



EG5101

robustOS

Edge Computing Gateway

1 x Ethernet + 1 x RS-232 + 1 x RS-485 + 1 x USB



INTRODUCTION

The Robustel EG5101 is an industrial edge computing gateway delivering LTE Cat 1 bis cellular backhaul and ARMv7-based processing. Powered by a 792 MHz Cortex-A7 CPU, it combines cellular routing and embedded computing in a single platform. The Debian-based Linux operating system provides an open development environment, while Docker enables containerized deployment for resource-efficient edge workloads.

Integrated with RobustOS Pro—Robustel's hardened OS—the EG5101 provides enterprise-grade security (VPN/IPsec, smart roaming) and SMS-based remote management. Designed for cost-sensitive IoT deployments, it serves as a converged cellular router and embedded edge compute node for smart metering, asset tracking, and distributed monitoring in harsh industrial environments.

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>

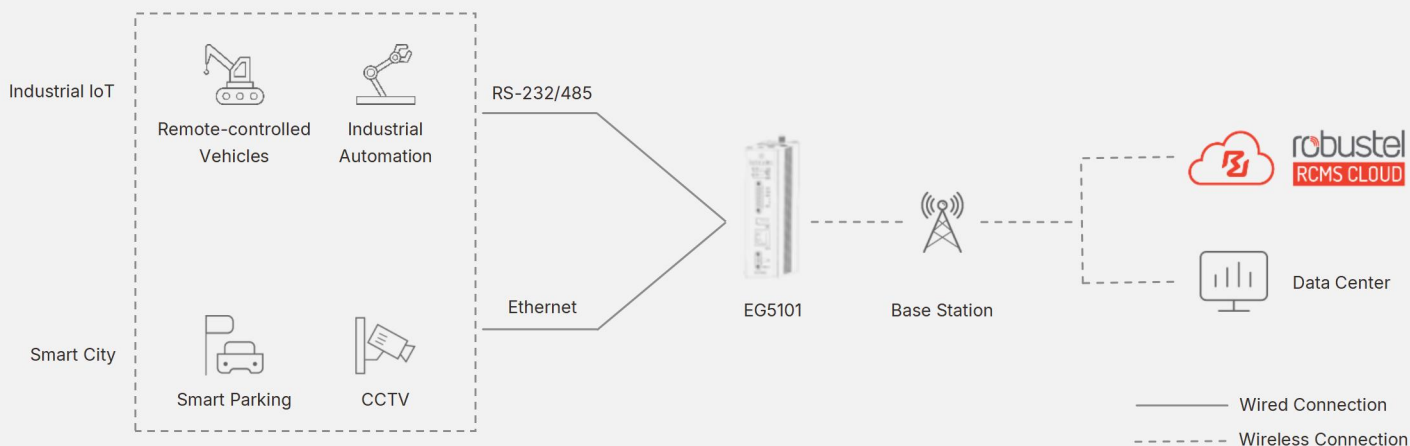


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RCMS CLOUD

KEY FEATURES

- Industrial-grade LTE Cat 1 bis connectivity
- 792 MHz Cortex-A7 CPU, 1 GB DDR3 RAM, and 8 GB eMMC for lightweight edge applications
- Docker containerization with 50,000+ Debian-compatible packages
- 1 x RS-232 + 1 x RS-485 interfaces for PLC/legacy device integration
- Dual-SIM redundancy for redundant communications
- Wide operating temperature range for industrial applications
- Multi-language SDK support (C, C++, Java, Python, and Node.js) and open toolchain
- Enterprise VPN suite (IPsec, OpenVPN, GRE, L2TP, PPTP, DMVPN, and WireGuard) and firewall policies
- RCMS platform (Robustel Cloud Manager System) for large-scale device management

APPLICATION EXAMPLE



SPECIFICATIONS

Hardware

Hardware System

CPU	ARM Cortex-A7, 792 MHz
RAM	1 GB DDR3
Flash	8 GB eMMC

Cellular Interface

Number of antennas	1
Connector	SMA-K
SIM	2 x Mini SIM (2FF)

Ethernet Port

Number of ports	1 x RJ45, 10/100 Mbps
Magnet isolation protection	1.5 kV

Serial Port

Number of ports	1 x RS-232 + 1 x RS-485
Connector	6-pin 3.5 mm terminal block with lock
Baud rate	300–115200 bps
Signal definition	RS-232: TXD, RXD, GND RS-485: Data+(A), Data-(B), GND

Others

Reset button	1 x RST
USB port	1 x USB 2.0 (host), Type A, 5 V, 500 mA
LED indicators	1 x RUN, 1 x RSSI, 1 x USR, and 1 x MDM
Watchdog	External

Power Supply and Consumption

Connector	2-pin 3.5 mm terminal block with lock
Input voltage	12/24 VDC, 9–36 VDC Reverse polarity protection, surge protection
Power consumption	Idle: 1 W@12 V Max: 5.5 W@12 V
Rec. power supply	12 VDC/1.5 A power adapter

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Metal, 374 g
Dimensions	32 x 105 x 129 mm
Installation	Desktop, wall mounting & 35 mm DIN-rail mounting
Operating temperature	-20 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 B
EMS	EN 61000-4-2 (ESD) Contact Level 2, Air Level 3 EN 61000-4-3 (RS) Level 2 EN 61000-4-4 (EFT) Level 2 EN 61000-4-5 (Surge) Level 3, AC Mains Power Port Level 2, Signal Ports EN 61000-4-6 (CS) Level 2 EN 61000-4-8 (PFM) Level 2

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	768 MB
Available Flash for SDK	6 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	Enclosure	Frequency Bands	Region	Certifications	Package Contents
EG5101-B-4E-A31EU	A013000007	✓	LTE (Cat 1 bis) FDD B1/3/5/7/8/20/28	EMEA and ANZ	CE, RCM, CB, UKCA	1 x Gateway (B Code: B130002) 1 x DIN Rail Mounting Kit
	A013000008	✓		EMEA and ANZ	CE, RCM, CB, UKCA	1 x Gateway (B Code: B130002) 1 x Cellular Antenna 1 x Power Adapter 1 x DIN Rail Mounting Kit

- NOTE:**
- 1. For more information about regional and carrier-specific variants, please contact us.
 - 2. * Denotes certification in progress.