

BATTERY line 5.1



Battery fire - The risks and actions

Most lithium ion batteries are not designed for temperatures above 60°C. As the temperature increases lithium batteries respond with a build-up of pressure in the cell, intense discharge of flammable gases, cell fire, and even self-enhancing explosive burning of the battery (thermal runaway). These hazards are partly due to shortcomings in the manufacture and proper handling of the storage medium.



Fire compartments and fire-resistant areas

Standard storage cabinets do not protect the stored working materials from external thermal influences. In case of fire this can cause serious injury to employees and damage to property. By contrast, DÜPERTHAL Type 90 safety storage cabinets offer reliable 90-minute fire resistance in compliance with DIN EN 14470-1 and are classed as fire-resistant isolated areas (fire compartments).

Safe fire protection of 90 minutes

The BATTERY line safety storage cabinets are specially constructed for the strict requirements for safe storage and charging of lithium-ion batteries which could catch fire in the event of malfunctions. With the Type 90 classification and the explosion-like burning of the batteries in the interior tested by the independent Fraunhofer Institute, the BATTERY line offers 2-fold fire protection - sufficient time for evacuation and buffers for fire fighting.

New feature - Backdraft protection

If fires start outside the cabinet, the automatic door closing system on safety storage cabinets is triggered. A new feature of the BATTERY line is the mechanism that automatically closes and locks the cabinet doors in the event of fires inside the cabinet. The locking system prevents opening by employees and thus protects against a possible backdraft. Only authorised experts, e.g. the fire brigade, can unlock the doors.



Storage in accordance with insurance-related requirements

Using the BATTERY line enables you to fulfil all legal provisions, especially the storage requirements of FM Global and those stipulated in the GDV's information leaflet on lithium ion batteries, published by the VdS.

State of the art working safety

As part of a risk assessment, operators have an obligation to assess the hazards that could be caused by technical equipment and devices and to implement state of the art protective measures based on this assessment. The BATTERY line's additional facilities to isolate hazards in the event of self-ignition of the batteries guarantee long-term process reliability and can be considered to be state of the art for the purposes of your risk assessment.

Prevention - Practical experience

Lithium ion batteries are an established part of our day-to-day lives and are sufficiently safe technology if manufactured using good production standards and handled properly. However, due to new findings and advances in development it is essential to continuously review preventive fire and hazard protection measures as part of the risk assessment and to re-assess them where necessary.



Lithium ion batteries - hazardous goods

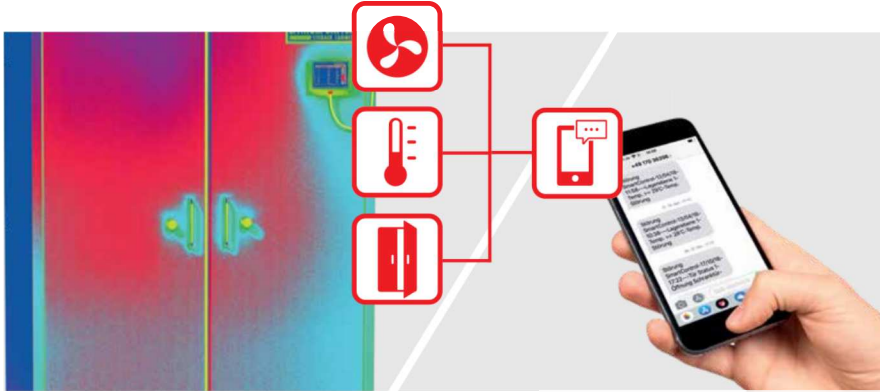
Although lithium ion batteries are very safe in normal operation, a risk can arise, for example if the substances they contain are released due to thermal loads. The manufacturers' technical data sheets specify that corrosive, toxic, carcinogenic and also flammable hazardous substances can discharge. Appropriate preventive measures for early detection of damage are an important element in guaranteeing safe workplaces.

Early detection based on intelligent technology

The success of extinguishing depends significantly on the fire brigade being on site at the earliest possible stage of the fire. Therefore, for storage and use of lithium ion batteries comprehensive early detection and automatic signalling of thermal events, e.g. fires, is almost indispensable. Smart Control and temperature sensors immediately detect adverse thermal developments and initiate counter measures.

