GOSUNCN

GOSUNCN Industrial 3G/4G Router
R800

IoT Wireless Communication Router for Industry

Product Introduction

R800 3G/4G IoT industrial wireless communication router takes the advantage of public 4G network to provide data transmission through long distance. Its 32-bit communication processor and industrial grade wireless module help it to achieve great performance. It uses embedded RTOS (Real Time Operation System) as its software platform, it has 1 RJ45 console port embedded RS232 (or RS485/RS422) and 2 Ethernet LAN ports, also, it can be connected to serial device or Ethernet device to activate data transparent transmission and router function.

It is widely applied in M2M area of IoT industry chain, such as smart power grids, ITS (Intelligence Transportation System), smart home, finance, mobile POS terminal, supply chain automation, industrial automation, intelligent building, fire control, public security, environment protection, weather monitoring, smart medical treatment, telemetry, space exploration, agriculture, forestry, water, mine and petrochemical field.

Product Solution

Municipal Engineering
Public bike management system plan; rail transit wireless networking solution

Finance and Tax Control
Wireless networking solution in bank ATM device and self-service inquiry terminal

Industrial Interconnection
Tower crane wireless monitoring plan; DTU and configuration software communication solution

Business Networking
Wireless networking solution in self-help picking-up express and intelligent charging equipment

Smart Medical Treatment
Smart network, Wi-Fi coverage, cyber self-service terminals

Public Service
Wireless monitoring in scenic region and pipeline system

Water Conservancy and Disaster Reduction
Wireless monitoring solution in water quality

Environmental Monitoring
Wireless monitoring application in ambient noise; remote monitoring solution in air quality

Petrol and Petrochemical
Solution in bulk petrol refueling management system; wireless monitoring application in oil field
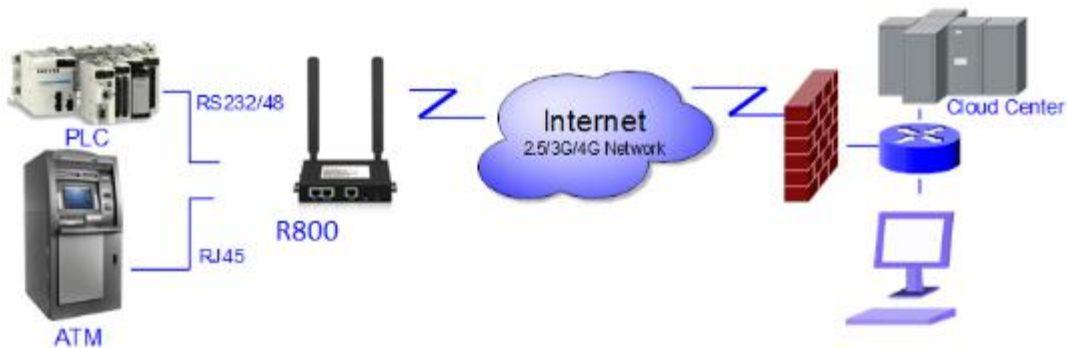
Smart Power Grids
Digital/Intelligent communication solution in transformer substation; state inspection solution in power transmission line; networking solution in wind power plant

ITS (Intelligence Transportation System)
Wireless smart parking guidance system; wireless video monitoring solution in traffic situation

Smart Agriculture
Monitoring system solution in agriculture greenhouse

Network Topological Graph

Welink Your Smart.

Product External View

Wireless Parameters

Item	Description
Wireless	Industrial grade wireless module and Router chipset
4G Technical Standard & Frequency Band	R800-J(Janpan & Korea): •LTE FDD(CAT3): B1/3/5/8/9/18/19/21 • WCDMA: B1/5/6/8/19 R800-U (North America): •LTE FDD(CAT4): B2, B4, B5, B12, B17, Uplink 50Mbps / Downlink 150 Mbps • WCDMA: B2, B5; Rx diversity, Uplink 5.76Mbps / Downlink 42Mbps , supported by AT&T, TMO R800-C (China): • LET FDD(CAT4): B1, B3 • LTE TDD: B38, B39, B40, B41 • CDMA : BC0 • TD-SCDMA : B34, B39 • GSM : B3, B8
Wi-Fi Parameter(optional)	Support 802.11b/g/n, 2T2R 2.4 GHz with 300 Mbps PHY data rate Support Wi-Fi AP、AP Client，Repeater，Repeater Bridge and WDS work mode（optional） Support WEP,WPA，WPA2 way of encryption, support RADIUS certification, MAC adress filter function
Theory Bandwidth	LTE FDD(CAT4): Max 150Mbps(DL)/Max 50Mbps(UL) LTE FDD(CAT3): Max 100Mbps(DL)/Max 50Mbps(UL)
Max. Transmitting Power	LTE: 23 ±2.7dBm (Power Class 3); TD-SCDMA : 24 +1/-3dBm ; GSM900 : 33±2dBm (Power Class 4); GSM1800: 30±2dBm (Power Class 1) ; CDMA:24 ±1dBm @ All up bits
GPS function(optional)	Support GPS function by independent GPS chipset

Hardware Parameters

Item	Description
CPU	Industrial grade 32-bit communication processor
FLASH	16MB
RAM	64MB

