3onedata
Make network communication more reliable

IRT5300-AW-5T2D-2LVI Industrial 4G Router Quick Installation Guide

3onedata Co., Ltd.

Address: 3/B, Zone 1, Baiwangxin High Technology Industrial Park, Xili, Nanshan District, Shenzhen

Website: www.3onedata.com

Tel: +86 0755-26702688

Fax: +86 0755-26703485

【Package Checklist】

Please check whether the package and accessories are intact while using the industrial 4G router for the first time.

1. 4G router x1
2. DIN-Rail mounting attachment
3. WIFI antenna x2
4. LTE antenna x2
5. Power adapter
6. Warranty card
7. Certification

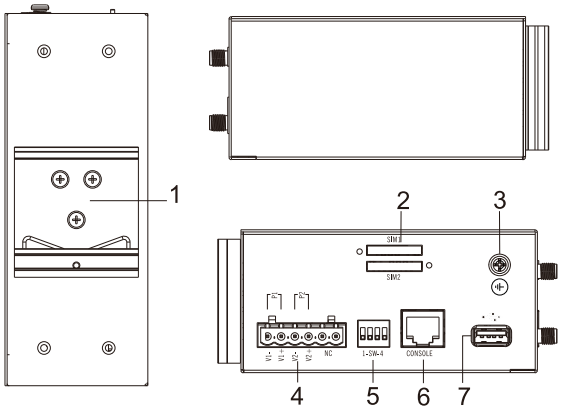
If any of these items are damaged or lost, please contact our company or dealers, we will solve it ASAP.

【Product Overview】

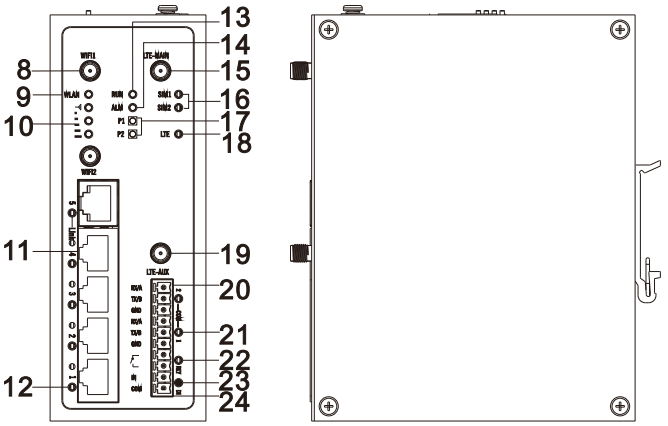
The product is an industrial DIN-Rail 4G router with high performance and cost-effectiveness. Its model is IRT5300-AW-5T2D-2LVI (2 WIFI antenna interfaces + 2 LTE antenna interfaces + 5 100M copper ports + 2 RS-232/485 serial ports).

【Panel Design】

➢ **Top view, bottom view and rear view**



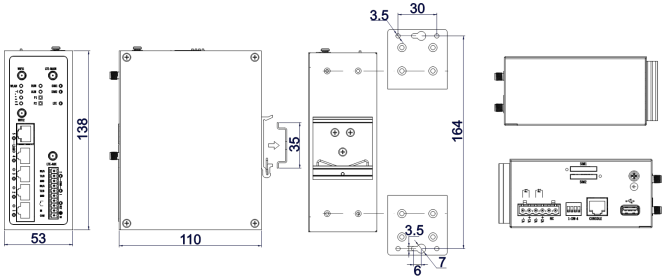
➢ **Front view and side view**



1. DIN-Rail mounting kit
2. SIM Slot
3. Grounding screw
4. Power supply input terminal block
5. DIP switch
6. Console port
7. USB interface
8. WIFI antenna interface
9. WLAN indicator
10. LTE signal strength indicator
11. 100M Copper Port
12. Copper port connection indicator
13. Running indicator
14. Alarm indicator
15. LTE master antenna interface
16. SIM indicator
17. Power Supply Indicator
18. LTE indicator
19. LTE slave antenna interface
20. Serial Port
21. Serial port indicator
22. RLY indicator
23. DI indicator
24. I/O port

【Mounting Dimension】

Unit: mm



Note:

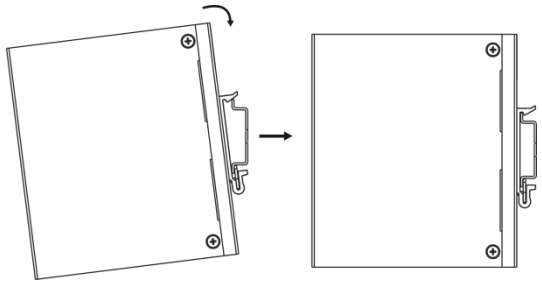
In the installation dimension figure, the right side is wall mounting pegboard, the accessories are non-factory standard and need additional purchase.

