



robustOS

R2010

Industrial Cellular Gateway

2 x ETH + 1 x RS-232/RS-485 + 1 x DI + 1 x DO



INTRODUCTION

The Robustel R2010 Industrial Cellular Gateway is a rugged and versatile 4G gateway featuring dual Ethernet ports and dual SIM single standby capability, making it ideal for mission-critical IoT and M2M applications.

The R2010 operates on Robustel's proprietary Linux-based operating system, **RobustOS**. Developed entirely in-house, RobustOS ensures high reliability and exceptional technical support. Robustel provides a Software Development Kit (SDK) that allows for further customization using C and C++. Additionally, it offers a variety of applications to meet the diverse demands of the fragmented IoT market, including **RobustVPN**, a highly flexible hosted VPN service that enables customers to seamlessly utilize a "fixed IP gateway".

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:

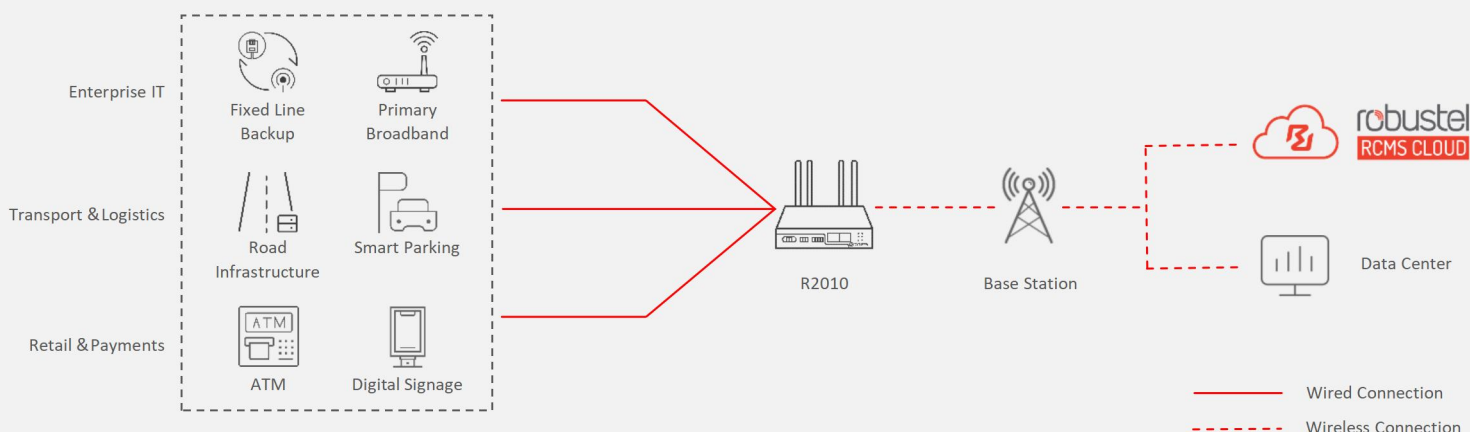
<https://rcms-cloud.robustel.net>

KEY FEATURES

- Dual-SIM redundancy ensures continuous cellular network connectivity
- Link Manager supports backup for Cellular WAN, Ethernet WAN, and WLAN WAN, along with ICMP detection
- WAN configuration options include Static and DHCP Client
- Features RobustOS, an SDK, and a variety of applications
- Supports VPN capabilities including IPsec, OpenVPN, GRE, and WireGuard
- Management and maintenance via Web/RCMS
- Auto-reboot functionality is available through SMS or on a time schedule
- Robust industrial design supports 9 to 36 V DC, with options for desktop, wall, or DIN rail mounting



APPLICATION EXAMPLE



SPECIFICATIONS

Hardware System

CPU	MIPS, 650 MHz
RAM	128 MB
Flash	32 MB

Cellular Interface

Number of antennas	2 (MAIN + AUX) Note: Model R2010-A-4E-A26AU is the exclusive variant equipped with single antenna in this product series.
Connector	SMA-K
SIM	2 x Mini SIM (2FF)

Ethernet Port

Number of ports	2 x 10/100 Mbps 2 x LAN or 1 x LAN + 1 x WAN
WAN port	Support 802.3at PD feature (optional)
Magnet isolation protection	1.5 KV

Serial Port

Number of ports	1 x RS-232 or 1 x RS-485 (software configurable)
Connector	1 x 3-pin 3.5 mm female socket
Signal definition	RS-232: TXD, RXD, GND RS-485: A, B

Digital Input/Output Port

Number of ports	1 x DI + 1 x DO
Connector	1 x 4-pin 3.5 mm female socket
Signal definition	DI+, DI-, DO+, DO-
Level	3.5 to 30 V DC = HIGH, 0 to 1 V DC = LOW
Absolute maximum VDC	30 V DC (DI/DO)
Absolute maximum ADC	10 mA (DI/DO)

Wi-Fi Interface

Number of antennas	2 (Wi-Fi 1 + Wi-Fi 2)
Connector	RP-SMA-K
Standards	802.11 b/g/n Supporting AP and Client modes
Frequency bands	2.4 GHz
Security	WEP, WPA, WPA2, WPA3
Encryption	64/128 AES, TKIP

