USER MANUAL

FIRE-RESISTANT LITHIUM CABINETS PRO STORE / CHARGE





The specialist in fire-resistant storage systems

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Dear Customer,

Thank you for choosing a high-quality LaCont environmental technology product.

To ensure that the entire system functions perfectly, please read the following operating instructions carefully.

We cannot accept any liability if these instructions are not followed.

We expressly reserve the right to make technical changes that serve to improve our product or that are necessitated by changes in legislation, even without prior notice.

These operating/installation instructions may only be reprinted or reproduced, in whole or in part, with the written permission of LaCont Umwelttechnik GmbH.

1. Important information



The product must be installed vertically and horizontally!



When storing individual parts, e.g. a door that has been removed, do not place them on their corners and line the storage area with soft material beforehand, e.g. a packing blanket!



Check that the smoke detector is working properly before putting it into operation!

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



Info:
Warning 230V AC
Dangerous voltage. May cause death, serious injury or significant damage to property. Disconnect the device from the power supply on all poles before dismantling/installing or modify the structure. Observe VDE 0100 for 230 V or 400 V mains connection.



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



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

2. Product description

- Type-tested fire resistance of 90 minutes (Type 90) from the outside to the inside in accordance with DIN EN 14470-1
- Fire resistance of 90 minutes from the inside to the outside in accordance with DIN EN 1363-1 and EN 1363-2
- Permanently self-closing doors with oil-damped door closers
- Includes technical ventilation (to prevent heat build-up in the interior)
- Includes warning system
- Alarm system inside the cabinet triggers automatically in the event of a fire
- A potential-free interface is available for transmitting a signal (e.g. to a control centre)
- Optional fire suppression system
- Plug-in design for connection to the mains
- With liquid-tight base tray (powder-coated sheet steel). For collecting any leaks that may occur
- Doors lockable with profile cylinder (suitable for locking systems)
- Integrated, wheel-accessible base for easy relocation
- We recommend placing the cabinets on level ground from where they can be quickly evacuated in the event of damage.
- Each storage level can be equipped with a power strip including 10 safety sockets. The power strips are mounted on the rear wall of the cabinet and are ready for use.
- Total power of the power strips:
  230 V version: max. total power = 3.5 kW, 230 V AC, 1-phase, 16 A fuse
  400 V version: max. total power = 11 kW, 400 V AC, 3-phase, 3 x 16 A fuse

3. General safety information

- The operating/assembly instructions must always be kept at the location where the cabinet is used.
- Legally required safety instructions must be displayed in a visible location for users.
- All safety and hazard warnings as well as the type plate must be kept in a legible condition.
- Work on the electrical system must be carried out by qualified electricians when the power is switched off. Please also refer to the applicable accident prevention regulations, the VDE regulations and the regulations of the local energy supplier.
- Observe the relevant VDE regulations.
- Observe general building regulations and building requirements.
- Observe the requirements of the fire authority.
- On-site installation conditions must be observed.
- The instructions of the technical supervisory service must be followed.
- Observe the laws, regulations and instructions in this operating manual that apply to the handling of lithium-ion batteries.
- Observe all instructions in this operating and maintenance manual.
- Observe the accident prevention guidelines and workplace guidelines.
- Observe the maximum limits for loads, storage quantities, etc.
- The relevant standards must be observed when assessing fire protection and structural engineering 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 may occur as a result of improper transport and installation due to the heavy weight can only be safely avoided by specialist personnel trained and authorised by us.
- The door's swivel range must always be kept clear and doors must be kept closed.
- Unauthorised persons must be denied access to the cabinet.
- The cabinet must not be covered with adhesive tape, painted or coated in any other way.
- The cabinet must not be damaged (drilled holes, screws) on the body.
- The cabinet does not have an emergency release! People inside the cabinet cannot free themselves!
- The locking systems must not be modified or replaced.
- Do not install or use damaged parts, as this will immediately void the warranty and proof of usability.

- The cabinet may only be connected to a socket that is protected by a 16 A circuit breaker and an RCD. The necessary safety measures must be provided on site.
- The base tray must not be used as a storage surface.



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

Warning 230 V AC / 400 V AC

- May cause death, serious injury or significant damage to property. Before dismantling the ventilation unit, disconnect the device from the power supply at all poles. The safety instructions of VDE 0100 for 230 V AC mains connection must be observed.

