Lantech

IWMR-3002

Industrial Multifunction VPN Router w/up to 2x WiFi 11ac + up to 2 LTE 4G + 2/4 serial ports + 2 Gigabit Ethernet Switch

IMR-3002

Industrial Multifunction VPN Router w/up to 2 LTE 4G + 2/4 serial ports + 2 Gigabit Ethernet Switch

IWAP-3002

Industrial Multifunction VPN Router w/up to 2x WiFi 11ac + 2/4 serial ports + 2 Gigabit Ethernet Switch

User Manual (Hardware)



Sep. 2026

V1.1

Approval Information

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Approver	Thomas Lee	RD head	2026.09.04

Version	Date	Content of Modification	Author(s)
V1.0	2022.07.27		Greg Tsai
V1.1	2026.09.04	Modify mounting sections and update dimension drawing	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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1. Hardware Description

Lantech IWMR-3002 / IMR-3002 / IWAP-3002 are next generation industrial multi-function VPN routers.

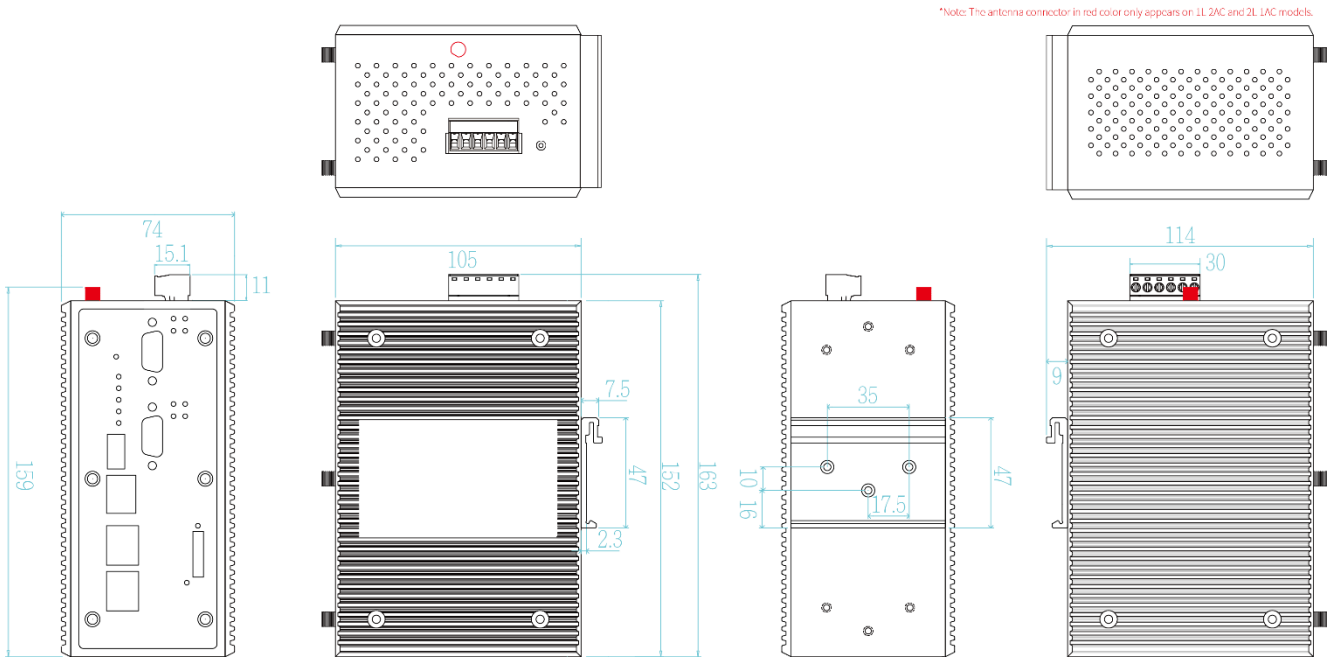
In this paragraph, it will describe the Industrial multi-function VPN router's hardware spec, port, cabling information, and wiring installation.

1.1. Physical Dimension

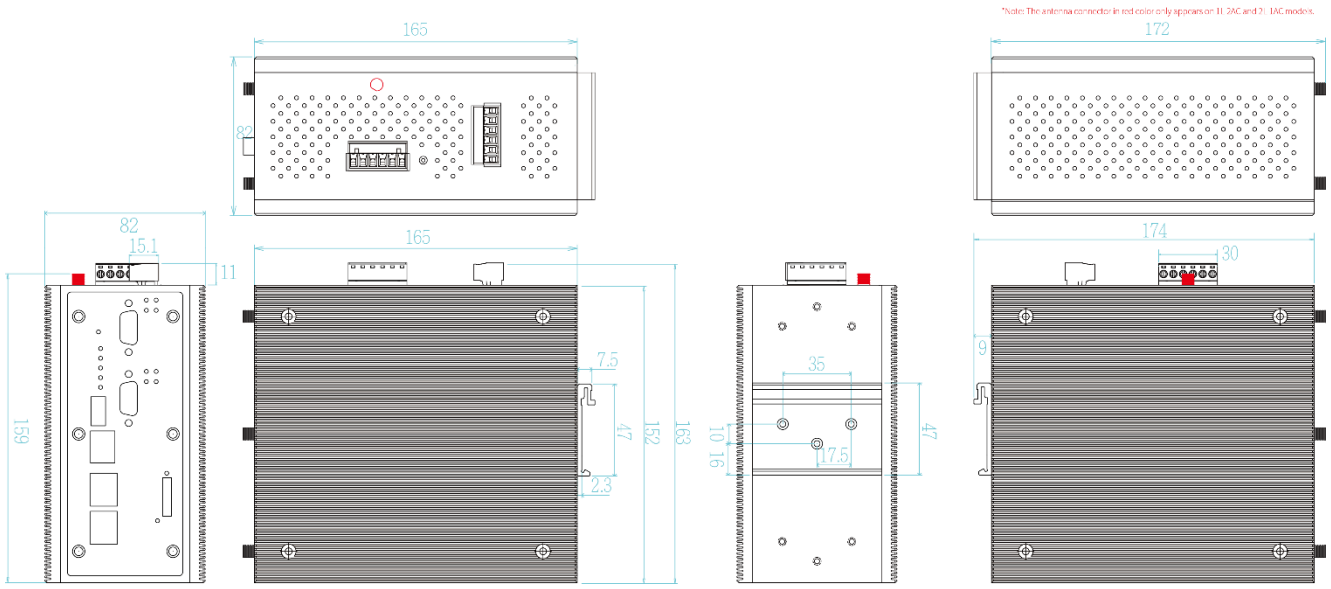
IWMR-3002, RJ-45 model

Metal case. IP-30,

74 (W) x 114 (D) x 152 (H) mm (12V/24V model)



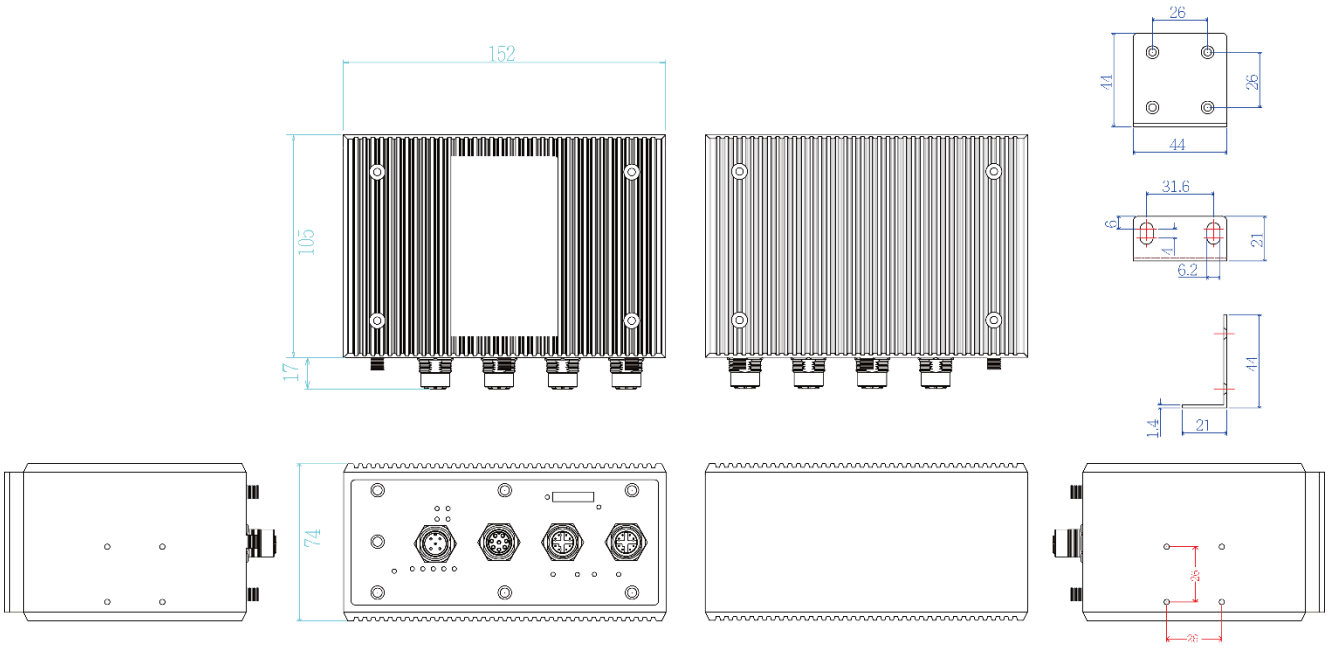
82 (W) x 172 (D) x 152 (H) mm (WV model)



