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1. General Introduction

The plug BLE Gateway is designed based on BLE and LoRa technology. With the advanced LoRa technology and built-in BLE module, the BLE gateway receives and reports the BLE devices' messages to the LoRa gateway. The parameter settings, such as the heartbeat period, LoRa work mode, and bytes to send in a BLE message, are adjustable as per customers' requirements.

2. Abbreviation

- **ABP**: Activation by Personalization
- **AS**: Application Server
- **BLE**: Bluetooth Low Energy
- **CRC**: Cyclic Redundancy Check
- **LoRa**: Long Range modulation technique
- **LoRaWAN**: LoRa Wide Area Network
- **OTAA**: Over the Air Activation
- **RFU**: Reserved for Future Usage
- **RSSI**: Received Signal Strength Indicator

3. Product Specifications

Table 1: Product Specifications

LoRaWAN	
Protocol	Version 1.0.2B
Activation Mode	OTAA or ABP
LoRa Frequency	US915, AU915, EU868, EU433, AS923, RU864, ID920, KR920, IN865, KZ865, CN470, CN470-Ali
LoRa TX power	0 to 20dBm
LoRa Sensitivity	-139dBm @SF12, BW 125kHz, 434MHz/470MHz -137dBm @SF12, BW 125kHz, 868MHz/915MHz
LoRa Communication Distance	>1.5km in the urban area
Encryption	AES128

Bluetooth	
Protocol	Bluetooth 5.0
TX Power	4, 0, -4, -8, -12, -16, -20dBm
Sensitivity	-96dBm
Receiving Range	50m

Power	
AC Input	85-305VAC
Standby current	5mA
Max. Current	200mA
Switch	Support
Status LED	Support
Battery	Li-ion rechargeable battery, 300mAh

Functions	
Adjustable Position Report Interval	5s x n (1 to 65536)
Heartbeat Report Interval	30s x n (1 to 65536)
FOTA over Bluetooth	Support

Physical Parameters	
Dimension, option 1	HxWxD 81x61x26mm (45mm, with the mounting lug)
Housing Material	ABS with fire retardant
Operating temperature	-10 to 60°C

Certificate	
FCC	To be obtained
UL	To be obtained

4. Application Information

4.1 Function

The gateway supports both OTAA and ABP modes. The indoor gateway and compact gateway work in class C mode, while the outdoor or macro gateway works in class A mode. DevEUI, AppEUI, and AppKey, or DevAddr, NwkSKey, and AppSKey are stored in the gateway and are necessary for joining a network. Please find DevEUI or DevAddr labeled at the back of the device. Lansitec helps to configure these parameters before shipping if required. After joining the network, the gateway sends a registration message that includes the gateway's current parameters setting to the Application Server (AS).

The gateway reports the heartbeat message to AS periodically. According to LoRaWAN specification, the heartbeat period is configurable to be an integral multiple of 30 seconds. The default HB period is 5 minutes. The heartbeat message also contains status information on the gateway. AS can use it to monitor the gateway.

The BLE gateway forwards Bluetooth beacons (refer to ***Table 7: UUID List*** for all UUIDs supported), tags, or bracelets received and forwards the corresponding information to the LoRaWAN gateway. If it receives a device multiple times in one Bluetooth receiving period, it only reports the latest one.

Please refer to 990-00170 "B-Fixed® Personnel & Asset Tracking Solution" to determine how to design and develop your tracking system.

4.2 Application Scenarios

The gateway follows the general rules below:

- When a registration request is received from the gateway,
  - If AS only wants the gateway to work with default parameters, AS ignores the registration message and waits for the periodic report.
  - Or AS records the first-time configuration and acknowledges the request. If AS contains some history configuration of the gateway and a mismatch occurs, AS should send the new configuration to the gateway. After that, the gateway updates and starts working with the new parameters.

After registration, the user can change the gateway configuration.

If the gateway resets after registration or when receiving a periodic heartbeat message, AS needs to check if any configuration mismatch occurs. AS should send a new configuration to the gateway in the next downlink window if necessary.

4.3 On/Off

To turn the device on or off, long press the button for 4 seconds. You can also send a downlink command to disable the turning-on feature. See the type field in Chapter ***6.2 Gateway Configuration***.

4.4 LED Status

The LED indicates the network connection status, while the LED mode (solid or blinking) indicates the device charging status.