4. Intended use

• The products described in this operating manual are manufactured in accordance with the latest technology and recognised safety regulations.
They may only be used:
- used for their intended purpose and
- in a condition that is safe to use.

- The cabinets may only be used for storing and charging 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 factory-installed in complete batteries may not be stored in these safety cabinets.
- Only chargers in perfect technical condition may be used.
- Only lithium-ion batteries in perfect condition may be charged.
- The cabinets are made of coated, non-metallic plate-shaped components. The edges are colour-contrasted.
- The cabinets must not be used to store hazardous materials.
- No fan heaters or similar devices may be placed in the cabinet or operated there.
- Any other use is considered improper. LaCont is not liable for any damage or consequential damage resulting from this.

5. Information in these instructions

• These instructions do not constitute a manufacturer's declaration or proof of suitability for use in building construction.

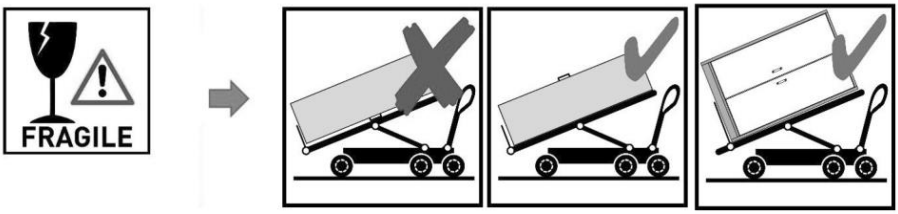
6. Warranty, transfer declaration

To ensure that our products function optimally, the installation instructions must be followed strictly.
LaCont's warranty covers the delivered products.
No modifications or alterations to the design may be made, as this will invalidate the warranty.
The warranty for installation services is to be provided by the installer/assembler. Warranty and liability claims for personal injury and property damage are excluded if they are attributable to one or more of the following causes:

- improper installation, commissioning, operation and maintenance,
- failure to observe the instructions regarding transport, storage, operation and installation,
- improper repairs or
- disasters caused by external influences of third parties and force majeure.

7. Transport

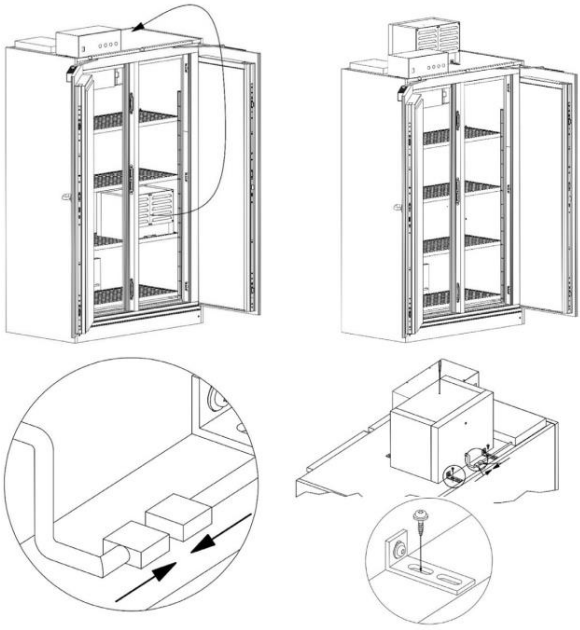
- If the packaging is damaged, the damage must be reported in writing to the carrier on the delivery note – a "clean receipt" to the delivering carrier excludes the recognition of transport damage.
  The same applies to missing packages according to the delivery note.
- The pallet must be picked up from the narrow side with forks inserted all the way through to the end of the pallet or, if transported without a pallet, from the front to the end of the cabinet.
- Transport the cabinet upright using a pallet truck, tied down and secured against slipping, to its final installation location. The transport locks in the door joints may only be removed directly at the installation location! The products are only fully functional once all transport locks have been removed. Improper transport can lead to hidden damage to the fire protection insulation!
- When opening the packaging, the cabinets may be damaged if sharp objects such as knives are used.
- Dispose of packaging material in an environmentally friendly manner or reuse it.
- Transport must be carried out in accordance with safety regulations!
- Safety cabinet with integrated, roll-under base. The front panel must be unscrewed for use.
- If the cabinet needs to be turned over, this must be done smoothly and on its entire surface, either on its back or side.
- Do not place the cabinet on the door(s)!! The cabinet must be locked when turning it over.

