Milesight

Mini LoRaWAN[®] Gateway

User 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 disassembled or remodeled 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 another 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.

Declaration of Conformity

UG63 is in conformity with the essential requirements and other relevant provisions of the CE, FCC, and RoHS.



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Revision History

Date	Doc Version	Description
Jan. 5, 2024	V 2.0	Initial version based on UG63 V2
April 3, 2025	V 2.1	 Add embedded network server. Compatible with ChirpStack v4 packet forwarder.

3. Add packet forwarder data retransmission.
4. Add schedule reboot, ping tool and hostname.
5. Add protocol parameter to cellular configuration.
6. Add Proprietary Message filter.

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1. Product Introduction

1.1 Overview

UG63 is an 8-channel lightweight indoor LoRaWAN[®] gateway. Adopting, the SX1302 chip, UG63 can set up packet forwarding connection between end nodes and mainstream network servers (such as The Things Network, ChirpStack, etc.). With its compact size and high performance, it is highly suitable for independent deployment of LoRaWAN[®] networks in small-scale scenarios or single spaces. It can also serve as a supplementary gateway, along with UG56/UG65/UG67 or other main gateways, to enhance LoRaWAN[®] signal coverage in large-scale scenarios by filling in signal blind spots. it is an ideal supplement for wide indoor areas such as offices, parking lots, campuses, etc.

1.2 Key Features

- Equip with SX1302 chip, handing a higher amount of traffic with lower consumption
- 8 half-duplex channels for more than 2000 end-nodes connections
- Small in size for easy carrying & deployment
- Desktop, wall, or ceiling mounting support
- Multi-backhaul backups with Ethernet and Cellular (4G)
- Cover the blind spot of LoRaWAN[®] network by transmitting data to Milesight UG56/UG65/UG67 controller gateways
- Compatible with mainstream network servers like The Things Industries, ChirpStack, AWS IoT Core for LoRaWAN[®], etc.
- Built-in network server and MQTT API for easily integration
- Compatible with remote management system for simple deployment even in remote regions

2. Hardware Introduction

2.1 Packing List









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

2.2 Hardware Overview



2.3 LED Indicator and Reset Button

LED Indicators

LED	Indication	Status	Description	
	Dowor 9	Off	The power is off	
SYS	Power & System Status	Green Light	The system is running properly	
		Red Light	The system goes wrong	
		Off	SIM card is registering or failed to register	
			(or there are no SIM cards inserted)	
		r Status Green Light	Blinking slowly: SIM card has been registered	
LTE	Cellular Status		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	
Ethernet		Off	Disconnected or connect failure	
Port	Link Indicator	Yellow	Transmitting data	
PUIL		Blinking		

Connection	Off	Ethernet port is disconnected
Indicator	Green Light	Ethernet port is connected

Reset Button

Function	Action	LED Indication
Reset to Factory Default	Press and hold the button for more than 5 seconds	SYS: blinks rapidly.

2.4 Dimensions (mm)



3. Hardware Installation

3.1 SIM Card Installation (Cellular Version Only)

Insert the micro (3FF) SIM card into the device according to arrows as follows. If you need to take out the SIM card, press the SIM card and it will pop up automatically.



3.2 Power Supply

UG63 can be powered by USB (5V) or a DC power connector (5-12V) by default. When installing the power cables, pass them with Ethernet cables through the groove.

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Additionally, it can also be powered by an 802.3af standard PoE source via a PoE splitter.



3.3 Gateway Installation

UG63 supports multiple installation methods like desktop, wall mounting, ceiling mounting, etc. Before you start, make sure that all cables have been installed and configurations are completed.

Note: Do not connect the device to the power supply or other devices when installing.

3.3.1 Desktop

Take off the baffle and mounting plate on the back of the device, then you can place the device on the desktop.



3.3.2 Wall/Ceiling Mounting

1. Take off the mounting plate on the back of the device.



2. Align the mounting plate horizontally to the desired position on the wall or ceiling to mark two mounting holes, drill two holes as these marks, and insert wall plugs into the holes respectively.



3. Fix the mounting plate to the wall plugs with screws.



4. Turn the device clockwise to lock it to the mounting plate.



4. Access the Gateway

UG63 provides user-friendly web GUI for configuration and users can get access to it via Wi-Fi. The default settings are listed below: Wi-Fi SSID: **Gateway_XXXXXX** (can be found on the label) Wi-Fi IP Address: **192.168.1.1** Browser: **Chrome (Recommended)** Username: **admin** Password: **password**

Configuration Steps:

Step 1: Enable the Wireless Network Connection on your computer and search for the corresponding access point, then connect the computer to this access point.

Step 2: Open the browser and type 192.168.1.1 to access the web GUI.

Step 3: Select the language.

Step 4: Enter the default username and password to log in the web GUI.

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Step 5: It is suggested to follow the wizard to complete basic settings. Users can also skip all steps or exit the wizard to configure the device.

1) Configure the Link Failover settings to decide the main link as required and ping detection settings. For details please refer to <u>Link Backup</u> chapter.

2) Configure the Ethernet WAN settings to set up network access as required. For details please refer to <u>WAN</u> chapter.

3) Configure the cellular network settings to set up cellular connections. Usually, it is necessary to type the APN parameter to register to cellular networks. For details please refer to <u>Cellular</u> chapter.

4) Configure correct system time. For details please refer to <u>Time</u> chapter.

5) Configure the device to connect a LoRaWAN[®] network server. For details please refer to <u>Packet Forward-General</u> chapter.

- 6) Configure the packet filter. For details please refer to <u>Packet Forward-Packet Filters</u> chapter.
- 7) Configure the WLAN settings. For details please refer to <u>WLAN</u> chapter.
- 8) Change a device password for security.

English

Note: The connection type of Ethernet port is DHCP by default. UG63 also supports wired access if you select the connection type of Ethernet port as static IP and assign an IP address to Ethernet port.

Step 1: Go to **Network > WAN** page to select connection type as **Static IP** and configure an IP address for the Ethernet WAN port.

