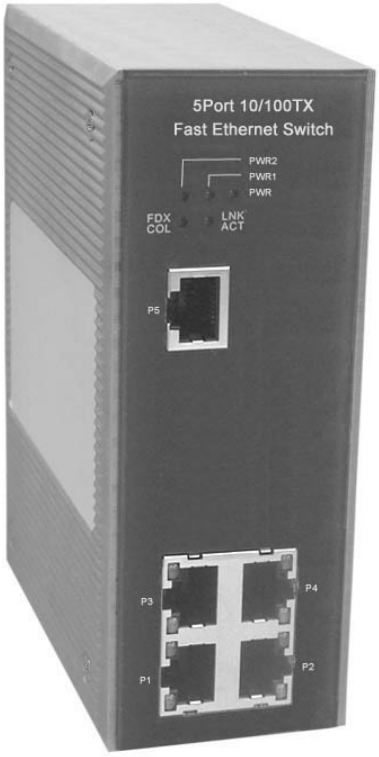
5-port 10/100BaseTX Industrial Switch

HUE-500

User Manual



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Introduction

The 5-port 10/100BaseTX Industrial Switch is a cost- effective solution that meets the high reliability requirements demanded by industrial applications. It provides redundant power inputs that prevent power failures.

Features

- 5-port 10/100TX industrial switch
- Store-and-Forward switching architecture
- Conforms to IEEE 802.3 10Base-T, 802.3u 100Base-TX
- RJ-45 port support auto MDI/MDI-X function
- 512Kbytes Embedded memory
- IEEE 802.3x flow control support
  - Flow control on full-duplex
  - Back pressure on half-duplex
- Wide-range redundant power design
- 1K MAC address table
- DIN rail and wall mount design
- Meets IP-30 case protection

Package Contents

Please refer to the package content list below to verify them against the checklist.

- 5-port 10/100BaseTX Industrial Switch
- One DIN-Rail (mounted on the switch)
- One wall mount plate and six screws

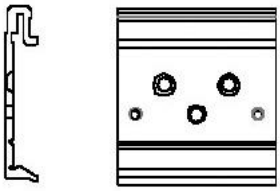
- User manual

5-port 10/100TX industrial switch

User Manual

Wall Mount Plate

Screws



DIN-Rail

Compare the contents of your industrial switch with the standard checklist above. If any item is damaged or missing, please contact your local dealer for service.

Hardware Description

In this section, we will introduce the Industrial switch's hardware spec, port, cabling information, and wiring installation.

Physical Dimension

5-port 10/100BaseTX Industrial Switch dimensions (W x H x D) are **54mm x 135mm x 105mm**

Front Panel

The Front Panel of the 5-port 10/100BaseTX Industrial Switch is the following figure.

