

# **Korenix JetNet 2205 series**

**JetNet 2205/JetNet 2205f**

**Industrial 5-port Ethernet Switch**

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## **User's Manual**

Version: 1.0

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**[www.korenix.com](http://www.korenix.com)**

## **Declaration of CE**

This product has passed the CE certification for environmental specifications. Test conditions for passing included the equipment being operated within an industrial enclosure. In order to protect the product from being damaged by ESD (Electrostatic Discharge) and EMI leakage, we strongly recommend the use of CE-compliant industrial enclosure products.

## **Federal Communications Commission (FCC) Statement**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his expense.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

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# 1. Introduction

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This document describes the method of how to use the Korenix JetNet 2205 series Industrial 5-port Ethernet switch, includes installation the specifications that it has. Following this user manual, you can get fully imagination about JetNet 2205 series switch and all information to help you construct the network infrastructure. The following are brief introduction of JetNet 2205 series switch .

## **Industrial FE Ethernet Switch**

The JetNet 2205(f) is a 5 port industrial Fast Ethernet switch designed with enhanced design specification, including wider operating temperature and power input range to best fit in heavy industrial field applications. It also equipped a rugged metal case with thirty grade ingress protection to against damaged solid objects or dust; With the excellent characteristics of heat dissipation, JetNet 2205 series has better survive ability than ordinary FE Ethernet switch which is enclosure by steel metal with various of heat dissipation holes. To ensure best network performance, both broadcast storm filtering and flow control functions can ensure your data traffic delivery to destination without traffic congestion. The combination of enhanced network features and rugged specs make the JetNet 2205(f) suit for industrial environment.

## 1-1. Features

JetNet 2205(f)

- Five 10/100Base-T RJ-45 (JetNet 2205)
- 4 RJ45 ports for 10/100Base-TX Ethernet Ports and 1 100Base FX (JetNet 2205f)
- IEEE802.3, 802.3u Compliance
- Industrial Slim Size Design
- Broadcast storm protection
- Support 802.1p QoS (CoS, DSCP)
- Operating Temperature -40~75°C
- Wide Power input 12~40VDC

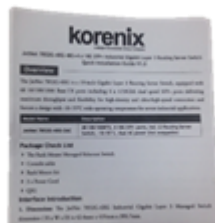
## 1-2. Package Checklist

JetNet 2205 series package includes the following items:

- JetNet 2205(f)
- One DIN-Rail clip (already screwed on the back of the product)
- One Quick Installation Guide



JetNet 2205



Quick Installation Guide

Contact your sales representative if any item is missing or damaged.