Status	Link backup WAN Cellular V	VLAN
Packet Forward	Connection Type	Static IP v
Network Server		
Network	IP Address	192.168.23.150
Service	Netmask	255.255.255.0
System	Gateway	192.168.23.200
Maintenance	Primary DNS Server	8.8.8.8
	Secondary DNS Server	223.5.5.5

Step 2: Connect computer to Ethernet port of UG63 directly or via switch.

Step 3: Assign the IP address to computer manually. Take Windows 10 system as an example, A. Go to "Control Panel" \rightarrow "Network and Internet" \rightarrow "Network and Sharing Center", then click "Ethernet" (It may have different names).

- 🔶 🕆 🛧 😟 > Control F	Panel > Network and Internet > Network and	Sharing Center
Control Panel Home	View your basic network inform	ation and set up connections
	View your active networks	
Change adapter settings		
Change advanced sharing	Milesight 5G	Access type: Internet
settings	Public network	Connections: Q Ethernet
Media streaming options		
	Change your networking settings	🔋 Ethernet
	Set up a new connection or net	work
	Set up a broadband, dial-up, or	VPN connection; or set up a router or access point.
	Troubleshoot problems	
	Diagnose and repair network pr	oblems, or get troubleshooting information.

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 UG63.

	automatically if your network supports eed to ask your network administrator	
O Obtain an IP address autor	natically	192 . 168 . 23 . 200
Use the following IP address		
IP address:	192 . 168 . 23 . 200	
Subnet mask:	255 . 255 . 255 . 0	255.255.255.0
Default gateway:	192 . 168 . 23 . 150	
Obtain DNS server address	automatically	192 . 168 . 23 . 150
Use the following DNS serv	er addresses:	
Preferred DNS server:	8.8.8.8	
Alternate DNS server:	· · ·	
Validate settings upon exit	Advanced	

Step 4: Open the browser and type the IP address of Ethernet port to access the web GUI.

5. Operation Guide

5.1 Status

		Ethernet Connected	Link in use
IG63-L08GL-915M		Luternet Connected	- Link in use
6739E16020760003 EUI 24E124FFFEFA0FA8		Туре	Statio
System Information		IP	192.168.45.156
- Firmware Version	64.0.0.3	MAC	24:e1:24:fa:0f:a8
Hardware Version	V1.1	Gateway	192.168.45.1
Region	US915	DNS	8.8.8.8
Local Time	2025-04-10 21:29:13 Thursday	Connection Duration	0d, 00h 04m 14
Uptime	0d, 00h 04m 21s		
CPU Temperature	50.3°	Cellular Disconnected	
		IP Address	0.0.0/0
		Connection Duration	0d, 00h 00m 00s

Overview			
Parameters	Description		
Model	The whole model name of the gateway.		
SN	The serial number of the gateway.		
EUI	The unique identifier of the gateway and it's non-editable.		
System Information			
Firmware Version	The current firmware version of the gateway.		
Hardware Version	The current hardware version of the gateway.		

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Region	The LoRaWAN [®] frequency of the gateway. This can be changed on Packet Forward > Radios page.		
Local Time	The current local time of the system.		
Uptime	The information on how long the gateway has been running.		
CPU Temperature	The temperature of CPU.		
Ethernet			
Туре	The latitude of the location.		
IP	The IP address of Ethernet port.		
MAC	The MAC address of the Ethernet port.		
Gateway	The upper gateway address of the Ethernet port.		
DNS	The DNS server address of the Ethernet port.		
Connection Duration	The information on how long the Ethernet network has been connected.		
Cellular (Cellular Ve	ersion Only)		
IP Address	The IP address of cellular network.		
Connection Duration	The information on how long the cellular network has been connected.		
WLAN			
SSID	The SSID of the WLAN access point.		
LoRaWAN Packet F	orward		
Server Type	The LoRaWAN® packet forward connection type.		
Server Address	The LoRaWAN [®] network server address. When server type is Basic Station, this will show LNS URI and CUPS URI.		

lew Cellular			Manual Refresh v Ref
Ready Register Status: Registered (Home network)		NET Connected Connection Duration: 0days, 00:27:49	
odem		Network	
lodel	EG912U	IPv4 Address	10.139.25.142/32
ersion	EG912UGLAAR03A09M08	IPv4 Gateway	192.168.0.1
Ignal Level	31 asu(-51 dbm)	IPv4 DNS	218.85.152.99
IEI	869487060733168		
ISI	460115210733084		
CID	89860321245923785509		
SP	CHN-CT		
etwork Type	FDD LTE		
LMN ID	46011		
AC	5F0C		
ell ID	0E0B70B		

	ersion Only)		
Parameters	Description		
lodem			
	Corresponding detection status of module and SIM card.		
	 No SIM Card: the SIM card is not inserted 		
	• SIM Card Error: the SIM card is error		
	PIN Error: the PIN code is error		
SIM Status	• PIN Required: the SIM card requires to type PIN code		
	• PUK Required: the SIM card requires to be unlocked by PUK code		
	No Signal: no cellular signal		
	Ready: the SIM card is inserted		
	Down: the SIM card is deactivated		
Register Status	The registration status of SIM card.		
Model	The name of cellular module.		
Version	The firmware version of cellular module.		
Signal Level	The RSSI (Received Signal Indicator) of registered cellular network.		
IMEI	The IMEI of the cellular module.		
IMSI	The IMSI of the SIM card.		
ICCID	The ICCID of the SIM card.		
ISP	The network provider on which the SIM card registers.		
Network Type	The connected network type, such as FDD LTE.		
PLMN ID	The current PLMN ID, including MCC, MNC, LAC and Cell ID.		
LAC	The location area code of the SIM card.		
Cell ID	The Cell ID of the SIM card location.		
Network			
Connection Status	The connection status of the cellular network.		
Connection Duration	The information on how long the cellular network has been connected.		
IPv4 Address	The IPv4 address of the cellular network.		
IPv4 Gateway	The IPv4 gateway of the cellular network.		
IPv4 DNS	The IPv4 DNS sever of the cellular network.		

5.2 Packet Forward

UG63 supports to work as a packet forwarder to set up communication between LoRaWAN® end

devices and LoRaWAN® network server.