Table 2: On/Off and LED Status

Light Status	Green LED	Red LED
Solid	Charged and connected	Charged but NOT connected
Blinking (normal)	Charging and connected	Charging but NOT connected
Blinking (fast)	Not charging but is connected	
Alternating (7 times)	The green and red light blinks alternately 7 times while pressing the button to reset the device.	

***Note**: When not charging and not connected and there is battery life left, there should be NO lights.*

5. Uplink Message

Table 3: Uplink Message Table

Message Type	Name	Description
0x4	Registration	The gateway sends this message once when it successfully joins the LoRa network or receives a specific command request downlink message.
0x2	Heartbeat	The gateway will periodically send this message to confirm the status of the Lora network connection.
0x6	Beacon	A list of beacons received (refer to ***Table 7: UUID List*** for all UUIDs supported).
0xE	Alarm Beacon List	A list of beacons that trigger the alarm.
0xF	Acknowledgment	Processes result in any downlink message that needs to be acknowledged.

5.1 Registration

Bytes	**1**	**1**	**1**	**1**	**2**	**1**	**1**	**1**	**2**
Item	Type	SMODE	POWER	CFG	POS	BLE Receiving Duration	HB	Beacon_QTY	CRC

Type Field (the most significant byte)

Bit	Name	Value	Description
7-4	Type	0x4	Message type. AS uses it to identify different uplink messages. Bit7 is the significant bit.
3	ADR	**0**: OFF **1**: ON	ADR (Adaptive Data Rate) status. The default value is OFF.
2-0	MODE	0x1-0x7	The current working LoRa frequency sub-band plan should be one of SMODE. **0x1**: AU915 **0x3**: CN470 **0x4**: AS923 **0x5**: EU433 **0x6**: EU868 **0x7**: US915

SMODE Field

Bit	Name	Value	Description
7-0	SMODE	**0x01**: AU915 **0x04**: CN470 **0x08**: AS923 **0x10**: EU433 **0x20**: EU868 **0x40**: US915	LoRa frequency band plan. This field is reserved by Lansitec and will be configured before shipping. Currently, it only supports one mode. Default value: European market: EU868 China market: CN470 Southeast Asian market: AS923 American market US915.

Power Field

Bit	Name	Value	Description
7-3	Power	0-20	LoRa transmits power (dBm). The default value depends on the gateway's LoRa frequency work mode, and it's the largest allowed. For example, if the mode is EU868, the default value of POWER should be 16 dBm. For details, please refer to ***Table 4: LoRa Transmitting power (dBm)***.
2	RFU	0x0	Reserved for future use.
1	Continuously BLE receiving	**0**: Disable **1**: Enable	**0** (0 in binary): Continuous Bluetooth receiving function is disabled. **1** (1 in binary): Continuous Bluetooth receiving function is enabled.
0	PowerDownFlag	0-1	Long time no charging automatic shutdown flag. **0**: Normal status. **1**: Automatic shutdown status. The gateway will automatically shut down if it is not charged for 10 consecutive days or if it is not charged for 5 consecutive days and the battery level is below 15%.

Table 4: LoRa Transmitting power (dBm)

EU868	US915	AU915	CN470	AS923	KR920	IN865
16	20	20	20	16	14	20
14	18	18	18	14	12	18
12	16	16	16	12	10	16
10	14	14	14	10	8	14
8	12	12	12	8	6	12
6	10	10	10	6	4	10
4	8	8	8	4	2	-
2	6	6	6	2	-	-

CFG Field

Bit	Name	Value	Description
7-4	DR	0-3	Data Rate (DR0-DR3). The default value is DR1. The data rate is limited from DR0 to DR3. ADR is NOT supported.
3-1	Device type	**000**: Outdoor gateway **001**: Indoor gateway **010**: Plug gateway	Used to distinguish gateway device types, **0**: Outdoor gateway **1**: Indoor gateway **2**: Plug gateway.
0	RSSI sorting method	**0**: Sort by average. **1**: Sort by the maximum value.	**0**: Sort the beacons by the average RSSI values of the number of samples (up to 15) for each beacon. **1**: Sort the beacons by the maximum RSSI value of each beacon.

