

Operating manual

*Safety cabinet; for active and passive storage of
lithium-ion batteries*

PRIOLION-LI92

EP.A.11228EN-2

Last updated 2024/03

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Dear customer,

Thank you for purchasing a high-quality PRIORIT product.

To ensure we can guarantee that the entire system will function free from errors, please carefully observe the following operating manual.

Failure to observe this manual will void any warranty guarantees.

We expressly reserve the right to make technical changes for the purpose of improving our product, or as required by changes to the law – including without any separate notification.

This operating manual may not be reprinted or duplicated in whole or in part without the written approval of PRIORIT AG.

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1. Important notes



The product must be installed flush and level!



When storing individual parts, e.g. of an unhinged door, do not place them on the corners and cover the storage area with soft material beforehand, e.g. with a packing blanket!



Before putting into operation, check the function of the smoke detector!



Caution/Warning/Attention
Danger to persons from electric current.

Info:

Warning 230 V AC/ 400 V AC

Dangerous voltage. May cause death, serious physical injury or considerable damage to property. Disconnect all poles of the unit from the power supply before disassembling/assembling or changing the setup. Observe VDE 0100 for 230 V or 400 V mains connection.



Caution: There may be defective batteries in the cabinet! These pose a danger. Protect yourself from leaking electrolytes or other hazardous substances by taking adequate protective measures.



After a fire, there is an immediate hazard when opening the doors.

2. Product description

- Type-tested fire resistance of 90 minutes (type 90) from outside to inside in accordance with DIN EN 14470-1
- Fire resistance of 90 minutes from inside to outside in accordance with DIN EN 1363-1 and EN 1363-2
- Permanently self-closing doors with oil-damped door closers
- incl. technical ventilation (to avoid heat accumulation in the interior)
- incl. warning system
- Alarm system inside the cabinet triggers automatically in the event of a fire.
- A potential-free interface is available for connecting a signal (e.g. to a control centre).
- Optional fire suppression system
- Ready to plug in for connection to the mains supply.
- With liquid-tight base tray (powder-coated sheet steel). To absorb any leakage that may occur.
- Doors lockable with profile cylinder (lockable)
- Integrated, wheelchair-accessible plinth for easy relocation.
- We recommend placing the cabinets in a ground-level location from which rapid evacuation is possible in the event of an incident.
- Each storage level can be equipped with a socket strip incl. 10 protective contact sockets. The socket strips are mounted on the rear wall of the cabinet ready for use.
- Total output of the multiple socket strips:
Standard: max. total power = 3.5 kW, 230 V AC, 1-phase, fuse protection 16 A
Optional: max. total output = 11 kW, 400 V AC, 3-phase, fuse protection 3 x 16 A

3. General safety information

- This operating / assembly manual must always be stored at the location where the cabinet will be used.
- Legally required safety information must be posted in an area visible to users.
- All safety and hazard notices and the type plate must be kept in legible condition.
- Work on the electrical system must be carried out in a de-energised state and by qualified electricians. See also the applicable accident prevention regulations, the VDE regulations and the regulations of the local energy supplier.
- Observe the relevant VDE regulations.
- Observe the general building law and the building regulations.
- Observe the requirements of the fire authorities.
- On-site installation conditions must be observed.
- Instructions given by the technical supervisory service must be followed.
- Observe the applicable laws, regulations and instructions in this operating manual when handling lithium-ion batteries.
- Observe all instructions in these operating and maintenance instructions.
- Observe the accident prevention guidelines and the workplace directive.
- Observe the maximum limits for loads, storage quantities, etc.
- Observe the relevant standards for assessing fire protection and construction aspects.
- Only use products that are in proper working order.
- Ensure that the required safety checks are carried out by personnel authorised by us.
- Damage and malfunctions that are possible due to improper transport and installation due to the heavy weight can only be safely avoided by specialist personnel trained and authorised by us.
- The swivelling area of the door must always be kept clear, doors must be kept closed.
- Unauthorised persons must not be allowed access to the cabinet.
- The cabinet must not be glued, painted or otherwise coated.
- The cabinet must not be damaged on the body (holes, screws).
- The cabinet does not have an emergency release! Persons inside the cabinet cannot free themselves!
- The locking systems must not be changed or replaced.
- Do not install and use damaged components – this will immediately void the warranty and usability certificate.
- The cabinet may only be connected to a socket outlet that is protected by a 16 A circuit breaker and a residual current circuit breaker. The necessary fuses must be provided by the customer.
- The base tray must not be used as a storage surface.



