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.
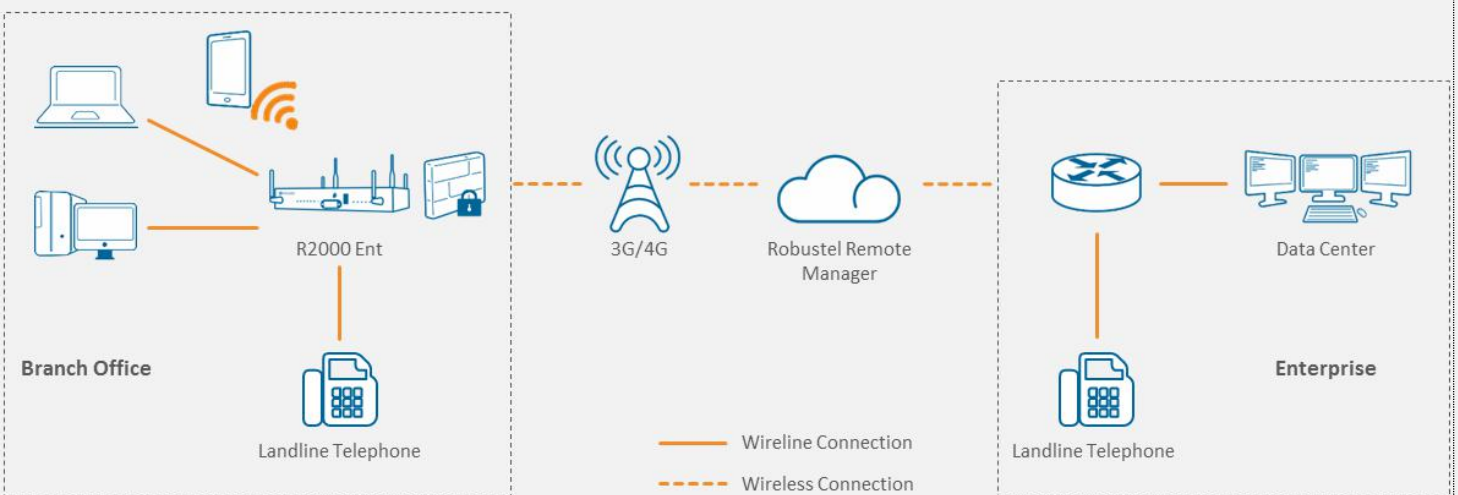
R2000 Ent is a powerful router developed from **RobustOS**, a Robustel self-developed and Linux-based operating system which is designed to be used in Robustel devices. The RobustOS includes basic networking features and protocols providing customers with a very good user experience. Meanwhile, Robustel 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

Branch Office — R2000 Ent — 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-K
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-K
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, HTTPs, DNS, ARP, RIP, OSPF, NTP, SMTP, Telnet, VLAN, SSH2, etc.
VPN tunnel	IPsec, OpenVPN, GRE
Firewall	DMZ, anti-DoS, Filtering (IP/Domain name/MAC address), Port Mapping, Access Control
Management	Web, CLI, SMS
Serial port	Transparent, TCP Client/Server, UDP, Modbus RTU Gateway

App Center (Available Apps for RobustOS)

Apps*	L2TP, PPTP, DMVPN, RobustVPN, VRRP, QoS, Captive Portal, WLAN Multi AP, SNMP, Language, RobustLink

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

Power Supply and Consumption

Connector	2.1 mm DC Jack socket
	Input voltage 9 to 36V DC
Power consumption	Idle: 350 mA@12 V
	Data link: 500 mA (peak) @12 V
PD feature* (optional)	WAN port supported
	Input voltage 48~57V DC

It is not recommended to use DC power supply and PD power supply

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 mounting

Approvals

Regulatory	CE
Environmental	RoHS2.0, 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 4G*	EMEA:B1/B3/B5/B7/B8/B20; B38/B40/B41	
	AU: B1/B2/B3/B4/B5/B7/B8/B28;B40	
	CN:B1/B3/B5/B8; B38/B39/B40/B41	
3G	EMEA: B1/B5/B8	
	AU: B1/B2/B5/B8	
	CN: B1/B5/B8; B34/B39; BC0	
2G	EMEA: B3/B8	
	AU: B2/B3/B5/B8	
	CN: B3/B8	
Operating Temperature	-25 to +70 °C	
Storage Temperature	-40 to +85 °C	
Relative humidity	5 to 95% RH	

robustel