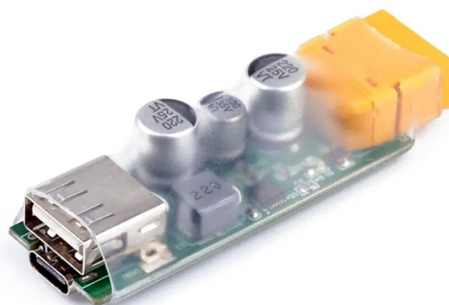




USB power supply XT60 45W

USB-A / USB-C power supply with XT60 connector
User manual



Read this entire manual carefully before first use, especially the safety instructions in Chapter 1. Keep the manual for future reference and pass it on together with the product to any other user.

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1. Safety instructions

1.1 Before you start

The USB power supply with XT60 is a DC voltage converter. It uses a 3S–6S Li-Po battery (or another DC voltage source of 10.5–32 V) to power devices via USB – phones, action cameras, RC radios and other accessories.

- The product is intended for persons **aged 14 and over**. It is not a toy – keep it out of the reach of children.
- The power supply has no rigid housing. The electronics are protected only by clear heat-shrink tubing – handle it with care, do not bend or squeeze it and do not remove the tubing.
- Use it only within the input voltage range given in the technical data. Do not connect it to an AC voltage source or to a source with a voltage higher than 32 V.
- Never short-circuit the USB outputs and do not insert metal objects into them.
- Do not continue to use a power supply with a damaged board, connector or tubing.
- **Do not leave the power supply unattended** while it is connected to a battery.
- Do not tamper with, modify or repair the product. Tampering with the product is not a defect of the product and may result in the loss of rights arising from defective performance.

1.2 Li-Po and LiHV batteries

Li-Po and LiHV batteries have a high energy density. If handled incorrectly, they may swell, catch fire or explode.

- Do not use a battery that is swollen, mechanically damaged, has damaged insulation, leads or connector, or is excessively warm.
- **The power supply does not monitor the voltage of individual cells.** Its input range starts at 10.5 V, which corresponds to a discharged 3S battery. With a 4S–6S battery it can therefore discharge the cells far below the safe limit – monitor the battery voltage yourself (Chapter 3.1).
- Do not discharge the battery below **3.5 V per cell**. Deep discharge permanently damages the battery and increases the risk of fire during subsequent charging.
- The XT60 connector is shaped to prevent reverse polarity. Never force it together and do not use adapters whose polarity you are not sure of.
- Do not connect the power supply to a battery that is being charged or to the output of a charger.
- Never leave a battery unattended while a load is connected to it.

1.3 Heat, moisture and operating environment

- The power supply heats up at higher loads. Place it on a non-flammable surface, do not cover it and do not wrap it in fabric, clothing or a backpack pocket.
- Protect it from water, moisture, condensation, rain and snow. Do not use it in a humid environment.
- Do not use it in direct sunlight, in a hot car, near heat sources or in an environment with flammable gases, vapours or dust.
- The electronics on the board are unprotected – prevent contact with metal objects, conductive dust, carbon parts and tools.
- If the power supply starts to smell, smoke or overheat, disconnect it from the battery immediately.

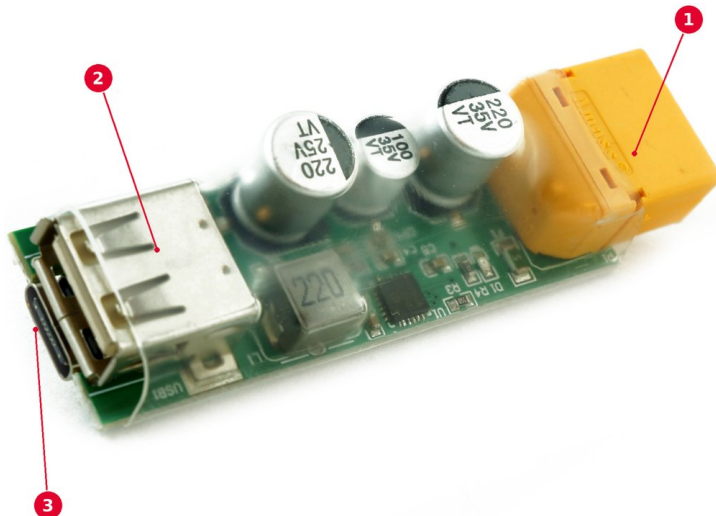
2. Product description

2.1 Package contents

- 1× USB power supply with XT60 connector

The battery, USB charging cables and powered devices are not included.

2.2 Parts overview



USB power supply with XT60 – top view

- ① **XT60 input connector** – for connecting a 3S–6S Li-Po battery.
- ② **USB-A output** – for cables with a USB-A connector.
- ③ **USB-C output** – for cables with a USB-C connector, including USB Power Delivery (PD) charging.

The power supply has no switch, indicator light or display. It starts working as soon as the battery is connected.