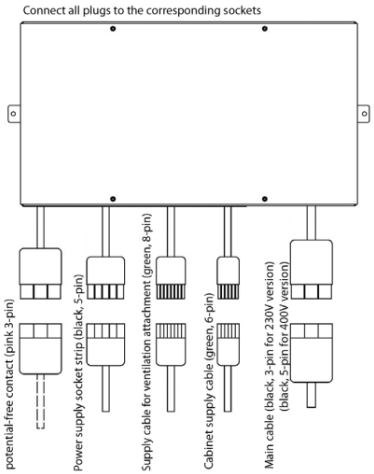




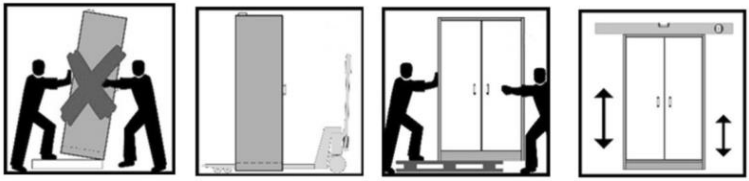
- Please note the heavy weight of the cabinet.
- Transport work must generally be carried out by at least 2 people.
- Tilting onto the side or back wall is only permitted for the purpose of bringing it in!
- In general, tilting the cabinet onto its side or back up to 45° is safe.
- If tilting by 90°, the door must be secured all around with appropriate spacer blocks – alternatively, the door leaf can be removed.
- In the case of double-door cabinets, the doors should generally be removed if the cabinet has 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.
- Be aware of the risk of tipping during transport!
- Pay attention to the enclosed assembly materials on the protective film or on the cabinet!
- Never transport the cabinet with the doors open!
- Pay attention to protruding or protruding parts.
- Please report any damage to us immediately.
- The products must not be stored outdoors and must be protected from moisture (water).
- The ventilation attachment and control unit are located in the cabinet and are only installed at the point of use.

8. Assembly




Connect all plugs to the corresponding sockets
potential-free contact (pink 3-pin)
Power supply socket strip (black, 5-pin)
Supply cable for ventilation attachment (green, 8-pin)
Cabinet supply cable (green, 6-pin)
Main cable (black, 3-pin for 230V version)
(black, 5-pin for 400V version)

Transport and positioning

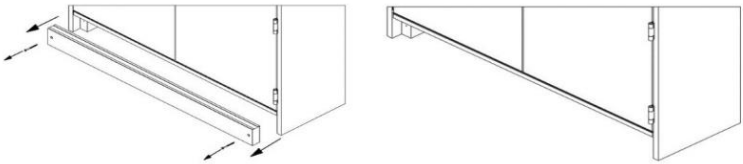


Recommendation:
To remove the cabinet from the transport pallet, we recommend using a forklift truck

Base panel
Remove:

Remove screws
Remove

Remove panel
front



8.1 Installation conditions

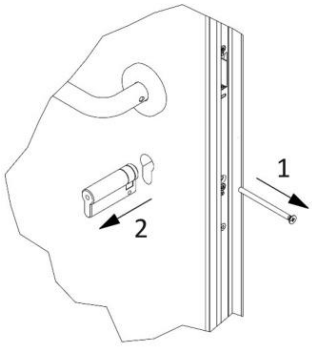
- The surface must be level
- Only suitable for indoor installation
- Installation location must be frost-free and dry, ambient temperature +5°C to +35°C
- Not suitable for outdoor installation
- The floor must be suitable (load-bearing capacity, classification)

The cabinet must be aligned at its final installation location. To do this, the cabinet can be lifted at the corners and levelled using non-combustible shims. The cabinet must be level.



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

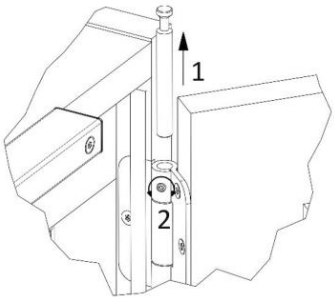
Door leaves must not drag when closing and opening.



9. Closure

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

10. Note on removing the doors



Removing the doors:

- Support the door leaf accordingly
- Secure door wing against tilting
- Loosen the grub screws on the hinges (do not remove them)
- Press the pins out of the hinges

For safety reasons, due to the heavy weight, the door wings should always be unhinged by at least two people.

