



EG5200

robustOS^{Pro}

Industrial Edge Computing Gateway

5 x Ethernet ports + 3 x USB + 1 x HDMI

+ WiFi 6 & BLE 5.3(Optional)



INTRODUCTION

Robustel's EG5200 is a new generation of industrial edge computing gateway supporting global 4G/3G/2G networks for cellular backhaul, with a fully-fledged Debian 11(bullseye) based operating system able to support thousands of existing or new ARMv8 (Raspberry Pi compatible) based applications.

EG5200 supports Docker for easy deployment of applications and benefits from "RobustOS Pro" – Robustel's latest operating system with enhanced cybersecurity, advanced GUI and a myriad of software features including VPNs, Smart Roaming, SMS remote control and more.

With a quad core 1.6 GHz Cortex A53 CPU and an integrated NPU of 2.3 TOPS that greatly accelerate machine learning inference, EG5200 will take the compute power to the next level, best for the edge computing and edge AI applications, can also be used as a combination of cellular router + embedded PC in all the industrial filed.

RCMS is Robustel's device monitoring service that is fully compatible with the EG5200. It allows customers to see a location overview of their routers quickly and simply on a map plus features such as data usage, signal strength, current network and much more can then be viewed on a per router/gateway basis. Over-the-air updates are supported for Firmware, router configuration and Apps serving as essential "insurance" if anything was not quite right during deployment.

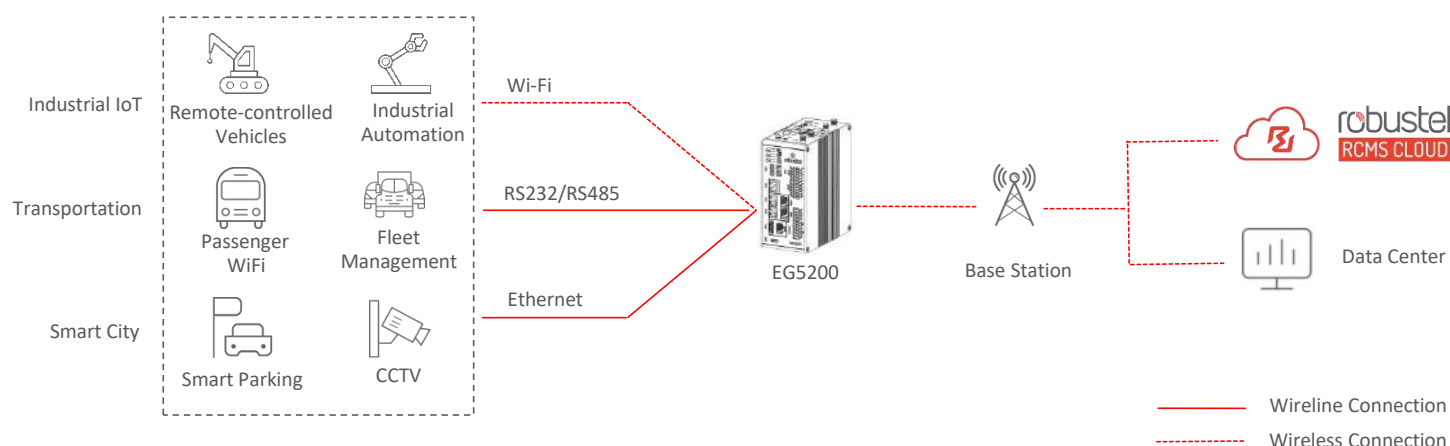


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RCMS CLOUD

KEY FEATURES

- Highly stable 4G/3G/2G cellular connectivity with global band coverage
- High performance compute engine with 1.6 GHz CPU + 32 GB eMMC Flash for running complex applications
- WireGuard/IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN + more VPN options
- 'Docker' containerization supported
- 5 x 1000Mbps Ethernet ports
- 2 x USB3.0 Type A, 1 x USB2.0 Type C
- 1 x HDMI
- 1 x Console serial in RJ45 socket for debugging
- 802.11ax Wi-Fi (optional) supporting AP and Client modes
- BLE 5.3 compliant (optional)
- 2 x RS232/RS422/RS485 (software configurable) ports for connection to industrial/legacy devices
- 2 x DI & 2 x Relay Output for simple monitoring and control
- Dual SIM card slots for redundant communications
- Supports C, C++, Java, Python, Node.js etc. for users to develop their own applications
- More than 50,000 applications from Debian repository currently available

APPLICATION EXAMPLE



SPECIFICATIONS

Hardware System	
CPU	Quad core Cortex-A53, 1.6 GHz
NPU	2.3 TOPS
RAM	4 GB DDR4
Flash	32 GB eMMC

Cellular Interface	
Version	4G
Number of antennas	2
Connector	SMA-K
SIM	2 x Mini SIM (2FF)

Ethernet Interface	
Ports	5 x RJ45, 10/100/1000Mbps, compliance with 1000BASE-T, LAN or WAN
Magnet isolation protection	1 KV

