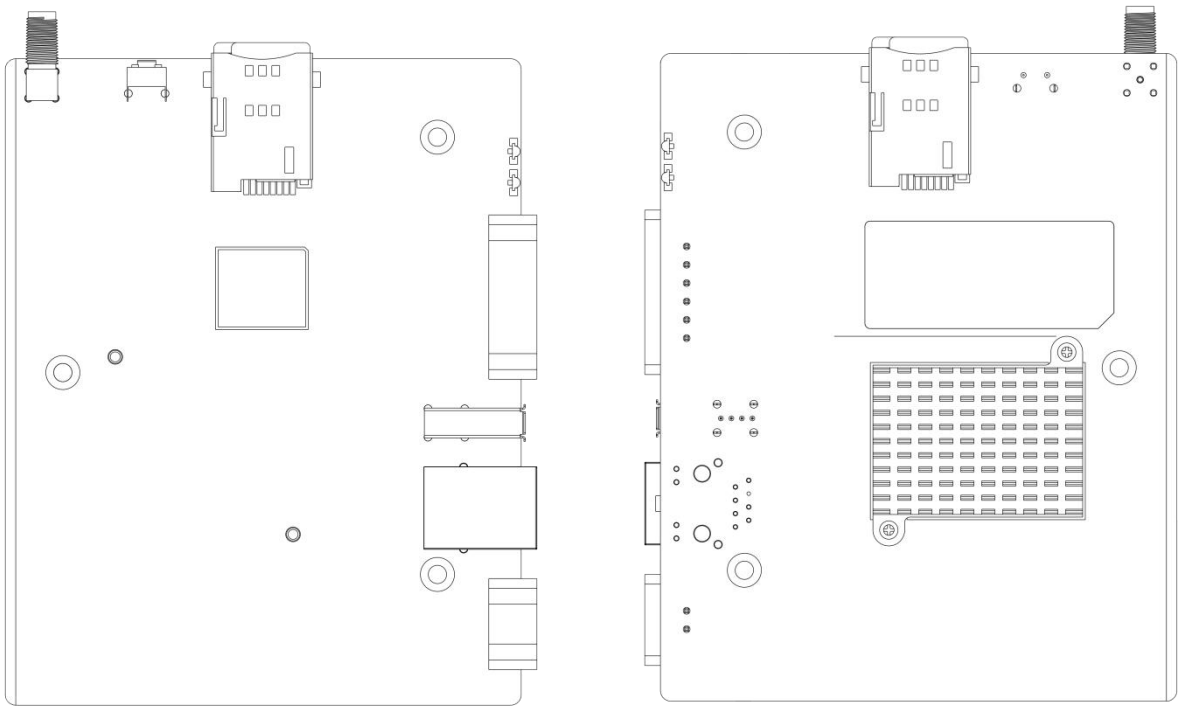
EG5101P

Hardware Manual



Version: 1.0.0

Date: November 14, 2025

Regulatory and Type Approval Information

Table 1: Toxic or Hazardous Substances or Elements with Defined Concentration Limits

Name of the Part	Hazardous Substances									
	(Pb)	(Hg)	(Cd)	(Cr(VI))	(PBB)	(PBDE)	(DEHP)	(BBP)	(DBP)	(DIBP)
Metal parts	X[1,2]	o	o	o	-	-	-	-	-	-
Circuit modules	o	o	o	o	o	o	o	o	o	o
Cables and cable assemblies	o	o	o	o	o	o	o	o	o	o
Plastic and polymeric parts	o	o	o	o	o	o	o	o	o	o

o:
Indicates that this toxic or hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement in RoHS2.0.
X:
Indicates that this toxic or hazardous substance contained in at least one of the homogeneous materials for this part *might exceed* the limit requirement in RoHS2.0.
-:
Indicates that it does not contain the toxic or hazardous substance.

Note: Excessive lead can be exempted.
1. Copper alloy containing up to 4 % lead by weight (RoHS Exemption 6(c)).
2. Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound (ROHS Exemption 7(c)-Ⅰ)

Radio Specifications for Europe

RF Technologies	4G
Cellular Frequency	**4G:** LTE FDD: B1/B3/B5/B7/B8/B20/B28
Max RF Power	23 dBm ± 2dB@LTE

Caution: The user is cautioned that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s) and Part 15 of the FCC Rules. Operation is subject to the following two conditions:
(1) This device may not cause interference.
(2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :
(1) L'appareil ne doit pas produire de brouillage;
(2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Note: This equipment has been tested and found to comply with the limits for a Class B 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 and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. 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.

