R3000

robustOS

Industrial Dual SIM Cellular VPN Router

2 Eth + 2x DI + 2 x DO+ 2 x RS232 or 1 x
RS232 + 1 x RS485

INTRODUCTION

The Robustel Industrial Dual SIM Cellular VPN Router (R3000) is a rugged cellular router offering state-of-the-art mobile connectivity for machine-to-machine (M2M) applications.

The R3000 is widely used in industrial sectors such as pipeline monitoring, water treatment, gas and electricity distribution networks, and other similar environments where a durable product with reliable cellular communications is essential.

The R3000 features extensive overvoltage protection, high EMC immunity, and a DIN-rail/panel mount form factor, making it ideal for use in various industrial automation enclosures.

RCMS is Robustel's free router monitoring service that is fully compatible with the R3000. It allows customers to quickly and easily view a location overview of their routers on a map. Features such as data usage, signal strength, current network status, and much more can be viewed on a per-router basis. Over-the-air updates are supported for firmware, router configurations, and apps, serving as essential insurance if anything is not quite right during deployment.
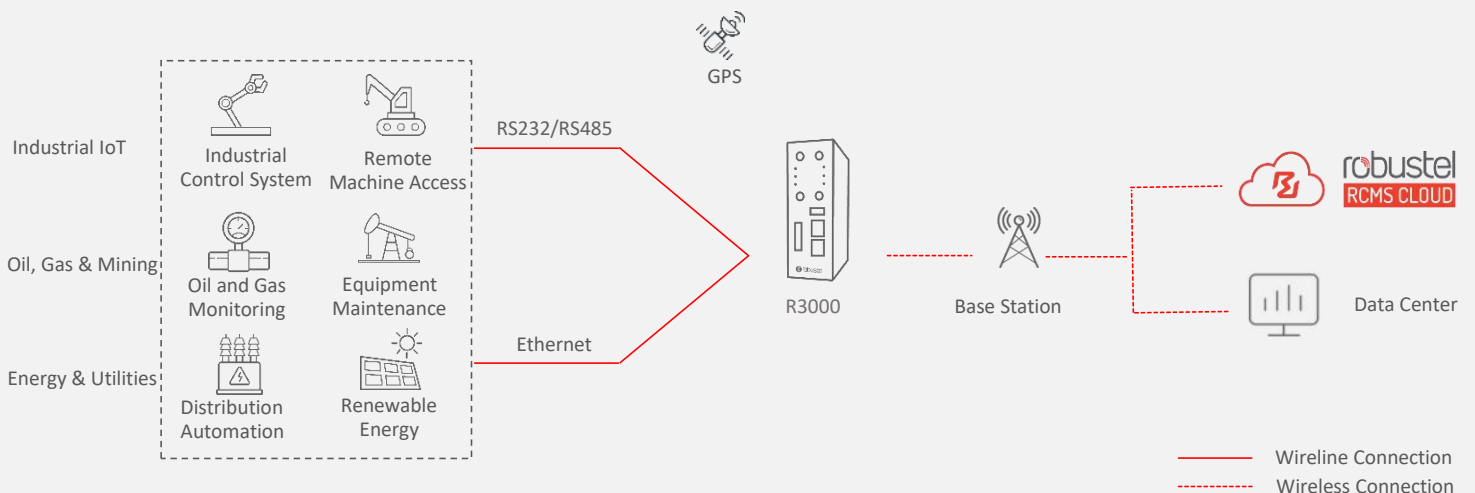
You can try Robustel's free router management platform by signing up here: https://rcms-cloud.robustel.net

KEY FEATURES

➢ The feature Link Manager supports WWAN1, WWAN2, Ethernet WAN, link backup and ICMP detection

➢ The option *Backup Mode* supports cold, warm and load balancing

➢ Supports IPv6

➢ RobustOS + SDK + App

➢ IPSec/OpenVPN/GRE/L2TP/PPTP/ DMVPN/WireGuard

➢ Management and maintenance via Web/CLI/SNMP/RCMS Cloud

➢ Robust industrial design (9 ~ 60V DC, desktop or wall mounting 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 — Distribution Automation, Renewable Energy

GPS
RS232/RS485
Ethernet
R3000
Base Station
Data Center

——— Wireline Connection
----------- Wireless Connection

SPECIFICATIONS

Cellular Interface
Number of antennas	2 (MAIN + AUX)
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
Magnet isolation protection	1.5 KV

GNSS Interface (Optional)
Number of antennas	1
Connector	SMA-K with 50 ohms impedance
Tracking sensitivity	-146 dBm
Horizontal position accuracy	< 2.5 m CEP50
Protocol	NMEA-0183

Serial Interface
Number of ports	2 x RS232 or 1 x RS232 + 1 x RS485
Connector	7-pin 3.5 mm female socket with lock
ESD protection	±15 KV air discharge, ±8 KV contact discharge
Baud rate	300 bps ~ 230400 bps
Flow control	RTS/CTS (for RS232)

DI/DO
Type	2 x DI (Support dry contact) + 2 x DO (wet contact)
Connector	7-pin 3.5 mm female socket with lock
Isolation	3 KVDC or 2 KVrms
Absolute maximum VDC	DI: DC Input voltage + 5 VDC
	DO: 30 VDC
Absolute maximum ADC	300 mA

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

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
	Data link: 400 mA (peak) @12 V

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, WireGuard
Firewall	DMZ, anti-DDoS, Filtering (IP/Domain name/ MAC address), Port Mapping, Access Control
Remote management	Web, CLI, SMS
Serial port	Transparent, DNP3 Transparent, TCP Client/ Server, UDP, Modbus RTU Gateway

App Center (Available Apps for RobustOS)
Apps*	L2TP, PPTP, DMVPN, VRRP, QoS, SNMP, RCMS, Language

*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

Physical Characteristics
Ingress protection	IP30
Housing & Weight	Metal, 570 g
Dimension	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 Conduction Emission Class B
	EN 55032 Radiated Emission Class B
EMS	EN 61000-4-2 (ESD) Level 4
	EN 61000-4-3 (RS) Level 4
	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

ORDERING INFORMATION

Model	PN	Category	GNSS	Serial port	Frequency Bands*	Country/ Region	Certifications (*In progress)
R3000-NU	B018001	-	-	1 x RS232 + 1 x RS485	-	EMEA	CE
R3000-4L	B018728	Cat 4	-	1 x RS232 + 1 x RS485	**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	Oceania South America	RCM, ANATEL, CRC, MTC, ENACOM
	B018735		-	1 x RS232 + 1 x RS485	**4G**: LTE FDD: B1/B3/B5/B7/B8/B20 LTE TDD: B38/B40/B41 **3G**: WCDMA: B1/B5/B8 **2G**: GSM: B3/B8	EMEA	CE, UKCA, E-Mark, IMDA, SIRIM, NTC
	B018750		-	2 x RS232			CE,UKCA
	B018745		√	1 x RS232 + 1 x RS485		North America EMEA	FCC, IC, UL, PTCRB, AT&T, Verizon, CE, UKCA, SIRIM,E-Mark
	B018752		-	1 x RS232 + 1 x RS485	**4G**: LTE FDD: B1/B3/B8/B18/B19/B26 LTE TDD: B41 **3G**: WCDMA: B1/B6/B8/B19	Japan	Telec, JATE

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