5.2.1 General

EUI	24E124FFFEF7FC26	
Gateway ID *	24E124FFFEF7FC26	
Destination		
Enable		
Туре	Semtech 🗸	Connected
Server Address	eu1.cloud.thethings.network	
Port Up	1700	
Port Down	1700	

General					
Parameters	Description				
EUI	The unique identifier of the gateway and it's non-editable.				
Gateway ID	The customizable ID for registering gateway to network server, such as The Things Network. It is the same as gateway EUI by default.				
Destination					
Enable	Enable or disable the packet forward feature.				
Туре	 Select packet forward type among Semtech, Chirpstack-Generic, Basic Station, Remote Embedded NS, DeviceHub LNS or Milesight Development Platform LNS. Semtech: connect to network server through the Semtech UDP protocol. It supports to connect to most mainstream network servers. Chirpstack-Generic: connect to Chirpstackv3 via generic MQTT gateway bridge. Chirpstack-v4: connect to Chirpstackv4 via MQTT forwarder. Basic Station: connect to network server through TCP protocol. When configuring, there is no need to configure both LNS and CUPS settings. Remote Embedded NS: connect to the embedded network server of Milesight UG65/UG67/UG56 gateways. Embedded NS: connect to the embedded network server. DeviceHub LNS: connect to Milesight DeviceHub LNS. This needs to select and enable DeviceHub 2.0 option on Service page and type the platform 				

	address.
	Milesight Development Platform LNS: connect to Milesight Development
	Platform LNS. This needs to select and enable Milesight Development
	Platform option on Service page and add the gateway to your platform
	account.
Semtech	

Server Address	The LoRaWAN [®] network server IP address or domain.			
Port Up	The UDP port to forward uplinks from end device to network server.			
Port Down	The UDP port to forward downlinks from network server to end device.			
Data Retransmission	 When network is disconnected, the device supports to store up to 500 pieces of Uplink type packets and re-transmit the data to network server after network recovery. Note: The device will not save Join Request packets. 			

Basic Station

	The URL of LoRaWAN® network server. Please type as below format and			
URI	replace <server-address> and <port> as real server address and server port.</port></server-address>			
011	LNS URI: wss:// <server-address>:<port> or ws://<server-address>:<port></port></server-address></port></server-address>			
	CUPS URI: https:// <server-address>:<port></port></server-address>			
CA File	CA certificate to secure the server domain.			
CATIle	Note: change the certificate file format as .trust before import.			
Client Certificate	Client certificate file to verify the identity of the gateway.			
File	Cheft Certificate file to verify the identity of the gateway.			
Client Key File	Private key file to verify the identity of the gateway.			
	When network is disconnected, the device supports to store up to 500 pieces			
Data	of Uplink type packets and re-transmit the data to network server after			
Retransmission	network recovery.			
	Note: The device will not save Join Request packets.			

ChipStack-Generic/ChirpStack-v4

-	•		
Server Address	The LoRaWAN [®] network server IP address or domain.		
MQTT Port	The LoRaWAN [®] network server port.		
Region ID	The region ID for ChirpStack-v4 server. This value will be typed automatically when changing the Supported Freq on Packet Forward > Radios page.		
User Credentials	After enabled, username and password are required to type for verification.		
TLS Authentication	 Select "Self signed certificates" or "CA signed server certificate". CA signed server certificate: verify with the certificate issued by Certificate Authority (CA) that pre-loaded on the device. Self signed certificates: upload the custom CA certificates, client certificates and secret key for verification. 		
Data	When network is disconnected, the device supports to store up to 500 pieces		
Retransmission	of Uplink type packets and re-transmit the data to network server after		

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	network recovery.			
	Note: The device will not save Join Request packets.			
Remote Embedded	NS			
Server Address	The IP address or domain name of Milesight controller gateway.			
MQTT Port	The communication port to Milesight controller gateway.			
Data Retransmission	When network is disconnected, the device supports to store up to 500 pieces of Uplink type packets and re-transmit the data to network server after network recovery. Note: The device will not save Join Request packets.			

5.2.2 Radios

Radio Channel Setting			
Supported Freq	EU868	~	
Radio 0	867.5		
Radio 1	868.5		
Multi Channels Setting			
Enable	Radio		Frequency/MHz
	Radio 1	~	868.1
	Radio 1	~	868.3
	Radio 1	*	868.5
	Radio 0	*	867.1
	Radio 0	~	867.3
	Radio 0	*	867.5
	Radio 0	*	867.7
	Radio 0	*	867.9

LoRa Channel Setting		
Enable		
Radio	Radio 1	~
Frequency/MHz	868.3	
Bandwidth/kHz	250KHz	~
Data Rate/Bit	SF7	~
FSK Channel Setting		
Enable		
Radio	Radio 1	~
Frequency/MHz	868.8	
Bandwidth/kHz	125KHz	~

Radios	
Parameters	Description
Radio Channel Sett	ing
Supported Freq	The LoRaWAN [®] frequency plan used for the uplink and downlink frequencies and datarates. Available options depend on the gateway's model: -470M: CN470 -868M: EU868, RU864, IN865 -915M: US915, AU915, KR920, AS923-1&2&3&4
Radio 0/Radio 1	The center frequencies to receive packets from LoRaWAN® nodes.
Multi Channels Sett	ting
Enable	Enable or disable this channel to transmit packets.
Radio	Choose Radio 0 or Radio 1 as the center frequency.
Frequency/MHz	Set the frequency of this channel. Range: center frequency \pm 0.4625.
LoRa/FSK Channel	Setting
Enable	Enable or disable this channel to transmit packets.
Radio	Choose Radio 0 or Radio 1 as the center frequency.
Frequency/MHz	Set the frequency of this channel.
Bandwidth/kHz	Set the bandwidth of this channel.

Data Rate/Bit	Set the data rate.
---------------	--------------------

5.2.3 Packet Filters

UG63 supports to filter uplink packets via different conditions to reduce network congestion, save network traffic and ensure the safe operations.

Note: When the destination type is Embedded NS, this feature will not work.

