



robustOS

EG5200

Industrial Edge Computing Gateway

5 x Ethernet + 3 x USB + 1 x HDMI + 2 x RS-232/422/485 +
2 x DI + 2 x Relay Output + GNSS + Wi-Fi 6 and BLE 5.3
(optional)



INTRODUCTION

The Robustel EG5200 is an industrial edge computing gateway delivering global 5G/4G/3G/2G cellular connectivity and ARMv8-based processing. Its Debian-based Linux operating system provides an open software environment, while Docker enables containerized deployment for industrial edge applications. The gateway runs **RobustOS Pro**, Robustel's self-developed operating system, delivering enterprise-grade security, VPN, Smart Roaming, and SMS-based remote management.

Powered by a quad-core 1.6 GHz Cortex-A53 CPU and a dedicated NPU (2.3 TOPS), the EG5200 accelerates machine learning inference for real-time edge AI workloads. Combining cellular routing with embedded computing, this ruggedized platform serves as a converged cellular router and embedded edge compute node for industrial automation, smart grid, and machine vision deployments.

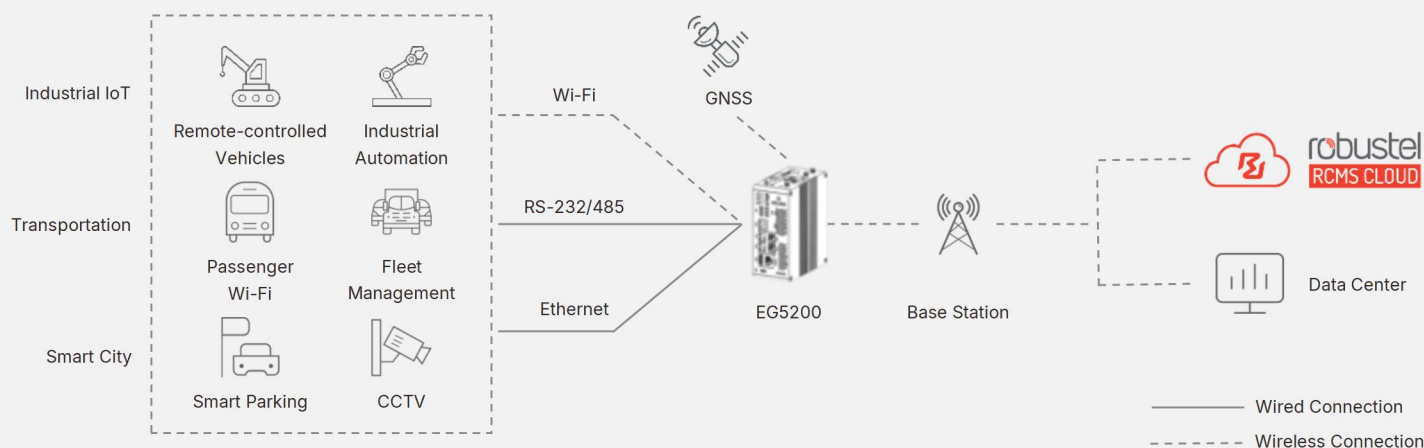
The **Robustel Cloud Manager Service (RCMS)** is a unified cloud-based platform designed for real-time monitoring and centralized management of industrial IoT devices. Fully compatible with Robustel routers and gateways, RCMS delivers an interactive geospatial dashboard that enables users to visualize device locations and track critical metrics such as data usage, signal strength, and network status. To ensure seamless operations, the platform facilitates over-the-air (OTA) updates for firmware, configurations, and applications, minimizing downtime while optimizing system performance. For more information or to get started with RCMS, visit: <https://rcms-cloud.robustel.net>

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RCMS CLOUD

KEY FEATURES

- Industrial-grade 5G/4G/3G/2G cellular with global band support
- Quad-core 1.6 GHz Cortex-A53 CPU, 4 GB LPDDR4 RAM, and 32 GB eMMC for compute-intensive edge workloads
- Docker containerization with access to 50,000+ Debian-compatible packages
- 5 x Gigabit Ethernet for industrial network backbone
- 2 x USB 3.0 Type-A + 1 x USB 2.0 Type-C for peripheral connectivity
- 1 x HDMI local display output + 1 x RJ45 console port (CLI)
- Optional Wi-Fi 6 (802.11ax) dual-mode AP/Client and Bluetooth 5.3
- 2 x software-configurable RS-232/422/485 for PLC/legacy device integration
- 2 x DI + 2 x relay outputs for simple monitoring and control
- Dual-SIM support for redundant communications
- Multi-language SDK support (C, C++, Java, Python, and Node.js) with an open development toolchain
- Multi-protocol VPN (IPsec, OpenVPN, GRE, L2TP, PPTP, DMVPN, and WireGuard) and firewall
- Robustel Cloud Manager Service (RCMS) for centralized device management

