



ToolkitRC H1

User manual
8-channel 1S LiPo / LiHV battery charger



Read the entire manual before use. Input voltage 7.0-28.0 V DC - pay attention to the correct polarity. Always charge under supervision.

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1. Safety instructions

Thank you for purchasing and using the **ToolkitRC H1** battery charger (hereinafter H1). Please read this manual carefully before use and keep it.

1.1 Manufacturer's instructions

- ① The H1 accepts an input voltage of **7.0-28.0 V DC**. Ensure that the power supply voltage meets this range, and pay attention to the **positive and negative polarities** (+ / -) when connecting the power supply.
- ② Do not use this product in hot, humid, flammable or explosive environments.
- ③ Please use this product under supervision to prevent accidents.
- ④ When not using this product, please unplug the input power.
- ⑤ Set the charging current to match the battery; never set it too high, as this may damage the battery.

1.2 Safe battery charging

- The H1 is intended exclusively for charging, discharging and storing **single-cell (1S) LiPo and LiHV batteries**. Do not charge any other battery types or non-rechargeable batteries.
- Always choose the **correct battery type** (Chapter 4.1). A wrong setting may damage the battery and the charger and could pose a fire hazard.
- Connect **only one battery** per channel – never to both the BT2.0 and PH2.0 ports of the same channel at the same time.
- Charge **undamaged** batteries only. Never charge a swollen, punctured, deformed or otherwise damaged battery.
- Place the charger on a stable, **non-flammable surface** away from flammable materials and do not cover it, so that the fan can work.
- Never leave charging unattended. Disconnect immediately any battery that becomes excessively hot or swells during charging.
- The product is intended for persons aged 14 and over. Keep it out of the reach of children.

1.3 Power supply

- Connect power to the **XT60** input (7.0-28.0 V DC, max. 12 A) or the **USB-C** input (PD 3.0 source, 7.0-20.0 V). A standard 5 V USB source is not sufficient.
- The supply voltage must not exceed 28.0 V even when fully charged. For example, a fully charged 6S Li-Po battery has 25.2 V (4.20 V/cell) and is suitable; a fully charged 7S Li-Po battery (29.4 V) already exceeds the range.
- When powering the H1 from a battery, watch its voltage (top left of the display) and do not discharge it below the value recommended by its manufacturer.
- Do not use damaged cables or connectors.

2. Product description

The H1 is an 8-channel 1S battery (LiPo, LiHV) charger. It features a compact design, high power density, an IPS full-view color screen, and charging accuracy of ± 10 mV.

- Can charge, discharge, and store LiPo and LiHV (4.35 V) 1S batteries.
- Wide-range DC input: 7.0–28.0 V.
- The charging voltage can be set to: 3.85 V, 4.20 V, or 4.35 V.
- Charging current can be set to: 0.5–2.0 A (in 0.1 A increments).
- Charging power: single channel max. 8.7 W (4.35 V / 2 A).
- Discharge power: max. 1 W per channel, 8 channels.
- Charging accuracy: ± 10 mV.
- 1.54" IPS wide-view display with a resolution of 240 × 240 pixels.
- The battery voltage can be calibrated manually.

2.1 Get to know the H1



H1 charger

- ① LCD display
- ② Current selection button – in this manual **[Current Selection]**
- ③ Voltage selection button – in this manual **[Voltage Selection]**
- ④ XT60 power input
- ⑤ USB-C power input
- ⑥ BT2.0 (A30) battery charging ports, 8×
- ⑦ PH2.0 battery charging ports, 8×

2.2 Packing list

Item	Qty
H1 charger	1×
USB-C cable	1×
Quick Start Guide	1×

2.3 Specification

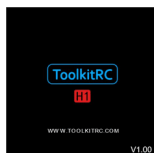
Parameter	Value
Input voltage XT60	7.0–28.0 V DC, max. 12 A
Input voltage USB-C	7.0–20.0 V, PD 3.0
Battery type	LiPo, LiHV, LiPo/LiHV storage (1S)
Number of channels	8
Charging ports	BT2.0 (A30) 8×, PH2.0 8×
Cut-off voltage	3.85 V / 4.20 V / 4.35 V
Charging current	0.5–2.0 A, 0.1 A steps (16 settings)
Charging power	max. 8.7 W at 4.35 V / 2 A, 8 channels
Discharging power	max. 1 W at 4.35 V, 8 channels
Charging accuracy	≤ 0.01 V at 4.35 V
Display	IPS LCD 1.54", 240 × 240 px
Dimensions	115.0 × 63.0 × 26.5 mm
Weight	160 g
Package dimensions	117.0 × 82.0 × 30 mm
Package weight	200 g

2.4 Manufacturer and further information

Manufacturer	ToolkitRC CO., LTD
Address	3F, B1 Building, Shanghe Industrial Park, Nanchang Road, Hangcheng Street, Bao'an District, Shenzhen, China
E-mail	sales@toolkitrc.com
Web	www.toolkitrc.com
News and firmware	www.toolkitrc.com/H1

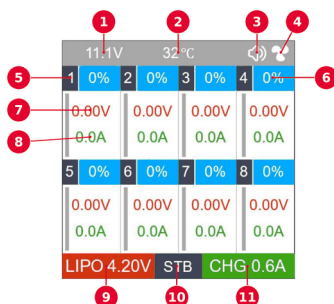
3. Quick start

- ① Connect a DC voltage of 7.0–28.0 V to the H1 input.
- ② The display shows the startup logo and remains on for about 2 seconds; the firmware version is shown bottom right.