IWMR-3002, M12 model

Metal case. IP-43,

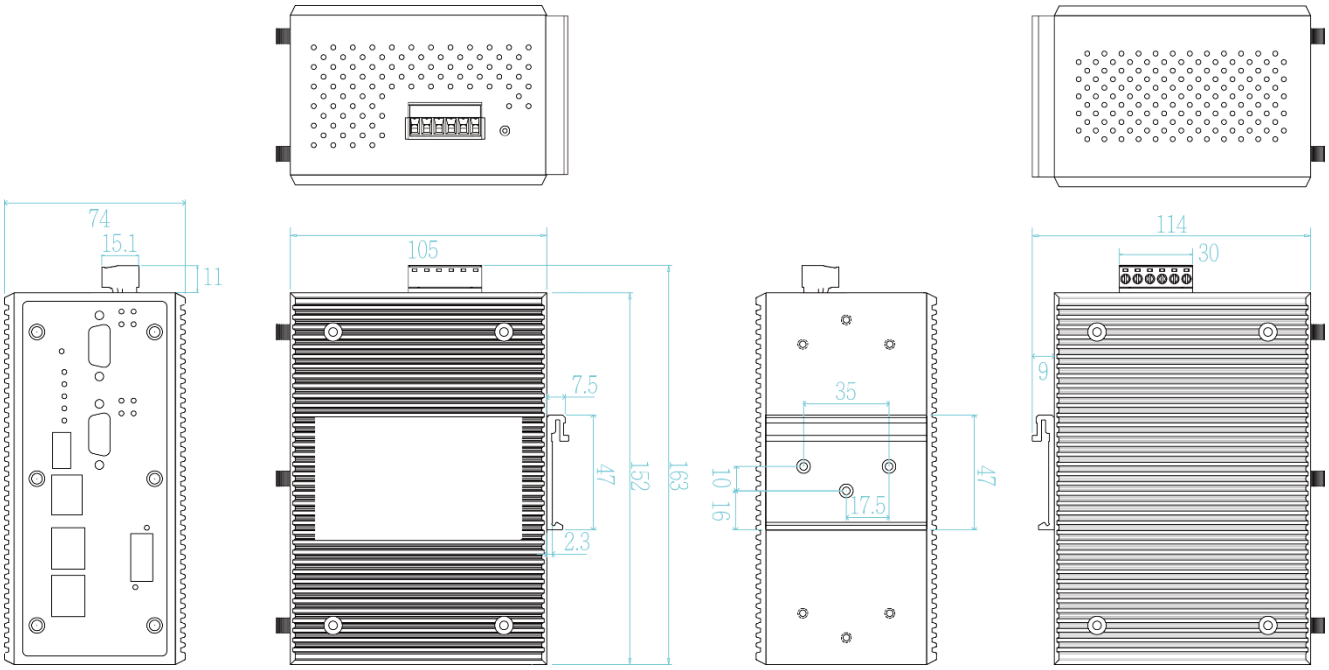
74(W) x 122(D) X 152 (H) mm



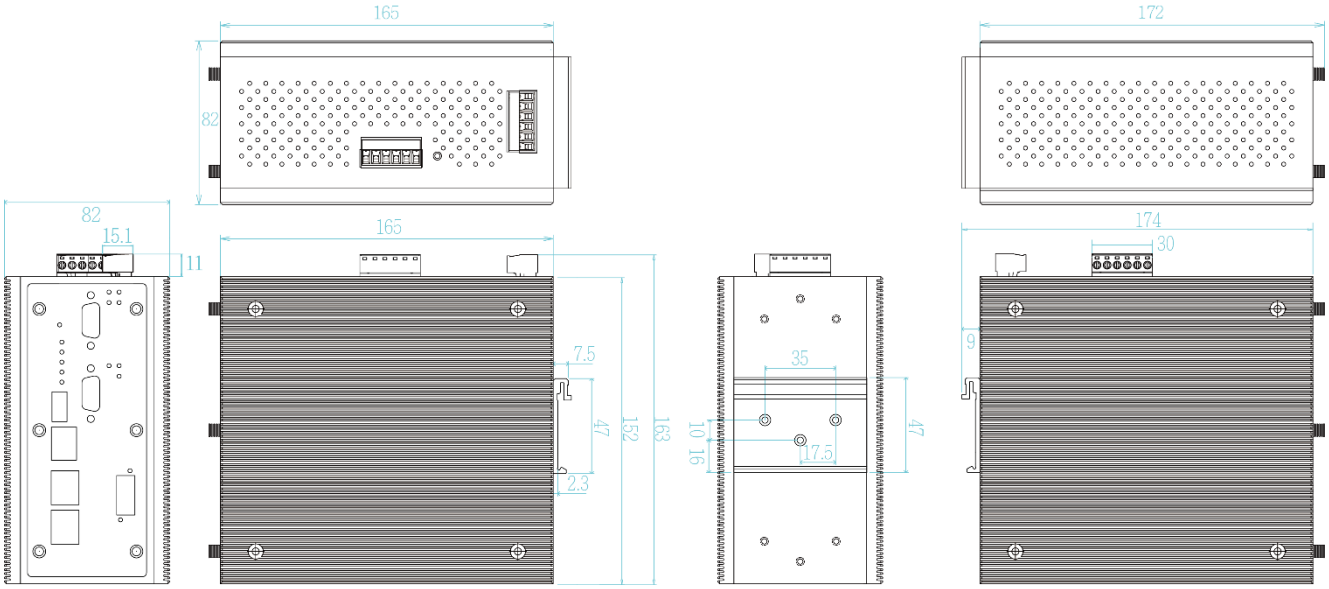
IMR-3002, RJ-45 model

Metal case. IP-30,

74 (W) x 114 (D) x 152 (H) mm (12V/24V model)



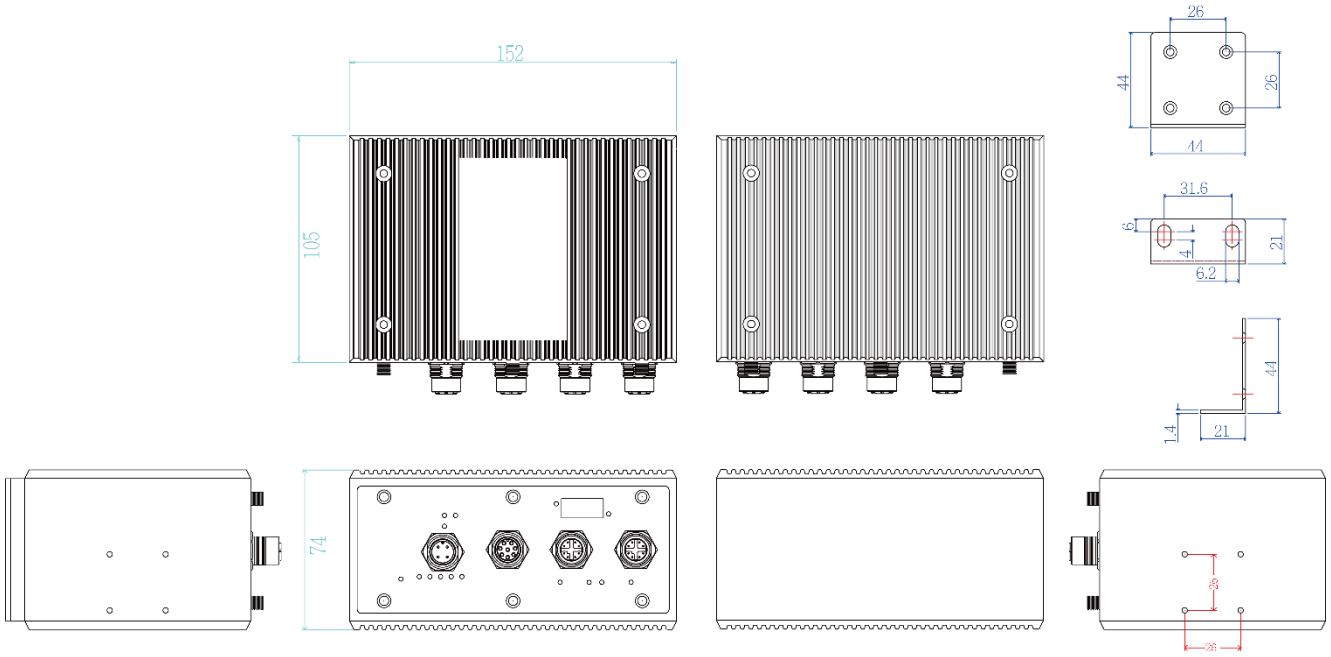
82 (W) x 172 (D) x 152 (H) mm (WV model)



