

DELPHYS XL

High Power UPS from 1 to 4 MW and 1.2 to 4.8 MW



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1. WARRANTY CERTIFICATE

The warranty terms are stipulated in the offer, however, the following clauses apply as standard.

The Socomec warranty is strictly limited to Socomec product(s) and does not extend to third-party equipment which may be integrated with this/these product(s), nor the performance of such third-party equipment.

The manufacturer guarantees its products to be free from manufacturing faults and defects in design, materials or workmanship, subject to the limits set forth below.

The manufacturer reserves the right to modify the delivery with a view to fulfilling these guarantees or to replace defective parts. The manufacturer's warranty does not apply in the following cases:

- faults or defects in the design of parts added or supplied by the customer,
- faults due to unforeseen circumstances or force majeure,
- replacement or repair resulting from normal wear and tear of the modules or machinery,
- damage caused by negligence, lack of proper maintenance or misuse of the products,
- repair, modification, adjustment or replacement of parts undertaken by unqualified third parties or personnel without the express consent of Socomec.

The warranty period is twelve months commencing from the date of delivery of the product.

The repair, replacement or modification of the parts during the warranty period does not extend the warranty period.

In order to establish a valid warranty claim, the purchaser must notify the manufacturer in writing immediately after the discovery of any apparent material defects and provide any and all supporting evidence of the defects at the latest within eight days before the date of expiry of the warranty.

Defective parts which have been returned and replaced free of charge shall become the property of Socomec.

The warranty is void if the purchaser has undertaken modifications or repairs on the devices on their own initiative and without the express consent of the manufacturer.

The manufacturer's responsibility is strictly limited to the obligations defined in this warranty (repair and replacement) excluding any other right to claim compensation or indemnity.

Any import tax, duty, fee or charge of any nature whatsoever imposed by European regulations or those of an importing country or of a transit country shall be paid by the purchaser.

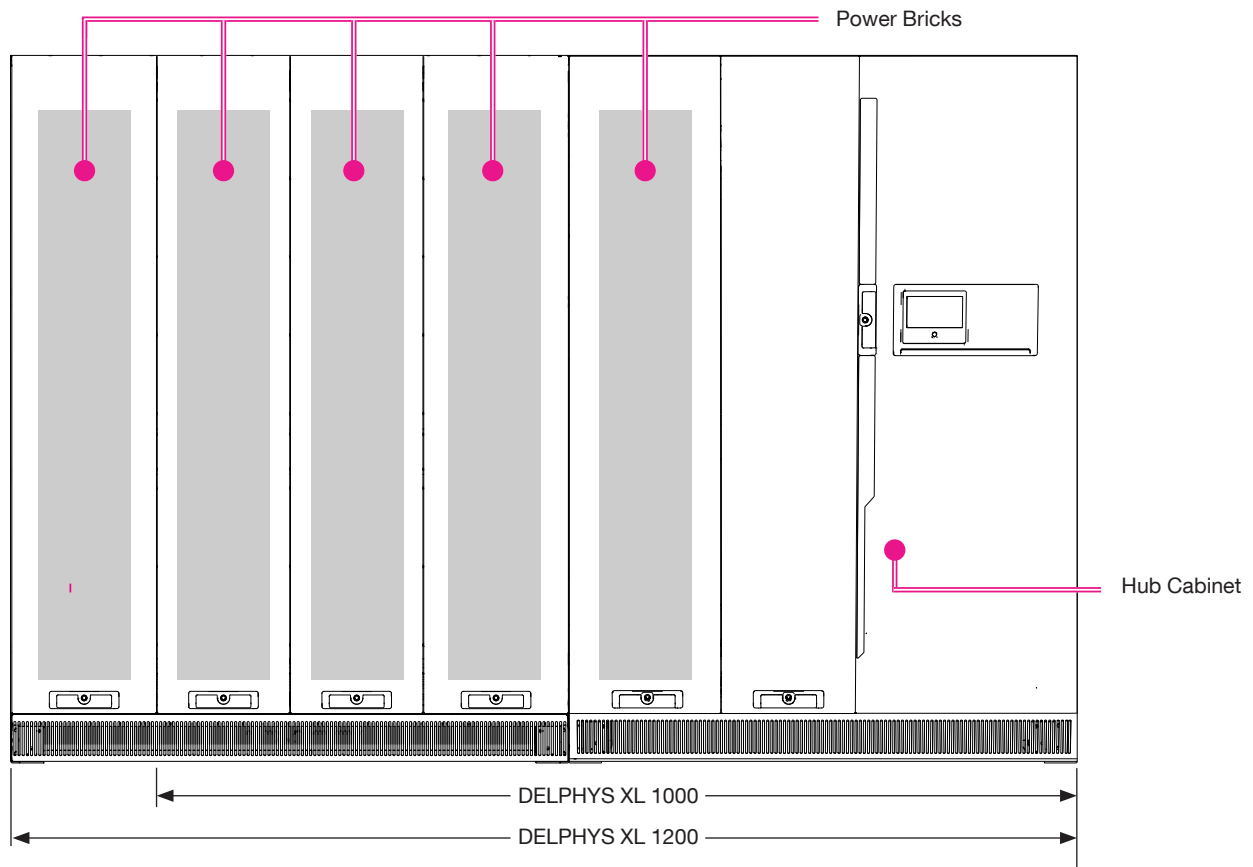
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2. GENERAL DESCRIPTION

