

Semi-industrial LoRaWAN[®] Gateway

Quick Start Guide





Safety Precautions

Milesight will not shoulder responsibility for any loss or damage resulting from not following the instructions of this operating guide.

- The device must not be modeled in any way.
- Do not place the device close to objects with naked flames.
- Do not place the device where the temperature is below/above the operating range.
- Do not power on the device or connect it to other electrical device when installing.
- Check lightning and water protection when used outdoors.
- Do not connect or power the equipment using cables that have been damaged.

Related Documents

This Quick Start Guide only explains the installation of Milesight UG65 LoRaWAN[®] Gateway. For more functionality and advanced settings, please refer to the relevant documents as below.

Document	Description
UG65 Datasheet	Datasheet for UG65 LoRaWAN® Gateway.
UG65 User Guide	Users can refer to the guide for instruction on how to log in the web GUI, and how to configure all the settings.

The related documents are available on Milesight website: https://www.milesight-iot.com

Declaration of Conformity

UG65 is in conformity with the essential requirements and other relevant provisions of the CE, FCC, and RoHS.





For assistance, please contact Milesight technical support: Email: <u>iot.support@milesight.com</u> Support Portal: <u>support.milesight-iot.com</u> Tel: 86-592-5085280 Fax: 86-592-5023065 Address: Building C09, Software Park III, Xiamen 361024, China

Revision History

Date	Doc Version	Description
Aug. 31, 2020	V1.0	Initial version
Nov. 24, 2020	V2.0	Layout replace
May 6, 2021	V2.1	Layout replace
Oct 21 2022	V 2.2	1. Delete Ethernet cable
Oct. 31, 2022	V 2.2	2. Web GUI pictures update



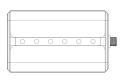
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1. Packing List

Before you begin to install the UG65 LoRaWAN[®] Gateway, please check the package contents to verify that you have received the items below.



1 × UG65



1 × DC Jack Power Adapter

1 × Mounting Bracket





4 × Wall Mounting Kits

Mitesight WARRANTY CARD

1 × Warranty Card



1 × 18 cm LoRaWAN[®] Antenna (External antenna version included)



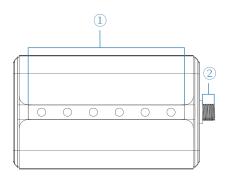
1 × 60 cm LoRaWAN[®] Fiber-Glass Antenna Kit (Optional)

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

2. Hardware Introduction

2.1 Overview

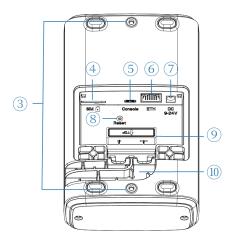
A. Front Panel



LED Area
POWER: Power Indicator
STATUS: System Indicator
LoRa: LoRa Indicator
Wi-Fi: Wi-Fi Indicator
LTE: Cellular Indicator
ETH: Ethernet Port Indicator
2 LoRaWAN[®] Antenna Connector
(only for external antenna version)

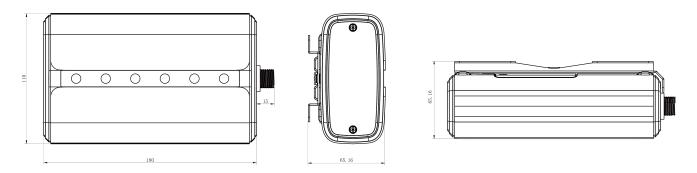


B. Rear Panel



- ③ Bracket Mounting Screws
- ④ SIM Slot
- 5 Type-C Port
- 6 Ethernet Port (PoE)
- ⑦ Power Connector
- 8 Reset Button
- (9) Waterproof Silicone
- (1) Cable Groove

2.2 Dimensions (mm)



2.3 LED Indicators

LED	Indication	Status	Description		
	Dower Status	Off	The power is switched off		
POWER	Power Status	On	The power is switched on		
STATUS	System Status	Blue Light	Static: the system is running properly		
517105	System Status	Red Light	The system goes wrong		
LoDo	Packet	Off	Packet Forwarder mode is running off		
LoRa	Forwarder Status	Blue Light	Packet Forwarder mode is running well		
\ \ /:	Wi-Fi Status	Off	Wi-Fi is disabled		
Wi-Fi		Blue Light	Wi-Fi is enabled		
	Cellular Status	Off	SIM card is registering or fails to register		
		UII	(or there are no SIM cards inserted)		
		Blue Light	Blinking slowly: SIM card has been registered		
LTE			and is ready for dial-up		
			Blinking rapidly: SIM card has been registered		
			and is dialing up now		
			Static: SIM card has been registered and		

			dialed up successfully
ETH Ethernet	Ethernet	Off	Disconnected
	Port Status	Blue Light	Static: Connected

