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R3000 Quad

Industrial Cellular VPN Router with 4 Ethernet Ports
4 x Eth + 1 x RS-232/RS-485 + 1 x USB Host

INTRODUCTION

The Robustel Industrial Dual SIM Cellular VPN Router (R3000 Quad) is a rugged cellular router designed to provide state-of-the-art mobile connectivity for machine-to-machine (M2M) applications. The R3000 Quad is extensively used in industrial environments such as pipeline monitoring, water treatment, and gas and electricity distribution networks, where a durable product with reliable cellular communications is essential. It features extensive overvoltage protection, high electromagnetic compatibility (EMC) immunity, and a DIN-rail/panel mount form factor, making it ideal for any industrial automation enclosure.

The R3000 Quad includes the following software features:
Smart Roaming: An intelligent network selection tool for roaming SIMs.
RobustVPN: Provides simple remote access on any SIM using Robustel's hosted VPN.
RCMS: A free, feature-rich router management platform.

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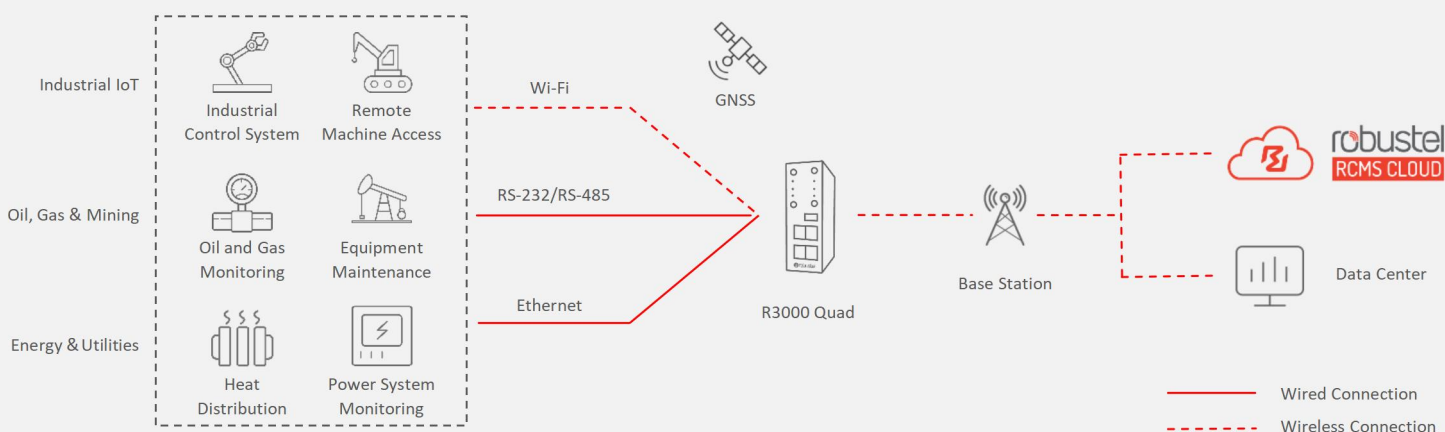https://rcms-cloud.robustel.net

robustel RCMS CLOUD

KEY FEATURES

- Link Manager supporting WWAN1, WWAN2, Ethernet WAN, WLAN WAN link backup, and ICMP detection

- Backup Mode options for cold, warm, and load balancing

- RobustOS with SDK and application support

- Supports IPsec, OpenVPN, GRE, L2TP, PPTP, and DMVPN

- Management and maintenance via Web, CLI, SNMP, and RCMS Cloud

- Robust industrial design with input voltage options of 9 ~ 60 V DC, supporting desktop, wall, or DIN rail mounting

APPLICATION EXAMPLE

Industrial IoT
- Industrial Control System
- Remote Machine Access

Oil, Gas & Mining
- Oil and Gas Monitoring
- Equipment Maintenance

Energy & Utilities
- Heat Distribution
- Power System Monitoring

Wi-Fi
GNSS
RS-232/RS-485
Ethernet
R3000 Quad
Base Station
robustel RCMS CLOUD
Data Center

Wired Connection
Wireless Connection

SPECIFICATIONS

Hardware System

CPU	ARM, 400 MHz
RAM	128 MB
Flash	256 MB

Cellular Interface

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

Ethernet Port

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

Serial Port (Software Selectable)

Number of ports	1 x RS-232 or 1 x RS-485
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 RS-232)

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

Others

Reset button	1 x RST
SD	1 x Micro SD interface
USB port	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, DNS, NTP, SMTP, Telnet, HTTPs, ARP, 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
Routing	Static routing, Dynamic routing (BGP, OSPF v2, RIP v1/v2)
Others	Smart Roaming V2

SDK

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

App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, Language, RCMS, Edge2Cloud, etc.

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

Cloud Platform

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

Power Supply and Consumption

Connector	3-pin 5 mm female socket with lock
Input voltage	12/24/48 V DC, 9 ~ 60 V DC
	Reverse polarity protection, surge protection
Power consumption	Idle: 1.5 W@12 V
	Max: 5.0 W@12 V
Recommended power supply	12 V DC/1.5 A power adapter

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Metal, 570 g
Dimensions	43.5 x 104 x 125 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 (non-condensing)

Regulatory and Type Approvals

Environmental	RoHS2.0, WEEE
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
	EN 61000-4-6 (CS) Level 2

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ORDERING INFORMATION

Model	Order Code	Wi-Fi	GNSS	Frequency Bands*	Country /Region	Certification	Package Contains
R3000-Q4LB	A001900704	-	-	4G: LTE FDD: B1/B3/B5/B7/B8/B20 LTE TDD: B38/B40/B41 3G: WCDMA: B1/B5/B8 2G: GSM: B3/B8	EMEA+SEA	CE TDRA UKCA	1 x R3000 Quad Router (B Code: B019738)
R3000-QLB	A001900705	-	-	-	Global	CE	1 x R3000 Quad Router (B Code: B019001)

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