# *NS-205*
# 5-Port Industrial 10/100 Mbps Ethernet Switch




## *Introduction:*

The NS-205 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.

LEDs embedded in RJ-45 jacks make for easy monitoring. Port connectors are shielded RJ-45. A power source for +10 ~ +30VDC is required.

## *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
- 1.4Gbps high performance memory bandwidth.
  Integrated look-up engine with dedicated 1024 unicast MAC addresses.
- Supports +10 ~ +30V 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
- ESD Protection: 4KV
- Cables:
  10 Base-T (Cat.3, 4,5 UTP cable; 100m Max.)
  100 Base-TX (Cat.5 UTP cable; 100m Max.)
- Environment:
  Operating temperature: –40 ~ +75 ℃
  Storage Temperature: –40 ~ +85 ℃
  Relative Humidity: 10% to 90% non-condensing
- Dimensions: 33 mm x 78 mm x 107 mm (W x L x H)
- Power requirements: +10 ~ +30V DC (Removable Terminal Block)
- Power consumption: 0.1A@24VDC, +/- 5% arrowed with 10M Full duplex.
  0.09A@24VDC, +/- 5% arrowed with 100M Full duplex.



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## *LED functions:*

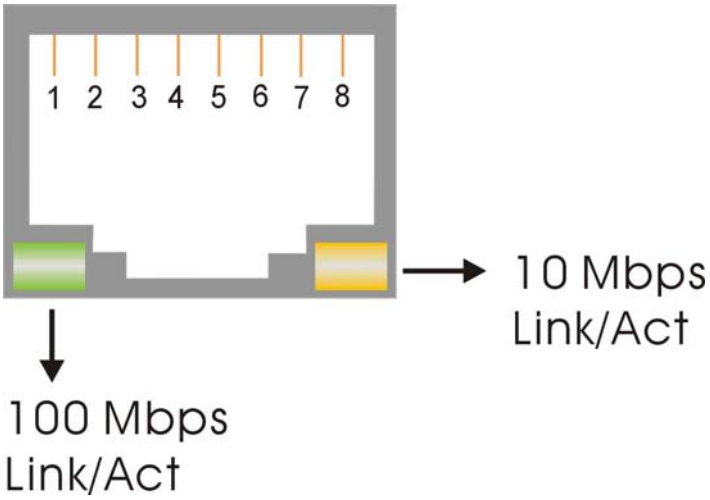
Standard RJ45 female connectors are provided. A standard RJ45 plug cable is all that is necessary to connect your device to the unit since switch that supports auto crossover. Table 1 shows the LED indicator functions. The module includes an internal.

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:**

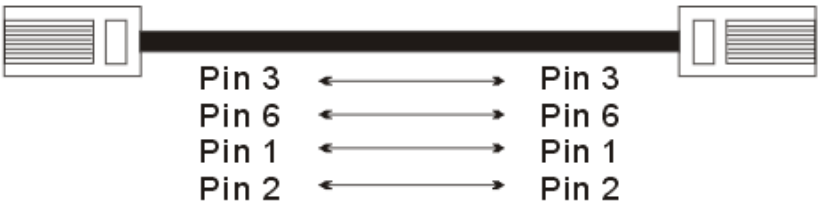
| Pin# | Signal Name | Function |
|---|---|---|
| **1** | TD+ | Transmit Data |
| **2** | TD- | Transmit Data |
| **3** | RD+ | Receive Data |
| **4** | NC | No Connection |
| **5** | NC | No Connection |
| **6** | RD- | Receive Data |
| **7** | NC | No Connection |
| **8** | NC | No Connection |