Proprietary Message Filter			
Filters by NetID			
Mode	• White List • Black List		
List		+	
Filters by JoinEUI			
Mode	• White List Black List		
List		То	+
Filters by DevEUI			
Mode	• White List Black List		
List		То	+

Packet Filters	
Parameters	Description
Proprietary Message Filter	Enable to not forward the proprietary message packets (Mtype=111).
Filters by NetID	Forward/Not forward the uplink packets that meet the NetID.
Filters by JoinEUI	Forward/Not forward the join request packets that meet the JoinEUI range.
Filters by DevEUI	Forward/Not forward the join request packets that meet the DevEUI range.
Mode	Select the filter mode as black list or white list. White List: Only forward the packets in this list to the network server. Black List: Only forward the packets except this list to the network server.
List	Set the specific filtering value or range list. Every condition supports to add 5 lists at most.

Note:

1. When join EUI and devEUI are both configured, only packets that meet both conditions will be forwarded.

2. When a third-party network server assigns filter condition to gateway, the gateway will use network server settings in priority.

5.2.4 Advanced

Beacon Setting			
Beacon Period	0 0 128		
Intervals Setting			
Keep Alive Interval/s	10		
Stat Interval/s	30		
Push Timeout/ms	100		
Expert Options			
Enable			
			Example
			Clear

Advanced	
Parameters	Description
Beacon Setting	
Beacon Period	Interval of gateway sending beacons for Class B device time synchronization. 0 means the gateway will not send beacons. Please select the value as 128 if end device type is Class B.
Intervals Setting	
Keep Alive Interval/s	The interval of keepalive packet which is sent from gateway to network server to keep the connection stable and alive.
Start Interval/s	The interval to update the network server with gateway statistics.
Push Timeout/ms	The timeout to wait for the response from server after the gateway sends data.
Expert Options	
Enable	After enabled, the device supports customizing the configuration file to configure packet forwarder and customized configuration will overwrite the packet forward configurations of web GUI. To customize configuration file with correct format, click "Example" to go to reference page.

5.2.5 Traffic

UG63 supports to display latest 30 pieces of traffic received from end devices or network server.

neral Radios	Packet Filters Advanced Traffic						S
Direction	Time	Frequency	Datarate	Channel	RSSI	SNR	Data
Up	0000-00-00100:00:00.000000Z	868.300000	SF12BW125	1	-68	7.8	gHYKGAcAbxpV1CCs4WGqdz DHsEnqTV8=
Up	0000-00-00100:00:00.000000Z	868.300000	SF10BW125	1	-59	12.0	AAEAKgDAJOEkMgU4TGEk4 SQqSrt/0xl=
Jp	0000-00-00100:00:00.000000Z	868.300000	SF12BW125	1	-84	-0.5	QFUDAASBYQMNVXIWJ55sO 6clOGiHNbc=
Up	Z00000.00:00:00:00:00000Z	868.100000	SF12BW125	0	-70	8.2	AAABAAAAQUCoUIWHQbxB QKjMK+HR0Fk=
qL	0000-00-00100:00:00.000000Z	868.100000	SF10BW125	0	-67	11.5	QCrgkQYAn91a1X42GOklKvfA SbVvRH0≍
Jp	0000-00-00T00:00:00.000000Z	868.100000	SF10BW125	0	-68	12.2	QCCSkcEA9ctVXXBh/chcyE2r 1L7AWEK+jdRhvuBaSGTbvYw WycZHWyLkJaQK3XGG2W MusHIVV2zh49oE=
Jp	0000-00-00100:00:00.000000Z	867.700000	SF7BW125	6	-94	-2.5	QP6GoQCAm1FVo5jXGJxO1/ x7I9Ncuw==
lp	0000-00-00100:00:00.000000Z	868.500000	SF10BW125	2	-59	8.5	AAEAKgDAJOEkMgU4TGEk4 SSzLNZDAIs=
qL	0000-00-00100:00:00.000000Z	868.300000	SF12BW125	1	-95	-6.8	QFFVdMKBmqwNVdJOJjWYrL 2w94tKErE9U63A9A==
qL	0000-00-00100:00:00.000000Z	867.700000	SF7BW125	6	-80	10.2	QG1jBQGADY1VNsn0fEof3KU RCne+NkKG+KJD
dr	0000-00-00100:00:00.000000Z	868.100000	SF7BW125	0	-80	11.2	QA0yYQeA8AQKKLbn7v9pcT RKu6ScYZhnVUBe
lp	0000-00-00T00:00:00.00000Z	868.300000	SF7BW125	1	-83	12.0	QG1jBQGADY1VNsn0fEof3KU RCne+NkKG+KJD

Traffic	
Parameters	Description
	Fresh: click to fresh this page to update latest data automatically.
Fresh/Stop	Stop: click to stop fresh this page to update latest data.
Direction	The transmission direction of this packet.
Time	The receiving time of this packet.
Frequency	The frequency of receiving or sending this packet.
Datarate	The datarate of this packet.
Channel	The frequency channel of receiving or sending this packet.
RSSI	The received signal strength of this packet.
SNR	The signal-to-noise ratio of this packet.
Data	The encrypted data of this packet.

5.3 Network Server

UG63 supports to work as a LoRaWAN[®] network server when the packet forwarder type is selected to **Embedded NS**.

5.3.1 General Setting

Global Channel Plan Setting				
Channel Plan	EU868			
	If you want to modify Channel Plan, please	e go to [Packet forwarder]-[Radio] .		
Channel	0-2			
Additional Channels				
Frequency(MHz)	Min Datarate	Max D	atarate	

General	
Parameters	Description
Channel Plan	Show the LoRaWAN [®] frequency plan used for the uplink and downlink frequencies and data rates.
Channel	 Allow end devices to communicate with specific frequency channels. Leaving it blank means using all the default standard usable channels specified in the LoRaWAN[®] regional parameters document. It allows entering the index of the channels. Examples: 1, 40: Enabling Channel 1 and Channel 40 1-40: Enabling Channel 1 to Channel 40 1-40, 60: Enabling Channel 1 to Channel 40 and Channel 60
Additional Channels	For some regional variants, if allowed by your LoRaWAN® region, you can use Additional Plan to configure additional channels undefined by the LoRaWAN® Regional Parameters, like EU868 and KR920.