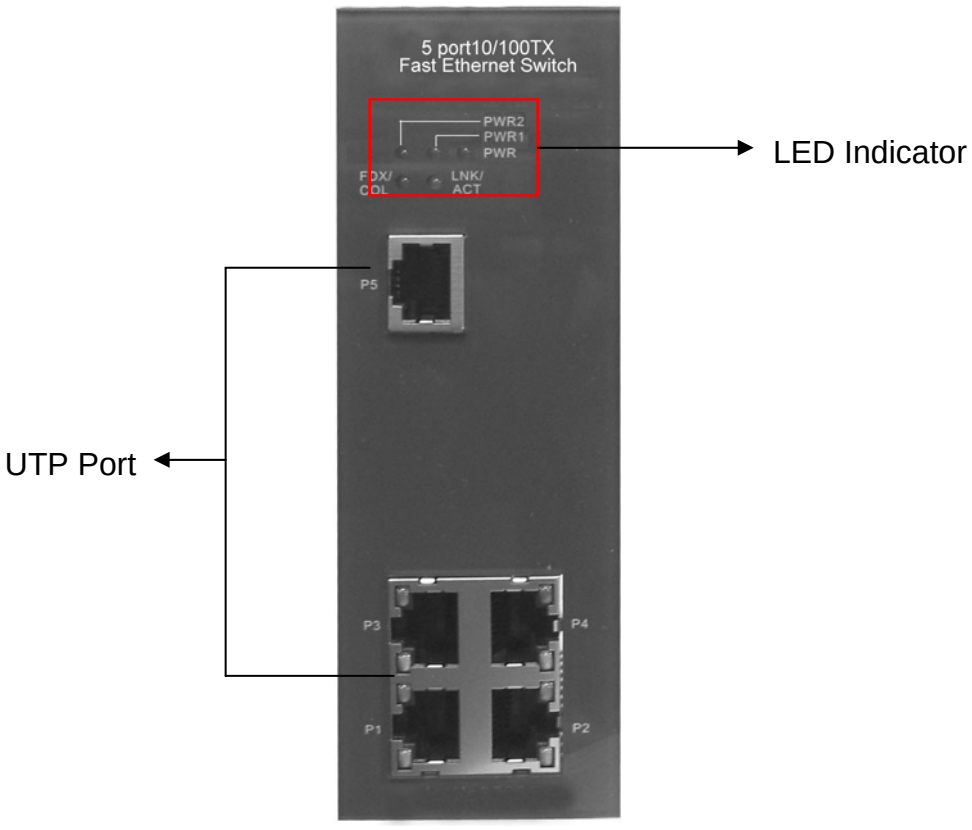


Figure A. Front Panel of the 5-port 10/100BaseTX Industrial Switch

Bottom View

The bottom panel of the 5-port 10/100BaseTX Industrial Switch consists of one terminal block connector within two DC power inputs and one DC IN power jack for extra AC/DC power adapter.

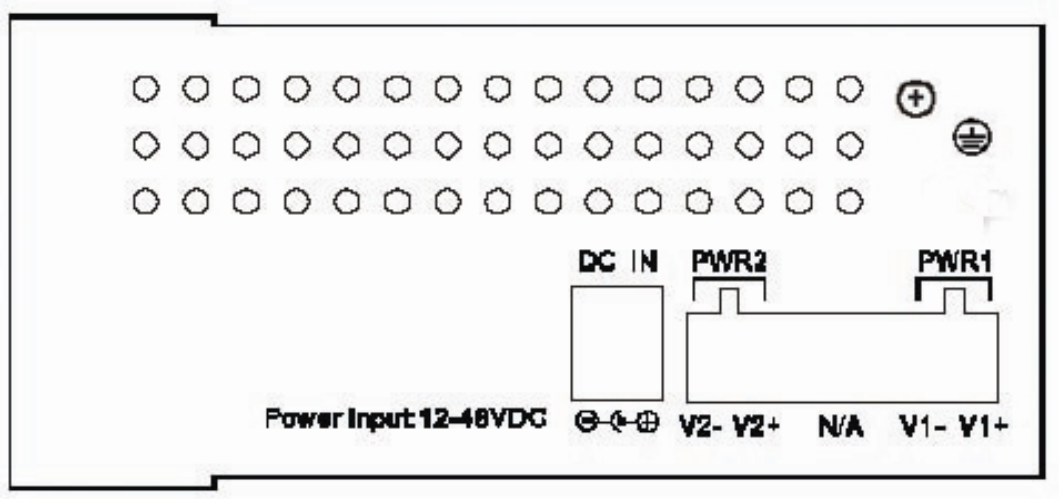
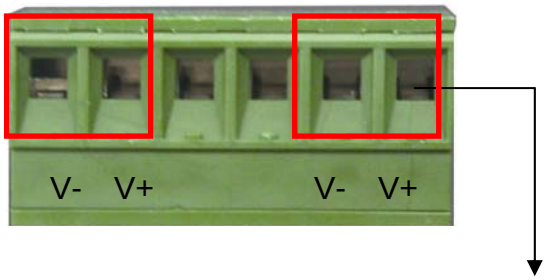


Figure B. Bottom Panel of the 5-port 10/100BaseTX Industrial Switch

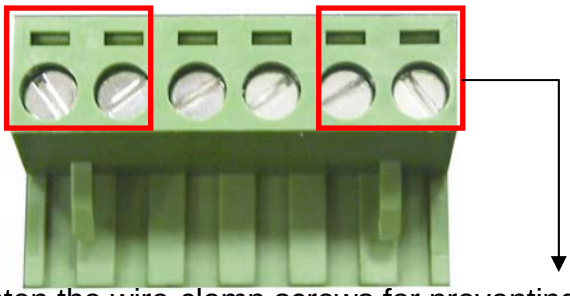
Wiring the Power Inputs

Please follow below steps to insert the power wire.



1. Insert the positive and negative wires into the V+ and V- connector on the terminal block connector.

[Note] The wire gauge of the terminal block is from 12~24AWG.