Table 5: LoRa Data Rate and Payload Length Limitation Map (bytes)

DR	EU868	US915	EU433	AU915	CN470	AS923	KR920	IN865
0	51	11	51	51	51	51	65	51
1	51	53	51	51	51	51	151	51
2	51	126	51	51	51	51	242	51
3	115	242	115	115	115	115	242	115
4	242	242	242	242	242	242	242	242
5	242	-	242	242	242	242	242	242

POS Field

Bit	Name	Value	Description
15-0	POS	0-65535	Report interval, unit 5s. 0 means OFF. (Big endian) The Default: 0x005A (90s). The gateway sends uplink messages containing beacons' info or sensors' data to AS with this interval.

Bluetooth Receiving Duration Field

Bit	Name	Value	Description
7- 0	Bluetooth Receiving Duration	0- 10	The duration of Bluetooth receiving for asset beacons. The default value is 16s (Unit: 1s).

The Bluetooth receiving duration is 16s by default, and it is configurable and sends the beacon info list at the end of the POS period. It only sends 15 Bluetooth beacons at a time. If it receives more, it stores them in the buffer and sends them through the following messages. If more beacons are received in the next period, it adds them to the end of the buffer and sends the older ones first. If some beacons are received again before being sent, it updates their information and sends them later. Moreover, they will not be placed at the tail of the message.

If it receives many beacons and cannot report all of them in one interval, it will report them 5s later until all are reported.

HB Field

Bit	Name	Value	Description
7-0	HB	1-255	Heartbeat interval, unit 30s. Heartbeat can't be disabled. Default: 0x0A (5 minutes).

Beacon_QTY Field

Bit	Name	Value	Description
7-0	Beacon_QTY	1-255	This field sets the maximum quantity of beacons the gateway reports in one interval.The value you enter represents half of the actual limit. For example, a setting of 5 allows the gateway to report up to 10 beacons. The default is FF(255 x 2 = 510 beacons). If the gateway receives more than this limit, it only reports the beacons with highest RSSI, sorted from high to low. If the gateway can’t send all the beacons in one uplink message,

			it will transmit the remaining beacons in subsequent messages every 5 seconds.

CRC Field

Bit	Name	Value	Description
15-0	CRC		CRC16 of previous fields with type bits is set to 0, and the polynomial is $x^{16}+x^{15}+x^2+1$. AS only needs to compare this data field with the one AS stored to judge whether the configuration has been changed.

The default value of gateway configuration depends on specific products.

5.2 Heartbeat

Bytes	**1**	**1**	**1**	**2**	**1**	**1**	**2**
Item	Type	VOL	RSSI	SNR	REV	CHGSTAT	CRC

Type Field

Bit	Name	Value	Description
7-4	Type	0x2	Message type, AS uses it to identify different uplink messages.
3-0	RFU	1	Reserved for future use.

VOL Field

Bit	Name	Value	Description
7-0	VOL	0-250	Battery level in percentage. It indicates how much is left. (Unit: %)

RSSI Field

Bit	Name	Value	Description
7-0	RSSI	0-160	The gateway detected and calculated the downlink Received Signal Strength Indication. (unit: -1dBm)

SNR Field

Bit	Name	Value	Description
15-0	SNR	-3000-3000	Signal Noise Ratio, *0.01, i.e., 30.00-30.00

REV Field

Bit	Name	Value	Description
7- 0	REV	16-bit hex	Firmware version

CHGSTAT Field

Bit	Name	Value	Description
7-0	CHGSTAT	**0x00**: Not charging **0x50**: Charging **0x60**: Charging completed	Charging status

CRC Field

Bit	Name	Value	Description
15-0	CRC		The same CRC16 is calculated in the register message. It can be used for the server to check for a configuration mismatch.

5.3 Beacon

This chapter describes the Bluetooth beacons that broadcast major and minor instead of MAC.

Bytes	**1**	**1**	**2**	**2**	**1**	1	**2**	**2**	**1**	**…**
Item	Type	UUID Tail Num	Major	Minor	RSSI	UUID Tail Num	Major	Minor	RSSI	…

The tail number of the last one is in UUID in ***Table 7: UUID List***.

Type Field

Bit	Name	Value	Description
7-4	Type	0x6	Message type, AS uses it to identify different uplink messages.
3-0	Length	1~15	The number of beacons transmitted in this message. The gateway can receive up to 100 beacons in one second. It can only send 15 beacons in one message. If there are more than 15, the rest are sent 15 by 15 in the following cycles.

UUID Tail Num Field

Bit	Name	Value	Description
7-0	UUID tail number	Short	The last byte in the UUID refers to ***Table 7: UUID List***.

