

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

Introduction:



The ANSM-205Fx is an unmanaged 4-Port Industrial Ethernet (10/100Base-TX) with Fiber (100Base-FX) Switch that secures data transmission by using fiber optic transmission to provide immunity from EMI/RFI interference. It is used Ethernet for transmitting a signal up to 2 Km (6,600 ft), and is the perfect solution for applications where transmission must be protected from electrical exposure, surges, lightning or chemical corrosion.

The ANSM-205Fx operates at either half or full duplex mode. In full duplex mode, range is 2km with 62.5/ 125µm fiber cables; in half duplex mode, range is 412m with 62.5/ 125µm fiber cables. Single mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 µm; 15 km for full duplex. (NSM-205FCS Only).

ANSM-205Fx 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-205Fx's power needs. NSM-205 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
- Store-and-forward architecture
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- 3.2Gbps high performance memory bandwidth
- Frame buffer memory: 512 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 and Screw hole for wall mounting kit.

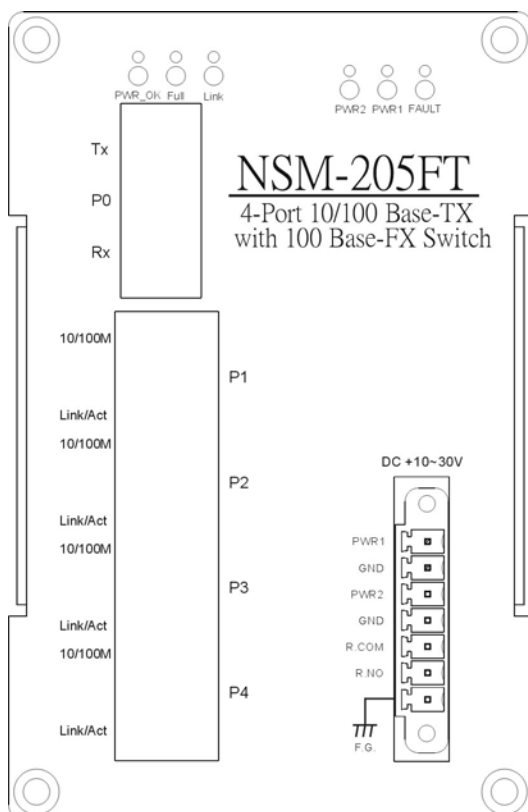
Specifications:

- Compatibility: IEEE 802.3, IEEE802.3u, IEEE802.3x
- Interface:
 - ANSM-205FT: 10/100 Base-T(X) and 100 Base-FX(ST Connector; Multi-mode)
 - ANSM-205FC: 10/100 Base-T(X) and 100 Base-FX(SC Connector; Multi-mode)
 - ANSM-205FCS: 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 1
- Provides LEDs for network and power monitoring
- Fiber Optic Transmission distance:
 - Multi mode fiber: 50/125, 62.5/125 or 100/140 µm
 - Multi mode fiber, 412 m for half duplex, 2 km for full duplex
 - Single mode fiber cables: 8.3/125, 8.7/125, 9/125 or 10/125 µm; 15 km for full duplex.
- 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: 73 x 110 x 102 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: 0.14A@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
Full for P0	Yellow On	Full Duplex
	Yellow Off	Half Duplex
Link for P0	Green On	Link/Act
	Green Off	Not Networking
Ethernet Port (P1 ~ P4)	Yellow On	Link/Act
	Yellow Off	Not Networking
	Green On	Link to 100 Mbps
	Green 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-205Fx'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 at power on.

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 +30Vdc)

GND : Ground

R.COM : Common(Form "A" Relay) for Alarm contact.

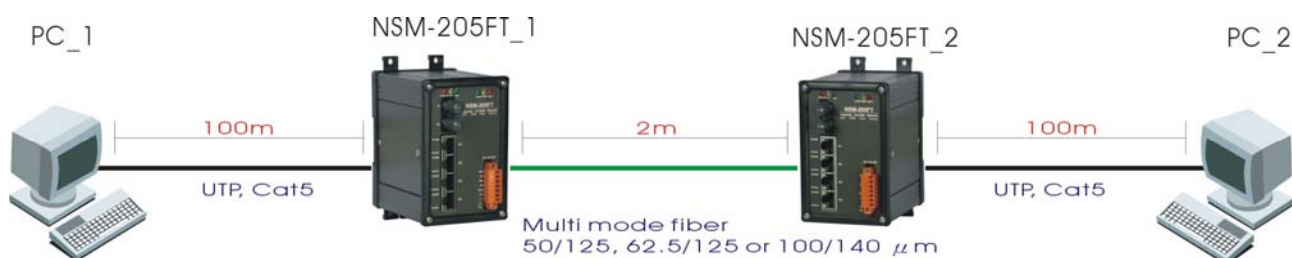
R.NO : Normal Open (Form "A" Relay) for Alarm contact.

