



# WE CONNECT THINGS TO CLOUD



Customer-Centric



R & D Strength



Innovation-Driven



Global Readiness





## ■ Who We Are

At Ursalink we are passionate about the connectivity of “things” to the Cloud. We leverage the value of the top trending technologies that transform the world we live in and are committed to our partners who share the same passion. We believe that the complexity of data collection, storage and retrieval can be simplified into the Cloud-intelligence. Our development and distribution of these appliances and services demonstrates our commitment to the digital transformation and continues to deliver compelling connectivity for IoT world.

## ■ Why You Should Choose Ursalink

### Global Readiness

Customer-oriented, Ursalink delivers services with a worldwide network of distributors and resellers, from well-rounded before/after sale services to the real time technical support, from east to west. Along the way we build up long-lasting and trustworthy relationship with our customers.

### Execute with Excellence

We spare no effort in quality control and product innovation to deliver both reliability and usability. The strong experience of Ursalink’ s research and development team allows the integration of proven technologies and open customizable functionality to the user for enhanced solutions to an ever-changing world of IoT & M2M challenges, without sacrificing stability and security .

### Gear up Your Business with Ursalink

Our products range from M2M/IoT communication device to Cloud service. The defined distribution channel will be an assurance that everyone stands in line and drives a desired profit increase to our partners. With the future in mind, we also design and deliver customer-tailored products and services with an emphasis on the most minor details that enhance our products longevity. Wherever device talks, Ursalink connects.





# UR32/35 Industrial Cellular Router

Cost-Effective Networking  
Platform for M2M Applications



Dual SIM Backup with  
High-Speed LTE Network



Establishes Connections  
between Remote PLC and SCADA



Supports Modbus TCP and  
Modbus RTU Protocols



Comprehensive Industrial  
Interfaces: Serial Port, DI/DO



Multiple Encryption Tunnels  
for Data Transmission Security



Remote Management  
Platform Supported

# Specifications

			UR32		UR35	
Capabilities	CPU		528 MHz, 32-bit ARM Cortex-A7			
	Flash		128 MB			
	Memory		128 MB DDR3			
	Built-in		Watchdog			
	GPS (Optional)		GPS + GLONASS			
	Micro SD		Supports micro SD card up to 128 GB			
Interfaces	SIM Slots		2			
	Ethernet Ports		2 x 10/100 Mbps		5 x 10/100 Mbps	
	Serial Ports		1 x RS232		1 x RS232 + 1 x RS485	
	DI/DO		1 × DI + 1 × DO			
	Antenna Connectors		2 x Cellular Connectors 1 x Wi-Fi /GPS Connector		2 x Cellular Connectors 1 x Wi-Fi 1 x GPS Connector	
Network	Network Protocols		PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIP v1/v2, OSPF, DDNS, VRRP, HTTP, HTTPS, DNS, ARP, QoS, SNTP, Telnet, VLAN, SSH			
	AAA		RADIUS, TACACS+, LDAP, Local Authentication			
	Firewall		URL Filtering/ACL/DMZ/Port Mapping/MAC Binding/SPI/Dos/DDos			
	Wi-Fi (Optional)		IEEE 802.11b/g/n			
	Serial Port		Transparent (TCP Client/Server, UDP), Modbus Gateway (Modbus RTU to Modbus TCP), Modbus Master			
	Reliability		VRRP, WAN Fail-over, Dual SIM Backup			
	VPN		OpenVPN, IPsec, PPTP, L2TP, DMVPN, GRE			
Maintenance	Management		Web, CLI, SMS, Watchdog, On-demand Dial Up			
	Multilevel Authority		Multiple Levels of User Authority			
	Power Input		9-48 VDC			
	Power Output (Optional)		2 × 802.3af/at PoE PSE		4 × 802.3af/at PoE PSE	
Hardware	Ingress Protection		IP30			
	Housing & Weight		Metal, 271g (0.60 lb)		Metal, 481 g (1.06 lb)	
	Dimensions		108 x 90 x 26 mm (4.25 x 3.54 x 1.02 in)		135 x 100 x 45 mm (5.31 x 3.94 x 1.77 in)	
	Mounting		Desktop, Wall or DIN Rail Mounting			
	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)			
	Relative Humidity		0% to 95% (non-condensing) at 25°C/77°F			
Others	Certifications		RoHS, CE, FCC			
	Frequency Band*	E	LTE: B1/B3/B5/B7/B8/B20/B38/B40/B41		3G: B1/B5/B8 GSM: B3/B8	
		EU	LTE: B1/B3/B7/B8/B20/B28A/B38/B40/B41		3G: B1/B8 GSM: B3/B8	
		AF	LTE: B2/B4/B5/B12/B13/B14/B66/B71		3G: B2/B4/B5	
		AU	LTE: B1/B2/B3/B4/B5/B7/B8/B28/B40		3G: B1/B2/B5/B8 GSM: B2/B3/B5/B8	