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 powering 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 are as follows:



Step 1 Check whether the DIN-Rail mounting kit that comes with the device is installed firmly.

Step 2 Insert the bottom of DIN-Rail mounting kit (one side with spring support) into DIN-Rail, then insert the top into DIN-Rail.

Tips:

Insert a little to the bottom, lift upward and then insert to the top.

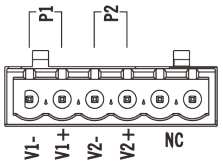
Step 3 Check and confirm the product is firmly installed on DIN-Rail, then mounting ends.

【Disassembling DIN-Rail】

Step 1 Power off the device.

Step 2 After lifting the device upward slightly, first shift out the top of DIN-Rail mounting kit, and then shift out the bottom of DIN-Rail, disassembling ends.

【Power Supply Connection】



The device provides 6-pin 5.08mm pitch power supply input terminal blocks, among which power supply occupies the left four pins and the right two NC pins are reserved. It also supports two independent DC power supply systems**,** P1 and P2, which enable two terminals to connect to the device. It could ensure the normal operation of the device when one of the systems fails, thus improving the reliability of network operation. Voltage range: 12~36VDC.

Note:

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

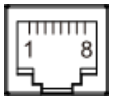
【DIP Switch Settings】



This device provides 4-bit DIP switch for function setting, where "ON" is enable valid terminal. The definitions of DIP switch are as follows:

1. Restore factory setting 2.Reboot
3. Reserved 4. Reserved

【Console Port Connection】



The device provides 1 program debugging port based on RS232 serial port which can conduct device CLI command management after connecting to PC. The interface adopts RJ45 port, the RJ45 pin definition as follows:

No.	2	3	5
Pin Definition	TXD	RXD	GND

【USB Port Connection】

Reserved.

【SIM Slot】

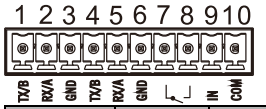
This device provides 2 SIM slots. It would pops up after you insert a retrieve card pin in the little hole beside the SIM slot, and then you should put the SIM card in the slot correctly and insert the slot back in the router.

Note:

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

【Serial Port Connection】

This device provides 10-pin 3.81mm pitch serial port input terminal blocks (the left 6-pin is serial port) and supports 2



RS-232 or 2 RS-485 serial ports. Its pin definitions are as follows:

PIN	1	2	3	4	5	6
RS-232	TXD	RXD	GND	TXD	RXD	GND
RS-485	Data-(B)	Data+(A)	GND	Data-(B)	Data +(A)	GND

【I/O Connection】

This device provides 10-pin 3.81mm pitch I/O input terminal blocks (I/O port is the right 4-pin), this function is temporarily reserved as the picture shows above.

【Antenna Connection】

The device provides 2 WIFI antennas, the antenna specifications are shown below:

Type	Gain (dBi)	Quantity (pcs)
4G antenna	3	2
2.4G wireless	-0.8	2

【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
WLAN	ON	WIFI is running normally
	OFF	WIFI is running abnormally or closed
	○ ○ ○	All indicators are out. It means the LTE signal of the opposite end is weak or no signal.
	● ○ ○	One indicator is on. It means the LTE signal of the opposite end is weak
	● ● ○	Two indicators are on. It means the LTE signal of the opposite end is normal
	● ● ●	All indicators are on. It means the

LED	Indicate	Description
		LTE signal of the opposite end is strong
RUN	ON	The device is powering on or the device is abnormal.
	OFF	The device is powered off or the device is abnormal.
	Blinking	The device is running normally
ALM	ON	Power supply, port link has alarm
	OFF	Power supply, port link have no alarm
P (1-2)	ON	Power is connected and running normally
	OFF	Power supply is disconnected or running abnormally
SIM(1-2)	ON	With SIM card
	OFF	Without SIM card
GPS	Reserved	Reserved
LTE	Blinking	LTE module is operating normally
	OFF	LTE module isn't operating
Link (1-5)	ON	The copper port has established an active network connection
	Blinking	The copper port is in an active network status
	OFF	The copper port has not established an active network connection.
COM (1-2)	Blinking	Serial port is sending packet
	OFF	No serial port connection or no data sending
RLY	ON	DO output relay with output
	OFF	DO output relay without output
DI	ON	DI input connect to DC-5-30V high level
	OFF	DI input connect to DC-0-3V low level

