Ultra Series

Industrial Router

UR75



Milesight UR75 is an high-performance industrial-grade 5G router designed for a variety of M2M/IoT applications. Made for high-performance, industrial standard, it has quad-core CPU and cellular module that supports global WCDMA, 4G LTE and 5G sub-6 Ghz NSA and SA network.

Meanwhile, UR75 also supports 5-port Gigabit Ethernet switch, RS232/RS485 serial ports and Digital input/Digital output, which enable users to scale up M2M application combining data collection and high-speed transmission 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.

◆ Ultra Fast Connectivity

- Industrial-grade quad-core CPU ARM Cortex-A55 with big memory, providing high performance for data transmission
- Global 5G (NSA/SA)/4G LTE network with dual SIM cards for backup between multiple carrier networks
- Dual carrier aggregation (2CC CA) is supported in the 5G Sub-6GHz, enabling wider signal coverage with superb download speed up to 4.67 Gbps
- Plug& play, supply lightning transmission via Gigabit Ethernet ports or USB Type-C interface
- Support Wi-Fi 6, allows 2.4G & 5G dual band concurrent connections up to 1.8 Gbps download speed

◆ Security & Reliability

- Automated failover/failback backup among Ethernet, Cellular (dual SIM) and Wi-Fi
- Secure transmission with VPN tunnels like IPsec/OpenVPN
- Embedded with hardware watchdog to automatically recover from various failures, ensures the highest level of availability
- Equipped with multiple security protection measures such as ACL, DMZ, SYN-Flood protection, and data filtering to ensure that the network is secured
- Support policy routing and NAT for more secure intranet access

◆ Industrial-Grade Design

- Wide operating temperature range from -40°C to 70°C and industrial design for harsh environment
- Rugged enclosure with IP30 protection, optimized for DIN rail or shelf mounting.
- Equipped with I/O, serial port, GPS for industrial transmission applications
- 3-year warranty included

◆ Ease of Maintenance

- DeviceHub provides easy setup, mass configuration, and centralized management of remote devices.
- The user-friendly web interface design and more than one option for upgrading. helps the administrator to manage the device easily
- Support multilevel user authorities for security management
- Fast and user-friendly programming by Node-RED development tool

◆ Hardware Specifications

Hardware System	
CPU	Quad-core ARM Cortex-A55，2 GHz
Memory	1 GB LDDR4x RAM and 1 GB NAND Flash
Extendable Storage	1 × M.2 NVMe SSD Interface
Cellular Interface	
Network	5G NR SA & NSA/4G LTE/WCDMA
Frequency	5G Sub-6: N1/N3/N5/N7/N8/N20/N28/N38/N40/N41/N77/N78 LTE FDD: B1/B3/B5/B7/B8/B20/B28/B32 LTE TDD: B38/B40/B41/B42/B43 WCDMA: B1/B5/B8
Antenna	4 × 50 Ω SMA Connectors (Center PIN: SMA Female)
SIM Slot	2 (Mini SIM-2FF), 1.8V/3V
Ethernet Interface	
Numbers	5 × 10/100/1000 Mbps
Property	1 × WAN +4 × LAN
Mode	Full or Half Duplex (Auto-Sensing)
Ethernet Isolation	1.5 kV RMS
PoE (Optional)	4 × 802.3 af/at PoE PSE on LAN Ports
Wi-Fi Interface	
Antenna	4 × 50 Ω SMA Connectors (Center PIN: RP-SMA Female)
Standards	IEEE 802.11b/g/n/ax 2 x 2 MIMO, 2.4 GHz IEEE 802.11a/n/ac/ax 2 x 2 MIMO, 5 GHz
Max Bit Rate	2.4 GHz: 600 Mbps, 5 GHz: 1200 Mbps
GNSS	
Antenna	1 × 50 Ω SMA Connector (Center PIN: SMA Female)
Technology	GPS/GLONASS/BDS/Galileo/QZSS
Positioning Accuracy	2m CEP (Open Air)
Serial Interface	
Numbers	1 × RS232 + 1 × RS485
Connector	3.5 mm Terminal Block
Baud Rate	300bps to 230400bps
DI/DO	
Numbers	1 × DI + 1 × DO, Galvanic Isolation

