CEMO

for safe storage







BATTERY SAFETY

Battery storage and charging cabinets

www.cemo-group.com

Battery safety redefined

Battery storage and charging cabinets



NEW lockEX 2.0 inside

Battery charging cabinet lockEX

Fire prevention meets explosion protection: lockEX 2.0 redefines safety and provides maximum security no matter the challenge. Cabinets in size 8/10 and above have an innovative steel mesh spark guard for additional protection.

Recommended **max. energy capacity Lithium batteries**

Battery charging cabinet lockEX

Safe storage for lithium-ion batteries thanks to lockEX door lock. Available in various sizes.

for safe storage

for safe charging



Battery safety storage cabinet PROline

Storage cabinet that is fireproof from the outside with self-closing doors in the event of a fire, compliant with DIN EN 14470-1. Available in various sizes.

Battery storage cabinet FMplus

The entry-level model for the safe storage of lithium-ion batteries. Available in various sizes. FMplus US available with socket for charging.

You can find all of the battery safety products at www.battery-secure.com

How to find the right product

for your application

Fire prevention is crucial when storing and charging lithium-ion batteries. Since 2020, CEMO has been developing safe solutions for the storage and charging of lithium-ion batteries – always using the latest technology backed by the latest certifications. CEMO safety cabinets help to minimise the consequences of lithium batteries burning and to significantly increase operational safety for employees and companies.

	Tool cabinet	**PROline** 6/20, 12/20	Battery storage cabinet **FMplus** size US	Battery storage and charging cabinet **lockEX** 8/5, 8/10, 8/20
				
Safety class	Simple sheet metal cabinet	+ Battery safety storage cabinet	++ Double-walled steel cabinet	+++ Fire-resistant safety-cabinet
Field of application	Protection against unauthorised access	Storage of lithium batteries	Charging of lithium batteries	Storage & Charging of lithium batteries
Capacity class			up to 1.1 kWh	up to 12 kWh
Explosion protection (battery fire test)			✓	✓
Inside to outside fire resistance			✓	✓
Outside to inside fire resistance 0/30/60/90 min.		90		30
Battery fire resistance test index		🔥	🔥🔥	🔥🔥🔥

Maximum kWh Stored Energy as a Safety Factor
A central element of the standard sheet is the definition of a maximum permissible stored energy per cabinet.

CEMO labels products with practically determined kWh limits to ensure safety and legal compliance.

Recommended
max. energy capacity
Lithium batteries
1,5 kWh per storage level

Standardised Battery Fire Test according to Chapter 4.3 Minimum Requirements of VDMA Standard Sheet 24994:2024-08

With the new testing standards, new benchmarks have been established and a new state of the art defined. As a result, the standardised internal battery fire test is now essential.

standardised
battery fire test
according to **VDMA** Specification Sheet 24994:2024-08, ch. 4.3

Battery charging cabinets Typ 8/5, 8/10
Model Basic and Premium

Certification in Accordance with VDMA Standard Sheet 24994:2024-08

The **lockEX Premium Plus battery storage cabinets** passed the test requirements for fire-resistant storage cabinets for lithium-ion batteries in the event of a thermal runaway.

certified
according to
VDMA Specification Sheet 24994:2024-08

Battery charging cabinets Typ 8/5, 8/10
Model Premium Plus

Battery storage and charging cabinet lockEX PG 9

Storage and charging of lithium-ion batteries

Fire prevention meets explosion protection
The CEMO solution for maximum safety in the event of battery fires.

Lithium-ion batteries pose risks – an explosion can happen even before a thermal runaway occurs. If the cabinet housing gives way or the doors open, the cabinet is no longer fireproof. There is then nothing to prevent burning cells and battery packs being ejected into the surroundings – with potentially devastating consequences for people and companies.

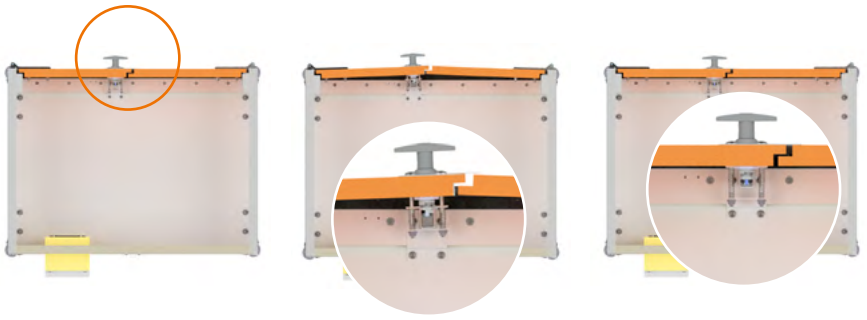
The solution
CEMO lockEX is a spring-based mechanism in the door lock that effectively manages the explosive pressure of gases igniting inside the cabinet. This NO-BANG technology guarantees that the protective effect is maintained.

