HOTA T8

1–8S Smart Battery Charger and Checker
650 W · 22 A · 7–35 V DC input



Read this manual carefully before first use, especially the safety instructions in Chapter 1. This product is intended for persons aged 14 and over.

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1. Safety instructions

Charging and discharging batteries, especially lithium batteries (Li-Po, LiHV, Li-Ion), involves a risk of fire, explosion and chemical burns. Improper use of the charger may cause property damage and personal injury. Read the entire manual before first use and follow all instructions.

1.1 Before you start

- This product is intended for persons **aged 14 and over**. Keep it out of the reach of children and pets.
- Keep this manual for future reference and pass it on together with the product if you give the product to another person.
- Before first use, check that the device, connectors and cables are not damaged. Do not use a damaged device.
- Do not disassemble or modify the device. Tampering with the device is neither repair nor routine maintenance and may cause a dangerous fault.
- If an unusual noise, smell, smoke or error message appears during operation, stop charging immediately and disconnect both the battery and the power supply.

1.2 Charging batteries

- **Never leave charging or discharging unattended.**
- Charge on a **non-flammable surface**, away from flammable objects, preferably in a fireproof Li-Po bag or box. Keep a suitable fire extinguisher within reach.
- Always set the **correct battery type, cell count and charge current** in the menu according to the battery manufacturer's specifications. An incorrect battery type or cell count leads to overcharging.
- Always charge lithium batteries with the **balance connector plugged in**.
- Do not charge batteries that are damaged, swollen, punctured, overheated or have been in a crash. Do not charge a battery that is still warm from use – let it cool down first.
- Do not charge primary (non-rechargeable) cells or batteries of a type not supported by the charger.
- Lead-acid (Pb) batteries may release gases during charging – charge them only in a well-ventilated place.
- If the battery heats up, swells, smokes or gives off a smell during charging, stop charging immediately, disconnect the battery and move it to a safe place.
- Observe the correct polarity of the connectors and prevent short circuits of the battery terminals and the charger output.

1.3 Power supply and operating environment

- The charger has no built-in mains power supply. Power it **only with a DC voltage of 7–35 V** via the XT60 input connector – from a bench or switching power supply or from a battery. Never connect it directly to the mains.
- Use it only in a dry environment at a temperature of **0 °C to 40 °C**. Protect it from moisture, dust, direct sunlight and heat sources.
- Do not cover the ventilation openings or the fan, and leave free space around the device for air flow. The device heats up under full load.
- Do not insert metal objects into the connectors. Cables connected to the charger must have a cross-section sufficient for the set current.

2. Product description

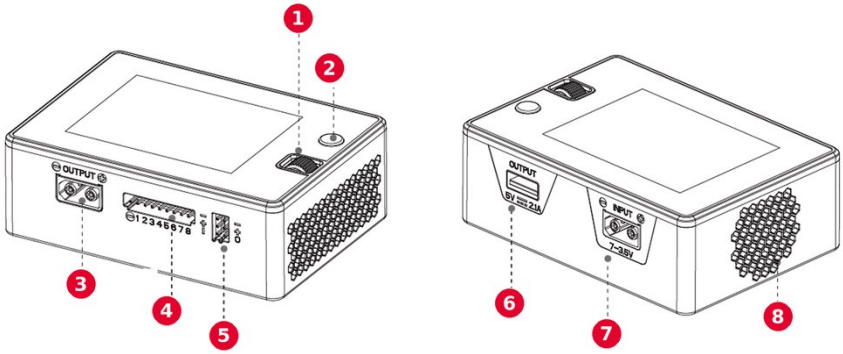
The **HOTA T8** is a compact smart battery charger and checker with a charging power of up to 650 W and a charge current of up to 22 A. It charges and balances 1–8S lithium batteries as well as NiMH, NiCd, NiZn and lead-acid batteries. Besides charging, it can discharge batteries, measure cell voltages and internal resistance, work as an adjustable power supply and measure or generate PWM, PPM and SBUS signals for testing servos and receivers. The charger is powered from an external 7–35 V DC source.

2.1 Package contents

- HOTA T8 charger

The power supply, batteries and charging leads are not included.

2.2 Parts description



HOTA T8 charger – front and rear view

① **Rotary control** (Speed Shuttle Key) – menu navigation and value setting

② **Exit key / multi-function key** (Exit • F)

③ **Output** (OUTPUT) – XT60 connector for the battery

④ **Balance port** – for the balance connector of 1–8S lithium batteries

⑤ **Multi-function port** – measuring and generating PWM, PPM and SBUS signals, servo testing

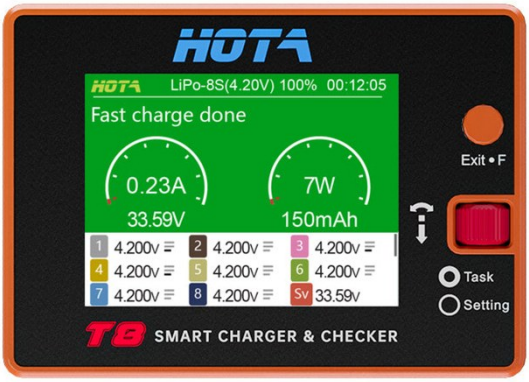
⑥ **USB-A port** – 5 V / 2.1 A output and firmware update port

⑦ **Power input** (INPUT) – XT60 connector, 7–35 V DC

⑧ **Fan** with automatic temperature-controlled speed

2.3 Display and controls

The 2.8" colour IPS display shows the battery type, cell count, target voltage, state of charge in percent, charging time, current, voltage, power, charged capacity and the voltages of the individual cells.