Smart Control - The intelligent assistance system

Handling of lithium ion batteries is a risk that is very difficult to quantify in the risk assessment. In addition to fire-resistant storage, state of the art fire detection systems with automatic alarm signalling should also be seen as essential. Smart Control is an intelligent assistance system with touch display and sensors and offers crucial advantages in this area.



Prevention and damage minimisation using Smart Control and sensors

- ▶ Temperature monitoring for preventive early detection of thermal events in the safety storage cabinet with setting of threshold values, e.g. value 1 for early warning and value 2 for alarm.
- ▶ Door opening status sensor to monitor whether doors are closed properly in compliance with DIN EN 14470-1.
- ▶ Continuous monitoring (24/7) of industrial ventilation to guarantee dissipation of thermal energy produced by the charging process.
- ▶ Error indication and data memory for logging as well as intelligent fault messages via push messages or SMS, e.g. to fire brigade and rescue control centre.
- ▶ Digital and analog outputs as well as potential-free contacts for connection of acoustic alarms and warning lamps.
- ▶ Intelligent system available as network solution Cabi2Net including interfaces to networks and databases via secure protocols, e.g. OPC UA or MQTT.
- ▶ Variable display via touch display, smartphone app or web browser possible.

Safety storage cabinets for charging and storage of batteries



Your added advantage with the BATTERY line!

- ▶ **Safety**
In case of fire - inside or outside - a thermocouple automatically initiates the uninterrupted closing of the doors.
- ▶ **Backdraft protection**
Automatic door locking to prevent backdrafts in case of fire.
- ▶ **Safe charging**
Fuse protected power supply for chargers is provided and ready to plug in.

The BATTERY line type safety storage cabinets are equipped with a varied range of additional functionalities to increase safety and working convenience. In addition, all safety-related components are not subjected to day-to-day dynamic loads and are thus free of attrition and mechanical wear.

5.1



1 Integrated door arrest system

As a standard, the doors of the safety storage cabinets are fitted with an integrated door arrest system, which allows comfortable handling of the batteries.

2 Innovation in preventive fire protection

In case of fire - inside or outside the cabinet - a thermocouple automatically initiates closing of the doors and locking to protect against backdraft.

3 Protection from backdraft

After automatic closing of the doors and locking in the event of fire, e.g. due to self-ignition of lithium ion batteries, they can only be unlocked by authorised experts.

4 Safe and protected charging

The BATTERY station models are set up for chargers, with a fuse protected and ready to plug in power supply.

5 Extraction of thermal energy

The air heated by charging is extracted at every cabinet level.

6 Prevention with Cabi2Net and Smart Control

Temperature sensors enable Cabi2Net and the Smart Control intelligent assistance system to be used as early warning systems for detection of thermal events in the cabinet interior.

BATTERY standard – Type 90

BATTERY standard Type 90 safety storage cabinets are the optimum solution for safe storage of lithium ion batteries, with maximum fire protection from inside and outside, including integral protection against backdraft.



BATTERY standard XL - V1



BATTERY standard XL - V2



BATTERY standard S



BATTERY station – Type 90

The Battery station Type 90 safety storage cabinets are specially designed for safe storage and charging of lithium ion batteries. As well as maximum internal and external fire protection and integral protection against backdraft a fuse protected power supply is set up for chargers - ready to plug in.

5.1



BATTERY station XL - V1



BATTERY station XL - V2

Video 2 on
BATTERY line



Interior fittings:

- › Storage shelves, bottom trays and perforated sheet inserts made of sheet steel.
- › BATTERY station: per storage level 4 sockets, fuse protected power supply set up for chargers - ready to plug in.

Colour:

- › Wing doors in bright green, PANTONE 389 C.
- › Carcass completely in light grey RAL 7035.
- › Individual colours possible.
- › Base in slate grey RAL 7015.

Construction:

- › Wing doors, powder-coated sheet steel.
- › The doors are generally righthinged for one-door cabinets. A lefthung door can be delivered at no extra charge.
- › Outer carcass, powder-coated sheet steel.
- › Inner carcass made of highquality decor panels.

