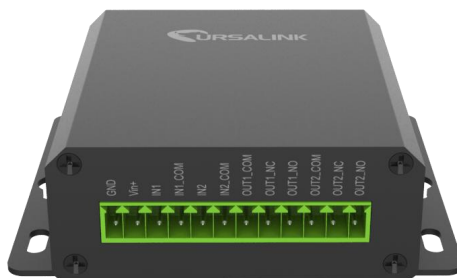




UC11 Series
LoRa Remote I/O
Quick Start Guide



Welcome

Thank you for choosing Ursalink UC11 series remote LoRa I/O.

This guide describes how to install the UC11 series remote LoRa I/O and how to connect to Ursalink LoRaWAN gateway. Once you complete the installation, refer to the Ursalink UC11 User Manual for instructions on how to perform configurations on the device.

Related Documents

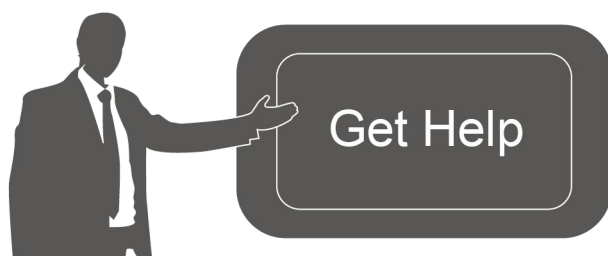
This Start Guide only explains the installation of Ursalink UC11 series remote LoRa I/O. For more functionality and advanced settings, please refer to the relevant documents as below.

Document	Description
Ursalink UC11 Datasheet	Datasheet for the Ursalink UC11 series remote LoRa I/O.
Ursalink UC11 User Guide	Users could refer to the guide for instruction on how to configure all the settings.

The related documents are available on Ursalink website: <http://www.ursalink.com>.

Declaration of Conformity

Ursalink UC11 series remote LoRa I/O is in conformity with the essential requirements and other relevant provisions of the CE, FCC, and RoHS.

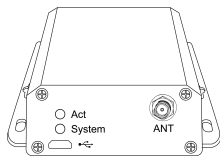


For assistance, please contact
Ursalink technical support:
Email: support@ursalink.com
Tel: 86-592-5023060
Fax: 86-592-5023065

1. Packing List

Before you begin to install the UC11 series remote LoRa I/O, please check the package contents to verify that you have received the items below.

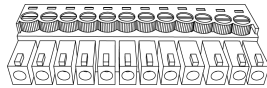
1.1 Package Contents



1 × UC11



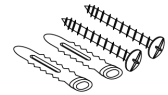
1 × Stubby LoRa
Antenna



1 × 12-Pin Pluggable
Terminal

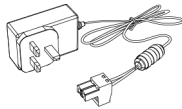


1 × Warranty Card



Setscrews

Optional Accessories



1 × Power Adapter
(Optional)

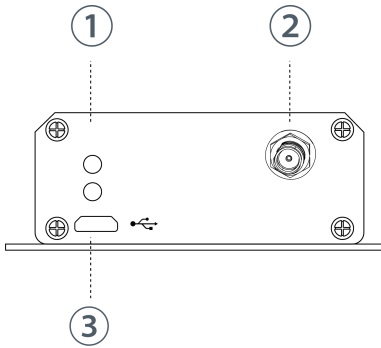


If any of the above items is missing or damaged, please contact your Ursalink sales Representative.