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:

Figure shows common media conversion system network topologies. This figure is a simple end-to-end configuration; it is easy way to verify proper operation of the media converter(s), assuming that the Network Interface Cards (NIC's) or Ethernet ports in each PC/workstation end link partner are properly configured.

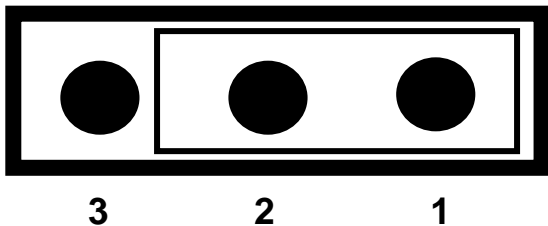
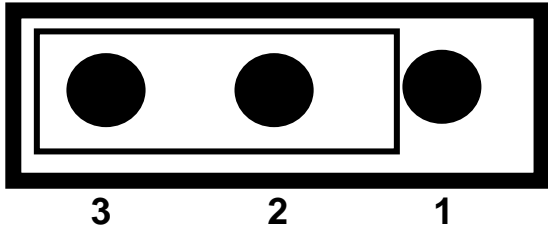
Figure:



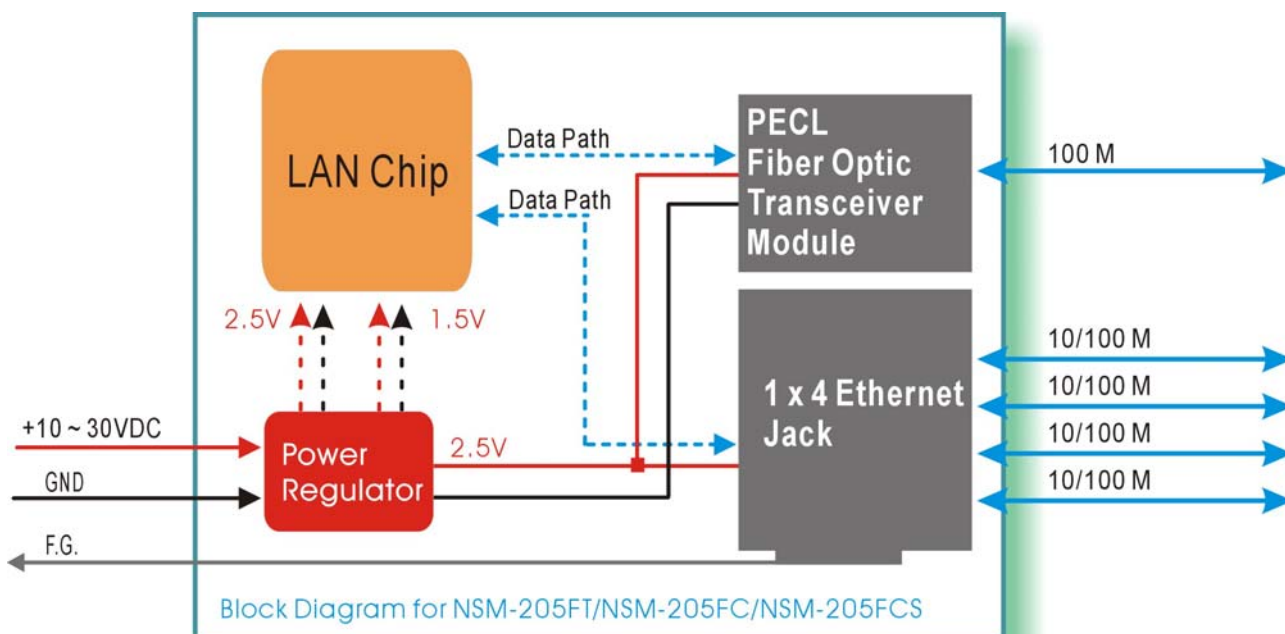
Full / Half-Duplex Selection:

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-205Fx via Jumper. (Default: full-duplex).

JP1 Jumper	Description
	Full-duplex (Default) Transmission Distance: 2Km
	Half-duplex Transmission Distance: 412m

Block Diagram:



Dimensions:

