

MYRESERVE PACK

HANDLING AND TRANSPORT INSTRUCTIONS



IMPORTANT

Read the Handling and Transport Instructions!
Failure to follow them may have dangerous consequences. Ensure you follow local regulations to transport Li Ion products.

1 Technical specifications MyReserve Pack

Specifications on type plate
(example MyReserve Pack 24.3)

SOLARWATT® SOLARWATT GmbH
Maria-Reiche-Straße 2a
D-01109 Dresden
www.solarwatt.de

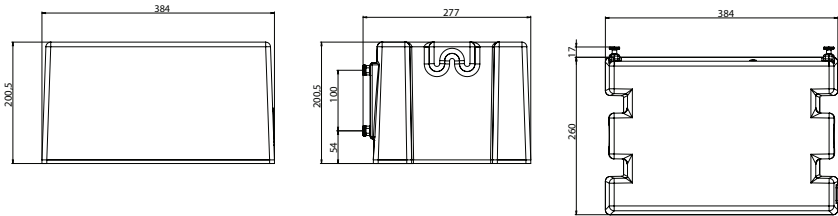
| | | | |
|---------------|-------------------------------|------------------------------|-------------------------|
| model | SOLARWATT MyReserve Pack 24.3 | | |
| type | Li-Ion Battery | operating temperature | 0 °C to 30 °C |
| rated voltage | 43.8 V | humidity | ≤ 85 % (non-condensing) |
| energy | 2.4 kWh | weight | ± 25 kg |
| capacity | 53 Ah | INP177/276/185(12S)E/0+30/95 | |

WARNING!
Refer to installation and operation manual before installing, operating or servicing this unit. DO NOT connect or disconnect plug contacts while system is under load current. Failure to comply can result in a danger situation!

DANGER!

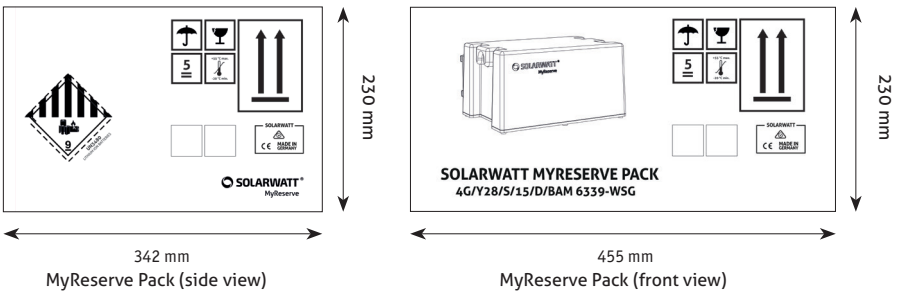
UN 38.3

Dimensions



2 Condition as delivered







The MyReserve Pack battery modules are shipped in hazardous goods packaging according to European hazardous goods classification UN3480. The packaging is approved for the transport of MyReserve Pack Li-Ion batteries in new / used undamaged condition.



3 Procedure for handling transport damage

1. Inspect the delivered goods in the packaging.
2. If you detect any transport damage, please note this on the shipping documents and have the documents countersigned by the driver.
3. Please do not unpack the delivered goods (for the moment).
4. Please ask SOLARWATT for a claim form "Procedural instruction and complaint notice for handling transport damage". You can also download the document in the download area of www.solarwatt.de under "Service and Complaint".
5. Provide a detailed description of the damage detected and include pictures of the damage if possible.
6. Send the completed transport claim form to your distributor or local SOLARWATT office.
7. We will contact you as soon as possible with information on the further course of action.

4 Safety instructions for MyReserve Pack











| | |
|--|--|
|  | Keep dry. |
|  | Fragile. Handle with care. |
|  | Orientation "up" |
|  | Transport temperature -20°C to +55°C |
|  | Max. stacking height: 5 units |
|  | Dangerous goods note UN 3480 Lithium-Ion-batteries |



IMPORTANT

In the event of the following critical situations, inform the fire department immediately and contact our service hotline: Tel.: 1300 765928 (solwat)