2. Hardware Introduction

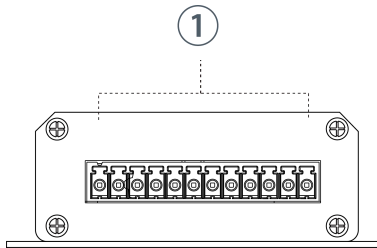
2.1 Overview

A. Front Panel



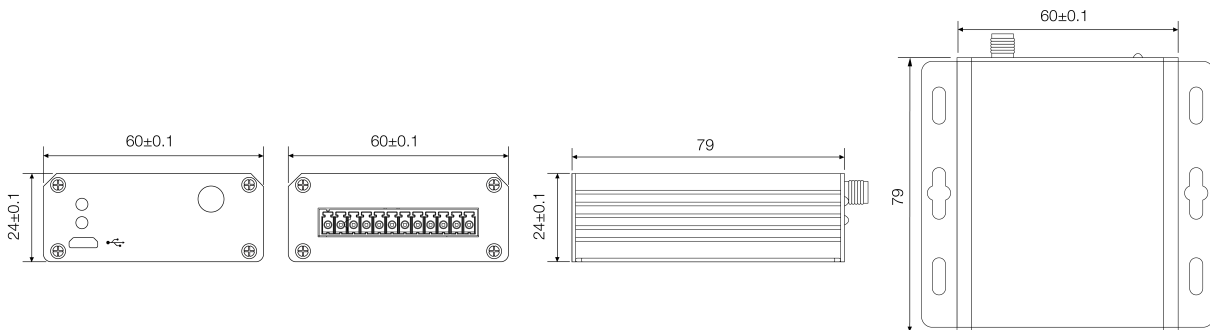
- ① LED Indicator Area
System: System Indicator
ACT: Network Indicator
- ② LoRa Antenna Connector
- ③ Micro USB Interface

B. Rear Panel

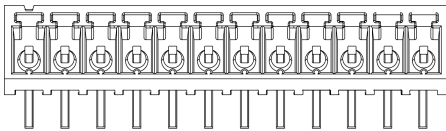


- ① 12-Pin Pluggable Terminal

2.2 Dimensions (mm)



2.3 Pinouts



PIN	Models		
	UC1114	UC1122	UC1152
1	GND	GND	GND
2	VIN	VIN	VIN
3	IN1	NC	RXD
4	IN1_COM	AIN1+	TXD
5	IN2	AIN1-	GND
6	IN2_COM	AIN2+	A
7	OUT1_COM	AIN2-	B
8	OUT1_NC	IN	IN
9	OUT1_NO	IN_COM	IN_COM
10	OUT2_COM	OUT_COM	OUT_COM
11	OUT2_NC	OUT_NC	OUT_NC
12	OUT2_NO	OUT_NO	OUT_NO

2.4 LED Indicators

LED	Indication	Status	Description
System	System Status	Solid On	System booting
		On for 500ms, off for 500ms	Working properly
		On for 100ms, off for 100ms	Failed to send data
ACT	Network Status	Off	Failed to join network
		On for 75ms, off for 3000ms	Join the network successfully
		On for 500ms, off for 500ms	Sending/Receiving data

3. Hardware Installation

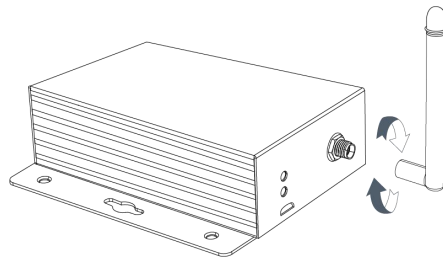
Environmental Requirements

- Power Input: 5-24 VDC
- Operating Temperature: -40°C to 70°C (-40°F -158°F)
- Relative Humidity: 0% to 95% (non-condensing) at 25°C/77°F

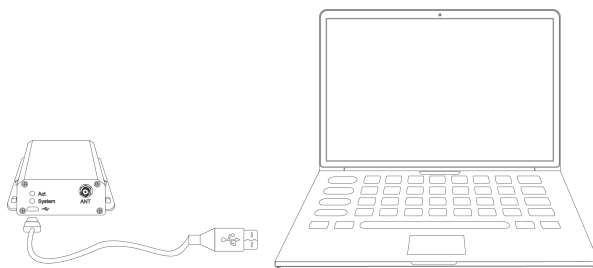
3.1 Antenna Installation

Rotate the antenna into the antenna connector accordingly.

The external LoRa antenna should be installed vertically always on a site with a good signal.

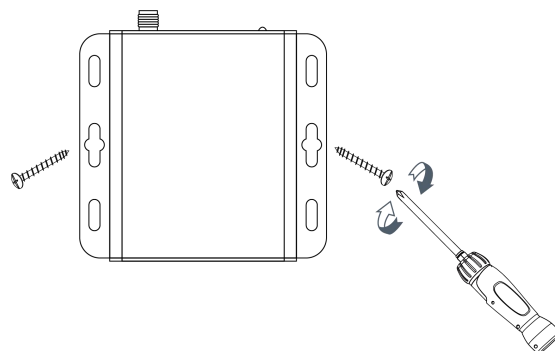


3.2 Connect the UC11 to a Computer



3.4 Mount the UC11

Use 2 pcs of flat head Phillips screws to fix the UC11 onto the wall mounting.