Caution / Warning / Attention
Danger to persons from electric current.

Warning 230 V AC/ 400 V AC

- May cause death, serious physical injury or considerable damage to property. Before dismantling the ventilation unit, disconnect all poles of the unit from the supply voltage. It is essential to observe the safety instructions of VDE 0100 for 230 V AC or 400 V AC mains connection.

4. Intended use

- The products described in this operating manual assembly instructions are manufactured in accordance with the state of the art and the recognised safety regulations.

They may only be:

- used as intended and
 - used when they are safe and in good working order
- The cabinets may only be used to store and charge lithium-ion batteries in accordance with UN Manual of Tests and Criteria 38.3.2.3, which are assigned to UN numbers 3480 or 3481.
 - Raw cells or cells that are not ready for use and are not installed in complete rechargeable batteries or batteries at the factory must not be stored in these safety storage cabinets.
 - Only chargers in perfect technical condition may be used.
 - Only lithium-ion batteries in perfect condition may be charged.
 - The cabinets consist of coated, non-metallic plate-shaped components. The edges are colour-coded.
 - The cabinets must not be used for storing hazardous substances.
 - No fan heater or similar may be placed in the cabinet and operated there.
 - Any other use is not deemed proper use. PRIORIT is not liable for the resulting or consequential damages.

5. Information in this manual

- This manual is not a manufacturer's declaration, nor is it considered a usability certificate under building approval regulations.

6. Warranty, transfer declaration

In order to ensure the optimal function of our products, the assembly instructions must always be observed.

PRIORIT's warranty applies to the delivered products.

Modifications or alterations to the design must not be carried out, otherwise the warranty will be invalidated.

The installer/setup technician must provide a guarantee for all assembly work.

Any warranty or liability claims for personal injury or property damage are excluded if they were caused by one or more of the following:

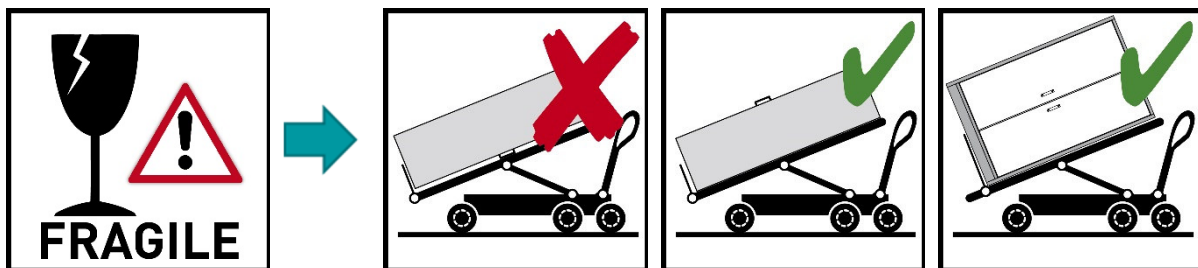
- Improper assembly, commissioning, operation, and maintenance,
- Failure to observe the instructions on transportation, storage, operation, and assembly,
- Improper repairs or
- Catastrophes caused by third parties or force majeure.

7. Intellectual property rights

In order to protect innovations and the design, utility model specifications have been submitted to the German Patent Office.

8. Transportation

- If the packaging is damaged, then the freight carrier must be notified of this in writing on the delivery slip – a “simple acknowledgement” provided to the delivering freight company will exclude recognition of damage in transit.
The same applies if any packages are missing according to the delivery slip.
- The pallet must be picked up from the narrow side with completely continuous forks to the end of the pallet or, when transporting without a pallet, from the front to the end of the cabinet.
- Use a pallet truck to transport the housing upright, tied up and secured against slipping, to the final installation location. The transport locks in the door joints may only be removed directly at the installation site. The products are not fully functional until all transport locks have been removed. Improper transport can lead to concealed damage to the fire protection insulation!
- Do not use pointed or sharp objects such as knives when opening the packaging, as they may damage the enclosure.
- Dispose of packaging materials in an environmentally appropriate manner or reuse them.
- Transport must be carried out in compliance with the safety regulations!
- Safety cabinet with integrated base that can be moved underneath. The front panel must be unscrewed for use.
- If the cabinet needs to be turned over, this may only be done without jerking and over the entire surface of the back or side section.
- Do not place the cabinet on the door(s)! The cabinet must be locked when moved.

