Lantech

T(P)GS-L5408MGTR

8 10/100/1000T + 4 1G/2.5G Copper (w/8 PoE at/af) EN50155 OS3 Managed Ethernet Switch

T(P)GS-L5408MGFTR

8 10/100/1000T + 2 10G Copper + 2 10G Fiber Q-ODC OM3 (w/8 PoE at/af) EN50155 OS3 Managed Ethernet Switch

User Manual (Hardware)





V1.13

JUL. 2026

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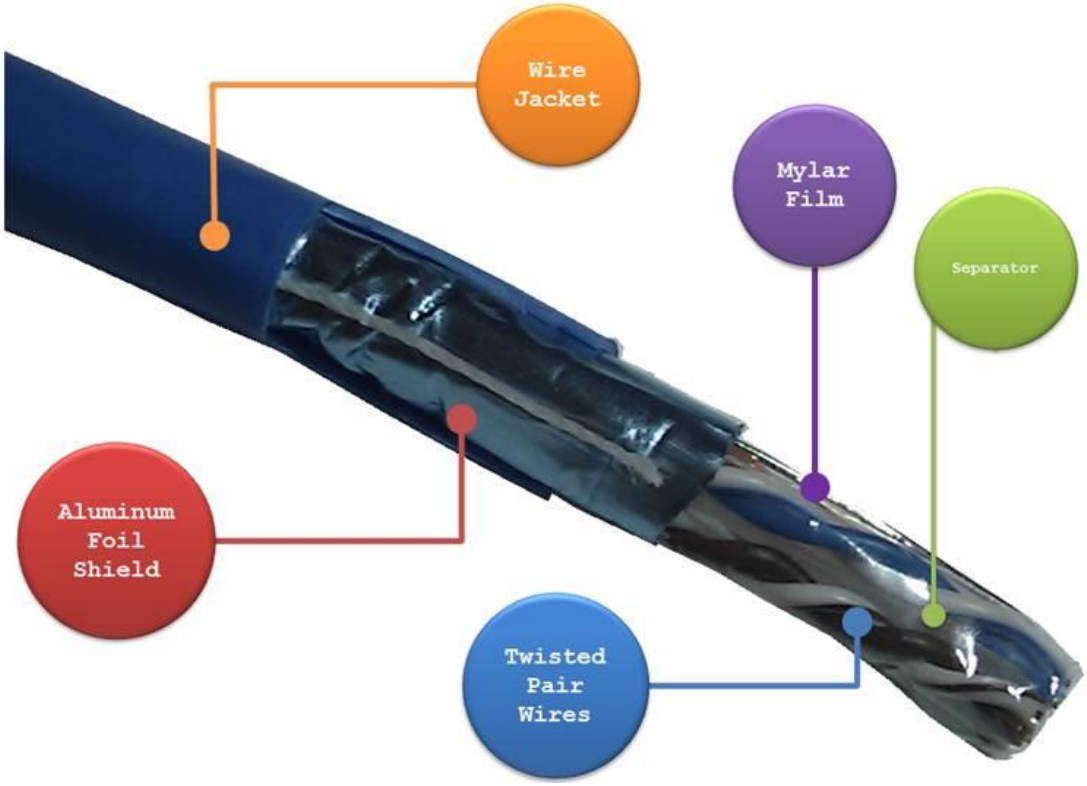
Approval Information

Version 1.13	Name	Title	Date
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V1.12	2026.07.08	Update the bypass diagram	Greg Tsai
V1.13	2026.07.23	Added warning for bypass boot failure	Greg Tsai

Recommendation for Shielded network cables

STP cables have additional shielding material that is used to reduce external interference. The shield also reduces the emission at any point in the path of the cable. Our recommendation is to deploy an STP network cable in demanding electrical environments. Examples of demanding indoor environments are where the network cable is located in parallel with electrical mains supply cables or where large inductive loads such as motors or contactors are in close vicinity to the camera or its cable. It is also mandatory to use an STP cable where the power device (like IP camera) is used outdoors or where the network cable is routed outdoors.



Important Notice

Lantech Communications Global, Inc. reserves the right to modify the equipment, its specification or this manual without prior notice, in the interest of improving performance, reliability, or servicing. At the time of publication all data is correct for the operation of the equipment at the voltage and/or temperature referred to. Performance *d*ata indicates typical values related to the particular product.

No part of this documentation or information supplied may be divulged to any third party without the express written consent of Lantech Communications Global Inc. Products offered may contain software which is proprietary to Lantech Communications Global Inc. The offer or supply of these products and services does not include or infer any transfer of ownership.

Interference Issues

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 in a commercial or industrial installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions.

FCC Warning

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 in a residential installation. This equipment generates, uses, and can radiate radio frequency energy. It may cause harmful interference to radio communications if the equipment is not installed and used in accordance with the instructions. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

CE Mark Warning

This is a Class-A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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Chapter 1 Introduction

Lantech T(P)GS-L5408MGTR & T(P)GS-L5408MGFTR are high performance OS3 Ethernet switches with 8 10/100/1000T + 1G/2.5G Copper / Q-ODC fiber uplinks (w/8 PoE 802.3af/at ports) which provides advanced security function for network aggregation deployment.

