N-TRON

THE INDUSTRIAL NETWORK COMPANY

604MFX

N-TRON 604MFX Ring Management Industrial Ethernet Switch
Built to Operate Reliably in Industrial Applications

The *N-TRON*™ 604MFX Industrial Ethernet Switch offers outstanding performance, and ease of use. It is ideally suited for connecting Ethernet enabled industrial and/or security equipment requiring full SNMP management functions. The 604MFX also provides redundant ring management.

Product Features

- Full IEEE 802.3 Compliance
- Full SNMP Management
- Remote Switch Mangement (RMON)
- Counter Rotating Packet Fiber Ring Management.
- Two 100 BaseFX Fiber Optic Ring Ports
- Two 10/100 BaseTX RJ-45 Ports
- Auto Sensing 10/100BaseTX, Duplex, and MDIX
- Store-and-forward Technology
- Up to 1 Gb/s Throughput
- Programmable MAC level Security
- Remote Switch Monitoring
- Event Trapping
- Port Mirroring
- QoS Quality of Service
- Redundant Power Inputs (18-32 VDC)
- 0º to 55ºC Operating Temperature
- Rugged Industrial DIN-Rail Enclosure

Fiber Ring Management

The 604MFX redundancy manager performs high speed ring management in the industrial control environment. This switching system can be used in conjunction with other *N-TRON*™ switches in order to create the most cost effective network ring solution available for industrial applications. Fiber Optic Ring configurations using a 604MFX as the ring manager and 200, 300, 400, 500, 900, and 9000 series switches in the ring will provide media redundancy at the lowest possible cost.

Industrial Packaging and Specifications

The *N-TRON* 604MFX is designed to operate in industrial environments. It is housed in a rugged steel enclosure that can be DIN-RAIL or Panel Mounted. Optional kits are available for rackmount applications. It has extended industrial specifications and features to meet or exceed the specifications of the equipment it is connecting. These include extended temperature ratings, extended shock and vibration specs, redundant power inputs, and high MTBF (greater than 1M hours).

Ease of Use

The *N-TRON* 604MFX is a fully managed switch which can be easily configured using a direct terminal connection, Telnet, or standard SNMP browsers. Management functions include filtering, port mirroring, event trapping, packet prioritization (QoS), and port parameterization settings. A simple toggle switch enables ring management on the 604MFX with no other setup required. The 604MFX provides remote monitoring (RMON) of port data. Six RJ-45 10/100BaseTX ports are auto sensing and auto configuring. Each port is automatically negotiated for maximum speed and performance by default. LED's are provided to display the link status and activity of each port as well as power on/off status.

Performance

The *N-TRON* 604MFX uses "state of the art" IEEE 802.3 Fast Ethernet 10/100BaseTX switching technology. This eliminates network collisions and increases network determinism. 7,000 MAC addresses are supported enabling sophisticated and complex network architectures. A high speed processor and backplane allows full wire speed capability on all ports simultaneously.

High Quality and Reliability

 N-TRON™ is a worldwide leader in Industrial Networking technology and offers proven reliability and quality.

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608MFX Ring Management Switch Ordering Information

604MFX-ST	Two 10/100BaseT X Ports and Two 100BaseFX Multimode Fiber Ring Ports (ST Connectors - 2 km fiber length)
604MFXE-ST-15	Two 10/100BaseTX Ports and Two 100BaseFX Singlemode Fiber Ring Ports (ST Connectors - 15 km fiber length)
604MFXE-ST-40	Two 10/100BaseTX Ports and Two 100BaseFX Singlemode Fiber Ring Ports (ST Connectors - 40 km fiber length)
604MFXE-ST-80	Two 10/100BaseTXPorts and Two 100BaseFX Singlemode Fiber Ring Ports (ST Connectors - 80 km fiber length)

Specifications

Switch Properties
Number of MAC Addresses	7,000
Aging Time	Programmable
Latency	4 µs
Switching Method	Store & Forward
Ring Redundancy Resolution	Less Than 300 ms

Physical
Height:	5.50"	(13.65 cm)
Width:	8.55"	(21.70 cm)
Depth:	2.75"	(6.90 cm)
Weight:	3.08 lbs	(1.40 kg)

Electrical
Input Voltage:	18-32 VDC (Redundant Inputs)
Input Current:	1000mA@24V
Inrush:	10.5Amp/7ms@24V

Environmental
Operating Temperature:	0°C to 55°C
	32°F to 131°F
Storage Temperature:	-40°C to 80°C
	-40°F to 176°F
Operating Humidity:	10% to 95% (Non Condensing)
Operating Altitude:	0 to 10,000 ft.

Shock and Vibration (bulkhead mounted)
Shock:	200g @ 10ms
Vibration:	1g, 10-500Hz, 3 axis
Seismic:	20g, 5-200Hz, 15s

Reliability
MTBF:	Greater Than 1M Hours (measured)

Network Media
10BaseT:	>Cat3 Cable
100BaseTX:	>Cat5 Cable
100BaseFX	
Multimode:	50-62.5/125µm
Singlemode:	7-9/125µm

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

Recommended Wiring Clearance
Bottom:	5" (10.16 cm)
Top:	1" (2.54 cm)

Emissions and Safety Approvals
FCC Part 15 Class A, CE, UL Listed, CSA, CLASS I, DIV 2, GROUPS A,B,C,D,T4

Contact Information

PACIFIC PARTS & CONTROLS, INC.
6255 PRESCOTT COURT • CHINO, CA 91710
909-465-1174 • FAX 909-465-1178
www.pacificparts.com
Electrical Supply Distributor

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