Major Field

Bit	Name	Value	Description
15-0	Major	Short	Major of Bluetooth beacon.

Minor Field

Bit	Name	Value	Description
15-0	Minor	Short	Minor of Bluetooth beacon.

RSSI Field

Bit	Name	Value	Description
7-0	RSSI	Integer	Received Signal Strength Indication of the beacon. The server utilizes it to calculate the distance. This value - 256 = the real RSSI Example: The value is 170, the real RSSI = 170 - 256 = -86dBm

5.4 Alarm Beacon List

This chapter describes the Bluetooth beacons that broadcast major and minor instead of MAC.

Bytes	1	1	2	2	1	1	2	2	1	…
Item	Type	UUID Tail Num	Major	Minor	RSSI	UUID Tail Num	Major	Minor	RSSI	…

The tail number of the last one is in UUID in ***Table 7: UUID List.***

Type Field

Bit	Name	Value	Description
7-4	Type	0xE	Message type, NS uses it to identify different uplink messages.
3-0	LENGTH	1~15	The number of beacons that trigger the alarm. After the alarm is triggered, the gateway will immediately report the latest beacon messages at 30s intervals and transmit up to 15 beacons in one message.

UUID Tail Num Field

Bit	Name	Value	Description
7-0	UUID tail number	Short	The last byte in the UUID refers to ***Table 7: UUID List***.

Major Field

Bit	Name	Value	Description
15-0	Major	Short	Major of Bluetooth beacon.

Minor Field

Bit	Name	Value	Description
15-0	Minor	Short	Minor of Bluetooth beacon.

RSSI Field

Bit	Name	Value	Description
7-0	RSSI	Integer	Received Signal Strength Indication of the beacon. The server utilizes it to calculate the distance. This value - 256 = the real RSSI Example: The value is 170, the real RSSI = 170 - 256 = -86 dBm

5.5 Acknowledgment

Bytes	1	1
Item	Type	MSGID

Type Field

Bit	Name	Value	Description
7-4	Type	0xF	Message type, AS uses it to identify different uplink messages.

3-0	Result	**0**: Success **1**: Failure	Processes result in any downlink message that needs to be acknowledged.

MSGID Field

Bit	Name	Value	Description
7-0	MSGID	0-255	The MSGID Field of the corresponding downlink message.

6. Downlink Message

Table 6: Downlink Message Table

Message Type	Name	Description
0x8	LoRa configuration	NS can use this message to configure LoRa parameters.
0x9	Gateway configuration	NS can use this message to configure the Gateway parameters.
0xA	Command request	NS can use this message to request that the gateway execute instructions.
0xA	Alarm configuration	NS can use this message to change the gateway's alarm configuration.

6.1 LoRa Configuration

Bytes	**1**	**1**	**1**
Item	Type	DR	MODE

Type Field

Bit	Name	Value	Description
7-4	Type	0x8	Message type, the gateway uses it to identify different downlink messages.
3	ADR	**0**: OFF **1**: ON	ADR (Adaptive Data Rate) status. **Please keep ADR off**.
2-0	RFU	0x0	Reserved for future use

DR Field

Bit	Name	Value	Description
7-4	DR	0-3	Data Rate (DR0-DR3). The data rate is limited from DR0 to DR3. ADR is NOT supported.
3-1	RFU	0	Reserved for future use
0	RSSI sorting method	**0**: Sort by average. **1**: Sort by maximum value.	**0**: Sort the beacons by the average RSSI values of the number of samples (up to 15) for each beacon. **1**: Sort the beacons by the maximum RSSI value of each beacon.

MODE Field

Bit	Name	Value	Description
7-5	MODE	1-7	Configure the band mode. It can't be changed currently.
4-0	Power	0-20	Configure transmit power (unit: dBm).

6.2 Gateway Configuration

Bytes	**1**	**2**	**1**
Item	Type	POS	HB

Type Field

Bit	Name	Value	Description
7-4	Type	0x9	Message type, the gateway uses it to identify different downlink messages.
3-0	RFU	0x0	Reserved for future use.