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# UG85 / UG87

## LoRaWAN Gateway

- Scalable
- Manageable
- Customizable



### Introduction

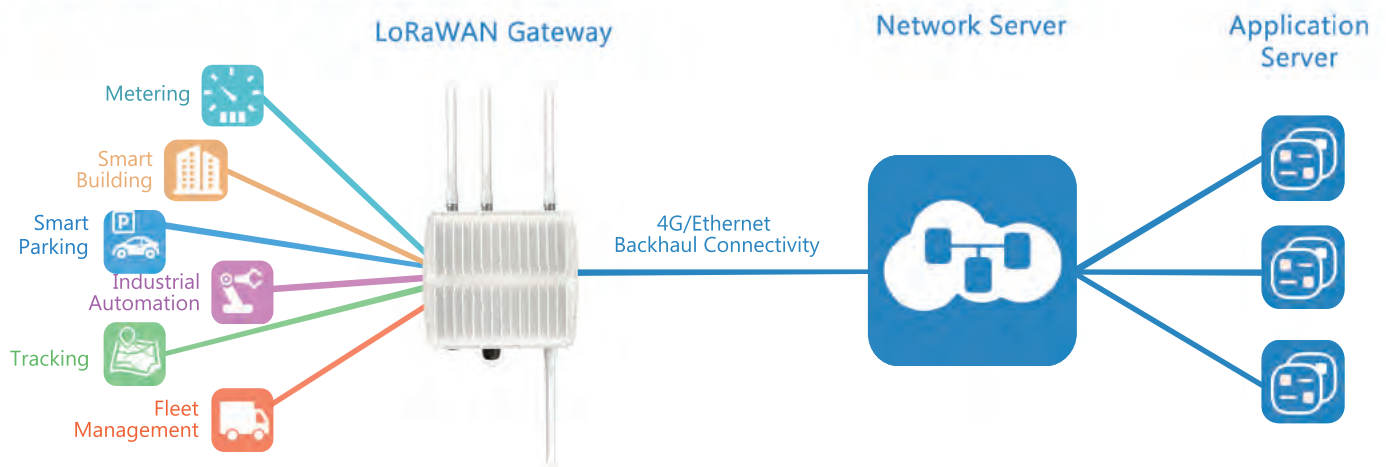
Ursalink LoRaWAN Gateway is based on LoRa technology, built perfectly for developing Internet of Things applications, it features edge computing capability with Python programming supported to match different use cases in the field.

This customizable device is designed to bring hardware and software flexibility for overcoming the IoT technical challenges.

### Highlights

- IP67 Waterproof
- Supporting 8/16 Simultaneous Channels
- Built-in Serial Ports, DI/DO and GPS Capability
- LoRa Band Available at 433/470/868/902/920 MHz and so on
- Long Range Up to 10 Kilometers Radius
- Backhaul Connectivities (Eth/4G/Wi-Fi)
- Free Embedded Network Server
- Fully Interoperable with Multiple LoRaWAN™ Compliant Network Servers (such as TTN, LORIoT, ThingPark)

### Application Example



## Specifications

Model		UG85		UG87	
Hardware					
Processor		800 MHz, 64-bit ARM Cortex-A53			
Memory		8 GB eMMC			
Flash		512 MB DDR3 (Up to 1 GB)			
Power Supply		9-48 VDC (Default) PoE PD (Optional)		PoE PD (Default) 9-48 VDC (Optional) 220 VAC (Optional)	
Software					
Network Protocol		PPP, PPPoE, TCP, UDP, DHCP, ICMP, NAT, HTTP, HTTPS, DNS, ARP, NTP, SMTP, Telnet, SSH2, DDNS, etc.			
VPN Tunnel		OpenVPN, IPsec, PPTP, L2TP, DMVPN, GRE			
Serial Port		Transparent, TCP Client/Server, UDP, Modbus Gateway			
Connectivity					
Cellular (Optional)		2 × SIM Slot, Support for Global GSM/3G/4G LTE Frequency Bands			
Wi-Fi (Optional)		IEEE 802.11b/g/n/ac			
Ethernet		1 × 10/100/1000 Mbps			
Console		1 × Console (RJ45)			
GPS+GLONASS		Optional		Yes	
Serial		1 × RS232		N/A	
I/O		1 × DI + 1 × DO		N/A	
LoRaWAN					
Channel		8		8 / 16	
Frequency Band		EU433, EU868, US902, AU915, CN470, AS923, KR920 and so on			
Sensitivity		-140dBm Sensitivity @292bps			
Output Power		27dBm Max			
Protocol		V1.0 Class A/Class C and V1.0.2 Class A/Class C			
Others					
Dimensions		108 x 90 x 26 mm (4.25 x 3.54 x 1.02 in)		254 x 222 x 89 mm (10 x 8.75 x 3.5 in)	
Weight		271g (0.60 lb)		1874 g (4.13 lb)	
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)			
Relative Humidity		0% to 95% (non-condensing) at 25°C/77°F			
Ingress Protection		IP30		IP67	
Mounting		Desktop, Wall or DIN Rail Mounting		Wall or Pole Mounting	
Certifications		RoHS, CE, FCC			
Frequency Band*	E	LTE: B1/B3/B5/B7/B8/B20/B38/B40/B41		3G: B1/B5/B8	GSM: B3/B8
	EU	LTE: B1/B3/B7/B8/B20/B28A/B38/B40/B41		3G: B1/B8	GSM: B3/B8
	AF	LTE: B2/B4/B5/B12/B13/B14/B66/B71		3G: B2/B4/B5	
	AU	LTE: B1/B2/B3/B4/B5/B7/B8/B28/B40		3G: B1/B2/B5/B8	GSM: B2/B3/B5/B8

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# Temperature & Humidity Sensor



Ursalink UC11-T1 offers an IP65 rating enclosure and robust LoRa connectivity for continuous temperature & humidity monitoring in harsh environments, with a maintenance-free lifetime of 5 years at a 30-minute measurement interval.

## Operating Range and Accuracy



**Temperature:** -40°C to +70°C  $\pm 0.1^\circ\text{C}$



**Humidity:** 0% to 100%  $\pm 0.5\% \text{ RH}$



IP65 Waterproof



5-Year Battery Life



Replaceable Battery



Max Radio Range 11km

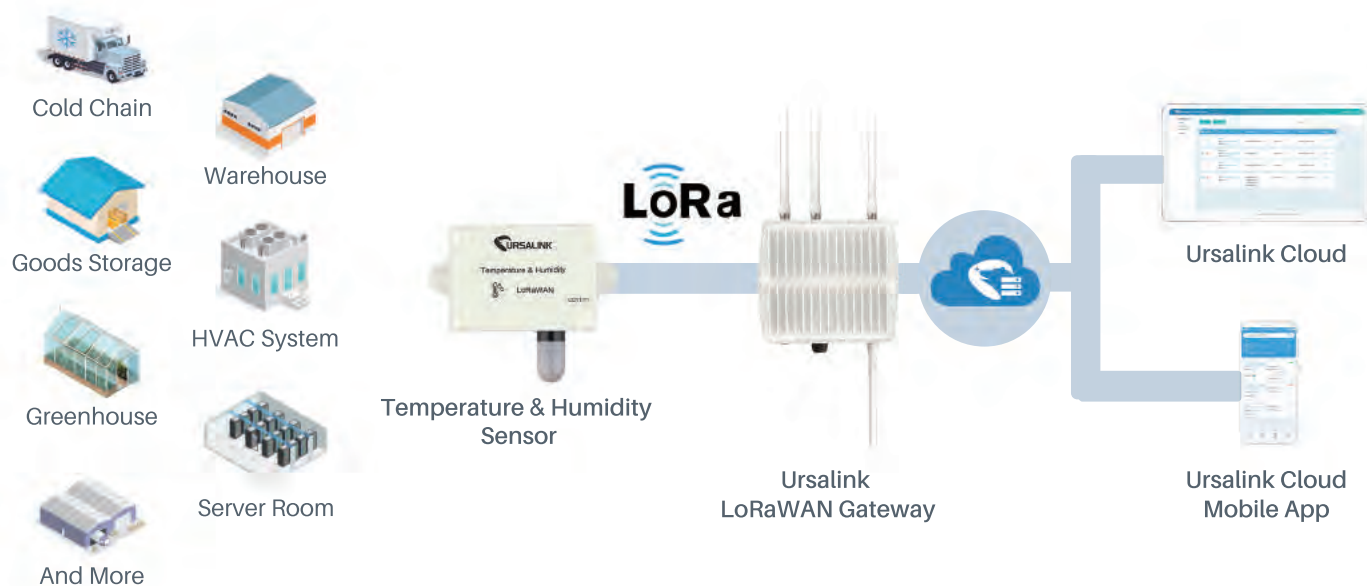


LoRaWAN v1.0/v1.0.2



Ursalink Cloud Compliant

## Typical Scenarios



## Specifications

Dimension	87.4 × 91.9 × 33.4 mm (3.4 x 3.6 x 1.3 in)
Weight	147 g
Input Power	8000 mAh replaceable Li-SOCL2 battery
Temp Measurement	-40°C to +70°C ±0.1°C
Humidity Measurement	0% to 100% ±0.5%RH
Frequency	EU433/CN470/IN865/EU868/AU915/US915/KR920/AS923



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# LoRaWAN Sensor Node

Multi-interface Platform for Connecting Sensors



The UC11-N1 is a fully integrated, battery-powered LoRaWAN node with multiple communication interfaces for connecting to a wide range of external sensors. With quick installation and easy maintenance, the UC11-N1 is designed to work in harsh environments for remote monitoring and collecting data from sensors.