	10/100/1000T Copper	1G/2.5G Copper	1G/2.5G Q-ODC Fiber	PoE
TPGS-L5408MGTR	8	4		8
TGS-L5408MGTR	8	4		
TPGS-L5408MGFTR	8	2	2	8
TGS-L5408MGFTR	8	2	2	

Chapter 2 Hardware Description

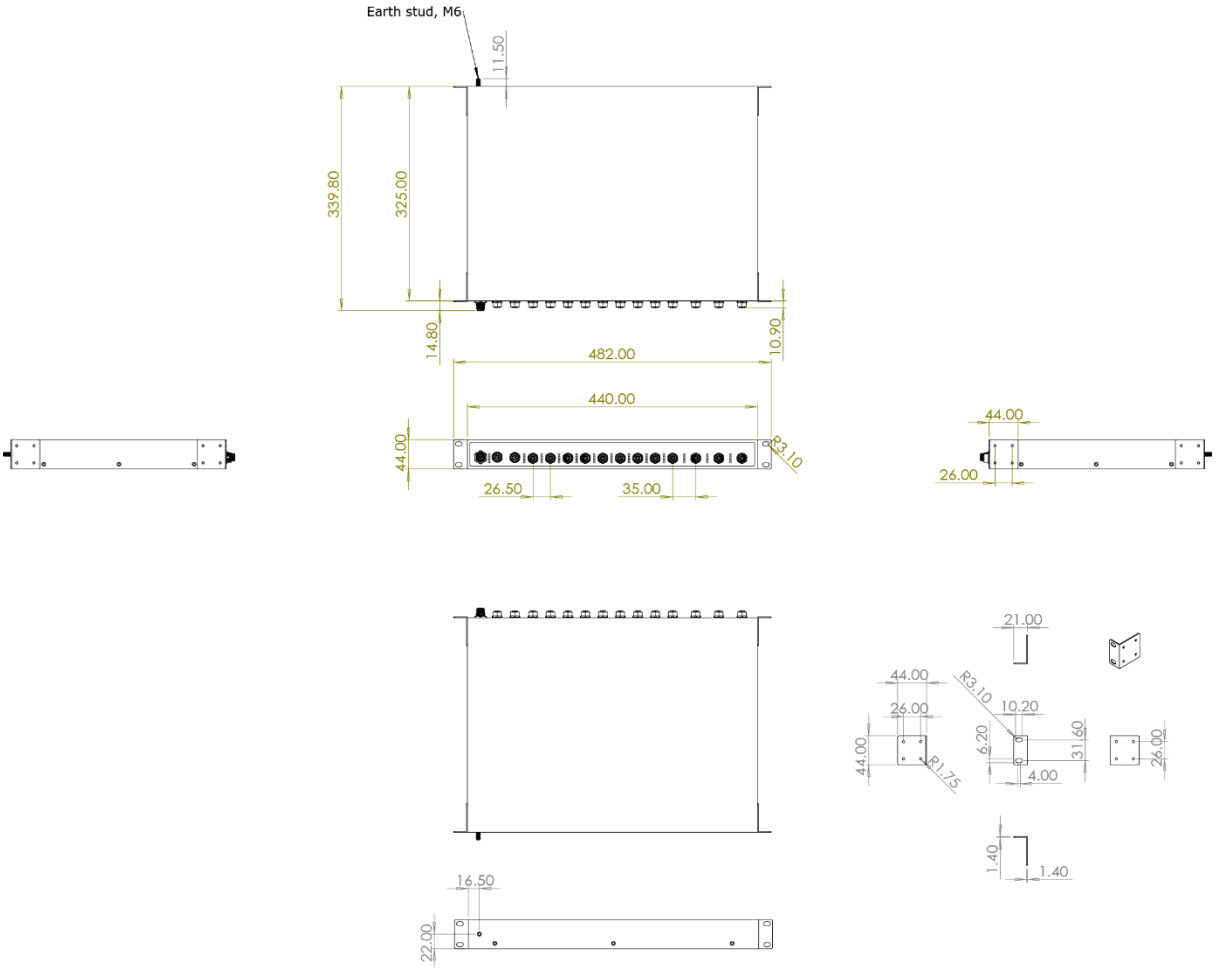
In this paragraph, it will describe the Industrial switch's hardware spec, port, cabling information, and wiring installation.

