Please keep - Important!

Original operating instructions

battery.case P908.08 - battery.case P908.8 - battery.case P908.16

Table of contents

1 General information

1.1 Technical data

	battery.case P908.08	battery.case P908.8	battery.case P908.16
External dimensions	270 x 215 x 105 mm	510 x 420 x 215 mm	660 x 490 x 335 mm
Load compartment dimensions	208 x 141 x 066 mm	388 x 264 x 140 mm	500 x 314 x 243 mm
Empty weight	2.1 kg	10.5 kg	18.2 kg
Payload	0.8 kg	8 kg	16 kg

1.2 Scope of delivery in detail

battery.case P908.08

1 x battery.case
2 x cube foam
1 x fire protection bag

battery.case P908.8

1 x battery.case
2 x cube foam
1 x fire protection bag

battery.case P908.16

1 x battery.case
4 x cube foam
2 x fire protection bag

1.3 Manufacturer information

B&W International GmbH
Junkendiek 5
49479 Ibbenbüren
Germany

1.4 Customer service

Phone: +49 (0) 5451-8946-0
E-mail: info@b-w-international.com

1.5 Purpose of the document

These operating instructions familiarize the user with

- the working method
- the operation
- the safety instructions and the possible dangers when handling the battery.case

To ensure safe and trouble-free operation of the battery.case, you must be familiar with and observe the following safety instructions and safety regulations! Also observe the rules and regulations for accident prevention applicable to the place of use!

1.6 Users

The battery.case is not intended for use by persons - including children - with reduced physical, sensory or mental capabilities, lack of experience and / or lack of knowledge. Unless they are supervised by a person responsible for their safety and have received instructions from this person on how to use the device. Children must always be kept away from the battery.case.

1.7 Storage of the operating instructions

Keep these operating instructions in a safe place so that you can refer to them at any time if necessary.

1.8 Imprint

Junkendiek 5
49479 Ibbenbüren
Germany

1.9 Warranty and liability claims

Warranty and liability claims for personal injury and damage to property are excluded if they are attributable to one or more of the following causes:

- Non-intended use of the battery.case
- improper assembly, commissioning or operation of the battery.case
- Non-observance of the instructions in this operating manual
- Unauthorized structural changes to the battery.case
- Catastrophic events due to foreign bodies and force majeure

2 General safety instructions

2.1 Intended use

The battery.case transport container is intended for the transportation and storage of intact or damaged lithium-ion rechargeable batteries and lithium-ion batteries. The transport container may only be used in an undamaged and unmodified condition. During use, always ensure that the seals are clean and that any charging cable used is only fed through the openings provided for this purpose. The battery.case transport container is not suitable for the transportation or storage of critically defective batteries. Intended use also includes

- Observance of all instructions in the operating instructions,
- the consideration of foreseeable misconduct

2.2 Dangers when handling lithium batteries

When used and stored properly, modern lithium-ion rechargeable batteries and lithium-ion batteries generally pose no danger. However, certain factors such as mechanical damage to the cells, overheating, overcharging, short-circuiting or deep discharging as well as ageing can trigger a fast-acting and irreversible process: thermal runaway. "Thermal runaway is the ignition or explosion of a battery as a result of a self-reinforcing heating process."[1]

As a result of this process, more and more individual cells are ignited and more and more flammable and toxic gases are emitted. "The escaping gases include carbon monoxide (CO), hydrogen (H2), carbon dioxide (CO2) and oxygen (O2). It is also possible that hydrogen fluoride (HF), which reacts with the moisture in the air to form hydrofluoric acid, may escape. If the escaping reaction gas does not catch fire directly, an explosive atmosphere can form in combination with the atmospheric oxygen."[2]

Due to the very high risk potential of damaged lithium-ion rechargeable batteries and lithium-ion batteries and the fact that the condition of old lithium-ion rechargeable batteries and lithium-ion batteries cannot always be determined perfectly, we recommend always using a battery.case for storage and transportation.

[1] **Source:** https://www.iws.uni-stuttgart.de/ls3/forschung/projekte-ls3/thermisches-durchgehen-von-lithium-batterien/ - as at March 2023
[2] **Source:** Operating instructions for the LiGuard transport system; page 5

3 Utilization

Before each use, carefully check that the transport container is in perfect and unmodified condition. The protective bags to be used for the transportation or storage of defective lithium-ion rechargeable batteries or lithium-ion batteries must also be in perfect and undamaged condition.