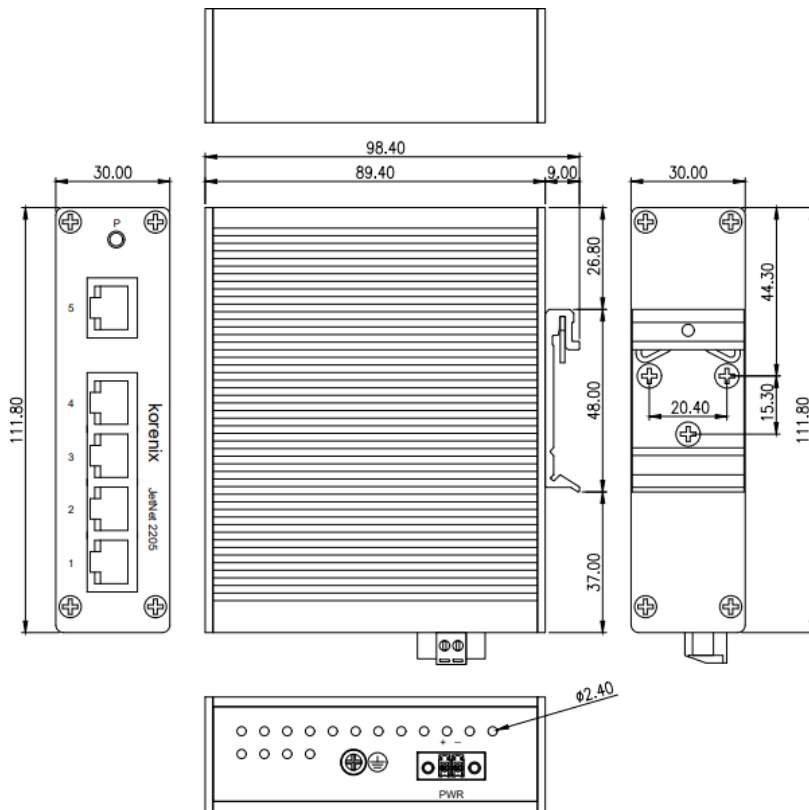
# 2. Hardware Description

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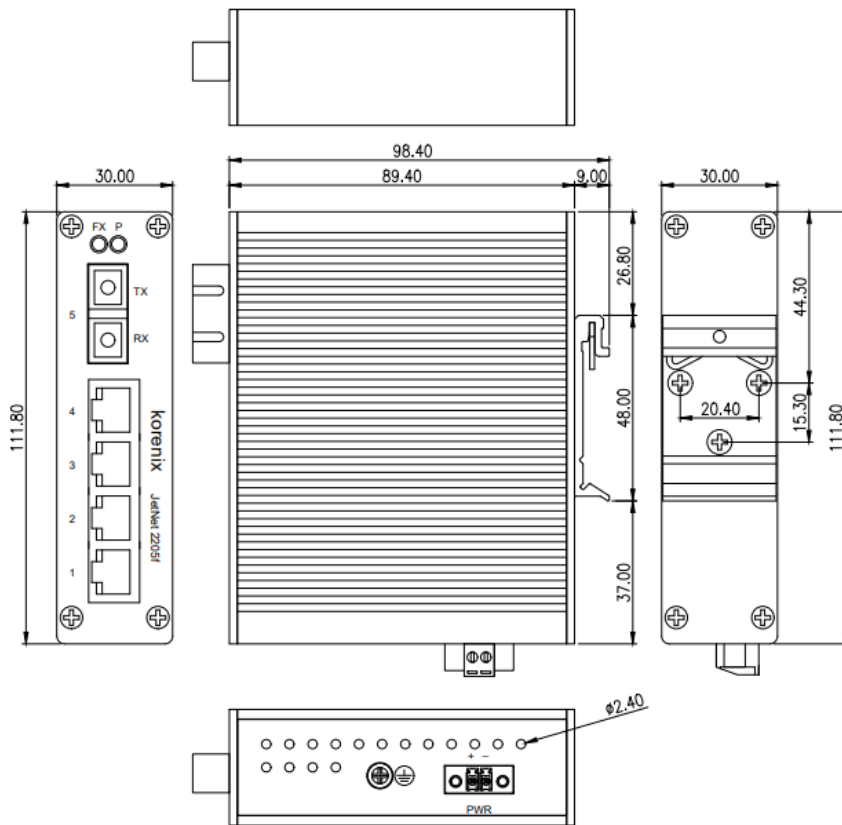
## 2-1. Dimensions

The dimension of JetNet 2205 series is **89.4 (D) x 30 (W) x 111.8 (H)**  
**(without DIN rail clip)**

