1550nm*

* Multimode Fiber Optic Cable
** Singlemode Fiber Optic Cable

Connectors

10/100BaseTX:	Four (4) RJ-45 TX Ports
100BaseFX:	One (1) SC or ST Duplex Port

Recommended Wiring Clearance:

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

Emissions and Safety Approvals:

FCC Part 15 Class A, CE,
UL Listed (US & Canada)
CLASS I, DIV 2, GROUPS A,B,C,D,T4A

REV 070914