2.1. Range

DELPHYS XL is a highly reliable UPS solution based on our field-proven high power XL platform, integrated into a fully redundant architecture that guarantees service continuity for the most critical applications. Systems can be parallelised to increase the rated power up to 4.8 MW.

Manufactured in France, Delphys XL is composed of several Self-sufficient Power Bricks with advanced selective disconnection and a robust static bypass. A complete mechanical and electrical segregation between the power converters avoids any default propagation inside the system for the best possible availability.



Hub Cabinet for the UPS Unit

- All input(s), outputs and battery connections to the UPS Units
- 1 MW/1.2 MW centralised static switch on a bypass line, depending on the model
- Local users interface (HMI)
- Remote communication interfaces

Power Bricks rated for 1 MW/1.2 MW continuous operation

- Single and fully rated rectifier/inverter and battery charger per Power Brick
- Highly efficient and reliable Power Bricks
- Selective disconnection to allow the electrical isolation of the Power Brick when required

2.2. Rated power

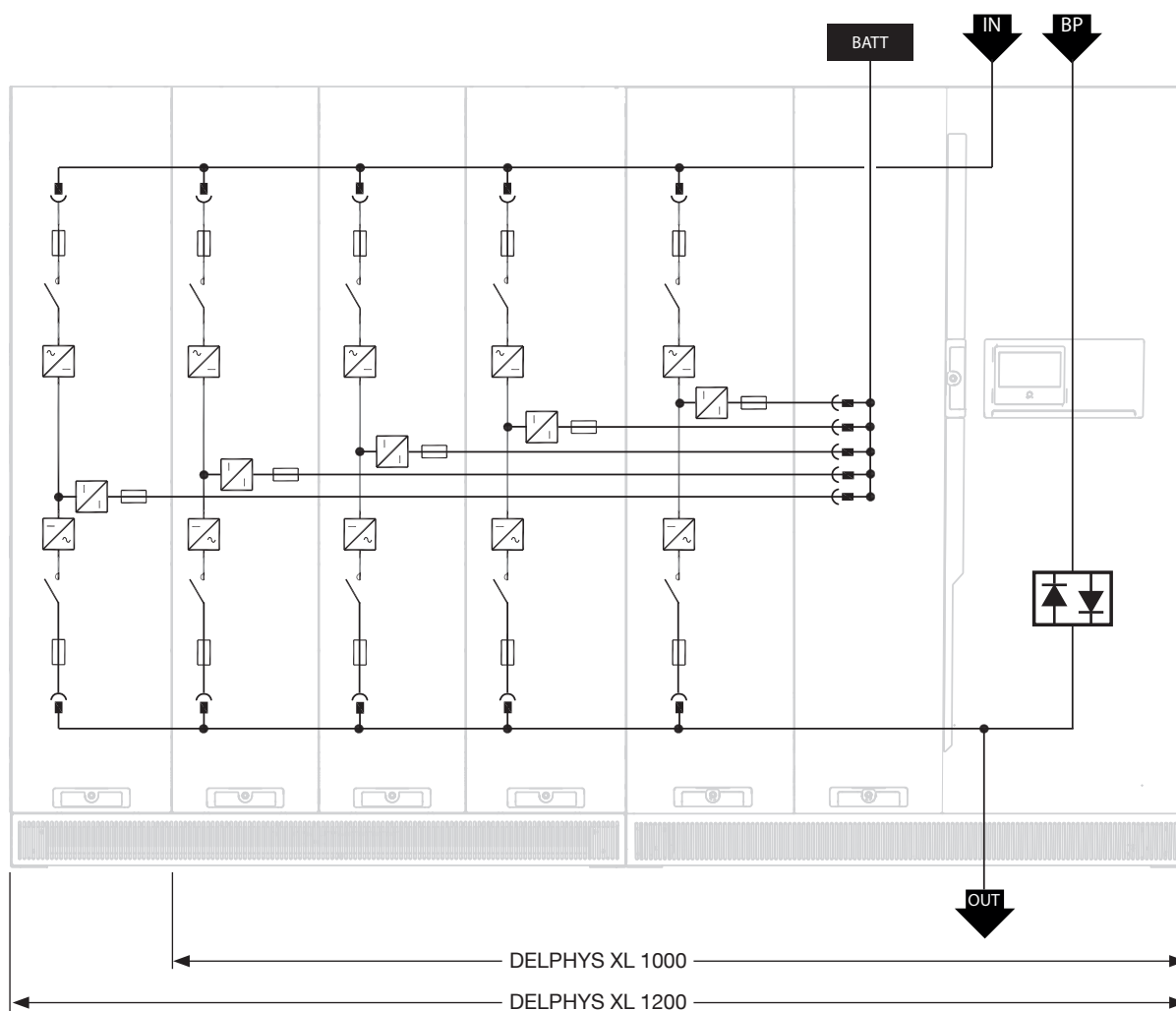
Rated power per UPS Unit		
UPS power rating	1000 kVA	1200 kVA
Power (kW)	1000 kW (30 °C)	1200 kW (35 °C)
Parallel units	up to 4 units in parallel	