Others

Reset button	1 x RST
LED indicators	3 x RSSI, 1 x RUN, 1 x MDM, 1 x Wi-Fi
Watchdog	Built-in

Power Supply and Consumption

Connector	2-pin 3.5 mm female socket
Input voltage	12/24 V DC, 9 ~ 36 V DC 40 ~ 57 V (PoE-PD) Reverse polarity protection, surge protection
Power consumption	Idle: 1.0 W@12 V Max: 7.0 W@12 V
Recommended power supply	12V DC/1.5 A power adapter

Software (Basic features of RobustOS)

Network protocols	PPPoE, TCP, UDP, DHCP, NAT, DNS, NTP, SMTP, Telnet, VLAN, SSH2, DDNS, etc.
VPN tunnels	IPsec, OpenVPN, GRE, 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

Supported programming languages	C, C++
Flash available for SDK	16 MB
RAM available for SDK	64 MB

App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, Captive Portal, WLAN Multi AP, SNMP, Language, RCMS, Edge2Cloud
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*Request on demand. For more Apps please visit www.robustel.com.

Cloud Platform

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

Ingress protection	IP30
Housing & Weight	Metal, 350 g
Dimensions	30 x 82 x 127 mm
Installations	Desktop, wall mounting and 35 mm DIN rail mounting
Operating temperature	-35 ~ +75 °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 2 EN 61000-4-4 (EFT) Level 2 EN 61000-4-5 (Surge) Level 2 EN 61000-4-6 (CS) Level 2

ORDERING INFORMATION

Model	Order Code	PoE-PD	Frequency Bands*	Country /Region	Certification	Package Contains
R2010-A-4L-A24EU	A006900711	-	LTE CAT4 4G: LTE FDD: B1/3/5/7/8/20/28	SEA+India	CE, UKCA, E-Mark	1 x R2010 Gateway (B Code: B069713)
	A006900712	-	LTE TDD: B38/40/41 3G: WCDMA: B1/5/8 2G: GSM: B3/8			1 x R2010 Gateway (B Code: B069713) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-A-4L-A12EU	A006900713	-	LTE CAT4 4G: LTE FDD: B1/3/7/8/20/28A LTE TDD: B38/40/41	EMEA+SEA	CE, E-Mark, UKCA, TDRA, NTC	1 x R2010 Gateway (B Code: B069714)
	A006900714	-				1 x R2010 Gateway (B Code: B069714) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-B-4L-A12EU	A006900715	✓	3G: WCDMA: B1/8 2G: GSM: B3/8			1 x R2010 Gateway (B Code: B069715)
	A006900716	✓				1 x R2010 Gateway (B Code: B069715) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-A-4L-A03AU	A006900717	-	LTE CAT4 4G: LTE FDD: B1/2/3/4/5/7/8/28 LTE TDD: B40	ANZ+LATAM	RCM, E-Mark, CRC, SUBTEL, MTC, ENACOM, URSEC, ARCOTEL, FCC, ANATEL	1 x R2010 Gateway (B Code: B069705)
	A006900718	-				1 x R2010 Gateway (B Code: B069705) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-B-4L-A03AU	A006900719	✓	3G: WCDMA: B1/2/5/8 2G: GSM: B2/3/5/8		RCM, E-Mark, FCC, ASEP	1 x R2010 Gateway (B Code: B069709)
	A006900720	✓				1 x R2010 Gateway (B Code: B069709) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-A-4L-C01EU	A006900723	-	LTE CAT4 4G: LTE FDD: B3/7/20/31/72	EMEA+SEA	-	1 x R2010 Gateway (B Code: B069710)
	A006900724	-				1 x R2010 Gateway (B Code: B069710) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-A-4L-A04JP	A006900725	-	LTE CAT4 4G: LTE FDD: B1/3/8/18/19/26 LTE TDD: B41	Japan	JATE, Telec, E-Mark	1 x R2010 Gateway (B Code: B069717)
	A006900726	-				1 x R2010 Gateway (B Code: B069717) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-A-4L-A27NA	A006900727	-	LTE CAT4 4G: LTE FDD:	US+CA	FCC, IC, E-Mark	1 x R2010 Gateway (B Code: B069718)
	A006900728	-				B2/4/5/12/13/14/66/71
R2010-B-4L-A27NA	A006900729	✓	3G: WCDMA: B2/4/5		FCC, IC, PTCRB, AT&T, E-Mark	1 x R2010 Gateway (B Code: B069719)
	A006900730	✓				1 x R2010 Gateway (B Code: B069719) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-A-4L-D01EU	A006900731	-	LTE CAT4 4G: LTE FDD: B1/3/5/7/8/20 LTE TDD: B40	EMEA+SEA	-	1 x R2010 Gateway (B Code: B069721)
	A006900732	-				1 x R2010 Gateway (B Code: B069721) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna
R2010-A-4E-A26AU	A006900733	-	LTE CAT1 4G: LTE FDD: B1/2/3/4/5/7/8/28/66 LTE TDD: B38/40/41	LATAM	-	1 x R2010 Gateway (B Code: B069724)
	A006900734	-				1 x R2010 Gateway (B Code: B069724) 1 x DIN Rail Mounting Kit 2 x Cellular Antenna

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

Note: Due to short supply of PoE-PD models, please confirm the lead time with your sales manager.