POS Field

Bit	Name	Value	Description
15-0	POS	0-65535	Report interval, unit 5s. 0 means OFF. (Big endian) Default: 0x005A (90s)

HB Field

Bit	Name	Value	Description
7-0	HB	1-255	The period of heartbeat message, unit 30s. This value must be larger than 0. Default: 0x0A (5 minutes)

6.3 Command Request

Bytes	**1**	**1**	**1**
Item	Type	MSGID	Value

Type Field

Bit	Name	Value	Description
7-4	Type	0xA	Message type, the gateway uses it to identify different downlink messages.
3-0	Command	**0x2**: Register request **0x3**: Device reboot **0x4**: Stop Bluetooth receiving	**0x2**: Request the gateway to send the register message. **0x3**: Reboot the gateway. **0x4**: Stop continuously receiving Bluetooth. It is opposed to 0x5. Once 0x4 is activated, it enables the receiving function for 3 seconds (or the value set before 0x5) ahead of sending. Please refer to ***Figure 1: POS Field and Receiving Period***.
		0x5: Start Bluetooth receiving	**0x5**: Start continuously receiving Bluetooth. It applies to all Bluetooth gateways.
		0x6: Change Bluetooth receiving start time	**0x6**: Advance or delay the receiving start time. It applies to all Bluetooth gateways. The negative value advances the start time. ***Figure 2*** shows an example of delaying the receiving start time for 3 seconds. It applies to all Bluetooth gateways. Command: 0xA60103 Advance 3s command: 0xA601FD 0xFD = Decibel 256 - 3

		0x7: Change Bluetooth receiving duration	**0x7**: Change the receiving duration for the gateway; by default, the Bluetooth receiving is 8 seconds long. ***Figure 3*** is an example of changing it to 5 seconds. Command: 0xA70205
		0x8: Set Beacon_QTY	**0x8**: Set the maximum quantity of beacons reported in one interval. Refer to value Field (command = 0x8) below for details.