2.3. The system

Delivering far greater benefits than conventional monolithic systems, DELPHYS XL packs 1000/1200 kW into an overall space-saving design that makes for simple and flexible integration within your existing architecture.

2.4. Single-wire electrical diagram

Electrical diagram example with separated inputs adapted to your requirements:



3. SAFETY

3.1. Important note

- This document provides important instructions for the safe use, handling and connection of the Uninterruptible Power System (UPS).
- Socomec retains full and exclusive ownership of this document. Socomec grants the recipient of this document the individual right to use the document for its indicated purpose. All reproduction, modification, dissemination of this document whether in part or whole and by any manner is prohibited except upon Socomec's express prior written consent.
- This document is not a specification. Socomec reserves the right to make any changes to data without prior notice.
- Keep this manual handy for future reference.
- Safety information is provided in English.
- The manufacturer will not be held liable for failure to follow the instructions in this manual, which is also available at www.socomec.com.
- The UPS must be installed and activated only by qualified technical personnel authorised by Socomec (wearing appropriate safety headgear, gloves, footwear and eye protection).
- The UPS must be repaired only by authorised technicians specially trained for this purpose (wearing appropriate safety headgear, gloves, footwear and eye protection).
- Do not expose the UPS Unit to dust, rain or liquids in general. Do not insert foreign objects into the UPS Unit.
- It is recommended that the DELPHYS XL UPS Unit be used and stored below the ambient temperatures and humidity values specified by the manufacturer.



The DELPHYS XL must be handled with the utmost care by at least two people.

- Connect the PE earthing conductor first before you make any other connection.



The UPS Unit power sources (rectifier and bypass) must be protected from transient power surges by compatible devices; mains transient power surges must be limited to 2.5 kV. The size of these devices must take into account all the installation parameters (geographical position, whether or not there is a lightning rod, whether or not there are other suppressors in the electrical installation etc.).

- Affix a label bearing the following words on all external switches of the UPS Unit power supply:

005

BEFORE WORKING ON THIS CIRCUIT
- ISOLATE UNINTERRUPTIBLE POWER SYSTEM (UPS)
- THEN CHECK FOR HAZARDOUS VOLTAGE BETWEEN ALL TERMINALS INCLUDING THE PROTECTIVE EARTH
RISK OF VOLTAGE BACKFEED

- Do not earth the output neutral (except if using the TNC earthing option). The DELPHYS XL UPS Unit does not modify the system's neutral connections; the use of a galvanic isolation transformer is required if the modifications to neutral connections are required downstream of the UPS Unit (refer to Section 8.5.1 Connecting earth cables).
- Switch off and isolate the UPS Unit and then wait for 5 minutes before carrying out any maintenance work, including removing or installing the Power Brick.