2. To tighten the wire-clamp screws for preventing the DC wires from loosening.

LED Indicators

There are several diagnostic LEDs located on the Front panel of the industrial switch. They provide real-time information of the system and the optional status. The following table provides the description of the LED status and their purpose for the switch.

LED	Status	Meaning
Power	Green	When the industrial switch has power, the LED will light
	Off	No power
Power 1	Green	Power on
	Off	No power
Power 2	Green	Power on
	Off	No power
LNK/ACT(Port 5)	Green	The port is linking with its link partner
	Blinks	The port is transmitting or receiving packets from the TX device.
	Off	No device attached

FDX/COL (Port 5)	Orange	The port is operating in full-duplex mode.
	Blinks	Collision of Packets occurs in the port.
	Off	The port in half-duplex mode or no device attached
Port 1 ~ 4 LED Indicator	Orange	The port is operating in full-duplex mode.
	Blinking (Orange)	Collision of Packets occurs.
	Off	The port is in half-duplex mode or no device is attached.
	Green	A network device is detected.
	Blinking (Green)	The port is transmitting or receiving packets from the TX device.
	Off	No device is attached.

Ports

RJ-45 ports (Auto MDI/MDIX): 5 x 10/100Mbps auto-sensing ports for 10Base-T or 100Base-TX device connection. The UTP ports will auto-sense for 10Base-T or 100Base-TX connections. Auto MDI/MDIX means that you can connect to another switch or workstation without changing straight through or crossover cabling. See Figure C and C-1 for straight through and crossover cable schematic.

- **RJ-45 Pin Assignments**

Pin Number	Assignment
1	Tx+
2	Tx-
3	Rx+
6	Rx-

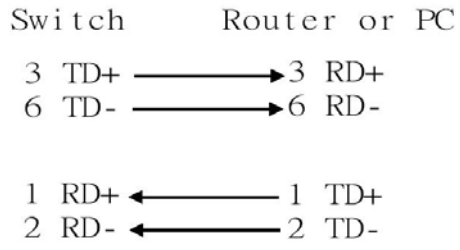
Table 1

Note: "+" and "-" signs represent the polarity of the wires that make up each wire pair.

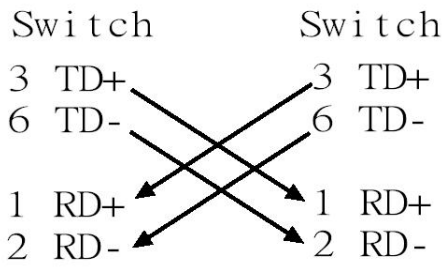
All ports on this industrial switch support automatic MDI/MDI-X operation, you can use straight-through cables (See Figure below) for all network connections to PCs or servers, or to other switches or hubs. In a straight-through cable, pins 1, 2, 3, and 6, at one end of the cable, are connected straight through to pins 1, 2, 3 and 6 at the other end of the cable. The table below shows the 10BASE-T/ 100BASE-TX MDI and MDI-X port pin outs.

Pin MDI-X	Signal Name	MDI Signal Name
1	Receive Data plus (RD+)	Transmit Data plus (TD+)
2	Receive Data minus (RD-)	Transmit Data minus (TD-)
3	Transmit Data plus (TD+)	Receive Data plus (RD+)
6	Transmit Data minus (TD-)	Receive Data minus (RD-)

Table 2



Straight Through Cable Schematic
Configure C



Cross Over Cable Schematic
Configure C-1

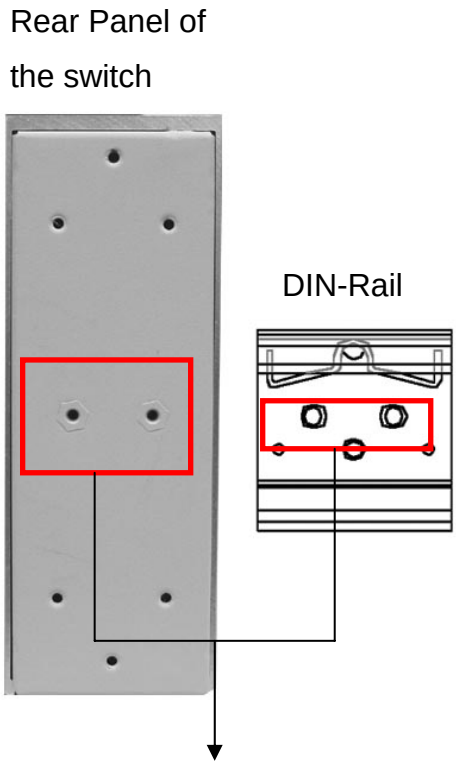
Cabling

Use four twisted-pair, Category 5 cabling for RJ-45 port connections. The cable between the switch and the link partner (switch, hub, workstation, etc.) must be less than 100 meters (328 ft.) long.