Top side with display and controls

The charger is operated with the rotary control ① and the key ② (see Chapter 2.2). The menu is multilingual.

2.4 Protection functions

According to the manufacturer, the charger is equipped with the following protections:

- short-circuit, overheating, low-voltage, overvoltage and overcurrent protection,
- capacity and time protection during charging,
- housing made of V0-class flame-retardant material.

The protection functions do not replace supervision by the user or correct charger settings.

2.5 Manufacturer

Manufacturer	Shenzhen HOTA Technology Co., Ltd.
Address	Floor 2, Building 2, Guorun Industrial Park, Min Zhi, Longhua District, Shenzhen, China
E-mail	info@hota-exp.com
Web	hota-exp.com

Importer and EU responsible person – see Chapter 8.1.

2.6 Specifications

Data as specified by the manufacturer HOTA.

Parameter	Value
Input voltage	7.0–35.0 V DC, max. 27 A (XT60 input)
Charge current / power	0.1–22 A, max. 650 W
Discharge – normal mode	0.1–3 A, max. 20 W
Discharge – Recycle External mode	0.1–22 A, max. 650 W
Balance current	1000 mA at 4.2 V
Supported batteries	Smart Battery, LiHV, Li-Po, LiFe, Li-Ion, LiXX, LTO: 1–8S NiZn, NiCd, NiMH: 1–20S Pb (lead-acid): 1–12S Eneloop: 1–20S
USB-A output	5 V / 2.1 A, firmware update
Display	IPS 2.8", 320 × 240 px, 260,000 colours
Operating temperature	0 °C to 40 °C
Storage temperature	−20 °C to 60 °C
Dimensions	97 × 69.5 × 34 mm
Weight	approx. 194 g

Function	Quantity	Range
Measurement	PWM	880–2200 µs, 20–400 Hz
	PPM	880–2200 µs, 8 channels, 20–50 Hz
	SBUS	880–2200 µs, 16 channels, 20–100 Hz
	cell voltage	1.0–5.0 V, 1–8S
	internal resistance	1–99 mΩ, 1–8S
	speed controller (ESC)	1–20 A at 1–35 V, max. 650 W
Output	PWM	500–2500 µs, 20–1000 Hz
	PPM	880–2200 µs, 8 channels, 50 Hz
	SBUS	880–2200 µs, 16 channels, 74 Hz
	power supply	0.5–22 A, 1–35 V, CC + CV mode

3. Powering the charger

3.1 Power supply requirements

- The output voltage of the power source must be within **7.0–35.0 V DC**. The charger input draws up to **27 A**.
- The charging power actually available is limited by the power of the source. 650 W is only available with a source capable of delivering it.
- Size the power source and the cables for the current the charger will draw. An undersized source may become overloaded or shut down.
- If you power the charger from a battery, monitor its voltage and do not discharge it below the safe limit (3.5 V/cell for Li-Po and LiHV).

A power supply is not included. The manufacturer designed the charger to attach magnetically to its **HOTA T240** mains power supply, which is sold separately.

3.2 Connecting the power supply

① Check that the power source is switched off and that its voltage is within 7–35 V.

② Connect the power cable to the power input ⑦ (INPUT) with the correct polarity.

③ Switch on the power source. The charger starts up and the display lights up.

Connect the battery to the charger output only after the power supply has been connected. Never connect a power source or battery to the output ③ instead of the input ⑦.

3.3 USB-A port

The USB-A port ⑥ provides 5 V at up to 2.1 A for charging small devices such as radio transmitters, FPV goggles or action cameras. The same port is used for firmware updates (Chapter 7.2).

4. Charging batteries

4.1 Supported battery types

Battery type	Cell count
Smart Battery, LiHV, Li-Po, LiFe, Li-Ion, LiXX, LTO	1–8S
NiZn, NiCd, NiMH	1–20S
Eneloop	1–20S
Pb (lead-acid)	1–12S

4.2 Li-Po and LiHV battery voltages

The following values apply to Li-Po and LiHV batteries. The voltage of the whole pack is the cell voltage multiplied by the number of cells in series.

State	Li-Po / cell	LiHV / cell	6S Li-Po	6S LiHV
fully charged	4.20 V	4.35 V	25.2 V	26.1 V
stop using	3.5 V	3.5 V	21.0 V	21.0 V
storage	3.8 V	3.8 V	22.8 V	22.8 V

For the values of other battery types (LiFe, Li-Ion, LTO, NiMH, Pb...) and the recommended charge current, refer to the battery manufacturer's specifications.