JetNet 2205



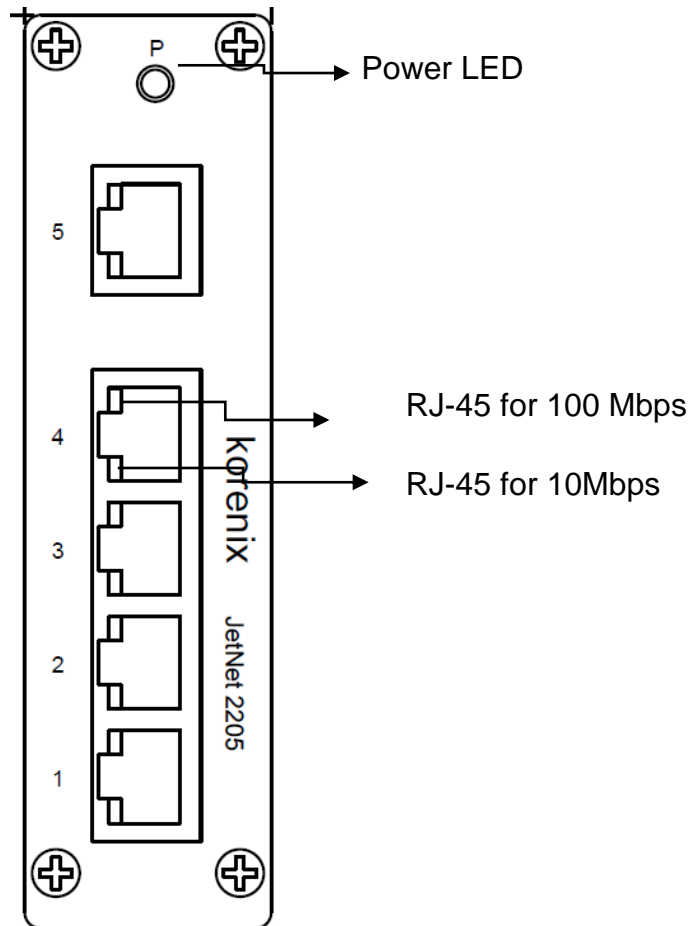
# JetNet 2205f



## 2-2. Front Panel

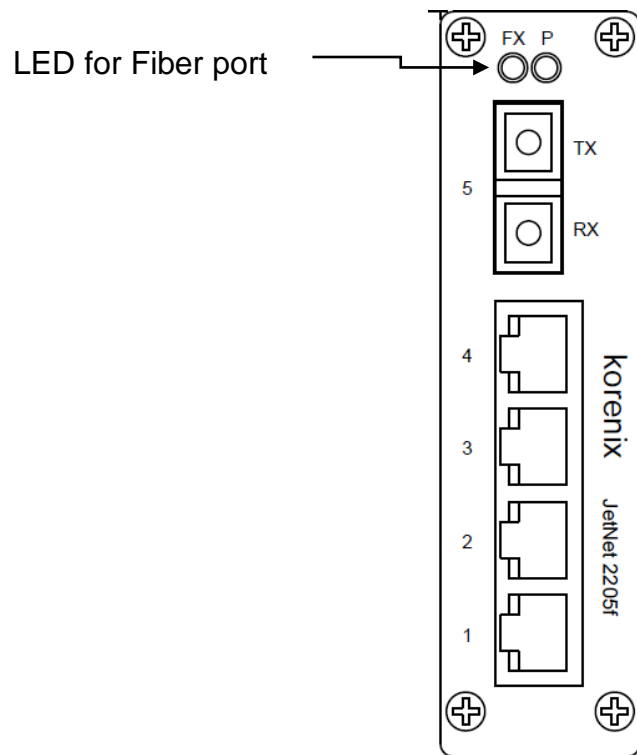
The Front Panel of the JetNet 2205 series is shown in below