Safety and fire prevention
- early alarm in the event of fire and smoke
- can withstand a battery fire – prevents flames and sparks from escaping
- special fireproof seals and cold smoke-tight seals prevent noxious gases escaping
- built using non-combustible, fireproof components
- spring-based CEMO lockEX door lock for controlled pressure relief

Function and application
- storage and/or charging of several lithium-ion batteries in the cabinet
- ideal for separating batteries on charge from batteries being stored
- can also be used as an under-table cabinet under the workbench
- compact and easy to move to the desired installation position

Design and equipment
- double-leaf, lockable doors with sturdy lock
- doors painted orange (similar to RAL 2004), body grey (similar to RAL 7035)
- cabinets in size 8/10 (6 kWh) and above offer additional protection thanks to an innovative steel sheet spark guard

OPERATING PRINCIPLE OF THE LOCKEX LOCKING MECHANISM (PLAN VIEW)



1. Battery thermal runaway begins, cells emit flammable vapours which spread throughout the cabinet.

2. An ignition source (possibly initiated by electrical sparks or the development of heat inside the battery itself) results in an explosion / ignition of the gas. The lockEX mechanism releases the explosive energy in a controlled way through a narrow gap.

3. The doors are locked again and the batteries will continue burning without causing any damage. The cabinet system remains operational and contains the fire completely until it burns out, protecting the employees and the environment.





Certificates & Manufacturers Declaration at www.cemo-group.com/certificates

Battery storage and charging cabinet lockEX PG 9

Storage and charging of lithium-ion batteries

Basic
Cost-effective entry-level model – a low-cost solution that focuses on the essentials while still meeting key protection targets.

Premium
Designed for challenging applications: full integration into existing safety infrastructures with a connection to central fire alarm systems.

Premium Plus
Flexible networking – communication via WLAN or SMS for maximum reachability, even without an internet connection. The central solution for decentralised management of several sites.

Model	Battery charging cabinet **Basic**	Battery charging cabinet **Premium**	Battery charging cabinet **Premium Plus**
Smoke (alarm) detector	●	●	●
Fan to dissipate heat from charging	●	●	●
Charging stops when door is opened (door contact switch)	●	●	●
Power disconnected if heat builds up	●	●	●
Power disconnected if smoke builds up		●	●
Option of connecting via a volt-free contact to the internal building management system		●	●
Remote alarms via SMS			●
Remote alarms via app			●
External digital display			●

For all charging versions:
- heat dissipation by fan during charging
- charging current is interrupted if the doors are opened (door contact switch)
- charging stops in the event of a malfunction or thermal runaway
- supply and exhaust air vents sealed by thermostat-controlled butterfly valves
- 230 V model with 1-phase power supply (3500 W / 16 A)
- 400 V model with 3-phase power supply (2 x 3500 W / 2 x 16 A)

Battery charging cabinet 8/5
- 9-socket power strip* (3500 W, 16 A)
- two storage levels

Battery charging cabinet 8/10
- two 9-socket power strips*
- four storage levels

Battery charging cabinet 8/20
- four 9-socket power strips*
- eight storage levels
- fire compartment for separating the cabinet contents

* UK modell with modified number of socket power strips (8 instead of 9 per storage level)



Battery charging cabinet 8/5 Basic



Battery charging cabinet 8/20 Premium




Battery charging cabinet 8/10
Premium Plus 3-phase

TIP: The 3-phase version is necessary if, for example, batteries are to be charged with fast chargers that have a greater current requirement than the 1-phase version can provide.

All versions with audible alarm. Premium and Premium Plus with improved connection option for combination alarm transmitter (12 V) and connection to the internal building management system.

RECOMMENDED
max. energy capacity of Li batteries

The maximum storage capacity of a safety cabinet, specified in kilowatt hours (kWh), is a key criterion for the safe storage of lithium-ion batteries. It describes the total amount of energy that can be safely stored in the cabinet. Exceeding this threshold significantly increases the risk of thermal events such as overheating, fire or explosion.

