URSALINK

UR51 Industrial Cellular Router

Reliable and Remote-Manageable

for Large Scale M2M Deployment

High Speed LTE Networking Platform

The Ursalink UR51 is a cost-effective industrial cellular router with embedded intelligent software features that are designed for multifarious M2M/IoT applications. Global WCDMA and 4G LTE carrier supported make this drop-in connectivity a great help for operators in maximizing uptime.

Integrating embedded cellular modem and dual SIM function, the UR51 provides 3G/4G cellular network with 150 Mbps download and 50 Mbps uplink. It also has 1 PoE port (optional), 1 serial port (RS232/485) to connect various end devices and supports dual-band Wi-Fi that compliance with 802.11b/g/n/ac standard, which makes UR51 versatile.

Easy deployment and comprehensive remote device management makes UR51 particularly suitable for light industrial and business applications like ATMs, kiosk, digital signage and so on.

▶ Benefits

- Dual SIM cards for backup between multiple carriers networking and global 2G/3G/LTE options make it easy to get connected
- 802.3af PoE output offers fast and easy deployment
- Flexible modular design provides users with different connection modules like Ethernet, serial port, GPS, Wi-Fi for connecting diverse field assets
- Rugged enclosure, optimized for DIN rail or shelf mounting
- 3-year warranty included

▶ Easy Maintenance

- Ursalink Device Management Platform provides easy setup, mass configuration, and centralized management of remote devices
- The user-friendly web interface design and more than one option of upgrade help administrator to manage the device as easy as pie
- WEB GUI and CLI enable the admin to achieve simple management and quick configuration among a large quantity of devices
- Efficiently manage the remote routers on the existing platform through the industrial standard SNMP

▶ Security & Reliability

- Automated failover/failback between Ethernet and Cellular (dual SIM)
- Enable unit with security frameworks like IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN
- Embed hardware watchdog, able to automatically recover from various failure, ensure highest level of availability
- To establish a secured mechanism on centralized authentication and authorization of device access by supporting AAA (Radius, Tacacs+, LDAP, local Authentication) and multiple levels of user authority
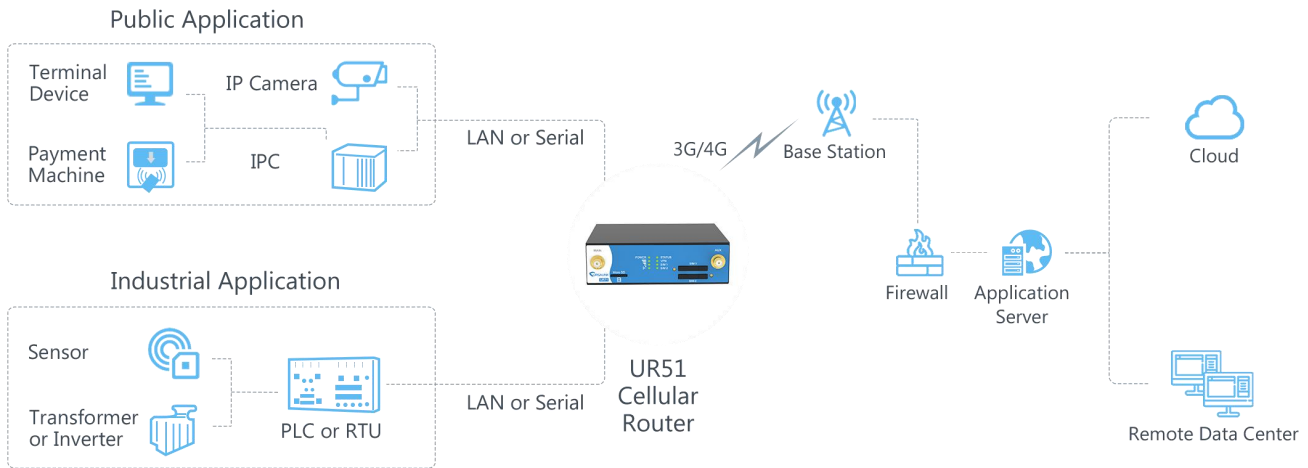
▶ Capabilities