JetNet 2205



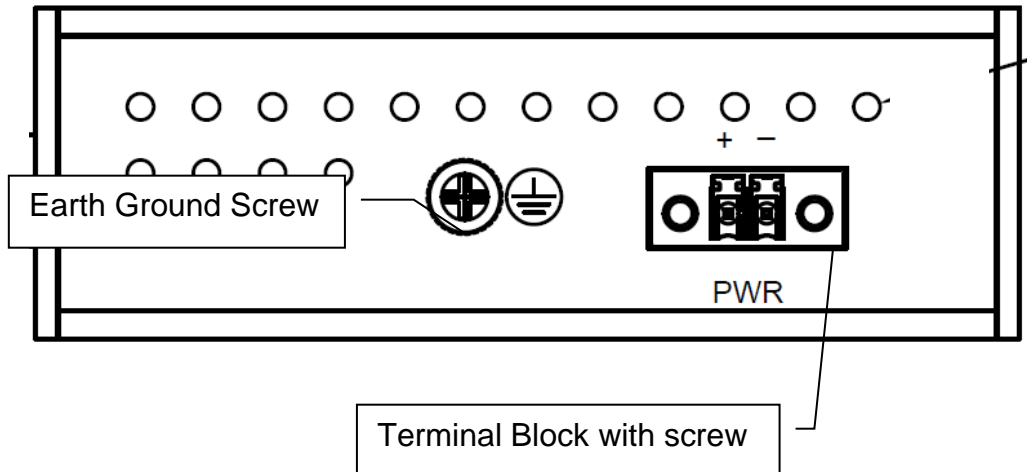


# JetNet 2205f



## 2-3. Bottom View

The bottom side of the JetNet 2205 series includes one 2-pin removable terminal block connector

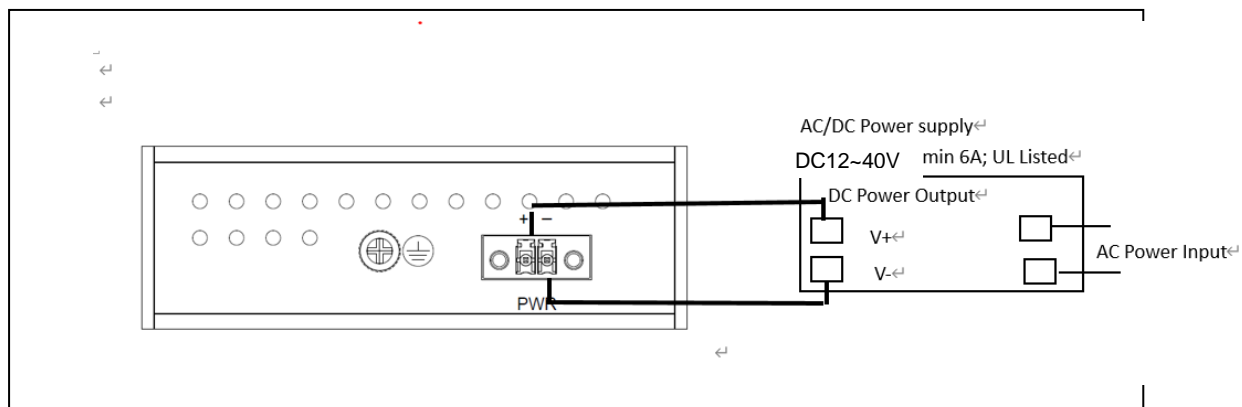


The power range of JetNet 2205(f) is from DC 12~40V with polarity reverse function.

**To prevent interference and get better performance, it is strongly suggesting make a well earth grounding by the “Earth Ground Screw”.**

## 2-4. Wiring the DC Power Inputs

Follow the steps below to wire JetNet 2205 series DC power inputs.



1. Insert the positive and negative wires into the V+ and V- contacts respectively of the terminal block connector
2. Tighten the wire-clamp screws to prevent the DC wires from being loosened.

## 2-5. LED Indicators

Following table gives descriptions of the function for each LED indicator.

| LED                       | Status        | Description                 |
|---------------------------|---------------|-----------------------------|
| P                         | Green On      | DC-IN Power                 |
|                           | Off           | No power in DC-IN           |
| FX<br>(JetNet 2205f only) | Green on      | Link                        |
|                           | Blinking      | Activity                    |
| RJ-45 port                | Green On      | Link with Speed 100Mbps     |
|                           | Green Bilking | Activity with Speed 100Mbps |
|                           | Amber On      | Link with Speed 10Mbps      |
|                           | Amber Bilking | Activity with Speed 10Mbps  |

## 2-7. Ports

The JetNet 2205 séries supports IEEE 802.3 10Base-T, IEEE 802.3u 100Base-T. This section will introduce how to wire, install the Ethernet Cable for RJ-45 connector.

