

SERIAL CABLE RS485 to USB

Version 1.3



A Important Safety Instructions

Please save these instructions.

This manual contains important operation instructions for the RS485 to USB Serial Cable. Please observe these instructions and keep them located near the serial cable for further reference. The following symbols are used throughout the manual to indicate potentially dangerous conditions or important safety information.



Disclaimer

The manufacturer accepts no liability for any damage caused by:

- Force majeure including fire, typhoon, flood, earthquake, war, and terrorism.
- Intentional or accidental misuse, abuse, neglect or improper maintenance, and use under abnormal conditions.
- Improper installation, improper operation, and malfunction of a peripheral device.
- Contamination with hazardous substances, diseases, vermin, or radiation.
- Alterations to the product without express written consent from the manufacturer.

General Safety Information

WARNING

- Please disconnect the battery from the system before connecting it to the PC using a serial cable.
- Please keep the battery away from water, heat sources, sparks, and hazardous chemicals.
- DO NOT place tools on top of the battery.
- DO NOT touch battery terminals.

CAUTION

• The serial cable is designed for Renogy Smart Lithium Iron Phosphate Batteries. DO NOT attempt to connect other devices to the PC using the serial cable.

- Please ensure the stability of the firmware update environment. Unexpected situations such as a power outage of the PC, trigging of the battery protection modes, disconnection of the serial cable, and shutdown of the firmware update tool may cause update failure and battery management system (BMS) lockout. It is highly recommended to turn off the antivirus software, lock screen, screensaver, automatic sleep, and automatic system update on your PC. Please ensure that the battery has a static voltage higher than 13.2V and is placed in a room temperature environment before updating the firmware. DO NOT disconnect the serial cable or operate the PC while the firmware update is in progress. If a laptop is used for firmware update, please make sure that it has been plugged in or that its battery level is over 50%.
- DO NOT download the firmware update tool or battery firmware from unknown sources.
- DO NOT puncture, drop, crush, burn, penetrate, or strike the serial cable.

TABLE OF CONTENTS

GENERAL INFORMATION	03
PRODUCT OVERVIEW	04
PREPARATION	05
OPERATIONS	06

GENERAL INFORMATION

The Renogy RS485 to USB Serial Cable is designed to connect Renogy Smart Lithium Iron Phosphate Battery to a PC for firmware updates. With the help of the Renogy Firmware Update Tool, you can keep the firmware of your Smart Lithium Iron Phosphate Battery up to date, enabling smarter charge/discharge process management and state of charge estimation algorithm.

Key Features

- Flat wire design helps to avoid tangles
- Low operating and USB suspended current
- Low USB bandwidth consumption
- USB 2.0 full speed compatible

PRODUCT OVERVIEW



PREPARATION

Before updating the battery firmware, please have the following software available on your PC:

Virtual COM Port (VCP) Driver

Available on https://www.ftdichip.com/Drivers/VCP.htm. Please download the appropriate driver based on your PC's operating system version and processor architecture. Once downloaded, install the driver according to the corresponding installation guide.

Renogy Firmware Update Tool Installer

Available on our website in the Download section of the RS485 to USB Serial Cable product page (https://www.renogy.com/rs485-to-usb-serial-cable/) or your region's corresponding website. Please download the appropriate installer based on your PC's processor architecture and install the firmware update tool according to the installation instructions in the OPERATIONS section.

Latest Firmware for Renogy Smart Lithium Iron Phosphate Battery

Available on our website in the Download section of the Renogy Smart Lithium Iron Phosphate Battery product page or your region's corresponding website. Please see OPERATIONS section for firmware update instructions.

OPERATIONS

Installing Renogy Firmware Update Tool

- 1.Open the Renogy Firmware Update Tool Installer.
- 2. Choose a preferred language and click [OK].

R	enogy Firm	ware Update Tool Installer		\times
	English		\sim	
		OK >		

3.Specify the installation directory and click [Next].



4.Confirm the installation setting and click [Next].

