NSM-206FT/NSM-206FC/NSM-206FCS

Industrial 4-Port 10/100 Base-T(X) with Dual 100 Base-FX Switch

Introduction:

The NSM-206Fx is an unmanaged 4-Port Industrial Ethernet (10/100Base-TX) witch dual Fiber (100Base-FX) Switch that secures data transmission by using fiber optic transmission to provide immunity from EMI/RFI interference. The Ethernet supports 10/ 100M auto-negotiation feature and auto MDI /MDIX function

NSM-206Fx provides two power inputs that can be connected simultaneously to live DC power sources. If one of the power inputs fails, the other live source acts as a backup to automatically support the NSM-206Fx 's power needs. NSM-206Fx contains "soft start" function with overload protection, high-low voltage protection.

Features:

- Automatic MDI / MDI-X crossover for plug-and-play
- Each port supports both 10/100 Mbps speed auto negotiation
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- 1.6 Gbps high performance memory bandwidth
- Frame buffer memory:256 Kbit
- Integrated look-up engine with dedicated 1 K unicast MAC addresses.
- Redundant Power Inputs +10 ~ +30V DC
  Power failure alarm by relay output
- DIN rail mount for industrial usage

Specifications:

- Compatibility: IEEE 802.3, IEEE802.3u, IEEE802.3x
- Interface:
  NSM-206FT: 10/100 Base-T(X) and 100 Base-FX(ST Connector; Multi-mode)
  NSM-206FC: 10/100 Base-T(X) and 100 Base-FX(SC Connector; Multi-mode)
  NSM-206FCS: 10/100 Base-T(X) and 100 Base-FX(SC Connector; Single-mode)
- Ethernet Port: 10/100 Mbps x 4
- Fiber Optic Port: 100 Mbps x 2
- Fiber Optic Transmission distance:
  Multi mode fiber cables: 50/125, 62.5/125 or 100/140 µm
  Distance: 2 km, 1300 ~ 1310nm (62.5/125 µm)
  Min. TX Output: -20 dBm
  Max. TX Output: -14 dBm
  Sensitivity: -34 to -31 dBm
  Single mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 µm.
  Distance: 15 km, 1300 ~ 1310 nm (9/125 µm)
  Min. TX Output: -15 dBm
  Max. TX Output : -8 dBm
  Sensitivity : -36 to -31 dBm
- Ethernet Cables:
  10 Base-T (Cat.3, 4, 5 UTP cable; 100m Max.)
  100 Base-TX (Cat.5 UTP cable; 100m Max.)
- Environment:
  Operating Temperature: 0 °C~ +70°C
  Storage Temperature: -20 ~ +85°C
  Relative Humidity: 10% to 90% non-condensing
- Dimensions: 72.5 x 110 x 104 mm (W x H x D)
- Power requirements : +10 to 30V DC (Removable Terminal Block)
  Alarm Contact : One relay output with current carrying capacity of 2A @ 30 VDC
- Power consumption: 0.24A@24Vdc (+/- 5%, arrowed)

LED functions:

Standard RJ45 female connectors are provided. A standard RJ45 plug cable is necessary to connect your device to the unit since switch that supports auto crossover.

LED	Color	Description
PWR_OK	Red On	Core Power is OK
	Red Off	Core Power is Off
Link for P0	Green On	Link/Act
	Green Off	Not Networking
Link for P1	Yellow On	Link/Act
	Yellow Off	Not Networking
Ethernet Port (P2 ~ P5)	Green On	Link/Act
	Green Off	Not Networking
	Yellow On	Link to 100 Mbps
	Yellow Off	Link to 10 Mbps
PWR2	Green On	Power is being supplied to power input PWR2
	Green Off	Power is **not** being supplied to power input PWR2
PWR1	Yellow On	Power is being supplied to power input PWR1
	Yellow Off	Power is **not** being supplied to power input PWR1
FAULT	Red On	Power is **not** being supplied to power input PWR1 and PWR2
	Red Off	Power is being supplied to power input PWR1 and PWR2
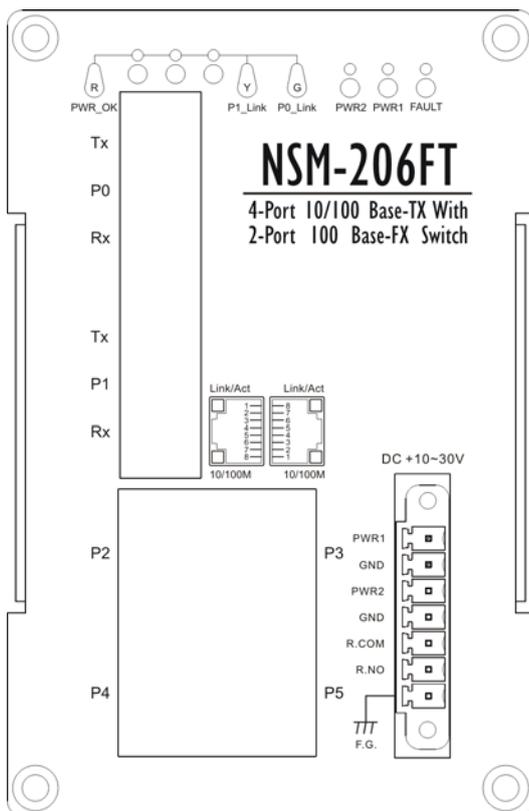
Redundant Power Inputs:

Both power inputs can be connected simultaneously to live DC power sources. If one power source fails, the other live source acts as a backup, and automatically supplies all of NSM-206Fx's power needs.