### FE TX ( RJ-45 connector)

All of RJ-45 ports will auto detect 10Base-T and 100Base-TX connections. Auto MDI/MDIX allows users to connect another switch or workstation without changing straight through or crossover cabling. See Figure A, B for the schematic diagram of straight through and crossover cabling.

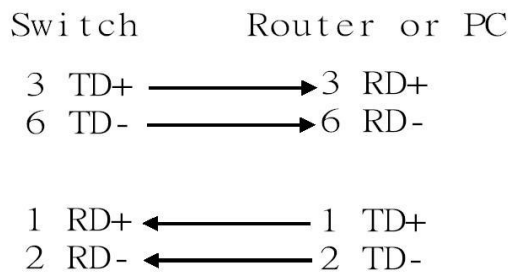


Fig A. Straight through Cabling Schematic for 10/100Mbps

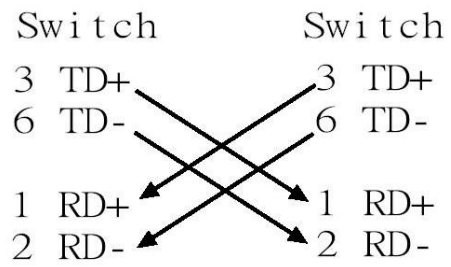


Fig B. Cross Over Cabling Schematic for 10/100Mbps

The RJ-45 ports of JetNet 2205 series supports auto-MDI/MDI-X function without any cable change when you use an Ethernet cable to connect other devices, such as computers, switches or hubs.

# 3. Mounting Installation

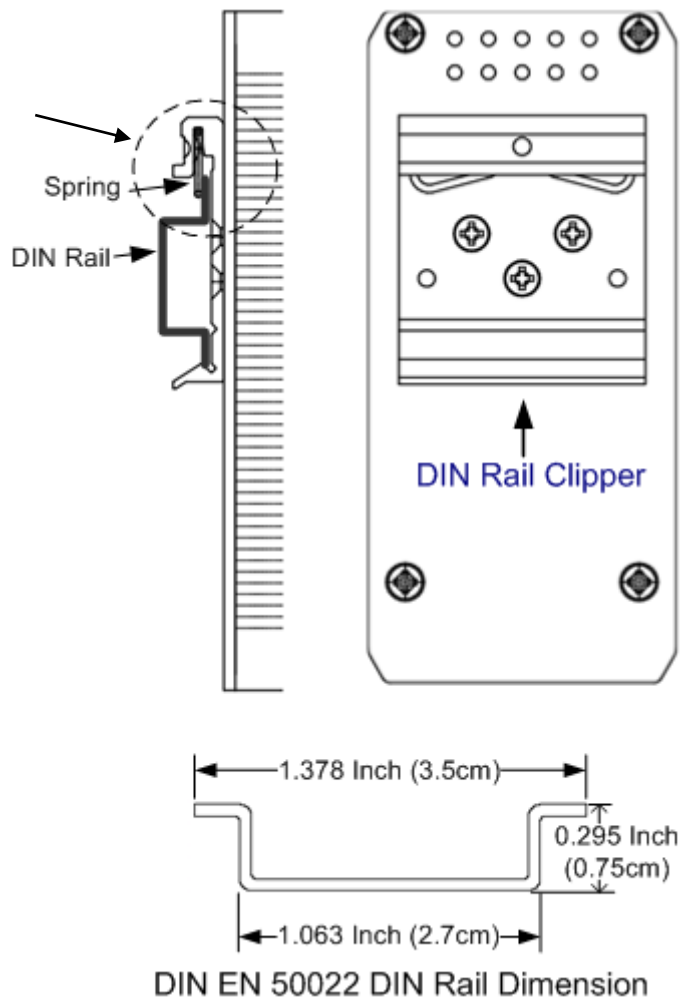
## 3-1. DIN-Rail Mounting

The DIN-Rail clip is already attached on the rear side of JetNet 2205 series. JetNet 2205 series supports EN 50022 standard DIN Rail, in the following diagram includes the dimension of EN 55022 DIN Rail for your reference

**The DIN rail should behind the spring when install the JetNet 2205 series onto the standard DIN Rail.**

Follow the steps below to mount the JetNet 2205 series to the DIN-Rail track.

