M4 Pocket

ToolkitRC

1–4S balance charger · 80 W · user manual



Please read this entire manual carefully before first use, in particular the safety instructions in Chapter 2. Never leave a charging battery unattended.

Based on the manufacturer's original manual, version V1.0 (2021.11).

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1. Introduction

Thank you for purchasing the **ToolkitRC M4 Pocket** balance charger. Please read this manual carefully before use and keep it for future reference.

1.1 Symbols used in this manual

❇ **Tips**	Useful advice for easier and safer use.
Important	A warning which, if ignored, may lead to damage to the battery or the charger, or cause a fire.
Information	Additional explanation of terms and values.

1.2 Further information and firmware updates

To ensure you have the best experience with this product, stay up to date with news, information and firmware updates for your charger at www.toolkitrc.com/M4Pocket.

Manufacturer	ToolkitRC Technology (Shenzhen) Co., Ltd
Manufacturer website	www.toolkitrc.com
Importer into the EU	Rotorama, s.r.o. – see Chapter 8.1

2. Safety

Improper handling of lithium batteries during charging may damage them or cause a fire or an explosion. Follow all of the instructions below.

- The M4 Pocket allows an input voltage of **DC 7.0–25.0 V** (XT60 input). Ensure the charger is only connected to a suitable DC power source – a power supply, a power adapter or a battery. The specification of the USB-C input is given in Chapter 3.2.
- Do not use this product in hot, humid, flammable or explosive environments.
- Do not use this charger without supervision. **Never leave charging batteries unattended.**
- When not using this product, unplug the input power.
- When using the charging function, set a current that matches the battery. Do not set an excessive charging current, to avoid damage to the battery. Check the guidelines of your battery's manufacturer for correct charging instructions.
- Before every charge, check that the correct battery type (terminal voltage) and charging current are selected.
- Charge only the battery types listed in this manual. Do not charge non-compatible battery chemistries.
- Charge on a non-flammable surface, away from flammable materials, preferably in a fire-resistant bag (LiPo bag).
- Do not charge a damaged, swollen or deformed battery. If a battery starts to swell, overheat or smoke while charging, immediately disconnect the input power and the battery and move the battery to a safe place.
- Do not cover the heat dissipation vents of the charger.
- Do not open or modify the charger. Protect it from moisture, dust, drops and mechanical damage.
- This product may only be used by persons aged 14 and over. Keep it out of the reach of children.

3. Product description

The M4 Pocket is an ultra-compact balance charger; despite its small size, the M4 Pocket has a maximum output of **80 W**! Featuring an intuitive user interface and a colour IPS full-viewing-angle display, the M4 Pocket is a capable, bring-anywhere charger.

3.1 Key features

- Charge and balance management of LiPo, LiHV, LiFe and Li-Ion 1–4S batteries.
- Input voltage DC 7.0–25.0 V.
- Charging current max. 5.0 A, power max. 80 W.
- User-defined lithium battery terminal voltage (TVC function).
- Battery voltage can be manually calibrated.
- Charging accuracy < 0.005 V.
- Balance current 400 mA.
- 1.54" IPS full-viewing-angle display, high resolution 240 × 240 pixels.

3.2 Specification

Parameter	Value
XT60 input	7.0–25.0 V DC, max. 5 A
USB-C input	5.0–20.0 V (QC, PD, AFC, FCP)
Battery types	LiPo, LiHV, LiFe, LiPo Storage
Cell count	1–4S
Charging current	1.0–5.0 A (selectable 1.0 / 2.0 / 3.0 / 5.0 A), max. 80 W
Balance current	max. 400 mA at 4.20 V
Charging accuracy	< 0.005 V at 4.20 V
USB-C output	1.0 A at 5.0 V
Display	IPS LCD 1.54", 240 × 240 pixels
Product size	80 × 40 × 30 mm
Product weight	75 g
Packing size	82 × 42 × 32 mm
Packing weight	85 g

3.3 M4 Pocket layout



Front



Back

① **Display screen**

② **VOL | CUR key** (Voltage / Current) – the only control of the charger

③ **Heat dissipation vents**

④ **XT60 / XT30 output ports** – for connecting the battery being charged

⑤ **Balance port** – for connecting the balance lead of the battery

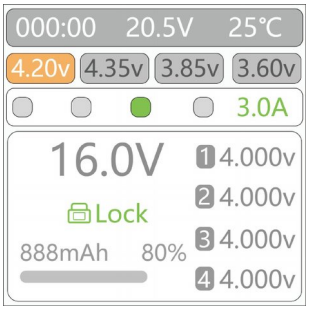
⑥ **XT60 / USB-C input port** – power supply of the charger

4. Quick start

① Connect the M4 Pocket to a suitable DC 7.0–25.0 V power source.

② The display shows the boot logo for 2 seconds.

③ After booting up, the screen enters the main interface – the charger is locked (*Lock*).



Main interface after power-on – the system is locked

④ **Short press** the VOL | CUR key to unlock the system and start adjusting parameters.

⑤ **Long press** the key to set the charging cut-off voltage (battery type).

⑥ **Short press** the key to select the charging current.