APPLICATION EXAMPLE



SPECIFICATIONS

Hardware

Hardware System

CPU	Quad-core Cortex-A53, 1.6 GHz
NPU	2.3 TOPS
RAM	4 GB LPDDR4
Flash	32 GB eMMC

Cellular Interface

Version	4G	5G
Number of antennas	2	4
Connector	SMA-K	
SIM	2 x Mini SIM (2FF)	

Ethernet Port

Number of ports	5 x RJ45, 10/100/1000 Mbps; compliance with 1000BASE-T, configurable as LAN or WAN
Magnet isolation protection	1.5 kV

Serial Port

Number of ports	2 x RS-232/422/485 (software configurable)
Connector	2 x 5-pin 3.5 mm terminal block
Baud rate	300-115200 bps
Signal definition	RS-232: TXD, RXD, GND, CTS, RTS RS-422: RX+, RX-, TX+, TX-, GND RS-485: Data+(A), Data-(B), GND

Digital Input

Number of ports	2 x DI, wet contact
Connector	4-pin 3.5 mm terminal block
Isolation	Bi-directional optocoupler
Absolute max voltage	+30 VDC
Absolute max current	100 mA
Signal definition	DI1+, DI1-, DI2+, DI2-

Console Port

Number of ports	1 x RS-232
Connector	RJ45
Baud rate	115200 bps
Signal definition	TXD, RXD, GND

Relay Output Port

Number of ports	2 x Relay Output
Connector	6-pin 3.5 mm terminal block
Absolute max voltage	+48 VDC
Absolute max current	100 mA
Signal definition	NC1, NO1, COM1, NC2, NO2, COM2

Wi-Fi and Bluetooth Interface (optional)

Wi-Fi	Wi-Fi 2.4 GHz/5 GHz; 2 x 2 MU-MIMO; IEEE 802.11a/b/g/n/ac/ax
Bluetooth	BLE 5.3 compliant

GNSS Interface

Version	4G	5G
Number of antennas	1	Optional, requires a 4-in-1 combo antenna
Connector	SMA-K	
Technology	GPS, GLONASS, BDS, Galileo, QZSS	

Others

Reset button	1 x RST
HDMI	1 x HDMI 2.0
SD	1 x microSD
USB port	2 x USB 3.0 (host), Type A, 5 V, 900 mA 1 x USB 2.0 (OTG), Type C
LED indicators	1 x RUN, 1 x Signal, 1 x MDM, 1 x VPN, and 2 x USR
Watchdog	External

Power Supply and Consumption

Connector	2-pin 3.5 mm terminal block with lock
Input voltage	12/24/48 VDC, 12-60 VDC Reverse polarity protection, surge protection
Power consumption	Idle: 6.5 W@24 V Max: 15 W@24 V
Rec. power supply	24 VDC/2.0 A power adapter

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Metal, 622 g
Dimensions	58 x 111 x 128 mm
Installation	Desktop, wall mounting & 35 mm DIN-rail mounting
Operating temperature	-30 to +70 °C
Storage temperature	-40 to +85 °C
Relative humidity	5-95% RH (non-condensing)

Regulatory and Type Approvals

Environmental	RoHS 2.0
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, AC Mains Power Port Level 3, Signal Ports EN 61000-4-6 (CS) Level 3 EN 61000-4-11 (Dips) Class 3

Software

Operating System (Basic Features of RobustOS Pro)

Network protocols	PPP, PPPoE, ARP, VLAN, ICMP, NAT, TCP, UDP, DHCP, DNS, DDNS, NTP, HTTP, HTTPS, Telnet, SSH2, SMTP, Static Routing, etc.
VPN tunnels	IPsec, OpenVPN, GRE, L2TP, PPTP, DMVPN, WireGuard
Firewalls	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Remote management	Web, CLI, SMS, RCMS
Serial port protocols	Transparent, TCP Client/Server, UDP, Modbus RTU Gateway
Others	Smart Roaming V3, Language, etc.