Battery storage and charging cabinet lockEX PG 9

Storage and charging of lithium-ion batteries

BATTERY **CHARGING CABINETS**

Model	Type	Max. energy capacity kWh**	Ext. dimensions cm (w x d x h)	Int. dimensions cm (w x d x h)	Weight (approx.) in kg	Order no.	Shipping
CEMO Battery charging cabinet **Basic**	8/5, 230 V	3	80x66x52	73x53x45	85	12108	
	8/5 with stacking feet, 230 V	3	80x66x62	73x53x45	89	12109	
	8/10 with stacking feet, 230 V	6	80x66x111	73x53x91	145	12114	
	8/10 with stacking feet, 400 V	6	80x66x111	73x53x91	146	12115	
	8/10 with castors, 230 V	6	89x66x115	73x53x91	152	12116	
	8/10 with castors, 400 V	6	80x66x115	73x53x91	153	12117	
	8/20 with feet, 230 V	12	80x66x213	73x53x91*	330	12048	< 3m
	8/20 with feet, 400 V	12	80x66x213	73x53x91*	331	12049	< 3m
CEMO Battery charging cabinet **Premium**	8/5, 230 V	3	89x66x52	73x53x45	86	12110	
	8/5 with stacking feet, 230 V	3	89x66x62	73x53x45	89	12111	
	8/10 with stacking feet, 230 V	6	89x66x111	73x53x91	145	12118	
	8/10 with stacking feet, 400 V	6	95x66x111	73x53x91	146	12119	
	8/10 with castors, 230 V	6	89x66x115	73x53x91	152	12120	
	8/10 with castors, 400 V	6	95x66x115	73x53x91	153	12121	
	8/20 with feet, 230 V	12	89x66x213	73x53x91*	330	12050	< 3m
	8/20 with feet, 400 V	12	95x66x213	73x53x91*	331	12051	< 3m
CEMO Battery charging cabinet **Premium Plus**	8/5, 230 V	3	89x66x52	73x53x45	86	12112	
	8/5 with stacking feet, 230 V	3	89x66x62	73x53x45	89	12113	
	8/10 with stacking feet, 230 V	6	89x66x111	73x53x91	145	12122	
	8/10 with stacking feet, 400 V	6	95x66x111	73x53x91	146	12123	
	8/10 with castors, 230 V	6	89x66x115	73x53x91	152	12124	
	8/10 with castors, 400 V	6	95x66x115	73x53x91	153	12125	

Battery storage cabinet 8/5
- two battery-powered audible smoke detectors
- no power connection or fan

Battery storage cabinet 8/10
- two battery-powered audible smoke detectors
- no power connection or fan

Battery storage cabinet 8/20
- three battery-powered audible smoke detectors
- no power connection or fan



Battery storage cabinet 8/5

Battery charging cabinet 8/10 Basic can be supplied on castors.



BATTERY **STORAGE CABINETS**

Description	Type	Max. energy capacity kWh**	Ext. dimensions cm (w x d x h)	Int. dimensions cm (w x d x h)	Weight (approx.) in kg	Order no.	Shipping
Battery storage cabinet 8/5	Without feet	3	80 x 66 x 52	73 x 53 x 45	80	12104	
	With stacking feet	3	80 x 66 x 62	73 x 53 x 45	83	12105	
Battery storage cabinet 8/10	With stacking feet	6	80 x 66 x 111	73 x 53 x 91	132	12106	
	With castors	6	80 x 66 x 115	73 x 53 x 91	144	12107	
Battery storage cabinet 8/20	With stacking feet	12	80 x 66 x 213	73 x 53 x 182	266	12047	

* Internal dimensions per cabinet module
** Energy capacity on each storage level 1.5 kWh

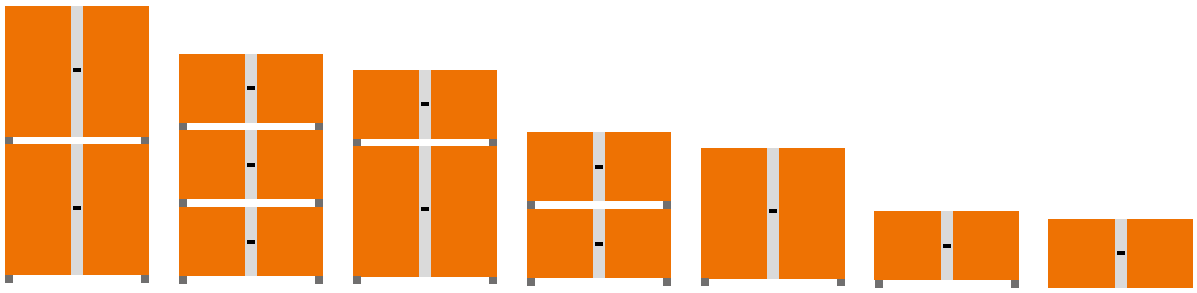
Modular system for battery storage and charging cabinets

lockEX A good combination.