5.3.2 Devices

A device is the end-device connecting to, and communicating over the LoRaWAN[®] network. The gateway supports to add 20 devices at most.

DeviceName	DeviceEUI	Class	Join Type	Application	Activated	Create Time	Last Seen	
Device2	24e124	Class A	OTAA		8	1970-01-01 08:07:52+0800		0
WT101	24E124	Class A	OTAA		9	2025-03-14 16:05:52		0

Devices	
Parameters	Description
Add	Click to add a device.
Batch Import	Click to add bulk devices. You can download and adjust the template file, and then upload the file to add multiple devices.
Delete	Check the boxes of devices to delete.
Device Name	Show the name of the device.

Device EUI	Show the EUI of the device.
Class	Show the class type of the device.
Join Type	Show the join type of the device.
Application	Show the name of the device's application.
Activated	Show the network status of the device.
Create Time	Show the create time of the device.
Last Seen	Show the time of the last packet received.
Operation	Edit or delete the device.

* DeviceName	Description
* DeviceEUI	* Class
* Join Type	* Appkey
• DevAddr	* NwkSkey
* AppSkey	
Advanced Parameters	
* Uplink Frame-counter	* Downlink Frame-counter
0	0
* FPort	
1	,
	Cancel Add Next Add

Add Device Conf	iguration
Parameter	Description
Device Name	Enter the name of this device.
Description	Enter the description of this device.
Device EUI	Enter the EUI of this device.
Class	Choose class type as Class A or Class C.
Join Type	Choose join type as OTAA or ABP.
Арр Кеу	Whenever an end-device joins a network via over-the-air activation,
Арр кеу	the application key is used for derive the Application Session key.
Dev Addr	The device address identifies the end-device within
Dev Addi	the current network.
NwkS Key	The network session key is specific for the end-device. It is used by

	the end-device to calculate the MIC or part of the MIC (message integrity code) of all uplink data messages to ensure data integrity.
AppS Key	The AppSKey is an application session key specific for the end-device. It is used by both the application server and the end-device to encrypt and decrypt the payload field of application-specific data messages.
Uplink Frame-counter	The number of data frames that sent uplink to the network server. It will be incremented by the end-device and received by the end-device. Users can reset a personalized end-device manually, then the frame counters on the end-device and the frame counters on the network server for that end-device will be reset to 0.
Downlink Frame-counter	The number of data frames which received by the end-device downlink from the network server. It will be incremented by the network server. Users can reset a personalized end-device manually, then the frame counters on the end-device and the frame counters on the network server for that end-device will be reset to 0.
FPort	Enter the downlink port of device, it's 85 by default for Milesight devices.
Frame-Counter Validation	If disable the frame-counter validation, it will compromise security as it enables people to perform replay-attacks.

5.3.3 Application

An application is a collection of devices with the same purpose/of the same type. Users can add a series of devices to the same application which needs to send to the same server. The gateway supports to add 5 applications at most and every application can only connect to one MQTT broker.

1. Click **Add** to add an application.

Add			
Application	Description	Activated/All	

2. Customize an application name and type the description, then click Next.

← Add Application

1 Basic Information	2 Add Device
* Application	Description
App1	
Next Cancel	

3. Select the devices to add to this application, then click **Save**. You can also click "+" to add a new device to this list if there is not suitable device.

← 4	Add Application						
		Basic Information				2 Add Device	
No E	Device Selected 0						+ Q
	Device Name	Device EUI	Join Type	Class	Activated		
	Device1	24e1241234567677	Class A	OTAA	8		
Sa	ve Previous (Cancel					

4. Go to **Device** page to add or delete the devices in this application.

← App1 24e1241234567677 ℓ Edit				
Device MQTT				
Add Delete				DeviceEUI
DeviceName DeviceEUI	Class Join Type	Application Acti	livated	
Device1 24e1241234567677	Class A OTAA	App1 😣		C∕⊋

5. Go to **MQTT** page to configure the MQTT broker information to set up the communication between end devices and the MQTT broker.

Device MQTT				
* Name				
Enable Vot Enabled				
General				
* Broker Address		* Broker Port		
		1883		
* Client ID		* Keep Alive Interval(s)		
24E124FA0E5C_1741761923		60		
Data Retransmission				
Auto Reconnect				
* Reconnect Period				
4				
Clean Session				
User Credentials				
TLS Last Will and Testament				
Last-Will Topic	Last-Will QoS	Last-Will Retain	Last-Will Payload	
	QoS 0 v			
Data Topic				
Data Type	Торіс	Retain	QoS	
Uplink data			QoS 0	~
Downlink data			QoS 0	*
Join notification			QoS 0	•
ACK notification			QoS 0	•
Request data			QoS 0	•
Response data			QoS 0	~

MQTT Settings	
Parameter	Description
Name	Customize a name for this MQTT connection.
Enable	Enable or disable this MQTT connection.
Broker Address	MQTT broker address to receive data.
Broker Port	MQTT broker port to receive data.
	Client ID is the unique identity of the client to the server.
Client ID	It must be unique when all clients are connected to the same server, and it is
	the key to handle messages at QoS 1 and 2.
Connection	If the client does not get a response after the connection timeout, the
Timeout/s	connection will be considered as broken. The Range: 1-65535
Keep Alive	After the client is connected to the server, the client will send heartbeat
Interval/s	packet to the server regularly to keep alive. Range: 1-65535
Data	When network is disconnected, the device supports to store up to 100
Retransmission	pieces of all types of packets and re-transmit the data to MQTT broker after
115111551011	network recovery.
Auto Reconnect	When connection is broken, try to reconnect the server automatically.