IMR-3002, M12 model

Metal case. IP-43,

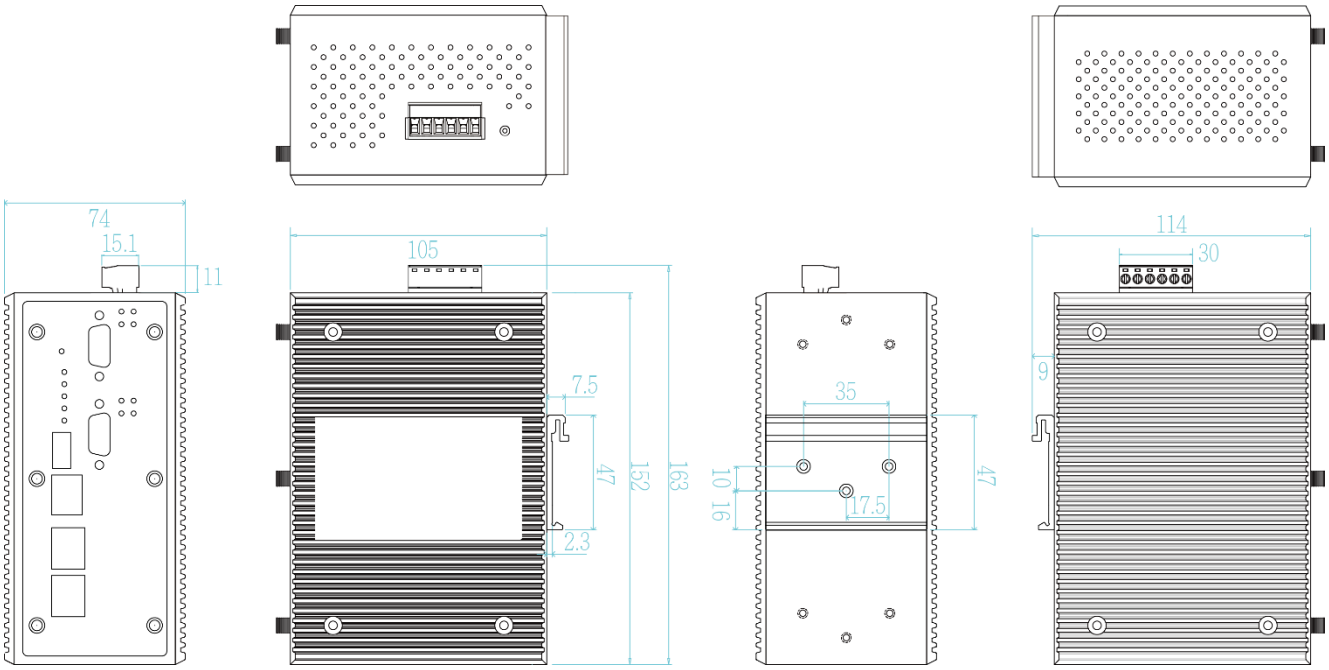
74(W) x 122(D) X 152 (H) mm



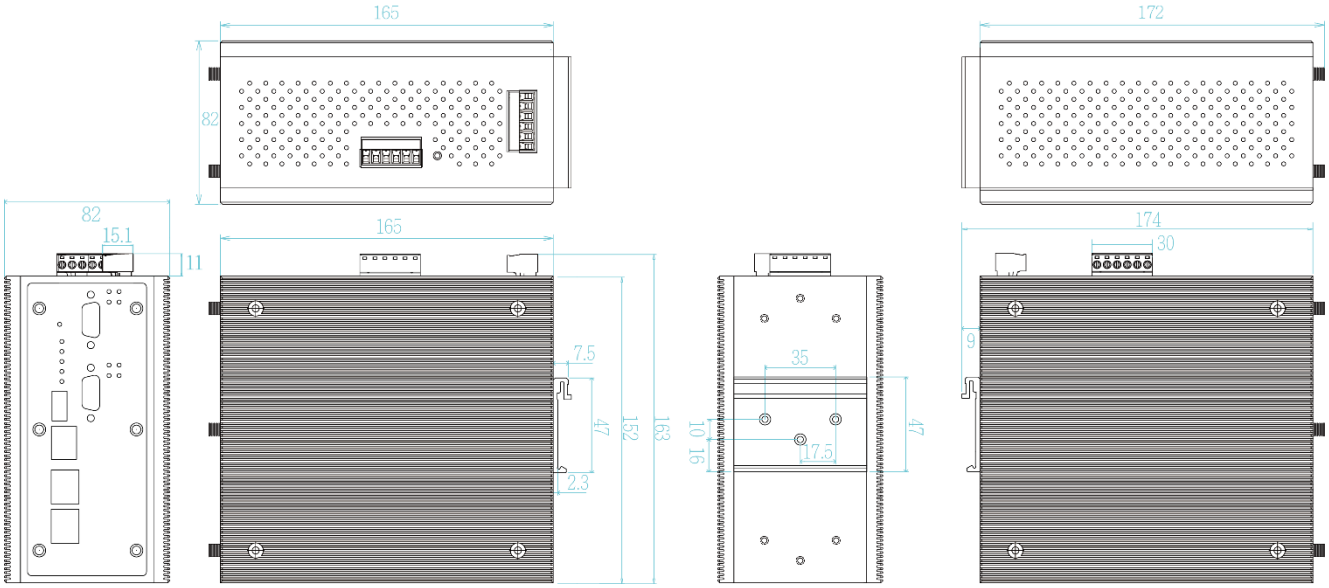
IWAP-3002, RJ-45 model

Metal case. IP-30,

74 (W) x 114 (D) x 152 (H) mm (12V/24V model)



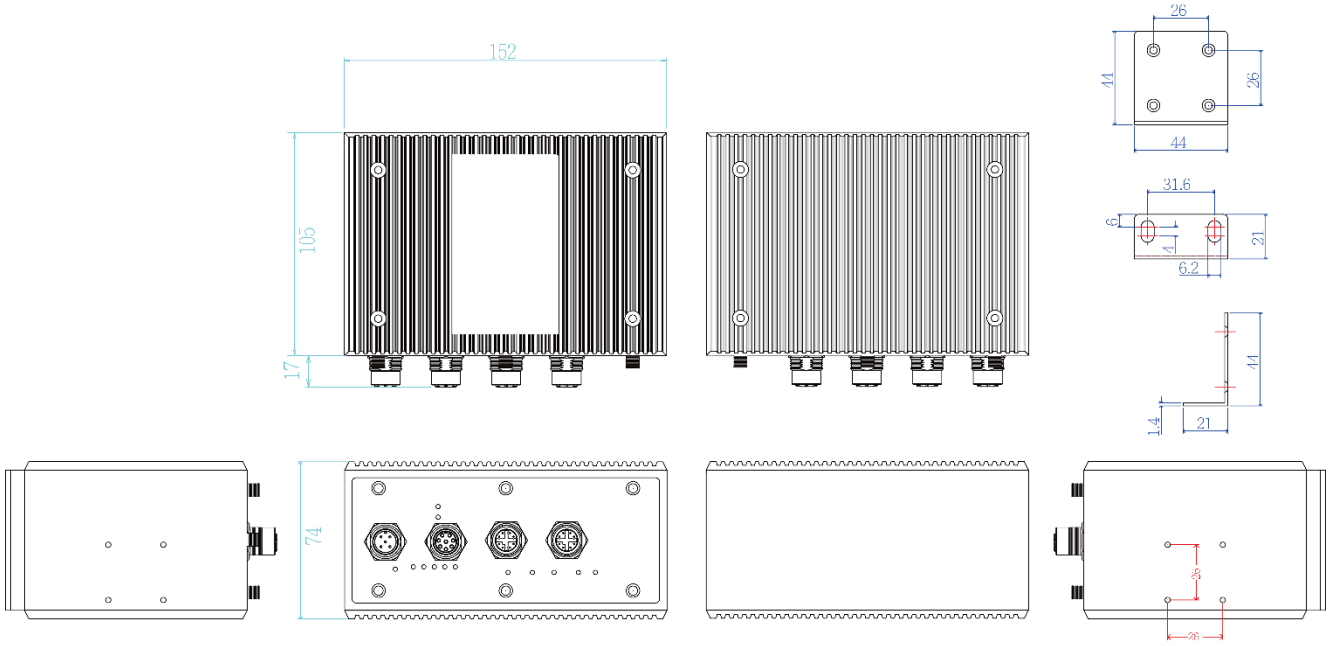
82 (W) x 172 (D) x 152 (H) mm (WV model)



IWAP-3002, M12 model

Metal case. IP-43,

74(W) x 122(D) X 152 (H) mm



1.2. 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

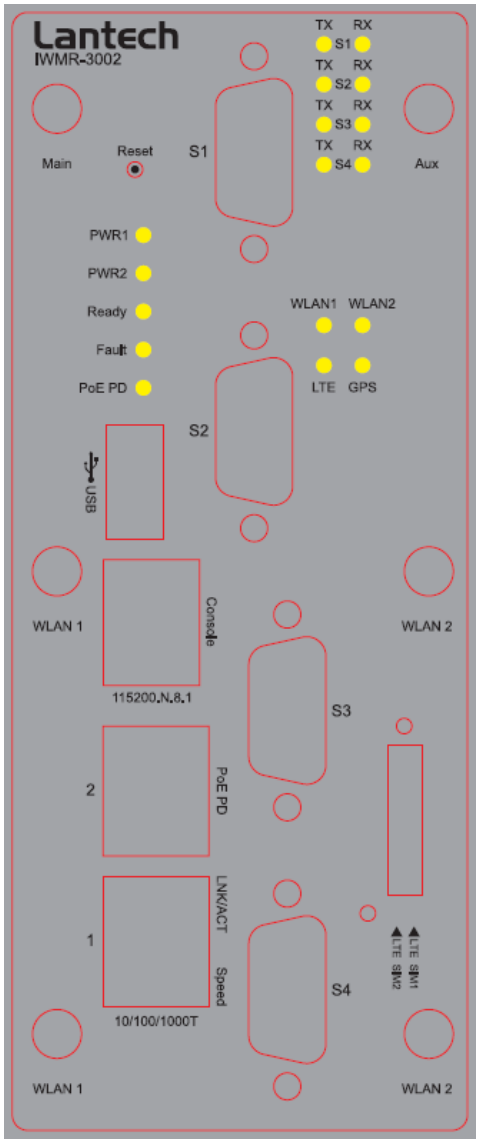
The second digit indicates the level of protection that the enclosure provides against harmful ingress of water.