Golden yellow
RAL 1004

Light grey
RAL 7035

Bright green
PANTONE 389 C

Pure white
RAL 9010

Ordering information



| | |
|---------------------------------|--|
| BATTERY standard XL - V1 | BATTERY standard XL - V2 |
| with storage shelves | with storage shelves and centre partition wall |

Ref. no.
with classical wing door technology

| | |
|---------------|---------------|
| 69-201267-030 | 69-201267-032 |
|---------------|---------------|

Details

| | |
|--|--|
| 3 storage shelves, 1 bottom tray, 1 perforated sheet insert and base | 2x 3 storage shelves, 1 bottom tray, 1 perforated sheet insert, centre partition wall and base |
|--|--|

Dimensions

| | | | |
|--------------------------------|----------------|---|---|
| Outer (width x depth x height) | [mm] [inch] | 1194 x 612 x 2085 47 x 24.1 x 82.09 | 1194 x 612 x 2085 47 x 24.1 x 82.09 |
| Inner (width x depth x height) | [mm] [inch] | 979 x 458 x 1697 38.54 x 18.03 x 66.81 | 979 x 458 x 1697 38.54 x 18.03 x 66.81 |
| Weight | [kg] [lbs] | 530 1168.45 | 550 1212.54 |

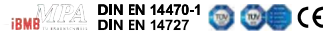
Ref. no.

| Additional interior fittings | Material | | |
|-------------------------------|-----------------|--------------|--------------|
| Interior fittings | Sheet steel | 69-70000-240 | 69-70000-242 |
| Storage shelf | Stainless steel | on request | on request |
| Storage shelf | Sheet steel | on request | on request |
| Storage area marking (3 pcs.) | | – | – |
| Storage area marking (4 pcs.) | | 69-70000-234 | – |
| Storage area marking (8 pcs.) | | – | 69-70000-238 |

Other accessories on page 339. Other technical details and dimensions from page 340 onwards.



Tested safety of a very high level including:



5.1

BATTERY standard S

with storage shelves

69-130667-030

2 storage shelves, 1 bottom tray,
1 perforated sheet insert and base

594 x 612 x 1425
23.39 x 24.1 x 56.1

498 x 469 x 1040
19.61 x 18.46 x 40.94

195
429.9

on request

on request

on request

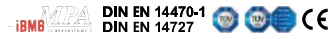
69-70000-233

-

-



Tested safely at a very high level including:



Ordering information



| BATTERY station XL - V1 | BATTERY station XL - V2 |
|-------------------------|--|
| with storage shelves | with storage shelves and centre partition wall |

Ref. no.

with classical wing door technology

| | |
|---------------|---------------|
| 69-201267-070 | 69-201267-072 |
|---------------|---------------|

Details

| | |
|--|---|
| 3 storage shelves, 1 bottom tray, 1 perforated sheet insert and base, 4 storage levels, per storage level 4 sockets per storage level for plug types: type C (CEE 7/16), type C (CEE 7/17), type F (CEE 7/4), type E+F (CEE 7/7), fuse unit for electrical protection with plug ready connection to a power supply with 230V/50Hz plug type F (CEE7/4) | 2x 3 storage shelves, 1 bottom tray, 1 perforated sheet insert, centre partition wall and base, 4 storage levels with 2 storage areas per storage level, 4 sockets per storage level for plug types: type C (CEE 7/16), type C (CEE 7/17), type F (CEE 7/4), type E+F (CEE 7/7), fuse unit for electrical protection with plug ready connection to a power supply with 230V/50Hz plug type F (CEE7/4) |
|--|---|

Dimensions

| | | | |
|--------------------------------|----------------|---|---|
| Outer (width x depth x height) | [mm] [inch] | 1194 x 612 x 2085 47 x 24.1 x 82.09 | 1194 x 612 x 2085 47 x 24.1 x 82.09 |
| Inner (width x depth x height) | [mm] [inch] | 979 x 458 x 1697 38.54 x 18.03 x 66.81 | 979 x 458 x 1697 38.54 x 18.03 x 66.81 |
| Weight | [kg] [lbs] | 560 1234.59 | 580 1278.68 |

Ref. no.

| Additional interior fittings | Material |
|-------------------------------|-----------------|
| Interior fittings | Sheet steel |
| Storage shelf | Stainless steel |
| Storage shelf | Sheet steel |
| Storage area marking (4 pcs.) | |
| Storage area marking (8 pcs.) | |

| | |
|--------------|--------------|
| 69-70000-240 | 69-70000-242 |
| on request | on request |
| on request | on request |
| 69-70000-234 | – |
| – | 69-70000-238 |

Other accessories on page 339. Other technical details and dimensions from page 342 onwards.