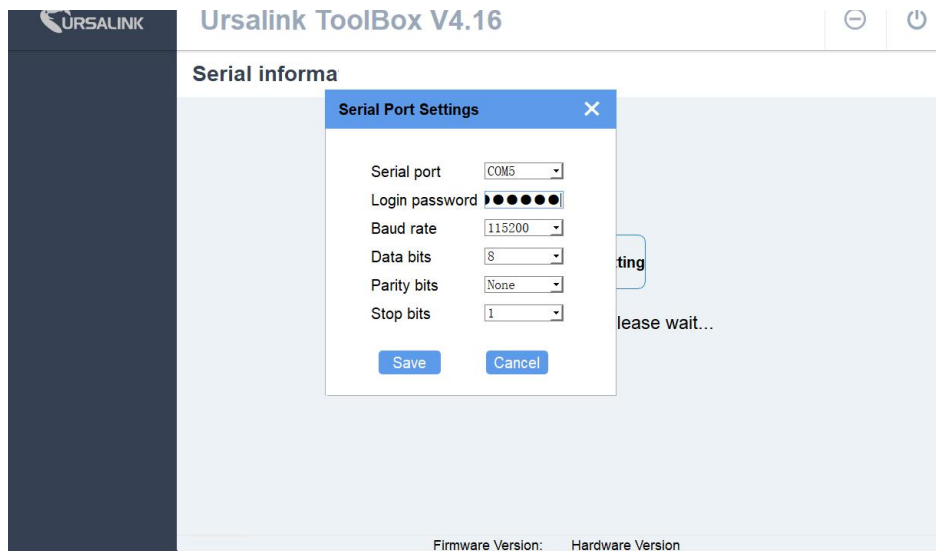
Getting Started

4. Connect to Ursalink LoRaWAN Gateway

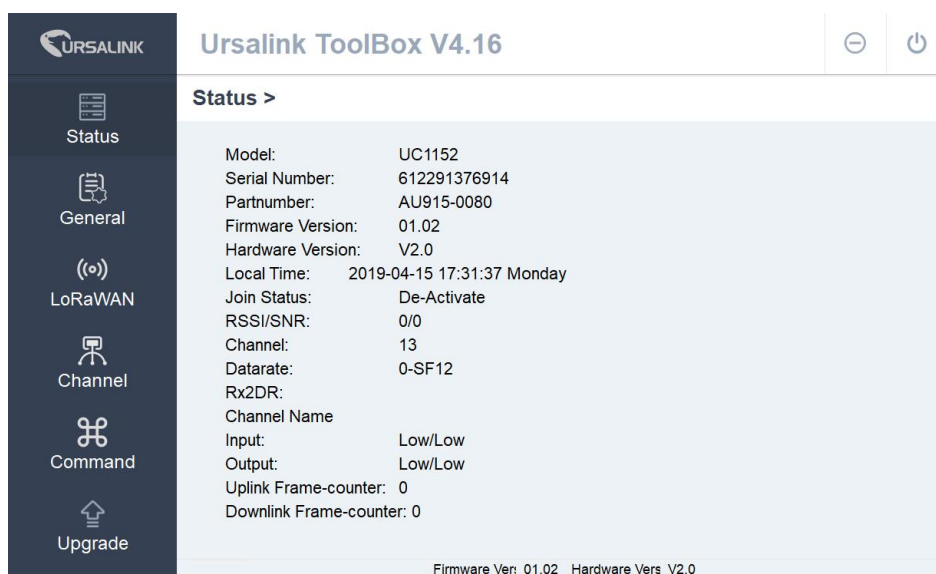
4.1 Configure UC11 via Toolbox

Power on the UC11, connect PC USB port to micro USB port of UC11 series remote LoRa I/O directly, PC Setup the Toolbox.