11. Commissioning

Before commissioning for the first time, the safety cabinet must be inspected for any damage, such as defective sealing elements, correct alignment and proper functioning of the door wings (hinges, locks, door closers).

Ensure that the floor tray provided is located under the lowest storage level. This floor tray is used to collect liquids (e.g. electrolyte fluid) that may leak from a lithium-ion battery.

Connection to the power supply:

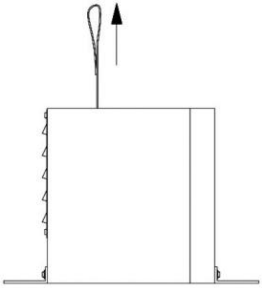
230 V version: Plug the power cord with Schuko plug into a 230 V socket.

400 V version: Plug the CEE plug into a 400 V socket

Commissioning the control system:

Switch on the control system.

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 clicks into place.



The green light illuminates, indicating that the device is ready for operation.

The lights on the front of the control unit indicate the operating mode (see page 14, point 20).

12. Ventilation

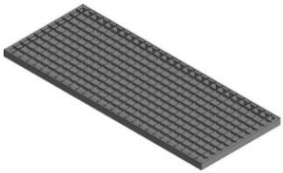
Heat is generated when charging a lithium-ion battery.
The technical ventilation must be kept in operation at all times.
The exhaust air from the cabinet is discharged directly into the room.
The function of the ventilation system must be checked before commissioning, for example using a smoke tube.

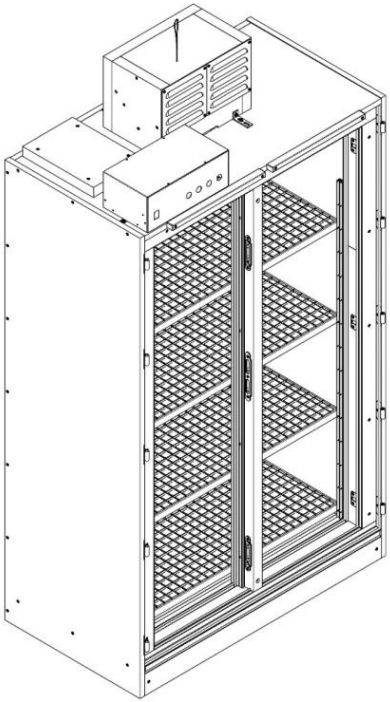
13. Grid level

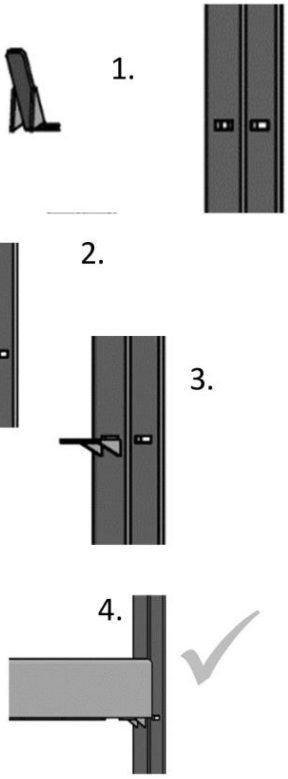
16x



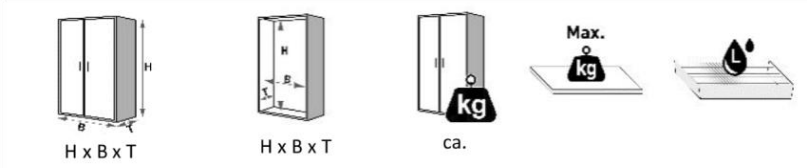
4x







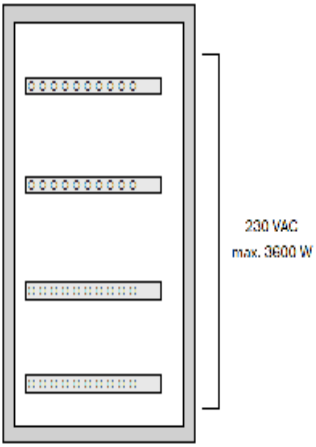
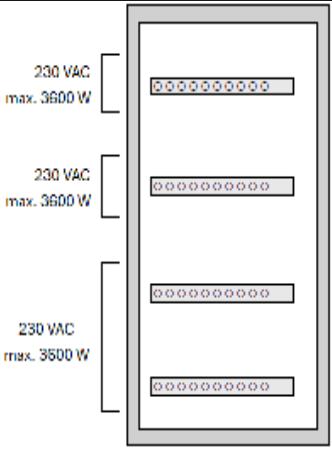
14. Technical data Cabinet



H x B x T			H x B x T			ca.	Max.	
2250	1212	664	1687	1004	453	706	75	15

Base tray volume: 5 l
The base tray can not be used as a storage surface.

