



robustOS Pro

MG360 Gateway

Maritime Cyber Security Gateway



INTRODUCTION

The Robustel's **MG360 Gateway** is a next-generation IEC 60945-compliant industrial maritime gateway designed to enable secure data exchange between onboard vessel systems and cloud-based services. This hardened network appliance employs multi-layered firewall protection with IP/port/protocol-based access control, ensuring robust isolation between navigational equipment networks and external infrastructures.

Equipped with a quad-core 1.6 GHz processor, 16GB eMMC storage, and Debian Linux OS, the MG360 Gateway delivers edge computing capabilities for executing complex applications and managing software deployments. Its connectivity suite includes 2 Gigabit Ethernet ports (PoE-supported), 2 software-configurable RS-232/485 serial interfaces, and 4 programmable digital I/O channels, providing versatile integration with maritime field devices.

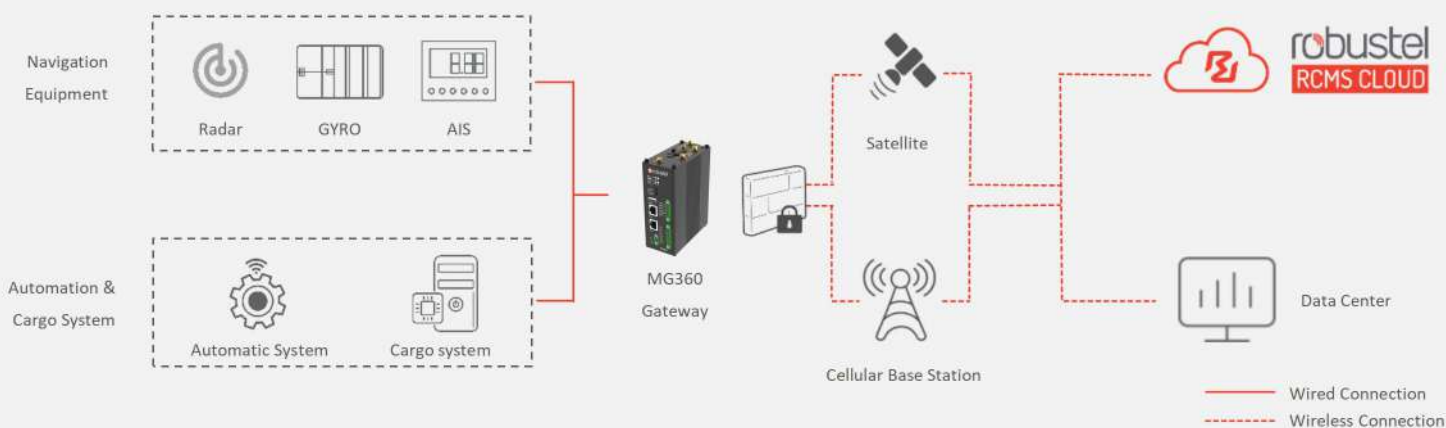
The **Robustel Cloud Manager Service (RCMS)** is a unified cloud-based platform designed for real-time monitoring and centralized management of industrial IoT devices. Fully compatible with Robustel routers and gateways, RCMS delivers an interactive geospatial dashboard that enables users to visualize 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>



KEY FEATURES

- Compliance with IEC 60945 standards
- Industrial-grade 4G/3G/2G cellular connectivity with global band support
- High-performance computing engine featuring a 1.6 GHz CPU and 16 GB eMMC Flash for running complex applications
- DMZ with file storage and application services for secure interconnections
- Remote access tunnel with VPN for secure connectivity
- Linux Debian system for user software development and deployment
- 2 x 1000 Mbps Ethernet ports, each equipped with its own firewall for enhanced security
- 2 x RS-232/RS-485 (software configurable) ports for connecting to industrial and legacy devices
- 2 x Digital Inputs + 2 x Digital Outputs for straightforward monitoring and control
- Expanded microSD slot for recording system logs and navigation data
- Dual SIM card slots for redundant communications
- Industrial-grade design to ensure uninterrupted network connectivity
- Support for RCMS (Robustel's Router/Gateway Management System) for efficient management of large device estates via RobustVPN service