⑦ Connect the battery to the output port and the balance port. When the output main port and the balance port voltage match, the M4 Pocket will automatically start charging.

❋ Tips

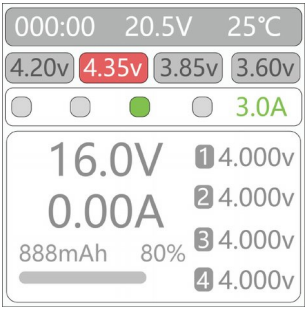
Every time you turn on the charger, you need to press the button once to unlock the system. This is a safety feature designed to prevent incorrect selection of battery type and current.

5. Charging settings

After the power is turned on and the charger unlocked, you can set the battery type (terminal voltage) and the charging current. All settings are made with the single VOL | CUR key.

5.1 Battery type setting

Long press the VOL | CUR key to select the battery cut-off voltage (battery type). The selected value is highlighted in colour on the display.



Example: 4.35 V (LiHV) terminal voltage selected

Different battery chemistries have different cut-off voltages. Please refer to the following table as reference, and verify with your battery manual:

Cut-off voltage	Battery type
4.20 V	LiPo
4.35 V	LiHV
3.85 V	LiPo Storage
3.60 V	LiFe

Important

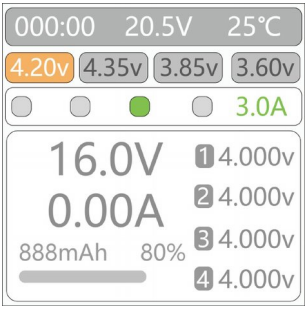
Ensure the correct battery type has been selected prior to charging. An incorrect choice may damage the battery and/or become a fire hazard. Do not use this product to charge non-compatible battery chemistries.

Information – nomenclature

Type	Nominal voltage	Fully charged
LiPo – lithium polymer	3.70 V/cell	4.20 V/cell
LiHV – high-voltage lithium	3.85 V/cell	4.35 V/cell
LiFe – lithium iron phosphate	3.30 V/cell	3.60 V/cell
Li-Ion – lithium-ion	3.60 V/cell	4.10 V/cell

5.2 Current setting

Short press the VOL | CUR key to select the charging current. The current can be selected from four values: **1.0 A, 2.0 A, 3.0 A and 5.0 A**. The selected current is marked with a green dot and shown on the right of the display.



Selected charging current 3.0 A

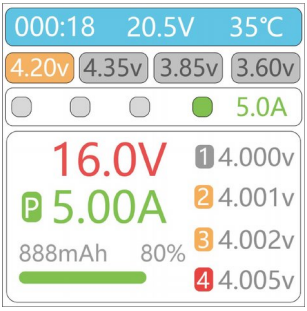
❖ Tips

When selecting the current, a charging rate of **1C–2C** is recommended; for example, use 1.0–2.0 A for a 1000 mAh battery. This effectively improves the cycle life of the battery. Always check the battery manufacturer's guidelines and charging instructions before charging.

6. Charging

6.1 Start charging

After setting the battery voltage and current, connect the battery. After the charger detects that the voltage between the main port and the balance port matches, it will automatically start charging. The display appears as follows:



Display during charging

❉ Tips

When charging a 1S battery, the battery voltage needs to be provided to the balance port at the same time, so that the charger can recognise the battery and start charging.

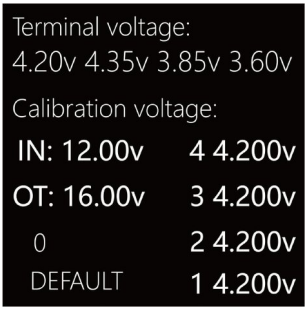
6.2 Display content description

Item	Meaning
000:18	Charging time
20.5V	Input voltage
35℃	Charger temperature
4.20v (highlighted)	Selected cell type cut-off voltage
4.35v 3.85v 3.60v	Other cell cut-off voltages (not selected)
16.0V	Current battery voltage
5.00A	Current charging current
C	Current limit sign
P	Power current limit
T	Temperature limit
F	The battery or one of the cells is full
888mAh	Accumulated capacity that has been charged
① 4.000v (grey number)	First cell voltage – this cell is not balancing
② 4.001v (orange number)	Second cell voltage – this cell is slowly balancing
③ 4.002v (orange number)	Third cell voltage – this cell is slowly balancing
④ 4.005v (red number)	Fourth cell voltage – this cell is quickly balancing

※ Values are shown in this table exactly as the charger displays them.

7. Terminal voltage setting and manual calibration

Before connecting to the power supply, press and hold the VOL | CUR key to enter the calibration mode, as shown below:



Terminal voltage setting and calibration mode

Terminal voltage	The terminal voltage of the cell after the battery is fully charged. Accurate to ±10 mV.
Calibration voltage	Battery calibration voltage. If the cell voltage readings appear to be incorrect, use a high-quality voltage meter to measure the actual voltage, then set this value to be the same as the meter.
DEFAULT	Restore to factory default.

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 (M4 Pocket) and, where applicable, the serial number are given on the rating label or the packaging of the product.

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. Any warranty terms of the manufacturer **do not in any way limit** the buyer's rights arising from these regulations.

- 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.