4.3 Charging procedure

① Connect the power supply as described in Chapter 3.2.

② Connect the main battery connector to the output ③ (XT60). For lithium batteries, also connect the balance connector to the balance port ④.

③ In the menu, select the battery type, cell count and charge current according to the battery manufacturer's specifications.

④ Before starting, check that the cell count shown by the charger matches the actual cell count of the battery. If it does not, do not start charging.

⑤ Start charging and continuously monitor the readings on the display (current, voltage, individual cell voltages) as well as the condition of the battery.

⑥ When charging is complete, disconnect the balance connector first and then the main battery connector.

▶ Choosing the charge current

The charge current is usually specified as a multiple of the battery capacity (C). For a 1500 mAh battery, 1C corresponds to 1.5 A. Use a higher current only if the battery manufacturer explicitly allows it.

4.4 Cell balancing

The balance port ④ balances 1–8S lithium batteries with a balance current of up to 1000 mA. Balancing equalises the voltages of the individual cells, extends battery life and protects individual cells from overcharging.

- Always insert the balance connector in the correct orientation – negative lead on the side marked “−” at the balance port.
- Large voltage differences between cells indicate a worn or damaged battery. Do not continue to use such a battery.

4.5 Battery storage

Store Li-Po and LiHV batteries that will not be used for several days at the storage voltage of **3.8 V/cell** (6S: 22.8 V). Fully charged or fully discharged batteries wear faster in storage.

5. Discharging batteries

The charger can discharge batteries in a controlled way in two modes:

Mode	Current / power
normal mode	0.1–3 A, max. 20 W
Recycle External	0.1–22 A, max. 650 W

- In normal mode, the battery energy is converted into heat inside the charger, so the power is limited to 20 W.
- Do not discharge lithium batteries below 3.5 V/cell (6S: 21.0 V).
- The same safety instructions apply to discharging as to charging – in particular supervision, a non-flammable surface and unobstructed ventilation openings.

6. Other functions

6.1 Measuring cell voltage and internal resistance

With the battery balance connector plugged into the balance port ④, the charger measures individual cell voltages in the range 1.0–5.0 V and cell internal resistance in the range 1–99 mΩ for 1–8S batteries. Increasing internal resistance or differences between cells indicate battery ageing.

6.2 Measuring and generating signals

The multi-function port ⑤ serves as a servo and receiver tester:

- **Measurement** – the charger evaluates a PWM, PPM or SBUS signal fed in, for example, from a receiver and displays the channel values.
- **Output** – the charger generates a PWM, PPM or SBUS signal, for example for testing a servo.

The ranges of the individual signals are listed in the specifications (Chapter 2.6). When connecting, observe the connector orientation according to the marking at the port.

6.3 Adjustable power supply

In power supply mode (Power supply), the output ③ provides a regulated voltage of 1–35 V with a current limit of 0.5–22 A (CC + CV mode – constant current / constant voltage).

Set the voltage and current limit before connecting a load to the output. Never use the power supply mode to charge batteries.

6.4 ESC measurement

The charger can measure the current and power of an electronic speed controller (ESC) in the range of 1–20 A at 1–35 V, max. 650 W.

7. Maintenance and troubleshooting

7.1 Maintenance and storage

- After use, disconnect both the battery and the power supply and let the device cool down.
- Clean the device with a soft dry cloth. Do not use solvents or water. Keep the ventilation openings and the fan free of dust.
- Check the condition of the XT60 connectors and cables. Replace loose, blackened or damaged connectors.
- Store the device in a dry, shaded place at −20 °C to 60 °C, out of the reach of children.

7.2 Firmware update

The manufacturer publishes firmware updates for the T8 charger on its website under *Service → Download*:

hota-exp.com/index.php/service_l_2.html

Firmware is uploaded via the USB-A port ⑥. Follow the manufacturer's instructions supplied with the downloaded update. Do not interrupt the power supply and do not connect a battery during the update.

7.3 Troubleshooting

Problem	Possible cause and solution
The charger does not switch on	Check that the power source is switched on, connected to the input ⑦ (INPUT) with the correct polarity and that its voltage is within 7–35 V.
The charger does not show the correct cell count	Check the connection and orientation of the balance connector and its contacts. Do not start charging.
Charging ends prematurely	The capacity or time protection, overheating protection or input low-voltage protection may have been triggered. Check the settings and the power source.
Charging power is lower than set	The power source cannot deliver the required power or the device is overheating. Use a more powerful source and ensure ventilation.
The power source shuts down during charging	The power source is overloaded. Reduce the charge current or use a higher-power source.
Large voltage difference between cells	The battery is worn or damaged. Stop using it and hand it in for environmentally sound disposal.

If the problem persists, stop using the charger and contact the seller.

8. Information for the EU and Czech Market

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@rotorama.cz
Phone	+420 252 252 098
Website	www.rotorama.cz

8.2 Product conformity

CE

- 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@rotorama.cz.
- **Product identification:** the type designation (HOTA T8) is given on the top side of the device.

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.