R2000 Ent robustOS

Industrial Dual Module Cellular VPN Router with Voice
5 Eth + 1 Voice/RS-232/RS-485 + 1 USB Host

INTRODUCTION

The Robustel Industrial Dual Module Cellular VPN Router with Voice (R2000 Ent) provides fast and reliable Internet connectivity, enhanced voice capabilities – making it perfect to respond to and manage any device, anytime and anywhere.
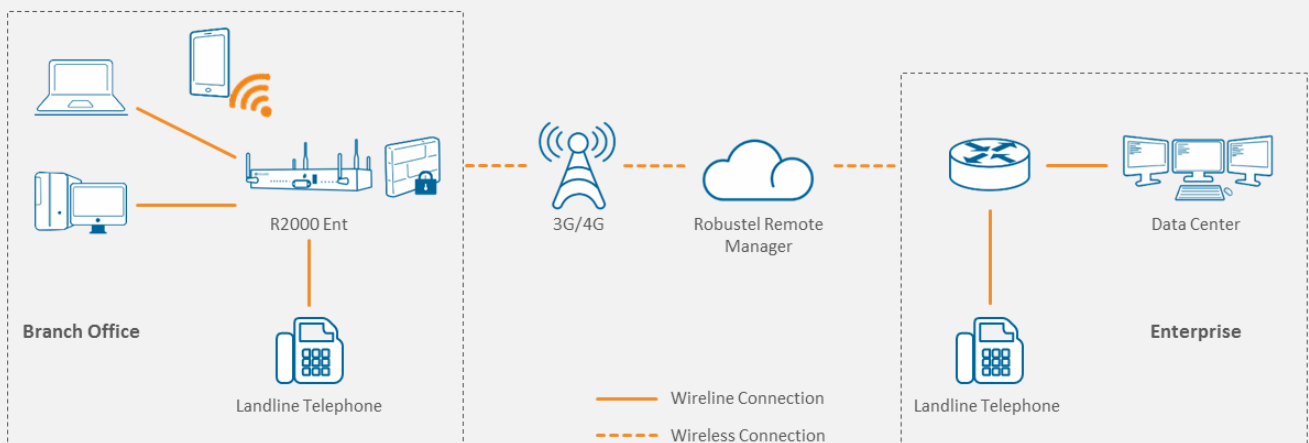
R2000 Ent is a powerful router developed from **RobustOS**, a Robustel self-developed and Linux-based operating system which is designed to be used in Robustel devices. The RobustOS includes basic networking features and protocols providing customers with a very good user experience. Meanwhile, Robustel offers a **Software Development Kit** (SDK) for partners and customers to allow additional customization by using C, Python or Java. It also provides rich **Apps** to meet fragmented IoT market demands.

Robustel is a leading global industrial IoT/M2M hardware and solution provider. Since its establishment in 2010 in Guangzhou, China, Robustel has been focusing on designing and manufacturing industrial cellular routers, gateways, modems, cloud platforms and E2E solutions. In order to support global business in more than 100+ countries and regions, Robustel has set up local offices in Germany, Australia, the Netherlands, the UK, Japan and Hong Kong.

KEY FEATURES

> Voice call/RS-232/RS-485 (choose one only) shared across an RJ11 port

> Voice call and data transmission being used simultaneously, depending upon your ISP network

> Supports GSM and VoLTE(optional) for voice traffic

> Embedded dual-module supports two SIM cards online simultaneously

> The feature *Link Manager* supports configuration of Cellular WAN, Ethernet WAN, WiFi link backup and ICMP detection

> WAN port supports PD feature – compatible with 802.3at.