Mounting Installation

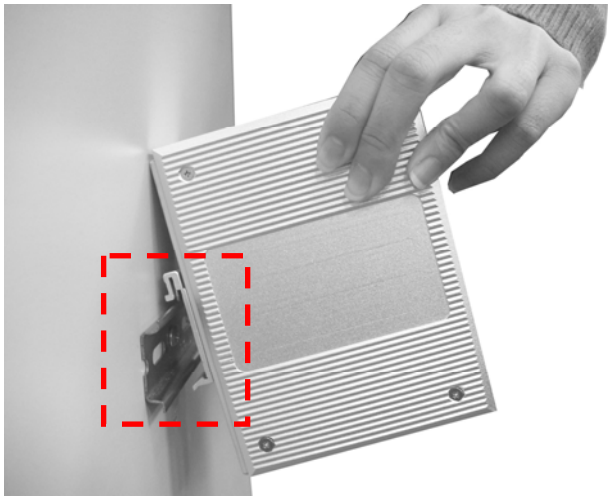
DIN-Rail Mounting

The DIN-Rail is mounted on the industrial switch from the factory. If the DIN-Rail is not mounted on the industrial switch, please see the following figure to mount the DIN-Rail on the switch. To mount the industrial switch, follow the steps below.

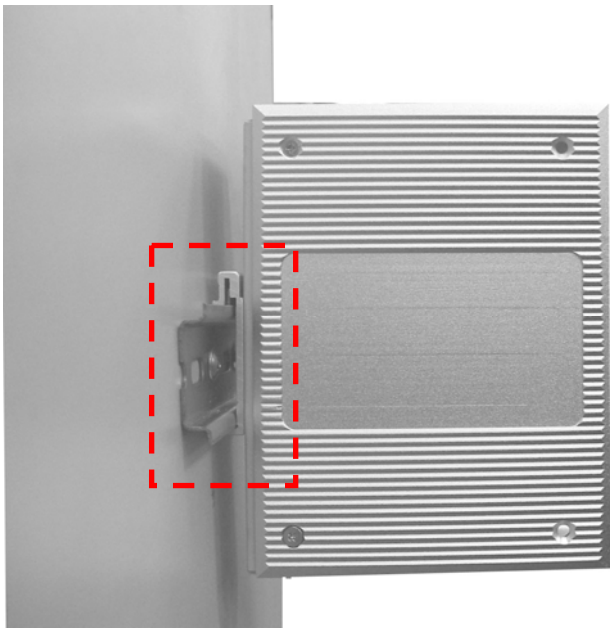


1. Use the screws to mount the DIN-Rail on the industrial switch
2. To remove the DIN-Rail, reverse the step.

1. First, insert the top of DIN-Rail into the track.



2. Then, lightly push the button of DIN-Rail into the track.

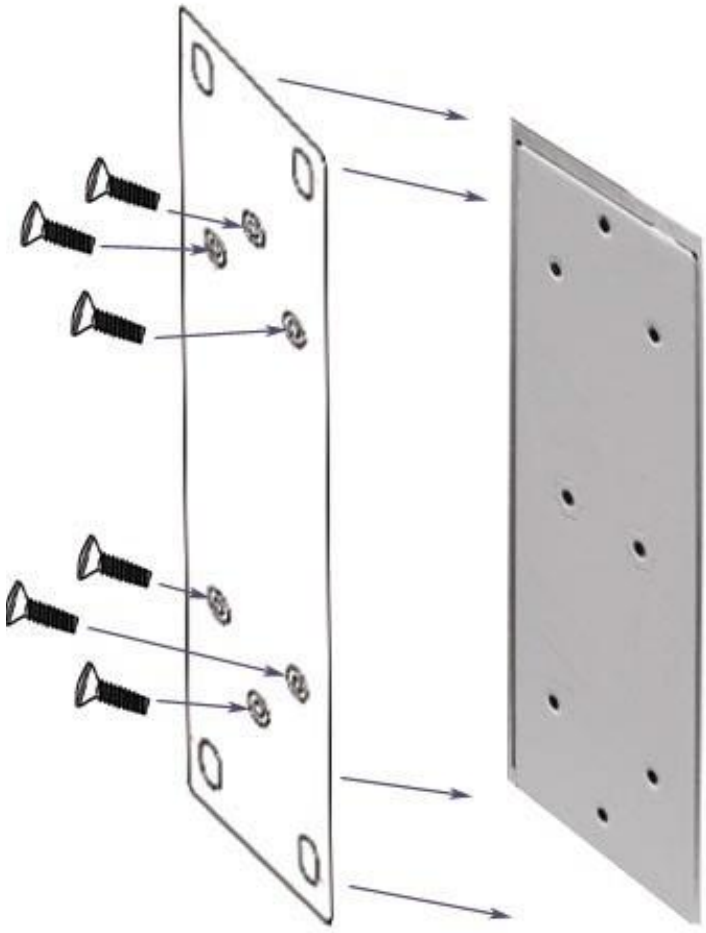


