NS-205R
Industrial 5-Port 10/100 Mbps Ethernet Switch with Conformal Coating

Introduction:

The NS-205R has 5 Ethernet Switching ports that support 10/100Base-T(X), with a 10/100M auto-negotiation feature and auto MDI/MDI-X function.

It can connect 5 workstations and automatically switches the transmission speed (10 Mbps or 100 Mbps) for corresponding connections. The flow control mechanism is also negotiated.

NS-205R is designed especially for mission critical and harsh environmental applications since it comes ready with conformal coating

Features:

- Automatic MDI/MDI-X crossover for plug-and-play
- Full duplex IEEE 802.3x and half duplex backpressure flow control
- Store-and-forward
- Supports 4 kV Ethernet ESD protection
- 1.4Gbps high performance memory bandwidth.
  Integrated look-up engine with dedicated 1024 unicast MAC addresses.
- Supports +10 ~ 36V DC voltage
- Supports operating temperatures from –40 ~ +75 ℃
- DIN rail mount for industrial usage
- 1.4Gbps high performance memory bandwidth.

Specifications:

- Compatibility:IEEE 802.3, IEEE802.3u, IEEE802.3x
- Interface: 10/100 Base-T(X)
- Port: 10/100 Mbps x 5 (Shielded RJ-45 Jack)
- Provides LEDs for network and power monitoring
- Environment:
  - Operating temperature: –40 ~ +75 ℃
  - Storage Temperature: –40 ~ +85 ℃
  - Relative Humidity: 10 ~ 90% HR, non-condensing
- Dimensions: 33 mm x 78 mm x 107 mm (W x L x H)
- Power requirements: +10 ~ 36V DC (Removable Terminal Block)
- Power consumption: 0.1A@24VDC, +/- 5% arrowed with 10M Full duplex.
  0.09A@24VDC, +/- 5% arrowed with 100M Full duplex.

LED functions:

Standard RJ45 female connectors are provided. A standard RJ45 plug cable is all that is necessary to connect your device to the unit since switch that supports auto crossover. Table 1 shows the LED indicator functions. The module includes an internal.

Table 1

LED	Color	Description
Power	Red	Power is On
	Off	Power is Off
10/100M (Port 1)	Yellow	Link to 10 Mbps
	Green	Link to 100 Mbps
	Off	Not Networking
10/100M (Port 2)	Yellow	Link to 10 Mbps
	Green	Link to 100 Mbps
	Off	Not Networking
10/100M (Port 3)	Yellow	Link to 10 Mbps
	Green	Link to 100 Mbps
	Off	Not Networking
10/100M (Port 4)	Yellow	Link to 10 Mbps
	Green	Link to 100 Mbps
	Off	Not Networking
10/100M (Port 5)	Yellow	Link to 10 Mbps
	Green	Link to 100 Mbps
	Off	Not Networking

Pin-Out:

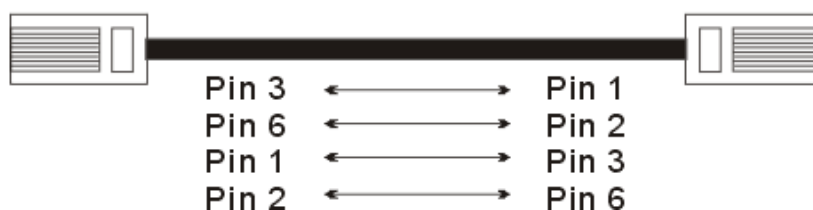| Pin#	Signal Name	Function
1	TD+	Transmit Data
2	TD-	Transmit Data
3	RD+	Receive Data
4	NC	No Connection
5	NC	No Connection
6	RD-	Receive Data
7	NC	No Connection
8	NC	No Connection

