UR75 5G

Industrial Router

Adopting high-performance industrial platform of quad-core CPU and cellular module, UR75 is capable of providing wire-speed network and ultra-small package to ensure the extremely safe and reliable connection to the wireless network. Upgraded to the latest cellular technology - 5G, the UR75 makes itself possible to enjoy ultra-fast broadband access with 5G cellular network.

Meanwhile, UR75 also supports 5-port Gigabit Ethernet switch, serial ports (RS232/RS485) and DI/DO (Digital input/Digital output), which enable you to scale up M2M application combining data and video in limited time and budget.

UR75 is particularly suitable for smart grid, digital media installations, industrial automation, telemetry equipment, medical device, digital factory, finance, payment device, environment protection, water conservancy and so on.

◆ Benefits

- Qualcomm quad-core CPU with big memory; SSD is available to support further development and customize requirements
- Global 5G (NSA/SA)/4G LTE network with dual SIM cards for backup between multiple carrier networks
- Gigabit Ethernet ports for lightning transmission of data
- Embedded Python SDK for secondary development
- 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

◆ Capabilities

- The device data can be aggregated and cleaned locally, and the processed data can be transmitted to the Cloud for storage and analysis.
- It can be continuously running in a broken or weak network environment, and the latest data can be synchronized to the Cloud after the network is restored
- Link remote devices in an environment where communication technologies are constantly changing
- Support 802.11 a/b/g/n/ac, as AP or client mode, to establish versatile wireless network or be the backup WAN link for 5G/4G
- Support rich protocols like SNMP, Modbus bridging, RIP, OSPF

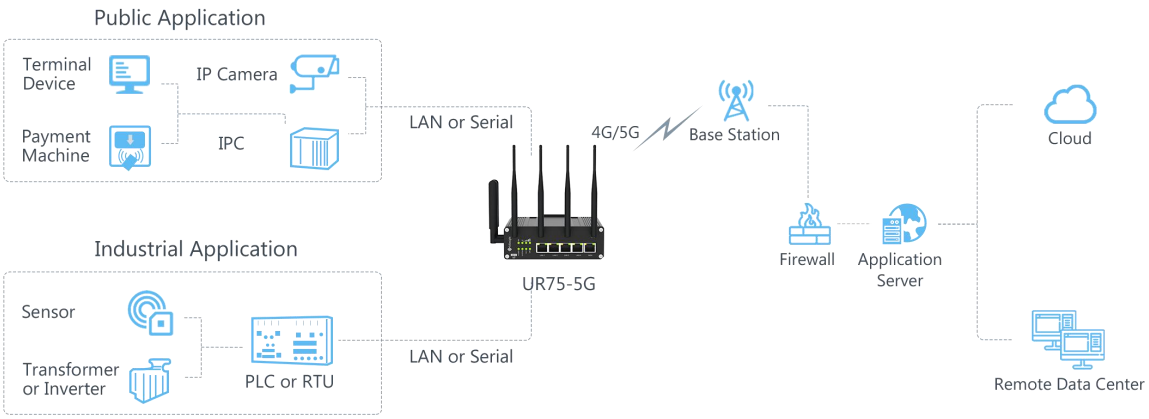
◆ Security & Reliability

- Quickly develop functions with Function Compute and deploy them seamlessly to edge nodes
- Automated failover/failback between Ethernet, Cellular (dual SIM) and Wi-Fi
- Secure transmission with VPN tunnels like IPsec/OpenVPN/GRE/L2TP/PPTP/DMVPN
- Embeds hardware watchdog to automatically recover from various failure, ensure highest level of availability
- DeviceHub provides easy setup, mass configuration, and centralized management of remote devices

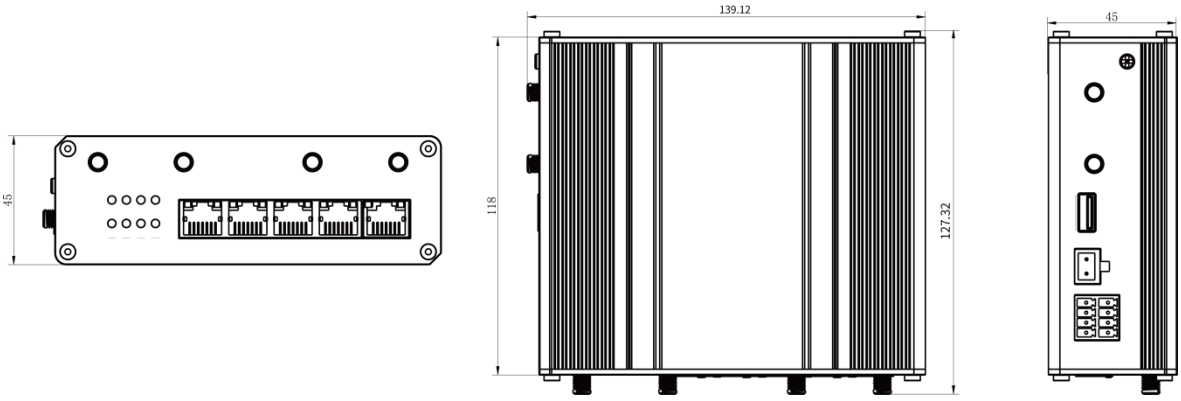
◆ Easy Maintenance

- 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

◆ Application Example



◆ Dimensions(mm)