2.1 Physical Dimension

T(P)GS-L5408MGTR

Metal case. IP-41,

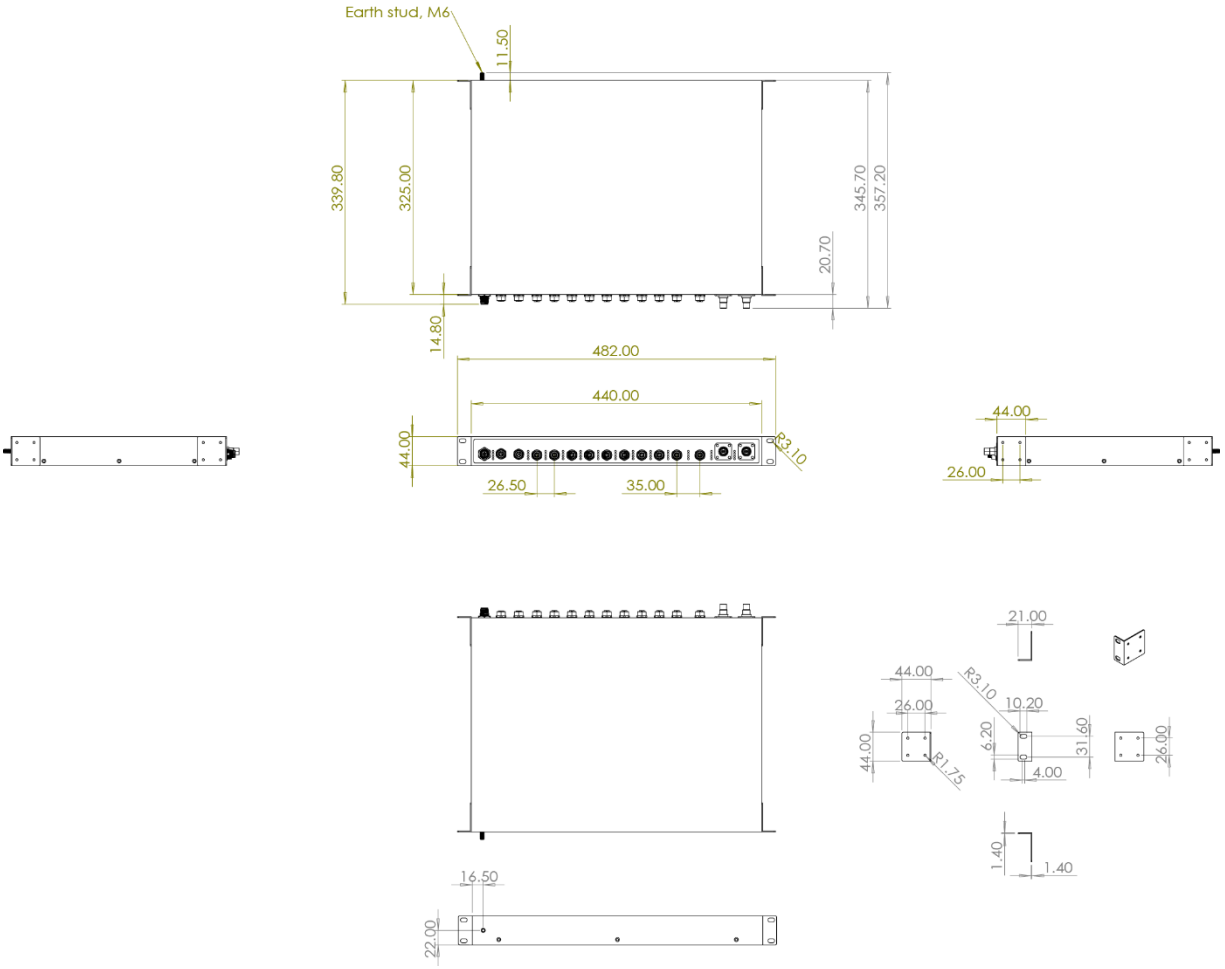
440(W) x 351.3 (D) x 44 (H) mm



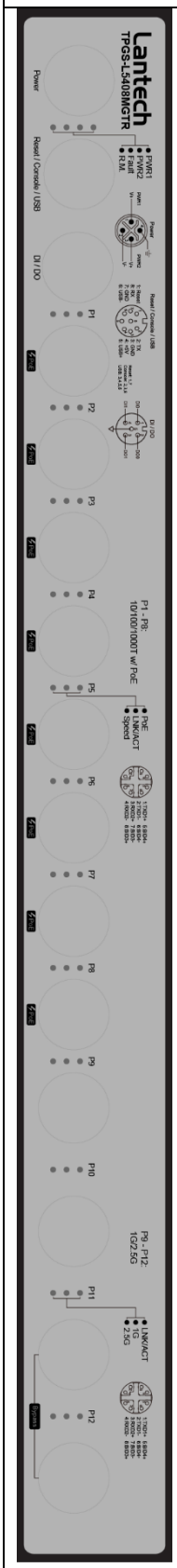
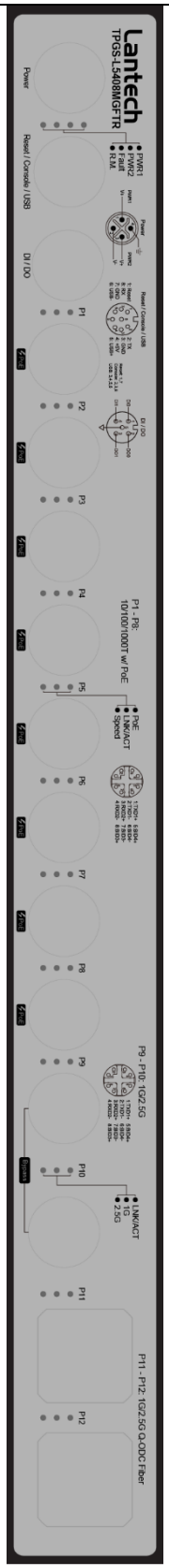
T(P)GS-L5408MGFTR

Metal case. IP-41,

440(W) x 357.2 (D) x 44 (H) mm



Front Panel

TPGS-L5408MGTR	TPGS-L5408MGFTR
	

2.2 IP Protection

The **IP Code**, **Ingress Protection Rating**, sometimes also interpreted as **International Protection Rating**, classifies and rates the degree of protection provided against the intrusion (including body parts such as hands and fingers), dust, accidental contact, and water in *mechanical casings* and with electrical enclosures. It is published by the International Electrotechnical Commission (IEC)

Solid particle protection

The first digit indicates the level of protection that the enclosure provides against access to hazardous parts (e.g., electrical conductors, moving parts) and the ingress of solid foreign objects.