FCC & IC Radiation Exposure Statement

This equipment complies with FCC and Canada radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 cm between the radiator and your body.
This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Déclaration d'IC sur l'exposition aux radiations

Cet équipement est conforme aux limites d'exposition aux radiations définies par le Canada pour des environnements non contrôlés. Cet équipement doit être installé et utilisé à une distance minimum de 20 cm entre l'antenne et votre corps.
Cet émetteur ne doit pas être installé au même endroit ni utilisé avec une autre antenne ou un autre émetteur.

Simplified EU & UK Declaration of Conformity

We, Guangzhou Robustel Co., Ltd. are located at 501, Building #2, 63 Yongan Road, Huangpu District, Guangzhou, China, declare that this radio equipment complies with EU Radio Equipment Directive (RED) 2014/53/EU, Low Voltage Directive (LVD) 2014/35/EU, EMC Directive 2014/30/EU, UK Radio Equipment Regulations 2017, EMC Regulations 2016, Electrical Equipment (Safety) Regulations 2016. The full text of the EU& UK DoC is available at the following internet address: https://support.robustel.com/portal/en/kb/articles/declaration-of-conformity

Safety Information

General

- The router generates radio frequency (RF) power. When using the router, care must be taken on safety issues related to RF interference as well as regulations of RF equipment.
- Be sure that the router will not be interfering with nearby equipment. For example: pacemakers or medical equipment. The antenna of the router should be away from computers, office equipment, home appliance, etc.

- An external antenna must be connected to the router for proper operation. Only uses approved antenna with the router. Please contact authorized distributor on finding an approved antenna.

RF Exposure

- This device meets the official requirements for exposure to radio waves. This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by authorized agencies.
- The device must be used with a minimum separation of 20 cm from a person's body to ensure compliance with RF exposure guidelines. Failure to observe these instructions could result in your RF exposure exceeding the applicable limits.

Note: Some airlines may permit the use of cellular phones while the aircraft is on the ground and the door is open. Router may be used at this time.

The symbol indicates that the product should not be mixed with general household waste but must be sent to separate collection facilities for recovery and recycling.

CE

The symbol indicates that the product meets the requirements of the applicable EU directives.

UK CA

The symbol indicates that the product meets the requirements of the relevant UK legislation.

⚠WARNING

This product can expose you to chemicals including Lead, known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Related Download Link

Find more product documents or tools at: https://support.robustel.com/portal/en/home

Technical Support

Tel: 4009-873-791
Email: support@robustel.com
Web: www.robustel.com

Document History

Updates between document versions are cumulative. Therefore, the latest document version contains all updates made to previous versions.

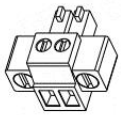
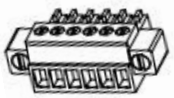
Date	Firmware Version	Document Version	Change Description
November 14, 2025	2.4.0	V1.0.0	Initial release

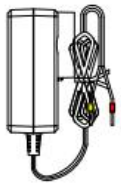
Overview

The Robustel EG5101P is an industrial edge computing gateway delivering LTE Cat 1 bis cellular backhaul and ARMv7-based processing. Powered by an NXP i.MX 6ULL processor (792 MHz), it combines cellular routing and embedded computing in a single platform. The Debian 11 (bullseye) based operating system supports Raspberry Pi-compatible applications, while Docker enables containerized deployment for resource-efficient edge workloads.

Package Checklist

Before commencing installation ensure your package has the following components:

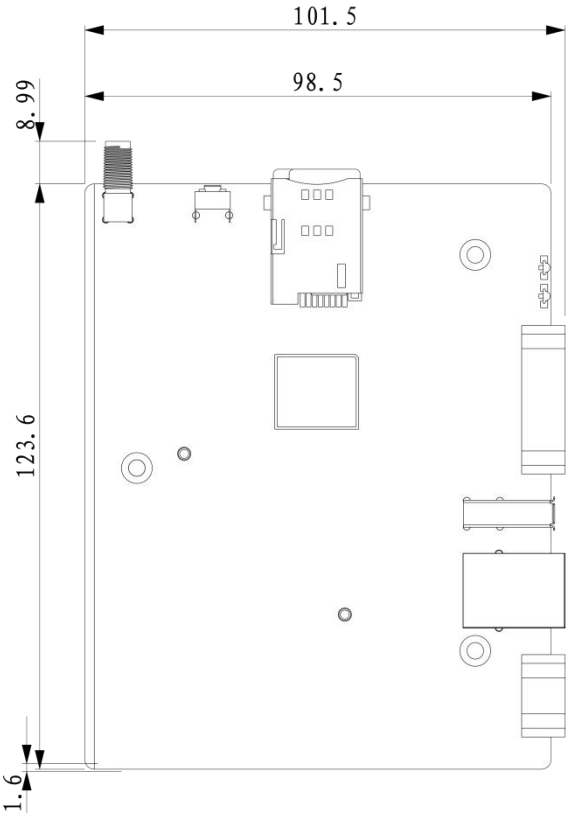
Device	2-pin Terminal Block	6-pin Terminal Block	RCMS Card	Quick Start Guide Card
				