The DELPHYS XL UPS Unit could restart automatically.

- Before connecting the external battery cabinet, check that this is fully compatible with the model of the UPS Unit.
- The use of external battery cabinets not supplied by the manufacturers is not recommended.
- CAUTION: Danger of explosion if batteries are replaced with non-original ones.
- The batteries are considered as toxic waste. If they are replaced, always dispose of used batteries with specialist disposal companies. As provided for by the local laws in force, batteries must not be disposed of with other industrial or domestic waste.

	It is very dangerous to touch any part of the batteries as there is no isolation between the batteries and the mains power source.
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- If the UPS Unit needs to be scrapped, always dispose of used batteries with specialist disposal companies. These are obliged to dismantle and dispose of the various components in accordance with the national legal provisions in force.
- This equipment conforms to the European Community directives for professional equipment and bears the approval mark:



The regulations and standards applicable to the place of installation of the product must also be observed to ensure the prevention of accidents. The product you have chosen is designed for commercial and industrial use only. In order to be used for particular 'critical applications', such as life support systems, medical applications, commercial transportation, nuclear facilities or any other application or systems where product failure is likely to cause substantial harms to person or property, the products may have to be adapted. For such uses we would advise you to contact Socomec beforehand to confirm the ability of these products to meet the requested level of safety, performance, reliability and compliance with applicable laws, regulations and specifications.

	This product is designed for secondary industrial and commercial applications. Installation restrictions or additional measures may be needed to prevent disturbances.
	Socomec's liability in terms of the product these instructions relate to is as stated in the applicable purchase terms agreed between Socomec and the customer.

3.2. Description of the symbols used on the labels affixed to the UNIT

All recommendations and warnings on labels and plates attached to the interior or exterior of the equipment must be observed.



DANGER! HIGH VOLTAGE (BLACK/YELLOW)