IP67 waterproof for harsh environment-resistance



Multi-interface including I/O, serial, CAN and I2C



Set alarm conditions and get real-time notification



Transforming sensor data into intuitive graphs

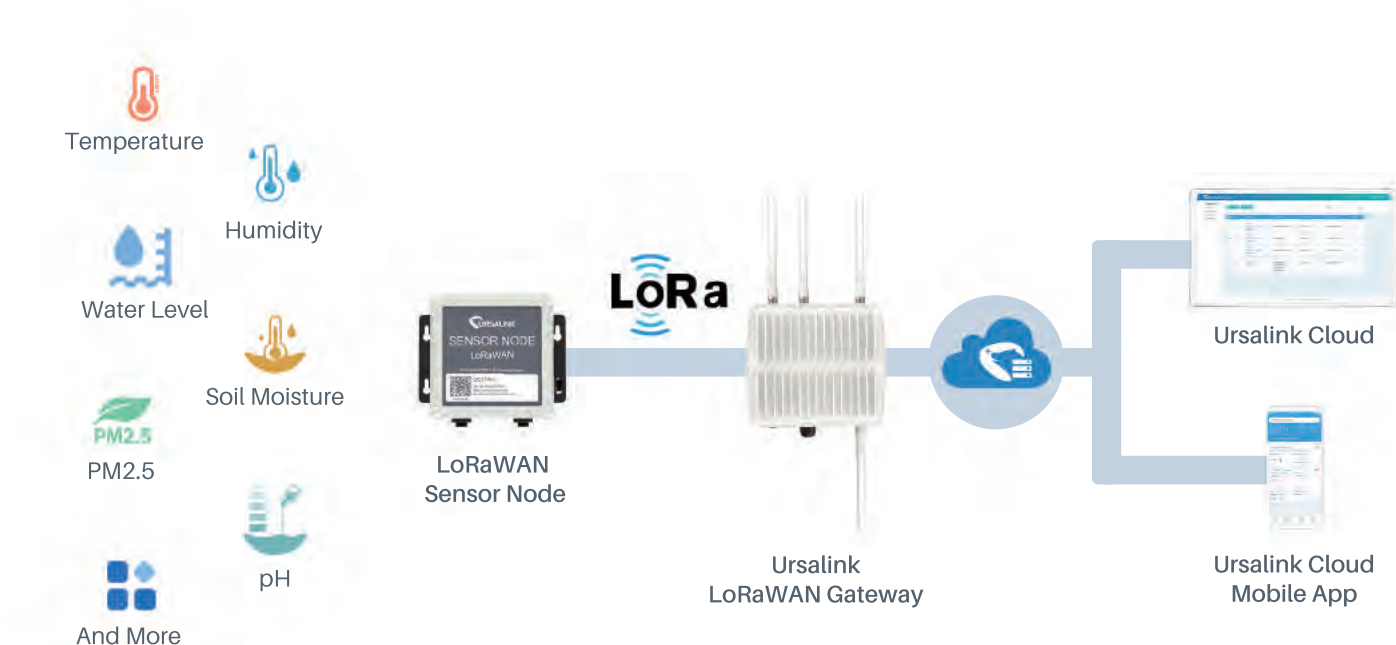


5 years use life with LoRaWAN Class A protocol



Multiple power supply mode: battery, AC, DC and solar

# Application Example



## Specifications

Dimension	120.1 × 120.1 × 55.4 mm (4.73 × 4.73 × 2.18 in)
Input Power	<ol style="list-style-type: none"> <li>1. 19000 mAh replaceable Li-SOCL2 battery</li> <li>2. 5-24 VDC with battery backup (over 24 hrs use life with LoRaWAN class C protocol)</li> <li>3. Solar powered with 8000 mAh battery</li> </ol>
Interface 1	2 × GPIO, 1 × RS232/RS485/CAN/I2C switchable 1 × 3.3 V output, 1 × 5/9/12 V output switchable
Interface 2	2 × analog input, 1 × 3.3 V output, 1 × 5/9/12 V output switchable
Frequency	EU433/CN470/IN865/EU868/AU915/US915/KR920/AS923



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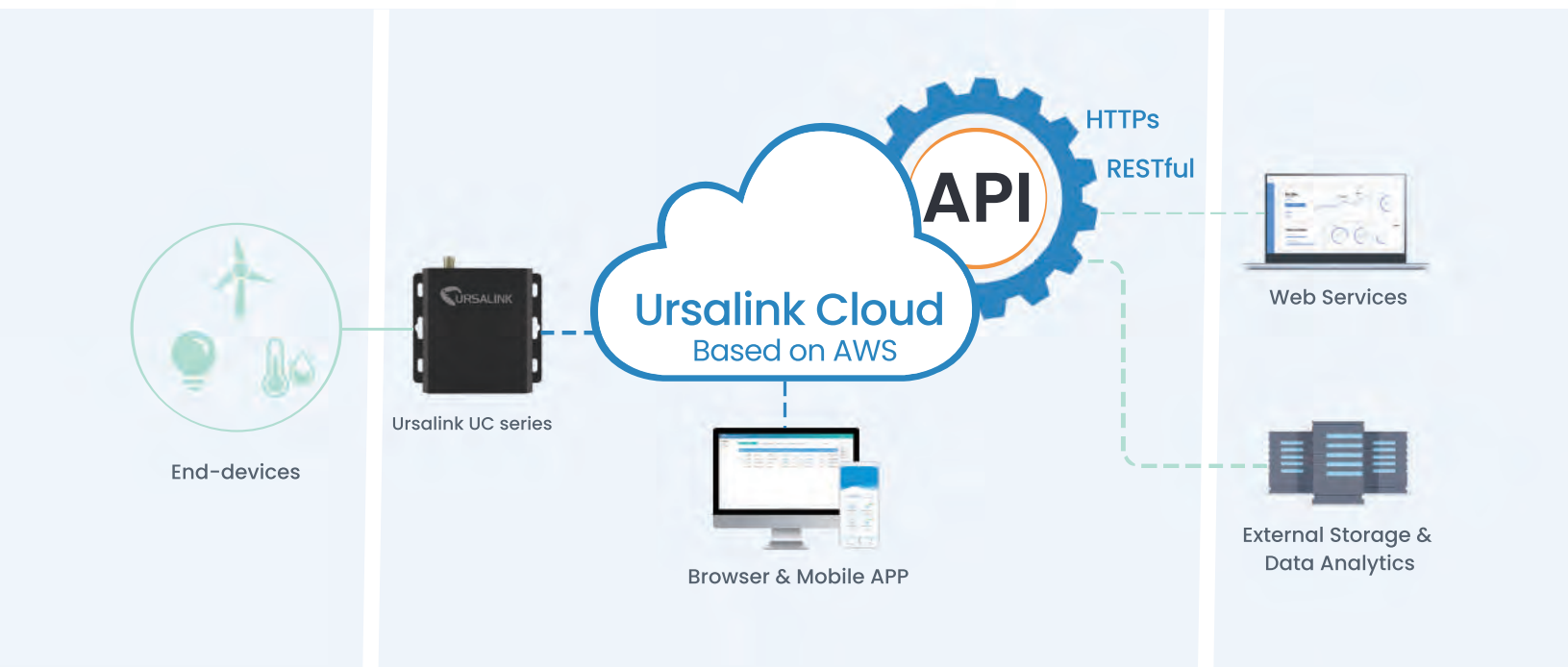
Web: www.ursalink.com