Renogy Firmware Update Tool Installer					
P. /	The installer now has enough information to install Renogy Firmware Update Tool on your computer.				
	The following settings will be used:				
	Install folder: Tool	C:\Program Files\Renogy	Firmware Update		
Shortcut folder: Renogy Firmware Update Tool			Tool		
	Please click Nex	t to proceed with the install	ation.		
	< <u>B</u> ack	<u>N</u> ext >	<u>C</u> ancel		

5.Installation starts. Wait until finished.

Renogy Firmware Update Tool Installer	>	K
Installing Renogy Firmware Update Tool Please wat		
	<u>C</u> ancel	

6.Installation finished. Read the firmware update instructions carefully and click [Finish].



Identifying Serial Port Name

1.Open the Device Manager in the Control Panel of your PC before connecting the battery to the PC using a serial cable. Depending on your Windows operating system, the Device Manager may be under Hardware & Sound.

2.Expand the Ports (COM & LPT).

4	evice Manager	_	×
File	Action View Help		
(m 1			
~ -	ENG07		
11	Audio inputs and outputs		
	Computer		
	- Disk drives		
	Display adapters		
	DVD/CD_BOM drives		
	Human Interface Devices		
	Imaging devices		
	Keyboards		
	Mice and other pointing devices		
	Monitors		
	Network adapters		
	Portable Devicer		
	Portable Services		
	Communications Port (COM1)		
	Print queuer		
	Printers		
	Processors		
	Security devices		
	Software devices		
	Sound video and game controllers		
	Su Storage controllers		
	System devices		
	Universal Serial Bus controllers		
	WSD Print Provider		

3.Connect the battery to your PC using a serial cable and a new serial port will appear under Ports (COM & LPT), followed by its serial port name.



Updating Battery Firmware

1. Connect the UP communication port of the battery to your PC's USB port with the serial cable.

- 2.Open the Renogy Firmware Update Tool.
- 3. Go to [Option] > [Language] to choose a preferred language.

📰 Renogy Firmware Up	date Tool		_		×
Option					
Language 🕨	简体中文	1			
Serial Port N	English	Baud Rate			
COM1	Deutsche 日本語	9600 💌	Cor	nnect	
Firmware Information	n	,			
Firmware Path					
			Bro	owse	
]			
Data Package		Error Check			
			Up	date	
Update Information					
Progress (DO NO)T Disconnect t	he Serial Cable While Updating)			
				0%	

4.Click on the Serial Port Name drop-down menu to select the name of the serial port that the battery is connected to.

📧 Renogy Firmware Update Tool		-		\times
Option				
Connection Information				
Serial Port Name	Baud Rate			
COM4	9600 💌	Con	nect	
COM1 Firm COM4				
Firmware Path				
		Bro	WCO	
		Die	Wat	
Data Package E	Error Check			
		Upo	late	
Update Information				
Progress (DO NOT Disconnect the Se	erial Cable While Updating)			
			0%	

5. Click on the Baud Rate drop-down menu to change the baud rate to 115200.

Renogy Firmware Update Tool		-		×
Option				
Connection Information				
Serial Port Name	Baud Rate			
COM4	115200 • 9600	Cor	nnect	
Firmware Information	115200			
Firmware Path				
		Bro	owse	
Data Package	Error Check		data	
		Up	Jare	
Update Information				
Progress (DO NOT Disconnect the S	erial Cable While Updating)			
			0%	

6.Click [Connect] to connect the battery to the Renogy Firmware Update Tool. Once the connection is successful, the current battery firmware version will be displayed in the text box at the bottom of the window.

📰 Renogy Firmware Update Tool		-		Х
Option				
Connection Information				
Serial Port Name Baud Rate				
COM4 <u>v</u> 115200	Ψ.	Disco	nnect	
Firmware Information				
Firmware Path				
		Bro	wse	
Data Package Error Check				
		Upd	late	
	ie Updating)		0%	
2020.08.27 16:14:07->Connecting 2020.08.27 16:14:17-> Device Name:RBT100LFP12S-G1 Device Serial Number:PPTAH01050335221 Firmware Version:V0.1.4 2020.08.27 16:14:17->Connected				

7.Click [Browse] to select the Latest Firmware for the Renogy Smart Lithium Iron Phosphate Battery and Click [Update] to begin the firmware update.