1. Insert the upper end of the DIN-Rail clip into the back of the DIN-Rail track from its upper side
2. Lightly push the bottom of the DIN-Rail clip into the track.
3. Check if the DIN-Rail clip is tightly attached to the track.
4. To remove the JetNet 2205 series from the track, reverse the steps above.



# 4. System Installation

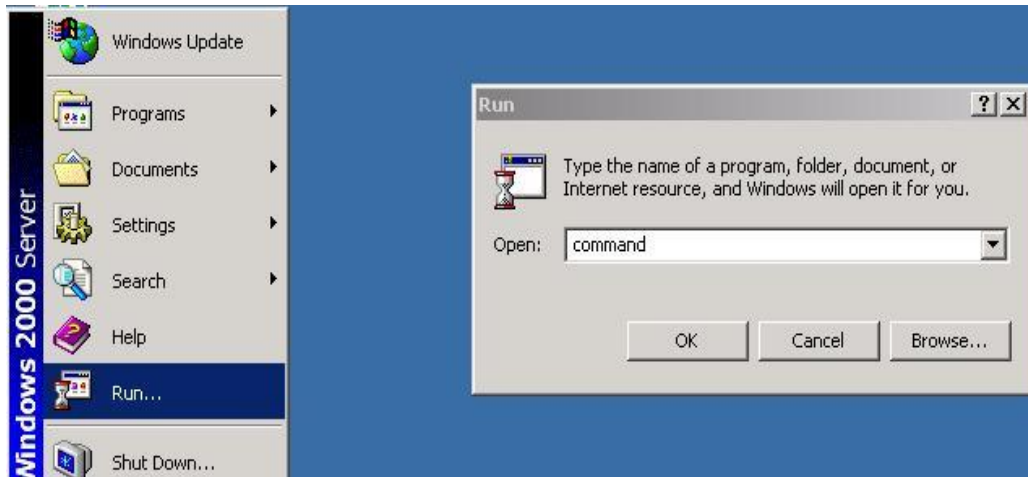
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## 4-1. Installation and Testing

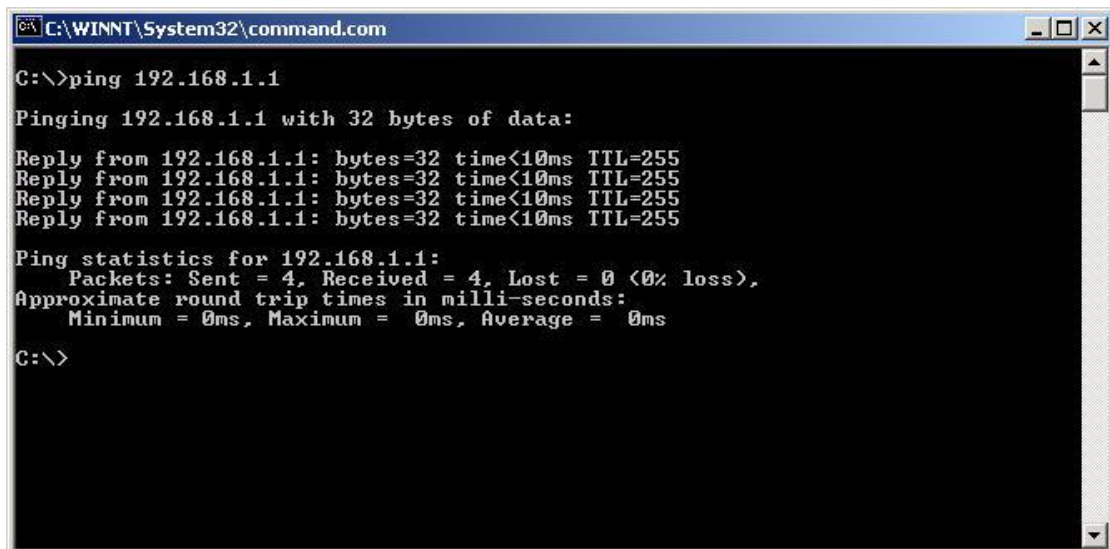
1. Take out your JetNet 2205 series Industrial Ethernet switch from the package box.
2. Check if the DIN-Rail clip is attached to the JetNet 2205 series product . If the DIN-Rail clip is not attached to the product , refer to **DIN-Rail Mounting** section for DIN-Rail installation.
3. To place the JetNet 2205 series product on the DIN-Rail track or wall, refer to the **Mounting Installation** section.
4. Pull the terminal blocks off the JetNet 2205 series product and wire the power lines. Refer to 2-4 the **Wiring the DC Power Inputs** section for how to wire the power inputs.
5. Use Category 5e or Category 6 straight through Ethernet cables with RJ-45 connectors to connect network devices.
6. Connect one side of an Ethernet cable with a RJ-45 connector to the JetNet 2205 series product's Ethernet port (RJ-45 port), and the other side of the Ethernet cable to the network device's Ethernet port.
7. If you want to connect with Fiber, please install appropriate fiber SC wire with SC terminal into the SC connector of the switch. The transmission distance of JetNet 2205f is depends on the type of fiber transceiver model and the attenuation of optical fiber cable.
8. Check the LED indicator of port status (blinking green/Amber) on the JetNet 2205 series product to see if the network connection is successfully established.11.
9. Power on the PC host, activate the Command Line mode, and ping the