# We **Connect** Things to Cloud

The Ursalink Cloud provides unparalleled levels of vertical integration with Ursalink UC series and links vertical, back-end applications to remote assets.

- Configure Ursalink UC series without going to site
- Control your field devices from anywhere
- Monitor both Ursalink UC series and end-devices
- Transform data into developer accessible APIs



## Reduce Time & Cost

Control and monitor field devices On Web or App



## Facilitate Cloud Integration

Reduce the complexity of network design



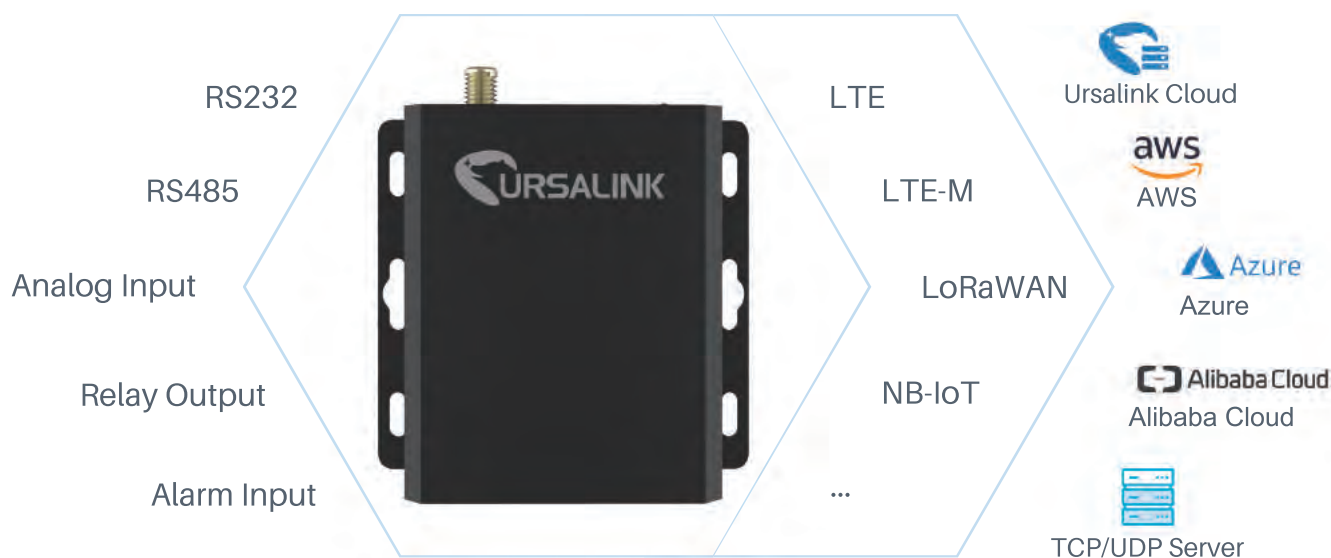
## Merge Legacy Asset

Retrofit legacy equipments into IoT initiatives

# Ursalink UC Series

The compact Ursalink UC series is designed for monitoring and controlling field devices, and collecting data to cloud.