2.3 Technical data

Parameter	Value
Input voltage	10.5–32 V DC (Li-Po 3S–6S)
Input connector	XT60
Output connectors	1× USB-A, 1× USB-C
Output voltage	3–20 V, set automatically according to the fast charging protocol
Maximum output power	45 W
Length	65 mm
Weight	approx. 14 g
Design	board in clear heat-shrink tubing

► Output voltage and maximum current

Output voltage	Maximum current
3 V	3.6 A
5 V	3.4 A
9 V	3 A
12 V	3 A
15 V	2.3 A
20 V	2.3 A

The voltage is determined by the powered device according to the protocol it supports. Devices without fast charging support receive the standard 5 V.

2.4 Fast charging and protection functions

► Supported fast charging protocols

- USB Power Delivery (PD) – on the USB-C output
- Qualcomm Quick Charge QC 2.0 / QC 3.0
- Huawei FCP and SCP, SFCP, MediaTek PE+ 1.1 / PE+ 2.0
- Apple, BC1.2

► Protection functions

- input over-voltage and under-voltage protection
- output over-current protection
- output short-circuit protection
- over-temperature protection

✱ **The input under-voltage protection protects the power supply, not the battery. It will not protect a 4S–6S battery from deep discharge.**

3. Use

3.1 Choosing the battery

The power supply can be powered by a Li-Po or LiHV battery with 3 to 6 cells (3S–6S) and an XT60 connector, or by another DC voltage source in the range of 10.5–32 V. A 2S or 1S battery is not sufficient – its voltage is below the lower limit of the input range.

The power supply does not know the number of cells of the connected battery. Monitor the voltage yourself according to the table – for example with an on-board voltage checker or a voltmeter.

Battery	Fully charged (Li-Po)	Stop using	Storage voltage
per cell	4.20 V	3.5 V	3.8 V
3S	12.6 V	10.5 V	11.4 V
4S	16.8 V	14.0 V	15.2 V
5S	21.0 V	17.5 V	19.0 V
6S	25.2 V	21.0 V	22.8 V

A LiHV battery is fully charged at 4.35 V per cell (3S 13.05 V, 6S 26.1 V). The voltages for stopping use and for storage are the same as for Li-Po.

3.2 Connecting and powering devices

- ① Check that neither the battery nor the power supply is damaged and that the battery voltage is above the limit for stopping use.
- ② Place the power supply on a dry, non-flammable surface away from metal objects.
- ③ Connect the battery to the XT60 connector ①. Push the connector in straight and all the way.
- ④ Use a cable to connect the device to be powered to the USB-A ② or USB-C ③ output.
- ⑤ The powered device negotiates the voltage itself according to the supported fast charging protocol.

► Fast charging tips

- For USB PD charging, use the USB-C output and a USB-C ↔ USB-C cable that supports fast charging.
- Whether and how fast a device charges also depends on the cable and on the protocols the device supports.
- The maximum output power of the power supply is 45 W. If you connect two devices at the same time, do not expect each of them to receive full power.

- When powering a device with a high load for a long time, keep an eye on the temperature of the power supply and the battery voltage.

3.3 Finishing use

- Stop powering at the latest when the battery voltage drops to 3.5 V per cell.
- First disconnect the powered device, then disconnect the battery from the power supply.
- **Always disconnect the power supply from the battery after use.** Even without a connected device the power supply remains live and the battery is discharged unnecessarily.
- Before storing, charge or discharge the battery to the storage voltage of 3.8 V per cell.

4. Maintenance and troubleshooting

4.1 Maintenance and storage

- The power supply requires no maintenance. Before each use, check that the tubing, the board and the connectors are not damaged.
- Remove dirt with a dry, soft brush or cloth. Do not use water, solvents or cleaning agents.
- Keep the contacts of the XT60 connector clean. A worn or loose connector impairs contact and heats up.
- Store it in a dry place at room temperature, disconnected from the battery, so that it cannot touch metal objects.
- Protect it from mechanical damage during transport, for example in a rigid case.

4.2 Troubleshooting

Problem	Possible cause and solution
The device does not charge	The battery voltage is below 10.5 V or the battery is not plugged in properly – check the voltage and the XT60 connector. A protection function may have tripped (short circuit, over-current, overheating) – disconnect the device, let the power supply cool down, disconnect and reconnect the battery. Try another cable.
The device charges slowly	The cable or the device does not support fast charging. For USB PD, use the USB-C output and a USB-C ↔ USB-C cable with fast charging support. If two devices are connected, disconnect one of them.
Charging keeps stopping	Loose XT60 connector or USB cable. At high loads the over-temperature protection may trip – ensure air can flow around the power supply.
The power supply is very hot	High continuous load or the power supply is covered. Disconnect it, let it cool down and continue using it freely placed on a non-flammable surface.
The power supply smells, smokes or is visibly damaged	Disconnect the battery immediately and do not use the power supply any further. Contact the retailer.

5. Information for the EU and Czech Market

The information in this chapter is based on the regulations of the European Union and the Czech Republic. If you use the product in another country, follow the regulations of the country in which you operate it – the law of the country of use prevails.

5.1 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

5.2 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 board type designation **HJ_IP6518** is printed on the underside of the power supply.

5.3 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>.

6. 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 5.1.
- 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.