Startup screen

- ③ Once the system has booted up, the display shows the main interface.



Main interface

No.	Display item	No.	Display item
1	Input voltage	7	Real-time battery voltage
2	Internal temperature	8	Real-time charging current
3	Audible prompts (beep)	9	Cut-off voltage (battery type)
4	Fan operation indicator	10	Operating status: STB (standby), RUN (operating)
5	Channel number	11	Charging current that has been set
6	Capacity percentage		

► Operation

- ④ Briefly press **[Voltage Selection]** to select the cut-off voltage (battery type).
- ⑤ Briefly press **[Current Selection]** to select the charging current.
- ⑥ Press and hold **[Voltage Selection]** to enable or disable the beep.
- ⑦ In **STB** mode, press and hold **[Current Selection]** to start charging.
- ⑧ In **RUN** mode, press and hold **[Current Selection]** to pause charging.

4. Parameter settings

4.1 Battery type

Briefly press **[Voltage Selection]** to select the cut-off voltage (i.e. the battery type): **LiPo 4.20 V**, **LiHV 4.35 V** or **STO 3.85 V** (storage). The selected value is shown bottom left.



Battery type LiHV 4.35 V selected

Different types of batteries have different cut-off voltages:

Cut-off voltage	Battery type
4.20 V	LiPo
4.35 V	LiHV
3.85 V	LiPo / LiHV - storage (STO)

Warning: Charging the wrong battery type may damage the battery and the charger and could pose a fire hazard. Always choose the correct type; do not charge batteries whose type is not specified.

► Glossary

- ① **LiPo** – lithium-polymer batteries; nominal voltage 3.70 V/cell, 4.20 V/cell when fully charged.
- ② **LiHV** – high-voltage lithium batteries; nominal voltage 3.80 V/cell, 4.35 V/cell when fully charged.

4.2 Charging current

Briefly press **[Current Selection]** to select the charging current: **16 settings** from **0.5 A to 2.0 A** in 0.1 A increments. The set value is shown bottom right (CHG).

*** Connect only one battery per channel - never to both the BT2.0 and PH2.0 ports of the same channel!**

5. Start charging

After setting the battery cut-off voltage and charging current, connect the battery. The charger will detect the voltage of the connected battery. Press and hold **[Current Selection]**; when the indicator changes from **STB** to **RUN**, the charger has switched from standby mode to charging mode. Press and hold **[Current Selection]** again to switch the charger back to standby mode. The display will appear as follows:

12.1V		32°C		 	
1	90%	2	80%	3	0%
4.10V	4.00V	0.00V	0.00V		
1.5A	1.5A	0.0A	0.0A		
5	0%	6	0%	7	0%
0.00V	0.00V	0.00V	0.00V		
0.0A	0.0A	0.0A	0.0A		
LIPO 4.20V		RUN		CHG 1.5A	

Charging in progress (RUN mode)

When the battery is fully charged, the buzzer will sound an alert, and the background color of the number in the upper-left corner of the corresponding channel will change from red to gray.

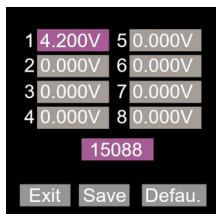
► Tips

- ① Only one battery may be connected per channel. Do not connect batteries to both the BT2.0 and PH2.0 ports on the same channel at the same time!
- ② Pay attention to the operating status indicator. First set it to **STB**, then connect the battery to the charging port, and finally press and hold **[Current Selection]** to set it to **RUN** and start charging.

6. Calibration and firmware upgrade

6.1 Manual calibration

Before connecting the power supply, hold down **[Voltage Selection]** and turn on the power to enter calibration mode:



Calibration mode

- ① Briefly press **[Voltage Selection]** or **[Current Selection]** to move the cursor.
- ② With the cursor in the voltage box of channel 1–8, press and hold **[Voltage Selection]** or **[Current Selection]** to edit that channel. Briefly press **[Voltage Selection]** or **[Current Selection]** to increase or decrease the value; press and hold again to exit edit mode.
- ③ Cursor on **Exit**: press and hold **[Voltage Selection]** or **[Current Selection]** to exit calibration mode.
- ④ Cursor on **Save**: press and hold **[Voltage Selection]** or **[Current Selection]** to save the current settings.
- ⑤ Cursor on **Defau.**: press and hold **[Voltage Selection]** or **[Current Selection]** to restore the factory default settings.

Warning: The product has been calibrated at the factory. Calibrate it only if absolutely necessary; if you have any questions, contact your retailer.