Accessories - varied and flexible

Choose the best suited items for your workplace from a variety of optional extras. Create your own individual work environment tailored to your requirements and work processes.

5.1



Cabi2Net
for central control of work processes. Configuration according to individual requirements.



Smart Control with touch display
to optimize process reliability in combination with sensors. Automatic fault notification via SMS to a mobile device possible.



Sensors for prevention
Safe way to monitor temperatures as an early warning system to detect thermal events inside the cabinet and the status of the door (open/closed).



Storage area marking
for clear and captive identification of the individual storage areas inside the cabinet.

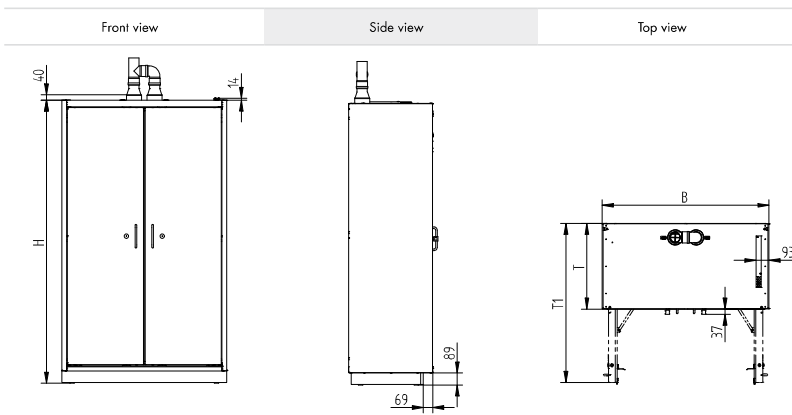
Clever assistance systems

| Model size | S | XL | XL (CPW) ¹⁾ |
|--|-----------------|--------------|------------------------|
| Basic package - Smart Control with touch display incl. sensors: | Ref. no. | | |
| 1x temperature monitoring, 1x door opening status | 69-70000-810 | – | – |
| 1x temperature monitoring, 2x door opening status | – | 69-70000-820 | 69-70000-820 |
| Extended basic package | 69-70000-811 | 69-70000-811 | 69-70000-821 |
| Temperature monitoring for storage area | 69-70000-812 | 69-70000-812 | 69-70000-822 |
| H1 | 69-70000-813 | 69-70000-813 | 69-70000-823 |
| H2 | – | – | 69-70000-824 |
| H3 | 69-70000-808 | 69-70000-808 | 69-70000-808 |
| H4 | 69-70000-809 | 69-70000-809 | 69-70000-809 |
| Exhaust air monitor | 69-70000-808 | 69-70000-808 | 69-70000-808 |
| SMS dispatch module | 69-70000-809 | 69-70000-809 | 69-70000-809 |
| Network solution | on request | on request | on request |
| Cabi2Net – configuration according to individual requirements | on request | on request | on request |

¹⁾ CPW = centre partition wall

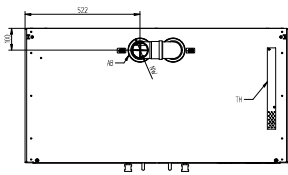
Tech specs BATTERY standard – Type 90

Technical details - BATTERY standard

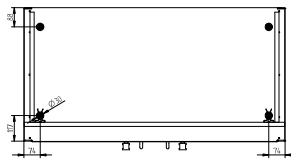


| Model size | | S | XL | XL (CPW) |
|-----------------------------------|-----------|--------|---------|----------|
| H | [mm] | 1385 | 2045 | 2045 |
| | [inch] | 54.53 | 80.51 | 80.51 |
| B | [mm] | 594 | 1194 | 1194 |
| | [inch] | 23.39 | 47 | 47 |
| T | [mm] | 612 | 612 | 612 |
| | [inch] | 24.09 | 24.09 | 24.09 |
| T1 | [mm] | 1100 | 1140 | 1140 |
| | [inch] | 43.31 | 44.88 | 44.88 |
| Doors | | 1 | 2 | 2 |
| Tare weight | [kg] | 230 | 530 | 550 |
| | [lbs] | 507.06 | 1168.45 | 1212.54 |
| Interior volume of cabinet | [m³] | 0,28 | 0,95 | 0,95 |
| | [cu. ft.] | 9.89 | 33.55 | 33.55 |