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

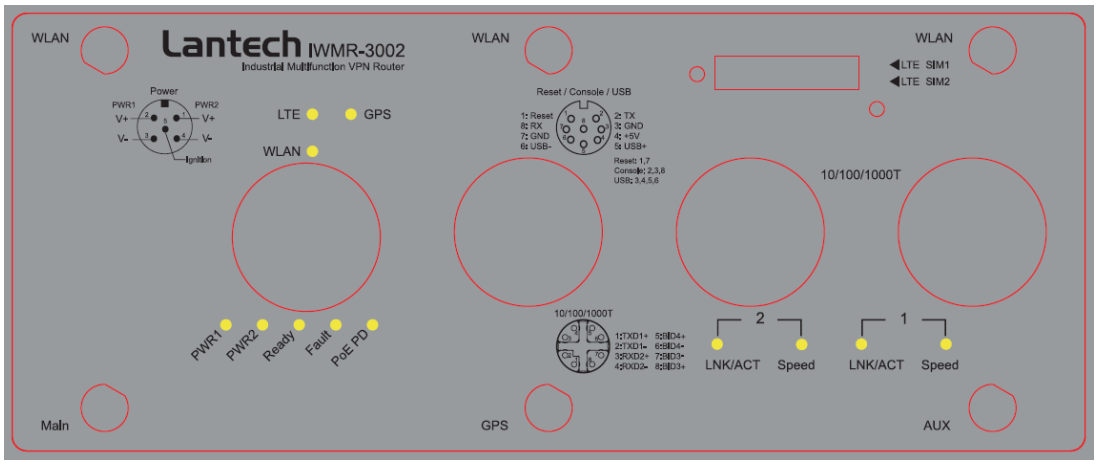
	water jets	jets (12.5 mm nozzle) against the enclosure from any direction shall have no harmful effects.	3 minutes Water volume: 100 litres per minute Pressure: 100 kPa at distance of 3 m
7	Immersion up to 1 m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in 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.	—

1.3. Front Panel

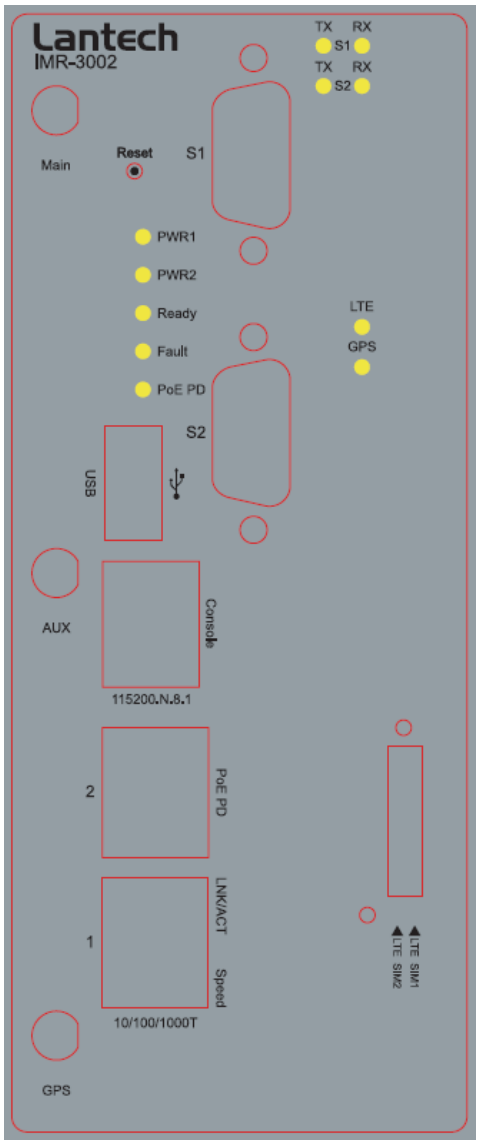
IWMR-3002, RJ-45 model



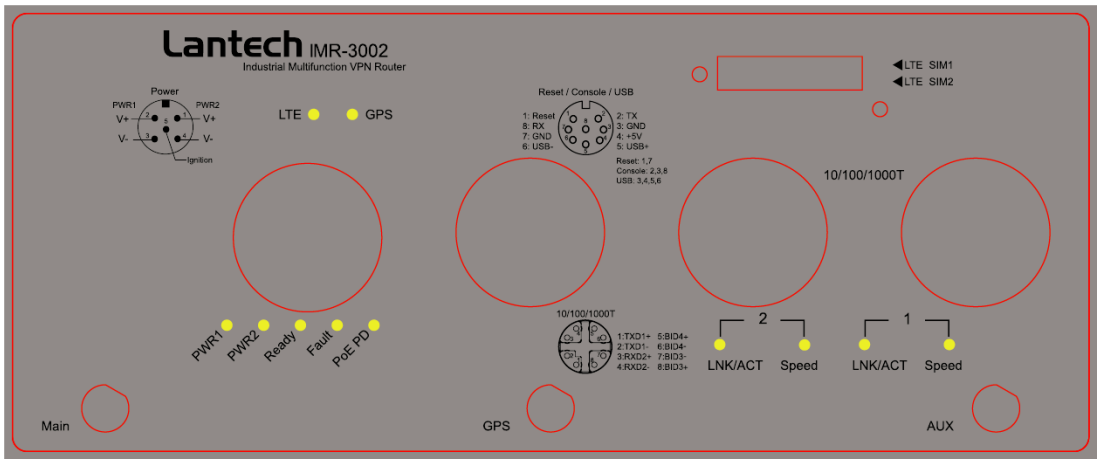
IWMR-3002, M12 model



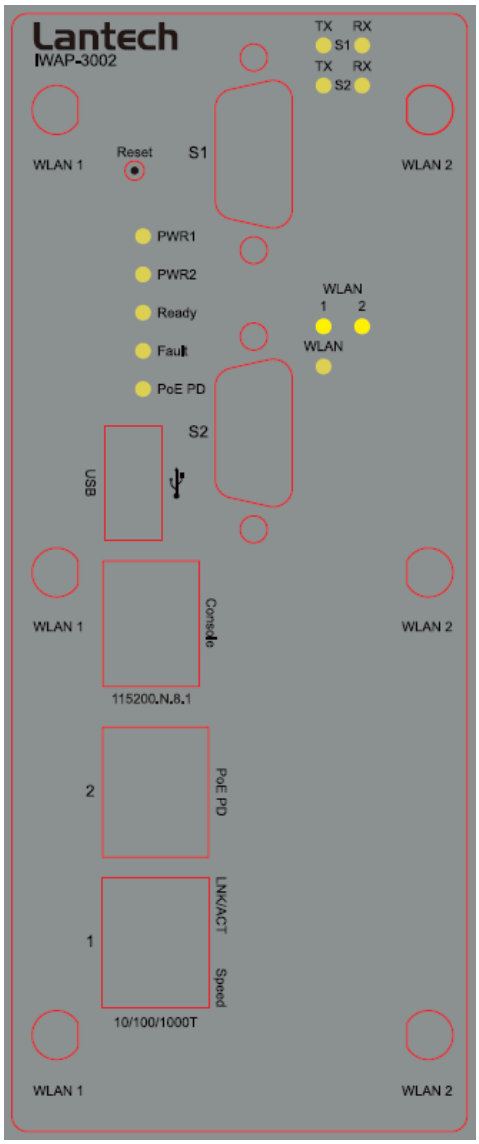
IMR-3002, RJ-45 model



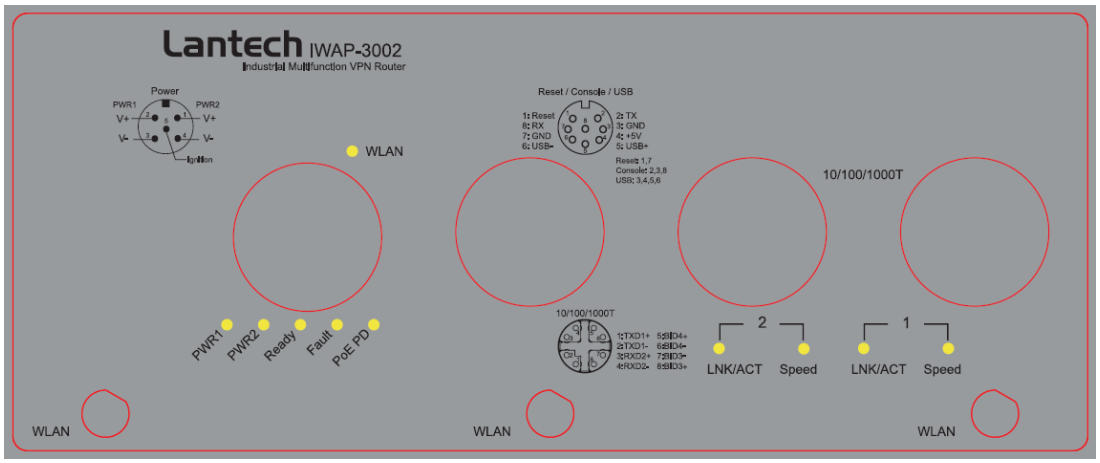
IMR-3002, M12 model



IWAP-3002, RJ-45 model



IWAP-3002, M12 model



1.4. LED Indicators

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

LED	Color	Status	Meaning
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
LTE	Green	On	LTE is active
		Off	LTE is inactive
GPS	Green	On	GPS OK
		Blinking	Searching GPS Signal
WLAN	Green	On	WLAN is active
		Off	WLAN is inactive
Ready	Green	On	Power is on and functioning normally.
PoE PD	Green	On	PoE PD function is ready
P1 ~ P2 LNK/ACT	Green	On	A network device is detected.
		Blinking	The port is transmitting or receiving packets from the TX device.
		Off	No device attached
P1 ~ P2 Speed	Yellow	On	The port is operating in 1000T mode.
		Off	The port is operating in 10/100TX mode.

S1 ~ S4 TX (Only on RJ-45 models)	Green	On	The port is transmitting packets.
		Off	The port is not transmitting packets.
S1 ~ S4 RX (Only on RJ-45 models)	Green	On	The port is receiving packets.
		Off	The port is not receiving packets.

2. Hardware Installation – RJ45 Models

2.1. Hardware installation

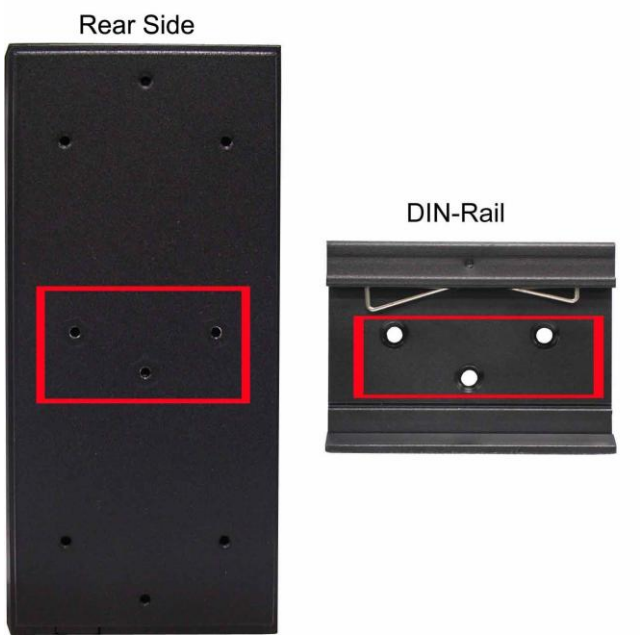
1. Unpack the device
2. Check if the DIN-Rail is screwed on the Industrial device or not. If the DIN-Rail is not screwed on the Industrial device, please refer to **DIN-Rail Mounting** section for DIN-Rail installation. If users want to wall mount the Industrial device, please refer to **Wall Mount Plate Mounting** section for wall mount plate installation. **NOTE: Wall mount kits are optional accessories.**
3. To hang the Industrial device on the DIN-Rail track or wall.
4. Power on the Industrial device. 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 device will light up. Please refer to the **LED Indicators** section for indication of LED lights.
5. Prepare the twisted-pair, straight through Category 5 cable for Ethernet connection.
6. Insert one side of RJ-45 cable (category 5) into the Industrial device Ethernet port (RJ-45 port) and another side of RJ-45 cable (category 5) to the network device's Ethernet port (RJ-45 port), ex: Device PC or Server. The UTP port (RJ-45) LED on the Industrial device will light up when the cable is connected with the network device. Please refer to the **LED Indicators** section for LED light indication.

[NOTE] Make sure that the connected network devices support MDI/MDI-X. If it does not support, use the crossover category-5 cable.

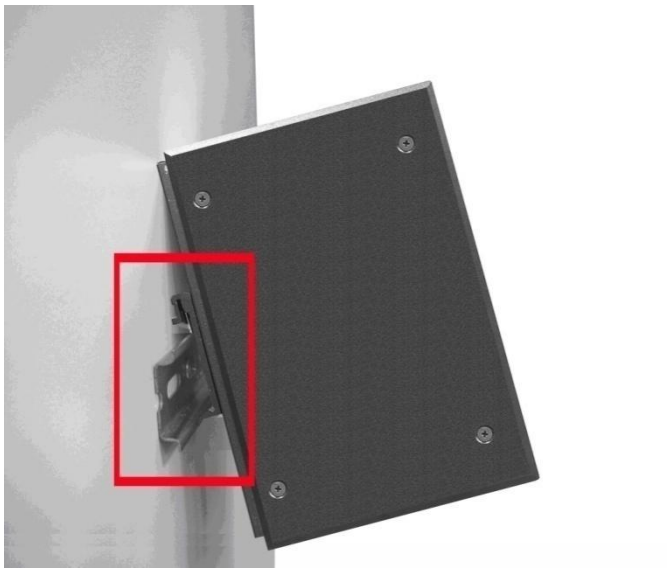
When all connections are set and LED lights all show in normal, the installation is complete.

2.2. DIN-Rail Mounting (RJ45 models)

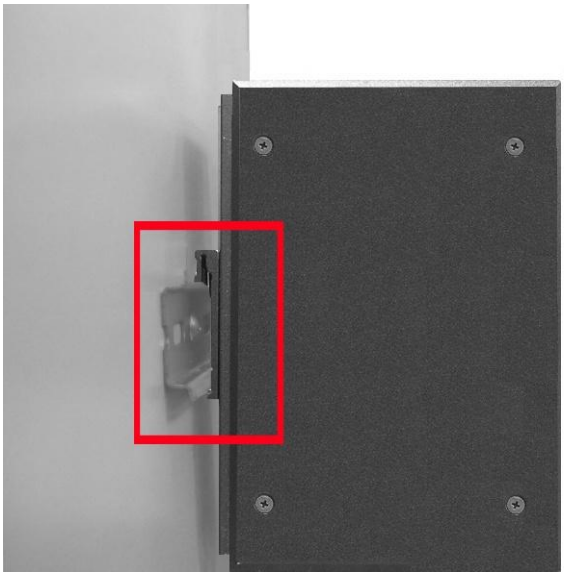
The DIN-Rail is screwed on the industrial device when out of factory. If the DIN-Rail is not screwed on the industrial device, please see the following pictures to screw the DIN-Rail on the device. Follow the steps below to hang the industrial device.



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



Then, lightly push the DIN-Rail into the track.



Check if the DIN-Rail is tightened on the track or not.

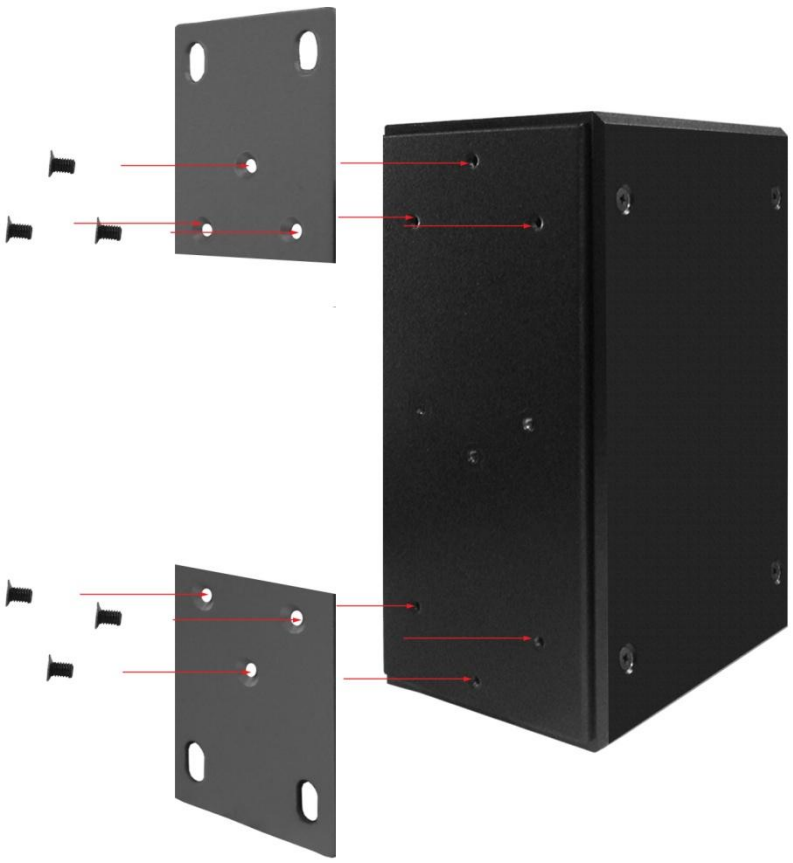
To remove the industrial device from the track, reverse above steps.

2.3. Wall Mount Plate Mounting (RJ45 models)

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

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

NOTE : Wall mount kits are optional accessories (MBAK19003)



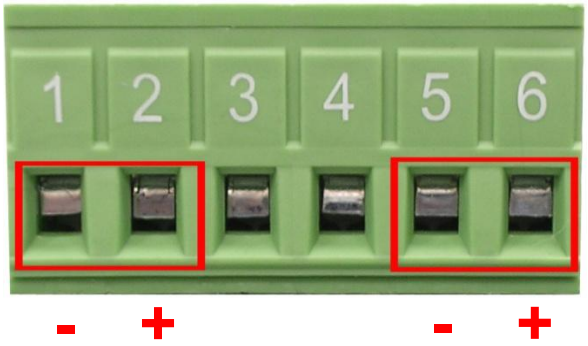
2.4.Wiring the Power Inputs

- Voltage of Power Input

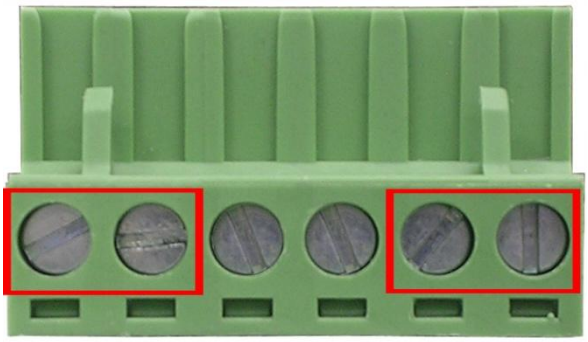
12V model: The power input voltage can be from 9~56VDC. **24V model:** The power input voltage can be from 9~36VDC. **WV model:** The power input voltage can be from 16.8~137.5VDC.

2.4.1.Steps to Insert the Power Wire

Please follow the steps below to insert the power wire.



1. Insert DC power wires into the contacts 1 and 5 with negative electrode of power and, 2 and 6 with positive electrode of power, contacts 1 and 2 are defined as power input 1 and contacts 5 and 6 are defined as power input 2, you can connect both power input for redundancy but also can connect with single power input to power on switch.



2. Tighten the wire-clamp screws for preventing the wires from loosing.

[NOTE] The wire gauge for the terminal block should be in the range between 12 ~ 24 AWG.

2.4.2. Grounding



The chassis is grounded via a separate ground nut (M3).

Use toothed locking washers for a good electrical connection.

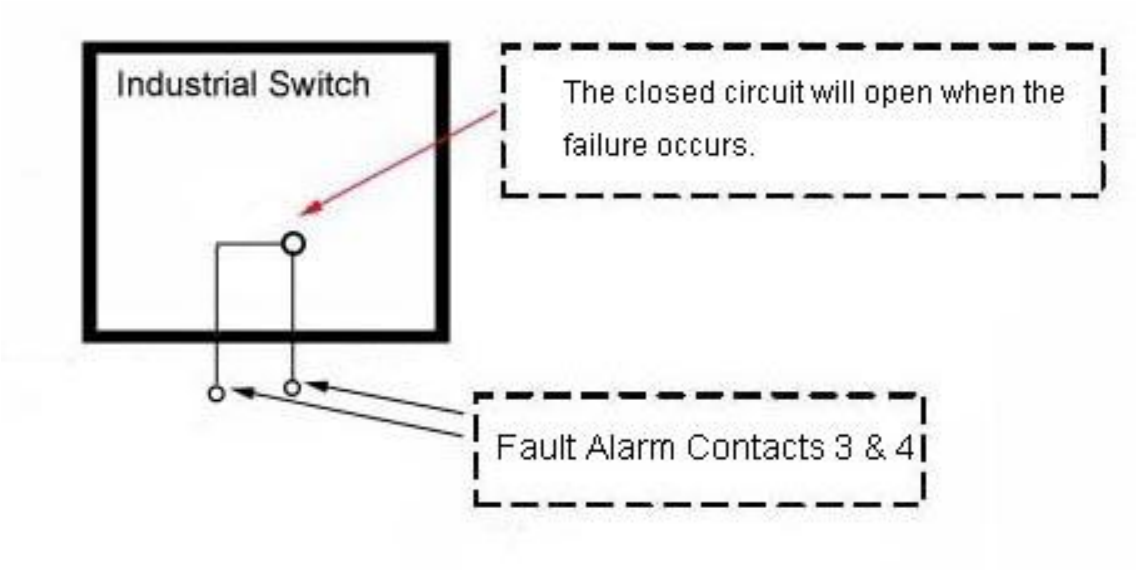
2.5. Wiring the Fault Alarm Contact

The fault alarm contacts are in the middle of the terminal block connector as the picture shows below. Inserting the wires, the device will detect the fault status of the power failure, or port link failure (available for managed model) and then forms an open circuit. The following illustration shows an application example for wiring the fault alarm contacts.



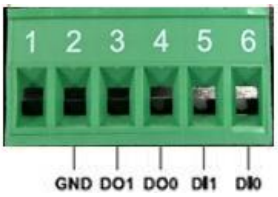
Insert the wires into the fault alarm contacts

[NOTE] The wire gauge for the terminal block should be in the range between 12 ~ 24 AWG.



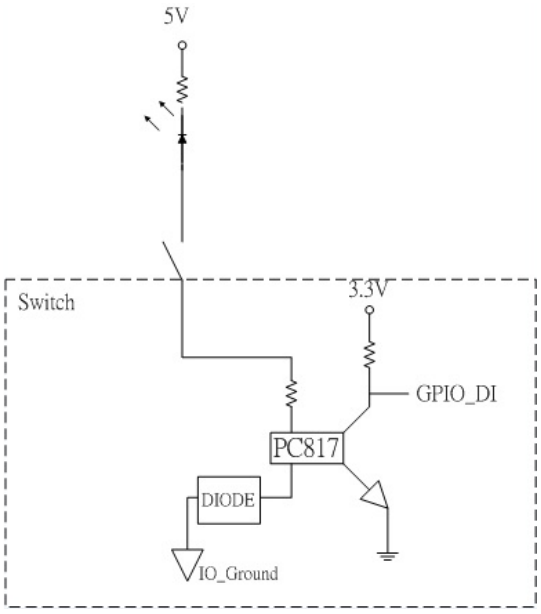
2.6.Wiring the DIDO

In case of event, the router being able to send an email to pre-defined addresses as well as SNMP Traps out immediately. It provides 2DI and 2DO (DI=Digital input / DO=Digital output). When disconnection of the specific port was detected; DO will activate the signal LED to alarm. DI can integrate the sensors for events and DO will trigger the alarm while sending alert information to IP network with email and traps. *DIDO is only available on RJ45 models.

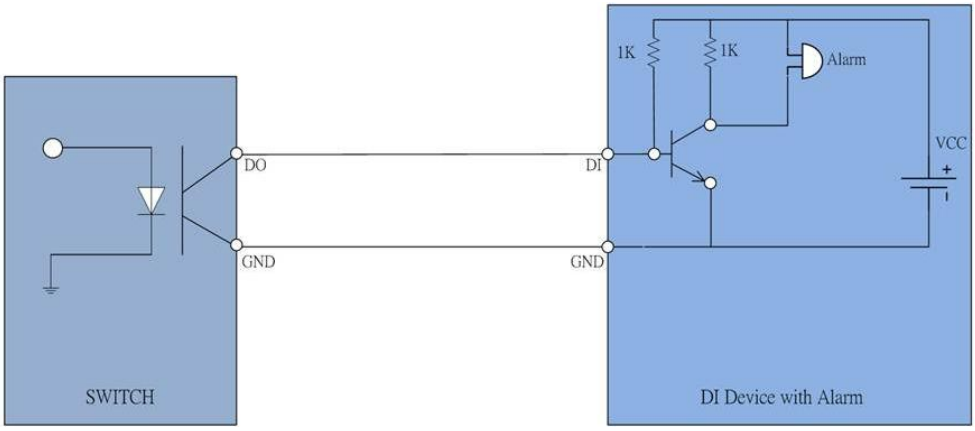


To connect with device in field, please check below diagram:

Digital Input



Digital Output



2.7.Cabling

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

2.8.SIM

◀LTE1 SIM1
◀LTE1 SIM2
◀LTE2 SIM2
◀LTE2 SIM1

1. Turn off power of the device.
2. Use a screwdriver to loosen the screws and remove the SIM card cover..
3. Insert one or two 3G/4G SIM cards into the SIM card slots in the correct orientation and located on the bottom of the SIM card slot.
4. Turn on power of the device.
5. Reattach the cover

For LTE / LTE1 slot



Insert the SIM card into the SIM card slot with the gold contacts facing down.