◆ Specifications

Hardware System	
CPU	Qualcomm Quad-core ARM Cortex-A7，716.8 MHz
Memory	512 MB DDR3 RAM and 8GB Flash
Extendable Storage	1 × M.2 NVMe SSD Interface
Cellular Interface	
Antenna	UR75-5G: 4 × 50 Ω SMA Connectors (Center PIN: SMA Female) UR75-4G: 2 × 50 Ω SMA Connectors (Center PIN: SMA Female)
SIM Slots	2 （Mini SIM-2FF）
Ethernet Interface	
Numbers	5 × 10/100/1000 Mbps
Property	1 × WAN +4 × LAN
Mode	Full or half duplex (Auto-Sensing)
PoE	4 × 802.3 af/at PoE PSE on LAN Ports (Optional)

Wi-Fi Interface	
Antenna	2 × 50 Ω SMA Connectors (Center PIN: RP-SMA Female)
Standards	IEEE 802.11 b/g/n，2.4GHz IEEE 802.11 a/n/ac，5GHz
Tx Power	2.4G: 26dBm(max) 5G: 26.4dBm(max)
Rx Sensitivity	
2.4G	802.11b: ≤ -92dBm@11Mbps 802.11g: ≤ -78dBm@54Mbps 802.11ac VHT20: ≤ -91dBm@MCS0 802.11ac VHT20: ≤ -66dBm@MCS8 802.11ac VHT40: ≤ -88.5dBm@MCS0 802.11ac VHT40: ≤ -64dBm@MCS8
5G	802.11a: ≤ -91dBm@6Mbps 802.11a: ≤ -76dBm@54Mbps 802.11ac VHT20: ≤ -90dBm@MCS0 802.11ac VHT20: ≤ -68dBm@MCS8 802.11ac VHT40: ≤ -87dBm@MCS0 802.11ac VHT40: ≤ -65dBm@MCS9 802.11ac VHT80: ≤ -84dBm@MCS0 802.11ac VHT80: ≤ -60dBm@MCS9
Modes	AP and Client mode
Security	WPA/WPA2 authentication, WEP/TKIP/AES encryption
GPS	
Antenna	1 × 50 Ω SMA Connector (Center PIN: SMA Female)
Sensitivity	-167dBm@Tracking, -149dBm@Acquisition, -161dBm@Re-acquisition
Position Accuracy	<2.5m CEP
Protocol	NMEA0183, PMTK
Serial Interface	
Numbers	1 × RS232 + 1 × RS485 (2 × RS485 Optional)
Connector	3.5mm Terminal Block
Baud Rate	300bps to 230400bps
DI/DO	
Numbers	1 × DI (dry contact) + 1 × DO (wet contact)， galvanic isolation

Connector	3.5mm Terminal Block
Maximum V/A	0.3A@30VDC (DO)
Others	
Reset Button	1 × RESET
USB	1 × USB 2.0 (Reserved)
LED Indicators	1 × POWER, 1 × SYSTEM, 1 × VPN, 1 × WLAN, 1 × SIM, 3 × Signal strength
Built-in	Watchdog, RTC, Timer
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	DMVPN, IPsec, OpenVPN, PPTP, L2TP, GRE
Security	Access Control, DMZ, Port Mapping, MAC Binding, SPI Firewalls, DoS&DDoS Protection, Filtering(IP&Domain), IP Passthrough
Management	Web, CLI, SMS, On-demand dial up, SNMP v1/v2/v3, DeviceHub
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 Master/Slave, Modbus Gateway (Modbus RTU to Modbus TCP)
Power Supply and Consumption	
Power Connector	2-pin 5.08 mm Terminal Block
Input Voltage	9-48 VDC, with Surge-Protection and Reverse Polarity Protection
Power Consumption	≤ 7.9W (In Non-PoE mode)
Physical Characteristics	
Ingress Protection	IP30
Housing	Metal
Dimension	135 x 118 x 45 mm (5.31 x 4.65 x 1.77 in)
Installation	Desktop, Wall or DIN Rail Mounting
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℉

◆ Ordering Information

Model	Module	Frequency Bands*	Wi-Fi	GPS	PoE
UR75-500GL-G-<P>-W	5G	N1/N2/N3/N5/N7/N8/N12/N20/N28/N41/N66/N71/N77/N78/N79@5G NR, B1/B2/B3/B4/B5/B7/B8/B9/B12/B13/B14/B17/B18/B19/B20/B21(TBD)/B25/B26/B28/B29/B30/B32/B66/B71@LTE FDD, B34/B38/39/B40/B41/B42/B48@LTE TDD	Yes	Coming soon	Optional
UR75-L0xx-<G>-<P>-W	4G LTE (Cat 4)	**-L04EU:** B1/B3/B7/B8/B20/B28A@LTE FDD,B38/B40/B41@LTE TDD, B1/B8@WCDMA, B3/B8@GSM **-L04AF:** B2/B4/B5/B12/B13/B14/B66/B71@LTE FDD, B2/B4/B5@WCDMA **-L04AU:** B1/B2/B3/B4/B5/B7/B8/B28@LTE FDD, B40@LTE TDD,B1/B2/B4/B5/B8@WCDMA, B2/B3/B5/B8@GSM	Yes	Optional	Optional

*Please contact Milesight IoT for more information about frequency bands or category.