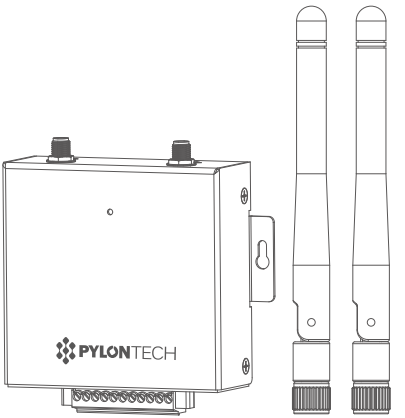
PYLONTECH



KIT-C1 Communication Box

User Manual

Information Version: 1.1
5PMPA08-00318

Legal Information

Disclaimer

The Manual contains instructions for the use of the product. All the pictures and charts in this manual are for description and explanation only. Pylon Technologies Co., Ltd. reserves the right to change the information in the manual which is subject to change without further notice.

Please read this manual carefully before using the product and keep this manual for further reference. Failure to use the product in accordance with the manual may result in serious injuries, property damages and may void the warranty, for which Pylon Technologies Co., Ltd. shall not be liable.

Pylon Technologies Co., Ltd. makes no representations or warranties express or implied, with respect to all the information in this manual.

In the event of any conflicts between this manual and the applicable law, the latter prevails.

The final interpretation of this manual belongs to Pylon Technologies Co., Ltd.

Safety Instructions

Warning

- The device should be used in strict compliance with local laws, electrical safety regulations, and fire prevention regulations of the nation or the region.
- Do not leave the device in an extremely hot environment.
- Do not place the device in damp locations.
- Do not expose the device to high electromagnetic radiation.
- Do not strike, mechanically crush or cut the device.
- Do not puncture the device with sharp objects.

Caution

General

- Please use only the accessory (e.g. antenna) supplied or recommended by Pylontech. Pylontech shall not be liable for damage caused by third-party accessories.
- Before first use, please check if the device is in good condition.

Installation

- Do not install the device in an unstable place. Personal injury or property damage may be caused if the device falls.

Maintenance

- If the device does not work properly, please contact your distributor or the nearest service center within 24 hours. DO NOT disassemble the device for repair or maintenance by yourself. Pylontech shall not assume any responsibility for problems caused by unauthorized repair or maintenance.
- It is recommended to check the connection of the cables and antennas regularly to ensure that there is no loosening or breakage at the connection points.
- It is recommended to regularly check if the device storage environment is normal.

Disposal

- Dispose of device according to the laws or the regulations of the nation or the region.

Contents

1 Introduction

With a KIT-C1 communication box, Pylontech batteries without external communication interfaces can achieve communication interface expansion, “charging/-discharging will stop soon” warning signal output, Bluetooth signal transmission in a enclosed space or a long distance.

The product has the following functions.

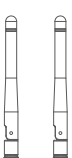
- Communication Interface Expansion
  Two communication interfaces in the bottom helps batteries without external communication interfaces to realize RS485/CAN communication.

- “Charging/discharging Will Stop Soon” Signal Warning
  Two sets of dry contacts outputs warning signals in advance when the battery connected to one network is about to stop charging/discharging.

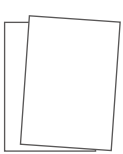
- Application Scenarios Extension
  Small size, easy installation and optional antennas of different lengths make it possible to assist the battery in transmitting wireless communication signals in different scenarios.

2 Packing List

KIT-C1

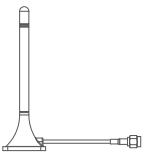


Rubber Duck Antenna (×2)



User Manual

3 Optional Accessories



Extended Antenna
(3 m, 2.4 G, 3 dBi)

Rubber Duck Antenna
(2.4 G, 3 dBi)

4 Interface & Indicator

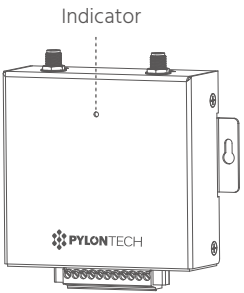
Bluetooth Port

Communicate with the mobile phone.