	Reconnect Period: The interval to reconnect the server.
	When enabled, the connection will create a temporary session and all
Clean Session	information will lose when the client is disconnected from broker; when
Clean Session	disabled, the connection will create a persistent session that will remain and
	save offline messages until the session logs out overtime.
User Credentials	Enable or disable user credentials for connecting to the MQTT broker.
	Enable the TLS encryption in MQTT communication.
	CA-signed server certificate: verify with the certificate issued by
	Certificate Authority (CA) that pre-loaded on the device.
TLS	Self-signed certificates: upload the custom CA certificates (.crt or .pem),
	client Certificates(.crt) and secret key(.key) for verification.
	Note: if MQTT broker type is HiveMQ, please enable TLS and set the option
	as CA signed server certificate .
	Last will message is automatically sent when the MQTT client is abnormally
	disconnected. It is usually used to send device status information or inform
Last Will and	other devices or proxy servers of the device's offline status.
Testament	Last-Will Topic: Customize the topic to receive last will messages.
	Last-Will QoS: QoS0, QoS1 or QoS2 are optional.
	Last-Will Retain: Enable to set last will message as retain message.
	Last-Will Payload: Customize the last will message contents.
Data Topics	
Data Topics	Data type to communicate with MQTT broker:
Data Topics	Uplink Data: receive device uplink packets
	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device
Data Topics Data Type	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices
	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices
	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway.
Data Type	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses
Data Type Topic	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing.
Data Type	Uplink Data: receive device uplink packetsDownlink Data: send downlink commands to deviceJoin Notification: receive join request packets from devicesACK Notification: receive ACK packets from devicesRequest data: send requests to enquire and configure the gateway.Response data: receive the requested responsesTopic name of the data type used for publishing.Enable to set the latest message of this topic as retain message.
Data Type Topic	Uplink Data: receive device uplink packetsDownlink Data: send downlink commands to deviceJoin Notification: receive join request packets from devicesACK Notification: receive ACK packets from devicesRequest data: send requests to enquire and configure the gateway.Response data: receive the requested responsesTopic name of the data type used for publishing.Enable to set the latest message of this topic as retain message.QoS 0 - Only Once
Data Type Topic	 Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most
Data Type Topic	 Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most unreliable transfer mode.
Data Type Topic	 Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most unreliable transfer mode. QoS 1 - At Least Once
Data Type Topic	 Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most unreliable transfer mode. QoS 1 - At Least Once This level guarantees that the message will be delivered at least once, but
Data Type Topic Retain	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most unreliable transfer mode. QoS 1 - At Least Once This level guarantees that the message will be delivered at least once, but may be delivered more than once.
Data Type Topic Retain	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most unreliable transfer mode. QoS 1 - At Least Once This level guarantees that the message will be delivered at least once, but may be delivered more than once. QoS 2 - Exactly Once
Data Type Topic Retain	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most unreliable transfer mode. QoS 1 - At Least Once This level guarantees that the message will be delivered at least once, but may be delivered more than once. QoS 2 - Exactly Once QoS 2 is the highest level of service in MQTT. This level guarantees that
Data Type Topic Retain	Uplink Data: receive device uplink packets Downlink Data: send downlink commands to device Join Notification: receive join request packets from devices ACK Notification: receive ACK packets from devices Request data: send requests to enquire and configure the gateway. Response data: receive the requested responses Topic name of the data type used for publishing. Enable to set the latest message of this topic as retain message. QoS 0 - Only Once This is the fastest method and requires only 1 message. It is also the most unreliable transfer mode. QoS 1 - At Least Once This level guarantees that the message will be delivered at least once, but may be delivered more than once. QoS 2 - Exactly Once

5.3.4 Packets

SG50 supports to display latest 500 pieces of packets.

eneral Devices	Application Page	ckets						Manual Refresh	Refres
Clear Data									
DeviceEUI	Gateway ID	Frequency	DataRate	RSSI/SNR	Size	Fcnt	Туре	Time	
24e124	24e124	903900000	SF7BW125	-52/13.8	0	2	UpUnc	2025-04-10 13:31:55+0800	E
24e124	24e124	925700000	SF8BW500	-/-	0	1	DnUnc	2025-04-10 13:31:50+0800	E
24e124	24e124	904700000	SF8BW125	-53/16.5	27	1	UpUnc	2025-04-10 13:31:50+0800	E
24e124	24e124	927500000	SF10BW500	-/-	17	0	JnAcc	2025-04-10 13:31:49+0800	
24e124	24e124	905300000	SF10BW125	-49/14	18	0	JnReq	2025-04-10 13:31:44+0800	
24e124	24e124	923900000	SF10BW500	-/-	17	0	JnAcc	2025-04-10 13:31:09+0800	E
24e124	24e124	904100000	SF10BW125	-54/13.5	18	0	JnReq	2025-04-10 13:31:05+0800	E
24e124	24e124	904500000	SF10BW125	-51/13.5	18	0	JnReq	2025-04-10 13:30:11+0800	E

ackets	
Parameters	Description
Clear Data	Click to clear the data in this page.
Device EUI	The device EUI of the packet.
Gateway ID	The ID of the gateway to send this packet.
Frequency	The frequency of receiving or sending this packet.
Datarate	The datarate of this packet.
RSSI/SNR	The received signal strength and signal-to-noise ratio of this packet.
Size	The size of this packet.
Fcnt	The frame counter of this packet.
Туре	Show the type of the packet: JnAcc - Join Accept Packet JnReq - Join Request Packet UpUnc - Uplink Unconfirmed Packet UpCnf - Uplink Confirmed Packet - ACK response from network requested DnUnc - Downlink Unconfirmed Packet DnCnf - Downlink Confirmed Packet- ACK response from end-device requested
Time	The receiving time of this packet.
E	Check the details of this packet.