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Interface Parameters

Item	Description
LAN	2 10/100M Ethernet interface (RJ45), MDI/MDIX auto-negotiation, embedded 15KV electromagnetism isolation blocking
Console	1 console RJ45 socket ,embedded RS232 interface (or RS422/RS485), embedded 15KV ESD protection： •Data bit: 5, 6, 7, 8 bit •Stop bit: 1, 2 bit •Calibration: no calibration, odd/even parity •UART speed: 300~115200bits/s
Indicator Light	"PWR","VPN", "SYS", "PPP", "BAK", "SIG", "LAN1", "LAN2"
Antenna	ANT1：3/4G AUX, norm SMA negative antenna interface, characteristic impendence is 50 ohm ANT2: : WIFI ,negative antenna interface, characteristic impendence is 50 ohm (optional) ANT3 : GPS/WIFI,norm SMA negative antenna interface, characteristic impendence is 50 ohm(optional) ANT4: : 3/4G MAIN, SMA negative antenna interface, characteristic impendence is 50 ohm
SIM/UIM Card	Normal drawer type card interface (1.8V/3V SIM/UIM card), embedded 15KV ESD protection
Power Supply	Normal 3-core power socket, embedded power reverse-phase protection and overvoltage protection
Reset	Revert ROUTER parameters to factory ones

Power Parameters

Item	Description
Reference Power Supply	DC 12V/1A
Power Supply Range	DC 6~35V
Communication Current	<450mA (12V)

Mechanical Parameters

Item	Description
Shell	Metal shell, IP 30 level of protection, safe isolation from inner system, suitable for industrial field application
Overall Dimension	118x100x22 mm (antenna and installation parts are not included)
Weight	About 357g

Others

Item	Description
Operating Temperature	-25~+65ºC（-13~+150℉）
Extreme Operating Temperature	-30~+75ºC（-22~+167℉）
Storage Temperature	-40~+85ºC（-40~+185℉）
Relative Humidity	95% (no condensation)

Product Features

Industrial Grade Design

1. High-performance industrial grade wireless module
2. High-performance industrial grade 32-bit communication processor
3. Low-power consumption modes are available, such as hibernation mode(for 4G module), timing online/offline mode and timing ON/OFF mode (for particular product types)
4. Metal shell, IP 30 level of protection, safe isolation from inner system, suitable for industrial field application
5. Wide range of power supply（DC 6~35V）

Steady Reliability

1. WDT design to make sure system stability
2. Perfect prevention of lost connection to guarantee online state
3. Ethernet interface auto-negotiation, embedded 15KV electromagnetism isolation blocking
4. RS232/RS485/RS422 interface, embedded 15KV ESD protection
5. SIM/UIM card interface, embedded 15KV ESD protection
6. Power interface, embedded power reverse-phase protection and overvoltage protection
7. Lightening-proof antenna interface (optional)

Standard and Easy of Utility

☐ RS232 /RS485
1. Normal type of RS232 and RS485 (RS422) to connect UART device directly
2. Smart data terminal device, can be into data transmission status immediately after POWER-ON
3. Strong functional management software to easy device management (optional)
4. Multiple operating modes for easy and quick use
5. Simple system configuration and interface maintenance
6. UART software upgrade and telemaintenance

☐ RJ45
1. Ethernet interface to connect UART device and Ethernet device directly
2. Provide regular wired WAN interface (optional, support PPPOE protocol) to connect ADSL device directly
3. Smart data terminal device, can be into data transmission status immediately after POWER-ON
4. Strong functional management software to easy device management (optional)
5. Simple system configuration and interface maintenance (including local and remote WEB and CLI)

Industrial Grade Design

☐ RS232 /RS485
1. Support TCP server, 4 TCP connection can be done simultaneously (optional)
2. TCP connection (optional)
3. Support dual data transmission back-up and multi-data center synchronous transmission (5 data centers)
4. Several online/offline trigger mode, including SMS, call ring and UART data
5. Access into center by domain name and IP address
6. Embedded TCP/IP protocol and data transparent transmission
7. Support APN/VPDN

☐ RJ45
1. Multiple WAN connection methods, including static IP, DHCP, L2TP, PPTP, PPPOE, 3G/HSPA+/4G
2. Intelligent switch back-up function between 3G/4G and wired WAN (optional)
3. Support VPN client (PPTP, L2TP, OPENVPN, IPSEC and GRE; only for VPN device type)
4. Support remote control, SYSLOG, SNMP, TELNET, SSHD, HTTPS and so on
5. Support online upgrade (local or remote), import and export config files
6. Support NTP, embedded RTC
7. Support various of DDNS (domestic and overseas)
8. Support VLAN, MAC address clone, PPPOE server
9. Several online/offline trigger mode, including SMS, call ring and UART data
10. Support APN/VPDN
11. Support multichannel DHCP server and DHCP client, DHCP bound with MAC address, DDNS, firewall, NAT, DMZ, QoS, network traffic statistics, real-time data transmission speed display etc.
12. Multi-network protocols are available, such as TCP/IP, UDP, FTP, HTTP
13. SPI firewall, VPN, access control, URL filtration
14. Timing reboot

☐ Wi-Fi
1. Support 802.11b/g/n, 2T2R 2.4 GHz with 300 Mbps PHY data rate
2. Support various operating mode, such as Wi-Fi AP, AP Client, repeater, repeater bridge and WDS
3. Support encryption methods such like WEP, WPA, WPA2; support RADIUS and MAC address filtering

☐ Temperature Alarm: Can display device temperature on system status interface:
1. Measures temperatures from -55°C to +125°C.
2. Fahrenheit equivalent is -67°F to +257°F ±0.5°C.
3. Accuracy from -10°C to +85°C

☐ GPS: GPS function can disaplay the longtitude and latitude of current device:
1. Horizontal Position Accuracy：<2.5 m,
2. Velocity Accuracy:Speed <0.01 m/s,
3. Heading <0.01°