15. Technical data for power strip

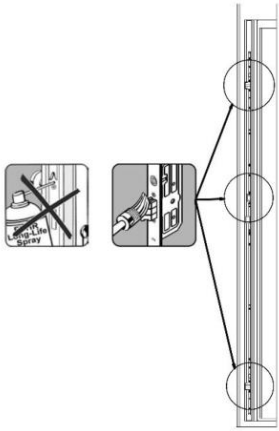
	230 V version	**400 V version**
Nominal voltage	230 volts	400 volts
Max. power	3,500 watts	11,000 watts
Protection class	IP20	IP20
Surge protection	Yes	Yes
Fuse protection	16 A	3 x 16 A
	 Mains connection: Schuko plug 230 VAC	 Mains connection: CEE 400 VAC

16. Technical data Extinguishing generator (optional)

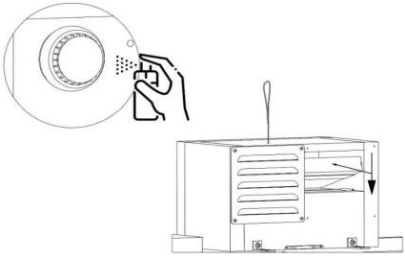
Extinguishing agent	Aerosol
Trigger type	Detection cord, without power supply

Activation	From 180°C or contact with open flame
Service life	10 years – maintenance-free

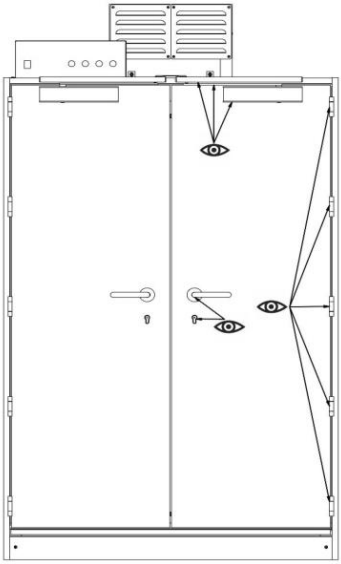
17. Functional testing, safety inspection, care and maintenance



- Safety cabinets should be serviced at least once a year and checked to ensure they are in perfect working order
- In your own interest, we recommend that you carry out a functional test (visual inspection) every month.
- The safety inspection can only be carried out with the necessary care by a qualified employee as sufficient experience and comprehensive level of knowledge are essential for this.
- For external cleaning, standard mild household cleaners can be used without hesitation.
- The door locking mechanism must be oiled twice a year.



- The safety cabinets are protected against water, moisture ingress or splashing water.
- If any damage relevant to safety is found damage is detected, the safety cabinets must be repaired with original parts before further use with original parts.
- The ventilation unit and smoke detector must be checked twice a year.



- Regular inspection of chargers, lithium-ion batteries and cables
- The following parts should be checked monthly to ensure they are in perfect function and condition:
    - Fire protection seals
    - Door handles
    - Locks
    - Door closers
    - Hinges
    - Ventilation
    - Smoke protection seals

18. Case of Fire

ATTENTION:
After a battery fire, there is an immediate danger when opening the doors!
Disconnect the cabinet from the power supply.

If possible, remove the cabinet from the building.

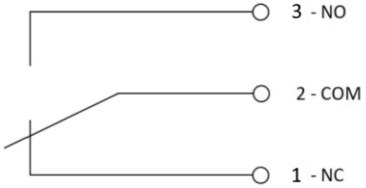
The cabinet may only be opened by authorised specialist personnel (e.g. fire brigade).

Only open the cabinet after it has cooled down.

Wear appropriate protective equipment.