Serial Interface	
Type	2 x RS232/RS422/RS485 (software configurable)
Connector	2 x 5-pin 3.5 mm terminal block
ESD protection	8 KV Air, 4 KV Contact
Baud rate	300 bps to 115200 bps
Signal	RS232: TXD, RXD, GND, CTS, RTS RS485: Data+ (A), Data- (B), GND RS422: RX+, RX-, TX+, TX-, GND

Console Interface	
Type	1 x RS232
Connector	RJ45
Baud rate	115200 bps
Signal	TXD, RXD, GND

DI Interface	
Ports	2 x DI, wet contact
Connector	4-pin 3.5 mm terminal block
Isolation	Bi-directional optocoupler
Absolute maximum VDC	+ 30V DC
Absolute maximum ADC	100 mA
Signal definition	DI1+, DI1-, DI2+, DI2-

Relay Output Interface	
Ports	2 x Relay Output
Connector	6-pin 3.5 mm terminal block
Absolute maximum VDC	+ 48V DC
Absolute maximum ADC	100 mA
Signal definition	NC1, NO1, COM1, NC2, NO2, COM2

USB Interface	
Ports	2 x USB 3.0 (HOST), Type A, 5V 900mA 1 x USB 2.0 (OTG), Type C

GNSS Interface	
Number of antennas	1
Connector	SMA-K

WiFi&Bluetooth (Optional)	
WiFi	Wi-Fi 2.4 GHz/5 GHz , 2 × 2 MU-MIMO IEEE 802.11a/b/g/n/ac/ax
Bluetooth	BLE 5.3 compliant

HDMI	
HDMI	1 x HDMI 2.0

Others	
SD	1 x microSD
Reset button	1 x RST
LED indicators	1 x RUN, 1 x MDM, 2 x USR, 1 x Signal, 1 x VPN
Watchdog	External

Software (Basic features of RobustOS Pro)	
Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, DNS, NTP, SMTP, Telnet, VLAN, HTTPS, ARP, NTP, SMTP, SSH2, DDNS, etc.
VPN tunnel	IPsec, OpenVPN, GRE, L2TP, PPTP, DMVPN
Firewall	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Remote management	Web, CLI, SMS
Serial port	Transparent, TCP Client/Server, UDP, Modbus RTU Gateway
Others	Smart Roaming v2*

SDK	
Operating System	RobustOS Pro (Based on Debian 11(bullseye))
Supported programming languages	C, C++, Python, Java, Node.js etc. (for users to develop own applications)
Debian Repository available	
Flash available for SDK	30 GB
RAM available for SDK	2.5 GB

App Center (Available Apps for RobustOS Pro)	
APP*	Language, RCMS, WireGuard
*Request on demand. For more Apps please visit www.robustel.com .	

Power Supply and Consumption	
Connector	2-pin 3.5 mm terminal block with lock
Input voltage	12/24/48 V DC, 12 ~ 60 V DC
Power consumption	Idle: 6.2 W@12 V Max: 14.6 W@12 V
Recommended power supply	24 V DC/2 A Power Adapter

Physical Characteristics	
Ingress protection	IP30
Housing & Weight	Metal, 622g
Dimensions	58 x 111 x 128 mm
Installations	Desktop, wall mounting and 35 mm DIN rail mounting
Operating temperature	-30 ~ +70 °C
Storage temperature	-40 ~ +85 °C
Relative humidity	5 ~ 95% RH

Regulatory and Type Approvals	
Environmental	RoHS2.0
EMI	EN 55032 Conducted Emission Class B EN 55032 Radiated Emission Class A
EMS	EN 61000-3-2 (Harmonic Current) EN 61000-3-3 (Voltage Flicker) EN 61000-4-2 (ESD) Contact Level 3, Air Level 3 EN 61000-4-3 (RS) Level 3 EN 61000-4-4 (EFT) Level 3 EN 61000-4-5 (Surge) Level 3 EN 61000-4-6 (CS) Level 3 EN 61000-4-11 (Dips) Class 3

ORDERING INFORMATION

Model	Order code	WiFi&BLE	Cellular	Frequency Bands*	Country/Region	Certification	Package Information
EG5200-A5ZAZ-NU	A120004	-	-	-	Global	CE, RCM, UKCA, CB	1 x Router (PN:B120001) 1 x Din Rail mounting kit 1 x Global PSU
EG5200-A5CAZ-NU	A120005	✓	-	-			1 x Router (PN:B120002) 1 x Din Rail mounting kit 1 x Global PSU
EG5200-A5AAZ-4L-A06GL	A120006	-	4G	4G: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B12/B13/B18/B19/B20/B25/B26/B28 LTE TDD: B34/B38/B39/B40/B41 3G: WCDMA: B1/B2/B4/B5/B6/B8/B19 2G: GSM: B2/B3/B5/B8			2 x WiFi Antenna 1 x Router (PN:B120004) 1 x Din Rail mounting kit 1 x Global PSU 2 x 4G Antenna
EG5200-A5BAZ-4L-A06GL	A120007	✓					1 x Router (PN:B120006) 1 x Din Rail mounting kit 1 x Global PSU 2 x 4G Antenna 2 x WiFi Antenna

*For more information about frequency bands in different countries, please contact your Robustel sales representative.