



R2010 robustOS

Industrial Cellular Gateway

2 ETH+ 1 RS232/RS485 + 1 DI + 1 DO



INTRODUCTION

The Robustel R2010 Industrial Cellular Gateway is a rugged, versatile 4G Gateway with dual Ethernet ports, dual SIM single standby capability and a range of advanced functions for mission critical IoT or M2M applications.

The R2010 runs on Robustel’s own Linux based Operating System, **RobustOS**. Developed entirely in-house, this gives way to a very high standard of technical support and high reliability. Robustel offers a **Software Development Kit (SDK)** to allow additional customization by using C, C++. It also provides rich **Apps** to meet fragmented IoT market demands such as:

RobustVPN - Highly flexible hosted VPN service so customers can easily enjoy a “fixed IP Gateway”

RCMS is Robustel’s free router monitoring service that is fully compatible with the R2010. It allows customer to see a location overview of their routers quickly and simply on a map. Features such as data usage, signal strength, current network and much more can then be viewed on a per router basis. Over-the-air updates are supported for Firmware, router configuration and Apps serving as essential ‘insurance’ if anything was not quite right during deployment.

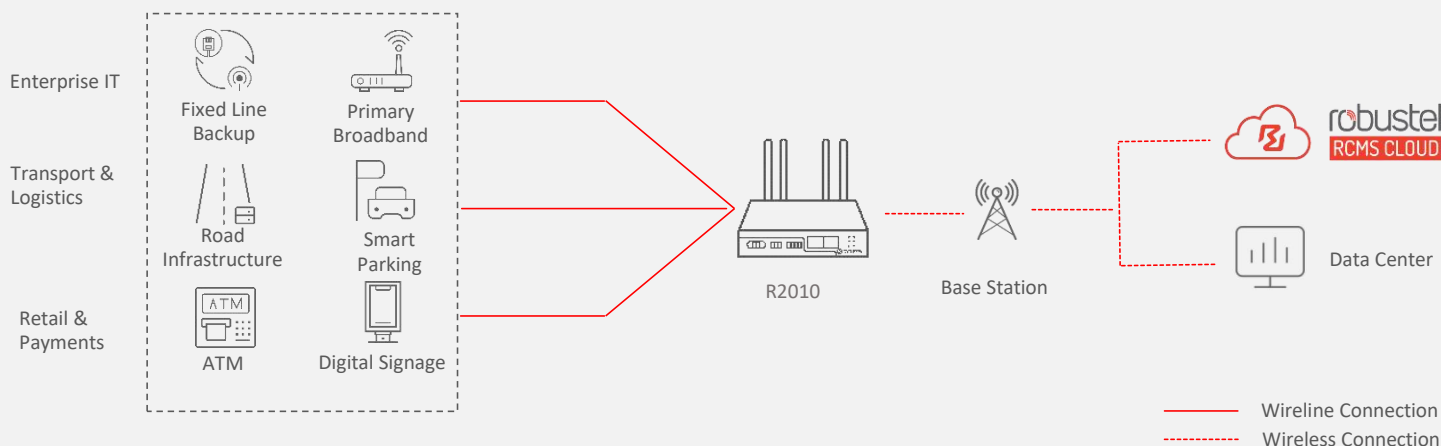
You can try Robustel’s free router management platform by signing up here: <https://rcms-cloud.robustel.net>

KEY FEATURES

- Dual-SIM redundancy for continuous cellular network connections
- Link Manager supports Cellular WAN, Ethernet WAN, WLAN WAN link backup and ICMP detection
- WAN – Static/DHCP Client
- RobustOS + SDK + Apps
- IPsec/OpenVPN/GRE/Wireguard VPN capabilities
- Management and maintenance via Web/RCMS Cloud
- Auto reboot via SMS/time schedule
- Robust industrial design (9 to 36 V DC, desktop or wall mounting or DIN rail mounting)



APPLICATION EXAMPLE



SPECIFICATIONS

Cellular Interface

| | |
|--------------------|---|
| Number of antennas | LTE CAT 4: 2 (MAIN + AUX) LTE CAT 1: 1 |
| Connector | SMA-K |
| SIM | 2 x Mini SIM (2FF) |

Ethernet Interface

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

Wi-Fi Interface

| | |
|--------------------|--|
| Number of antennas | 2 (Wi-Fi1 + Wi-Fi2) |
| 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 |

