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TCU 1200-U03 Series Industrial IoT Edge Computing Intelligent Gateway Quick Installation Guide

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【Package Checklist】

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

1. Intelligent gateway
2. DIN-Rail mounting attachment
3. 4G antenna (4G only)
4. Warranty card
5. Certificate

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

【Product Overview】

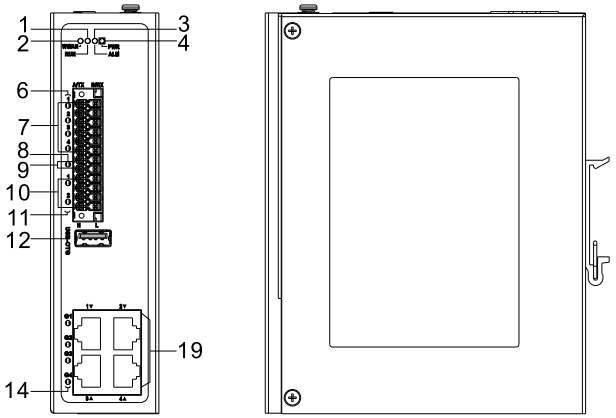
This series products are DIN-Rail industrial IoT edge computing intelligent gateways. For convenience, the products of this series adopt the following number on the left in this guide, please confirm the number of your product:

Model I. TCU1200-U03-LV (4 Gigabit copper ports + 1 RS-232 serial port + 4 RS-485 serial ports + 2 CAN ports + 1 USB port + 1 TF card slot + 2 SIM card slots (reserved) + 1 12~48VDC power input)

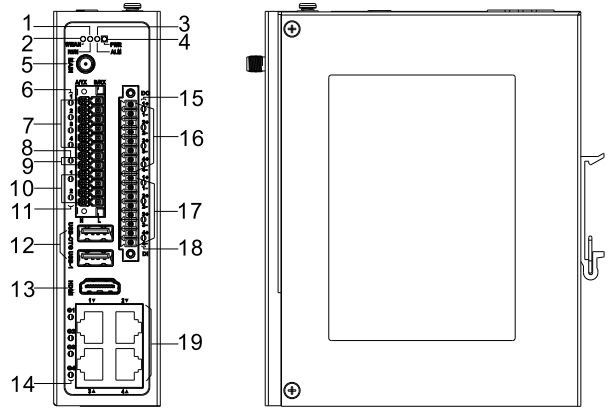
Model II. TCU1200-U03-G0-8IO-LV (4 Gigabit copper ports + 1 RS-232 serial port + 4 RS-485 serial ports + 2 CAN ports + 8 I/O ports + 2 USB ports + 1 HDMI port + 1 TF card slot + 2 SIM card slots + 1 4G antenna + 1 12~48VDC power input)

【Panel Design】

➢ **Main view and right view**

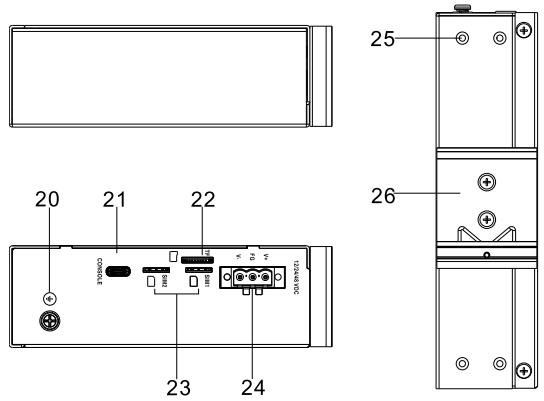


Model I

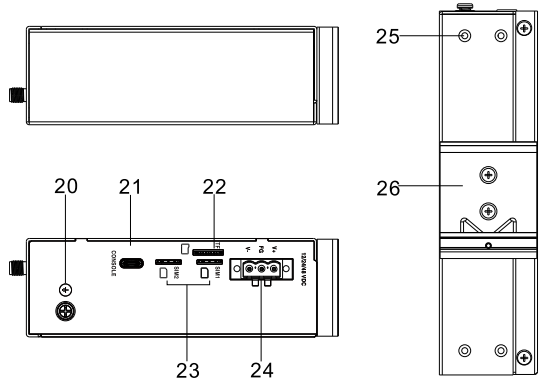


Model II

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



Model I



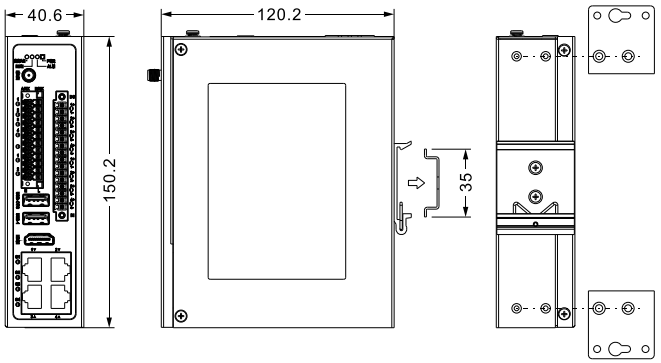
Model II

1. Running indicator (RUN)
2. WWAN indicator (WWAN)
3. Alarm indicator (ALM)
4. Power supply indicator PWR
5. 4G antenna interface (MAIN)
6. RS-485 serial port indicator (1-4)
7. RS-485 serial port
8. RS-232 serial port indicator
9. RS-232 serial port
10. CAN Port
11. CAN port indicator (1-2)
12. USB interface
13. HDMI Interface