connected Ethernet device to see if it responds.

- 11.1 To enable the “Command Line mode”, click **Run** in the Start menu, type **Command**, and click **OK** to continue.



- 11.2 Type ping 192.168.1.1 command to check the connection. Here we use IP address 192.168.1.1 as an example. Before the testing, be sure your PC host and target device are in the same subnet.

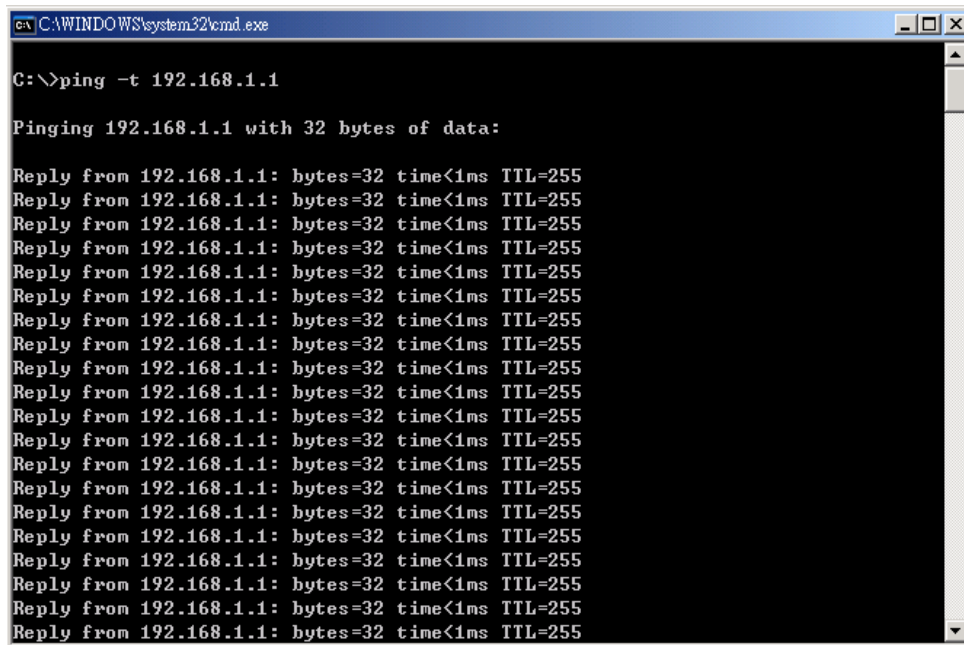


10. Repeat step 10 to make sure that the connection of each device connected to the JetNet 2205 series product is successfully established.
11. Power on the host, activate the Command Line mode, and ping the connected Ethernet device by typing “ping -t 192.168.1.1” command to see if it will



respond.