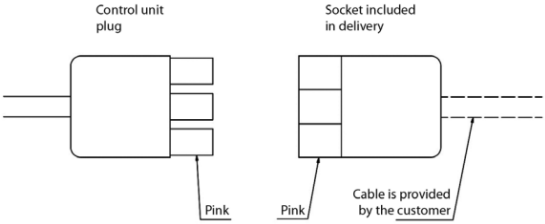
19. Potential-free switching contact

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

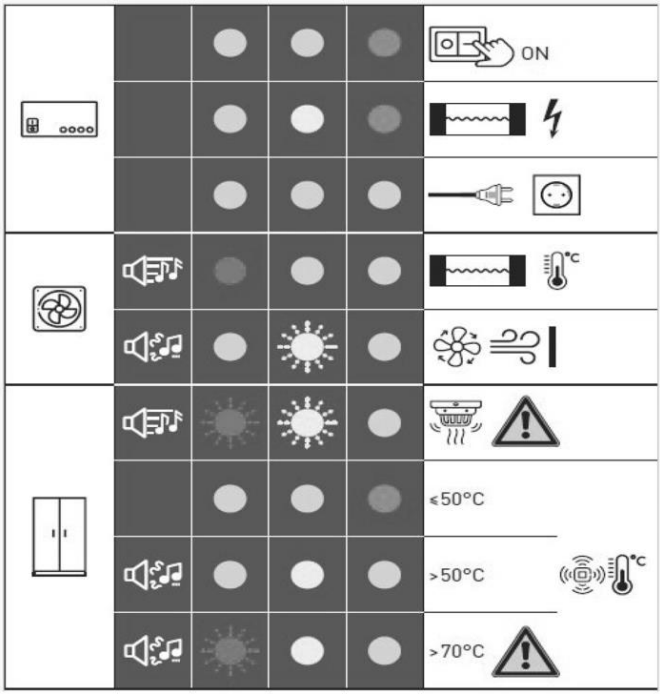


Max. 24 V DC / 1A

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



20. Functional diagram



	Alarm	Events	Possible 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 defective	low	Inspection of the system by qualified in-house personnel or qualified electricians	• 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 switched off • Control unit cannot be switched on	e.g. • Control switched off • Mains plug not in socket • Power supply interrupted	none	Inspection of the system by qualified in-house personnel or qualified electricians	Insert the mains plug into the socket Check power grid	Switch on the control unit
4	Temperature fuse in the ventilation attachment has been triggered	is triggered at a temperature greater than 70°C outside the cabinet	e.g. • Fire outside the cabinet • High temperature outside the cabinet	the event poses an immediate danger	Inspection of the system by specialised personnel (e.g. fire brigade)	Initiate necessary measures	• Switch off the control unit • Pull out the mains plug • Have the temperature fuse in the ventilation attachment replaced by specialised personnel
5	Flap in the ventilation attachment 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 flap	Control unit goes back into operation after opening the flap
6	Smoke alarm	is triggered when smoke begins to develop in the cabinet	• Smoke alarm • Fire development	the event poses an immediate danger	Inspection of the system by specialised personnel (e.g. fire brigade)	Initiate necessary measures	If the smoke detector does not detect any further smoke development inside the enclosure, the system can be switched back 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	Internal temperature rises above 50°C	• Temperature build-up due to battery charging processes • Failure of the ventilation system	the event does not pose an immediate danger	Inspection of the system by internally qualified personnel	Initiate necessary measures	If the internal temperature falls below 50 °C again, the system returns to normal operation and the visual and acoustic signalling is switched off
9	Alarm Temp.> 70°C	is triggered when the temperature sensor registers an interior temperature greater than 70°C	• Temperature build-up due to battery charging processes • Failure of the ventilation system • Fire development	The event poses an immediate danger	Inspection of the system by specialised personnel (e.g. fire brigade)	Initiate necessary measures	If the internal temperature falls below 70 °C again, the system returns to normal operation and the visual and acoustic signalling is switched off

BUMAX

BUMAX is a manufacturer and supplier of storage systems for hazardous substances and a specialist in fire-resistant storage systems. BUMAX is the first manufacturer to supply fully tested and approved fire-resistant containers, in accordance with PGS 15 and the latest standards and regulations.


Production in our own factory


Integrally assessed



Over 30 years of experience in the field of PGS 15


Customization possible


Delivery, installation, and service


Specialist in fire-resistant storage systems

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