2.4 Reset Button

Function	Description					
Function	STATUS LED	Action				
	Static Blue	Press and hold the reset button for more than 5 seconds.				
Reset	Static Blue → Rapidly Blinking	Release the button and wait.				
	Off → Static Blue	The gateway resets to factory default.				

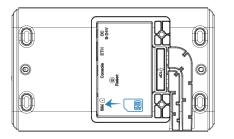
3. Hardware Installation

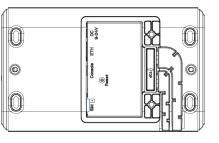
3.1 SIM Card Installation (Cellular Version Only)

A. Use screwdriver to open the protective cover on the back panel of UG65.

B. Insert the SIM card into the device according to the direction icon on the device. If you need to take out the SIM card, press into the SIM card and it will pop up automatically.

Note: Only when the PN on the device label includes "-LXXX" supports cellular.





3.2 Ethernet Cable & Power Cable Installation

- A. Connect the Ethernet cable and power cable to corresponding interfaces.
- B. Pass two cables through the waterproof silicone and slid into the grooves.
- C. Screw the protective cover back to the device.



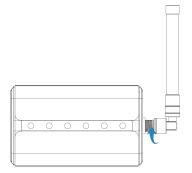


UG65 can also be powered by 802.3af standard PoE injector or other PoE devices. If both connected, DC power is preferred.

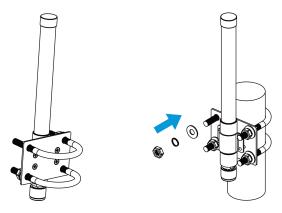
3.3 Antenna Installation

For external antenna version, rotate the antenna into the antenna connector accordingly. The external antenna should be installed vertically always on a site with a good signal.

Note: Please do not let the front panel of products faces to walls if you select embedded antenna mode.



If you use 60 cm antenna kit, fix the LoRaWAN[®] antenna to a pole via antenna clamp kit: pass the LoRaWAN[®] antenna through the antenna clamp and fix it with 4 screws, then wrap the U-bolt around a pole and fix the clamp with nuts and other accessories. After installation, connect the antenna to gateway antenna connector via the coaxial cable.



3.4 Gateway Installation

UG65 can be mounted to a wall or a pole. Before you start, make sure that your SIM card has been inserted, your antennas have been attached and all cables have been installed.

3.4.1 Wall Mounting

Preparation: mounting bracket, bracket fixing screws, wall plugs, wall mounting screws and other required tools.

A. Align the mounting bracket horizontally to the desired position on the wall, use a marker pen to mark four mounting holes on the wall, and then remove the mounting bracket from the wall.

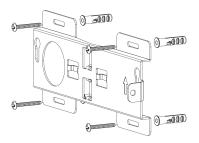
Note: The connecting lines of adjacent points are at right angles.

B. Drill four holes with a depth of 32 mm by using your drill with a 6 mm drill bit on the positions you

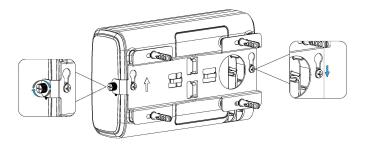
marked previously on the wall.

C. Insert four wall plugs into the holes respectively.

D. Mount the mounting bracket horizontally to the wall by fixing the wall mounting screws into the wall plugs.



E. Screw the bracket fixing screws to the back panel of device, then hang the device to the mounting bracket on the wall.



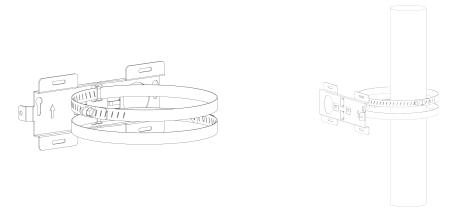
3.4.2 Pole Mounting

Preparation: mounting bracket, bracket fixing screws, hose clamp and other required tools.