Soft start Power Inputs:

Integrated "soft-start" function that limits the in-rush current to the device being powered.
Delay time + Rise time = 2 second.

Pin Function For Terminal Block:

External power supply is connected using the removable terminal block:
PWR1 : Power input 1 (+10 to +30Vdc)
PWR2 : Power input 2(+10 to +30V) and should be connected to the power supply (+)
GND : Ground and should be connected to the power supply (-)

R.COM: Common (Form "A" Relay) for Alarm contact.
R.NO : Normal Open (Form "A" Relay) for Alarm contact.
F.G. :F.G. stands for Frame Ground (protective ground). It is optional. If you use this pin, it can reduce EMI radiation; improve EMI performance and ESD protection.

Application Note:

## 1. Redundant Power Inputs & Relay Output Alarm:

NSM-206Fx provides two power inputs that can be connected simultaneously to live DC power sources. If one of the power inputs fails, the other live source acts as a backup to automatically support the NSM-206Fx's power needs.

The NSM-206Fx provides relay contact outputs to warn technicians on the shop floor when the power fails.

2. Fiber Daisy Chain:

The NSM-206Fx can extend your LAN in a daisy chain configuration
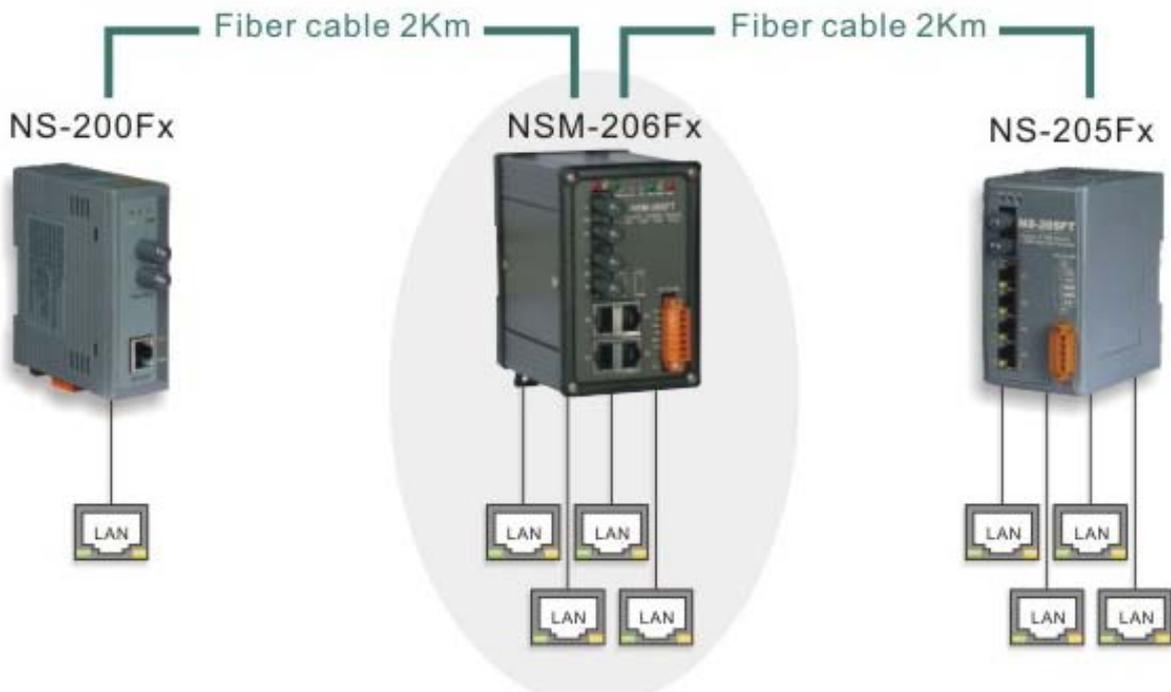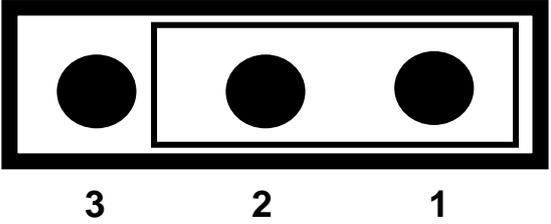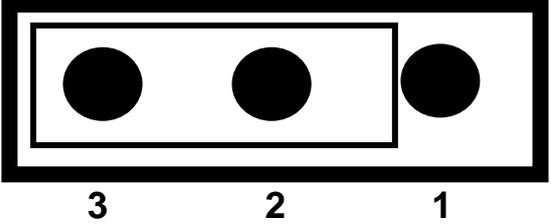
Full / Half-Duplex Selection:

There are two modes of data transmissions, full-duplex and half-duplex transmission.
The data can be transmitted in both directions on a single carrier at
the same time when you select Full-duplex mode. But the data can only be
transmitted in one direction on a single carrier at the same time when you
select Half-duplex mode. You may select Full or half-duplex mode according to
your equipment requirement.
You can configure full or half-duplex NSM-206Fx via Jumper. (Default: full-duplex).

Note: **Note: You must cycle power to the switch after changing the jumper position.**
The LEDs (LED1 or LED2) will be ON solid when you made the Full-duplex mode.

JP1 Jumper & JP2 Jumper	Description
3 **2** **1**	**Full-duplex (Default)** Transmission Distance: 2Km **JP1 for Fiber Port(P1)** **JP2 for Fiber Port(P0)**
3 **2** **1**	**Half-duplex** Transmission Distance: 412m **JP1 for Fiber Port(P1)** **JP2 for Fiber Port(P0)**

Dimensions: