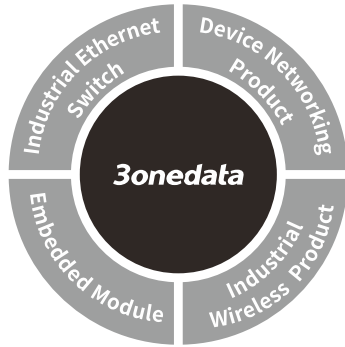# 3onedata
Make network communication more reliable

ICPE2300A-BW-8A25-1GC3GT-PD2P12_48 Industrial Indoor 5G Wireless Router Quick Installation Guide

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【Package Checklist】

Please check whether the package and accessories are intact while using the device for the first time.

1. 5G Router x1
2. 2.4G omnidirectional antenna x2
3. 5.8G omnidirectional antenna interface x2
4. 5G Sub-6G antenna x4
5. Magnetic sucker base and connecting line x8
6. SFP slot dust cap x1
7. DIN-Rail mounting attachment x1
8. Ejection pin for SIM card
9. Warranty card
10. Certificate

If any of these items are damaged or lost, please contact our company or dealers, we will solve it ASAP.
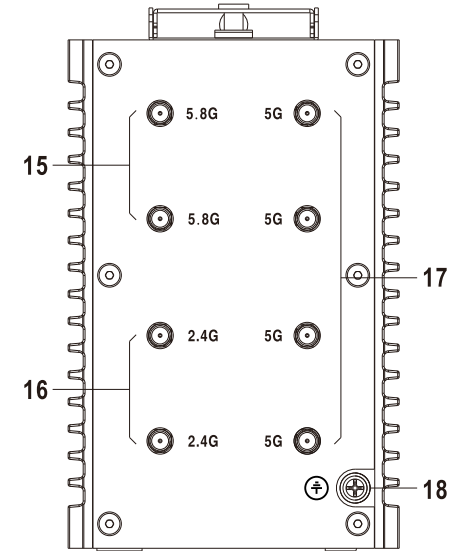
【Product Overview】

This product is DIN-Rail Industrial-grade Indoor 5G Wireless Router. Model: ICPE2300A-BW-8A25-1GC3GT-PD2P12_48 (1 Gigabit COMBO port(PoE WAN) + 3 Gigabit copper ports (LAN) + 2 2.4G antennas + 2 5.8G antennas + 4 5G Sub-6G antennas, 12~48VDC single power and dual input).
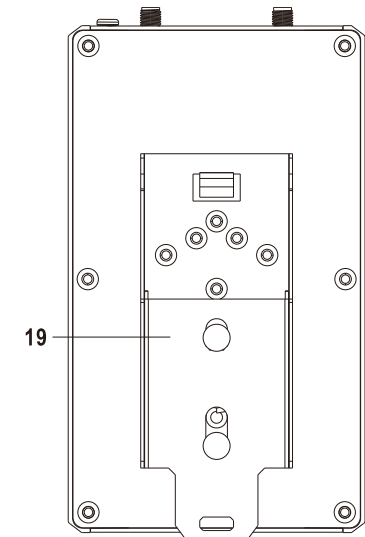
【Panel Design】

➢ **Front view**
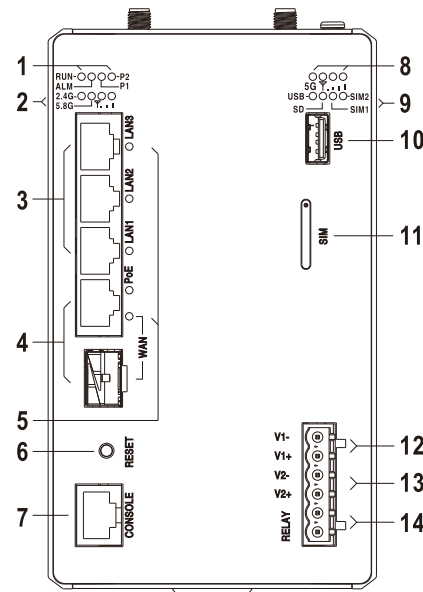
➢ **Top view**

➢ **Rear View**

1. System indicators, from left to right in turn they are:
   Running Indicator(RUN)
   Alarm Indicator(ALM)
   Power Supply Indicator(P1-P2)
2. WiFi Indicators, from left to right in turn they are:
   2.4G wireless signal indicator (2.4G)
   5.8G wireless signal indicator (5.8G)

2.4G/5.8G bridge signal strength indicator (⊤.₁₁)

3. 10/100/1000Base-T(X) Gigabit copper port (LAN1-LAN3)

4. 10/100/1000Base-T(X) Gigabit PoE copper port and 1000Base-X Gigabit SFP combo port(WAN)

5. Ethernet port indicators, from top to bottom in turn they are:
   Gigabit copper port indicator (LAN1-LAN3)
   PoE indicator (PoE)
   Gigabit COMBO port indicator(WAN)

6. RESET button

7. CONSOLE port

8. 5G indicators, from left to right in turn they are:
   5G NR indicator(5G)
   5G NR bridge signal strength indicator (⊤.₁₁)

9. USB, SD, SIM indicators, from left to right in turn they are:
   USB interface indicator(USB)
   SD card indicator(SD)
   SIM card indicator(SIM1-SIM2)

10. USB interface(USB)

11. SD/SIM card slot(SIM)

12. Terminal blocks for power1 input (V1)

13. Terminal blocks for power2 input (V2)

14. Relay output alarm(RELAY)

15. 5.8G antenna interface(5.8G)

16. 2.4G antenna interface(2.4G)

17. 5G Sub-6G antenna interface(5G)

18. Grounding screw

19. DIN-Rail mounting kit

## 【Mounting Dimension】

Unit: mm
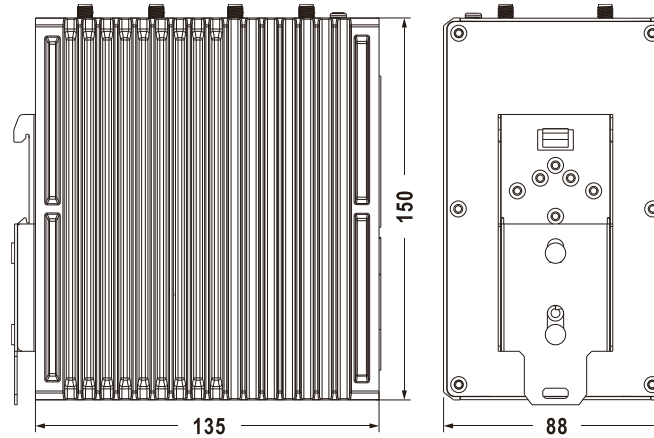
⚠ **Notice Before Mounting:**

- Don't place or install the device in area near water or moist, keep the relative humidity of the device surrounding between 5%~95% without condensation.

- Before power on, first confirm the supported power supply specification to avoid over-voltage damaging the device.

- The device surface temperature is high after running; please don't directly contact to avoid scalding.

【DIN-Rail Mounting】

The product adopts 35mm standard DIN-Rail mounting which is suitable for most industrial scenes, mounting steps as follows:
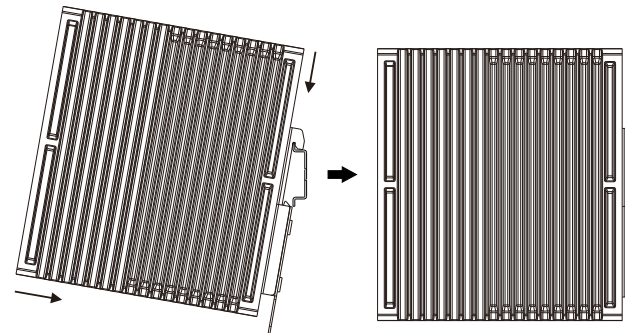
Step 1 Check if the DIN-Rail mounting kit is installed firmly.

Step 2 Clip the upper part of the DIN-Rail mounting kit, i.e.

the fixed side, into the DIN rail.

Step 3 Press the lower side of the device and insert the lower part of DIN-Rail mounting kit (the side with spring support) into DIN-Rail.

Tips:
The DIN-Rail spring support is a metal sheet that can move up and down, and there will be a sound after it is clamped in.

Step 4 Check and confirm the product is firmly installed on DIN rail, then mounting ends.

【Disassembling DIN-Rail】
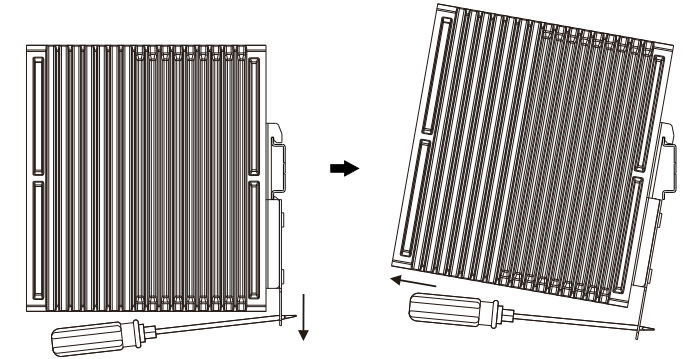
Step 1 Power off the device.

Step 2 Use a slot type screwdriver or other tools to move the DIN rail spring support downward; At the same time, move the lower side of the device outward and move out the lower part of the DIN rail mounting kit.

Step 3 Lift the device upward slightly, move out the upper part of DIN-Rail mounting kit. Disassembling ends.

⚠ **Notice before power on:**

- Power ON operation: First insert the power supply terminal block into the device power supply interface, then plug the power supply plug contact and power on.

- Power OFF operation: First, remove the power plug,

then remove the wiring section of terminal block. Please pay attention to the above operation sequence.

【Power Supply Connection】

➢ **PoE power supply**

The WAN port of this device supports PoE power receiving, which conforms to IEEE802.3af/at standard.

➢ **12~48VDC power supply**

V1-
V1+
V2-
V2+
RELAY

The device provides 6-pin 5.08mm pitch power supply terminal blocks and power supply occupies the top 4 pins. It supports two independent DC power inputs, V1 and V2. The device supports redundant power supply, two independent power supplies can work at the same time. The device will still run non-stop when one power supply fails. The power supply supports non-polarity connection, and the equipment can still work normally after reverse connection. The definitions of power pin are shown in the left figure, and the power input range is 12~48VDC.

【Relay Connection】

V1-
V1+
V2-
V2+
RELAY
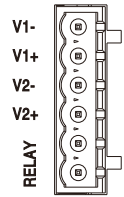
This device provides 6-pin 5.08mm pitch terminal blocks, relay occupies the lower 2 pins. Relay terminals are a set of normally open contacts of the device alarm relay. They are open circuit in the state of normal non alarm, closed when any alarm information occurs. The relay can externally connect to alarm lights or alarm buzzer or other switching value collecting device in order to timely notify operators when the alarm occurs. (This function is reserved).
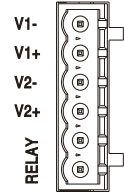
【Reset Button Setting】

○
RESET

The device provides 1 RESET button, press the RESET button for 1~2s and release it, and the device will restart automatically; Press and hold the RESET button for 5s and release it, and the device will automatically restore the factory defaults.
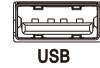
【Console Port Connection】

The device provides 1 program debugging port based on RS-232 serial port which can conduct device CLI command management after connecting to PC. The interface adopts RJ45 port, the RJ45 pin definition is as follows:

Pin No.	2	3	5
Definition	TXD	RXD	GND

【USB Port Connection】

USB

This device provides 1 Type-A USB 2.0 Female, this interface is reserved.

【Mounting SIM Card】

SIM

This device supports 1 SIM card slot which can insert 1 Micro SIM card and 1 Nano SIM card , 1 Micro-SD card, in which SD card is reserved.

⚠ **Notice:**

If the SIM card needs to be changed, the device should be power off first in case of damaging the card.

【Antenna Connection】

The antenna specifications provided by the device are shown below:

Type	P/N	Gain (dBi)	Quantity (pcs)
2.4G wireless	3005040101	5	2
5.8G antenna	3005040102	5	2
5G Antenna	3005040098	3	4
Magnetic sucker base	3005040090	—	4
Magnetic base with sucker	3005040115	—	4

【Checking LED Indicator】

The device provides LED indicators to monitor its operating status, which has simplified the overall troubleshooting process. The function of each LED is described in the table below:

LED	Indicate	Description
RUN	ON	The device is powering on or the device is abnormal.
	Blinking	The device is running normally
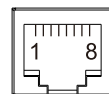
LED	Indicate	Description
	OFF	The device is powered off or the device is abnormal.
ALM	ON	Device restore factory setting alarm
	OFF	Without device alarm
P1-P2	ON	Power P1/P2 is running normally
	OFF	Power P1/P2 is disconnected or running abnormally
2.4G/ 5.8G	ON	Wireless WiFi network is enabled
	Blinking	Wireless WiFi is in an active network status
	OFF	Wireless WiFi network is running abnormally or turned off
▼..ı	○ ○	The indicators are all off, indicating that no 2.4G/5.8G bridge has been established.
	☼ ○	One indicator is on. It means 2.4G/5.8G signal at the opposite end is weak
	☼ ☼	All indicators are on. It means 2.4G/5.8G signal at the opposite end is strong
LAN1-LAN3 /WAN	ON	LAN/WAN port connection has established a valid network connection
	Blinking	LAN/WAN port is in network active status
	OFF	LAN/WAN port connection has not established a valid network connection
PoE	ON	PoE power input in WAN port is normal.
	OFF	WAN port has no PoE power input or is receiving power abnormally
5G	ON	5G network is enabled
	Blinking	5G network is in an active network status
	OFF	5G network is running abnormally

| LED	Indicate	Description
		or turned off
⏺	○ ○ ○	The indicators are all off, indicating that no 5G/4G bridge has been established.
	☼ ○ ○	One indicator is on. It means 5G/4G signal at the opposite end is weak
▼...⊪	☼ ☼ ○	Two indicators are on. It means 5G/4G signal at the opposite end is normal
	☼ ☼ ☼	All indicators are on. It means 5G/4G signal at the opposite end is strong
USB	ON	USB interface has been connected
	OFF	USB interface has not been connected
SD	OFF	Reserved
SIM1-SIM2	ON	SIM1/SIM2 card is enabled or has dialed successfully
	OFF	SIM1/SIM2 card is disabled or installed abnormally

【Logging in to WEB Interface】

This device supports WEB management and configuration. Computer can access LAN port of the device via Ethernet interface. The way of logging in to device's configuration interface via IE browser is shown as below:

Step 1 Configure the IP addresses of computer and the device's LAN port to the same network segment, and the network between them can be mutually accessed

Step 2 Enter device's IP address in the address bar of the computer browser.
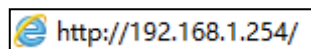
🄴 http://192.168.1.254/

Step 3 Enter device's username and password in the login window as shown below.

User name admin

Password •••••

Login

☐ Keep name ☐ Keep password
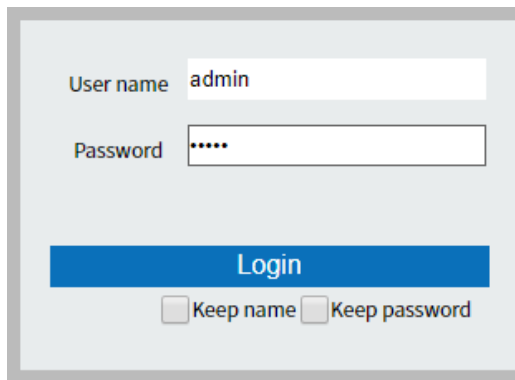
Step 4 Click "Login" button to login to the WEB interface of the device.

📄 **Note:**

- The default IP address of the device's LAN port is "192.168.1.254".
- The default user name and password of the device are "admin".
- If the user name or password is lost, user can restore it to factory settings via restoring factory setting button; all modified configurations will be cleared after restoring to factory settings, so please backup configuration file in advance.
- Please refer to user manual for specific configuration method of logging in to WEB interface and other configurations about network management function.

【Specification】

Panel	
Gigabit copper port (LAN)	3 10/100/1000Base-T(X) self-adaptive RJ45 LAN ports, support automatic flow control, full/half duplex mode, MDI/MDI-X self-adaption
Gigabit COMBO indicator (WAN)	1 10/100/1000Base-T(X) self-adapting RJ45 port or 1000 Base-X SFP slot, it's WAN port by default; The copper port supports automatic flow control, full/half

	duplex, MDI/MDI-X self-adaptation, and support PoE power receiving
Antenna interface	● 2 2.4G antenna interfaces, RP-SMA-K(Female); ● 2 5.8G antenna interfaces, RP-SMA-K(Female); ● 4 5G Sub-6G antenna interfaces, SMA-K(Female);
USB interface	1 Type-A USB 2.0 Female, this interface is reserved
SIM card slot	1 Micro SIM card and 1 Nano SIM card, redundant backup; 1 Micro-SD card is reserved
Console port	CLI command line management port (RS-232), RJ45
Alarm interface	6-pin 5.08mm pitch terminal blocks (2-pin for relay), support 1 relay alarm output, this interface is reserved
Indicator	Running indicator, alarm indicator, power indicator, 2.4G indicator, 5.8G indicator, Wireless bridge signal strength indicator, interface indicator, PoE indicator, 5G indicator, 5G bridge signal strength indicator, USB indicator, SD card indicator, SIM card indicator
WiFi Radio Frequency	
802.11b/g/n	2.412GHz~2.4835GHz
802.11ac/n/a	5.18GHz-5.825GHz
RF power output	20dBm
Modulation system	DBPSK,DQPSK,CCK,OFDM,16-QAM,64-QAM,256-QAM
WiFi Receiving Sensitivity	
802.11n_HT 40	-82dBm@MCS0,-64dBm@MCS7
802.11n_HT 20	-85dBm@MCS0,-67dBm@MCS7
802.11g/a	-91dBm@6Mbps,-72dBm@54Mbps

802.11b	-93dBm@1Mbps,-87dBm@11Mbps
802.11ac	-84dBm@MCS0,-59dBm@MCS9
WiFi Transmitting Power	
802.11n_HT 40	23dBm@MCS0,20dBm@MCS7
802.11n_HT 20	23dBm@MCS0,20dBm@MCS7
802.11g/a	23dBm@6Mbps,20dBm@54Mbps
802.11b	23dBm@1Mbps,20dBm@11Mbps
802.11ac	23dBm@MCS0,20dBm@MCS9
5G Operating Frequency Band	
5G NR	n1/n2/n3/n5/n7/n8/n12/n20/n28/n38/n40/ n41/n48/n66/n71/n77/n78/n79
4G LTE-FDD	B1/B2/B3/B4/B5/B7/B8/B9/B12/B13/B14/ B17/B18/B19/B20/B25/B26/B28/B29/B30 /B32/B66/B71
4G LTE-TDD	B34/B38/39/B40/B41/B42/B48
3G WCDMA	B1/B2/B3/B4/B5/B6/B8/B19
5G **Bandwidth (downstream, upstream)**	
5G SA	DL 2.1Gbps;UL 900Mbps
5G NSA	DL 2.5Gbps;UL 650Mbps
LTE	DL 1Gbps;UL 200Mbps
WCDMA	DL 42Mbps;UL 5.76Mbps
Power Supply	
Input power supply	● WAN port: supports PoE power receiving, which conforms to IEEE802.3af/at standard ● power supply terminal: supports 12~48VDC single power and dual power input, supports input redundancy and nonpolarity, adopting 6-pin 5.08mm pitch terminal block(4-pin power supply)
Power Consumption	
No-load	6.5W@24VDC
Full-load	20.0W@24VDC

Working Environment	
Working temperature	-40~75℃
Storage temperature	-40~85℃
Working humidity	5%～95%(no condensation)
Protection grade	IP40 (metal shell)