



R3000 Quad robustOS

Industrial Cellular VPN Router with 4 Ethernet Ports
4 Eth + 1 RS232/1 RS485 + 1 USB Host



INTRODUCTION

The Robustel Industrial Dual SIM Cellular VPN Router (R3000 Quad) is a rugged cellular router offering state-of-the-art mobile connectivity for machine to machine (M2M) applications. R3000 Quad is used extensively in industrial applications such as pipeline monitoring, water treatment, Gas & Electricity distribution networks and many similar environments where a hardened product with bulletproof cellular communications is required. R3000 Quad has extensive overvoltage protection, high EMC immunity and has a DIN-rail/panel mount form-factor making it ideal for use in any kind of industrial automation enclosure.

The following software features are present on R3000 Quad:

- Smart Roaming** – intelligent network selection tool for roaming SIMs
- RobustVPN** – Simple remote access on any SIM using Robustel hosted VPN
- RCMS** – Free Router Management Platform – very feature rich
- Data Guard** – Automatically stop data overruns to avoid billshock

RCMS is Robustel’s free router monitoring service that is fully compatible with the R3000 Quad. 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:

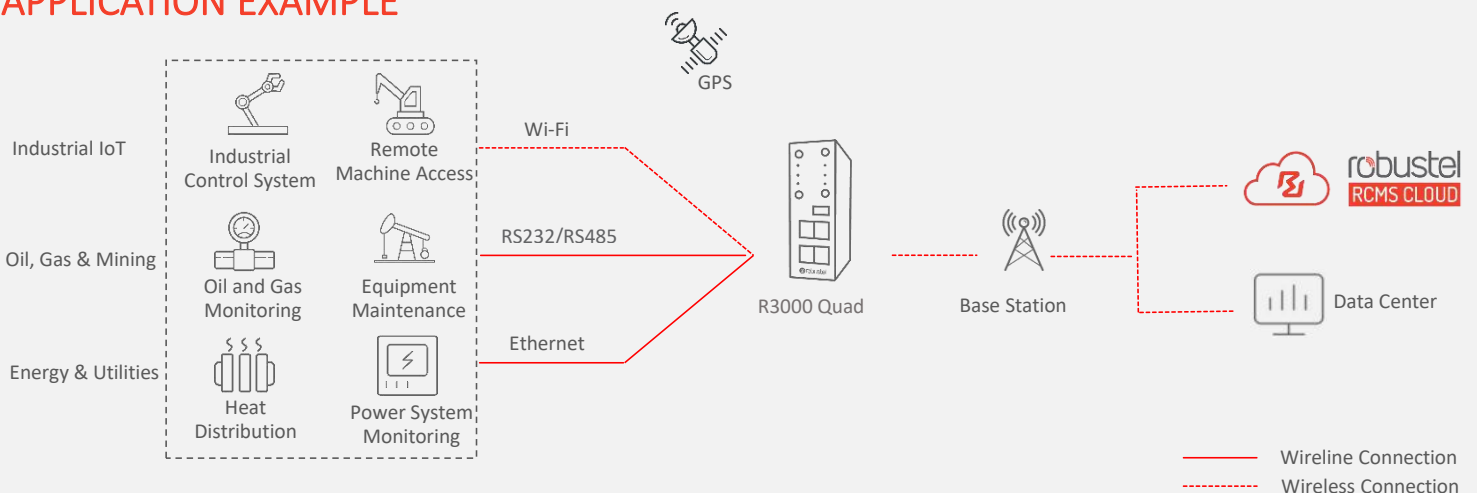
<https://rcms-cloud.robustel.net>



KEY FEATURES

- The feature *Link Manager* supporting WWAN1, WWAN2, Ethernet WAN, WLAN WAN link backup and ICMP detection
- The option *Backup Mode* supporting cold, warm and load balancing
- RobustOS + SDK + App
- IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN
- Management and maintenance via Web/CLI/SNMP/RCMS Cloud
- Robust industrial design (9 ~ 60 VDC, 18 ~ 75 VDC (optional), desktop or wall mounting or DIN rail mounting)

APPLICATION EXAMPLE



SPECIFICATIONS

Cellular Interface

| | |
|--------------------|------------------|
| Number of antennas | 2 (MAIN + AUX) |
| Connector | SMA-K |
| SIM | 2 Mini SIM (2FF) |

Ethernet Interface

| | |
|-----------------------------|--|
| Number of ports | 4 x 10/100 Mbps, 4 x LAN or 3 x LAN + 1 x WAN |
| Magnet isolation protection | 1.5 KV |