3. Check the DIN-Rail is tightly on the track.
4. To remove the industrial switch from the track, reverse steps above.

Wall Mount Plate Mounting

Follow the below steps to mount the industrial switch with wall mount plate.

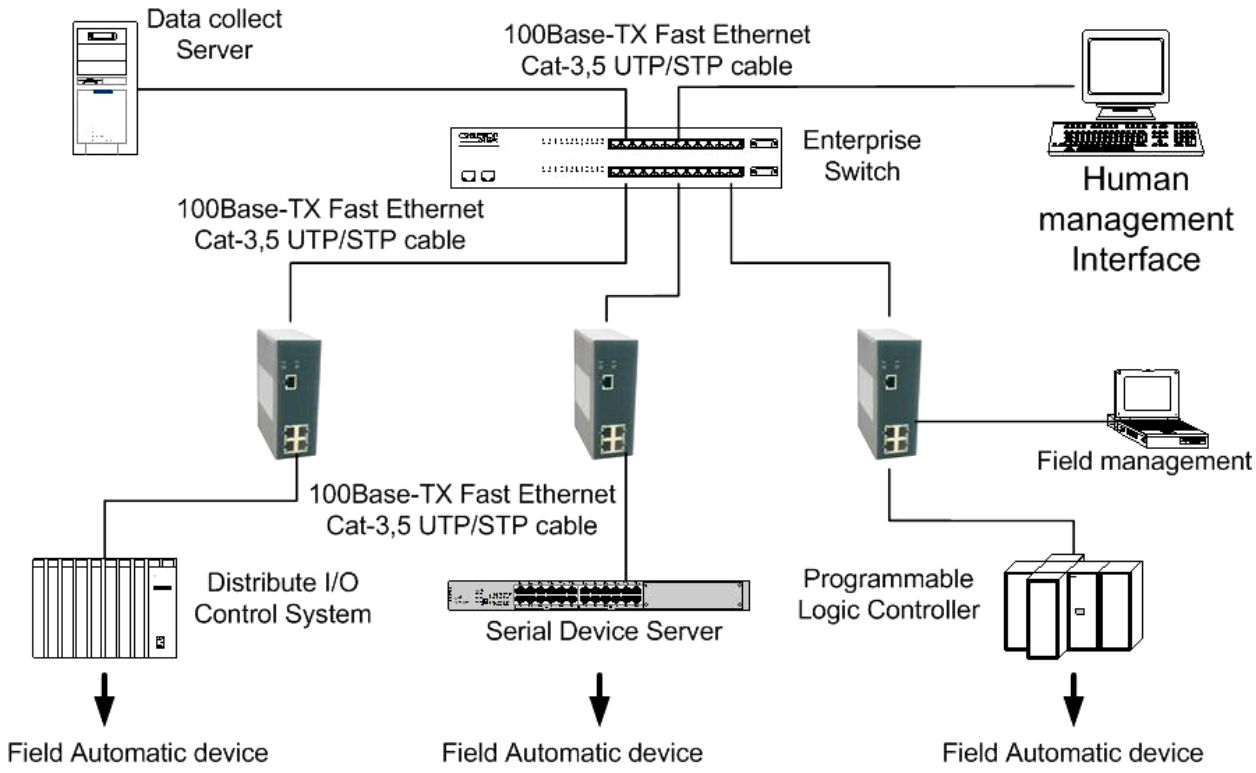
1. Remove the DIN-Rail from the industrial switch; loosen the screws to remove the DIN-Rail.
2. Place the wall mount plate on the rear panel of the industrial switch.
3. Use the screws to mount the wall mount plate on the industrial switch.
4. Use the hook holes at the corners of the wall mount plate to hang the industrial switch on the wall.
5. To remove the wall mount plate, reverse the steps above.