APPLICATION EXAMPLE



SPECIFICATIONS

Hardware System

CPU	Quad core Cortex-A53, 1.6 GHz
NPU	2.3 TOPS
RAM	2 GB DDR4
Flash	16 GB eMMC

Cellular Interface

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

Ethernet Port

Number of ports	2 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-485 (software configurable)
Connector	6-pin 3.5 mm terminal block with lock
ESD protection	8 KV Air, 4 KV Contact
Baud rate	300 bps to 115200 bps
Signal definition	RS-232: TXD, RXD, GND
	RS-485: Data+ (A), Data- (B), GND

Digital Input/Output Port

Number of ports	2 x DI + 2 x DO, wet contact
Connector	8-pin 3.5 mm terminal block with lock (DI/DO)
Isolation	Bi-directional optocoupler (DI)
	Single directional optocoupler (DO)
Absolute maximum VDC	+30 V DC
Absolute maximum ADC	100 mA
Signal definition	DI1+, DI1-, DI2+, DI2-, DO1+, DO1-, DO2+, DO2-

Wi-Fi Interface

Number of antennas	2
Connector	RP-SMA-K
Standards	802.11a/b/g/n/ac, 2 x 2 MIMO
	Supporting AP and Client modes
Frequency bands	2.412 - 2.484 GHz (2.4 GHz ISM band)
	5.15 - 5.85 GHz (5 GHz ISM band)
Security	WEP 64-bit and 128-bit encryption with H/W TKIP processing
	WPA/WPA2 (Wi-Fi Protected Access)
	AES-CCMP hardware implementation

Bluetooth Interface

Number of antennas	1 (Multiplexing Wi-Fi antenna)
Connector	RP-SMA-K
Standards	Bluetooth 2.1 and 3.0 + Enhanced Data Rate (EDR) + Bluetooth 5.2

GNSS Interface

Number of antennas	1
Connector	SMA-K

Others

Reset button	1 x RST
USB port	1 x USB 2.0 (host), Type A, 5 V, 900 mA
LED indicators	1 x RUN, 1 x MDM, 1 x USR, 1 x Signal
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, WireGuard
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	14 GB
RAM available for SDK	1.5 GB

App Center (Available Apps for RobustOS Pro)

Apps*	Language, RCMS, Edge2Cloud, etc.
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*Request on demand. For more Apps please visit www.robustel.com.

Cloud Platform

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

Power Supply and Consumption

Connector	2-pin 3.5 mm terminal block with lock
Input voltage	24 V DC, reverse polarity protection, surge protection
Power consumption	Idle: 5.0 W@24 V
	Max: 20.0 W@24 V

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Metal, 567 g
Dimensions	49 x 105 x 128 mm
Installations	Desktop, wall mounting and 35 mm DIN rail mounting
Operating temperature	-40 ~ +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 B
EMS	EN 61000-4-2 (ESD) Level 4
	EN 61000-4-3 (RS) Level 3
	EN 61000-4-4 (EFT) Level 4
	EN 61000-4-5 (Surge) Level 3
	EN 61000-4-6 (CS) Level 2
	EN 61000-4-8 (PFM) Level 4
	EN 61000-4-11 (Dips)

ORDERING INFORMATION

Model	Order Code	Wi-Fi	GNSS	Frequency Bands*	Country/Region	Certification	Package Contains
MG360-A2CAZ-4L-A06GL	A015500001	✓	✓	4G: LTE FDD: B1/2/3/4/5/7/8/12/13/18/19/20/25/26/28 LTE TDD: B34/38/39/40/41 3G: WCDMA: B1/2/4/5/6/8/19 2G: GSM: B2/3/5/8	Global	CE, UKCA, RCM, FCC, IC	1 x MG360 Gateway (B Code: B015500001) 1 x DIN Rail Mounting Kit

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