Level	Object size protected against	Effective against
0	—	No protection against contact and ingress of objects
1	>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part
2	>12.5 mm	Fingers or similar objects
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, screws, etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact
6	Dust tight	No ingress of dust; complete protection against contact

Liquid ingress protection

The second digit indicates the level of protection that the enclosure provides against harmful ingress of water.

Level	Protected against	Testing for	Details
0	Not protected	—	—
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect.	Test duration: 10 minutes Water equivalent to 1 mm rainfall per minute
2	Dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.	Test duration: 10 minutes Water equivalent to 3 mm rainfall per minute
3	Spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.	Test duration: 5 minutes Water volume: 0.7 litres per minute Pressure: 80–100 kPa
4	Splashing of water	Water splashing against the enclosure from any direction shall have no harmful effect.	Test duration: 5 minutes Water volume: 10 litres per minute Pressure: 80–100 kPa
5	Water jets	Water projected by a nozzle (6.3 mm) against enclosure from any direction shall have no harmful effects.	Test duration: at least 15 minutes Water volume: 12.5 litres per minute Pressure: 30 kPa at distance of 3 m
6	Powerful	Water projected in powerful	Test duration: at least

	water jets	jets (12.5 mm nozzle) against the enclosure from any direction shall have no harmful effects.	3 minutes Water volume: 100 litres per minute Pressure: 100 kPa at distance of 3 m
7	Immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1 m of submersion).	Test duration: 30 minutes Immersion at depth of at least 1 m measured at bottom of device, and at least 15 cm measured at top of device
8	Immersion beyond 1 m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. Normally, this will mean that the equipment is hermetically sealed. However, with certain types of equipment, it can mean that water can enter but only in such a manner that it produces no harmful effects.	Test duration: continuous immersion in water Depth specified by manufacturer
9	Powerful high temperature water jets	Protected against close-range high pressure, high temperature spray downs.	—

2.3 LED Indicators

The diagnostic LEDs that provide real-time information of system and optional status are located on the front panel of the industrial switch. The following table provides the description of the LED status and their meanings for the switch.

LED	Color	Status	Meaning
R.M	Green	On	The switch unit is owner switch of ITU-Ring
		Off	The switch is not owner switch
PWR1	Green	On	Power 1 is active
		Off	Power 1 is inactive
PWR2	Green	On	Power 2 is active
		Off	Power 2 is inactive
FAULT	Red	On	Power or port failure
		Off	No failure
10/100/1000T Copper (P1~P8)	LNK/ACT	On	A network device is detected.
		Blinking	The port is transmitting or receiving packets from the TX device.
		Off	No device attached
	Speed	On	The port is operating in 1000T mode.
1G/2.5G Copper & 1G/2.5G Q-ODC Fiber	LNK/ACT	On	A network device is detected.
		Blinking	The port is transmitting or receiving packets from the TX device.
		Off	No device attached.
	1G	On	The port is operating in 1000T mode.
	2.5G	On	The port is operating in 2.5G mode.

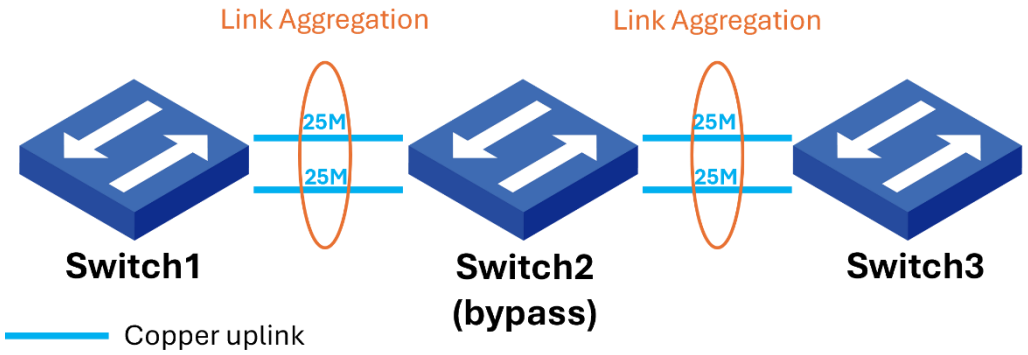
PoE (PoE models)	On	The port is operating in PoE mode.
	Off	The port is not operating in PoE mode.

2.4 Bypass design

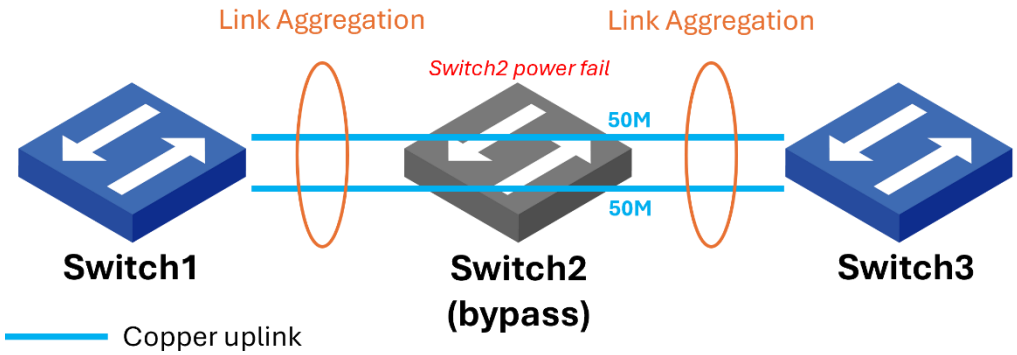
(Available on -BT/-BBT models; Maximum copper uplink by-pass port distance is 25m)

The bypass module is like an alarm relay but it has default position – close. When system finish booting procedures, CPU will ask bypass module change position from close to open and keep in open status. That's why when switch loss the power, bypass module will be active, because CPU has no ability to ask bypass module keep in open status then bypass will be restored to default position – close.