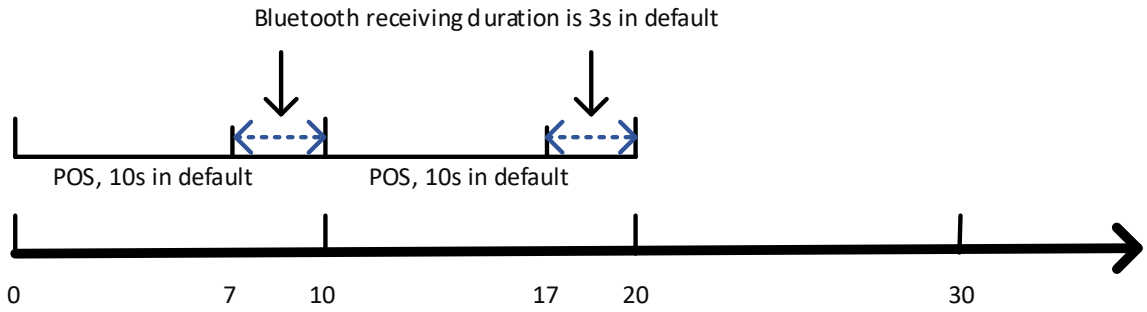


Figure 1: POS Field and Receiving Period

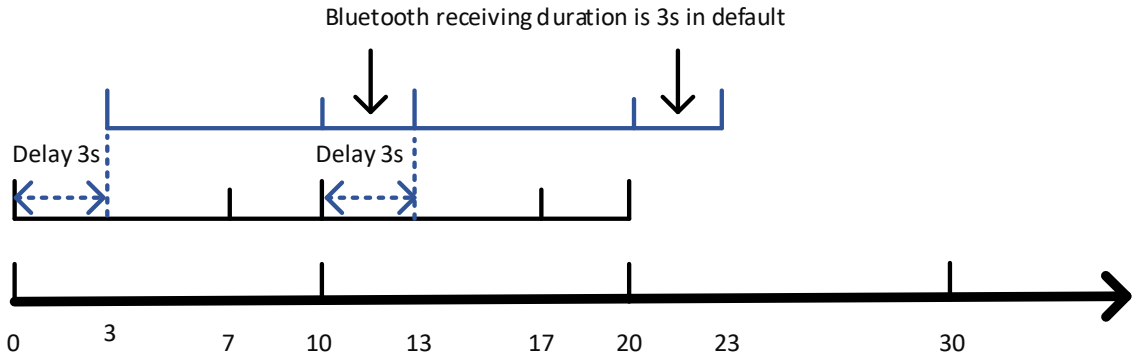


Figure 2: Delay the Receiving Start Time

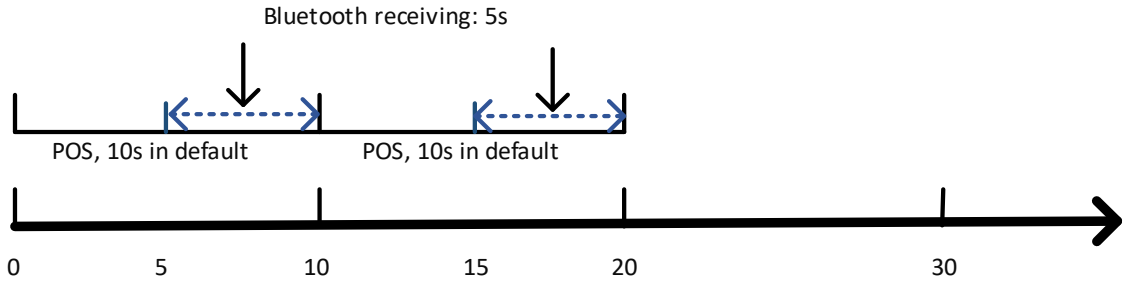


Figure 3: Bluetooth Receiving Period: 5s

MSGID Field

Bit	Name	Value	Description
7-0	MSGID	0-255	This field is for the server to differentiate the ACK message sent by the gateway. The server generates a sequence number of downlink messages that need MSGID. The gateway responds to ACK with this number. Otherwise, AS should resend the message.

Value Field

Bit	Name	Value	Description
7-0	Value	-127-127	If the command is 6, this field sets the value to adjust the receiving start time. A positive value means a delay, and a negative value means an advance. If the command is 7, this field sets the new receive time.

Value Field (**command = 0x8**)

Bit	Name	Value	Description
7-0	Value	1-255	This setting determines the maximum number of beacons the gateway reports in one interval. The value you enter represents half of the actual limit. For example, a setting of 5 allows the gateway to report up to 10 beacons. The default is FF (255 x 2 = 510 beacons). If the gateway receives more than this limit, it only reports the beacons with highest RSSI. These are reported in order from strongest to weakest signal strength. Any remaining beacons exceeding the limit are discarded. If the gateway can't send all the beacons in one uplink message, it will transmit the remaining beacons in subsequent messages every 5 seconds.

6.4 Alarm Configuration

Bytes	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Item	Type	MSGID	Warning RSSI Threshold	Buzzer Volume Level	Buzzer Duration	Beacon Report Interval	Alarm Beacon QTY	Alarm Receiving Time	Silent Button

Type Field

Bit	Name	Value	Description
7-4	Type	0xA	Message type; the gateway uses it to identify different downlink messages.
3-0	Command	**0x9**: Set warning RSSI threshold and	**0x9**: The warning function triggers when the Bluetooth RSSI detection threshold is met or exceeded -65dBm (default). The buzzer volume level ranges from 0 (silent) to 4 (loudest,

		buzzer volume	default).

MSGID Field

Bit	Name	Value	Description
7-0	MSGID	0-255	This field is for the server to differentiate the ACK message sent by the gateway. The server generates a sequence number of downlink messages that need MSGID. The gateway responds to ACK with this number. Otherwise, NS should resend the message.

Warning RSSI Threshold Field

Bit	Name	Value	Description
7-0	Warning RSSI Threshold	Signed Int	The gateway triggers an alarm when the received beacon's RSSI value is met or exceeded -65dBm (default). Its value is a single-byte signed number.

Buzzer Volume Level Field

Bit	Name	Value	Description
7-0	Buzzer Volume Level	0- 4	The gateway's buzzer alarm volume level ranges from 0 (silent) to 4 (loudest, default).

Buzzer Duration Field

Bit	Name	Value	Description
7-0	Buzzer Duration	0-255	The buzzer alarm duration is when the gateway sounds an alarm after detecting a beacon that meets the warning RSSI threshold. A value of 0 means mute. The default value is 0x03 (30s). Unit 10s. ***Note**: The gateway will keep alerting as long as it detects beacons that meet the warning RSSI threshold.*

Beacon Report Interval Field

Bit	Name	Value	Description
7-0	Beacon Report Interval	0-255	When the alarm is triggered, the gateway reports the beacon information at this interval. The default value is 0x03 (30s). Unit 10s.