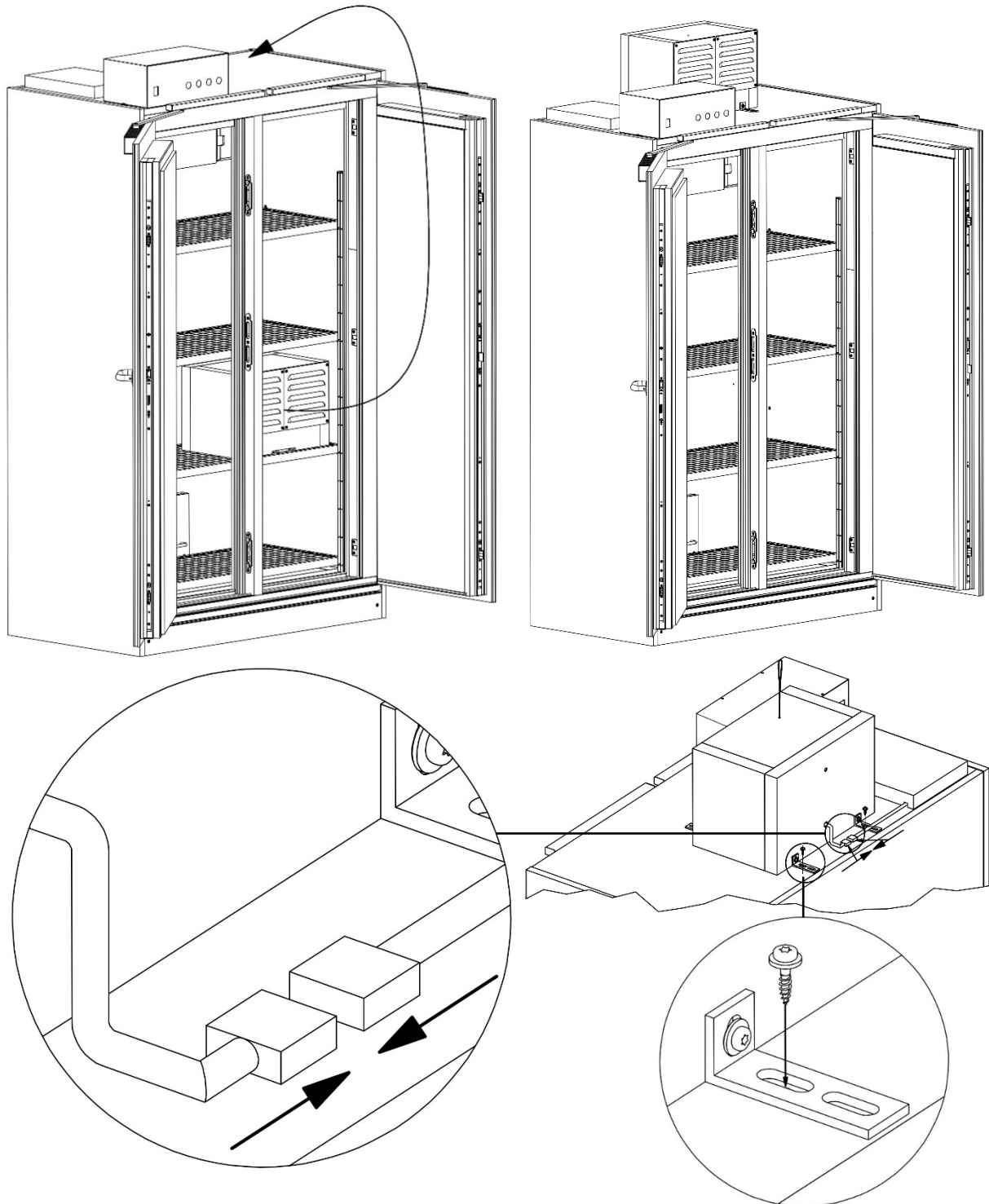


- Please keep in mind that the cabinet is very heavy.
- It must generally be carried by at least 2 people.
- Tilting to the side or rear panel is only permitted for fitting purposes!
- In general, the cabinet may be tilted to the side or backwards by up to 45°.
- If it is tilted by 90°, then the door must be secured all around with appropriate spacer blocks – alternatively, the door panel can also be dismantled.
- In the case of 2-panel cabinets, the doors should generally be dismantled if the cabinet is to be laid on its side or back.
- The outer edges must be protected accordingly.
- The weight must be taken into account -> follow the accident prevention regulations here!
- The cabinet must be secured accordingly.
- Note the danger of tipping over during transport!
- Pay attention to the enclosed assembly material on the protective foil or on the cabinet!
- Never transport the cabinet with the doors open!
- Watch out for any protruding parts.
- Any damage must be reported to us immediately.
- The products must not be stored outdoors and must be protected from moisture (water).