A. Loosen the hose clamp by turning the locking mechanism counter-clockwise.

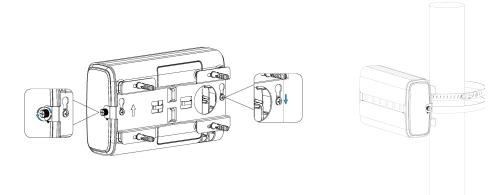
B. Straighten out the hose clamp and slide it through the rectangular rings in the mounting bracket, wrap the hose clamp around the pole.

C. Use a screwdriver to tighten the locking mechanism by turning it clockwise.



D. Screw the bracket fixing screws to the back panel of device, then hang the device to the mounting bracket on the pole.





4. Login the Web GUI

UG65 provides web-based configuration interface for management. If this is the first time you configure the gateway, please use the default settings below:

Username: admin

Password: password

4.1 Wireless Access

A. Enable Wireless Network Connection on your computer and search for access point "Gateway_******" to connect it.

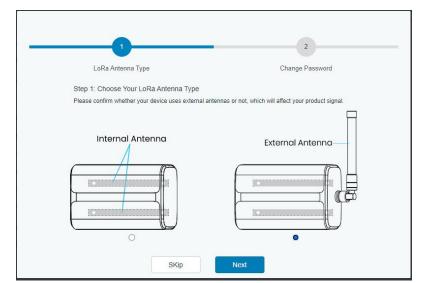
B. Open a Web browser on your PC (Chrome is recommended) and type in the IP address **192.168.1.1** to access the web GUI, then enter the default username and password, click "Login".



If you enter the username or password incorrectly more than 5 times, the login page will be locked for 10 minutes.

D. After logging the web GUI, follow the guide to complete the basic configurations. It's suggested that you change the password for the sake of security.

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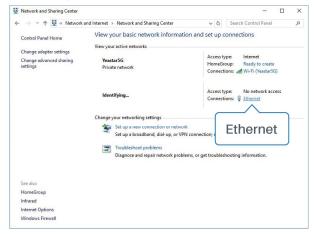
E. You can view system information and perform configuration of the gateway.

		l F	or your device security.	please change the d	efault password			
tatus	Overview	Packet Forward	Cellular	Network	WLAN	VPN	Host List	Help
		-						Model
acket Forwarder	System In	formation						Show the model name of router.
	Model		UG65-L00E-470M-	EA				Region Show the Region of router.
letwork Server	Region		CN470					Serial Number
letwork	Serial Num	ber	6221A4950760					Show the serial number of router.
	Firmware V	fersion	60.0.3000.26					Firmware Version
ystem I	Hardware \	/ersion	V1.1					Show the current firmware version of router.
	Local Time		2020-12-10 17:57:2	4 Thursday				Hardware Version
laintenance	Uptime		03:04:04					Show the current hardware version of router.
PP I	CPU Load		6%					Local Time
		acity/Available)	512MB/65MB(12.7	%)				Show the current local time of system.
	eMMC (Ca	pacity/Available)	2.0G/1.8G(90.80%)					Uptime

4.2 Wired Access

Connect PC to UG65 ETH port directly or through PoE injector. The following steps are based on Windows 10 operating system for your reference.

A. Go to "Control Panel" \rightarrow "Network and Internet" \rightarrow "Network and Sharing Center", then click "Ethernet" (May have different names).



B. Go to "Properties" \rightarrow "Internet Protocol Version 4(TCP/IPv4) "and select "Use the following IP address", then assign a static IP manually within the same subnet of the gateway.

	P/IPv4) Properties
General	
	d automatically if your network supports need to ask your network administrator
O Obtain an IP address auto	matically
• Use the following IP addre	ss:
IP address:	192 . 168 . 23 . 200
Subnet mask:	255 . 255 . 255 . 0
Default gateway:	192 . 168 . 23 . 150
Obtain DNS server addres	s automatically
• Use the following DNS ser	ver addresses:
Preferred DNS server:	8.8.8.8
Alternative DNS server:	
	it Advanced

C. Open a Web browser on your PC (Chrome is recommended) and type in the IP address 192.168.23.150 to access the web GUI, then enter the default username and password, click "Login".

	Language English 🗸
Milesight	
ی د د	
Login	

If you enter the username or password incorrectly more than 5 times, the login page will be locked for 10 minutes.