Alarm Beacon QTY Field

Bit	Name	Value	Description
7-0	Alarm Beacon Quantity	1-255	The quantity of beacons triggering the alarm can be reported. The default value is 0xFF. The maximum number that can be reported depends on the data rate, refer to ***Table 5: LoRa Data Rate and Payload Length Limitation Map (bytes)*** for specific limitations.

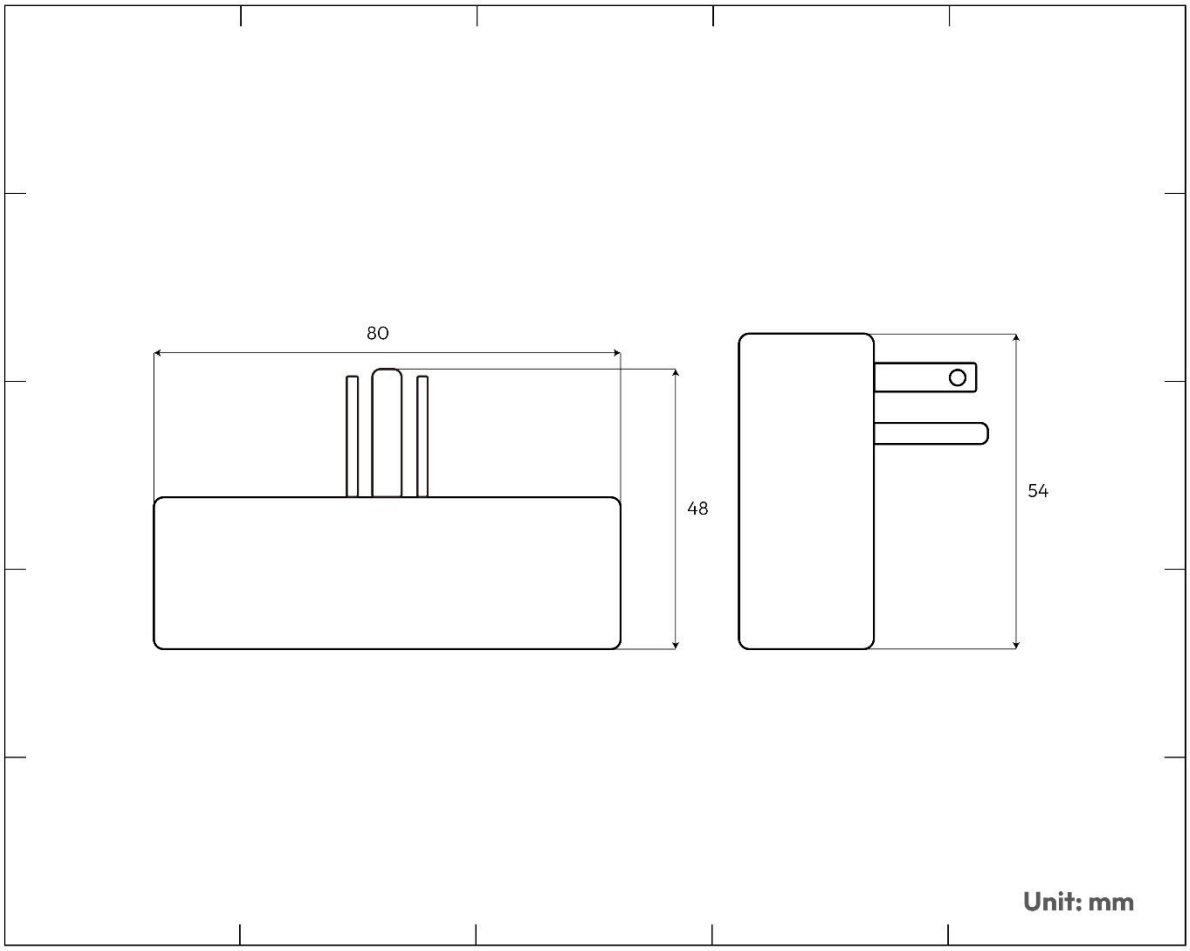
Alarm Receiving Time Field

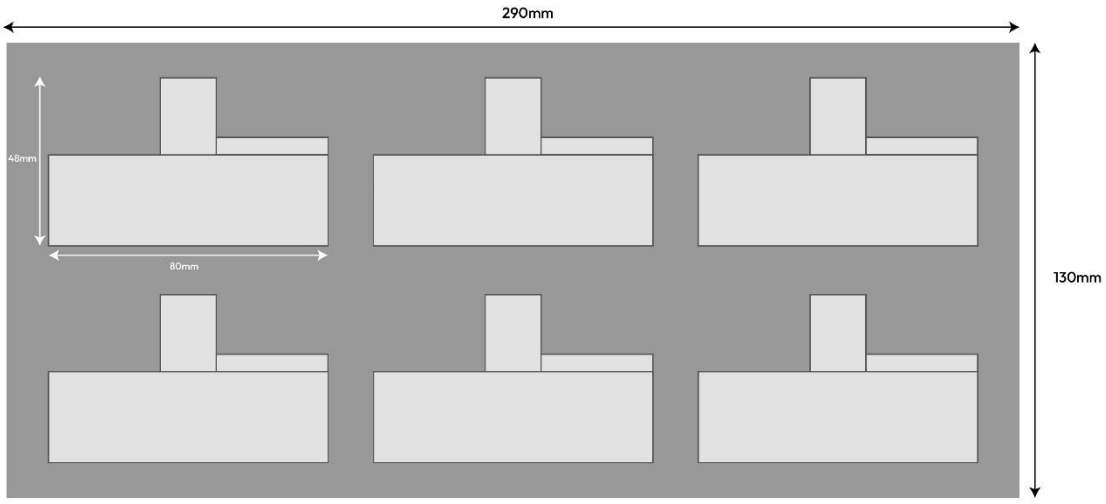
Bit	Name	Value	Description
7-0	Alarm Receiving Time	1-255	This setting defines the reception time before the first alarm beacon list report. Unit 1s. When an alarm is triggered, the audible alarm will sound immediately. However, the reporting of the first alarm beacon list will be delayed according to this setting (14s by default). When set to 0, both the audible alarm and the first alarm beacon list are triggered immediately.

Silent Button Field

Bit	Name	Value	Description
7-0	Silent Button	**0**: Disable **1**: Enable	**0**: The silent button is disabled and cannot be used to turn off the audible alarm (default). **1**: The silent button is enabled to turn off the audible alarm.

7. Packaging





8. Ordering Information

Description	Part Number
SocketSync Gateway, built-in antenna, BLE5.0, LoRaWAN, 90-260VAC	100-00PG1

