

JOOBY Indoor Gateway LoRaWAN 700 EU / 701 EU / 702 EU

Manual



INTRODUCTION

This data sheet contains information on the purpose, structure, operation and key technical characteristics of the Jooby Indoor Gateway LoRaWAN (hereinafter—Gateway or Device).

This manual will guide you through the installation, operation, and maintenance of the Gateway.

The model's description can be found in Table 1.

Model Description Table 1

JOOBY Indoor Gateway LoRaWAN 700 EU / 701 EU / 702 EU			
Model	700 EU	701 EU	702 EU
Data transmission technology	LoRaWAN, LTE, Ethernet, PoE, Wi-Fi	LoRaWAN, LTE, Ethernet, Wi-Fi	LoRaWAN, Ethernet, Wi-Fi
LoRaWAN radio frequency band, MHz / LoRaWAN standard	863–873 / EU 868		
LoRaWAN transmitter's radiated power, max mW	25		
External LTE antenna gain, dBi	3		
LoRaWAN channels quantity	8		
LTE transmitter's radiated power, max mW	Class 4 4 (33 dBm ±2 dB) for EGSM900 Class 4 1 (30 dBm ±2 dB) for DCS1800 Class 4 E2 (27 dBm ±3 dB) for EGSM900 8-PSK Class 4 E2 (26 dBm ±3 dB) for DCS1800 8-PSK Class 4 3 (23 dBm ±2 dB) for LTE-FDD bands		X
LTE frequency band, Upload/Download, MHz	TE-FDD upload = 1920-1980/1710-1785/2500-2570/ 880-915/832-862; LTE-FDD download = 2110-2170/1805-1880/2620-2690/925-960/791-821. GSM = 900/1800		X

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GATEWAY'S TECHNICAL CHARACTERISTICS

Table 2

Attribute	UOM	Value
PoE voltage range	V	42...57
Active power consumption, less or equal	W	10
Total power consumption, less or equal	V•A	10
Absolute clock error per day, less or equal	s	2
Standard clock deviation per day at 25 °C	s	± 0,5
Overall dimensions of the device (without external antenna)	mm	127 x 116 x 28
Device weight (without external antenna), not more than	kg	0,210

— Users can read the following basic parameters from the dashboard: indicators on the Gateway's front panel, CPU temperature and the Gateway's internal temperature, LoRaWAN network analytics, status of other network interfaces.

— Gateway access can be configured via a web UI or SSL for either a single network interface or all of them.

— Users can check the system error log.

— Gateway settings can be saved and restored.

— Prevention of unauthorized interference: individual factory settings prevent theft and subsequent unauthorized reuse of the device.

— Gateway settings can be reset to device-specific or general factory defaults (depending on the model). In addition, users can apply their own settings (user passwords, network parameters, etc.).

The Gateway is intended for continuous 24/7 operation indoors. If operating conditions are met, the device is resistant to environmental temperatures ranging from -20 °C to +60 °C and relative humidity of 90% at 25 °C (non-condensing). Mean time to failure with a failure probability of 0.8—at least 24,000 hours.

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Model Description

Table 1 (continuation)

JOOBY Indoor Gateway LoRaWAN 700 EU / 701 EU / 702 EU			
Model	700 EU	701 EU	702 EU
Built-in LTE antenna gain, dBi	1.1		X
Ethernet Interface	Ethernet connector: RJ-45 Cable: UTP and STP, Category 5 Speed: auto-negotiation, 10/100 Mbit/s		
Wi-Fi Interface	Built-in Wi-Fi module: 2T2R ac Radio frequency bands: IEEE 802.11 b/g/n 2400–2497 MHz; IEEE 802.11 a/n/ac 4900–5845 MHz Output power (EIRP): IEEE 802.11 b/g/n/ac < 20 dBm (100 mW) Antenna gain: 3.11 dBi (5 GHz), 2.69 dBi (2.4 GHz)		
Operating temperature	from -20 °C to +60 °C		
Case sealing class	IP50		

PURPOSE AND TECHNICAL CHARACTERISTICS

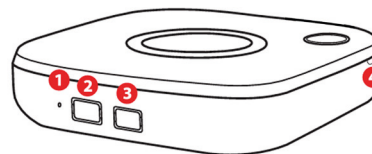
Depending on the model, the Gateway can perform the following functions:

- The Gateway is a standalone device powered either by an external 5 V supply or by PoE IEEE 802.3af, Class 4; Mode B (midspan), pairs 4/5(+) and 7/8(-) (model 700 EU).
- The Gateway communicates with radio modules via the LoRaWAN interface over 8 communication channels using modulation SF5–SF12 at 868 MHz. The connection to the LoRaWAN network server can be established via Ethernet, Wi-Fi, LTE-FDD, EDGE, or GPRS, depending on the model.
- The Gateway has two USB ports: USB (item 2 in Fig. 1a) may be used for standard USB peripherals, for installing software from a flash drive if the currently installed software is inoperable, and similar tasks. USB (item 3 in Fig. 1a) provides access to the UART console via a USB AM/AM cable. A USB-to-UART converter is already integrated in the device.
- Time accuracy is ensured by NTP servers on the network.
- Software updates from the server occur automatically when a new firmware version or configuration becomes available.
- The Gateway includes a web interface for remote configuration and device management.

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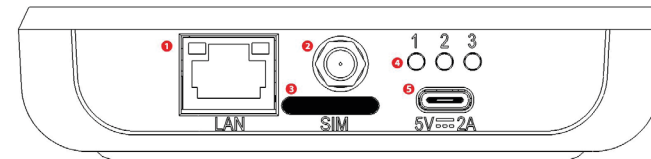
Figure 1—Gateway appearance

a) Side panel



1. Fn – factory reset / flash-memory banks switch
2. USB 2.0
3. USB 2.0
4. Power – power present (PoE or external power adapter)

b) Rear panel



1. Ethernet (LAN) — Link (green) / Activity (yellow)
2. Connector for external LoRaWAN antenna
3. SIM card slot (Nano format)
4. LEDs:
 - 1 – Wi-Fi connection present (yellow);
 - 2 – LTE connection present (green);
 - 3 – Connection to LoRaWAN server present (blue)
5. Connector for external power adapter

PARTS LIST

Name	JOOBY Indoor Gateway LoRaWAN 700 EU / 701 EU / 702 EU	
	Quantity	
Gateway	1 pcs	
Manual	1 copy	
LoRaWAN antenna	1 pcs	
External power adapter 10W 100~240V 5.0V EU-C	1 pcs	
Packaging	1 pcs	

Note. Can be shipped in multi-piece transport packaging

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