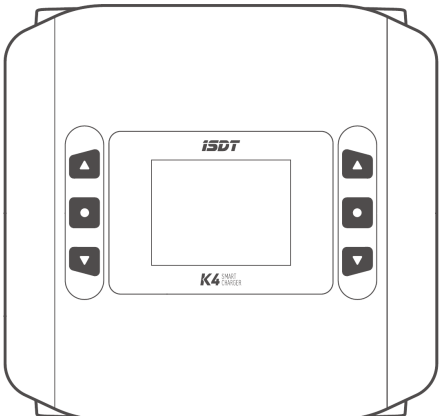
ROTORAMA

ISDT K4

Dual-Channel AC/DC Smart Charger
User Manual



Read the entire manual before first use, especially the safety instructions in Chapter 1. Never leave the charger unattended during operation.

Based on the original ISDT manual · Importer: Rotorama, s.r.o. · www.rotorama.cz

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1. Introduction and Safety Instructions

Thank you for purchasing the **ISDT K4** Smart Charger. Please visit www.isdt.co for more details on the functions of this smart charger, as well as to purchase various accessories.

The functions of the product are continuously being upgraded, so the manual in your hand may differ from the actual operation in some points. In that case, please refer to the actual functions of the device.

1.1 Warnings and safety tips

For your safety and a better user experience, please read this manual and follow the instructions before using the new charger.

- Never use the charger without supervision. If any functional abnormality occurs, stop using the charger and refer to this manual for the reasons.
- Keep the charger away from dust, humidity, rain and high temperature, and avoid direct exposure to sunlight and intense vibration.
- Place the charger on a heat-resistant, non-flammable and insulating surface.
- Do not use it on car seats, carpets or other similar places. Keep flammable and explosive objects away from the operating area of the charger.
- Read the instruction manual carefully to become familiar with the features of the charger, and set proper charging parameters before operating. Setting the parameters incorrectly may result in damage to the product and other property, and cause serious injury as well.

1.2 Never use the charger unsupervised

WARNING – FIRE HAZARD!

- Never attempt to charge primary (non-rechargeable) batteries.
- Batteries pose a severe risk of fire if not properly handled.
- Read the entire operation manual before using the charger.
- This unit may emit heat during use.
- Only operate this device in a cool, ventilated area away from flammable objects.
- Failure to observe safety procedures may cause damage to property or injury.

2. Specifications

2.1 Charger specifications

Model No.	K4
Input voltage	AC 100–240 V / DC 10–34 V
Output voltage	DC 1–34 V
Max. input current	DC 45 A
Charging current	0.2–20 A, 2 channels
Discharging current	0.2–3.0 A, 2 channels
Max. charging power	2× 400 W with AC input / 2× 600 W with DC input
Max. discharging power	2× 30 W
Parallel charging power / current	800 W / 35 A
Parallel discharging power / current	60 W / 3 A
Balance current	max. 1.5 A per cell
Supported battery types and cell count	LiFe, Li-Ion, Li-Po 1–8S; LiHV, ULiHV 1–7S; Pb 1–14S; NiMH/NiCd 1–18S
Abnormal voltage alarm	yes
Incorrect cell count setting alarm	yes
Working temperature	0–40 °C
Storage temperature	−20 °C to 60 °C
Dimensions	176 × 183 × 57 mm
Weight	approx. 1230 g

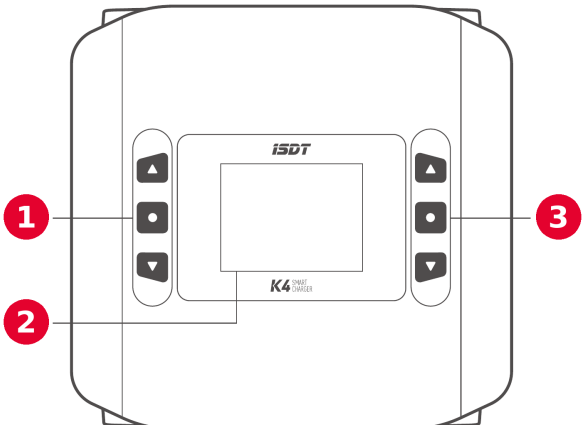
2.2 Preset battery types and task parameters

Type	Rated V	Full V	Stor. V	Disch. V	With bal.	No bal.	Cells	Max. curr.
NiCd/ NiMH	1.20 V	1.40 V	✗	0.90 V	✗	✓	1–18S	20.0 A
Pb	2.00 V	2.40 V	✗	1.90 V	✗	✓	1–14S	20.0 A
LiFe	3.20 V	3.65 V	3.30 V	2.90 V	✓	✓	1–8S	20.0 A
Li-Ion	3.60 V	4.10 V	3.70 V	3.20 V	✓	✓	1–8S	20.0 A
Li-Po	3.70 V	4.20 V	3.80 V	3.30 V	✓	✓	1–8S	20.0 A
LiHV	3.80 V	4.35 V	3.85 V	3.40 V	✓	✓	1–7S	20.0 A
ULiHV	3.90 V	4.45 V	3.90 V	3.50 V	✓	✓	1–7S	20.0 A

Rated / Full / Stor. / Disch. V = rated, full charge, storage and discharge voltage per cell. With bal. = balance charge, No bal. = unbalanced charge, Max. curr. = max. charging current. ✓ = supported, ✗ = not supported.