Bypass mechanism in open status:



Bypass mechanism in close status:



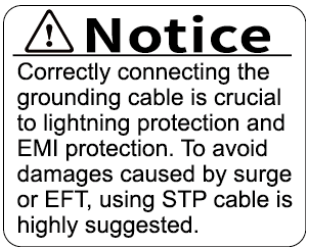
-BT model: one-pair bypass ports on port#9, port#10

-BBT model: two-pair bypass ports on port#9, port#10 ; port#11, port#12

⚠ **Warning:** If the switch enters bypass mode immediately after powering on, it indicates a boot failure (boot incomplete). This is an abnormal condition. Please connect the console line, reboot the switch, and check the boot messages. If the issue persists, please contact technical support.

Chapter 3 Hardware Installation

Hardware installation



Alert! PoE Budget for Managed POE Switch Model

For managed PoE models, the factory-default PoE budget is 12W per port; however, users can customize the PoE budget for each port based on their requirements. Managed switches have a safety feature where, if the total PoE budget is exceeded, the last connected port will automatically be disabled to prevent overloading.

Please be mindful of the total PoE budget limit. To prevent ports from shutting down due to insufficient budget, set the desired PoE budget for each used port and set the PoE budget for idle ports or ports that do not require PoE to "0". Once the preceding ports consume the entire PoE budget, the subsequent ports will not provide power for devices.

1. Unpack the Industrial switch
2. Check if the Rack mount brackets are screwed on the Industrial switch or not. If the Rack mount brackets are not screwed on the Industrial switch, please refer to **Rack Mounting** section for rack installation.
3. To install the Industrial switch in a 19 inch Rack.
4. Ground the Industrial switch via a separate grounding nut (M6) or via the M12 power connector. Please refer to the **Grounding** section.
5. Power on the Industrial switch. Please refer to the **Wiring the Power Inputs** section for knowing the information about how to wire the power. The power LED on the Industrial switch will light up.
6. Prepare the Category 6 cable for Ethernet connection.
7. Insert one side of category 6 cable into the Industrial switch Ethernet port (X-code

port) and another side of RJ-45 cable to the network device's Ethernet port, ex: Switch PC or Server. The LNK/ACT 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 LED light indication.

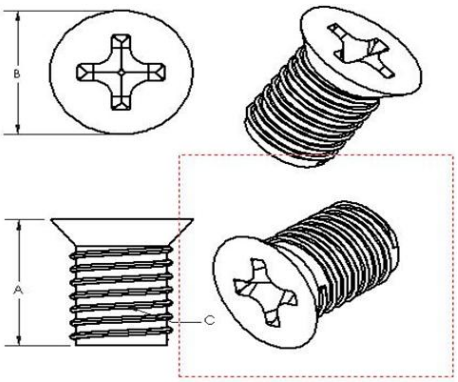
8. When all connections are set and LED lights all show in normal, the installation is complete.

3.1 Rack Mounting

When installing the switch in a 19 inch rack, it must always be mounted horizontally with the top side up. This procedure requires the following items:

■ **Eight bracket screws (included with the switch)**

Bracket screws: M3*5



	Spec	Tolerance
A	5mm	-0.4
B	4.75mm	±0.25
C	M3	PH0.5

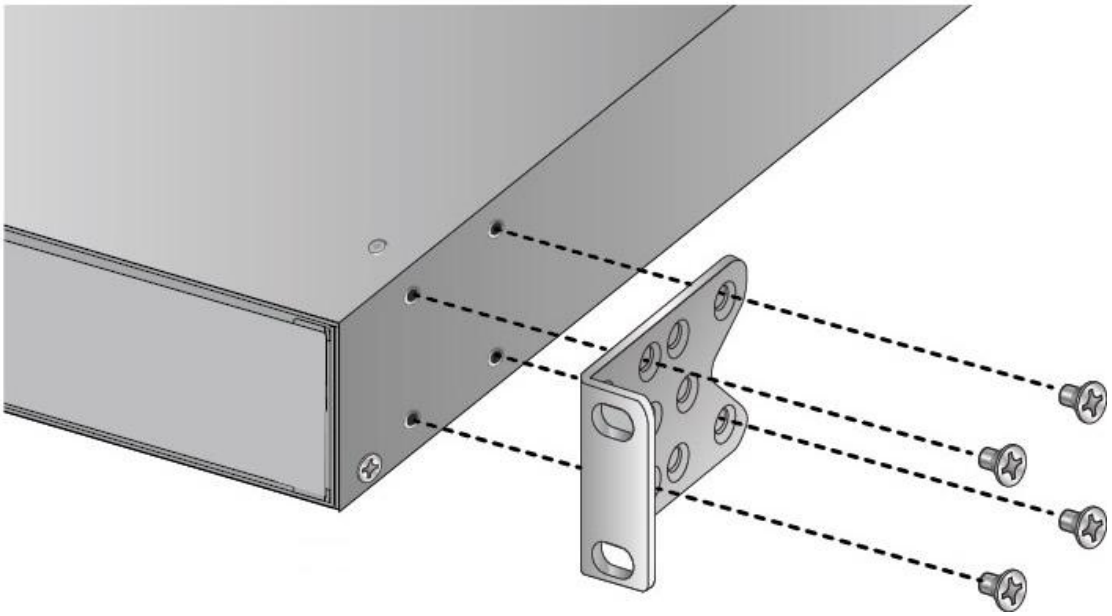
■ **Two equipment rack brackets (included with the switch)**