DevAddr	06b18ccf	
GwEUI	24e124	
AppEUI	24e124	
DeviceEUI	24e124	
Class Type	Class A	
Immediately	12	
Timestamp	198750486	
Туре	UpUnc	
Adr	true	
AdrAckReq	false	
Ack	false	
Font	1	
Port	85	
Modulation	LORA	
Bandwidth	125	
SpreadFactor	8	
Bitrate	0	
CodeRate	4/5	
SNR	16.5	

Packets-Detail	
Parameters	Description
DevAddr	Click to clear the data in this page.
GwEUI	The ID of the gateway to send this packet.
AppEUI	The app EUI of the device which sending this packet.
Device EUI	The device EUI of the packet.
Class Type	The class type of the device which sending this packet.
Immediately	Whether to send this downlink packet immediately.
Timestamp	Show the time to receive this packet after packet forwarder starts running. Unit: ms
Туре	 Show the type of the packet: JnAcc - Join Accept Packet JnReq - Join Request Packet UpUnc - Uplink Unconfirmed Packet UpCnf - Uplink Confirmed Packet - ACK response from network requested DnUnc - Downlink Unconfirmed Packet DnCnf - Downlink Confirmed Packet- ACK response from end-device requested
Adr	Whether the device enables ADR.
AdrAckReq	In order to validate that the network is receiving the uplink messages, nodes periodically transmit ADRACKReq message. This is 1 bit long.

	True: Network should respond in ADR_ACK_DELAY time to confirm that it is
	receiving the uplink messages.
	False: ADR is disabled or Network does not respond in ADR_ACK_DELAY.
Ack	Whether this is ACK packet.
Fcnt	The frame counter of this packet.
Port	The FPort to transmit this packet. If this packet is MAC command, the port is
POIL	0; if this packet contains application data, the port is not 0 (1-233).
Modulation	LoRa means the physical layer uses the LoRa modulation.
Bandwidth	The bandwidth of this frequency channel.
Spreading Factor	The SF of this packet.
Bitrate	The bitrate of this frequency channel.
CodeRate	The coderate of this frequency channel.
RSSI	The received signal strength of this packet.
SNR	The signal-to-noise ratio of this packet.
Power	The TX power of this device.
Payload (b64)	The payload of this packet with base64 format.
Payload (hex)	The payload of this packet with HEX format.
MIC	The MIC of this packet. MIC is a cryptographic message integrity code,
MIC	computed over the fields MHDR, FHDR, FPort and the encrypted FRMPayload.

5.4 Network

5.4.1 Link Backup

UG63 supports to set the priorities of both network links and the ping detection settings to check if the link is available.

Main Link		
Main Link	WAN	~
Enable Ping Detection ()		
Primary Server (IPv4)	8.8.8	
Secondary Server (IPv4)	223.5.5.5	
Interval/s	300	
Retry Interval/s	5	
Timeout/s	3	
Max Ping Retries	3	

Secondary link	
Secondary link	Cellular 🗸
Enable Ping Detection ()	
Primary Server (IPv4)	8.8.8.8
Secondary Server (IPv4)	223.5.5.5
Interval/s	300
Retry Interval/s	5
Timeout/s	3
Max Ping Retries	3
More	
Revert to Main Link	
Revert Interval/s	300
Emergency Reboot 🕕	

Link Backup	
Parameters	Description
Main Link	Select from WAN and Cellular.
Secondary Link	Select from WAN (Cellular) or None.
Enable Ping Detection	After enabled, the device will send ICMP packets to corresponding servers to detect the connection periodically. Note: it is suggested to disable this option if the device is connected to the private network (Non-internet).
Primary Server (IPv4)	The device will send ICMP packet to this server address to determine whether the Internet connection is still available or not.
Secondary Server (IPv4)	The device will try to ping the secondary server address if primary server is not available.
Interval/s	Time interval between two Pings.
Retry Interval/s	When ping failed, the device will ping again at every retry interval.
Timeout/s	The maximum time which the device will wait for a response to a ping request. If it does not receive a response for the timeout, the ping request will be considered to have failed.
Max Ping Retries	The number of times the device will retry sending a ping request until determining that the connection has failed.
More	

Revert to Main Link	When the connection of main link returns back, reverting back to main link.
Recovery interval/s	Specify the number of seconds to wait for switching to the main link, 0 means disable the function.
Emergency Reboot	Enable to reboot the device if no link is available.

5.4.2 WAN

UG63 supports to connect Ethernet port to a router to get network access.

Connection Type	Static IP	~
IP Address	192.168.45.178	
Netmask	255.255.255.0	
Gateway	192.168.45.1	
Primary DNS Server	8.8.8.8	
Secondary DNS Server	223.5.5.5	

WAN					
Parameters	Description				
	Select connection type as required.				
	Static IP: assign a static IP address, netmask and gateway for Ethernet WAN				
Connection Type	port.				
	DHCP Client: configure Ethernet WAN interface as DHCP Client to obtain IP				
	address automatically.				
Primary DNS	Set the primary IPv4 DNS server.				
Server					
Secondary DNS Server	Set the secondary IPv4 DNS server.				
Static IP					
IP Address	Set the IPv4 address of the Ethernet port.				
Netmask	Set the Netmask for Ethernet port.				
Gateway	Set the gateway for Ethernet port's IPv4 address.				
DHCP	DHCP				

Use Peer DNS Obtain DNS from DHCP server.

5.3.3 Cellular (Cellular Version Only)

UG63 supports to insert a SIM card to get cellular network connections.

Protocol	IPv4	~	
APN			
Username			
Password		Ø	
Authentication Type	CHAP	~	
PIN Code		Ø	
AT Command	EG:AT+CGREG?		Send

Cellular	
Parameters	Description
Protocol	Select from "IPv4", and "IPv4/IPv6".
APN	The Access Point Name for cellular dial-up connection provided by local ISP. Please contact cellular operator or search for the Internet to get it.
Username	The username for cellular dial-up connection provided by local ISP.
Password	The password for cellular dial-up connection provided by local ISP.
Authentication Type	Select from None, PAP and CHAP.
PIN Code	A 4-8 characters PIN code to unlock the SIM.
AT Command	Send AT Command to get cellular information or configure advanced settings.

5.3.4 WLAN

UG63 supports whan feature to work as AP mode to configure device and it can not connect to other access points.

Note: one UG63 device only supports 2 devices' WLAN connection to log in this device at the same time.

Enable		
SSID	Gateway_F8184B	
Encryption Mode	WPA-PSK	~
Кеу		٢

WLAN		
Parameters	Description	
Enable	Enable or disable Wi-Fi feature.	
SSID	The unique name for this device Wi-Fi access point. The default SSID is Gateway_XXXXXX. (XXXXX=last 6 digits of MAC address)	
Encryption Mode	No Encryption and WPA-PSK are optional.	
Кеу	Customize the Wi-Fi password when security mode is WPA-PSK. Length: 863. Limitation: any ASCII characters except blank.	