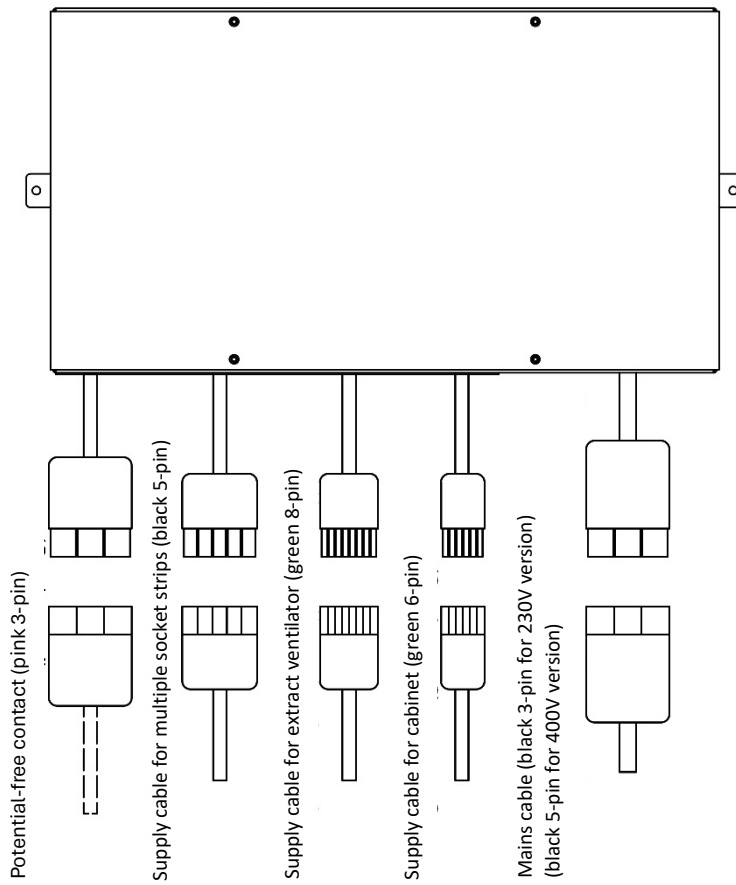


- The extract ventilator and the control unit are located in the cabinet and are only installed at the point of use.

9. Setup



Connect all plugs to the corresponding sockets

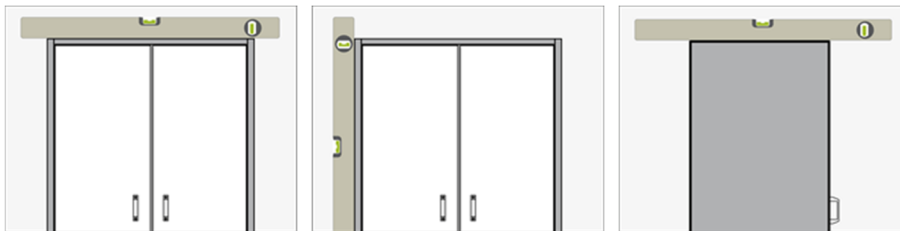


<p>Transport and Positioning</p>	
<p>Remove the base cover: Dismantle the screws Remove the front panel</p>	

9.1 Installation conditions

- Subsurface must be flat
- Only suitable for indoor installation
- Installation site must be frost-free and dry, ambient temperature +5°C to +35°C
- Not suitable for outdoor installation
- Subsurface must be suitable (load-bearing capacity, classification)

The cabinet must be aligned at the final installation site. For this purpose, the cabinet can be raised at the corners and the height levelled with non-combustible underlay material. The cabinet must stand horizontally.

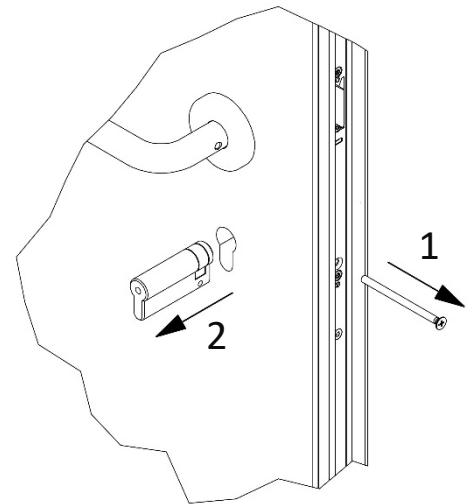


Then check that the fire protection seals are undamaged, and that the door leaves close automatically from any position.