The **modular cabinet design** means that safe storage space can be increased in step with business needs.

- Variable heights in 62 cm grid dimension (8/5) or 111 cm (8/10)
- Variable subdivision of storage levels: One to four storage levels per 111 cm (8/10)
- Fire chamber-tested, stackable modular system that is user-configurable
- Signals can be connected (Premium/ Premium Plus models) to several cabinets
- Different fields of activity can be assigned to dedicated battery cabinets
- Easy to position by stacking them at the place of installation
- Easy to assemble



Combinations	C 8/22	C 8/19	C 8/17	C 8/12	8/10	8/5	8/5
Total height in cm	222	186	173	124	111	62	52
Models	8/10 8/10	8/5 8/5 8/5	8/5 8/10	8/5 8/5	8/10	8/5	8/5
Number of power sockets*	36	27	27	18	18	9	9
Max. number of storage levels	up to 8	up to 6	up to 6	up to 4	up to 4	up to 2	up to 2
Ext. dimensions** cm (w x d x h)	80 x 66 x 222	80 x 66 x 186	80 x 66 x 173	80 x 66 x 124	80 x 66 x 111	80 x 66 x 62	80 x 66 x 52
Total weight*** (approx.) in kg	270	252	219	168	135	84	81

Information:

- battery storage cabinets 8/10 cannot be stacked on battery storage cabinets 8/5
- battery storage cabinets 8/5 may be stacked a maximum of three high
- battery storage cabinets 8/10 may be stacked a maximum of two high

* UK modell with modified number of socket power strips (8 instead of 9 per storage level)

** The Premium/Premium Plus 3-phase versions are 89 cm (8/5) and 95 cm (8/10) wide

*** The Premium/Premium Plus 3-phase versions vary slightly in weight

You can find details of the individual modules on pages 6 and 7

Accessories for battery storage and charging cabinet

lockEX PG 9

① Retrofit fireproof cable duct for installing sensors in cabinet for connection to in-house fire alarm system or BMS

② Stacking feet, set

③ Combination alarm unit (strobe light). Visual and audible alarms in the event of a thermal runaway, enabling additional protective measures to be taken promptly

④ Set of two network-capable smoke alarms (audible). Included in “Storage” and “charging Basic” as standard

⑤ Effective aerosol extinguishing agent for lithium-ion batteries, for initial, rapid extinguishing and flame suppression, automatic pyrotechnical triggering, maintenance free

⑥ Castor trolley: Simple relocation in the building and removal in the event of a thermal runaway; two of the four steering castors are fitted with an integral foot brake

⑦ Cabinet rack: Storage levels can be adjusted to the ideal working height; cabinets can be loaded using a high lift pallet truck or forklift; includes wall mounting materials

















Forkliftable for simple positioning and rapid removal in the event of a fire

ACCESSORIES

Description	Dimensions cm (w x d x h)	Weight (approx.) in kg	Order no.	Shipping
① Fireproof cable duct	14 x 2.5 x 14	1.3	11345	
② Stacking feet, set (already included for cabinet size 8/10)	10 x 6 x 10	3	11368	
③ Combination alarm unit, visual and audible alarm (100 dB) (only for charging Premium and charging Premium Plus)	7.3 x 4.3 x 12.2	-	11389	
④ Wireless heat and smoke alarms, set of two, battery-powered, network capable, incl. two magnetic plates	ø 12.5 x 4.8	-	11560	
⑤ Aerosol extinguisher (0.25 m³ extinguishing capacity)	ø 6.5 x 3.8	-	11561	
⑥ Castor trolley, 240 kg load capacity, for up to two cabinets 8/5	80 x 60 x 15	11.3	11461	
⑦ Rack, for up to two cabinets, includes wall mounting (only in combination with stacking feet)	106 x 53.5 x 200	50	11562	
Shelf (for floor level or as intermediate level)	72 x 40 x 3.5	-	11508	

