

RETRON BOX - USER GUIDE

CORRECTLY STORING,
CHARGING AND TRANSPORTING
LITHIUM ION BATTERIES



1. SAFETY

1.1 NOTICES IN THIS GUIDE

1.1.1 SAFETY NOTICES IN THIS GUIDE

Safety notices can be identified by the warning symbol illustrated here. The entire section with this warning symbol contains relevant safety information

1.1.2 WARNING NOTICES IN THIS GUIDE

Warnhinweise stehen mit einer konkreten Handlung im Zusammenhang. Die unterschiedlichen Signalwörter (Warnung, Vorsicht) kennzeichnen unterschiedliche Gefährdungsgrade.

Warning notices are accompanied by instructions of specific action that must be taken. Different keywords (Warning, Caution) indicate different levels of risk. Below is an example of a warning notice for a hazard that can pose a risk to health or lead to serious personal injury:

WARNING

Risk of poisoning due to gases formed during combustion!

- Do not inhale the gases!


Below is an example of a warning notice for a hazard that can lead to minor personal injury:

CAUTION

Risk of burns due to hot surfaces!

- Do not touch the box if it is on fire!

1.1.3 OTHER NOTICES IN THIS GUIDE

 Sort materials and send them for recycling.

 Notice explaining other important information.

1.2 GENERAL SAFETY NOTICES

Do not place the RETRON BOX immediately next to or on top of flammable materials when it has a battery inside it. Ensure that a sufficient distance is maintained from any flammable objects. We recommend that the box is placed on a non-flammable mineral-based substrate. The box should be located outside of living and sleeping areas (e.g. in a garage or cellar) and ideally in a space that is well ventilated.

- If a battery self-ignites, do not touch or open the box
- Avoid inhaling the fumes
- Boxes must be disposed of appropriately after a fire
- You can access expert services as well as obtain help and advice from your specialist retailer

1.3 APPROPRIATE USE

The RETRON BOX can be used as a safe container for lithium ion (rechargeable) batteries in the following situations: Storage of lithium ion (rechargeable) batteries while they are charging
Storage of lithium ion (rechargeable) batteries when they are not being used
Transportation of lithium ion (rechargeable) batteries

Appropriate use assumes that all notices in this user guide are followed, especially the safety and warning notices.

Any use of the box which deviates from or goes beyond appropriate use is considered a misuse of the RETRON BOX. In particular, the following are considered to be a misuse of the RETRON BOX:

- Non-compliance with the safety and warning notices
- Use of the RETRON BOX with any dangerous goods that are not lithium ion batteries
- Use of the RETRON BOX in conjunction with other dangerous goods and lithium ion batteries
- Use of the RETRON BOX if the lid is not securely locked
- Use of the RETRON BOX if it is in any way damaged or not in perfect technical condition
- Incorrect fitting of the charging cable(s) and cable guide
- Performance of modifications to the RETRON BOX
- Improper repairs to the RETRON BOX
- Use of anything other than original spare parts or accessories
- Use without the RETRON cushion(s)
- Renewed use of the RETRON BOX after a fire

 **WARNING**

Misuse of the RETRON BOX poses a risk to life!



The manufacturer shall not be held liable for any inappropriate use of the box. Misuse will invalidate the guarantee and warranty.

1.4 RESIDUAL RISKS

The RETRON BOX has been developed and constructed in strict compliance with the relevant standards and legal requirements. The current standards relating to technical development and safety have been met. Even if the RETRON BOX is used appropriately, its use still presents a number of residual risks, in other words unavoidable dangers. These dangers are outlined in this user guide.

2. TECHNICAL DETAILS

Dimensions (L x W x H)

External: 520 mm x 427 mm x 205 mm

Internal: 460 mm x 360 mm x 155 mm (usable height)

Weight: 9 kg

3. HOW IT WORKS

In certain circumstances (for instance if there is a short circuit within the cells), there is a risk that lithium ion batteries could themselves ignite. The resulting flames can reach temperatures of over 1200 °C. These flames can very rapidly cause surrounding objects to catch alight. In most cases it is then impossible to stop the fire from spreading. It is also impossible to stop a considerable volume of gas from forming.