■ **Cross-head screwdriver (not provided)**

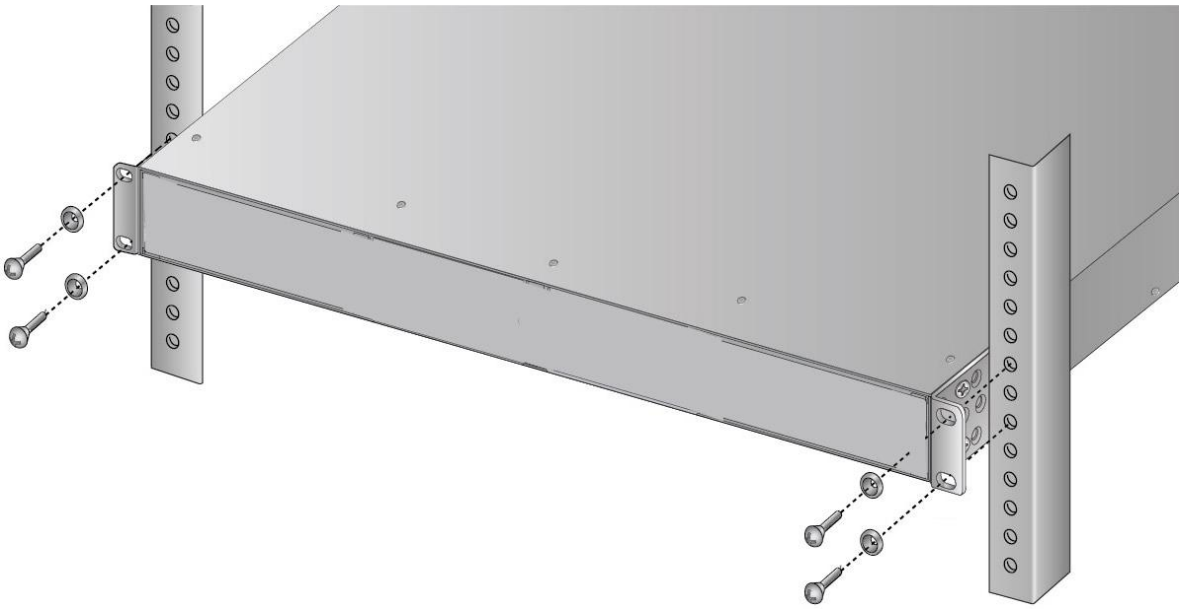
■ **Four standard equipment rack screws (not provided)**

Perform this procedure to install the switch in a 19-inch equipment rack:

1. Secure the two rack mount brackets to the sides of the switch using the eight bracket screws provided.



2. Have another person hold the switch in the equipment rack while you secure it using standard rack mount screws (not provided).



3.2 Power input M12 connector

Note: Please check the power connector has been connected to the switch correctly before you turn on the power resource.

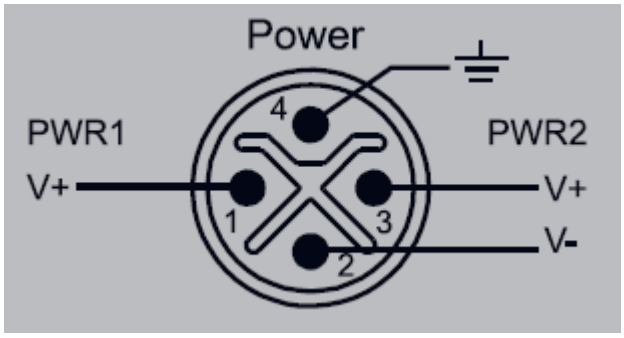
Spec. of power input

- Voltage of Power Input:
  Dual DC input, 16.8VDC~137.5VDC

- Total PoE budget: 80W

  Please make sure that the external power supply unit can satisfy the total power consumption in field.

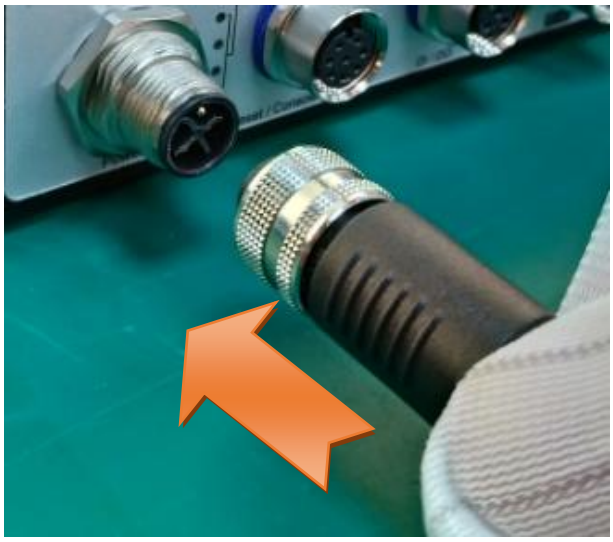
- Pin assignment of power input



- Make sure the direction of connector is correct before you connect it.