- Synchronize configuration from Ursalink Cloud
- Controlled by custom logic formula
- Operate autonomously while network is unavailable



Model	Analog Input	Digital Input	Relay Output	RS232	RS485	Network
UC1114	/	2	2	/	/	LoRaWAN
UC1122	2	1	1	/	/	
UC1152	/	1	1	1	1	
UC3x14	/	2	2	/	/	2G/3G/4G LTE-M* NB-IoT*
UC3x22	2	1	1	/	/	
UC3x52	/	1	1	1	1	

\* On the roadmap



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# UR7x Series Industrial Cellular Router

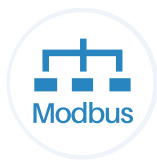
Reliable and Remote-Manageable for Large Scale M2M Deployment



Embedded Processor 800MHz  
64-bit and 256 MB RAM



Features Gigabit Ethernet Port(s)  
for Fast Data Transmission



Supports Modbus Gateway,  
Modbus Master/Slave



Supports Python SDK  
for Secondary Development



Remote Management Platform  
Supported



AWS, Azure, ThingWorx IoT Platform  
Readiness



# Specifications

UR71			UR72		UR75	
Capabilities	CPU		800 MHz, 64-bit ARM Cortex-A53			
	Flash		64 MB			
	Memory		256 MB DDR3			
	Built-in		Watchdog, RTC			
	GPS		GPS + GLONASS			
	SSD		N/A	M.2 slot supports SATA M.2 SSD (22 x 42 mm) up to 512 GB		
	Micro SD		Supports micro SD card up to 128 GB			
	SIM Slots		2			
Interfaces	Ethernet Ports		1 × 10/100/1000 Mbps	2 × 10/100/1000 Mbps	5 × 10/100/1000 Mbps	
	Serial Ports		1 × RS232 or 1 × RS485	1 x RS232 + 1 x RS485 or 2 x RS232 or 2 x RS485		
	Digital (I/O)		N/A	2 × DI + 2 × DO		
	Antenna Connectors		2 x Cellular Connectors (Center Pin: SMA Female)	2 x Cellular Connectors, 2 x Wi-Fi Connector, 1 x GPS Connector (Center Pin: SMA Female)		
Network	Network Protocols		PPP, PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, RIP v1/v2, OSPF, DDNS, VRRP, HTTP, HTTPS, DNS, ARP, QoS, SNTP, Telnet, VLAN, SSH			
	AAA		RADIUS, TACACS+, LDAP, Local Authentication			
	Firewall		URL Filtering/ACL/DMZ/Port Mapping/MAC Binding/SPI,Dos/DDos			
	Wi-Fi		N/A	IEEE 802.11b/g/n/ac (2 x 2 MIMO)		
	Serial Port		Transparent (TCP Client/Server, UDP), Modbus Gateway (Modbus RTU to Modbus TCP), Modbus Master			
	VPN		OpenVPN, IPsec, PPTP, L2TP, DMVPN, GRE			
	Reliability		VRRP, WAN Failover, Dual SIM Backup			
Maintenance	Management		Web, CLI, SMS, Watchdog, On-demand Dial Up			
	Multilevel Authority		Multiple Levels of User Authority			
	Power Input		9-48 VDC			
	Power Consumption		Typical 2.0 W (Max 3.0 W)	Typical 2.6 W (Max 4.5 W)	Typical 3.0 W (Max 5.5 W)	
Hardware	Ingress Protection		IP30			
	Housing & Weight		Metal, 369 g (0.81 lb)	Metal, 471 g (1.04 lb)	Metal, 492 g (1.08 lb)	
	Dimensions		100 x 96.1 x 30 mm (3.94 x 3.78 x 1.18 in)	132 x 103.8 x 45 mm (5.20 x 4.09 x 1.77 in)		
	Mounting		Desktop, Wall or DIN Rail Mounting			
Others	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)			
	Relative Humidity		0% to 95% (non-condensing) at 25°C/77°F			
	Certifications		RoHS, CE, FCC, E-mark			
	Frequency Band*	E	LTE: B1/B3/B5/B7/B8/B20/B38/B40/B41	3G: B1/B5/B8	GSM: B3/B8	
		EU	LTE: B1/B3/B7/B8/B20/B28A/B38/B40/B41	3G: B1/B8	GSM: B3/B8	
		AF	LTE: B2/B4/B5/B12/B13/B14/B66/B71	3G: B2/B4/B5		
		AU	LTE: B1/B2/B3/B4/B5/B7/B8/B28/B40	3G: B1/B2/B5/B8	GSM: B2/B3/B5/B8	

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# UR75-EDGE

## UR75 EDGE

### Cloud-Ready

### Edge Computing Gateway



The easy integration with edge computing service such as AWS Greengrass, Azure IoT Edge, and Alibaba Cloud Link IoT Edge makes UR75 an intelligent gateway for data acquisition and computing at field as well as a reliable networking communication platform for large scale deployment.