- ① Select Serial port and input the login password, default "123456", then click "Save"



- ② Click "Status" to check status of the Remote I/O



- ③ Click "General" configure report interval, data polling interval and serial parameters

The image displays two screenshots of the Ursalink Toolbox V4.16 web interface. Both screenshots show the 'General' configuration page with the 'Basic' tab selected. The top screenshot shows the 'Basic Settings' section with the following values: Reporting Interval (1800 s), Data Polling Interval (360 s), and Change Password (unchecked). The bottom screenshot shows the 'RS485' configuration section with the following values: Enable (checked), Baud Rate (9600), Data Bit (8 bits), Stop Bit (1 bits), and Parity (None). Both screenshots also show a 'Save' button and the firmware/hardware versions (01.02 / V2.0) at the bottom.

④ Click “LoRaWAN” configure the LoRaWAN parameters, Including the EUI, channels.

Ursalink Toolbox V4.16

LoRaWAN >

Basic Channel Advanced

Device EUI: 1152612291376914
 App EUI: 5572404c696e6b4c
 Application Port: 55
 RS232 Port: 56
 Join Type: OTAA
 Application Key: 196e6b4c6f52613230313823
 Datarate: 5-SF7

Save

Firmware Ver: 01.02 Hardware Vers V2.0

Ursalink Toolbox V4.16

LoRaWAN >

Basic Channel Advanced

Supported Freq: AU915

<input type="checkbox"/>	Inde	Frecuencv	Max Data	Min Data
<input checked="" type="checkbox"/>	0	916.8	5-SF7BW125	0-SF12BW125
<input checked="" type="checkbox"/>	1	917	5-SF7BW125	0-SF12BW125
<input checked="" type="checkbox"/>	2	917.2	5-SF7BW125	0-SF12BW125
<input checked="" type="checkbox"/>	3	917.4	5-SF7BW125	0-SF12BW125
<input checked="" type="checkbox"/>	4	917.6	5-SF7BW125	0-SF12BW125
<input checked="" type="checkbox"/>	5	917.8	5-SF7BW125	0-SF12BW125
<input checked="" type="checkbox"/>	6	918	5-SF7BW125	0-SF12BW125

Firmware Ver: 01.02 Hardware Vers V2.0

⑤ Click “Channel” configure RS485 modbus master channels

Ursalink Toolbox V4.16

Channel >

Execution Interval: 50 ms Max Resp Time: 500 ms Max Retry Times: 3

Channel ID	Name	Slave ID	Address	Quantity	Type	Sign	Decimal Pla
1	Test	1	0	1	Input Register(INT16)		