5.5 Service

Device Ma	anagement		
A	uto Provision		
	Enable		
N I	lanagement Platform		
	Enable		
	Platform Type	DeviceHub 2.0	~
	Devicehub Address	http://192.168.45.80	
Parameters		Description	

Auto Provision	Enable to receive the configurations from Milesight Development Platform once after the device is connected to Internet. This will work even management platform mode is disabled.
Management F	Platform
Enable	Enable the device to be managed by Milesight management platforms.
Platform	Milesight DeviceHub 2.0 or Milesight Development Platform is optional.
DeviceHub Address	Set the DeviceHub server IP address or domain name.

5.6 System

5.6.1 General

The gateway supports to change the hostname.

Hostname

Gateway

5.6.2 User

Username	admin
Old Password	۲
New Password	۲
Confirm New Password	۲

Parameters	Description
Username	Enter a new username. Only capital, lowercase, digits, "_", and "-" are allowed.
Old	Enter the old personnerd
Password	Enter the old password.
New	Enter a new password.
Password	
Confirm New	Enter the new password again.
Password	

5.6.3 Time

Milesight

Current Time	2023-10-25 13:47:15	
Time Zone	Asia/Beijing	*
Sync Type	Sync with NTP Server	*
NTP Server Address	pool.ntp.org	

Parameters	Description	
Current Time	Show the current system time.	
Time Zone	Click the drop-down list to select the time zone you are in.	
Sync Type	It's fixed as Sync with NTP Server.	
NTP Server Address	Set the NTP Server's IP address or domain name.	

5.6.4 Access Service

HTTP		
Local access		
Access port	80	

Parameters	Description
Local access	Enable or disable the local access of HTTP.
Access port	Set the service port of HTTP.

5.7 Maintenance

5.7.1 Log

Log Severity	Debug	~
Log File	Download	
Core dump 🚯	Download	

Parameters	Description
Log Severity	The list of severities follows the syslog protocol.
Log File	Download log file.
Core dump	Core dump file contains a snapshot of a program's memory at a specific point in time when the program encounters a critical error or crashes, which can be used for debugging and troubleshooting purposes.

5.7.2 Backup/Upgrade

Ba	ckup		
	Download Backup	Download	
Re	store		
	Reset	Perform Reset	
	Config File		Import Restore
Up	grade		
	Firmware Version	64.0.0.1	
	Reset		
	Upgrade Firmware		Import Upgrade

Backup/Upgrade		
Parameters	Parameters Description	
Backup		
Backup	Export the current configuration file to the PC.	
Restore		
Reset	Reset device to factory default settings. The device will restart after reset process is done.	

Config File	Click "Import" button to select configuration file, and then click "Restore" button to upload the configuration file to the device.
Upgrade	
Firmware Version	Show the current firmware version.
Reset	When this option is enabled, the device will be reset to factory defaults after upgrade.
Upgrade Firmware	 Click "Import" button to select the new firmware file, and click "Upgrade" to upgrade firmware. Note: Ensure that the distance between the computer and the SG50 device is not too far during the upgrade; otherwise, the upgrade process may fail. After upgrade, the device will restart automatically. Please reconnect Wi-Fi to access the web GUI. After upgrade, clean the caches of the browser if there is abnormal display of web GUI.

5.7.3 Reboot

On this page, you can reboot the gateway and return to the login page. We strongly recommend clicking "Save" button before rebooting the gateway so as to avoid losing the new configuration.

Reboot	Reboot			
Schedule Reboot				
Enable				
Cycle	Every Day 🗸	00 🗸	00 ~	

Reboot		
Parameters	Description	
Reboot	Reboot the device immediately.	
Schedule Reboot		
Enable	Enable or disable to reboot regularly.	
Cycle	Select the reboot cycle as day/week/month and configure the time.	

5.7.4 Ping

Ping tool is engineered to check the outer network connectivity by typing IPv4 address or domain name.

PING

Echo Result

Host

www.google.com

PING

ping to www.google.com(142.250.196.228) 64 bytes from 142.250.196.228 icmp_seq=1 ttl=55 time=29 ms 64 bytes from 142.250.196.228 icmp_seq=2 ttl=55 time=29 ms 64 bytes from 142.250.196.228 icmp_seq=3 ttl=55 time=29 ms 64 bytes from 142.250.196.228 icmp_seq=4 ttl=55 time=28 ms 64 bytes from 142.250.196.228 icmp_seq=5 ttl=55 time=29 ms 5 packets transmitted, 5 received, 0% packet loss, time 144ms rtt min/avg/max = 28/28/29 ms

Appendix

Default Frequency

Supported Freq	Channel/MHz
CN470	471.9, 472.1, 472.3, 472.5, 472.7,472.9, 473.1, 473.3 (8~15)
EU868	868.1, 868.3, 868.5, 867.1, 867.3, 867.5, 867.7, 867.9
IN865	865.0625, 865.4025, 865.6025, 865.985, 866.185, 866.385, 866.585, 866.785
RU864	868.9, 869.1, 869.3, 867.3, 867.5, 867.7, 867.9, 868.1
AU915	916.8, 917, 917.2, 917.4, 917.6, 917.8, 918, 918.2 (8~15)
US915	903.9, 904.1, 904.3, 904.5, 904.7, 904.9,905.1, 905.3 (8~15)
KR920	922.1, 922.3, 922.5, 922.7, 922.9, 923.1, 923.3, 923.5
AS923-1	923.2, 923.4, 922, 922.2, 922.4, 922.6, 922.8, 923
AS923-2	921.2, 921.4, 921.6, 921.8, 922, 922.2, 922.4, 922.6
AS923-3	916.6, 916.8, 917, 917.3, 917.4, 917.6, 917.8, 918
AS923-4	917.3, 917.5, 917.7, 917.9, 918.1, 918.3, 918.5, 918.7

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