E. After logging the web GUI, follow the guide to complete the basic configurations. It's suggested that you change the password for the sake of security.

1	2
LoRa Antenna Type Step 1: Choose Your LoRa Antenna Type Please confirm whether your device uses external a	Change Password
Internal Antenna	External Antenna
SKip	Next

F. After guide complete, you can view system information and perform configuration of the gateway.

			F	or your device security.	please change the d	lefault password			
Status		Overview	Packet Forward	Cellular	Network	WLAN	VPN	Host List	Help
									Model
Packet Forwarder		System Information	ation						Show the model name of router.
		Model		UG65-L00E-470M-	EA				Region
Network Server				011170					Show the Region of router.
		Region		CN470					Serial Number
Network		Serial Number		6221A4950760					Show the serial number of router.
		Firmware Version	n	60.0.3000.26					Firmware Version
System		Hardware Versio	n	V1.1					Show the current firmware version of router.
		Local Time		2020-12-10 17:57:2	4 Thursday				Hardware Version
Maintenance	•	Uptime		03:04:04					Show the current hardware version of router.
APP	-	CPU Load		6%					Local Time
м-Р		RAM (Capacity/A	Available)	512MB/65MB(12.7	%)				Show the current local time of system.
		eMMC (Capacity	/Available)	2.0G/1.8G(90.80%)					Uptime
							Manual R	efresh 🗸 Refresh	Show the information on hor long the router has been running.

5. Network Connection

This section explains how to connect the gateway to network via WAN connection, Wi-Fi or cellular.

5.1 Configure the Ethernet Connection

A. Go to "Network" \rightarrow "Interface" \rightarrow "Port" page to select the connection type and configure Ethernet port information, click "Save & Apply" for changes to take effect.

Port	WLAN	Cellular	Loopback		
- Port_	1				
Port			eth 0		
Conne	ection Type		Static IP	~	
IP Ad	dress		192.168.22.112		
Netma	ask		255.255.255.0		
Gatev	vay		192.168.22. <mark>1</mark>		
MTU			1500		
Prima	ry DNS Server		8.8.8.8		
Secor	ndary DNS Server		114.114.114.114		
Enabl	le <mark>N</mark> AT				

B. Connect Ethernet port of gateway to devices like router or modem.

C. Log in the web GUI via the newly assigned IP address and go to "Status" \rightarrow "Network" to check Ethernet port status.

Overview	Packet	Forward		Network WLAN	VPN H	lost List	
WAN							
Port	Status	Туре	IP Address	Netmask	Gateway	DNS	Duration
eth 0	up	Static	192.168.22.112	255.255.255.0	192.168.22.1	8.8.8.8	1days,02h 34m 22s

5.2 Configure the Wi-Fi Connection

A. Go to "Network" \rightarrow "Interface" \rightarrow "WLAN" and select "Client" mode.

B. Click "Scan" to search for Wi-Fi access point. Select the available one and click "Join Network". Note: please do use <u>wired access</u> method to access the web GUI, or you will fail to configure Wi-Fi

setting.

Port	WLAN		Cellular	L	oopback				
< GoBack									
SSID		Channel	Signal	Cipher	BSSID	D	Security	Frequency	
AAA		Auto	-61dBm	AES	24:e1:24:f0:	l:c4:13	WPA-PSK/WPA2-PSK	2412MHz	Join Network

C. Type the key of Wi-Fi.

Port	WLAN	Cellular	Loopback		
LAN					
nable					
/ork <mark>M</mark> ode		Client		~	Scan
SID		AAA			
SSID		24:e1:24	:f0:c4:13		
ncryption N	Node	WPA-PS	K/WPA2-PSK	~	
ipher		AES		~	
ey		•••••			
Setting					
rotocol		DHCP C	lient	~	

D. Go to "Status"→"WLAN" to check Wi-Fi status. If it shows "Connected", it means gateway connects to Wi-Fi successfully.



Overview	Packet Forward	Cellular	Network	WLAN
WLAN Status				
Wireless Status		Enabled		
MAC Address		24:e1:24:f0:de:14		
Interface Type		Client		
SSID		AAA		
Channel		Auto		
Encryption Type		WPA-PSK/WPA2-PSK		
Cipher		AES		
Status		Connected		
IP Address		192.168. <mark>1.14</mark> 5		
Netmask		255.255.255.0		
Connection Duratio	n	0 days, 02:44:45		

E. Go to "Network" \rightarrow "Failover" \rightarrow "WAN Failover" to switch the wlan0 as main interface, then gateway can use the Wi-Fi to access the Internet.