Save Up to 8 channels

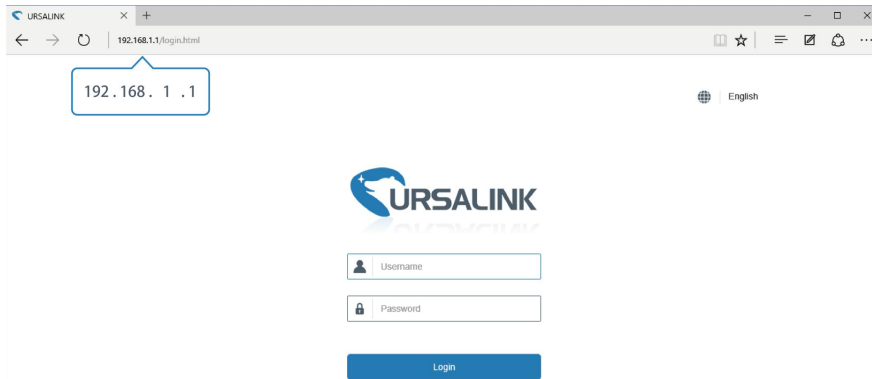
Firmware Ver: 01.02 Hardware Vers V2.0

4.2 Configure LoRaWAN Gateway

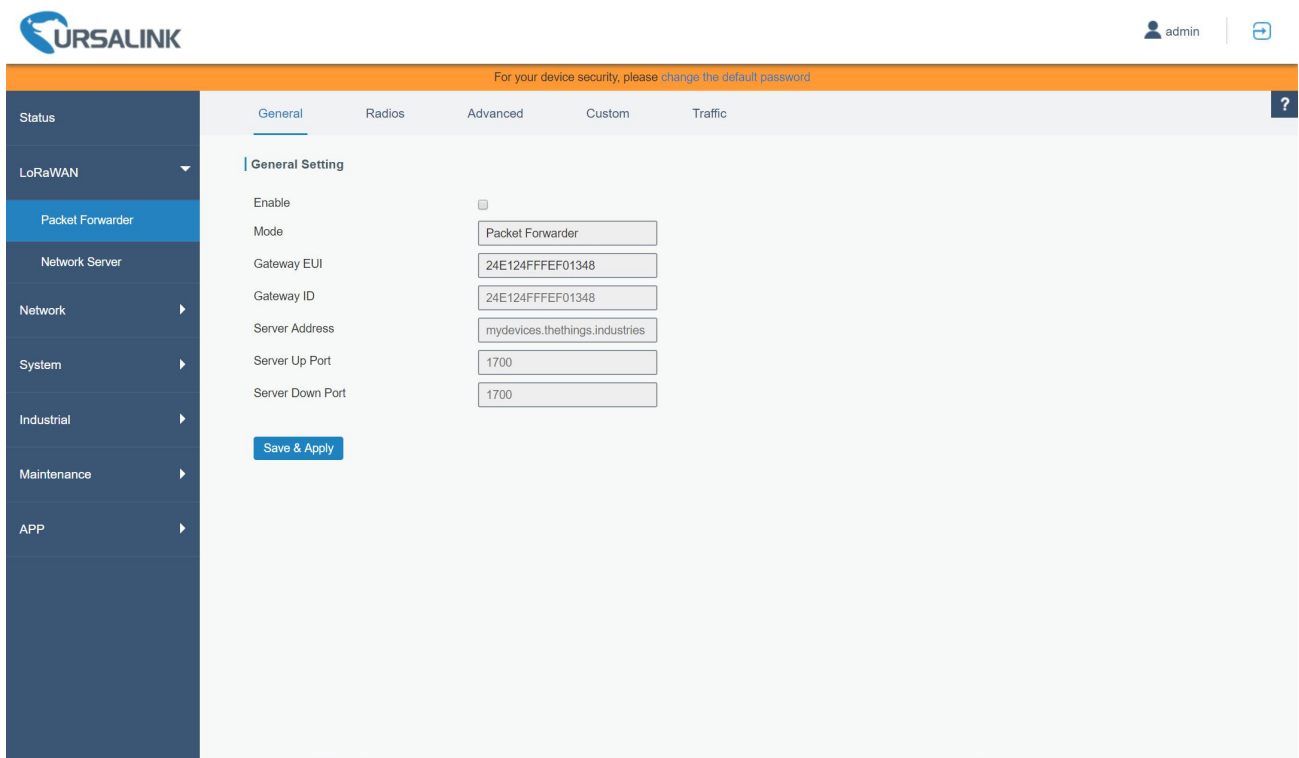
① Log in the Gateway

A. Start a Web browser on your PC (Chrome and IE are recommended), type in the IP address, and press Enter on your keyboard.

B. Enter the username and password, click “Login”.



② Click “LoRaWAN → Packet Forwarder → General”, disable General Setting.



③ Click “LoRaWAN → Packet Forwarder → Radios”, configure the frequency and channels of the

For your device security, please change the default password

admin

General Radios Advanced Custom Traffic

Radio Channel Setting

Supported Frequency: AS923

Name	Center Frequency/MHz
Radio 0	923.6
Radio 1	922.6

Multi Channels Setting

Enable	Index	Radio	Frequency/MHz
<input checked="" type="checkbox"/>	0	Radio 0	923.2
<input checked="" type="checkbox"/>	1	Radio 0	923.4
<input checked="" type="checkbox"/>	2	Radio 0	923.6
<input checked="" type="checkbox"/>	3	Radio 1	922.2
<input checked="" type="checkbox"/>	4	Radio 1	922.4
<input checked="" type="checkbox"/>	5	Radio 1	922.6
<input checked="" type="checkbox"/>	6	Radio 1	922.8
<input checked="" type="checkbox"/>	7	Radio 1	923.0

LoRa Channel Setting

④ Click “LoRaWAN → Network Server → General”, enable embedded Network Server

For your device security, please change the default password

admin

General Applications Profiles Device Packets

General Setting

Enable:

Mode: Network Server

NetID: 010203

Join Delay: 5 sec

RX1 Delay: 1 sec

Lease Time: 744-0-0 hh-mm-ss

Log Level: info

Channel Plan Setting

Channel Plan: AU915

Channel Mask:

Save & Apply

⑤ Click “LoRaWAN → Network Server → Applications”, add applications

For your device security, please [change the default password](#)

Status

LoRaWAN ▾

Packet Forwarder

Network Server

Network ▶

System ▶

Industrial ▶

Maintenance ▶

General Applications Profiles Device Packets

Applications

Name:

Description:

Payload Codec:

Data Transmission

Type	Operation
	+

⑥ Click “LoRaWAN → Network Server → Profiles”, add profiles

For your device security, please [change the default password](#)

Status

LoRaWAN ▾

Packet Forwarder

Network Server

Network ▶

System ▶

Industrial ▶

General Applications Profiles Device Packets

Device Profiles

Name:

Max TXPower:

Join Type:

Class Type:

Advanced:

⑦ Click “LoRaWAN → Network Server → Device”, input the device EUI and application key of end node

For your device security, please change the default password

Status

LoRaWAN

Packet Forwarder

Network Server

Network

System

Industrial

Maintenance

APP

General Applications Profiles Device Packets

Device

General

Device Name:

Description:

Device EUI:

Device-Profile:

Application:

Frame-counter Validation:

Activate Device(OTAA)

Application Key:

Device Address:

Network Session Key:

Application Session Key:

Uplink Frame-counter:

Downlink Frame-counter:

⑧ Check device active status and packets

For your device security, please change the default password

Status

LoRaWAN

Packet Forwarder

Network Server

Network

System

Industrial

Maintenance

General Applications Profiles Device Packets

Device

Device Name	Device EUI	Device-Profile	Application	Last Seen	Activated	Operation
UC1152	1152612291376914	UC1152	UC1152	2 minutes ago	✔	<input type="button" value="✎"/> <input type="button" value="✕"/> <input type="button" value="+"/>

For your device security, please change the default password

Status

LoRaWAN

Packet Forwarder

Network Server

Network

System

Industrial

Maintenance

General Applications Profiles Device Packets

Network Server

Search

Device EUI	Frequency	Datarate	SNR	RSSI	Size	Fcnt	Type	Time	Details
1152612291376914	917000000	SF7BW125	1.0	-92	30	3	UpUnc	2019-04-15T18:51:10+08:00	!
1152612291376914	917600000	SF7BW125	1.8	-92	83	2	UpUnc	2019-04-15T18:51:05+08:00	!
1152612291376914	917400000	SF7BW125	0.8	-95	83	1	UpUnc	2019-04-15T18:51:00+08:00	!
1152612291376914	925700000	SF12BW500	-	-	17	0	JnAcc	2019-04-15T18:50:47+08:00	!
1152612291376914	917600000	SF12BW125	1.2	-92	18	0	JnReq	2019-04-15T18:50:47+08:00	!

Showing 1 to 5 of 5 rows

⑨ Click “LoRaWAN → Network Server → Applications”, configure sending data from Network Server to Application Server via HTTP or MQTT

The screenshot shows the 'Applications' configuration page in the Ursalink web interface. The left sidebar is expanded to 'Network Server' and then 'Applications'. The main content area is titled 'Applications' and contains the following fields:

- Applications:** Name (UC1152), Description (Ursalink), Payload Codec (None).
- Data Transmission:** Type (HTTP).
- HTTP Header:** A table with columns 'Header Name', 'Header Value', and 'Operation'. A '+' button is present to add a new header.
- URL:** A table with columns 'Data Type' and 'URL'. The 'Uplink data' row has an empty input field for the URL.

The screenshot shows the 'Applications' configuration page in the Ursalink web interface, similar to the previous one but with the 'Type' set to 'MQTT'. The main content area is titled 'Applications' and contains the following fields:

- Applications:** Name (UC1152), Description (Ursalink), Payload Codec (None).
- Data Transmission:** Type (MQTT).
- General:** Broker Address, Broker Port, Client ID, Connection Timeout/s (30), Keep Alive Interval/s (60).
- User Credentials:** Fields for Username and Password (partially visible).

[END]