



# UR55 Industrial Cellular Router

Reliable and Remote-Manageable  
for Large Scale M2M Deployment

High Speed LTE Networking Platform



The Ursalink UR55 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 UR55 provides 3G/4G cellular network with 150 Mbps download and 50 Mbps uplink, it also has 5 fast Ethernet ports and supports dual-band Wi-Fi that compliance with 802.11b/g/n/ac standard. All these capabilities deliver users an uninterrupted internet access.

Easy deployment and comprehensive remote device management makes UR55 versatile in most of IoT/M2M applications.

## ► Benefits

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

## ► 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

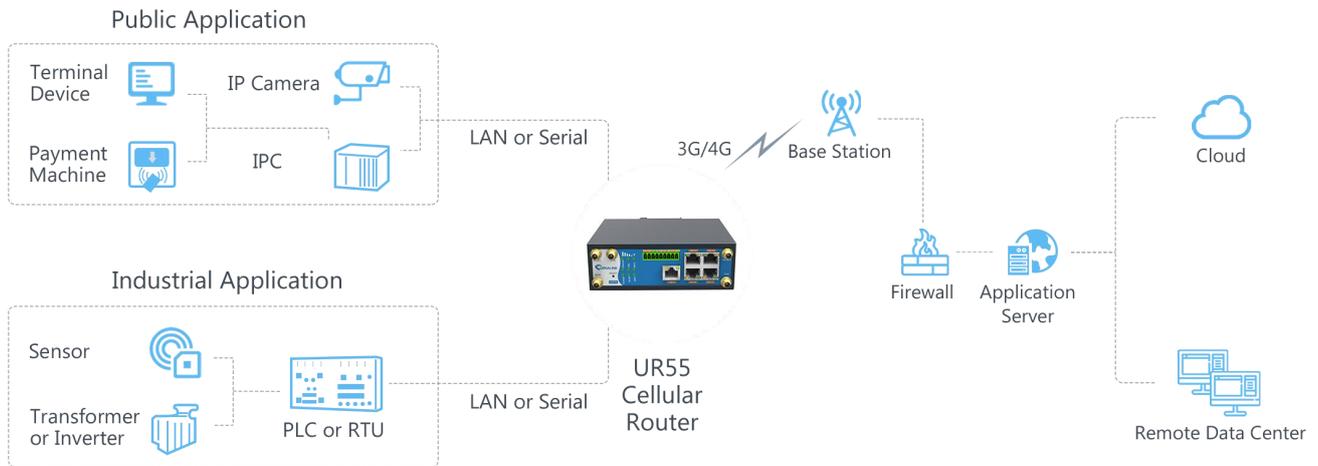
## ► Easy Maintenance

- Uرسالink DeviceHub 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

## ► 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 or be the backup WAN link for 3G/4G
- Support rich protocols like SNMP, MQTT, Modbus bridging, RIP, OSPF
- Support wide operating temperature ranging from -40°C to +70°C/-40°F to +158°F

## Application Example



## 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)<br>802.11g: 15 dBm +/-1.5 dBm (54 Mbps)<br>802.11n@2.4 GHz: 14 dBm +/-1.5 dBm (HT20 MCS7)<br>802.11ac@5 GHz: 10 dBm +/-2 dBm (HT80 MCS9)   |
| Rx Sensitivity             | 802.11b: ≤ -76 dBm (11 Mbps)<br>802.11g: ≤ -68 dBm (54 Mbps)<br>802.11n@2.4 GHz: ≤ -67 dBm (HT20 MCS7)<br>802.11n@2.4 GHz: ≤ -64 dBm (HT40 MCS7)<br>802.11n@5 GHz: ≤ -67 dBm (HT20 MCS7)<br>802.11n@5 GHz: ≤ -65 dBm (HT40 MCS7)<br>802.11ac@5 GHz: ≤ -54 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                 | 5 × RJ-45   |
| Property              | 1 × WAN + 4 × LAN or 2 × WAN + 3 × LAN  |
| 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      |   |
| Ports                 | 1 × RS232 + 1 × RS485 or 2 × RS232 or 2 × RS485   |
| Connector             | Terminal block  |
| Baud Rate             | 300bps to 230400bps   |
| IO                    |   |
| Connector             | (4) pin screw down terminal block   |
| Digital               | 2 × DI + 2 × DO   |
| 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/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, WAN Failover, 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 Consumption | Typical 2.8 W (Max 5.0 W)         |

## Physical Characteristics

|                    |   |
|--------------------|---|
| Ingress Protection | IP30  |
| Housing & Weight   | Metal                                       |
| Dimensions         | 132 x 103.8 x 45 mm (5.20 x 4.09 x 1.77 in) |
| Mounting           | Desktop, Wall or DIN Rail Mounting          |

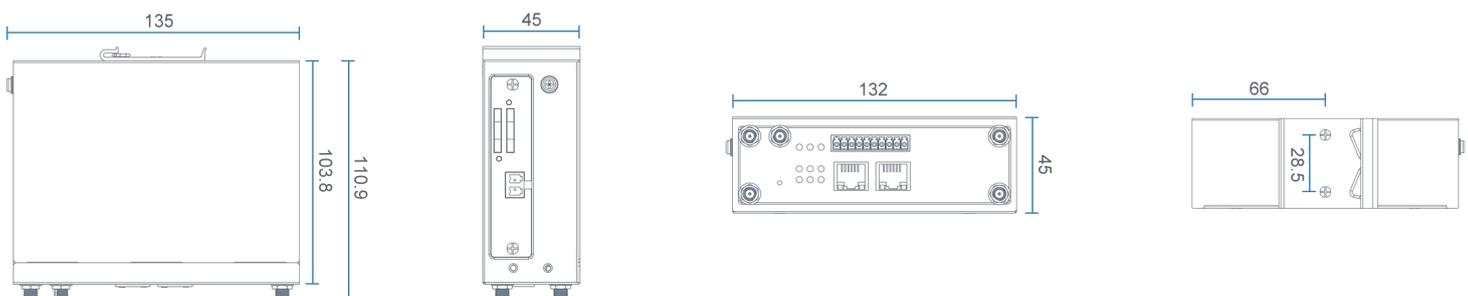
## Others

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

## Environmental

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

## 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<br>-V: B4/B13@FDD LTE<br>-A: B2/B4/B12@FDDLTE<br>-AU: B1/B2/B3/B4/B5/B7/B8/B28 @FDD LTE, B40@TDD LTE<br>-J: B1/B3/B8/B18/B19/B26 @FDD LTE, B41@TDD LTE<br>-CE: B1/B3/B8@FDD LTE, B38/B39/B40/B41@TDD LTE |  |
| 3G                | -E: B1/B5/B8@WCDMA<br>-A: B2/B4/B5@WCDMA<br>-AU: B1/B2/B5/B8 WCDMA<br>-J: B1/B6/B8/B19@WCDMA<br>-CE: B1/B8@WCDMA, B34/B39@TD-SCDMA, BC0@CDMA2000 1x/EVDO   | -E: 900/2100@UMTS<br>-A: 850/1900@UMTS<br>-G: 800/850/900/1900/2100@UMTS |
| 2G                | -E: B3/B8@GSM<br>-A: B2/B3/B5/B8@GSM<br>-AU: B2/B3/B5/B8@GSM<br>-CE: 900/1800@GSM  | -E: 850/900/1800/1900@GSM<br>-G: 850/900/1800/1900@GSM                   |