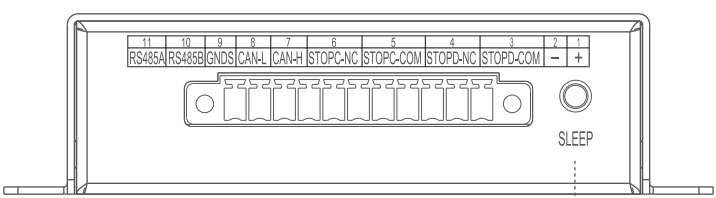
Wireless Port

Communicate with batteries.

4 Interface & Indicator



Light up for 0.5 s every other 1.5 s	The device is working.
Light up for 0.5 s every other 0.5 s	Battery system is alarming.
Light up for 0.25 s every other 0.25 s	Battery is offline. / No battery is detected.
Light Off	No power supply. / Battery is in sleep mode.



Long press the button to hibernate the batteries in the same network.

*To wake up the batteries, you can charge them or turn on them by pressing their power buttons (if any) manually.

4 Interface & Indicator

No.	Pin	Function Description	
1	+	Power Supply +	Voltage Range: 10 VDC ~ 60 VDC; Recommended Voltage: 12 VDC
2	-	Power Supply -	
3	STOPD-COM	Dry contact outputting a signal of discharging stopped	Voltage: ≤ 277 VAC/220 VDC; Current: ≤ 4 A; Max. Switching Power: 62.5 VA/90 W The corresponding dry contacts are closed by default. They will open and output warning signals in advance when the battery connected with KIT-C1 is about to stop discharging/charging.
4	STOPD-NC		
5	STOPC-COM	Dry contact outputting a signal of charging stopped	
6	STOPC-NC		
7	CAN-H	CAN_H	CAN Communication Interface A terminating resistor of 120 Ω has been provided.
8	CAN-L	CAN_L	
9	GNDS	Communication Signal Ground	
10	RS485B	RS485B	RS485 Communication Interface RS485 can be used as the console of Pylontech monitoring software Batteryview and the communication port of Pylontech RS485 protocol.
11	RS485A	RS485A	

Protocols Supported by CAN Interface

Manufacturer	Name	Type	Frame Type	CAN ID Range	Baud Rate
Victron	can-bus_bms_protocol 20210302	CAN_bus	Standard Frame	0x351~0x382	500kbps
Pylontech	CAN-Modbus-Protocol-Pylon-tech-Sys-V1.5-20220628	CAN modbus	Extended Frame	0x10010000~0x1001FFFF	500kbps

*For actual CAN ID and protocol requirements, see protocol documents.

Protocols Supported by RS485 Interface

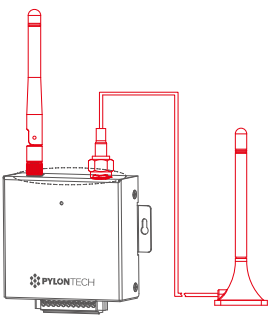
Manufacturer	Name	Protocols	Address Code Range	Baud Rate
Pylontech	RS485-Modbus-Protocol-Pylon-Sys-20230720	modbus	0x1~0x10,0xFF	9600

5 Installation

Caution

- Cut off the power before installation.
- Make sure the connecting terminals of the cables or wires to be connected are clean, undamaged and uninsulated.

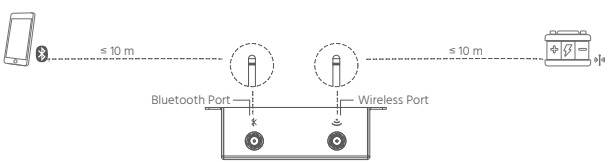
① Connect suitable antennas for Bluetooth port and wireless port.



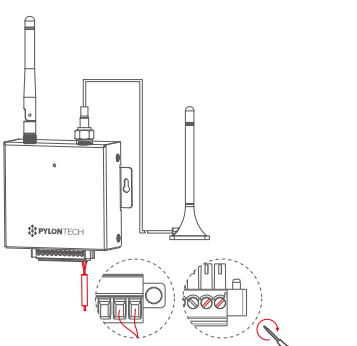
*The picture is for illustration only.