Cellular Antenna (Optional)	Power Adapter (Optional)
	

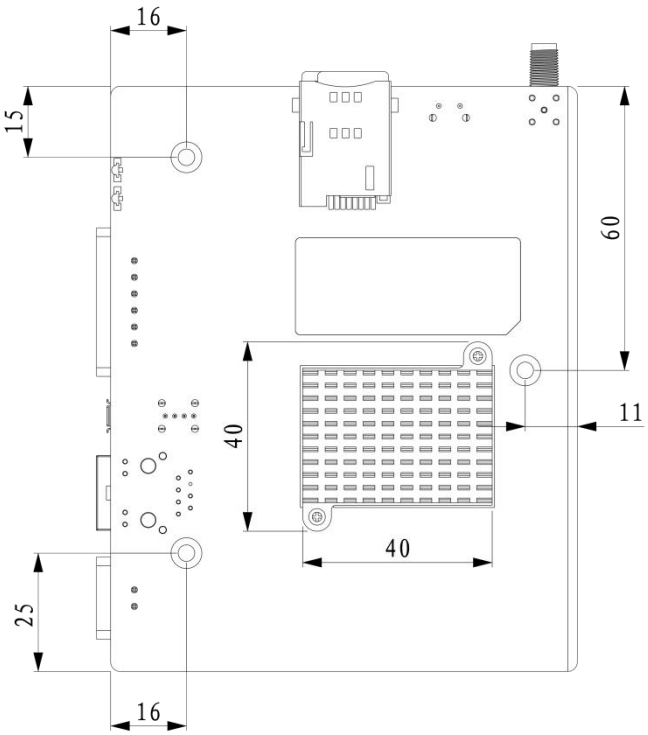
Note: The accessories could be different on specific order.

Panel Layout

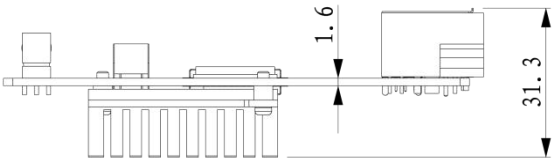
(Unit: mm)



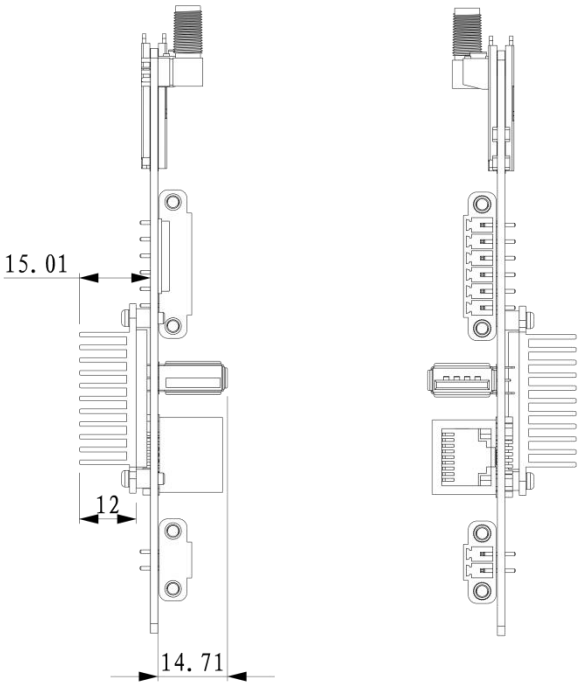
Front View



Rear View

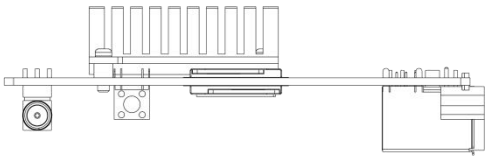


Top View



Left View

Right View



Bottom View

Interface Descriptions

1. Serial Ports

Name	RS-232 Mode	RS-485 Mode
TXD1/A1	data sending	RS485_A
RXD1/B1	data receiving	RS485_B
GND1	Ground	Ground

2. Ethernet Port

The Ethernet port can be configured as WAN or LAN.