3.1 Recognizing the condition

Before using the transport container, it is essential to determine the condition of the battery.
If the battery is as good as new or guaranteed to be in perfect working order, it can be handled as described in 3.4 or 3.5.

The following describes a few points of reference that can be used to determine the condition of the rechargeable battery or battery to be transported or stored. If one of the following points applies, the rechargeable battery or battery is to be classified as defective and must be handled in accordance with the descriptions under 3.6 or 3.7.

- Batteries declared as defective for safety reasons
- Leaking or degassed batteries
- BMS (if present) identifies defective cells
- Batteries that have suffered mechanical damage[3]

Critically defective batteries must not be transported or stored! Critically defective batteries are those which, under normal transportation conditions, could lead to rapid decomposition, dangerous reactions, flames or dangerous heat development.

[3] **Source**: BDE practical guide , Lithium batteries and cells (also in waste electrical equipment), collection, packaging and transport in accordance with ADR as at: February 2021 and Shipping of lithium-ion batteries for power tools and electric garden equipment: Implementation of the dangerous goods regulations, as at: 2015 and Leaflet Shipping of lithium-ion batteries for power tools and electric garden equipment: Implementation of the dangerous goods regulations An initiative of EPTA and ZVEI as at: 2019

3.2 Packaging of lithium rechargeable batteries and batteries

3.3 Safety instructions

Danger of poisoning! Danger from harmful and sometimes odorless gases. Risk of serious or fatal injuries! In the event of gas leaks, sparks or the first signs of a thermal runaway, leave the danger zone immediately and inform the fire department!

Explosion hazard! Danger from various flammable gases! In the event of gas leaks, sparks or the first signs of a thermal runaway, leave the danger zone immediately and inform the fire department! Risk of serious or fatal injuries!

Danger! The battery.case is not intended to be used by persons - including children - with reduced physical, sensory or mental capabilities, lack of experience and / or lack of knowledge!

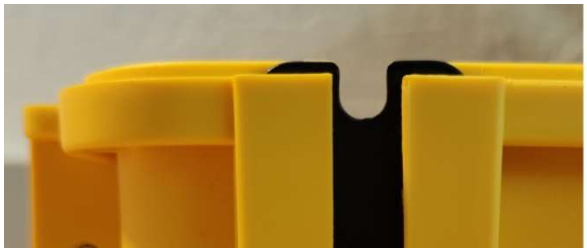
3.4 Storage of intact rechargeable batteries and batteries

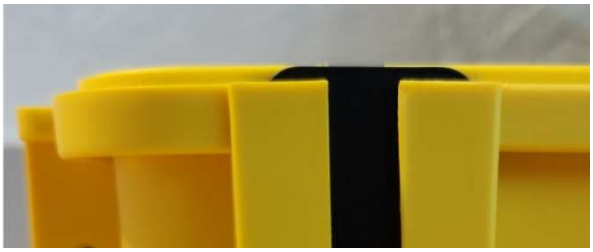
Battery.cases filled with lithium-ion rechargeable batteries or lithium-ion batteries should always be stored in a separate, well-ventilated room. It should also be ensured that the battery.cases are placed at a distance of at least 50 cm from each other and from other objects or walls in order to guarantee unhindered escape of gases via the air outlets. Care should also be taken not to exceed the permissible storage temperature range of the rechargeable batteries or batteries to be stored. This is often between minus 20°C and plus 35°C ambient temperature. The battery.case must always be protected from direct sunlight. Furthermore, make sure that the battery.case is always placed flat on the floor. The following illustration shows the correct positioning.

When storing rechargeable batteries or batteries in the battery.case, the correct positioning of the slide-in tray must also be observed. The slide-in tray can be used in two positions: with the cut-out facing upwards or with the cut-out facing downwards. See the two illustrations below.

- The insertion plate is inserted with the cut-out facing upwards to charge batteries in the battery.case.

- With the recess facing downwards, the insertion plate is used to store or transport batteries in the battery.case.





If several intact rechargeable batteries or batteries are to be stored in a Battery.Case, each rechargeable battery must be stowed in a fire protection bag! Make sure that the fire protection bag is carefully closed and that excess material of the fire protection bag is folded down so that the battery rests on the excess material of the fire protection bag. The following illustration shows the correct use of the fire protection bag. During storage, the maximum total number of watt hours of 1500 Wh must not be exceeded!