Caution

- Keep the distance between the antenna connected to the Bluetooth port and the phone less than 10 m, and there is no obstruction between them; and
- Keep the distance between the antenna connected to the wireless port and the furthest battery less than 10 m, and there is no obstruction between them.



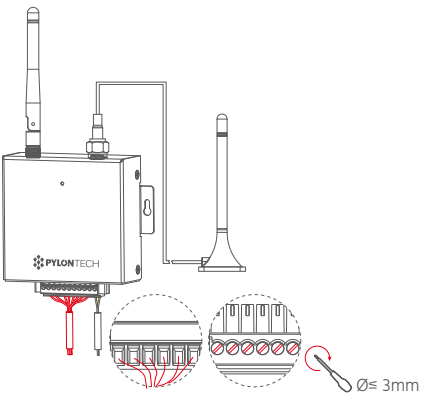
② Snap power cables into No.1 & No.2 pin hole in the bottom of the device and tighten the screws by rotating them clockwise with a screwdriver.



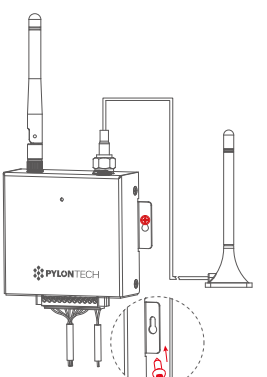
*Please make sure the positive and negative connections are correct.

5 Installation

③ (Optional)If you have other needs, snap the cables in the appropriate pin holes and tighten the screws by rotating them clockwise with a screwdriver.

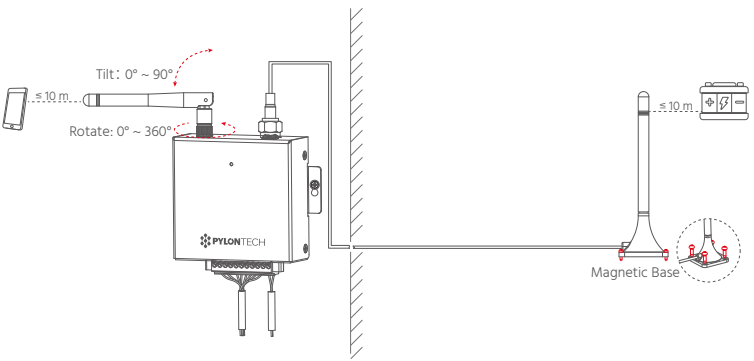


④ Secure the device to the wall with two M3 screws.



5 Installation

⑤Rubber duck antenna: adjust it to a proper angle.
Extended antenna: Fix it to a proper position by using either the magnetic base or the screws.



6 Networking

See Pylontech Auto APP Quick Guide to complete networking.

Pylontech Auto APP

APP Quick Guide

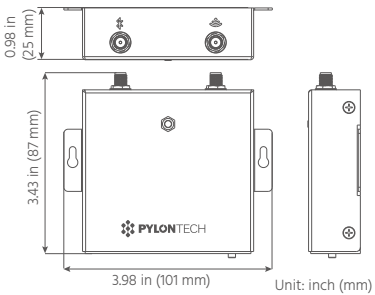
7 Specifications

Electrical Specification	
Power Supply Voltage	10 VDC ~ 60 VDC
Power Consumption	< 1 W
Environment Specification	
Storage Temperature	-40 °F ~ 158 °F (-40 °C ~ 70 °C)
Operating Temperature	-4 °F ~ 140 °F (-20 °C ~ 60 °C)
Max. Altitude	13123 ft (4000 m)
Relative Humidity	5% ~ 95% (non-condensing)
Mechanical Specification	
Dimensions (L × W × H)	3.98 × 3.43 × 0.98 in (101 × 87 × 25 mm)
Weight	Approx. 0.66 lbs (300 g)
Case Material	Metal
IP Rating	IP20
Other	
Communication	RS485, CAN, Dry Contact

*Product performance is based on testing in a controlled environment. Your results may vary due to several external and environmental factors.