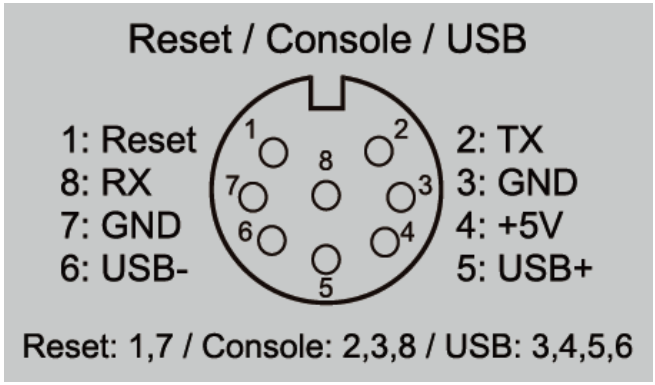
- Plug power connector and screw in clockwise direction to fix it.





3.3 Console & USB dongle M12 connector

- Pin assignment of console & USB dongle

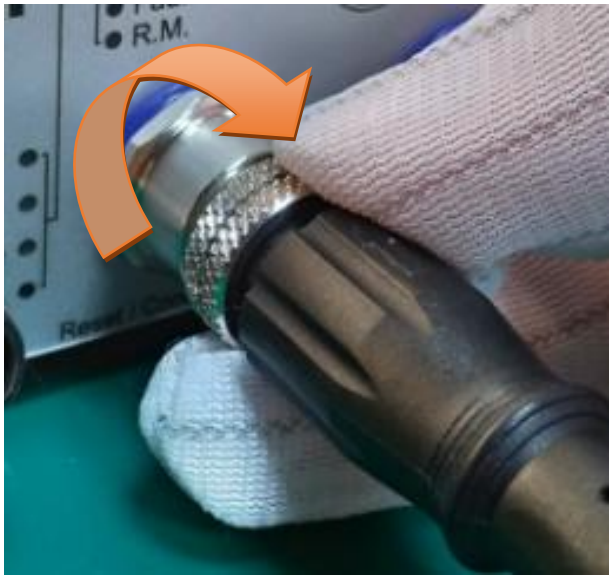


- Make sure the connector is the right direction before you connect it.



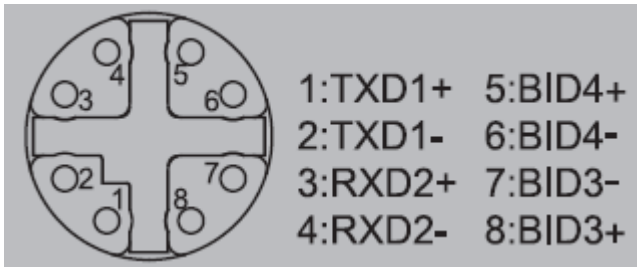
- Plug console connector and screw in clockwise direction to fix it.





3.4 10/100/1000T interface M12 connector

- Pin assignment of the 10/100/1000T port



- Make sure the direction of connector is correct before you connect it.



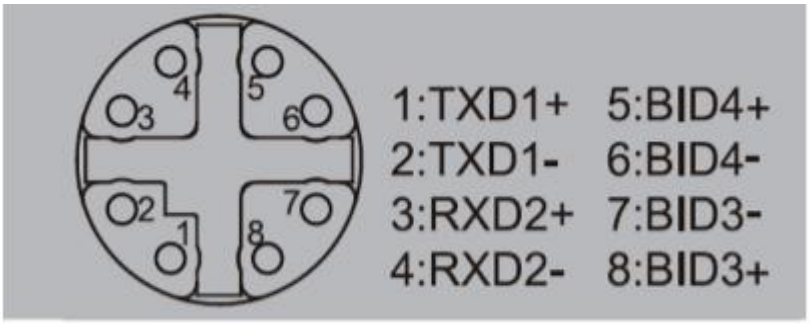
- Plug 10/100/1000T connector and screw in clockwise direction to fix it.





3.5 1G/2.5G interface M12 connector

- Pin assignment of the 1G/2.5G port



- Make sure the direction of connector is correct before you connect it.



- Plug 1G/2.5G connector and screw in clockwise direction to fix it.





3.6 1G/2.5G interface Q-ODC connector

- Make sure the direction of the connector is correct before you connect it.

cable→   ←connector on Ethernet switch

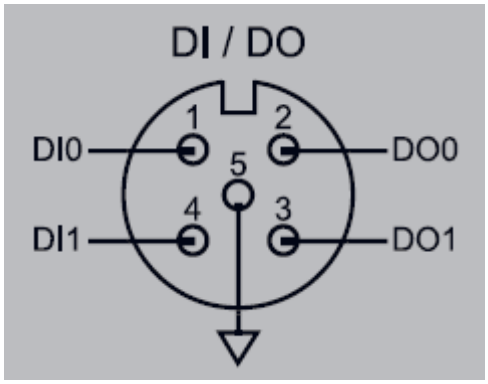
- Plug 1G/2.5G connector and move in different directions to make sure the Q-ODC connector is correctly connected with the interface.