DI/DO

| | |
|----------------------|--|
| Type | 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 30V DC = HIGH, 0 to 1V DC = LOW |
| Absolute maximum VDC | 30V DC (DI/DO) |
| Absolute maximum ADC | 10mA (DI/DO) |

Serial Interface

| | |
|-------------------|--|
| Type | RS232 or RS485 (software configurable) |
| Connector | 1 x 3-pin 3.5 mm female socket |
| Signal definition | RS232: TXD, RXD, GND RS485: A, B |

Others

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

Power Supply and Consumption

| | |
|-------------------|--|
| Connector | 2-pin 3.5 mm female socket |
| Input voltage | 9 ~ 36 V DC |
| PoE-PD voltage | 40 ~ 57 V |
| Power consumption | Idle: 60 mA@12 V Data link: 580mA (peak)@12 V |

Software (Basic features of RobustOS)

| | |
|-------------------|---|
| Network protocols | PPPoE, TCP, UDP, DHCP, NAT, DNS, NTP, SMTP, Telnet, VLAN, SSH2, DDNS, etc. |
| VPN tunnel | IPsec, OpenVPN, GRE, WireGuard |
| Firewall | DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control |
| Remote management | Web, CLI, SMS |
| Serial port | Transparent, TCP Client/Server, UDP, Modbus RTU Gateway |

SDK

| | |
|--------------------------------|--------|
| Supported programming language | 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 |
|-------|---|

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

Physical Characteristics

| | |
|-----------------------|--|
| Ingress protection | IP30 |
| Housing & Weight | Metal, 350 g |
| Dimensions | 127 x 82 x 30 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% |

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) 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

(Standard Model)

| Model | PN | LTE Category | Frequency Bands* | Country/Region | Certification (*In progress) |
|-------------------|-------------|--------------|--|------------------------|--|
| R2010-A-4L-A04JP | B069717 | Cat 4 | 4G: LTE FDD: B1/B3/B8/B18/B19/B26 LTE TDD: B41 3G: WCDMA: B1/B6/B8/B19 2G: GSM: B3/B8 | Japan | JATE, Telec, E-Mark |
| R2010-A-4L-A12EU | B069714 | Cat 4 | 4G: LTE FDD: B1/B3/B7/B8/B20/B28A LTE TDD: B38/B40/B41 3G: WCDMA: B1/B8 2G: GSM: B3/B8 | EMEA | CE, E-mark, UKCA |
| R2010-A-4L-A03AU | B069705 | Cat 4 | 4G: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 3G: WCDMA: B1/B2/B5/B8 2G: GSM: B2/B3/B5/B8 | South America, Oceania | RCM, E-mark, CRC, SUBTEL, MTC, ENACOM, URSEC, ARCOTEL, FCC, ANATEL |
| R2010-A-4L-A27NA | B069718 | Cat 4 | 4G: LTE FDD: B2/B4/B5/B12/B13/B14 /B66/B71 3G: WCDMA: B2/B4/B5 | North America | FCC, IC, E-Mark |
| R2010-A-4L-A24EU | B069713 | Cat 4 | 4G: LTE FDD: B1/B3/B5/B7/B8/B20/B28 LTE TDD: B38/B40/B41 3G: WCDMA: B1/B5/B8 2G: GSM: B3/B8 | SEA, India | CE, UKCA, E-Mark |
| R2010-A-4E-A20CN* | B006900731* | Cat 1 | 4G: LTE FDD: B1/B3/B5/B8 LTE TDD: B34/B38/B39/B40/B41 2G: GSM: B3/B8 | China, India | / |

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

ORDERING INFORMATION

(With PoE-PD Model)

| Model | PN | LTE Category | Frequency Bands* | Country/Region | Certification (*In progress) |
|------------------|---------|--------------|--|------------------------|------------------------------|
| R2010-B-4L-A12EU | B069715 | Cat 4 | 4G: LTE FDD: B1/B3/B7/B8/B20/B28A LTE TDD: B38/B40/B41 3G: WCDMA: B1/B8 2G: GSM: B3/B8 | EMEA | CE, E-mark, UKCA |
| R2010-B-4L-A03AU | B069709 | Cat 4 | 4G: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 3G: WCDMA: B1/B2/B5/B8 2G: GSM: B2/B3/B5/B8 | South America, Oceania | RCM, E-mark |
| R2010-B-4L-A27NA | B069719 | Cat 4 | 4G: LTE FDD: B2/B4/B5/B12/B13/B14 /B66/B71 3G: WCDMA: B2/B4/B5 | North America | FCC, IC, PTCRB, AT&T, E-Mark |

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