Newon Scher	SLA	Track	WAN Failover				
Network 👻	WAN Failo	ver					
Interface	Main In	terface Backup	Interface Startup Dela	ay(s) Up Delay(s)	Down Delay(s)	Track ID	Operation
Firewall	wlan0	❤ eth 0	✔ 30	0	0	1 ~	
DHCP							H
DDNS	Save						
Link Failover							

5.3 Configure the Cellular Connection (Cellular Version Only)

A. Go to "Network" \rightarrow "Interface" \rightarrow "Cellular" \rightarrow "Cellular Setting" page to enable cellular settings.

B. Choose relevant network type and fill in SIM card information like APN or PIN code, click "Save" and "Apply" for changes to take effect.



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Port	WLAN	Cellular	Loopback
Cellular Set	tting		
E <mark>nabl</mark> e			
Network Typ	e	Auto	~
APN			
Username			
Password			
Access Num	ber		
PIN Code			
Authenticatio	on Type	Auto	~
Roaming			
SMS Center			
Connection	Setting		
E <mark>nabl</mark> e NAT		~	

D. Go to "Status" \rightarrow "Cellular" page to view the status of the cellular connection. If it shows "Connected", it means the SIM has dialed up successfully. On the other hand, you can check the status of LTE indicator. If it keeps on light statically, it means SIM has dialed up successfully.

Overview	Packet Forward	Cellular	Network	WLAN
Modem				
Status		Ready		
Model		EC25		
Version		EC25ECGAR06A07M	1G	
Signal Level		23asu (-67dBm)		
Register Status		Registered (Home net	w <mark>or</mark> k)	
IMEI		860425047368939		
IMSI		460019425301842		
ICCID		898601178380099341	20	
ISP		CHN-UNICOM		
Network Type		LTE		
PLMN ID				
LAC		5922		
Cell ID		340db83		
Network				
Status		Connected		
IP Address		10.132.132.59		
Netmask		255.255.255.240		
Gateway		10.132.132.60		



6. Packet Forwarder Configuration

UG65 has installed multiple packet forwarders including Semtech, Chirpstack-Generic MQTT broker, etc. This section explains how to connect the gateway to third party network servers.

Make sure the gateway connects to the network as shown in <u>Section 5</u>.

A. Go to "Packet Forwarder" \rightarrow "General" page and click \pm to add a network server.

Status		General	Radios	Advanced	Custom	Traffic		
Packet Forwarder		General Setting						
Network Server		Gateway EUI	24E124FFFE	F				
Network Server		Gateway ID	24E124FFF	EF(
Network	۲	Frequency-Sync	Disabled	8	~			
System	•	Multi-Destination						
		ID	Enable	T	уре	Server Address	Connect Status	Operation
Maintenance	•	0	Enabled	Embe	dded NS	localhost	Connected	
APP	×							•
		Save & Apply						

B. Fill in the server information and enable this server.

Enable	
Туре	Semtech 🗸
Server Address	eu1.cloud.thethings.network
Port Up	1700
Port Down	1700

C. Go to "Packet Forwarder" \rightarrow "Radio" page to configure antenna type, center frequency and channels. The channels of the gateway and network server need to be the same.

General	Radios	Advanced	Custom	Traffic
Antenna Type				
				External Antenna
		0		0

Region		US915		~
	Name			Center Frequency/MHz
	Radio 0		[904.3
	Radio 1		[905.0
Multi Channels Settin	g			
Enable	Index	Radio		Frequency/MHz
	0	Radio 0	~	903.9
	1	Radio 0	~	904.1
	2	Radio 0	~	904.3
	3	Radio 0	~	904.5
	4	Radio 1	~	904.7
	5	Radio 1	~	904.9
	6	Radio 1	*	905.1
	7	Radio 1	~	905.3

D. Add the gateway on network server page. For more details about the network server connection please refer to <u>Milesight IoT Support portal</u>.