SDK

Operating system	RobustOS Pro (based on Debian Linux)
Programming languages	C, C++, Python, Java, Node.js, etc. (for users to develop their own applications)

Debian repository available

Available RAM for SDK	3 GB
Available Flash for SDK	30 GB

App Center* (Available Apps for RobustOS Pro)

*Available upon request. For more apps, please visit www.robustel.com.

Cloud Platform

Robustel Cloud Manager Service (RCMS)	RobustLink, RobustVPN, Operation Console
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ORDERING INFORMATION

Model	Order Code	Wi-Fi	BLE	GNSS	Frequency Bands	Region	Certifications	Package Contents
EG5200-A5CAZ-NU	A012000010	✓	✓	-	-	Global	CE, RCM*, UKCA, CB, FCC, IC, TELEC, JATE	1 x Gateway (B Code: B120002) 1 x DIN Rail Mounting Kit
	A012000005	✓	✓	-		Global	CE, RCM*, UKCA, CB, FCC, IC, TELEC, JATE	1 x Gateway (B Code: B120002) 2 x Wi-Fi Antenna 1 x Power Adapter 1 x DIN Rail Mounting Kit
EG5200-A5AAZ-4L-A06GL	A012000011	-	-	✓	4G: LTE FDD: B1/2/3/4/5/7/8/ 12/13/18/19/20/25/26/28 LTE TDD: B38/39/40/41	Global	CE, RCM*, UKCA, CB, FCC, IC, TELEC, JATE	1 x Gateway (B Code: B120004) 1 x DIN Rail Mounting Kit
	A012000006	-	-	✓		Global	CE, RCM*, UKCA, CB, FCC, IC, TELEC, JATE	1 x Gateway (B Code: B120004) 2 x Cellular Antenna 1 x GNSS Antenna 1 x Power Adapter 1 x DIN Rail Mounting Kit
EG5200-A5BAZ-4L-A06GL	A012000012	✓	✓	✓	3G: WCDMA: B1/2/4/5/6/8/19 2G: GSM: B2/3/5/8	Global	CE, RCM*, UKCA, CB, FCC, IC, TELEC, JATE	1 x Gateway (B Code: B120006) 1 x DIN Rail Mounting Kit
	A012000007	✓	✓	✓		Global	CE, RCM*, UKCA, CB, FCC, IC, TELEC, JATE	1 x Gateway (B Code: B120006) 2 x Cellular Antenna 2 x Wi-Fi Antenna 1 x GNSS Antenna 1 x Power Adapter 1 x DIN Rail Mounting Kit
EG5200-A5AAZ-5G-A25GL	A012000013	-	-	Optional	5G: NR NSA: n1/2/3/5/7/8/12/13/ 14/18/20/25/26/28/29/30/3 8/40/41/48/66/70/71/75/76/ 77/78/79 SA: n1/2/3/5/7/8/12/13/14/18/ 20/25/26/28/29/30/38/40/ 41/48/66/70/71/75/76/77/78/ 79	Global	CE, RCM*, UKCA, FCC, IC	1 x Gateway (B Code: B120003) 1 x DIN Rail Mounting Kit
	A012000015	-	-	Optional		Global	CE, RCM*, UKCA, FCC, IC	1 x Gateway (B Code: B120003) 4 x Cellular Antenna 1 x Power Adapter 1 x DIN Rail Mounting Kit
EG5200-A5BAZ-5G-A25GL	A012000014	✓	✓	Optional	4G: LTE FDD: B1/2/3/4/5/7/8/12/ 13/14/17/18/19/20/25/26/28/ 29/30/32/66/71 LTE TDD: B34/38/39/40/41/42/43/48 LAA: B46 3G: WCDMA: B1/2/4/5/8/19	Global	CE, RCM*, UKCA, FCC, IC	1 x Gateway (B Code: B120005) 1 x DIN Rail Mounting Kit
	A012000016	✓	✓	Optional		Global	CE, RCM*, UKCA, FCC, IC	1 x Gateway (B Code: B120005) 4 x Cellular Antenna 2 x Wi-Fi Antenna 1 x Power Adapter 1 x DIN Rail Mounting Kit

NOTE:

1. The models EG5200-A5AAZ-5G-A25GL and EG5200-A5BAZ-5G-A25GL currently do not support Telstra certification and are not recommended for use on the Telstra network.
2. GNSS is optional for 5G models marked "Optional" and requires a 4-in-1 combo antenna to enable GNSS functionality.
3. For more information about regional and carrier-specific variants, please contact us.
4. * Denotes certification in progress.