3. Charger Overview

3.1 Front side



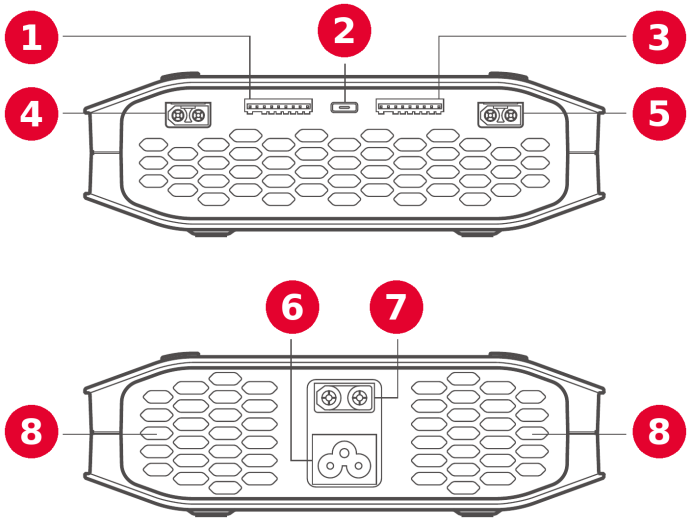
Front side of the charger

No.	Description
①	**CH1** channel buttons (▲ up, ● middle key, ▼ down)
②	Display screen
③	**CH2** channel buttons (▲ up, ● middle key, ▼ down)

3.2 Key operation (standby interface)

Action	Function
Short press of the CH1 middle key	enters the CH1 detailed parameter interface
Long press of the CH1 middle key	enters the CH1 task setting menu
Short press of the CH2 middle key	enters the CH2 detailed parameter interface
Long press of the CH2 middle key	enters the CH2 task setting menu
Long press of CH1 and CH2 at the same time	enters the advanced settings menu

3.3 Ports and connectors



Top: output and balance port side · Bottom: power input side

No.	Description
①	CH1 balance port
②	USB-C upgrading port (can be switched to a USB power output, see Chapter 7.4)
③	CH2 balance port
④	CH1 power output
⑤	CH2 power output
⑥	AC power input
⑦	DC power input
⑧	Fan vents – do not cover them

4. Safe Battery Charging

4.1 Safe charging rules

- Always set the **battery type** and **cell count** exactly according to the battery label and check them on the display before starting a task.
- Always charge lithium batteries (Li-Po, LiHV, Li-Ion, LiFe) with the **balance connector** connected.
- Do not charge batteries that are mechanically damaged, swollen, have damaged wire insulation, or have overheated during previous use.
- Let the battery cool down to room temperature after a flight or other load before charging it.
- Charge Li-Po batteries on a non-flammable surface, ideally in a fireproof protective bag or box.
- If smoke, odour or hissing appears, or the battery starts to soften or swell, stop the task immediately and disconnect the battery. Place the affected battery in a safe, non-flammable location away from people.

4.2 How to confirm the charging current

Make sure you know the maximum charging current of the battery before charging. Never charge the battery with excessive current – it may be damaged, overheat or even explode during the charging process.

The charging and discharging capacity of a battery is usually marked with a **C** value. Multiplying the charging C value by the battery capacity gives the maximum charging current supported by the battery.

Example: a 1000 mAh battery with a charging capacity of 5C → 1000 mAh × 5 = 5000 mA. The maximum charging current is therefore 5 A.

For a lithium battery, if it is impossible to confirm the supported charging C value, set the charging current below 1C for the sake of its safety.

Reference relation between the C value and the charging time: charging time ≥ 60 minutes / charging C value. For example, it takes around 60–70 minutes to complete charging at 1C.

5. Operating the Charger

5.1 Task setting

Power on the K4 smart charger, connect the battery and enter the task setting menu of the respective channel with the middle key (see Chapter 3.2). The menu contains the following items:

Item	Options
Task	*Charge*, *Discharge*, *Destroy*, *Storage*
Battery	LiHV, Li-Po, Li-Ion, LiFe, Pb, NiMH/NiCd, ULiHV
Cell count	LiFe, Li-Ion, Li-Po 1–8S; LiHV, ULiHV 1–7S; Pb 1–14S; NiMH/NiCd 1–18S
Current	0.2–20.0 A

5.2 Charge

A balance connection is strongly recommended when charging Li-Po batteries. The charger then monitors the voltage of each cell and balances the cells during charging.