Screws to mount the wall mount plate on the Industrial switch

Hardware Installation

In this paragraph, we will describe how to install the 5-port 10/100Base-TX Industrial Switch.



Installation Steps

1. Unpack the Industrial switch.
2. Check the DIN-Rail is mounted on the Industrial switch. If the DIN-Rail is not mounted on the Industrial switch. Please refer to the **DIN-Rail Mounting** section for DIN-Rail installation. If you want to wall mount the Industrial switch, then please refer to the **Wall Mount Plate Mounting** section for wall mount plate installation.
3. To mount the Industrial switch on the DIN-Rail track or wall, please refer to the **Mounting Installation** section.
4. Apply power to the Industrial switch. How to wire the power; please

refer to the **Wiring the Power Inputs** section. The power LED on the Industrial switch will light up. Please refer to the **LED Indicators** section for meaning of LED lights.

5. Prepare the twisted-pair, straight through Category 5 cable for the Ethernet connection.
6. Insert one side of the Category 5 cables into the Industrial switch Ethernet port (RJ-45 port) and another side of category 5 cables to the network devices' Ethernet port (RJ-45 port), ex: switch, PC or Server. The UTP port (RJ-45) LED on the Industrial switch will light up when the cable is connected with the network device. Please refer to the **LED Indicators** section for the LED light description.

[Note] Be sure the connected network devices support MDI/MDI-X. If theyt do not support it, then use the crossover category 5 cable.

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7. When all connections are all set and LED lights all show in normal, the installation is complete.

Troubleshooting

- Verify that you are using the right power cord/adapter (DC 12-48V), please do not use a power adapter with a DC output larger than 48V, as it will damage the switch.
- Select the proper UTP able to construct your network. Please check that you are using the right cable. Use an unshielded twisted-pair (UTP) or shield twisted-pair (STP) cable for RJ-45 connections: 100 Ω Category 3, 4 or 5 cable for 10Mbps connections or 100Ω Category 5 cable for 100Mbps connections. Also be sure that the length of any twisted-pair connection does not exceed 100 meters (328 feet).
- **Diagnostic LED Indicators:** the Switch can be easily monitored through the panel indicators to assist in identifying problems.
- IF the power indicator does not turn on when the power cord is plugged in, you may have a problem with the power cord. Check for loose power connections, power losses or surges at power outlet. If you still cannot resolve the problem, contact your local dealer for assistance.
- If the Industrial switch LED indicators are normal and the connected cables are correct and the packets still cannot transmit, please check your system's Ethernet devices' configuration or status.

Technical Specifications

5-port 10/100BaseTX Industrial Switch technical specification.

Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE802.3x Flow Control and Back-pressure
Protocol	CSMA/CD
Technology	Store and Forward
Transfer Rate	14,880 pps for Ethernet port and 148,800 pps for Fast Ethernet port
MAC address	1K MAC address table
Memory Buffer	512Kbits
LED	■ **Per port:** Link/Activity (Green) Full duplex/Collision (Orange) ■ **Per unit:** Power(Green), Power 1(Green),Power 2(Green)
Network Cable	**10Base-T:** 2-pair UTP/STP Cat. 3, 4, 5 cable EIA/TIA-568 100-ohm (100m) **100Base-TX:** 2-pair UTP/STP Cat. 5 cable EIA/TIA-568 100-ohm (100m)
Back-plane	1.0 Gbps

Power Supply	12 ~48 VDC, Redundant power with polarity reverse protect function and connective removable terminal block for master and slave power.
Power consumption	2.8 Watts
Packet throughput ability	0.74Mpps @64bytes (5TX)
Install	Provides DIN rail kit and wall mount ear for 3-way install
Operation Temperature	O℃ to 60℃ (32℉ to 140℉)
Operation Humidity	5% to 95% (Non-condensing)
Storage Temperature	-40 to 85°C
Ambient Relative Humidity	5 to 90%(non-condensing)
Dimension	IP-30, 54 mm (W) x 135 mm (H) x 105mm (D)
EMI	FCC Class A, CE EN6100-4-2, CE EN6100-4-3, CE EN-6100-4-4, CE EN6100-4-5, CE EN6100-4-6
Safety	UL, cUL, CE/EN60950
Stability testing	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)