Door leaves must not drag when closing and opening.

10. Closing

The doors are permanently self-closing.
The cabinets have a profile cylinder lock.
The profile cylinders can be replaced.
Integration into a locking system possible.

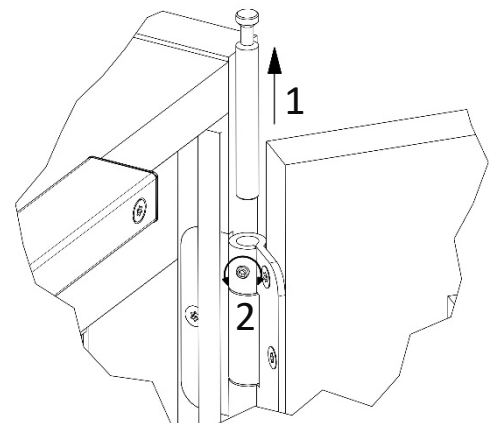


11. Note on unhooking the doors

Unhooking the doors:

- Install the door leaves accordingly.
- Secure door leaves against tilting
- Loosen the grub screws on the hinges (do not remove)
- Push the pins out of the hinges.

For safety reasons, the door leaves should always be unhooked by at least two people due to their heavy weight.



12. Commissioning

Before commissioning the safety storage cabinet for the first time, check for any damage such as faulty sealing elements, correct alignment, and proper functioning of the door leaves (hinges, locks, door closers).

Ensure that the base tray provided is located under the lowest storage level. This base tray is used to collect liquids (e.g. electrolyte liquid) that can escape from a lithium-ion battery.

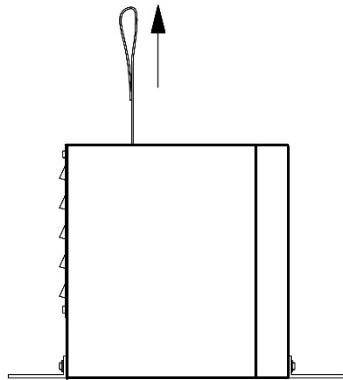
Connecting to the power supply:

Insert mains cable with earthed plug into 230 V socket (for optional 400 V version: CEE plug into 400 V socket).

Commissioning the control unit:

Switch on the control unit.

Wait until the yellow light flashes (approx. 3 seconds), then open the flap on the ventilation attachment by pulling the handle on the top of the ventilation attachment upwards until the flap engages.



The green light illuminates, the unit is ready for operation.