- Electrolyte leak
- Strong pungent odor
- Smoke formation
- Battery is burning

| | |
|---|--|
|  | <p>The product must not be disposed of with the household waste. The applicable disposal regulations in the respective country must be observed. Contact your local SOLARWATT office for assistance.</p> |
|  | <p>This operating manual must be read prior to installation or commissioning.</p> |
|  | <p>The relevant device equipment conforms to requirements according to EU Directives.</p> |
| <p>IP31</p> | <p>MyReserve is protected from solid foreign objects with a diameter of 2.5mm or larger, protection from dripping water.</p> |
|  | <p>Warning of dangerous electrical voltage.</p> |
|  | <p>Charged capacitors pose an electrical hazard. A discharge time of 5 minutes must be observed</p> |
|  | <p>Warning of explosion-prone materials.</p> |
|  | <p>Warning of flammable materials.</p> |
|  | <p>Warning of danger from batteries.</p> |
| <p>UN 38.3</p> | <p>The relevant device equipment conforms to requirements according to UN Transport Test 38.3.</p> |
|  | <p>Bluetooth communication</p> |
|  | <p>RCM (Regulatory Compliance Mark) The product does fulfill the requirements of the applicable Australian standard</p> |

5 General instructions

- The battery modules are charged upon delivery. Voltage cannot be measured directly at the terminals of the MyReserve Pack, since the battery module will only be switched on once it has been installed in the MyReserve storage system.
- Improper charging or discharging may cause gas emissions from the battery module. Flammable gas mixtures may escape.
- Inspect the battery terminals and pressure equalizing membrane of the battery module for damage.
- Do not open or disassemble the battery module! Failure to observe these instructions will void the product warranty and can cause battery contents and decomposition products to escape, leading to reactions which may be harmful to the health, property and environment.
- Do not expose the battery module to great heat or fire. This could cause irreversible damage to the battery.
- The relevant temperature limits for transport, storage and operation of the MyReserve Pack must be complied with (see data sheet).
- Do not damage the battery module.
- Do not short-circuit batteries.
- Do not tamper with the battery module's communication interface.
- Store battery module so that it is inaccessible to children.
- Keep battery modules clean and dry.
- Dirty battery terminals can be cleaned with a clean, dry cloth.
- Do not use chemical cleaning products on MyReserve Pack.
- Only use battery modules for the intended purpose.

6 Potential risks

There will be no risks as long as the MyReserve Pack battery module is used for its intended purpose and in accordance with the handling instructions, and as long as the battery module housing which encloses the lithium-ion cells it contains is not damaged. As long as the module is used as intended, the substances contained in the lithium-ion cells (some of which are hazardous) will be enclosed safely. The battery module's structure will prevent electrolyte from leaking out. In addition, the battery module's connection poles are not under power when the battery module is not connected to the MR electronics (MR-control).

Only use the MyReserve Pack battery module in conjunction with the MyReserve storage system. The operating conditions specified concerning charging, discharging, storage, temperatures and air humidity must be complied with according to the instructions in the relevant data sheets and operating manuals.

Electrical misuse through tampering, exposure to extreme environmental conditions (such as high temperatures or contact with chemicals) or heavy mechanical loads (such as deformation, manipulation or opening the housing) may cause a violent reaction in the battery cells stored, causing intense heat development and gas emissions. This may cause the materials contained in the battery module, as well as their combustion products, to be released into the environment in the form of dust.

If the battery is exposed to fire and burns, observe the following information and recommendations: The main combustion products of the battery are carbon dioxide (CO₂) and water vapor (H₂O). Carbon monoxide (CO), hydrofluoric acid (HF) and many other gaseous by-products are released in much smaller amounts. In some cases, nickel oxide, cobalt oxide or manganese oxide (in the case of NMC cells) may be separated.

7 Fire control measures

Alert the fire department via the local emergency number and evacuate all persons from the immediate vicinity of the fire. There is a risk that burning or flammable particles will be flung from the source of the fire.

Unsuitable extinguishing agents: Water jet, type D extinguishers

Suitable extinguishing agents: Sand, dry extinguishing powder, carbon dioxide, PM12i metal fire extinguisher

Instructions on fire extinguishing measure:

1. As long as the battery is not overheated, there is a chance of cooling the system with carbon dioxide, or with a water jet (as an alternative). Observe the following warning information, if the battery module is installed in the system.
2. When installed in a MyReserve storage system, risk of electric shock through direct-current voltage up to 900V and alternating-current voltage up to 230V when extinguishing with water or other extinguishing agents which conduct electricity, as well as through direct contact with exposed metal parts and cable cores.



Caution!

Warning of electric voltage!

3. Do not inhale vapors, use a self-contained breathing apparatus, wear protective overall if possible.
4. Battery heat value: approx. 140MJ.