E. Go to "Traffic" page to view the data communication of UG65.

General	Radio	s Adv	anced	Custom	Traffic			
Traffic Sett	ing							
Stop	Cle	ar						
Rfch	Direction	Time	Ticks	Frequency	Datarate	Coderate	RSSI	SNR
1	up	11:52:38	317882 <mark>1</mark> 57 1	865.985	SF7BW125	4/5	-91	5.0
1	up	11:52:22	316226269 2	866.585	SF7BW125	4/7	-108	-11.8
0	down		311888813 1	865.0625	SF7BW125	4/5	12	
0	up	11:51:37	311788813 1	865.0625	SF7BW125	4/5	-95	-0.8

7. Network Server Configuration

UG65 can work as network server and transmit data to Milesight IoT Cloud or other platform via MQTT/HTTP/HTTPS.



Make sure the gateway connects to the network as shown in <u>Section 5</u>.

7.1 Connect UG65 to Milesight IoT Cloud

A. Go to "Packet Forwarder" \rightarrow "General" page to enable the embedded network server.

Status		General	Radios	Advanced	Custom	Traffic		
Packet Forwarder		General Setting						
Network Server		Gateway EUI	24E124FFFE	F				
		Gateway ID	24E124FFF	EF .				
Network	×	Frequency-Sync	Disabled	~				
System	•	Multi-Destination						
		ID	Enable	Тур	e	Server Address	Connect Status	Operation
Maintenance	•			.,,,	-			
		0	Enabled	Embedd	ed NS	localhost	Connected	
APP								H

B. Go to "Packet Forwarder" → "Radio" page to select the antenna type, center frequency and channels. The channels of the gateway and nodes need to be the same.

Region		US915		~
	Name			Center Frequency/MHz
	Radio 0		9	04.3
	Radio 1		9	05.0
Multi Channels Settin	g			
Enable	Index	Radio		Frequency/MHz
	0	Radio 0	~	903.9
	1	Radio 0	~	904.1
	2	Radio 0	~	904.3
	3	Radio 0	~	904.5
	4	Radio 1	~	904.7
	5	Radio 1	~	904.9
	6	Radio 1	~	905.1
	7	Radio 1	~	905.3

C. Go to "Network Server" → "General" page to enable the network server and "Milesight IoT Cloud" mode.

Status	General	Applications	Profiles	Device	Multicast Groups
Packet Forwarder	General Setting				
Network Server	Enable Platform Mode				
Network			IoT Cloud	~	
	NetID	010203			
System	Join Delay	5		sec	
Maintenance	RX1 Delay	1		sec	
	Lease Time	8760-0-0		hh-mm-s	s

D. Log in the Milesight IoT Cloud. Then go to "My Devices" page and click "+New Devices" to add gateway to Milesight IoT Cloud via SN. Gateway will be added under "Gateways" menu.

Dashboard	Devices	Gate	ways	History	+				
My Devices	Search	٩		Normal 1	🙇 Alarm 1	ঠাই Offline 1	⊗ Inactive 3		+ New Devices
Map		真实设备-EN 6136A39023	Add Device				×	a.	@ M 0
Reports		UC3X52-虚 61151109	* SN :				sociated with your		@ <u>~</u> ()
Event Center 30 Sharing Center		UC3X5 6123A124	* Name :					15 minutes ago	@ M @
Me	o ä	AM102- 6128A2175	CO2	TVOC	Cancel	Confirm Barometric Pressure	ux ination	a few seconds ago	0 1 0
		1-102 0	27℃ Temperature	51% Humidity		O Activity Level (PIR)	2lux Illumination		
≡•									

E. The gateway is online on Milesight IoT Cloud.

② Dashboard	Devices		Gateways	+		
My Devices	Search		٩	⊘ Normal 1 🔊 Offline 0 ⊗ In	nactive O	+ New Devices
🖄 Map		Status	Name	Associated Devices (Joined /Not Joined /Failed)	Last Updated	
Reports		al	UG Gateway 621793129987	<u>0</u> / <u>1</u> / <u>0</u> <u>Detail</u>	2 minutes ago	<u>ن</u> ال
Event Center 94						

7.2 Connect UG65 to MQTT/HTTP Server

A. Go to "Packet Forwarder" \rightarrow "General" page to enable the embedded network server.

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Status	General	Radios	Advanced	Custom	Traffic		
Packet Forwarder	General Setting						
Network Server	Gateway EUI Gateway ID	24E124FFFE 24E124FFF	******				
Network 🕨	Frequency-Sync	Disabled		•			
System 🕨	Multi-Destination						
Maintenance	ID	Enable	-	pe	Server Address	Connect Status	Operation
АРР	0	Enabled	Embed	ded NS	localhost	Connected	

B. Go to "Packet Forwarder" \rightarrow "Radio" page to select the antenna type, center frequency and channels. The channels of the gateway and nodes need to be the same.