These gases are highly poisonous and corrosive and must not be inhaled under any circumstances. If lithium ion batteries ignite explosively, fragments of the battery or casing may shoot through the air, causing considerable personal injury and damage to property.

The RETRON BOX makes for an ideal method of fire prevention by offering flame protection. If lithium ion batteries are stored, transported or charged inside the RETRON BOX, the risk of potential ignition spreading to the surrounding area is significantly reduced. In addition, the RETRON BOX provides protection from flying fragments of the battery and casing. The RETRON BOX is unable to prevent the spread of gases. However, poisonous/corrosive parts of the discharging gas will be partially filtered out by the RETRON cushions in the RETRON BOX. The RETRON cushions are also flame retardant and absorb any electrolyte that may leak out.

 **WARNING**

Risk of poisoning and risk to life due to the inhalation of gases formed during combustion!
Do not inhale gases under any circumstances!

3.1 DESIGN AND SCOPE OF DELIVERY

The RETRON BOX is guaranteed to be in technically perfect condition if all the supplied parts are free from damage and are assembled and used as instructed (see sections 5 to 10).

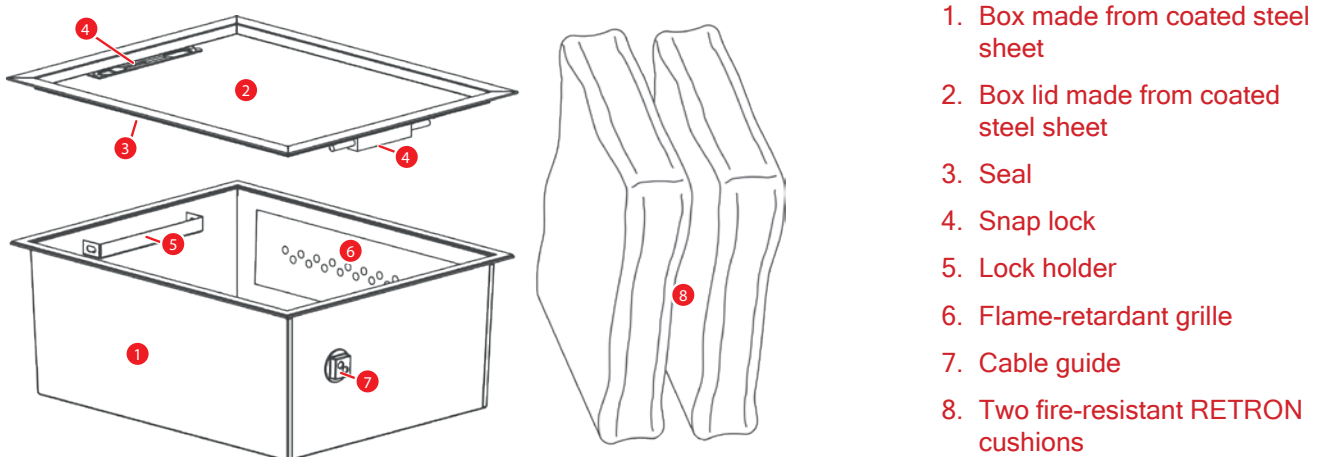


Fig. 1: Design and scope of delivery for the RETRON BOX

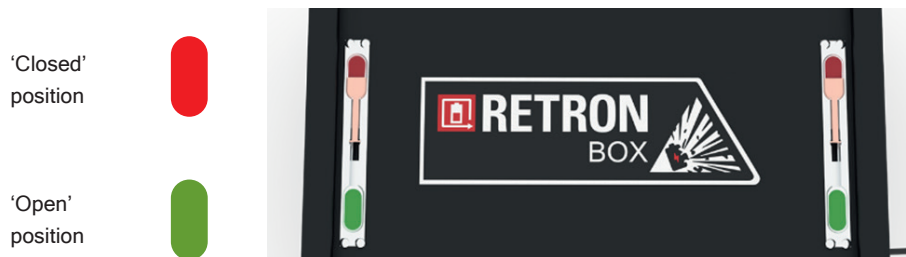


Fig. 2: Locking lever in the 'closed' position

4. PACKAGING

All parts in Section 3.1, Fig. 1, should be included in the packaging. If any parts are missing, please contact the retailer.