Located on the bottom of the SIM card slot.

For LTE2 slot



Insert the SIM card into the SIM card slot with the gold contacts facing up.

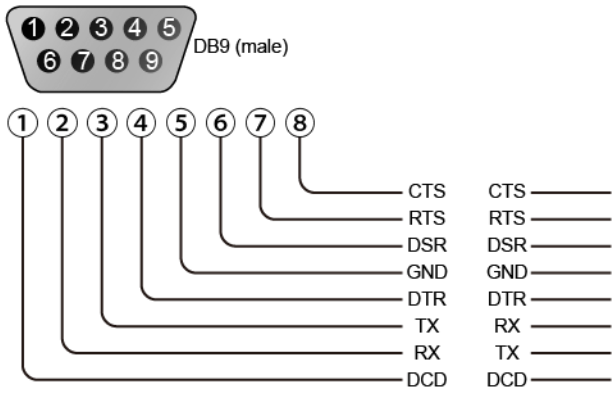


Located on the bottom of the SIM card slot.

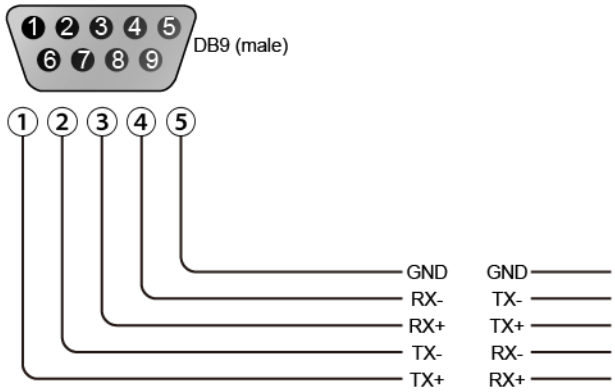
2.9. Serial Ports

Connect the DB9 connector with RS232/RS422/RS485 cable with the following PIN assignment.

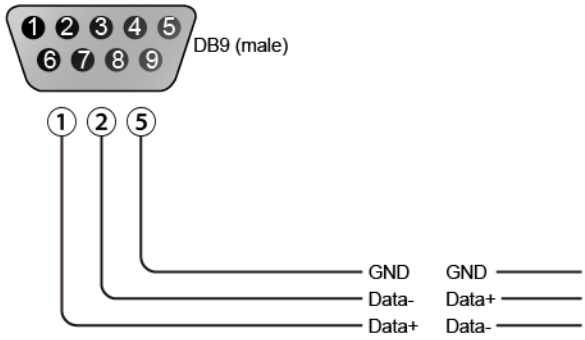
PIN Assignment of RS232



PIN Assignment of RS-422



PIN Assignment of RS-485



3. Hardware Installation – M12 Models

3.1. Hardware installation

1. Unpack the device
2. Check if want to wall mount the Industrial device, please refer to **Wall Mount Plate Mounting** section for wall mount plate installation
3. To hang the Industrial device on the wall.
4. Power on the Industrial device. 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 device will light up. Please refer to the **LED Indicators** section for indication of LED lights.
5. Prepare the straight through X-Code M12 cable for Ethernet connection.
6. Insert one side of X-Code M12 cable into the Industrial device Ethernet port (M12 port) and another side of cable to the network device's Ethernet port, ex: Device PC or Server. The port(M12) LED on the Industrial device will light up when the cable is connected with the network device. Please refer to the LED Indicators section for LED light indication.

[NOTE] Make sure that the connected network devices support MDI/MDI-X. If it does not support, use the crossover cable.

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

3.2. Wall Mount Plate Mounting (M12 models)

Follow the steps below to mount the industrial device with wall mount plate (MBAK19014).

1. Place the wall mount plate on the side panel of the industrial device.
2. Use the screws to screw the wall mount plate on the industrial device.
3. Use the hook holes at the corners of the wall mount plate to hang the industrial device on the wall.
4. To remove the wall mount plate, reverse the above steps.





←Complete image:

Left side



←Complete image:

Right side

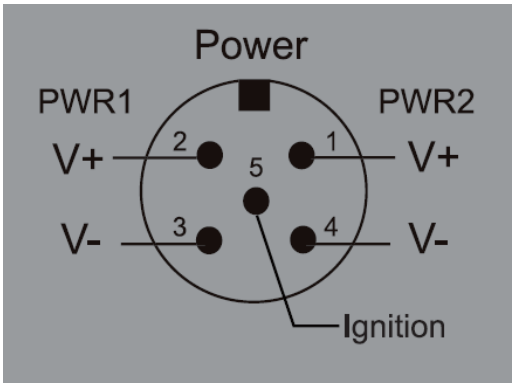
3.3. Wiring the Power Inputs

Connect the M12 connector of power input.

- Voltage of Power Input

12V model: The power input voltage can be from 9~56VDC. **24V model:** The power input voltage can be from 9~36VDC. **WV model:** The power input voltage can be from 16.8~137.5VDC.

- Dual Power Input



Pin assignment of Power input

The power input can be supported redundantly. The supply voltage is electrically isolated from the housing.

Note: With single power supply of the mains voltage, the device will report a power failure. You can disable this power fail event via web browser.



PIN	Signal
1	V+, PWR2
2	V+, PWR1
3	V-, PWR1
4	V-, PWR2
5	Ignition

PIN	Signal
1	24V after Manual Switch
2	GROUND
3	24V after Main Switch
4	NC
5	NC
6	NC

ECONM12-05A(F) to MCP 6P-20CM CABLE
(Optional power cable for IGN models)

- This male connector installed at vehicle side is MCP type connector with 6 pins, TYCO reference: 8-968970-1 Blue Code A.

■ Ignition sensing

After trigger the Ignition sensing, the device will power on.

The ignition pin must connect to driver power / main key with voltage 9~36VDC before you turn on the power resource. The switch will not turn on without proper voltage range with the ignition model.

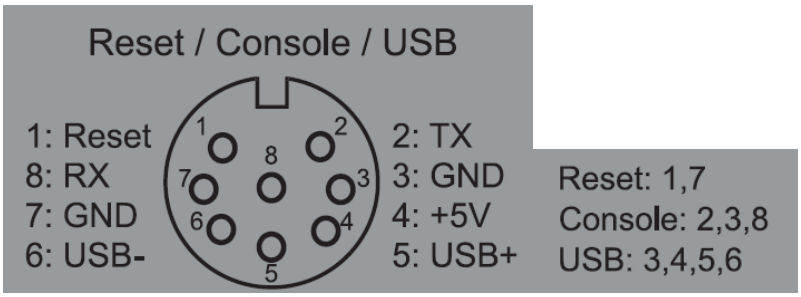
■ Grounding



The chassis is grounded via a separate ground nut (M3).

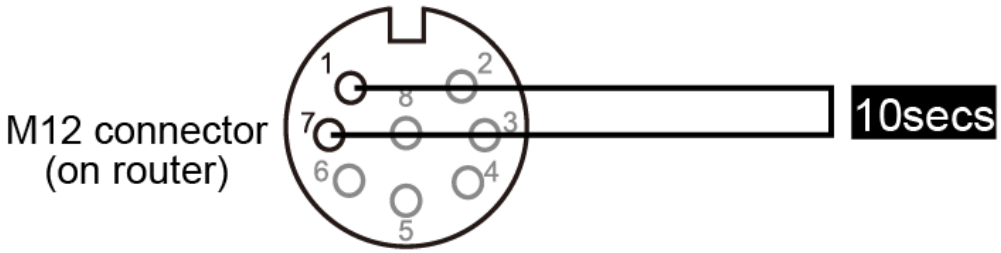
Use toothed locking washers for a good electrical connection.