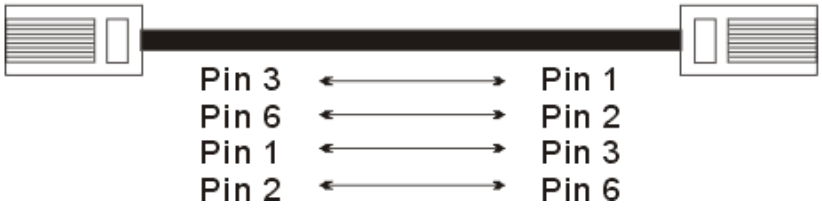

## *Ethernet Wiring:*

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)**




**RJ-45 to RJ-45 Ethernet Wiring - Cross Type (Host <--> Host)**



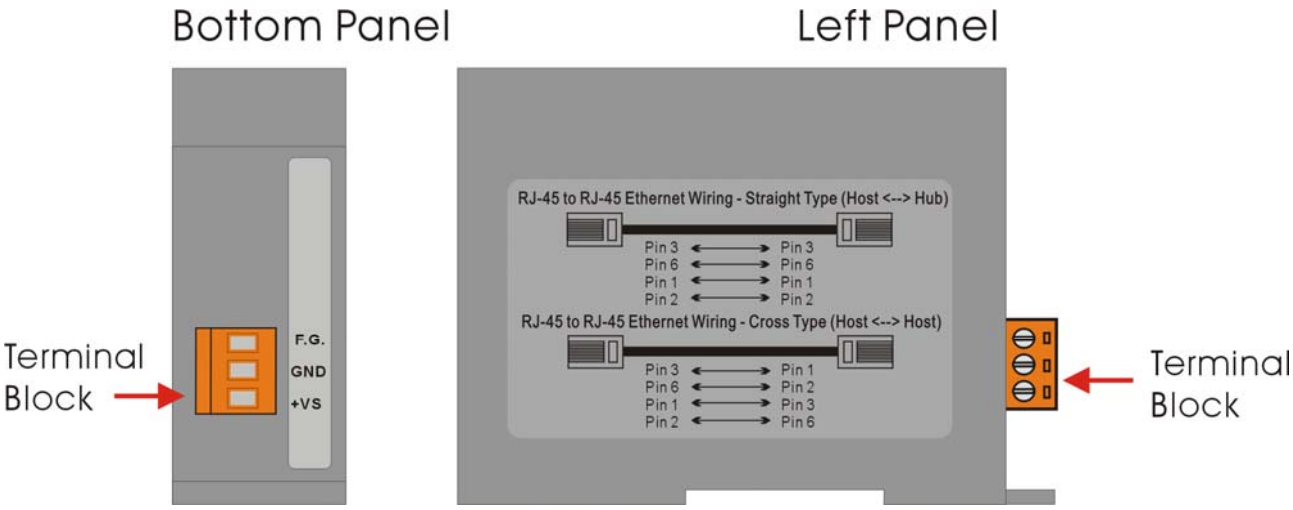



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## *Checking Power:*

Since the NS-205 consumes 2.4W, ensure that your power supply is able to meet this demand. The Input voltage range is +10~+30VDC.

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:

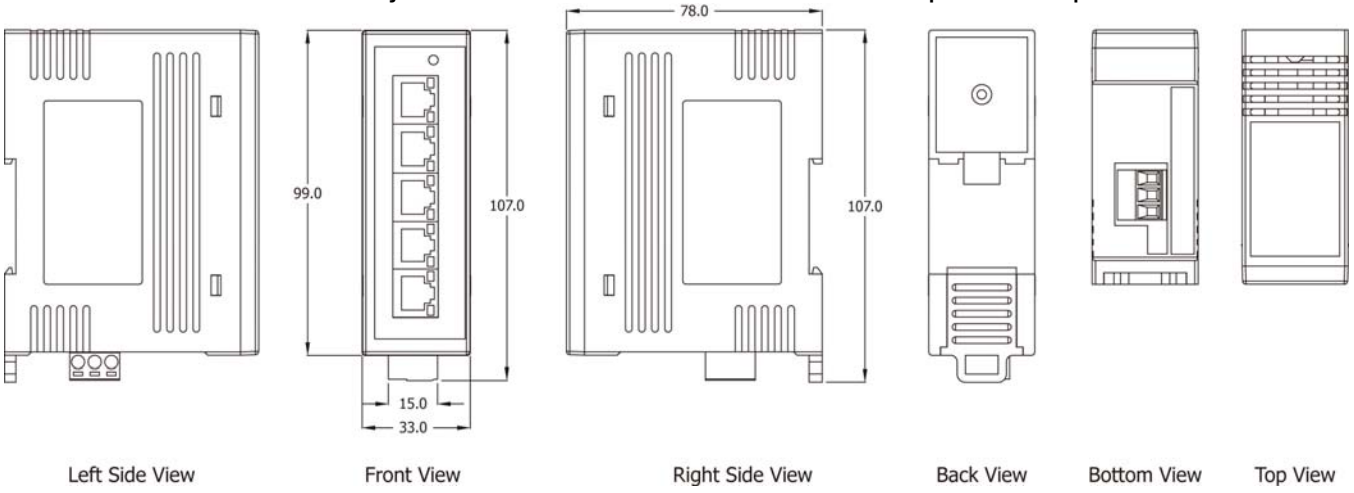
**+Vs :** Power input (+10 ~ +30V) and should be connected to the power supply (+)

**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-205 is just 33 mm, so it can be used where space is important.






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