Packaging materials should be sorted and sent for recycling. Please take into account local guidelines. You can also store the packaging for reuse.

5. ASSEMBLY

The RETRON BOX is supplied in a pre-assembled condition and is ready to use for transporting and storing lithium ion batteries. If the RETRON BOX is going to be used to store your lithium ion battery while it is being charged, route the charging cable through the cable guide into the RETRON BOX. You can fit up to two charging cables using the cable guide.

5.1 FITTING THE CHARGING CABLE IN THE CABLE GUIDE

1. Move the lever of the snap locks into the 'open' position (Section 3.1, Fig. 2) and remove the lid of the RETRON BOX.
2. Now unscrew the union nut (1) of the cable guide on the inside of the RETRON BOX. (Section 5.1, Fig. 3)
3. Pull the cable guide out towards the outside. (see Fig. 3)
4. Remove the outer casing sections (2) of the cable guide. (see Fig. 4)
5. Using a screwdriver, split the outer casing sections (2) of the cable fitting. (see Fig. 4)
6. The rubber part (3) of the cable guide can now be pulled out. (see Fig. 4)
7. Depending on the number of cables being used, remove one or both stoppers (4) from the rubber part of the cable guide. (see Fig. 4)
8. Insert the charging cable into the slot.
9. Reattach the casing sections (2) of the cable guide. (see Fig. 4)
10. Push the cable guide from the outside into the hole in the RETRON BOX. (see Fig. 3)
11. Push the connector of the charger in the RETRON BOX through the union nut.
12. Screw back on the union nut (1) of the cable guide on the inside of the RETRON BOX. (see Fig. 3)

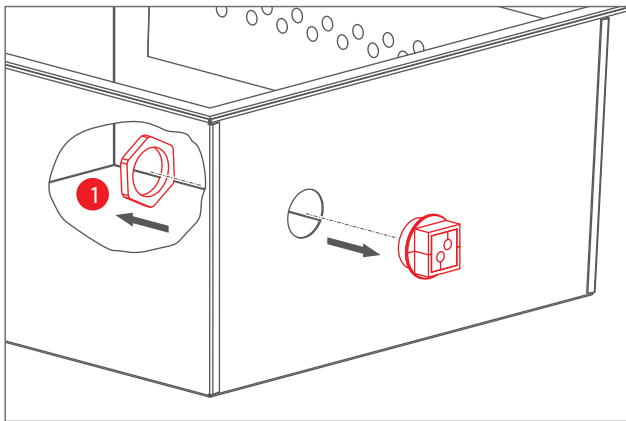


Fig. 3: Removing the cable guide

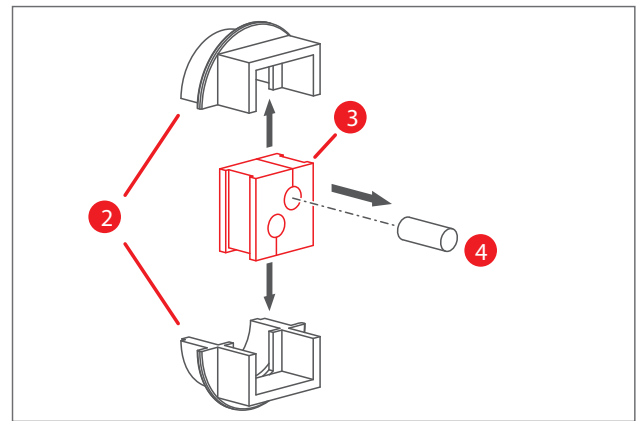


Fig. 3: Removing the cable guide

6. OPERATION

When storing and transporting lithium ion batteries, the battery or batteries must be placed in the RETRON BOX between the two RETRON cushions. The RETRON cushions are flame retardant and protect the batteries inside the box from shocks and shaking.