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8.Firmware update starts. Wait until finished.

R	enogy Firmware Update Tool		_		\times
Optio	n				
С	onnection Information				
	Serial Port Name	Baud Rate			
	COM4	115200 🔽	Discon	nect	
F	irmware Information Firmware Path				
	C:/Program Files/Renogy Firmwa Firmware.bin	are Update Tool/Battery	Brow	ise	
	Data Package	Error Check	Updat	te	
U	pdate Information Progress (DO NOT Disconnect th	ne Serial Cable While Updating)		14%	
	2020.08.27 16:27:12->Connec 2020.08.27 16:27:22-> Device Name:RBT100LFP12S-G] Device Serial Number:PPTAH011 Firmware Version:V0.1.4 2020.08.27 16:27:22->Connec 2020.08.27 16:35:35->Update	ung L D50335221 ted started. Firmware is being trans	ferred		

9.Firmware update finished. Exit the Renogy Firmware Update Tool.

Т	Renogy Firmware Update Tool		-		×
Op	ion				
	Connection Information				
	Serial Port Name	Baud Rate			
	COM4	115200 👻	Disco	nnect	
	Firmware Information Firmware Path				
	C:/Program Files/Renogy Firm Firmware.bin	nware Update Tool/Battery	Bro	wse	
	Data Package	Error Check	Upd	late	
	Update Information Progress (DO NOT Disconnec	t the Serial Cable While Updating)		100%	
	2020.08.27 16:27:12->Con 2020.08.27 16:27:22-> Device Name:RBT100LFP12 Device Serial Number:PPTAF Firmware Version:V0.1.4 2020.08.27 16:27:22->Con 2020.08.27 16:35:35->Upd 2020.08.27 16:37:09->Upd	necting 5-G1 101050335221 nected ate started. Firmware is being trar ate completed	nsferred		

CAUTION

- DO NOT exit the Renogy Firmware Update Tool while connecting the battery. Doing so may cause a background process conflict.
- DO NOT disconnect the serial cable or operate the PC when the firmware update is in progress. Doing so may cause update failure and battery management system (BMS) lockout.
- DO NOT hot-unplug the battery except after the firmware update is complete. Please click [Disconnect] before disconnecting the battery from the PC.

NOTE

- Please make sure that the battery has been activated before connecting to the PC using the activation switch that comes with the battery.
- If the firmware update involves the improvement of the state of charge estimation algorithm, please fully discharge and charge the battery to calibrate the state of charge.

TROUBLESHOOTING

If any problems occur during the firmware update, please refer to the following instructions or contact Renogy for help:

- If the battery fails to connect to the Renogy Firmware Update Tool, please check the battery and PC connections. If all the connections are solid, please check the serial port name and baud rate settings. If the serial port name and baud rate are set correctly, please check if the battery has been activated. If the battery cannot be activated, it may have entered protection mode and will need special attention. Refer to the user manual of the battery for more details.
- If the Renogy Firmware Update Tool prompts that "Failed to open the serial port" while connecting the battery, it may have encountered a background process conflict. Please restart the PC and reconnect the battery to the Renogy Firmware Update Tool.
- If the Renogy Firmware Update Tool prompts that "Device no response", "Data package parsing failed", or "Update failed" when the firmware update is in progress, the serial cable connection may be loose. Please check the battery and PC connections, reconnect the battery to the Renogy Firmware Update Tool, and update the firmware again. The reconnection may take 1-3 minutes.
- If the Renogy Monitoring Screen connected to the battery resets frequently after the firmware update, please reactivate the battery using the Renogy Monitoring Screen or the activation switch that comes with the battery.

Length	5.9 ft / 1.8 m
Outside Diameter	0.10 x 0.38 inch / 2.6 x 8.8 mm
Weight	1.8 oz / 51.5 g
Conductor Material	Bare Copper
Number of Conductors	8
Insulation Material	Polyvinyl Chloride (PVC)
Connector	RJ45, USB-A
Chip	FT232RL

TECHNICAL SPECIFICATIONS



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Renogy reserves the right to change the contents of this manual without notice.

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