Region		US915		~	
	Name			Center Frequency/MHz	
	Radio 0		904	1.3	
	Radio 1		905	ō.0	
Multi Channels Settin	g				
Enable	Index	Radio		Frequency/MHz	
	0	Radio 0	~	903.9	
	1	Radio 0	~	904.1	
	2	Radio 0	~	904.3	
	3	Radio 0	~	904.5	
	4	Radio 1	~	904.7	
	5	Radio 1	~	904.9	
	6	Radio 1	~	905.1	
	7	Radio 1	~	905.3	7

C. Go to "Network Server" \rightarrow "General" page to enable the network server mode.

Status		General	Applications	Profiles	Device
Packet Forwarder		General Setting			
Network Server		Enable Platform Mode			
Network	•	NetID	010203		
		Join Delay	5		sec
System	×.	RX1 Delay	1		sec
Maintenance		Lease Time	8760-0-0		hh-mm-ss
		Log Level	debug		~

D. Go to "Network Server" \rightarrow "Application" to add a new application.

General	Applications	Profiles	Device
Applications			
Name	clo	ud	
Description	clo	ud	
Payload Codec	No	ne	~

After saving the application, you can select HTTP, HTTPS or MQTT protocol and fill in correspond server information to send data to another server.

Data Transmission		
Туре	MQTT	•
Status	HTTP MQTT	
	HTTPS	
General		
Broker Address		
Broker Port		
Client ID		
Connection Timeout/s	30	

E. Go to "Profiles" page to add a new profile for the device.

General	Applications	Profiles	Device
Device Profiles			
Name	Clas	sA-OTAA	
Max TXPower	0		
Join Type	OTA	AA	~
Class Type	Cla	ass A 🗌 Class B	Class C
Advanced			

F. Go to "Device" page and click "Add" to add LoRaWAN® node devices.

General	Applications	Profiles	Device	Multicast Groups	Gateway Fleet	Packets	
Device Add	Bulk Import	Delete All				Search	Q,
Device Name	e Dev	rice EUI	Device-Profile	Application	Last Seen	Activated	Operation
			No m	atching records found			

Device Name	lora-sensor	
Description	a short description of y	our node
Device EUI	000000000000000000000000000000000000000	
Device-Profile	ClassA-OTAA	~
Application	cloud	~
Frame-counter Validation		
Application Key		
Device Address		
Network Session Key		
Application Session Key		
Uplink Frame-counter	0	
Downlink Frame-counter	0	

You can also click "Bulk Import" if you want to add many nodes all at once.

3					
	Template Download	Import	Browse	ort File	Import File
1		Import	Browse	ort File	Import File

Click "Template Download" to download template file and add device information to this file. Application and device profile should be the same as you created on web page.

1	A	В	C	D	E	F	G	H	1
1	name	description	deveui	application	deviceprofile	appkey	devaddr	appskey	nwkskey
2	24e1242191323266		24e1242191323266	cloud	ClassC-OTAA	112233445566778899aa112233445566			
3									
4									
5									

Import this file to add bulks of devices.

F. Go to "Packets" page to check the packets from LoRaWAN[®] node devices. The type starts from "Up" means uplinks and "Dn" means downlinks.

Miesiaht

twork Server									
Clear								Search	0
Device EUI	Frequency	Datarate	SNR	RSSI	Size	Fcnt	Туре	Time	Details
24e124126a146579	868300000	SF7BW125	8.5	-85	4	14	UpUnc	2020-04-28T15:09:25+08:00	0
24e124126a146579	868300000	SF7BW125	10.2	-75	4	13	UpUnc	2020-04-28T15:04:25+08:00	0

Click "Details" to check the properties and payload contents of packets.

Packets Details		*
Fcnt	14	*
Port	85	
Modulation	LORA	
Bandwidth	125	
SpreadFactor	7	
Bitrate	0	
CodeRate	4/5	
SNR	8.5	
RSSI	-85	
Power		
Payload(b64)	A3cYAA==	
Payload(hex)	03771800	
MIC	f5acdeb2	

[END]