6.2 Firmware upgrade

- ① After plugging in the charger, the display will show the firmware version number during startup. Check the firmware version.
- ② Download the latest firmware package from www.toolkitrc.com/H1, save it to your computer and unzip it to obtain the **[app.upga]** file.
- ③ Disconnect the H1 from its power source. Connect the USB-C cable included in the package to your computer first, then hold down **[Voltage Selection]** on the H1 while plugging the cable into the H1.
- ④ Once the computer detects the charger disk **[Toolkit]**, copy the **[app.upga]** file from the firmware package to the disk.
- ⑤ Once the copy is complete, the **[Toolkit]** disk will pop out.
- ⑥ Unplug the data cable, turn on the device, and check the firmware version after the update.

7. Maintenance, storage and troubleshooting

7.1 Maintenance and storage

- Before cleaning, disconnect the power supply and all batteries. Clean the charger with a dry cloth only.
- Protect it from moisture, dust, drops and impacts. Keep the vents and the fan unobstructed.
- Regularly check the charging ports, power connectors and cables. Stop using the product if it is damaged.
- Store in a dry place out of the reach of children, with the power disconnected and no batteries connected.

7.2 Troubleshooting

Symptom	Cause and solution
The display stays dark after connecting the power	Check the supply voltage (XT60: 7.0–28.0 V DC; USB-C: PD 3.0 source, 7.0–20.0 V) and the polarity.
Charging does not start, the indicator shows STB	Start charging by pressing and holding [Current Selection] . Check that the battery is connected properly – its voltage must appear in the channel box.
The charger does not beep when charging is complete	The beep is disabled. Enable it by pressing and holding [Voltage Selection] .
The displayed battery voltage differs from a measurement	The charger is calibrated at the factory. Perform manual calibration (Chapter 6.1) only if absolutely necessary.
The computer does not detect the [Toolkit] disk	Follow Chapter 6.2: cable into the computer first, then into the H1 while holding [Voltage Selection] . Use the data cable from the package.

8. Information for the EU and Czech Market

❖ The information in Chapters 8 and 9 describes the situation under the law of the Czech Republic, where the product is sold. The law of the country in which the product is operated always prevails – if you use it in another country, follow the regulations of that country.

8.1 Importer and responsible person in the EU

The product is placed on the European Union market by the importer stated below, who is at the same time the responsible person within the meaning of Article 16 of Regulation (EU) 2023/988 of the European Parliament and of the Council on general product safety (GPSR).

Importer / responsible person in the EU	Rotorama, s.r.o.
Company ID (IČO)	051 57 692
VAT ID (DIČ)	CZ05157692
Registered office	Okrajová 1351, 674 01 Třebíč, Czech Republic
E-mail	info@rotorاما.cz
Phone	+420 252 252 098
Website	www.rotorاما.cz

8.2 Product conformity



- The product bears the **CE** marking and complies with the requirements of the applicable European Union harmonisation legislation.
- A copy of the **EU Declaration of Conformity** is available from the importer at the address stated above or at the e-mail address info@rotorاما.cz.
- **Product identification:** the type designation (H1) is given on the front of the charger; the firmware version number is shown on the display at start-up.

8.3 Disposal of electrical equipment



- The crossed-out wheeled bin symbol on the product, its packaging or in the documentation means that at the end of its service life the product **must not be disposed of together with mixed municipal waste.**
- Hand it over at a take-back point for electrical equipment – at a collection yard, at a take-back point of a collective system, or at the retailer when purchasing a new equivalent product. Take-back is free of charge for the end user.
- The obligations under Act No. 542/2020 Coll., on end-of-life products, are fulfilled by the importer through a collective take-back system.
- Proper disposal helps prevent negative impacts on the environment and human health and contributes to the reuse of secondary raw materials.

Through its contractual partner **ASEKOL a.s.**, the company ensures the take-back of waste electrical equipment from households and the separate collection of waste electrical equipment, batteries and accumulators in accordance with the applicable legislation. The customer is entitled to hand over old electrical equipment or a battery or accumulator at any collection point of the above contractual partner. The addresses of these take-back points are listed at www.asekol.cz, www.ecobat.cz and also <https://visoh2.mzp.cz/RegistrMistZO/RegistrMistZOPublic/MapaMistZpetOdberu>.

9. Warranty and rights arising from defective performance

The rights and obligations of the contracting parties are governed by Czech law, in particular by Act No. 89/2012 Coll., the Civil Code, and Act No. 634/1992 Coll., on consumer protection.

- The seller is liable to the buyer for the product being free of defects on receipt. If the buyer is a consumer, a defect may be notified **within two years of receipt** of the product (Section 2165 of the Civil Code).
- If a defect appears within **one year** of receipt, the product is deemed to have been defective already at the time of receipt (Section 2161(5) of the Civil Code).
- When purchasing online, a consumer has the right to **withdraw from the contract within 14 days** of receiving the goods without giving a reason (Section 1829 of the Civil Code).
- Claims should be made with the retailer from whom you purchased the product. The importer's contact details are given in Chapter 8.1.
- The competent body for out-of-court settlement of consumer disputes is the **Czech Trade Inspection Authority**, Štěpánská 796/44, 110 00 Prague 1, www.coi.cz.