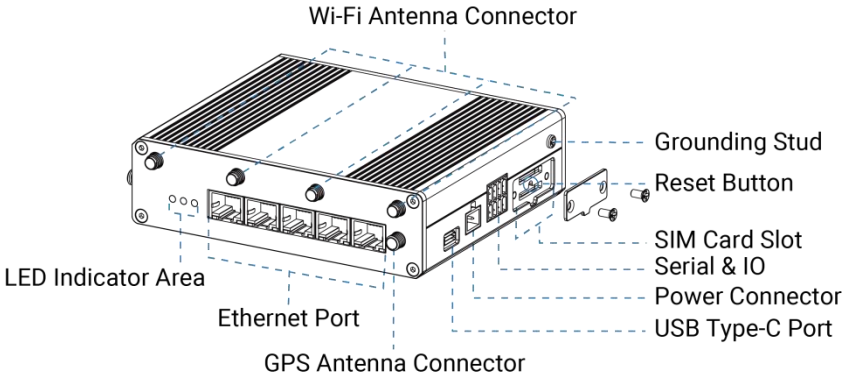
Connector	3.5 mm Terminal Block
Digital Input	Dry Contact
Digital Output	Wet Contact, maximum 0.3A@30VDC
Others	
USB	1 × USB 3.0 (Type-C) for Power Supply, Network Supply and Debug
Reset Button	1 × RESET
LED Indicators	1 × SYSTEM，1 × SIM1，1 × SIM2
Power Connector	1 × 2-pin 5.08 mm Terminal Block, with Surge-Protection and Reverse Polarity Protection
Built-in	Watchdog, Timer
Power Supply and Consumption	
Power Input	1. 9-48 VDC by Power Connector (48V is need for PoE) 2. 5V, 3A by Type-C Port
Power Output (Optional)	4 × 802.3 af/at PoE PSE on LAN Ports Per Port 30W Max., Total 60W Max.
Power Consumption (In Non-PoE mode)	Without Wi-Fi: Typical 2.8 W, Max 5.5 W With Wi-Fi: Typical 7 W, Max 13.7 W
Physical Characteristics	
Ingress Protection	IP30
Housing & Color	Metal, Black
Weight	567.2g
Dimension	135 x 115 x 36.4 mm (5.31 x 4.53 x 1.43 in)
Installation	Desktop, Wall or DIN Rail Mounting
Environmental	
Operating Temperature	-40°C to +70°C (-40°F to +158°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Relative Humidity	0% to 95% (Non-condensing) at 25°C/77°F
Approvals	
Regulatory	CE, RCM
Environmental	RoHS

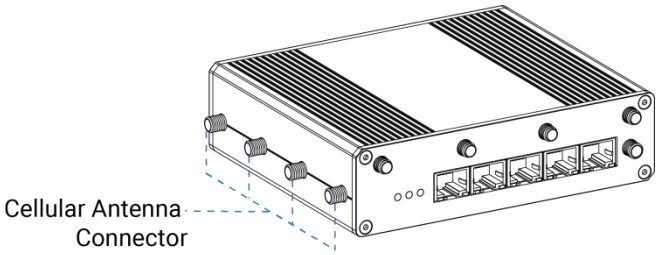
◆ Software Specifications

Network	
Network Protocols	IPv4/IPv6, TCP, UDP, DHCP, HTTP, HTTPS, ARP, NTP, DNS, SSH, VLAN, DDNS, SNMP, MQTT, MQTTS, etc.
Routing	Static Routing
DDNS	Supported >14 service providers, others can be configured manually
IP Passthrough	Support to assign WAN IP address to the device on LAN
Reliability	WAN Failover, Dual SIM Backup
Diagnostics Tools	Ping, Traceroute, Nslookup, TCPDUMP, Logs, Cellular AT Command Debugger, Firewall iptables Debugger
Wi-Fi Interface	
Modes	AP or Client mode
Security	WEP/WPA/WPA2/WPA3 authentication, WEP/TKIP/AES encryption
MAC Filter	Blacklist, Whitelist
GNSS	
Protocol	NMEA0183
Mode	Support reading by Serial Port, MQTT, TCP Client/Server, UDP Server
Security	
Firewalls	Access Control, DMZ, Port Mapping (DNAT), SYN-Flood Protection, Filtering(IP&Domain), Custom iptables Rules
VLAN	Port and tag-based VLAN separation
Multilevel Authority	Multiple Levels of User Authority
VPN	
OpenVPN	Multiple Clients and a Server Support
IPsec	Multiple Clients and a Server Support
L2TP	L2TP Client Support
PPTP	PPTP Client Support
Others	
Serial Mode	Transparent(TCP Client/Server, UDP Server, MQTT Client), Modbus TCP/RTU Client, Modbus Gateway (Modbus RTU to Modbus TCP)
Digital Input	Support reading by SMS, MQTT
Digital Output	Support triggering by DI, SMS, MQTT
App	Node-RED
Management	

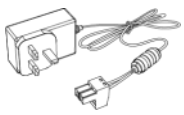
Configuration	Web, SNMP v1/v2c/v3, DeviceHub
Update	Web, DeviceHub
Device Management	DeviceHub, MilesightVPN
SNMP	SNMP v1/v2/v3, Support SNMP Trap
SMS	Send/Receive SMS, SMS Control
Event Alarm	System Startup/Reboot, Network Up/Down, Link Switch, VPN Up/Down, Cellular Traffic Monitoring, etc.

◆ Hardware Overview





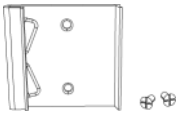
◆ Accessories



1 × Power Adapter



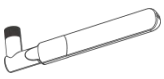
1 × 8-Pin Pluggable Terminal



1 × DIN Rail Clip Kit



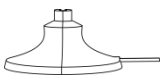
4 × Stubby Cellular Antennas



4 × Stubby Wi-Fi Antennas



1 × GPS Antenna



Antenna Magnetic Mount **(Optional)**

***Note:** Contact us if you need any other special accessories or customized accessories.

◆ Dimensions(mm)