3.5 Transport of intact rechargeable batteries and batteries

If intact batteries are to be transported, the supplied cube foam must be adapted to the shape of the battery and used to cushion the batteries. The following illustration uses the example of power tool batteries to show the correct use when transporting rechargeable batteries or batteries.

The transportation of defective batteries in aircraft, even in special transport containers such as the battery.case, is strictly prohibited. Intact batteries may only be transported in cargo aircraft under certain conditions. For other means of transportation, such as cars or trucks, the relevant legal regulations must be observed. This also applies to any additional labeling, shipping documents or other measures that may be required. The safety instructions under point 3.3 must also be observed during transportation.

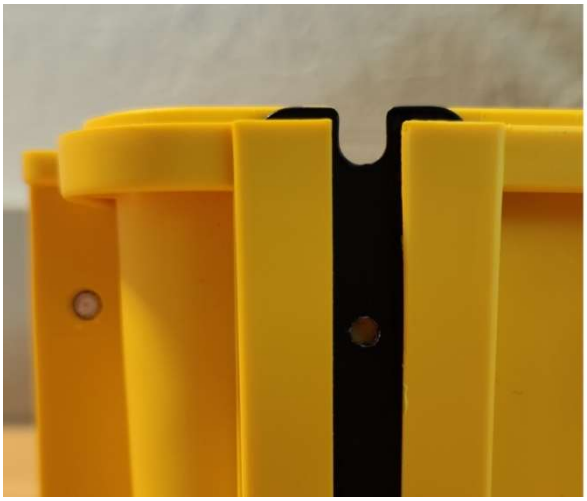
3.6 Storage of damaged rechargeable batteries or batteries

Battery.cases filled with defective lithium-ion rechargeable batteries or lithium-ion batteries should always be stored in a separate, well-ventilated room. When storing defective rechargeable batteries or batteries, the distance between the battery.cases and other objects or walls should be at least 2.5 m. During storage, the maximum total number of watt hours of 1500 Wh must not be exceeded. Care should also be taken not to exceed the permissible storage temperature range of the rechargeable batteries or batteries to be stored. This is often between minus 20°C and plus 35°C ambient temperature. The battery.case must always be protected from direct sunlight.

Furthermore, make sure that the battery.case is always placed flat on the floor. The following illustration shows the correct positioning.

When storing rechargeable batteries or batteries in the battery.case, it is also important to ensure that the slide-in tray is positioned correctly. The slide-in tray can be used in two positions: with the cut-out facing upwards or with the cut-out facing downwards. See the two illustrations below.

- The insertion plate is inserted with the cut-out facing upwards to charge batteries in the battery.case.
- The slide-in tray is inserted with the recess facing downwards to store or transport batteries in the battery.case.



Only one defective battery may be stored per fire protection bag! Make sure that the fire protection bag is carefully closed and that excess material of the fire protection bag is folded down so that the battery rests on the excess material of the fire protection bag. The following illustration shows the correct use of the fire protection bag.

Defective batteries must be handed over to the nearest collection point as soon as possible! Defective batteries must not be stored in residential buildings!

3.7 Transportation of damaged rechargeable batteries or batteries

Before defective lithium-ion rechargeable batteries or lithium-ion batteries are stored in the battery.case, they must be packed in one of the protective bags supplied. Care must be taken to seal the bags carefully. It must also be ensured that the battery is protected against short circuits. For this purpose, the contacts should be taped. Only one battery or battery pack may be packed in each protective bag. Any free space between the battery.case and the batteries packed in protective bags must be padded with the cube foam included in the scope of delivery. The transportation of defective batteries in aircraft, even in special transport containers such as the battery.case, is strictly prohibited. Intact batteries may only be transported in cargo aircraft under certain conditions. For other means of transportation, such as cars or trucks, the relevant legal regulations must be observed. This also applies to any additional labeling, shipping documents or other measures that may be required. The safety instructions under point 3.2 must also be observed during transportation.