100 Mbps Link/Act

10 Mbps Link/Act
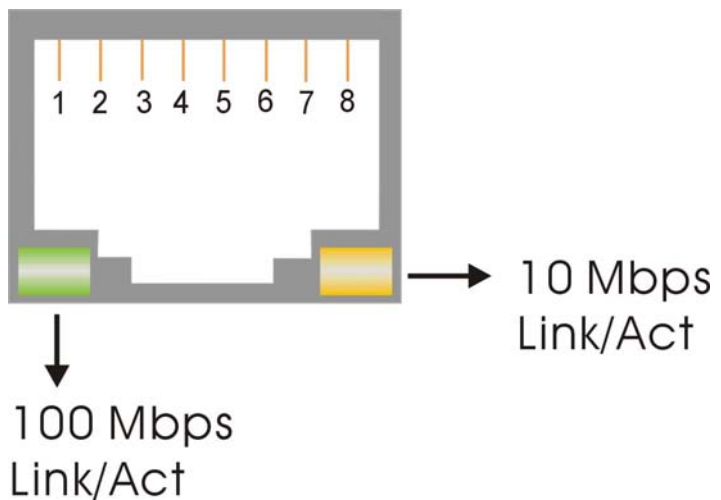
Ethernet Wiring:

When making a connection to another device using straight-through UTP cable, make sure the MDI-X to MDI connection rule is followed. The following figure illustrates the pin assignments of a straight-through UTP and a crossover UTP cable:

### RJ-45 to RJ-45 Ethernet Wiring - Straight Type (Host <--> Hub)

Pin 3	Pin 3
Pin 6	Pin 6
Pin 1	Pin 1
Pin 2	Pin 2
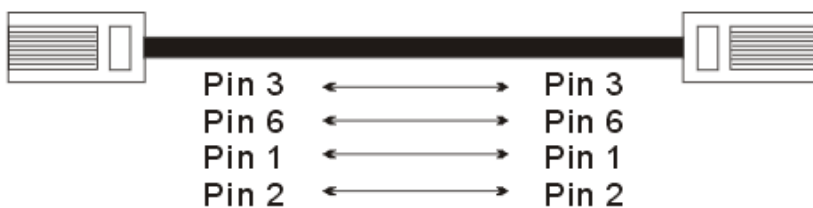
RJ-45 to RJ-45 Ethernet Wiring - Cross Type (Host <--> Host)

Pin 3	Pin 1
Pin 6	Pin 2
Pin 1	Pin 3
Pin 2	Pin 6

Checking Power:

Since the NS-205R consumes 2.4W, ensure that your power supply is able to meet this demand. The Input voltage range is +10~+36VDC.

External power supply is connected using the removable terminal block as shown below:
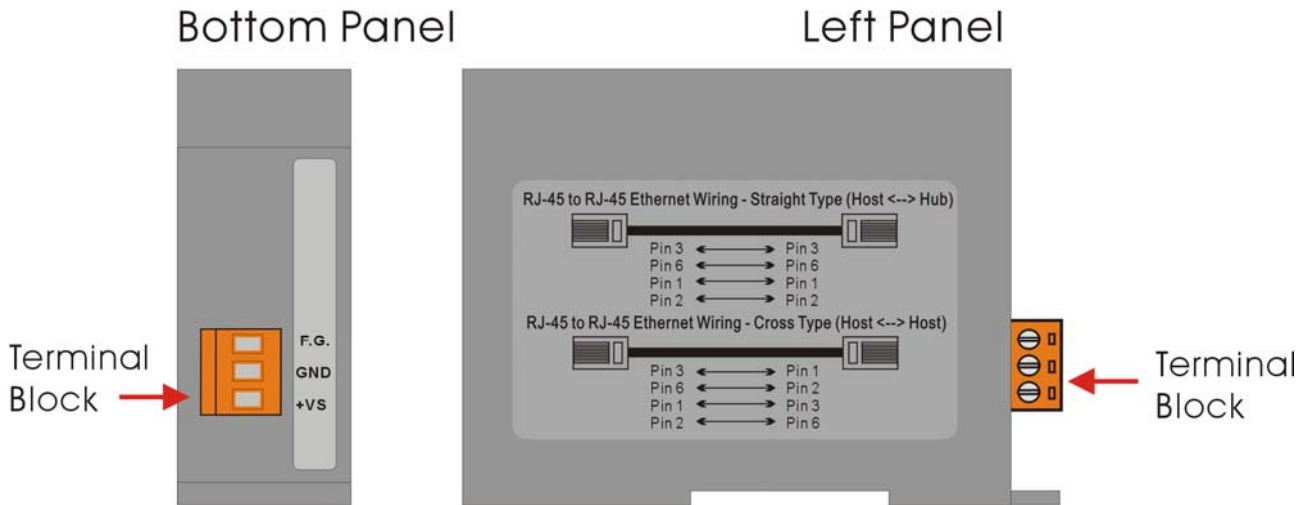
Pin Function For Terminal Block:

External power supply is connected using the removable terminal block:

+Vs : Power input (+10 ~ +36V) and should be connected to the power supply (+)

GND: Ground and should be connected to the power supply (-)

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.

Dimensions:

The width of the NS-205R is just 33 mm, so it can be used where space is important.