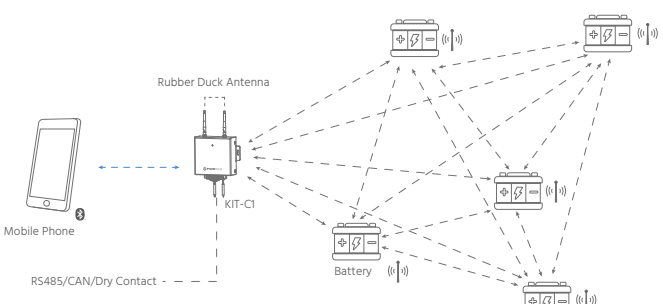
7 Specifications

Dimension



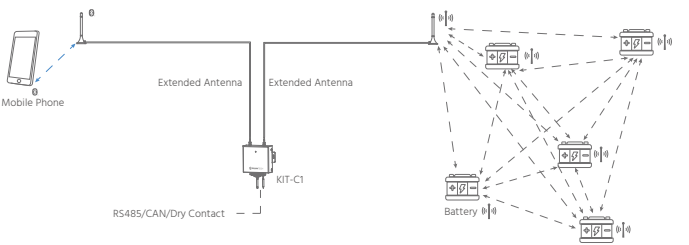
8 Connection Scenarios

① When KIT-C1 is close to both the mobile phone and the batteries, and there is no obstruction between the devices, rubber duck antennas are recommended for both ports.

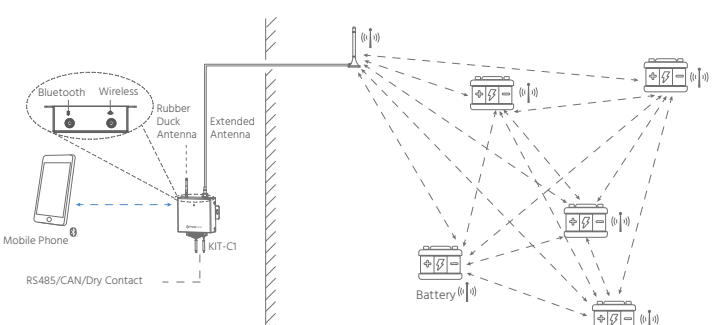


8 Connection Scenarios

② When KIT-C1 is far from both the mobile phone and the batteries, extended antennas are recommended for both ports.

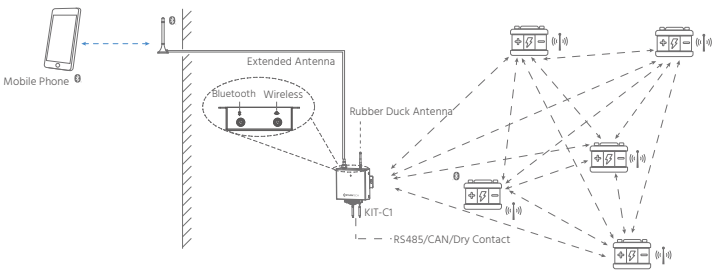


③ When KIT-C1 is close to the mobile phone and there is no obstruction between them, while there is an obstruction between KIT-C1 and the batteries, a rubber duck antenna is recommended for the Bluetooth port and an extended antenna for the wireless port.



8 Connection Scenarios

④ When there is an obstruction between KIT-C1 and the mobile phone, and KIT-C1 is close to the batteries and there is no obstruction between them, an extended antenna is recommended for the Bluetooth port and a rubber duck antenna for the wireless port.



9 FAQ

How to power the communication box?

You can power the communication box via a battery or the external power supply. Please make sure the supply voltage is within the rated range before charging; and try to avoid triggering the battery protection if you use a battery to power the device, otherwise powering the device will fail.

Does the device support other protocols besides Pylontech and Victron?

Currently, only Pylontech and Victron protocols are supported. For more protocol support requirements, please contact our business segment.

Can the device wake up the battery?

The device cannot wake up the battery.

What batteries can the device be used with?

The device can be used with some Pylontech batteries without external communication interfaces, e.g. RT2450-G31, RV12100B-G31, and RV12200. Please note that RV12200 supports bluetooth communication function of KIT-C1 only.

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