Top view - more details



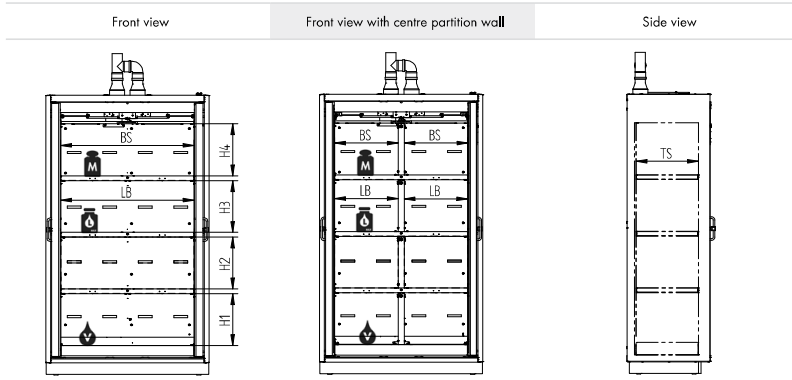
Detail - adjustable feet



NW: 110 (4.33) with adapter 75 (2.95)
 AB: Exhaust air connection
 TH: Thermocouple

● Standing surface of adjustable foot

Technical details | Adjustment heights - BATTERY standard



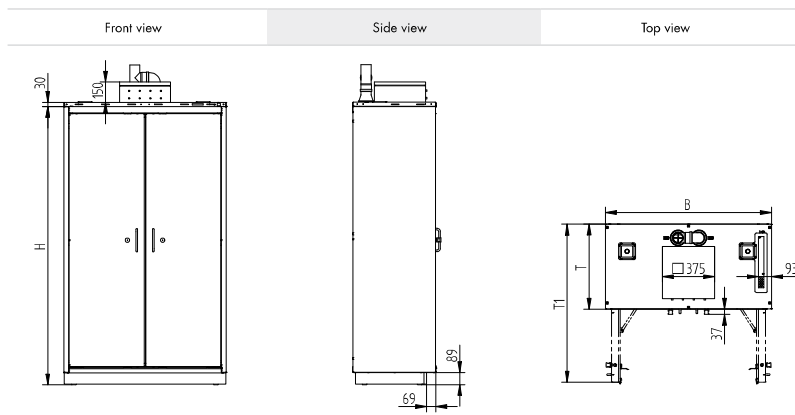
| Model size | | S | XL | XL (CPW) |
|---------------------------------|--------|--------|--------|----------|
| BS | [mm] | 375 | 975 | 2x 465 |
| | [inch] | 14.76 | 38.39 | 2x 18.31 |
| LB | [mm] | 374 | 974 | 2x 464 |
| | [inch] | 14.72 | 38.35 | 2x 18.27 |
| TS | [mm] | 457 | 457 | 457 |
| | [inch] | 17.99 | 17.99 | 17.99 |
| M | [kg] | 75 | 75 | 75 |
| | [lbs] | 165.35 | 165.35 | 165.35 |
| L | [l] | 10 | 30 | 30 |
| | [gal] | 2.64 | 7.93 | 7.93 |
| V | [l] | 11 | 33 | 33 |
| | [gal] | 2.91 | 8.72 | 8.72 |
| Max. additional load | [kg] | 240 | 360 | 360 |
| | [lbs] | 529.11 | 793.66 | 793.66 |
| Number of storage levels | | 3 | 4 | 4 |
| Number of storage areas | | 3 | 4 | 8 |

| Model size | | S | XL XL (CPW) |
|-----------------|-----------|--------------|---------------|
| Storage shelves | H1 | 297 11.69 | 378 14.88 |
| | H2 | 297 11.69 | 378 14.88 |
| | H3 | 299 11.77 | 378 14.88 |
| | H4 | – | 381 15 |

- BS: Width of standing surface, in millimetres
- LB: Clear Width, in millimetres
- TS: Depth of standing surface, in millimetres
- M: Load bearing capacity per storage shelf (uniformly distributed), in kilograms
- L: Maximum volume of the largest individual container, in litres
- V: Max. collection volume, in litres
- CPW: (with) centre partition wall