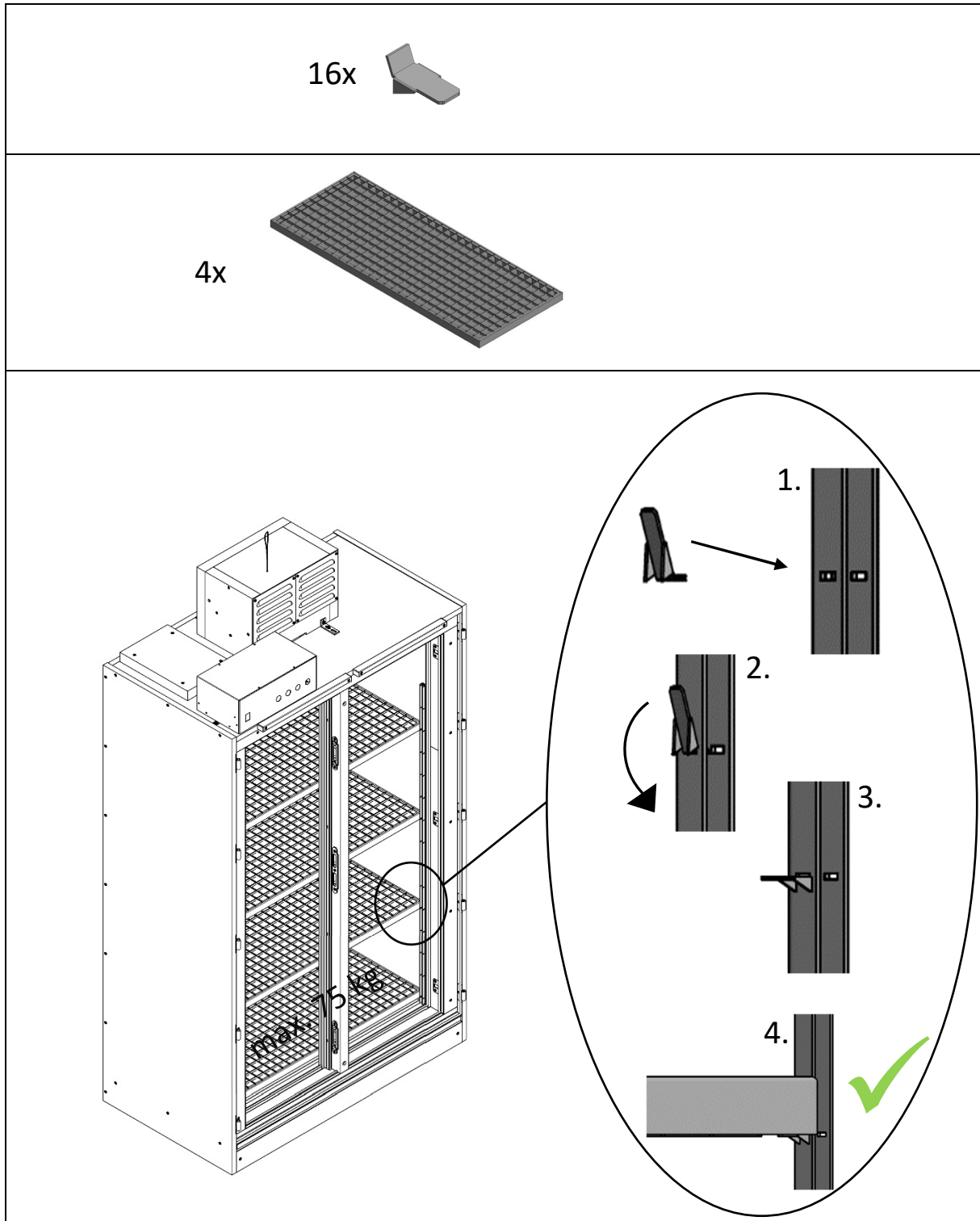
The lights on the front of the control unit indicate the operating mode (see page 19, Item 21)

13. Ventilation

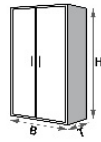
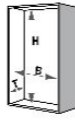
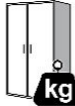


Heat is generated during the charging of a lithium-ion battery.
The technical ventilation must be kept permanently in operation.
The exhaust air from the cabinet is discharged directly into the room.

The function of the ventilation system must be checked before commissioning, for example, using a smoke tube.

14. Gratings



15. Cabinet: technical specifications

Article number	 H x B x D	 H x B x D	 approx.	 Max. kg	 5
LI92.195.120	2250 1212 664	1707 1004 455	710	75	5

Base tray volume: 5 l

The base tray must not be used as a storage surface.

16. Power strip: technical specifications

	230V design	400V design
Rated voltage	230 Volt	400 Volt
Max. power	3500 Watts	11,000 Watts
Degree of protection	IP20	IP20
Overvoltage protection	Yes	Yes
Protection fuse	16 A	3x16A

The maximum power loss that may occur during charging is 1000 W.

The chargers should be distributed as evenly as possible across all socket strips.

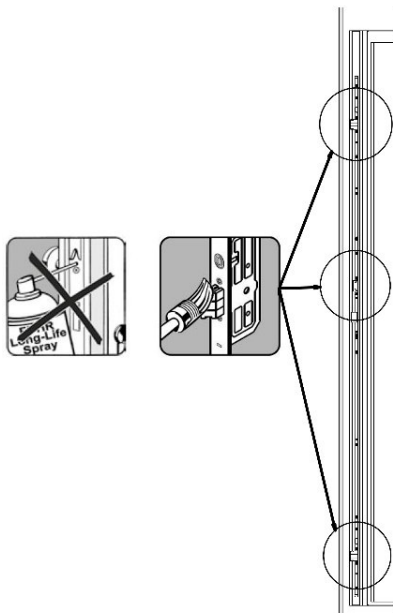
The individual socket strip must not be charged with more than the specified power.