64-bit ARM Cortex™-A53 Processor



512 MB DDR3 RAM



M.2 SSD for Extended Storage

## CERTIFIED EDGE COMPUTING CAPABILITY



AWS Greengrass



Azure IoT Edge



Link IoT Edge

# Accelerate Your IoT Deployment



## Edge-to-Cloud Data Acquisition

- ✓ Data converter for Modbus-to-MQTT conversion
- ✓ Various interfaces for connecting end-devices



## Cloud-Ready

- ✓ Easy to access cloud service with built-in IoT client/SDKs
- ✓ Certified by Azure, AWS, Exosite and Alibaba Cloud



## Secure Transmission

- ✓ Multiple VPN protocols for remote access
- ✓ Stateful firewall for secure data transmission



## Reliable Connectivity

- ✓ Fail-over between cellular and Ethernet
- ✓ Store and resend data when the network is available



Sensor



Terminal



Machine



UR75 Edge



Applications



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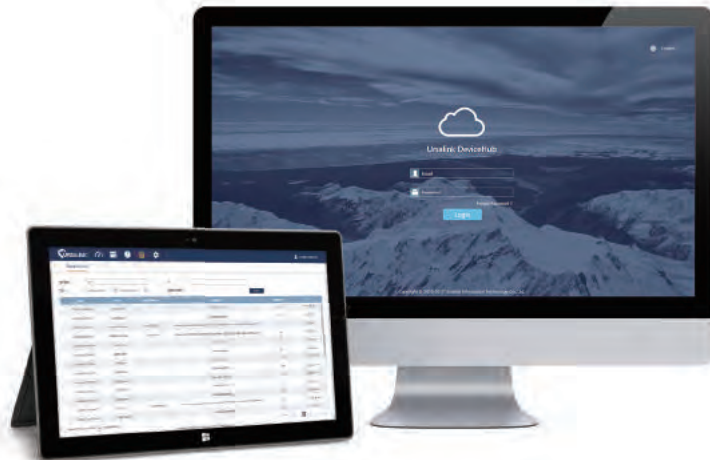


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# Ursalink DeviceHub



Ursalink DeviceHub is a web-based platform that lets you manage all your Ursalink routers from a single location at anytime.

The Ursalink DeviceHub is now able to monitor all critical parameters of remote routers, perform configuration, upgrade firmware, analyze system log, create graphic reports and more. It helps to improve productivity, reduce costs, and enhance the intelligence of your network and business operations.



## **Device Configuration**

Configure device and synchronize profiles



## **Firmware Upgrade**

Upgrade firmware in bulk remotely



## **Real-Time Monitoring**

Acquire device's temp, location, signal strength and more



## **Comprehensive Report**

Generate reports of failed connection, profile updates, firmware upgrade, etc.



## **Alternative Hosting**

Hosted by Ursalink or on your own server



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# UrsalinkVPN

The UrsalinkVPN is the core component of UrsalinkVPN solution. Typically it is offered as a service hosted by Ursalink, or by our distributors, but you can also choose to host your own UrsalinkVPN.

The UrsalinkVPN acts as a secure termination point for all Ursalink routers and offers seamless communication originated by the customers to their machines. It is generally used in the industrial M2M communication sector. The key of architecture is the central server, which handles all connections and the encrypted traffic between customers and devices controlled by Ursalink routers. Through the web-based UrsalinkVPN portal, you can manage account, routers and devices, etc.



Centralized Management



Multi-users Access Simultaneously



Up to 1000 Devices



Connection Status Overview



Secure Internet Access to Remote Stations



## Software Requirements

✓ OS: Ubuntu 16.04    ✓ Supports installation package    ✓ Browser: Chrome, Firefox

## Hardware Requirements

Your host hardware must meet the following minimum requirements:

### For 500 devices

✓ RAM: 16 GB    ✓ CPU: 2 Cores, 2.0 GHz  
✓ Disk: 512 GB    ✓ Bandwidth: ≥100 Mbps

### For 1000 devices

✓ RAM: 32 GB    ✓ CPU: 8 Cores, 3.2 GHz  
✓ Disk: 1 TB    ✓ Bandwidth: ≥100 Mbps



Powered by individuality



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