> RobustOS + SDK + App

> IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN

> Management and maintenance via Web/CLI/SMS SNMP/RobustLink Cloud

> Robust industrial design (9 to 36V DC, desktop or wall mounting or DIN rail mounting)

APPLICATION EXAMPLE

R2000 Ent

Branch Office

Landline Telephone

3G/4G

Robustel Remote Manager

Data Center

Enterprise

Landline Telephone

Wireline Connection
Wireless Connection

SPECIFICATIONS

Cellular Interface

Number of antennas	4 (MAIN1 + AUX1 + MAIN2 + AUX2)
Connector	SMA female
SIM	2 (3 V & 1.8 V)
Standards	GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA/HSPA+/DC-HSPA+/TD-SCDMA/CDMA (CDMA 1X/EVDO)/FDD LTE/TDD LTE

Ethernet Interface

Number of ports	4 x LAN + 1 x WAN (10/100 Mbps)
WAN port	Supports 802.3at PD feature (optional)
Magnet isolation protection	4 KV

WiFi Interface

Number of antennas	2 (WiFi1 + WiFi2)
Connector	RP-SMA male
Standards	802.11b/g/n, support AP and Client modes
Frequency bands	2.4 GHz
Security	WEP, WPA, WPA2
Encryption	64/128 AES, TKIP
Data speed	2*2 MIMO, up to 300 Mbps
RF output power (+/-1 dBm)	802.11b 19 dBm, 802.11g 19 dBm 802.11n (20 MHz) 18 dBm 802.11n (40 MHz) 17 dBm
Receiving sensitivity (+/-1 dBm)	802.11b -93 dBm, 802.11g -90 dBm 802.11n (20 MHz) -88 dBm 802.11n (40 MHz) -85 dBm

Voice Interface

Number of ports	1 x Voice call (only SIM1 support)
Connector	RJ11 (also be used for landline telephone's power supply)
Standards	ITU Q.512 (SLIC) ITU K.20 (overcurrent and overvoltage protection)
Subscriber line interface circuit (SLIC)	Ring voltage: 40 to 90 Vpk configurable Ring frequency: 20 to 25 Hz Ring waveform: sine wave Maximum ringer load: 5 ringer equivalence numbers (RENs) On-hook voltage (tip/ring): -46 to -56V Off-hook current: 18 to 20 mA Terminating impedance: configurable

Serial Interface

Serial port	1 x RS-232/RS-485 with an RJ11 interface
USB host	1 x USB 2.0 port up to 480 Mbps

Others

Reset button	1 x RST
LED indicators	1 x RUN, 1 x NET1, 1 x NET2, 1 x RSSI1, 1 x RSSI2, 1 x USR 5 x LINK of Ethernet interface, including WAN, ETH1, ETH2, ETH3 and ETH4

Software (Basic features of RobustOS)

Network protocols	PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP,
VPN tunnel	IPsec, OpenVPN, GRE
Firewall	DMZ, anti-DoS, Filtering (IP/Domain name/MAC
Management	Web, CLI, SMS
Serial port	Transparent, TCP Client/Server, UDP,

App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, RobustVPN, VRRP, QoS,

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

Power Supply and Consumption

Connector	2.1 mm DC Jack socket
Power consumption	Idle: 350 mA@12 V
PD feature	WAN port support

Physical Characteristics

Ingress protection	IP30
Housing & Weight	Metal, 695 g
Dimensions	193 x 113 x 32 mm
Installations	Desktop, wall mounting or 35 mm DIN rail

Approvals

Regulatory	CE, RCM
Environmental	RoHS, WEEE

ORDERING INFORMATION

Model	R2000-E4L1	R2000-E4L2
Module Number	Single module	Dual module
Antenna Number	2	4
Air Interface	GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA/HSPA+/DC-HSPA+/TD-SCDMA/CDMA (CDMA 1X/EVDO)/FDD LTE/TDD LTE	
Frequency Bands	AU: B1/B3/B5/B7/B8/B28, B40	JP: B1/B3/B8/B9/B18/B19/B21/B28, B41
4G*	EU: B1/B3/B7/B8/B20/B28/B31, B38/B40	CN: B1/B3, B38/B39/B40/B41
	US: B2/B4/B5/B13/B17/B25, B41	
3G	WCDMA/HSDPA/HSUPA/HSPA+/DC-HSPA+: B1/B2/B5/B6/B8/B9/B19, TD-SCDMA: B34/B39	
	CDMA (CDMA 1X/EVDO): R0/A BC0/BC1/BC10	
2G	850/900/1800/1900 MHz	
Operating Environment	-25 to +70 °C/5 to 95% RH	

For more information about 4G frequency bands in different countries, please contact your Robustel sales representative.

Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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