3.7 DI/DO M12 connector

- Pin assignment of DI/DO



- Make sure the connector is the right direction before you connect it.



- Plug DI/DO connector directly.





3.8 Grounding

The chassis is grounded via a separate grounding nut (M6) or via the M12 power connector. You can choose either way to ground the device or both of them at the same time. When both earth stud and power connector are grounded, the protection is still the same.

To ground with a separate grounding nut (M6), please use toothed locking washers for a good electrical connection.



Ground screw of the switch

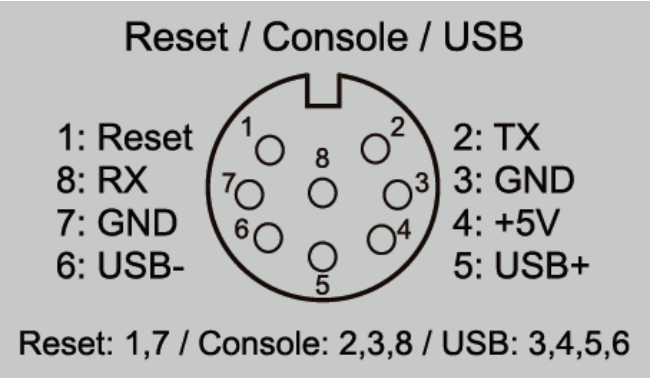
- **Note: The torque should not exceed 14 kilogram-force centimeters (kgf·cm), which is approximately 1.4 newton-meters (N·m). Applying torque beyond this limit may cause damage to the grounding components.**

To ground with the M12 power connector, please refer to the pin assignment in **Chapter 3.2**.

Chapter 4 Console Management

4.1 Connecting to the Console Port

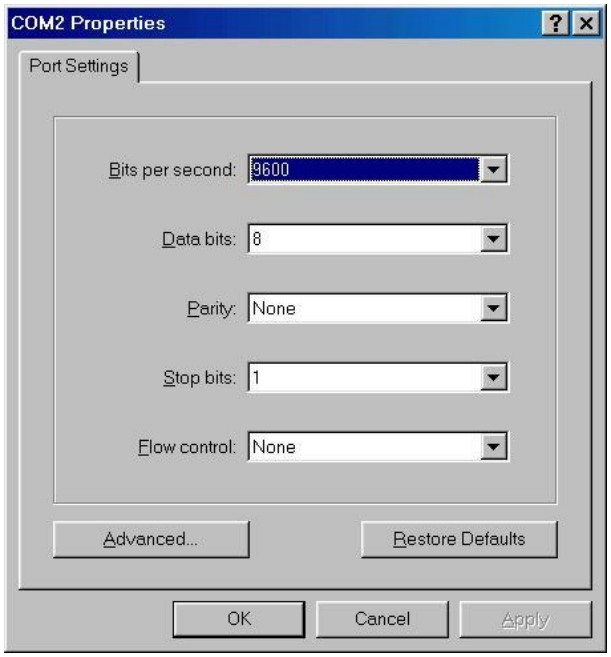
The supplied cable has one M12 4-pole connector end and another RS-232 connector end. Attach the RS-232 connector end to a PC or terminal and the other M12 connector end to the console port of the switch. The connected terminal or PC must support the terminal emulation program.



4.2 Login in to the Console Interface

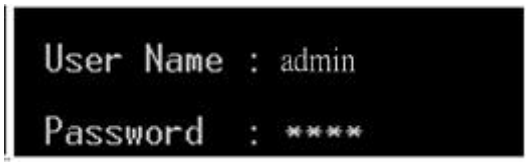
When the connection between Switch and PC is ready, turn on the PC and run a terminal emulation program or **Hyper Terminal** and configure the **communication parameters** to match the following default characteristics of the console port:

Baud Rate:115200 bps
Data Bits: 8
Parity: none
Stop Bit: 1
Flow control: None



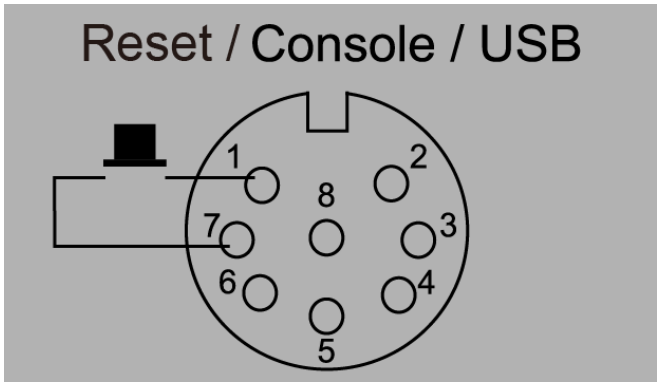
The settings of communication parameters

Having finished setting up the parameters, click '**OK**'. When the blank screen shows up, press the Enter key to have the login prompt appear. Key in '**admin**' (default value) for both User name and Password (use **Enter** key to switch), then press Enter and the Main Menu of console management should appear. Please see below figure for login screen.



Console login interface

Chapter 5 Reset the Switch



You can reset the Ethernet switch to default configuration by making pin1 and pin7 short for more than 5 seconds.

==========Notice==========

For web-based management, please refer to our “Software Management Manual”.

Please contact us for more information.