WARNING

When charging batteries, only use one cushion at the bottom of the box and position the batteries on top. Do not cover the batteries before closing the lid. This will ensure that any heat produced during charging will be dissipated efficiently.

WARNING

Risk of poisoning and risk to life due to the inhalation of gases formed during combustion!

WARNING

Risk to life due to closing off the flame-retardant grille!

The rear openings on the flame-retardant grille of the RETRON BOX must not be modified in a way that closes off or seals them either from the inside or the outside!

6.1 INSERTING THE BATTERIES

1. Move the lever of the snap locks into the 'open' position and remove the lid.
2. Place a RETRON cushion (supplied) inside the RETRON BOX so that it fits snugly on the base of the box.
3. Place the battery or batteries on the RETRON cushion at the bottom of the box.
4. When using the box for storing and transporting, place the second cushion on top of the battery or batteries so that the battery or batteries are sandwiched between the cushions.
5. Do not use the second cushion in the box when charging!
6. Place the box lid on top.
7. When locking the RETRON BOX, make sure that the RETRON cushions are not caught in the locking mechanism or between the main body of the box and the lid.
8. Engage the snap locks by moving them into the 'closed' position.

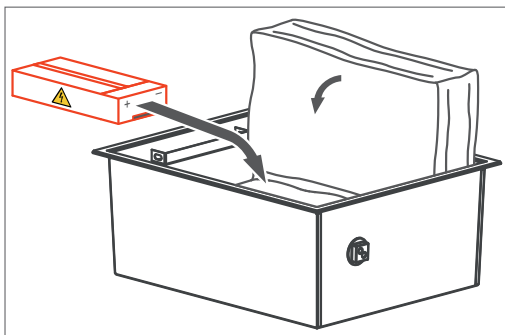


Fig. 5: Positioning a battery between the cushions in the RETRON BOX. When charging, only use the lower cushion.

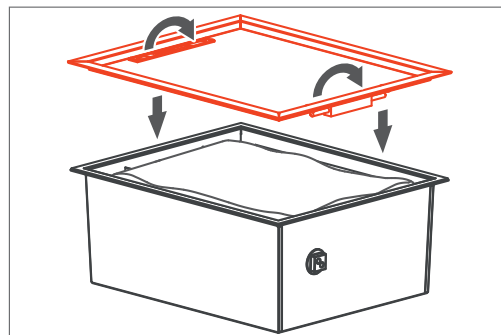


Fig. 6: Locking the lid onto the RETRON BOX

CAUTION

Risk of pinching when closing the lid! Do not place hand between the box and the lid!

6.2 STORING AND TRANSPORTING BATTERIES IN THE RETRON BOX

The RETRON BOX is a securely sealed container which is ideal for storing lithium ion batteries. It can be used to store batteries safely and securely for both short and long periods. When being used for transportation, the RETRON cushions inside the box also protect the batteries from shaking.



Use a suitable means of securing the RETRON BOX during transportation in order to prevent damage to the box and the lithium ion battery inside!

If a lithium ion battery self-ignites (for instance due to a short circuit), the RETRON BOX reduces the risk of the fire spreading to the surrounding area. However, in the event of a fire, it is inevitable that the RETRON BOX will heat up considerably.



Ensure that a sufficient distance is maintained between a loaded RETRON BOX and flammable objects in the surrounding area. We recommend that the box is placed on a non-flammable mineral-based substrate.

6.3 WHAT TO DO IF BATTERIES SELF-IGNITE

- Call the fire service immediately!
- Never open the RETRON BOX!
- Inform the fire service about the contents of the RETRON BOX.

In the event of a fire, hot gases will be released through the flame-retardant grille in the main body of the RETRON BOX. It is also possible that gas may escape from the lid seal.