17. Extinguisher generator: technical specifications (optional)

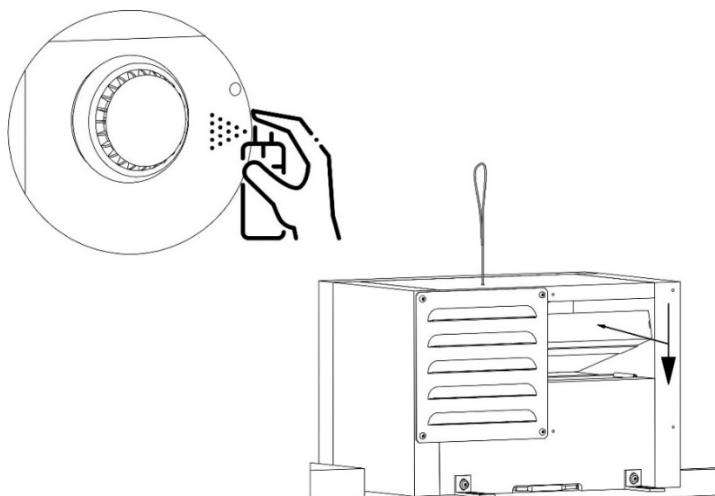
Extinguishing agent	Aerosol
Release type	Detection cord, without power supply
Triggering	From 180°C or contact with open flame
Life cycle	10 years – maintenance-free

18. Functional test, safety check, care and maintenance

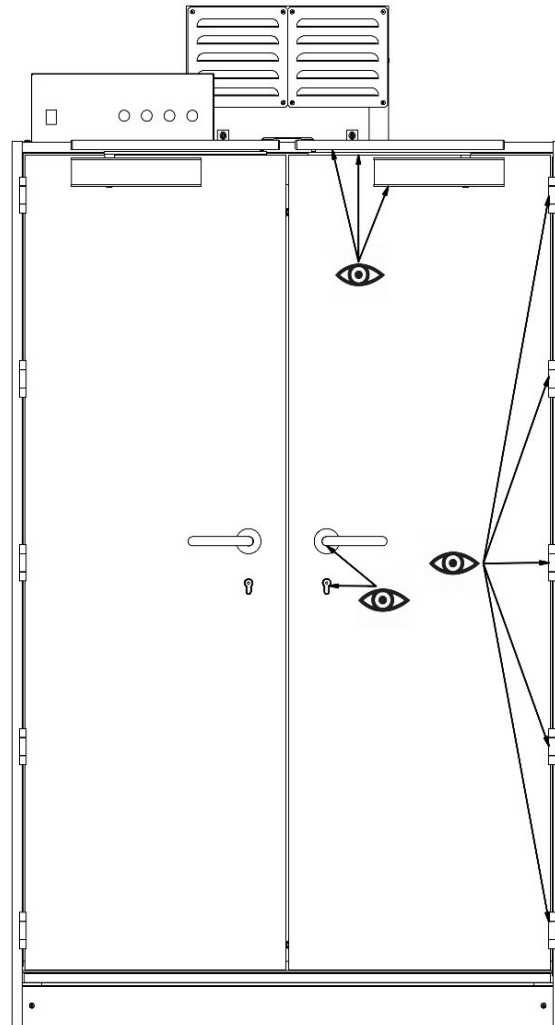
- The safety cabinets should be maintained at least once annually and checked for proper function.
- We recommend that you complete a functional check (visual inspection).
- The safety check can only be carried out with the necessary level of care and attention by a qualified employee, as sufficient experience and a comprehensive level of knowledge are indispensable for this.
- Commonly available, mild household cleaners can be used for external cleaning.
- The door locking mechanism should be oiled 2 x per year.



- The fire safety cabinets must be protected against water, moisture penetration, or water spray.
- If safety-relevant damage is detected, the fire safety cabinets must be repaired with original parts before further use.
- The ventilation unit smoke detector and battery must be checked twice a year.



- Regular inspection of chargers, lithium-ion batteries and cables
- The following parts should be checked monthly for proper function and condition:
 - Fire protection seals
 - Door handles
 - Locks
 - Door closers
 - Hinges
 - Ventilation
 - Smoke protection seals



19. Fire

ATTENTION:

After a battery fire, there is an immediate hazard when opening the doors.

Disconnect the cabinet from the power supply.

If possible, remove the cabinet from the building.

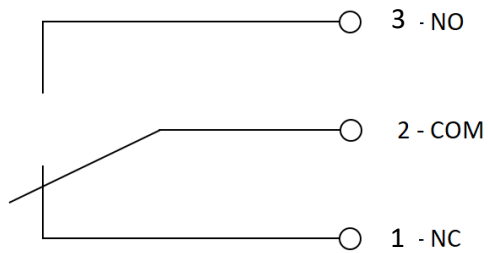
The cabinet may only be opened by authorised specialist personnel (e.g. fire brigade).

Do not open the cabinet until it has cooled down.

Wear appropriate protective equipment.

