EG5200

robust OS pro

Industrial Edge Computing Gateway
5 x ETH + 3 x USB + 1 x HDMI + 2 x RS-232/422/485 +
2 x DI + 1 x GNSS + Wi-Fi 6 & 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 11 (bullseye) based operating system supports Raspberry Pi-compatible applications, while Docker enables containerized deployment in harsh environments. Integrated with **RobustOS Pro** - Robustel's self-developed OS - the gateway provides enterprise-grade security (VPN/IPsec, smart roaming) and SMS-based remote management.

Powered by a quad-core 1.6GHz 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. Experience robust, cloud-native device management by registering at: https://rcms-cloud.robustel.net

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KEY FEATURES

- ➢ Industrial-grade 5G/4G/3G/2G cellular with global band support
- ➢ 1.6 GHz ARM processor + 32 GB eMMC storage for compute-intensive edge workloads
- ➢ Docker containerization with 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 dry contact DI + 2 x relay outputs for simple monitoring and control
- ➢ Dual-SIM for redundant communications
- ➢ Multi-language SDK support (C/C++/Java/Python/Node.js) with open development toolchain
- ➢ Multi-protocol VPN (IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN) and firewall
- ➢ RCMS (Robustel Cloud Management System) for large-scale device control

APPLICATION EXAMPLE
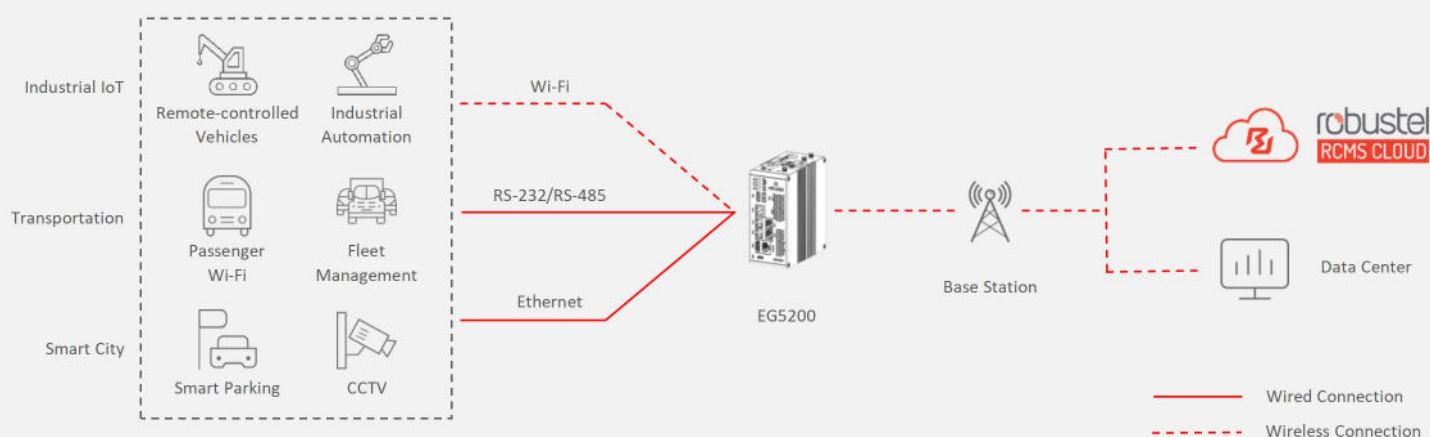
SPECIFICATIONS

Hardware System

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

Cellular Interface

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

Ethernet Port

Number of ports	5 x RJ45, 10/100/1000 Mbps
	Compliance with 1000 BASE-T, LAN or WAN
Magnet isolation protection	1 KV

Serial Port

Number of ports	2 x RS-232/RS-422/RS-485 (software configurable)
Connector	2 x 5-pin 3.5 mm terminal block
ESD protection	8 KV air, 4 KV contact
Baud rate	300 bps ~ 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

Console Port

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

Digital Input Port

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

Relay Output Port

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

USB Port

Number of ports	2 x USB 3.0 (HOST), Type A, 5 V, 900 mA
	1 x USB 2.0 (OTG), Type C

GNSS Interface

	4G	5G
Version	4G	5G
Number of antennas	1	N/A
Connector	SMA-K	N/A

Wi-Fi & Bluetooth Interface (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 Signal, 1 x MDM, 1 x VPN, 2 x USR
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, SSH2, DDNS, etc.
VPN tunnels	IPsec, OpenVPN, GRE, L2TP, PPTP, DMVPN
Firewalls	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Remote management	Web, CLI, SMS
Serial port protocols	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)

Apps*	Language, RCMS, WireGuard, etc.

*Request on demand. For more Apps please visit www.robustel.com.

Cloud Platform

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

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
	Reverse polarity protection, surge protection
Power consumption	Idle: 6.5 W@12 V
	Max: 15 W@12 V
Recommended power supply	24 V DC/2 A power adapter

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Metal, 622 g
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 (non-condensing)

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

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ORDERING INFORMATION

Model	Order Code	Wi-Fi + BLE	GNSS	Frequency Bands[1]	Country /Region	Certification (*In Progress)	Package Contains
EG5200-A5ZAZ-NU	A012000009	-	-	-	Global	CE RCM* UKCA CB FCC IC	1 x EG5200 Gateway (B Code: B120001) 1 x DIN Rail Mounting Kit
	A012000004						1 x EG5200 Gateway (B Code: B120001) 1 x DIN Rail Mounting Kit 1 x Power Adapter
EG5200-A5CAZ-NU	A012000010	√	-	-			1 x EG5200 Gateway (B Code: B120002) 1 x DIN Rail Mounting Kit
	A012000005						1 x EG5200 Gateway (B Code: B120002) 1 x DIN Rail Mounting Kit 2 x Wi-Fi Antenna 1 x Power Adapter
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 3G: WCDMA: B1/2/4/5/6/8/19 2G: GSM: B2/3/5/8			1 x EG5200 Gateway (B Code: B120004) 1 x DIN Rail Mounting Kit
	A012000006						1 x EG5200 Gateway (B Code: B120004) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna 1 x GNSS Antenna 1 x Power Adapter
EG5200-A5BAZ-4L-A06GL	A012000012	√	√				1 x EG5200 Gateway (B Code: B120006) 1 x DIN Rail Mounting Kit
	A012000007						1 x EG5200 Gateway (B Code: B120006) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna 2 x Wi-Fi Antenna 1 x GNSS Antenna 1 x Power Adapter
EG5200-A5AAZ-5G-A25GL[2]	A012000013	-	Optional	5G: NR NSA: 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 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		CE RCM* UKCA FCC IC	1 x EG5200 Gateway (B Code: B120003) 1 x DIN Rail Mounting Kit
	A012000015						1 x EG5200 Gateway (B Code: B120003) 1 x DIN Rail Mounting Kit 4 x Cellular Antenna 1 x Power Adapter
EG5200-A5BAZ-5G-A25GL[2]	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 2G: GNSS GPS/GLONASS/BDS/Galileo			1 x EG5200 Gateway (B Code: B120005) 1 x DIN Rail Mounting Kit
	A012000016						1 x EG5200 Gateway (B Code: B120005) 1 x DIN Rail Mounting Kit 4 x Cellular Antenna 2 x Wi-Fi Antenna 1 x Power Adapter

Note:

1. *For more information about frequency bands in different countries, please contact your Robustel sales representative.*
2. *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.*