WARNING

Risk of burns due to hot surfaces!
Do not touch the box while it is on fire or after the fire has stopped!
Do not open the box!



CAUTION

Risk of burns due to hot surfaces!
Do not touch the box while it is on fire or after the fire has stopped!
Do not open the box!



CAUTION

Risk of burns due to hot gases!
Do not open the box!
Do not close off the rear openings on the flame-retardant grille of the box!

6.4 ACTION TO TAKE AFTER A FIRE

Following a fire, the RETRON BOX will be damaged and must no longer be used. It needs to be disposed of as special waste.

WARNING

Risk of poisoning and risk to life due to fumes!

Always keep the RETRON BOX closed following a fire!

The box contents and fire debris are hazardous to health.

Following a fire, the box contents and fire debris must be disposed of as special waste!

CAUTION

Risk of burns due to hot surfaces!

Do not touch the box if it is on fire!

Do not open the box!

CAUTION

Risk of burns due to hot gases!

Do not open the box!

Do not close off the rear openings on the flame-retardant grille of the box!

7. MAINTENANCE AND CLEANING

The RETRON BOX is virtually maintenance free. Components that no longer function properly can only be removed by authorised specialists (see Section 8 Repairs) and replaced with original spare parts (see Section 9 Spare parts).

If the RETRON BOX has been used intensively over a long period, it may be necessary to regrease the moving parts of the snap locks. Use a standard lubricating grease for this purpose. If the box is heavily soiled, it can be cleaned using standard detergent.

If the RETRON cushions become soiled or damaged, they need to be replaced with original spare cushions. It is not possible for them to be cleaned or repaired. To replace your RETRON cushions, please contact your specialist retailer.

8. REPAIRS



RETRON recommends that repairs are only carried out by expert RETRON staff.

Unauthorised repairs by non-approved specialists are considered a misuse of the RETRON BOX and will invalidate the guarantee and warranty. To the following extent, users are permitted to replace parts of the RETRON BOX that are defective or no longer suitable for proper use: Replacing damaged parts with original spare parts is not classified as an unauthorised repair. An explanation of how to do this is outlined in the following text.

8.1 REPLACING THE CABLE GUIDE

See the description in Section 5.1 Fitting the charging cable in the cable guide.

8.2 REPLACING THE RETRON CUSHION

See the description in Section 6.1 Inserting the batteries.

9. SPARE PARTS



The use of anything other than original spare parts is considered a misuse of the product and will invalidate the guarantee and warranty.

The following are designated as spare parts:

- Cable guide
- Fire-resistant RETRON cushions

10. DISPOSAL



Worn materials from the RETRON BOX should be sorted and sent for recycling.

Disposal if there has not been a fire:

- Worn or soiled RETRON cushions may be disposed of as household waste or as hazardous waste.
- The cable guide may be disposed of as household waste.
- The main body of the box and the lid may be disposed of as steel scrap.

Disposal following a fire:

- The RETRON BOX must no longer be used!
- The box contents and fire debris must be disposed of as special waste!

If you have any questions concerning the disposal of the RETRON BOX, please consult an expert in all cases.

11. APPROVALS AND TEST REPORTS

11.1 APPROVAL AS PACKAGING FOR THE TRANSPORTATION OF DANGEROUS GOODS



Approved for the transportation of dangerous goods in accordance with 4A/X29/S/BAM 15774-OTTO2

TYPE EXAMINATION FOR THE TRANSPORTATION OF DANGEROUS GOODS

The RETRON BOX underwent a type examination for packaging for the transportation of dangerous goods at TÜV Rheinland (test report no. 210119, 1st issue, rev. 0, dated 18/06/2021).

The original certificate of approval can be found on our website at:
<https://www.esse.com/en/esse-world/products/retron-box/>



12. WARRANTY

Statutory warranty applies. In the case of warranty claims or faults, please contact your retailer. Be prepared to show proof of purchase for your RETRON BOX.

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