Tech specs BATTERY station – Type 90

Technical details - BATTERY station

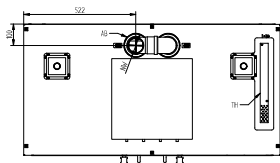


| Model size | | XL | XL (CPW) |
|-----------------------------------|-------------------|---------|----------|
| H | [mm] | 2045 | 2045 |
| | [inch] | 80.51 | 80.51 |
| B | [mm] | 1194 | 1194 |
| | [inch] | 47 | 47 |
| T | [mm] | 612 | 612 |
| | [inch] | 24.09 | 24.09 |
| T1 | [mm] | 1140 | 1140 |
| | [inch] | 44.88 | 44.88 |
| Doors | | 2 | 2 |
| Tare weight | [kg] | 560 | 580 |
| | [lbs] | 1234.59 | 1278.68 |
| Interior volume of cabinet | [m ³] | 0,95 | 0,95 |
| | [cu. ft.] | 33.55 | 33.55 |

Electrical data - connection

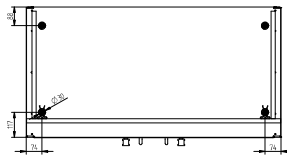
| Model size | | XL XL (CPW) |
|---------------------------|--------|------------------|
| Connection voltage | [V-Hz] | 230 ~ 50/60 |
| Fuse | [A] | 16 |
| Plug type | | Type F (CEE 7/4) |

Top view - more details



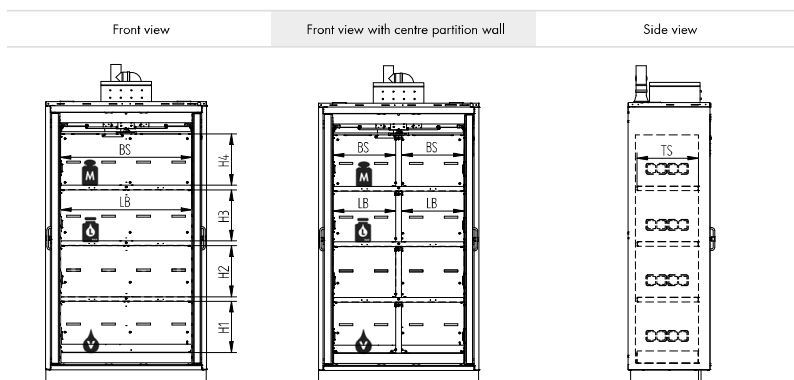
NW: 110 (4.33) with adapter 75 (2.95)
 AB: Exhaust air connection
 TH: Thermocouple

Detail - adjustable feet



● Standing surface of adjustable foot

Technical details | Adjustment heights - BATTERY station



5.1

| Model size | XL | XL (CPW) |
|---------------------------------|--------------------------------|--------------------|
| BS | [mm] 975 [inch] 38.39 | 2x 465 2x 18.31 |
| LB | [mm] 974 [inch] 38.35 | 2x 464 2x 18.27 |
| TS | [mm] 457 [inch] 17.99 | 457 17.99 |
| M | [kg] 75 [lbs] 165.35 | 75 165.35 |
| L | [l] 30 [gal] 7.93 | 30 7.93 |
| V | [l] 33 [gal] 8.72 | 33 8.72 |
| Max. additional load | [kg] 360 [lbs] 793.66 | 360 793.66 |
| Number of storage levels | 4 | 4 |
| Number of storage areas | 4 | 8 |

BS: Width of standing surface, in millimetres
 LB: Clear width, in millimetres
 TS: Depth of standing surface, in millimetres
 M: Load bearing capacity per storage shelf (uniformly distributed), in kilograms
 L: Maximum volume of the largest individual container, in litres
 V: Max. collection volume, in litres
 CPW: (with) centre partition wall

| Max. adjustment heights | | [mm] [inch] |
|-------------------------|---------------|----------------|
| Model size | XL XL (CPW) | |
| Storage shelves | H1 | 378 14.88 |
| | H2 | 378 14.88 |
| | H3 | 378 14.88 |
| | H4 | 381 15 |

| Electrical data - supply | |
|--|--|
| Model size | XL XL (CPW) |
| Supply voltage | [V-~Hz] 230 ~ 50/60 |
| Fuse per storage areas | [A] 16 |
| Number of sockets per storage areas | 4 |
| Sockets for plug type | Type C (CEE 7/16) Type C (CEE 7/17) Type F (CEE 7/4) Type E+F (CEE 7/7) |