9. Appendix

Table 7: UUID List

Sequence	UUID	Last Byte
1	5C38DBDE567C4CCAB1DA40A8AD465656	56
2	5C38DBDE567C4CCAB1DA40A8AD465657	57
3	5C38DBDE567C4CCAB1DA40A8AD465658	58
4	5C38DBDE567C4CCAB1DA40A8AD465659	59
5	5C38DBDE567C4CCAB1DA40A8AD46565A	5A
6	5C38DBDE567C4CCAB1DA40A8AD46565B	5B
7	5C38DBDE567C4CCAB1DA40A8AD46565C	5C
8	5C38DBDE567C4CCAB1DA40A8AD46565D	5D
9	5C38DBDE567C4CCAB1DA40A8AD46565E	5E
10	5C38DBDE567C4CCAB1DA40A8AD46565F	5F
11	5C38DBDE567C4CCAB1DA40A8AD465660	60
12	5C38DBDE567C4CCAB1DA40A8AD465661	61
13	5C38DBDE567C4CCAB1DA40A8AD465662	62
14	5C38DBDE567C4CCAB1DA40A8AD465663	63
15	5C38DBDE567C4CCAB1DA40A8AD465664	64
16	5C38DBDE567C4CCAB1DA40A8AD465665	65
17	5C38DBDE567C4CCAB1DA40A8AD465666	66
18	5C38DBDE567C4CCAB1DA40A8AD465667	67
19	5C38DBDE567C4CCAB1DA40A8AD465668	68
20	5C38DBDE567C4CCAB1DA40A8AD465669	69
21	5C38DBDE567C4CCAB1DA40A8AD46566A	6A
22	5C38DBDE567C4CCAB1DA40A8AD46566B	6B
23	5C38DBDE567C4CCAB1DA40A8AD46566C	6C
24	5C38DBDE567C4CCAB1DA40A8AD46566D	6D
25	5C38DBDE567C4CCAB1DA40A8AD46566E	6E
26	5C38DBDE567C4CCAB1DA40A8AD46566F	6F
27	5C38DBDE567C4CCAB1DA40A8AD465670	70
28	5C38DBDE567C4CCAB1DA40A8AD465671	71
29	5C38DBDE567C4CCAB1DA40A8AD465672	72
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