LED	Description	
RUN	On, solid	Connected
	On, blinking	Transmitting data
	Off	Disconnected or connect failure
Rate	Off	10 Mbps mode
	On	100 Mbps mode

3. Reset Button

Function	Operation
Reboot	Press and hold for 2 ~ 5 seconds under the operating status.
Restore to default	Press and hold for 5 ~ 10 seconds under the operating status. The RUN light flashes quickly, and then release the RST button , and the device will restore to the default configuration.
Factory reset	Perform default restore twice within one minute, the device will restore to the factory default settings.

4. LED Indicators

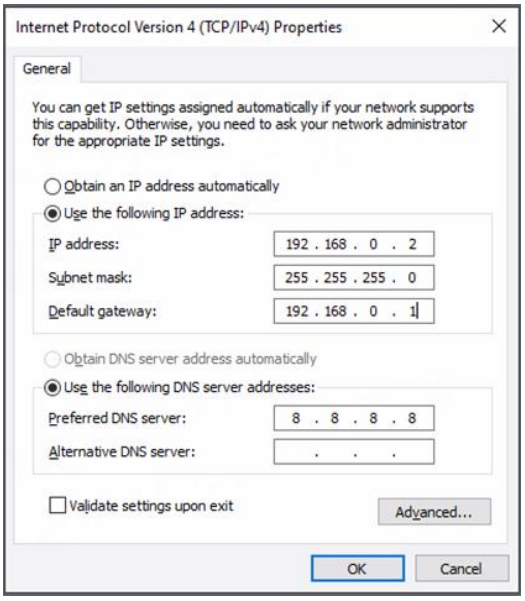
LED	Description	
RUN	On, solid	System initializing
	On, blinking	Operating normally
	Off	Powered off
	***Note**: The RUN LED's color is green.*	
MDM	Color	2G: Red, 3G: Yellow, 4G: Green
	On, blinking	Link connection is working
	Off	Link connection is not working
	Green	Strong signal
	Yellow	Medium signal
	Red	Weak or no signal
***Note**: The USR LED is defined by user via web UI to specify different status, the details see the following sheet.*		

USR	Description	
None	Off	No definition
Net	On, solid	Connection to 4G network is established
	On, blinking	Connection to 2G or 3G network is established
	Off	No connection
SIM	On, solid	Main card is being used
	On, blinking	Backup card is being used
IPsec	On, solid	IPsec connection is established
	Off	IPsec connection is not established
Open VPN	On, solid	OpenVPN connection is established
	Off	OpenVPN connection is not established
L2TP	On, solid	L2TP connection is established
	Off	L2TP connection is not established
PPTP	On, solid	PPTP connection is established
	Off	PPTP connection is not established
***Note**: The USR LED's color is green.*		

Login to the Device

1. Connect the device's Ethernet port to your computer using a standard Ethernet cable.

2. Configure a static IP address on your computer that is on the same subnet as the device (e.g., 192.168.0.x).

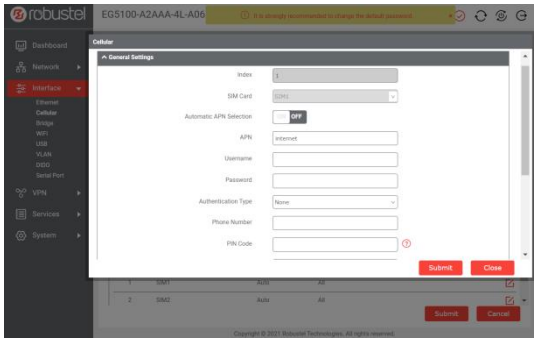


3. Open a web browser and enter http://192.168.0.1 in the address bar to access the device's web interface.

4. When prompted, enter the default username and password provided on the product label.

5. The home page of the web interface will be displayed upon successful login, providing an overview of the system status and access to configuration menus.

6. Automatic APN selection is enabled by default. To specify a custom APN, navigate to **Interface > Cellular > Advanced Cellular Setting > General Settings** and configure the APN settings there.



7. For detailed configuration procedures, refer to the ***RT104_SM_RobustOS Pro Software Manual***. (END)