【Specification】

Panel	
Copper port	5 10/100Base-T(X) RJ45 port, which could be configured to 5 LAN or 4 LAN+1 WAN.
Serial port	2 RS-232 or 2 RS-485 serial port
I/O port	Reserved
SIM slot	2 SIM slots, redundancy backup, support 1.8V/3V SIM card
Antenna interface	2 LTE antenna interfaces, SMA-K(Female) Master antenna is used for sending/receiving information Slave antenna is used for receiving information
	2 WIFI antenna interfaces, RP-SMA-K(Female)
Indicator	WLAN indicator, LTE signal strength indicator, running indicator, alarm indicator, power supply indicator, SIM indicator, LTE indicator, copper port connection indicator, serial port connection indicator, RLY indicator, DI indicator
WIFI Transmission Rate	
802.11n	6.5~300Mbps
802.11b	11/5.5/2/1Mbps
802.11g	54/48/36/24/18/12/9/6Mbps
WIFI RF	
Channel	2.412GHz~2.4835GHz
RF power output	23dBm
Modulation scheme	DBPSK, DQPSK, CCK, OFDM, 16-QAM, 64-QAM
WIFI Receiving Sensitivity	
802.11n_HT40	-82dBm@MCS0, -64dBm@MCS7
802.11n_HT20	-85dBm@MCS0, -67dBm@MCS7
802.11g	-91dBm@6Mbps, -72dBm@54Mbps
802.11b	-93dBm@1Mbps, -87dBm@11Mbps
WIFI Transmission Power	
802.11n_HT40	23dBm@MCS0, 20dBm@MCS7
802.11n_HT20	23dBm@MCS0, 20dBm@MCS7
802.11g	23dBm@6Mbps, 20dBm@54Mbps
802.11b	23dBm@1Mbps, 23dBm@11Mbps
LTE Operating Frequency Band	
TDD-LTE	Band38/39/40/41
FDD-LTE	Band1/3/5/7/8/20
WCDMA	Band1/5/8
TD-SCDMA	B34/39
EVDO/CDMA1X	BC0
GSM	Band3/8
LTE Bandwidth (downstream, upstream)	
TDD-LTE	Rel 9 Cat4 TDD-LTE 112Mbps/30Mbps
FDD-LTE	Rel 9 Cat4 FDD-LTE 150Mbps/50Mbps
DC-HSPA+	42Mbps/5.76Mbps
HSPA+	21Mbps/5.76Mbps
UMTS	384kbps/384kbps
EVDO RevA	3.1Mbps/1.8Mbps
EVDO Rev0	2.4Mbps/153.6kbps
TD-HSPA	4.2Mbps/2.2Mbps
TD- SCDMA	2.8Mbps/2.2Mbps
CDMA 1x	153.6kbps/153.6kbps
EDGE	236.8kbps/236.8kbps
GPRS	85.6kbps/85.6kbps
LTE Sensitivity	
GSM	<-108dBm
WCDMA	<-109dBm
TD-SCDMA	<-108dBm
TDD-LTE	• Band38/39/40: <-100dBm @5MHz BW • Band41: <-98dBm @5MHz BW
FDD-LTE	• Band1: <-100dBm @5MHzBW • Band3/8: <-97dBm @5MHzBW • Band5: <-98dBm @5MHzBW

CDMA	<-108dBm
EVDO	<-108dBm
Maximum Transmission Power of LTE	
LTE-FDD/TDD	23 ±2dBm
WCDMA	24 +1/-3dBm
TD-SCDMA	24 +1/-3dBm
EVDO/CDMA 1X	24 ±1dBm
GSM850/900	33±2dBm
GSM1800/1900	30±2dBm
Power Supply	
Input power supply	Dual power supply redundancy, voltage range: 12～36VDC, support non-polarity, built-in overcurrent 2.0 protection
Access terminal block	6-pin 5.08mm pitch terminal blocks (power supply occupies 4 pins)
Power Consumption	
No-load	3.38W@24VDC
Full-load	7.15W@24VDC
Working Environment	
Working temperature	-40～75℃
Storage temperature	-40～75℃
Working humidity	5%～95% (no condensation)
Protection grade	IP30(metal)

【Disposal of Waste Electrical and Electronic Equipment (WEEE 2012/19/EU)】



(Applicable in the EU-member states)

The crossed-out wheeled bin symbol on the equipment or its packaging indicates that the product, at the end of its service life, shall not be mixed with unsorted municipal waste but should be collected separately, in accordance with local laws and regulations.

A proper separate collection of end-of-life equipment for the subsequent recycling, treatment and environmentally compatible disposal, will help prevent potential damage to the environment and human health, facilitating the reuse, recycling and/or recovery of its component materials.

Private users should contact their vendor or municipal waste management service and ask for disposal information.

Professional users should contact their suppliers and check the terms of their selling agreement.

This product must not be disposed of with other commercial waste.

Users' cooperation in the correct disposal of this product will contribute to saving valuable resources and protecting the environment.