3.8 Charging batteries in the battery.case

Special openings, well thought-out cable routing and the slide-in plate allow batteries to be charged safely in the battery.case. However, the following points should be observed:

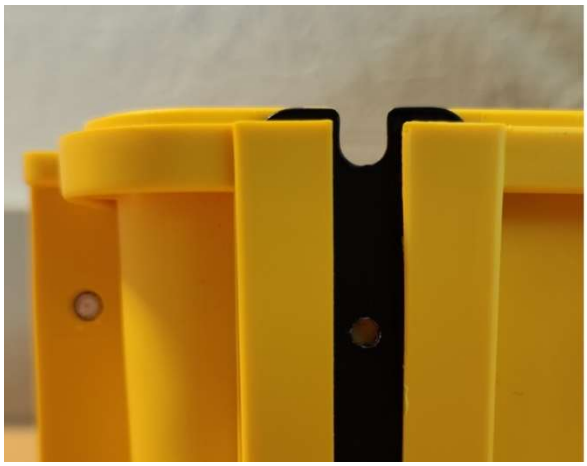
- The maximum permissible temperatures for charging the battery must be observed.
- The temperature of the battery to be charged in the battery.case should be checked regularly.
- When storing or charging more than one battery, each battery must be stowed in a fire protection bag
- If necessary, further manufacturer's instructions regarding charging the battery must be observed.
- Care must be taken not to kink or otherwise damage the charging cable when laying it in the battery.case.
- A maximum of one charging cable may be fed through the charging cable opening.
- The maximum permissible diameter of the charging cable should be observed (5 mm for battery.case P908.08 and 8 mm for battery.case P908.8).

Risk of tripping! When laying and routing the charging cable outside the battery.case, all safety instructions must always be observed. There is a risk of tripping due to improperly laid or labeled cables! Risk of minor to serious injuries!

When charging batteries in the battery.case, the correct positioning of the slide-in plate must also be observed. The slide-in tray can be used in two positions: with the cut-out facing upwards or with the cut-out facing downwards. See the two illustrations below.

- The slide-in plate is inserted with the cut-out facing upwards to charge batteries in the battery.case.

- With the recess facing downwards, the insertion plate is used to store or transport batteries in the battery.case.



3.9 Removing batteries from the battery.case

Danger of poisoning! Danger from harmful and sometimes odorless gases. Risk of serious or fatal injuries! In the event of gas leaks, sparks or the first signs of a thermal runaway, leave the danger zone immediately and inform the fire department!

Explosion hazard! Danger from various flammable gases! In the event of gas leaks, sparks or the first signs of a thermal runaway, leave the danger zone immediately and inform the fire department! Risk of serious or fatal injuries!

Danger! The battery.case is not intended to be used by persons - including children - with reduced physical, sensory or mental capabilities, lack of experience and / or lack of knowledge!

Risk of poisoning! Danger from touching or inhaling contaminated dust or liquid! Risk of serious or fatal injury! After electrolyte leakage or thermal runaway, only open battery.case with suitable protective equipment!

Suitable protective equipment should always be worn when removing damaged rechargeable batteries, as the condition of the stored lithium-ion rechargeable batteries or lithium-ion batteries may have deteriorated during transportation, and this is not visible from the outside.

If an acrid odor is perceptible or discoloration can be detected on the battery.case, it can be assumed that either electrolyte has leaked or a thermal runaway has occurred. In this case, the protective equipment must be adapted to the aggravated situation.

4 Maintenance and repair

The battery.case must be checked and maintained regularly, but at least before each use. The following points should be checked as a minimum:

- Check whether the seal in the cover is in perfect condition, clean if necessary
- Check that the fasteners are working properly and close securely
- Check whether the screw connections of the base and lid tray are in order
- Check that the filter and membranes are free of dirt; clean if necessary
- Check that the protective bags are in perfect condition; replace if necessary!
- Check whether the cube foam is in perfect condition, replace if necessary!

If it is determined during maintenance that the battery.case is damaged and needs to be repaired, the transport container may no longer be used until the repair has been completed! Repairs may only be carried out by the manufacturer or by persons or facilities authorized by the manufacturer!

5 Waste disposal and environmental protection

In principle, the materials in the battery.case are reusable and can be disposed of in any normal recycling collection.

However, if substances have leaked from defective lithium-ion rechargeable batteries or lithium-ion batteries or if there has been a thermal runaway inside the battery.case, the battery.case must be disposed of properly!

Risk of poisoning! Danger from touching or inhaling contaminated dust or liquid! Risk of serious or fatal injury! After electrolyte leakage or thermal runaway, only open battery.case with suitable protective equipment!

Danger of environmental damage! Residues in the battery.case from any leaked substances such as the electrolyte or residues from thermal runaway pose a considerable environmental hazard - especially for aquatic life and bodies of water in general!