Wi-Fi Interface (Optional)

| | |
|--------------------|--|
| Number of antennas | 1 |
| Connector | RP-SMA-K |
| Standards | 802.11 a/b/g/n, supporting AP and Client modes |
| Frequency bands | 2.4 GHz 5 GHz |
| Security | Open, WPA, WEP |
| Encryption | AES, TKIP, WEP64 |

GNSS Interface (Optional)

| | |
|------------------------------|------------------------------|
| Number of antennas | 1 |
| Connector | SMA-K with 50 ohms impedance |
| Acquisition sensitivity | GPS: greater than -148 dBm |
| Horizontal position accuracy | GPS: 2.5 m |
| Protocol | NMEA-0183 v4.10 |

Serial Interface (Software selectable)

| | |
|-----------------|--------------------------------------|
| Number of ports | 1 x RS232 or 1 x RS485 |
| Connector | 7-pin 3.5 mm female socket with lock |
| Baud rate | 300 bps ~ 230400 bps |
| Isolation | 2.5 KV (optional) |
| Flow control | RTS/CTS (for RS232) |

Others

| | |
|----------------|---|
| Reset button | 1 x RST |
| SD | 1 x Micro SD interface |
| Expansion | 1 x USB 2.0 host, up to 480 Mbps |
| CLI | 1 x CLI interface |
| LED indicators | 1 x RUN, 1 x PPP, 1 x USR, 1 x RSSI, 1 x NET, 1 x SIM |
| Built-in | RTC, Watchdog, Timer |

Software (Basic features of RobustOS)

| | |
|-------------------|---|
| Network protocols | PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, HTTPs, DNS, ARP, NTP, SMTP, Telnet, VLAN, SSH2, DDNS, etc. |
| VPN tunnel | IPsec, OpenVPN, GRE |
| Firewall | DMZ, anti-DDoS, 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 |

App Center (Available Apps for RobustOS)

| | |
|-------|--|
| Apps* | L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Data Guard |
|-------|--|

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

SDK

| | |
|--------------------------------|--------|
| Supported programming language | C, C++ |
| Flash available for SDK | 64 MB |
| RAM available for SDK | 64 MB |

Power Supply and Consumption

| | |
|-------------------|---|
| Connector | 3-pin 5 mm female socket with lock |
| Input voltage | 9 ~ 60 VDC |
| Power consumption | Idle: 100 mA@12 V, 55 mA@24 V, 30 mA@48 V; Data link (peak): 400 mA@12 V, 215 mA@24 V, 115 mA@48 V |

Physical Characteristics

| | |
|-----------------------|--|
| Ingress protection | IP30 |
| Housing & Weight | Metal, 570 g |
| Dimensions | 125 x 104 x 43.5 mm |
| Installations | Desktop, wall mounting and 35 mm DIN rail mounting |
| Operating temperature | -40 ~ +75 °C |
| Storage temperature | -40 ~ +85 °C |
| Relative humidity | 5 ~ 95% RH |

Regulatory and Type Approvals

| | |
|---------------|--|
| Environmental | RoHS2.0, WEEE |
| EMI | EN 55032: 2012/AC: 2013 (CE & RE) Class B |
| EMS | IEC 61000-4-2 (ESD)connect Level2; Air Level 3 IEC 61000-4-3 (RS) Level 2 IEC 61000-4-4 (EFT) Level 2 IEC 61000-4-5 (Surge) Level 3 IEC 61000-4-6 (CS) Level 2 |

ORDERING INFORMATION

| Model | PN | Category | Wi-Fi | GNSS | Frequency Bands* | Country/Region | Certifications (*in progress) |
|------------|---------|----------|-------|------|---|---------------------------|-------------------------------|
| R3000-QLB | B019001 | - | - | - | - | EMEA | CE |
| | B019002 | | ✓ | - | - | | |
| R3000-Q4LB | B019727 | Cat 4 | - | - | 4G: LTE FDD: B1/B2/B3/B4/B5/B7/B8/B28 LTE TDD: B40 | Oceania, South America | RCM, CRC, URSEC |
| | B019728 | | ✓ | - | 3G: WCDMA: B1/B2/B5/B8 2G: GSM: B2/B3/B5/B8 | | |
| | B019738 | | - | - | 4G: LTE FDD: B1/B3/B5/B7/B8/B20 LTE TDD: B38/B40/B41 | EMEA | CE, TRA, UKCA |
| | B019739 | | ✓ | - | 3G: WCDMA: B1/B5/B8 2G: GSM: B3/B8 | | |

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