Battery storage cabinet **FM**plus PG 9

Storage and charging of low-capacity lithium-ion batteries

Safety and fire prevention
- heat-insulating double-walled steel cabinet
- additional door seals keep cold smoke in the housing
- lockable door with 3-point locking, optionally lockable with padlock (profile half-cylinder lockable)
- integral smoke detector for audible alarms as standard
- warning labels and safety instructions included in scope of delivery

Function and application
- specifically designed as a protective measure for new lithium-ion batteries (e.g. power tools or garden equipment)
- cabinet available in three sizes
- forkliftable (8-9 cm) for flexible positioning and removal in the event of a thermal runaway
- vent for exhaust connection pipe to open air

Design and equipment
- clear colours for visual identification: powder-coated body in light grey (RAL 7035), door in light red orange (RAL 2008)
- robust industrial quality with functional design

Safe and cost-effective storage: FMplus, the entry-level model.



FMplus L

FMplus S

US version with charger:
- 1 power socket per storage level
- battery-powered smoke alarm
- power disconnection in case of fire
- door contact switch for interrupting the charging current if the doors are open



FMplus US **with charger**



FMplus US

FMplus US with power socket – certified by the TÜV NORD Group.



Accessories: Set of castors



Accessories: Cable duct



Accessories: Adapter for ventilation line

BATTERY STORAGE CABINET **FM**PLUS

Description	Storage levels	Ext. dimensions cm (w x d x h)	Int. dimensions cm (w x d x h)	Weight (approx.) in kg	Order no.	Shipping
Battery storage cabinet **FMplus US**	2	43 x 43 x 56	35 x 35 x 46	27	11651	
Battery storage cabinet **FMplus US with charger**	2	43 x 43 x 56	35 x 35 x 46	30	11877	
Battery storage cabinet **FMplus S**	3	59 x 46 x 89	51 x 38 x 79	47	11652	
Battery storage cabinet **FMplus L**	4	60 x 46 x 165	52 x 38 x 154	83	11653	

ACCESSORIES

Description	Order no.	Shipping
Shelf for FMplus S battery storage cabinet	11655	
Shelf for FMplus L battery storage cabinet	11656	
Set of castors for FMplus battery storage cabinet	11657	
Second smoke detector (can be networked with internal smoke detector)	11658	
Padlock with profile half-cylinder NP 30 x 10 mm	11659	
Cable duct for FMplus battery storage cabinet (e.g. for installation of in-house fire alarms)	11660	
Adapter for ventilation line for FMplus battery storage cabinet	11661	

Battery safety storage cabinet PROline 6/20 and 12/20 PG 9

Storage of low-capacity lithium-ion batteries

Safety and fire prevention
- 90 minutes fire resistance
- self-closing doors in the event of a fire
- safe 2-point locking for optimal access protection
- locking mechanism activates automatically when closing the doors
- arresting the door in open position, as standard
- earthing point on the outside prevents ignition hazards due to electrostatic charging
- load detection for the weight of the fan on top of the cabinet

Function and application
- height-adjustable spill tray shelves with 75 kg load capacity, 32 mm grid dimension
- option of connecting to mechanical ventilation (vent DN75)
- forkliftable thanks to height-adjustable feet and removable base trim

Certification
- complies with the latest version of DIN EN 14470-1
- specifically designed for storing new low-capacity lithium-ion batteries (< 100 Wh according to VdS 3103)

Design and equipment
- cabinet body in light grey (RAL 7035), doors in light red orange (RAL 2008)
- Other colour versions available on request



Battery safety storage cabinet PROline 12/20

Battery safety storage cabinet PROline 6/20



Adjustable closing mechanism



Magnetic lock



Robust cabinet base



Feet height-adjustable from inside

BATTERY SAFETY STORAGE CABINET PROLINE

Description	Ext. dimensions cm (w x d x h)	Int. dimensions cm (w x d x h)	Storage levels	Weight in kg	Order no.	Shipping
Battery safety storage cabinet 6/20 – left-opening door	60 x 60 x 195	45 x 49 x 166	4	265	11959	
Battery safety storage cabinet 6/20 – right-opening door	60 x 60 x 195	45 x 49 x 166	4	265	11960	
Battery safety storage cabinet 12/20	120 x 60 x 195	105 x 49 x 166	4	450	11961	

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