If you start charging a Li-Po battery in non-balance mode (balance port not connected), the charger gives a warning beep before charging starts.

Current setting range: **0.2–20.0 A**.

5.3 Discharge

Current setting range: **0.2–3.0 A**.

5.4 Destroy

Connect the battery to be scrapped and select the *Destroy* function in the task options. The charger is capable of discharging the battery to 0 V. Current setting range: **0.2–3.0 A**.

Use this function only for batteries intended for disposal – after discharging to 0 V the battery can no longer be used. Hand over the discharged battery for environmentally sound disposal (Chapter 8.3).

5.5 Storage

Charges or discharges the battery to the storage voltage given in the table in Chapter 2.2. Current setting range: **0.2–20.0 A**.

5.6 Charging screen

Press the middle key to switch the information displayed in the lower half of the screen: cell voltage, cell internal resistance and working parameters. Cell voltage and internal resistance are displayed only in balance charging mode.

6. Advanced Settings

In the standby interface, long press the CH1 and CH2 keys at the same time to enter the advanced settings menu.

6.1 Dual task

With this setting, the charger charges, discharges or stores the batteries on both channels at the same time with the same parameters. Connect the charger to the power supply and power it on, select this item in the advanced settings menu and set the task parameters.

6.2 Paralled task

With this setting, the charger can output its maximum power to one battery (see parallel charging in Chapter 2.1).

① Prepare a power splitter cable (Y cable, 1 to 2).

② Connect one end to the battery and the other two ends to the power outputs of the charger.

③ Connect the balance connector of the battery to either of the charger's balance ports.

④ Connect the charger to the power supply and power it on, select this item in the advanced settings menu and set the task parameters.

6.3 DC power (CH1)

When this function is selected, channel CH1 works as a DC power supply with an adjustable output voltage of **2–30 V** and current of **1.0–5.0 A**.

7. System Settings

In the advanced settings menu, select the system setting item to enter the system settings menu. It contains the following items:

7.1 Min. input voltage protection

Setting range: **10–31 V**. When the input voltage drops below the set value, all running tasks are stopped at once and a low-voltage warning is shown. This protects the supply battery from being over-discharged when you power the charger from a battery pack.

7.2 Max. input power

Setting range: **100–1300 W**. If the power of your power supply is lower than the maximum working power of the charger (1200 W), set the actual power of the supply as the maximum input power. This protects the power supply and keeps the charger working stably.

7.3 Volume

There are four options: *High*, *Mid*, *Low* and *Off*. When set to *Off*, the operation sounds are turned off, but the error warning beeps remain active.

7.4 USB Charge

- *Off* – the USB-C port serves as the firmware upgrading port.
- *On* – the USB-C port acts as a USB charging port with a 5 V / 2 A output.

7.5 Split screen

There are three options: 60 seconds, 30 seconds and *Off*. After the set time, the main screen automatically switches from the single-channel parameter view to the dual-channel (split screen) parameter view. Select *Off* to turn the automatic split screen function off.

7.6 Wireless connection

Select this item to put the charger into Bluetooth pairing mode. At the same time, open the **isdGO** app on your phone, tap “+” in the upper right corner to search, and select the corresponding device in the list to connect. Once the Bluetooth connection is established, you can view detailed parameters and set tasks via your phone.

The pairing mode lasts 30 seconds – a countdown runs on the display and the pairing mode exits automatically when it ends.

7.7 Theme

Sets a bright or dark background of the display.

7.8 Keep Trickle

Determines whether the charger continues with trickle charging after charging is complete, which keeps the lithium battery voltage in a fully charged state. This function is enabled by default.

7.9 Self-test

Manual self-test of the charger. Run it only when no battery is connected to the CH1 or CH2 ports.

7.10 Calibration

Allows calibration of the input voltage, output voltage and balance voltage of the charger.

7.11 isdGO app

Scan the QR code to download the app for the Bluetooth connection:

Google Play **Android APK** **iOS (App Store)**

Google Play · direct download from the ISDT website (Android) · App Store (iOS)

8. Information for the EU and Czech Market

European Union regulations apply in all Member States, but national implementing rules differ from country to country – for example in the take-back of waste electrical equipment or in consumer protection. The information in Chapters 8 and 9 describes the situation in the Czech Republic. If you use the product in another country, you must follow the regulations of the country in which you operate it.

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

Manufacturer

Manufacturer	SHENZHEN ISD TECHNOLOGY CO.,LTD
Address	Room 17F1703, Building 2, Runzhi R&D Center, No. 5, Runfang Road, Block 70, Xingdong Community, Xin'an Street, Bao'an District, Shenzhen, Guangdong, China
E-mail	hi@szisd.com
Website	www.isdt.co

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 (K4) and the serial number are given on the rating label 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.