20. Potential-free switching contact

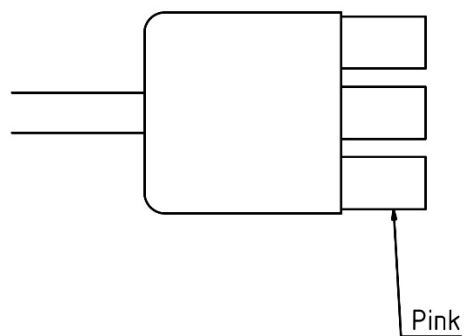
The potential-free switching contact is used to connect a signal to a control centre.



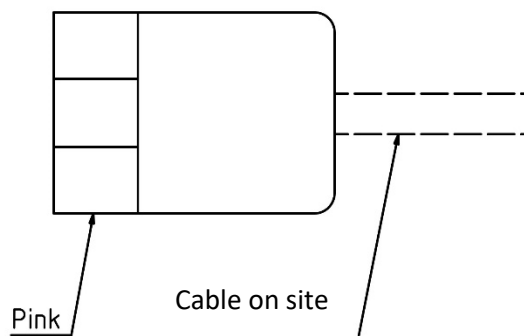
max. 24 V DC / 1A

The connection must be established by a qualified electrician.
The internal switching contact is a changeover contact.

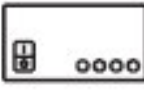







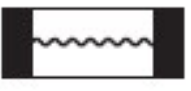










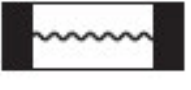





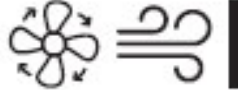




















Plug from control unit



Socket included in the scope of delivery



21. Functional diagram

					 ON	
					 	
						
					 	
						
					 	
					≤ 50°C	
					> 50°C 	
					> 70°C 	

	Alarm	Incidents	Potential causes	Hazard potential	Who checks	Subsequent measures	Recommissioning
1	Normal operation	No fault present	x	None	Not required	None	Not required
2	Fuse or RCD tripped	e.g. •short circuit in charger	e.g. •charger faulty	low	Inspection of the system by internally qualified staff or a qualified electrician	•Switch off the control unit •Have the fault rectified by a qualified electrician	Switch on the control unit
3	System de-energised	e.g. •Control unit switched off •Control unit cannot be switched on	e.g. •Control unit switched off •Mains plug not in socket •Power supply interrupted	None	Inspection of the system by internally qualified staff or a qualified electrician	Insert the mains plug into the socket Check power supply	Switch on the control unit
4	Thermal fuse in the extract ventilator has been triggered	is triggered at a temperature above 70°C outside the cabinet	E.g. fire •fire outside the cabinet •High temperature outside the cabinet	There is an immediate hazard emanating from the event	Inspection of the system by specialist personnel (e.g. fire brigade)	Initiate necessary measures	•Switch off the control unit •Disconnect the mains plug •Have the temperature fuse in the extract ventilator replaced by specialist personnel •Reconnect the mains plug
5	Flap in the extract ventilator closed	e.g. •the flap has not yet been opened after commissioning	e.g. •the flap has not yet been opened after commissioning	None	Not required	Open the flap	Control unit goes back into operation after opening the flap
6	Alarm Smoke	is triggered as soon as the smoke detector responds when smoke starts to develop in the	•Smoke alarm •Fire outbreak	There is an immediate hazard emanating from the event	Inspection of the system by specialist personnel (e.g. fire brigade)	Initiate necessary measures	If the smoke detector does not detect any further smoke development inside the cabinet, the system can be reset to normal operation by briefly disconnecting it from the mains voltage
7	Normal operation Temp. < 50 °C	No fault present	x	None	Not required	None	Not required
8	Warning message Temp. >50 °C	Indoor temperature rises above 50°	•Temperature build-up due to battery charging processes •Failure of the ventilation system	There is no immediate hazard emanating from the event	Inspection of the system by internally qualified staff	Initiate necessary measures	If the internal temperature falls below 50 °C again, the system returns to normal operation and visual and acoustic signalling is switched off
9	Alarm Temp. > 70 °C	is triggered if the temperature sensor registers an indoor temperature greater than 70 °C	•Temperature build-up due to battery charging processes •Failure of the ventilation system	There is an immediate hazard emanating from the event	Inspection of the system by specialist personnel (e.g. fire brigade)	Initiate necessary measures	If the internal temperature falls below 70 °C again, the system returns to normal operation and visual and acoustic signalling is switched off

22. Notes