14. Ethernet port indicator (G1-G4)
15. DO indicator (1-4)
16. DO output terminal block
17. DI input terminal block
18. DI indicator (1-4)
19. Gigabit copper port (G1-G4)
20. Grounding screw (M4)
21. CONSOLE port (Type-C)
22. TF card slot
23. SIM card slot (Model I SIM reserved)
24. Power supply input terminal block
25. Wall-mounting location hole
26. DIN-Rail mounting kit

【Mounting Dimension】

Unit: mm



Note:

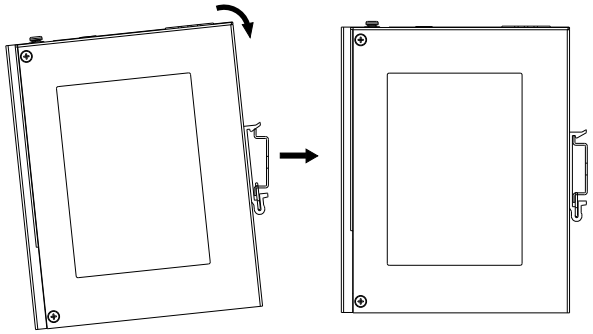
- The series products have the same dimensions.
- In the installation dimension figure, the right side is wall mounting panel, the accessories are non-factory standard and need additional purchase.

Notice Before Mounting:

- Don't place or install the device in area near water or moisture, keep the relative humidity of the device surrounding between 5%~95% without condensation.
- Before powering on the device, check the power specifications supported by the device to prevent device damage due to overvoltage.
- 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 Insert the bottom of DIN-Rail mounting kit (one side with spring support) into DIN-Rail, and 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】

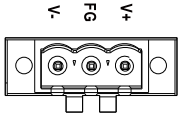
Step 1 Power off the device.

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.

Notice Before Powering on:

- 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.

【Power Supply Connection】



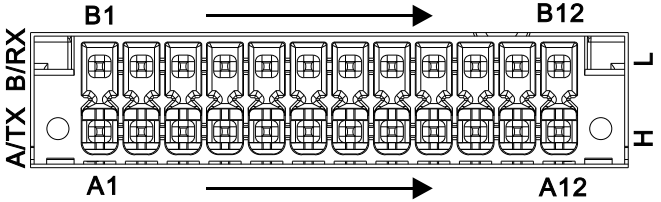
Model I, II provide 3-pin 5.08mm pitch power input terminal blocks and support 1 DC power supply input which supports non-polarity, the device can work normally after reverse connection. The definitions of power pin are shown in the left figure, and the power input range is 12~48VDC.

【Console Port Connection】



Model I, II provide 1 program debugging port based on Type-C interface which can conduct device CLI command management after connecting to PC.

【Serial Port and CAN Port Connection】

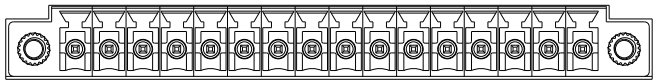


Model I, II provide 2 * 12-pin 3.5mm pitch wiring terminals, supporting 1 isolated serial port RS-232, occupying 2 * 2PIN and 4 isolated serial port RS-485, occupying 2 * 6 PIN and 2 CAN ports, occupying 2 * 4PIN. The pin definitions of serial port and CAN port are shown in the following table.

Serial Port	PIN	Note	PIN	Note
RS-485 (serial port 1)	A1	A Signal	B1	B Signal
RS-485 (serial port 1 grounding)	A2			
RS-485 (serial port 2)	A3	A Signal	B3	B Signal
RS-485 (serial port 2 grounding)	B2			
RS-485 (serial port 3)	A4	A Signal	B4	B Signal

RS-485 (serial port 3 grounding)	A5			
RS-485 (serial port 4)	A6	A Signal	B6	B Signal
RS-485 (serial port 4 grounding)	B5			
RS-232 (serial port 5)	A7	RX	B7	TX-
RS-232 (serial port 5 grounding)	A8,B8			
CAN Port 6	A9	CANH Signal	B9	CANL Signal
CAN Port 6 grounding	A10,B10			
CAN Port 7	A11	CANH Signal	B11	CANL Signal
CAN Port 7 grounding	A12,B12			

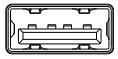
【I/O Port Connection】



Model II provides 1 * 16-pin 3.5mm pitch wiring terminals, supporting 4 DO outputs, occupying 1 * 8 PIN; Support 4 DI inputs, occupying 1 * 8PIN. The pin definitions of I/O interface are shown in the following table.