- Link remote devices in an environment where communication technologies are constantly changing
- Support 802.11b/g/n/ac, as AP or client mode to establish versatile wireless network
- Support rich protocols like SNMP, MQTT, Modbus bridging, RIP, OSPF
- Support wide operating temperature ranging from -40°C to +70°C/-40℉ to +158℉

▶ Application Example

Public Application

Terminal Device · IP Camera · Payment Machine · IPC · LAN or Serial

Industrial Application

Sensor · Transformer or Inverter · PLC or RTU · LAN or Serial

3G/4G · Base Station

UR51 Cellular Router

Firewall · Application Server

Cloud

Remote Data Center

▶ Specifications

Cellular Interfaces	
Connectors	2 × 50 Ω SMA (Center PIN: SMA Female)
SIM Slots	2
Wi-Fi Interface (Optional)	
Connectors	1 × 50 Ω SMA (Center PIN: SMA Female)
Standards	IEEE 802.11b/g/n/ac
Tx Power	802.11b: 16 dBm +/-1.5 dBm (11 Mbps)
	802.11g: 15 dBm +/-1.5 dBm (54 Mbps)
	802.11n@2.4 GHz: 14 dBm +/-1.5 dBm (HT20 MCS7)
	802.11ac@5 GHz: 10 dBm +/-2 dBm (HT80 MCS9)
Rx Sensitivity	802.11b: <= -75 dBm (11 Mbps)
	802.11g: <= -68 dBm (54 Mbps)
	802.11n@2.4 GHz: <= -67 dBm (HT20 MCS7)
	802.11n@2.4 GHz: <= -64 dBm (HT40 MCS7)
	802.11ac@5 GHz: <= -64 dBm (HT20 MCS8)
	802.11ac@5 GHz: <= -55 dBm (HT40 MCS9)
	802.11ac@5 GHz: <= -64 dBm (HT80 MCS9)
Modes	Support for multiple SSID, AP and Client mode
Security	WPA/WPA2 authentication, WEP/TKIP/AES encryption
Hardware System	
CPU	528 MHz, ARM Cortex A7
Memory	128 MB Flash, 128 MB DDR3 RAM
Storage	1 × Micro SD

Ethernet Interface

Ports	1 × RJ-45
Property	1 × LAN (Optional: PoE Output)
Physical Layer	10/100 Base-T (IEEE 802.3)
Data Rate	10/100 Mbps (Auto-Sensing)
Interface	Auto MDI/MDIX
Mode	Full or half duplex (Auto-Sensing)

Serial Interface (Optional)

Ports	1 × RS232 or 1 × RS485
Connector	DB9 female terminal block
Baud Rate	300bps to 230400bps

GPS (Optional)

Connectors	1 × 50 Ω SMA (Center PIN: SMA Female)
Sensitivity	-167dBm@Tracking, -149dBm@Acquisition, -161dBm@Re-acquisition
Position Accuracy	<2.5m CEP
Protocols	NMEA 0183, PMTK

Software

Network Protocols	PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIPv1/v2, OSPF, DDNS, VRRP, HTTP, HTTPS, DNS, ARP, QOS, SNTP, Telnet, VLAN, SSH, etc.
VPN Tunnel	DMVPN/IPsec/OpenVPN/PPTP/L2TP/GRE
Access Authentication	CHAP/PAP/MS-CHAP/MS-CHAPV2
Firewall	ACL/URL Filter/DMZ/Port Mapping/MAC Binding
Management	Web, CLI, SMS, On-demand dial up
AAA	RADIUS, TACACS+, LDAP, Local Authentication
Multilevel Authority	Multiple Levels of User Authority
Reliability	VRRP, Dual SIM Backup
Serial Port	Transparent (TCP Client/Server, UDP), Modbus Gateway (Modbus RTU to Modbus TCP)

Power Supply and Consumption

Connector	2-pin with 5.08 mm terminal block
Input Voltage	9-48 VDC
Power Output	1 × 802.3af PoE Output
Power Consumption	Typical 1.8 W, Max 2.7 W (In Non-PoE mode)