It is essential to keep a fire watch when batteries have burned and have been extinguished.

8 First aid measures

Inhalation

Remove affected persons from the exposure area and ensure there is plenty of fresh air. Keep affected persons quiet and warm. Seek medical assistance.

Swallowing

Thoroughly flush mouth and surrounding area with water for at least 15 minutes. Seek medical assistance immediately.

Skin contact

Thoroughly wash skin with tap water for at least 15 minutes. Remove contaminated clothing and wash thoroughly before reuse, or dispose of it. Seek medical assistance.

Eye contact

Flush thoroughly for at least 15 minutes. Keep eyelids open when doing so. Seek medical assistance.

Burns

Any burns caused must be treated accordingly. Seek medical assistance.

Further treatment

A physician must be consulted for any case of eye contamination, persistent skin irritation and for persons who have swallowed these substances or inhaled the vapors.




9 'REACH' regulation - Europe

The REACH regulation (1907/2006/EC) has replaced the EU Safety Data Sheet Directive (91/155/EU). Both the currently valid REACH regulation and the no longer valid directive require the compilation and updating of safety data sheets for substances and preparations. European chemical law does not require EU safety data sheets for products such as lithium batteries. (Source: ZVEI, ZVEI Bulletin No. 2, December 2011 edition, pg. 1.)

10 Transport instructions for li-batteries - Europe

The transport of lithium batteries is subject to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR; in the case of Australia the "Australian dangerous goods code"). These regulations are based on the UN model regulations for the transport of dangerous goods.

The MyReserve Pack is to be transported in accordance with UN Directive Number 3480, in which packaging regulation P903 is to be observed in particular. As long as the total weight of the actual hazardous substance in the packaging pieces to be transported does not exceed 333kg (corresponding to 13 individual MyReserve Pack elements), transport may also be conducted by persons without a hazard endorsement on their driver's license. Under all circumstances, ensure you follow local laws with regards to safe transport of Lithium Batteries.

| Battery status | Battery requirements | | Packaging instruction | Labelling Package |
|----------------------------|----------------------|--------------------------------------|---|---|
| New/used undamaged battery | 2.2.9.1.7 | | P 903 | UN + no.  |
| Waste batteries | 2.2.9.1.7 | SV 377 No defect detected | P 909 | UN + no.  |
| Damaged batteries | 2.2.9.1.7 | SV 376 Danger during transport | Determined by competent authority (BAM) | UN + no.  |
| | | SV 376 No danger during transport | P 908 | |

Fonte: Schwan, G. (2015). Lithium batteries in traffic. Lecture at symposium: Lithium Batteries in Logistics, Frankfurt am Main, Germany.

New, used and undamaged batteries:

New and used, undamaged MyReserve Pack battery modules may be transported in the original packaging. To do so, compile a transport document for every instance of further transport and ensure that the required vehicle equipment is carried along (see enclosed table "Brief overview of transport with lithium-ion batteries").

The necessary inspections for ensuring transport safety were carried out for the MyReserve Pack battery module in conformity with the applicable Directive UN38.3 and were passed.

- The MyReserve Pack battery modules are shipped in inspected hazardous goods packaging according to hazardous goods classification UN3480
- Compile transport document according to local rules and carry this during transport
- Carry along protective equipment for vehicle

Damaged batteries:

What are defective / damaged batteries according to Special Provision 376?

- Batteries which fluid or gas has leaked from
- Batteries which can no longer be diagnosed prior to transport
- Batteries which have suffered external or mechanical damage
- Batteries with which safety-related defects have been identified

What has to be done if a defect or damage to the battery is detected?

- Determine whether this will pose a danger during transport.

When is danger during transport present?

If the defect causes batteries to tend to:

- decompose quickly
- react dangerously
- form flames
- develop dangerous levels of heat or emit vapors.

What must be kept in mind during packaging if a damaged battery was classified as non-dangerous?

- Label as "DAMAGED LITHIUM-ION BATTERIES"
- Use inspected MyReserve Pack original packaging
- Battery must be packaged in a liquid-tight manner (plastic bag)
- The space between the battery and original packaging must be filled in with vermiculite insulation

If a battery has been damaged and there are unusual indications; for example strange smells, leaking liquids or other materials, heat coming from the battery where safely possible cautiously isolate the battery into a safe area and contact the Fire Brigade on the Emergency 000 phone number.

Advise them of the damage to a Lithium Ion battery. The battery should be monitored until the Fire Authorities have assessed the risk and declared the area safe.