CAN Port and I/O Port	PIN	Note
DO digital signal output channel 1	DO1+, DO1-	I/O opto-isolator output
DO digital signal output channel 2	DO2+, DO2-	
DO digital signal output channel 3	DO3+, DO3-	
DO digital signal output channel 4	DO4+, DO4-	
DI digital signal input channel 1	DI1+, DI1-	I/O signal input
DI digital signal input channel 2	DI2+, DI2-	
DI digital signal input channel 3	DI3+, DI3-	
DI digital signal input channel 4	DI4+, DI4-	

【USB Port Connection】



Model I provides 1, Model II provides 2 type-A USB 2.0 Female interfaces that support system debugging and configuration file management.

【HDMI Port Connection】



Model II provides 1 HDMI, and the interface type is Type-A.

【Insert/Unplug SIM Card】



Model I and II provide 2 self-propelled SIM card slots, with SIM reserved for model I. Insert SIM card into the card slot. Tap SIM card, and then take it out after the card pops up.

Notice:

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

【Insert/Unplug TF Card】



Model I and II support 1 self-propelled TF card slot and extended storage. Insert TF card into the card slot. Tap TF card, and then take it out after the card pops up.

【Antenna Connection】

Model II provides 1 antenna, the antenna specifications are shown below:

Type	Gain (dBi)	Count (pcs)
2.4G wireless	3	1

【Checking LED Indicator】

Model I and II provide 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
PWR	ON	Power is connected and running normally
	OFF	Power supply is disconnected or running abnormally
ALM	ON	Port link has alarm
	OFF	Port link has no alarm
RUN	ON	The device is powering on or the device is abnormal.
	Blinking	Blinking 1 time per second, system is running normally
	OFF	The device is powered off or the device is abnormal.
CAN (1-2)	Blinking	The CAN port has data being transmitted
	OFF	The CAN port has no connection or no data transmission
RS-485 (1-4), RS-232	Blinking	The serial port has data being transmitted
	OFF	No serial port connection or no data transfer
DO (1-4)	ON	Opto-isolator at the DO end is in conducting state
	OFF	Opto-isolator at the DO end is in open circuit state
DI (1-4)	ON	DI end connects to high level
	OFF	DI end connects to low level
WWAN	ON	Wireless network is enabled
	Blinking	Wireless network is in an active network status
	OFF	Wireless network is running abnormally or disabled
G1-G4	ON	Ethernet port has established

		a valid network connection
	Blinking	Ethernet port is in an active network status
	OFF	Ethernet port has not established a valid network connection.

【Specification】

Panel	
Gigabit copper port	4 10/100/1000Base-T(X) self-adaptive RJ45, full/half-duplex mode, MDI/MDI-X automatic detection
CAN	2 CAN, using 2 * 12PIN, 3.5mm pitch terminal blocks, CAN port occupies 2 * 4PIN
RS-232	1 RS-232, using 2 * 12PIN, 3.5mm pitch terminal blocks, serial port occupies 2 * 2PIN
RS-485	4 RS-485, using 2 * 12PIN, 3.5mm pitch terminal blocks, serial port occupies 2 * 6PIN
DO port (Model II only)	4 DO outputs, adopt 1 * 16 PIN, 3.5mm pitch terminal blocks, DO port occupies 1 * 8 PIN; Support passive output of optoelectronic isolator
DI port (Model II only)	4 DI inputs, adopt 1 * 16 PIN, 3.5mm pitch terminal blocks, DI port occupies 1 * 8 PIN; Support dry contact active input, ON: 5~24VDC, OFF: 0~3VDC
USB	– Model I: 1 Type-A USB 2.0 Female – Model II: 2 Type-A USB 2.0 Female
HDMI port (Model II only)	1 HDMI, and the interface type is Type-A.
TF	1 self-propelled TF card slot
SIM	2 self-propelled SIM card slots, with SIM reserved for model I.
4G antenna (Model II only)	1 RP-SMA-K (Female) interface for 4G signal receiving
CONSOLE	Provide 1 program debugging port based on Type-C interface which can conduct device CLI command management after connecting to PC.
Indicator	Running indicator, Alarm indicator, Power indicator, Port indicator, RS-232/485 serial port indicator, CAN port indicator, DI indicator, DO indicator, WWAN indicator
Power Supply	
Input power supply	1 12~48VDC power supply input Power non-polarity, support 5A overcurrent protection
Access terminal block	Adopt 3-pin 5.08mm pitch terminal blocks
Power Consumption	
No-load at normal temperature	– 4.9w@12VDC – 4.8w@24VDC – 4.8w@36VDC – 4.8w@48VDC
Full-load at normal temperature	– 5.9w@12VDC – 5.7w@24VDC – 5.7w@36VDC – 5.9w@48VDC
Working Environment	
Working temperature	-40~75℃
Storage temperature	-40~60℃
Working humidity	5%~95% (no condensation)
Protection grade	IP40 (metal shell)

【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.