Physical Characteristics

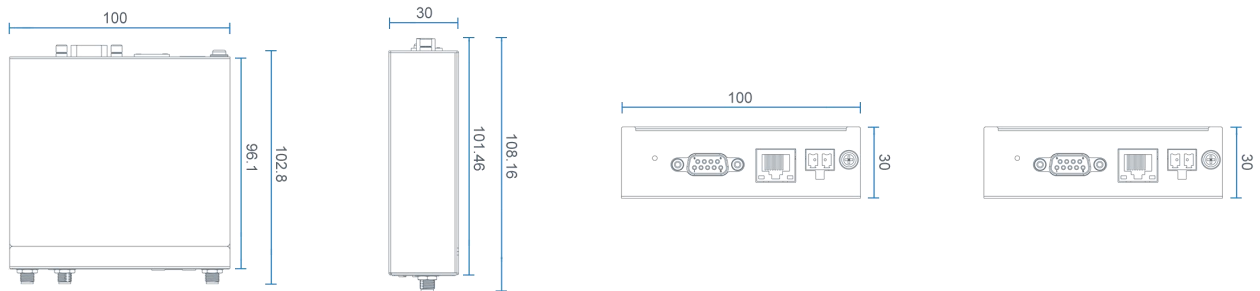|	
Ingress Protection	IP30
Housing & Weight	Metal
Dimensions	100 x 96.1 x 30 mm (3.94 x 3.78 x 1.18 in)
Mounting	Desktop, Wall or DIN Rail Mounting

Others

Reset Button	1 × RESET
LED Indicators	1 × POWER, 1 × STATUS, 1 × VPN, 1 × SIM1, 1 × SIM2, 3 × Signal strength
Built-in	Watchdog, RTC
Certifications	RoHS, CE, FCC
EMC	IEC 61000-4-2 Level 3 IEC 61000-4-3 Level 4 IEC 61000-4-4 Level 3 IEC 61000-4-5 Level 4 IEC 61000-4-6 Level 3 IEC 61000-4-8 Level 4

Environmental

Operating Temperature	-40°C to +70°C (-40℉ to +158℉) Reduced Cellular Performance Above 60°C
Storage Temperature	-40°C to +85°C (-40℉ to +185℉)
Ethernet Isolation	1.5 kV RMS
Relative Humidity	0% to 95% (non-condensing) at 25°C/77℉

▶ Product Images/Dimensions (mm)

▶ Ordering Information

Model	UR51-L	UR51-U
Router Type	LTE Router	HSPA+ Router
Air Interface	LTE(LTE-FDD/LTE-TDD)/CDMA(CDMA 1x/EVDO)/TD-SDMA/DC-HSPA+/HSPA+/HSUPA/HSDPA/WCDMA/EDGE/GPRS/GSM	HSPA+/HSUPA/HSDPA/EDGE/GPRS/GSM
Frequency Band 4G	-E: B1/B3/B5/B7/B8/B20@FDD LTE, B38/B40/B41@TDD LTE -V: B4/B13@FDD LTE -A: B2/B4/B12@FDDLTE -AU: B1/B2/B3/B4/B5/B7/B8/B28 @FDD LTE, B40@TDD LTE -J: B1/B3/B8/B18/B19/B26 @FDD LTE, B41@TDD LTE -CE: B1/B3/B8@FDD LTE, B38/B39/B40/B41@TDD LTE	
3G	-E: B1/B5/B8@WCDMA -A: B2/B4/B5@WCDMA -AU: B1/B2/B5/B8 WCDMA -J: B1/B6/B8/B19@WCDMA -CE: B1/B8@WCDMA, B34/B39@TD-SCDMA, BC0@CDMA2000 1×/EVDO	-E: 900/2100@UMTS -A: 850/1900@UMTS -G: 800/850/900/1900/2100@UMTS
2G	-E: B3/B8@GSM -A: B2/B3/B5/B8@GSM -AU: B2/B3/B5/B8@GSM -CE: 900/1800@GSM	-E: 850/900/1800/1900@GSM -G: 850/900/1800/1900@GSM

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