12. The parameter "-t" allow you to continue to ping the network device, as shown in the figure below.



```
C:\WINDOWS\system32\cmd.exe

C:\>ping -t 192.168.1.1

Pinging 192.168.1.1 with 32 bytes of data:

Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
Reply from 192.168.1.1: bytes=32 time<1ms TTL=255
```

13. Exit the Command Line mode and connect PWR1 power input. At this stage, your JetNet 2205 series product has been tested and the installation is completed.

## 5. Troubles shooting

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- Make sure you are using the correct DC power supplier (DC12~40V)
- Select Ethernet cables with specifications suitable for your applications to set up your systems. Ethernet cables are categorized into unshielded twisted-pair (UTP) and shielded twisted-pair (STP) cables. Category 3, 4, 5 Ethernet cables are suitable for systems with 10 Mbps transmission speed. For systems with 100 Mbps transmission speed, Category 5 Ethernet cables are the only suitable specifications for this environment. Also make sure that the distance between each node cannot be longer than 100 meters (328 feet).
- If the power LEDs goes off as the power cord plugged in, a power failure might occur. Check the power output connection to see if there is any error at the power source. If you still cannot solve the problem, contact your local dealer for assistance

## 6. Technical Specifications

| Technology              |   |
|-------------------------|---|
| IEEE Standards          | IEEE 802.3 10Base-T<br>IEEE 802.3u 100Base-TX/100Base-Fx<br>IEEE 802.3x Flow Control<br>IEEE 802.1p QoS   |
| Performance             |   |
| Switch Technology       | Store and Forward technology  |
| MAC Address             | 1K MAC Address table  |
| Packet Buffer           | 448Kbits packet buffer  |
| Transfer packet size    | 64Bytes ~1536Bytes  |
| Transfer Performance    | 14,880pps for 10Mbps , 148,800pps for 100Mbps   |
| Broadcast Storm Control | Default enabled   |
| Interface               |   |
| RJ-45 Port              | JetNet 2205<br>5-port 10/100BaseT(X) RJ-45 Ethernet Port<br>Non-blocking Switching Performance<br>Auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection<br>JetNet 2205f<br>4-port 10/100T(X) RJ-45 Ethernet Port<br>Non-blocking Switching Performance<br>Auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection |
| Fiber Port              | <ul style="list-style-type: none"> <li>1-port 100Base F(X) (JetNet 2205f)</li> </ul>  |
| Ethernet Cable          | <ul style="list-style-type: none"> <li>100 Base-TX: 4-pair Cat.5e / Cat.6 UTP/STP cable, 100Meters</li> </ul>   |
| LED                     | 1x Power (Green on)<br>Per Ethernet Port : 100Mbps Link (Green on), 100Mbps Activity (Green blink)  |

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10Mbps link (Amber on) / 10Mbps Activity (Amber blink)

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1x Fiber: Link (Green on), Activity (Green blink) (JetNet 2205f)

#### Power Requirement

System Power

Power inputs

Voltage

Dual 12~40VDC

Connection

1x removable 2-contact terminal block

Power Consumption

2W

#### Mechanical

Installation

DIN-Rail mounting

Case

IP30 grade metal case

Dimension (mm)

89.4 (D) x 30 (W) x 111.8 (H) (without DIN rail clip)

Weight

0.65kg with package

#### Environmental

Operating Temperature

-40~75°C

Operating Humidity

0% ~ 95%, (non-condensing)

Storage Temperature

-40~85°C

Storage Humidity

0% ~ 95%, (non-condensing)

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## Revision History

| Edition | Date        | Modifications |
|---------|-------------|---------------|
| V1.0    | 30-Apr,2022 | New edition   |