NOTE: Avoid touching or handling the battery unnecessarily.

If there are no unusual indications cautiously package the battery into the battery packaging or other protective packaging and contact your local SOLARWATT office for assistance.

In the case of Australia: 1300 765928 (SOLWAT). Note this number is answered Monday to Friday from 9am to 5:30pm excepting Public Holidays.

11 Basic duties upon freight transfer - Europe

The shipper must check whether the packaging is damaged upon transfer of packaged hazardous goods. They are to make sure that a package is only loaded if the packaging is sealed. The necessary danger labels and other markings must be observed. Furthermore, they must inform the vehicle driver of the hazardous goods.

The shipper and vehicle driver must observe the following regulations on loading and handling:

- Loading prohibited if there are defects (labelling, packaging and vehicle defects)
- Mixed load prohibitions and quantity limits per vehicle must be observed
- Separation rule for food, alcohol and tobacco and animal feed
- Cargo securing: the individual packages must be stowed and secured so that their position towards one another and towards the walls of the vehicle can only change slightly
- Smoking is prohibited during loading work
- Any other applicable local regulations/requirements

12 Storage and maintenance instructions

The battery modules are to be stored in dry, clean and cool places.

Temperature limits:

- Permissible internal operating temperature: 0°C to +30°C
- Permissible storage temperature: -20°C to 30°C
- Permissible transport temperature: -20°C to 55°C

Environmental conditions:

- Relative air humidity: $\leq 85\%$ non-condensing

MyReserve Pack battery modules are maintenance-free. The battery modules are shipped out with an SoC (state of charge) of 30%. The battery modules may be put into interim storage for a maximum of six months as of their date of shipping from the SOLARWATT factory.

13 Disposal instructions



Lithium-ion batteries may not be disposed of in normal household waste. Contact your local SOLARWATT office for information on battery recycling/disposal.

14 Brief overview of the transport of li-ion batteries

| | |
|---|---|
| Transport goods | MyReserve Pack |
| UN number | UN 3480 |
| Hazardous good description (to specify in the transport document) | Lithium-ion batteries |
| Hazard label no. 9 | Package labelling |
| Packaging regulations | P903 |
| Limit quantity | 333 kg |
| Required vehicle equipment in application of the "tradesmen's rule" pursuant to ADR 1.1.3.6 | <ul style="list-style-type: none"> • Cargo securing equipment • Portable illumination devices which do not emit any sparks in use (no metal surface) • At least one fire extinguisher (powder extinguisher type A, B or C with a minimum capacity of 2kg; sealed; note inspection date; kept in a weather-protected and easily accessible place in the vehicle) |
| Transport document | <p>A transport document containing the following information must be compiled:</p> <ul style="list-style-type: none"> - Sender's name and address - Recipient's name and address - Note on transport document: "UN3480 LITHIUM-ION BATTERIES, 9, (E)" - Number and size of the packages as well as the total battery mass contained therein (25kg per battery module) - Hand over written instructions according to ADR for the crew in a language which all members can read and understand |
| Training | All persons involved are to be trained in handling hazardous goods |

In addition, the same temperatures and humidity values apply to storage as those specified in the applicable data sheet for the MyReserve Pack.

15 Transport document according to ADR

Sender:

Recipient:

| | |
|--|--|
| | |
| | |
| | |
| | |
| | |

| | |
|----------------------------------|---|
| Classification + UN standard | UN3480 |
| Technical name | LITHIUM-ION BATTERIES |
| Hazard label | 9a |
| Packaging group | - |
| Tunnel restriction code | (E) |
| Number + description of packages | <input type="text"/> cardboard box(es) |
| Total quantity | <input type="text"/> Kg (25kg per MyReserve Pack) |
| Maximum permissible weight | 333 kg |

CONTACT

Would you like to know more about our products and services? We would be happy to advise you.
Just give us a call.

SOLARWATT Australia | Level 11, 1 Margaret St | Sydney NSW 2000 | Australia
Tel 1300 765 928 (solwat) | www.solarwatt.com.au

SOLARWATT UK | c/o Kedlestone Office, Unit 3 | Ashover Business Centre
Matlock Road Kelstedge | Ashover | S45 0DX | United Kingdom

SOLARWATT GmbH | Maria-Reiche-Str. 2a | 01109 Dresden | Germany
Certified as per DIN EN ISO 9001 and 14001 | BS OHSAS 18001:2007