3.4. Wiring the Reset or USB

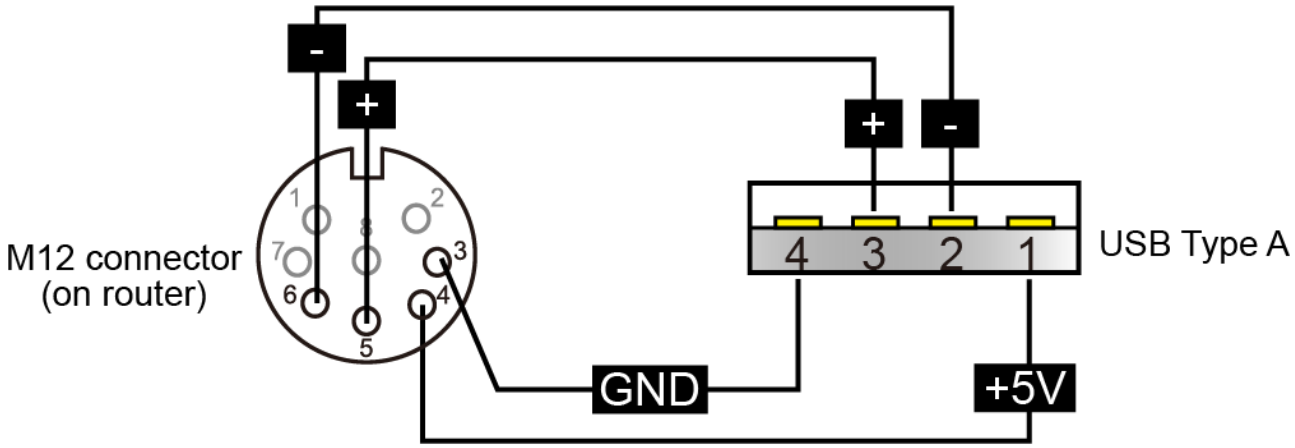


Pin assignment of Reset / Console / USB

Connect the pin1 & pin7 for 10 seconds and the device will be reset to default



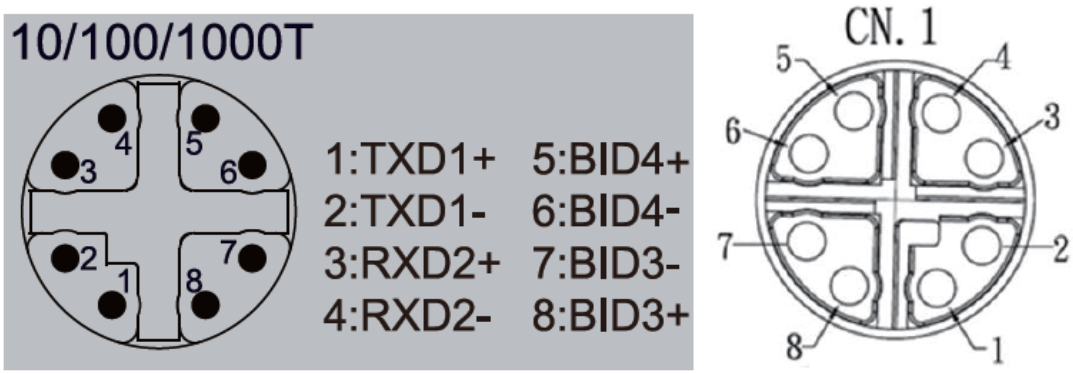
Connect the M12 connector to USB if needed



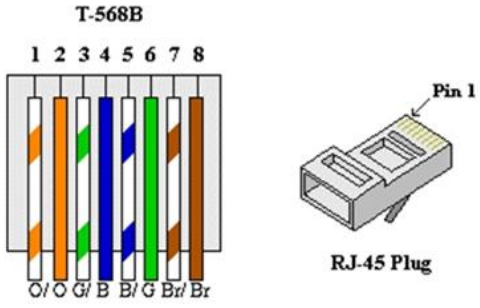
Note: The USB port is USB 2.0 speed, not USB 3.0

3.5. Cabling

Connect the M12 connector with RJ-45 data cable, ports are not used shall be caped that comes with the package to insulate the surrounding.



Shell	Gnd	Shell	
1	Orange/ White	1	TWIST
2	Orange	2	
3	Green/ White	3	TWIST
4	Green	6	
5	Brown/ White	7	TWIST
6	Brown	8	
7	Blue/ White	5	TWIST
8	Blue	4	
CN. 1	Wire Color	CN. 2	
PIN OUT			



Pin assignment of M12 10/100/1000T network connector

3.6.SIM

◀LTE1 SIM1
◀LTE1 SIM2
◀LTE2 SIM2
◀LTE2 SIM1

6. Turn off power of the device.
7. Use a screwdriver to loosen the screws and remove the SIM card cover.
8. Insert one or two 3G/4G SIM cards into the SIM card slots in the correct orientation and located on the bottom of the SIM card slot.
9. Turn on power of the device.
10. Reattach the cover

For LTE / LTE1 slot



Insert the SIM card into the SIM card slot with the gold contacts facing down.



Located on the bottom of the SIM card slot.

For LTE2 slot



Insert the SIM card into the SIM card slot with the gold contacts facing up.



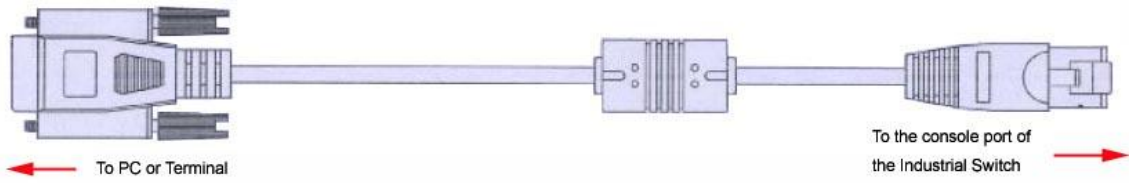
Located on the bottom of the SIM card slot.

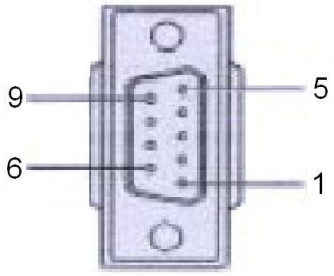
4. Console Management

4.1. Connecting to the Console Port

4.1.1. RJ45 Models

The supplied cable which one end is RS-232 connector and the other end is RJ-45 connector. Attach the end of RS-232 connector to PC or terminal and the other end of RJ-45 connector to the console port of the device. The connected terminal or PC must support the terminal emulation program.





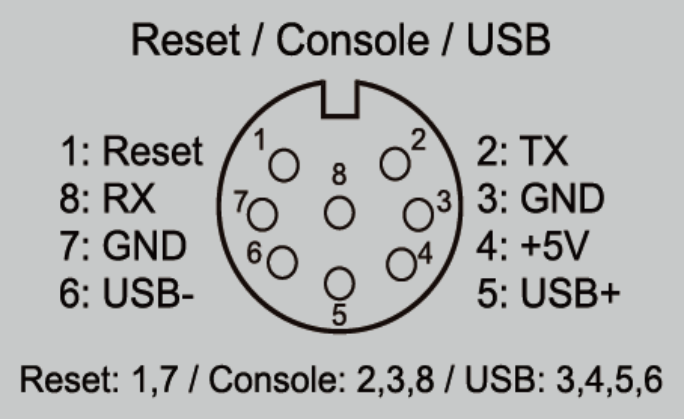
DB 9-pin Female

DB9 Connector	RJ-45 Connector	
NC	1	Orange/White
2	2	Orange
3	3	Green/White
NC	4	Blue
5	5	Blue/White
NC	6	Green
NC	7	Brown/White
NC	8	Brown

Pin assignment

4.1.2. M12 models

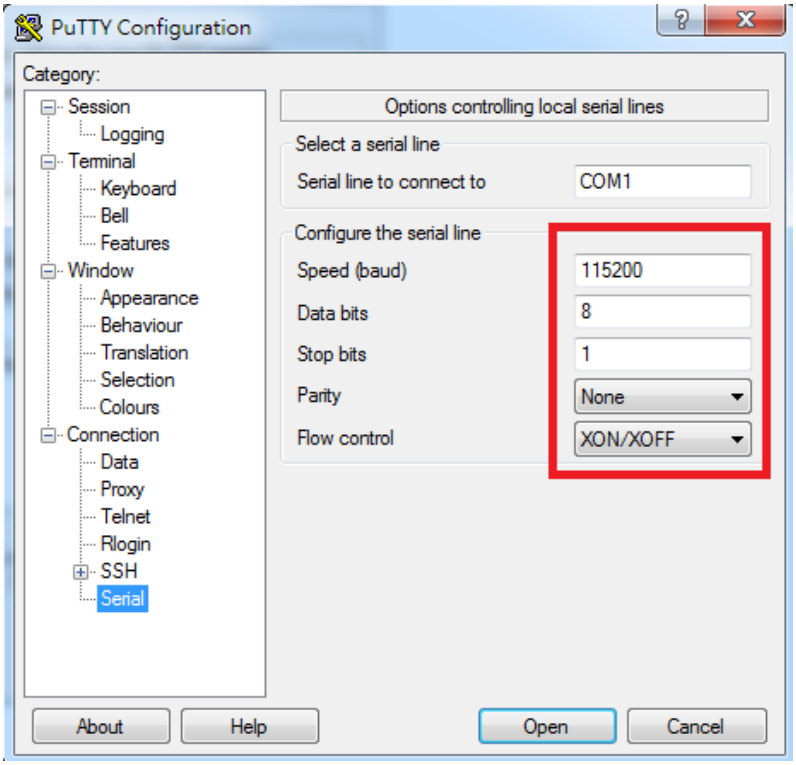
The supplied cable which one end is M12 8-pole connector and the other end is RS-232 connector. Attach the end of RS-232 connector to PC or terminal and the other end of M12 connector to the console port of the switch. The connected terminal or PC must support the terminal emulation program.



4.2. Login in the Console Interface

When the connection between Device and PC is ready, turn on the PC and run a terminal emulation program or **Hyper Terminal** and configure its **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 the parameter settings, click '**OK**'. When the blank screen shows up, press Enter key to have the login prompt appears. Key in '**admin**' (default value) for both User name and Password (use **Enter** key to device), then press Enter and the Main Menu of console management appears. Please see below figure for login screen.



Console login interface

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

For web-based management, please refer to our "Software Management Manual". Please contact support@lantechcom.tw for more information.