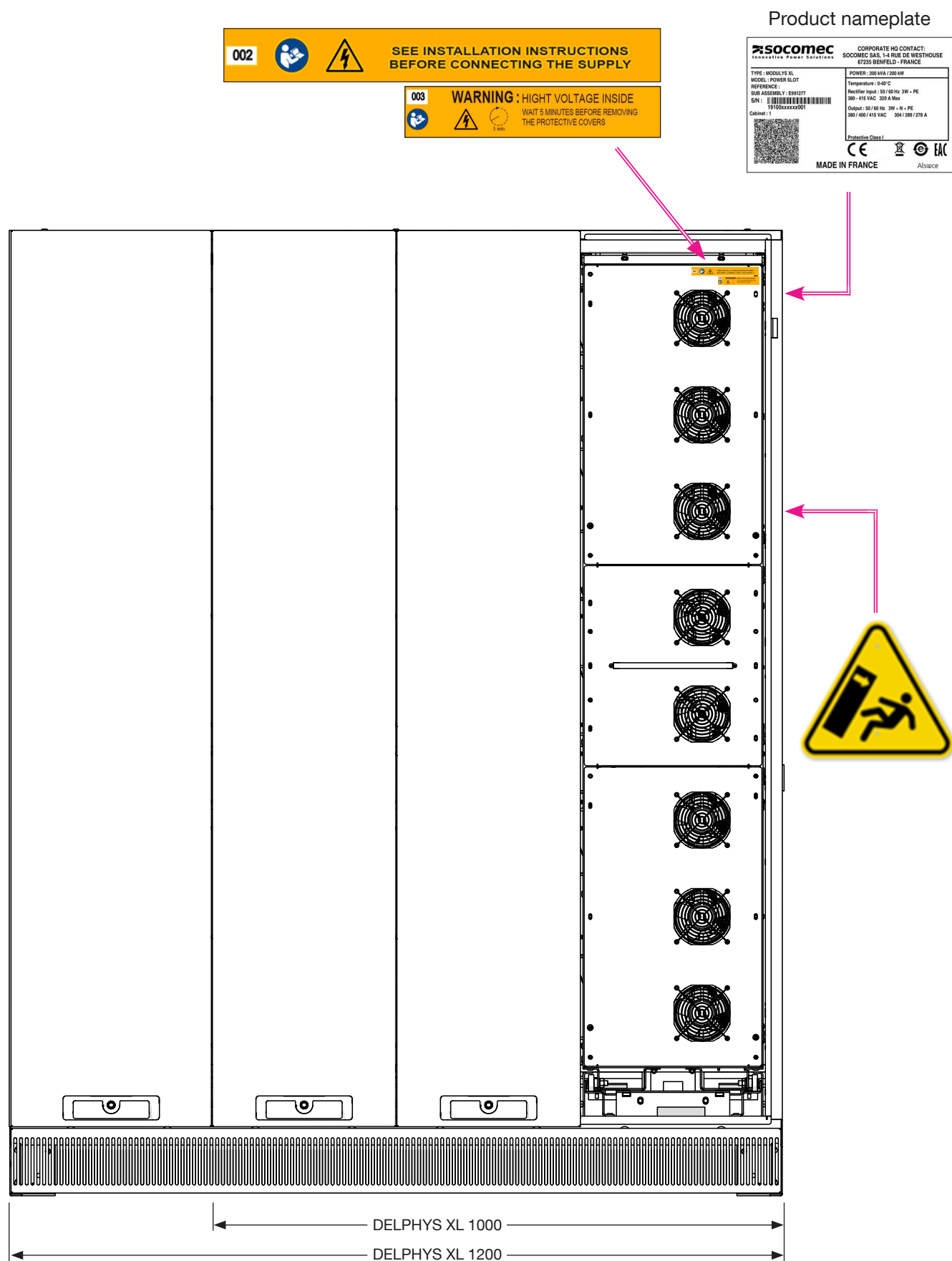


EARTH TERMINAL



READ THE MANUAL BEFORE USING THE UPS UNIT

3.3.2. Bricks Cabinet



4. FOREWORD

4.1. General

Thank you for the trust you have placed in us by choosing Socomec Uninterruptible Power Systems.

This equipment is fitted with the latest power semiconductors (IGBT) technology, including digital micro-controllers.

Our equipment complies with standards IEC 62040-2 and IEC 62040-1.

This is a product for restricted sales distribution to informed partners. Installation restrictions or additional measures may be needed to prevent disturbances.

4.2. Regulations: environmental protection

Recycling of electrical products and equipment

Provision is made in European countries to dismantle and recycle materials making up the system. The various components must be disposed of in accordance with the legal provisions in force in the country where the system is installed.

Battery disposal

Used batteries are considered as toxic waste. It is therefore essential to always dispose of materials with firms specialised in their recycling. They cannot be treated with other industrial or household waste, as set out in the local regulations in force.

5. STORAGE, TRANSPORT AND HANDLING

If the product is to be stored for longer than 6 months, please contact us.

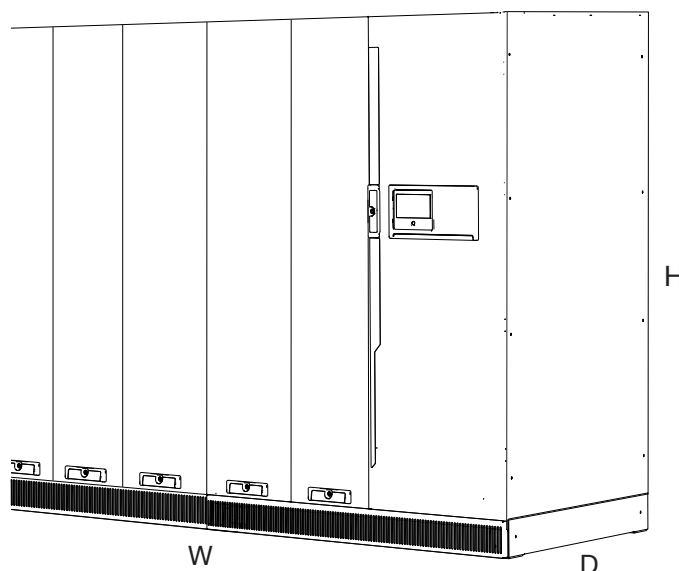
The DELPHYS XL must remain in a vertical position during all shipping and handling operations.

Ensure that the floor is strong enough to support the weight of the UPS Unit and battery cabinet, if used.

	Avoid moving the unit by putting pressure on the front door.
	The UPS Unit MUST be handled with the utmost care by at least two people.
	CAUTION IF DAMAGED. Packages that are crushed, punctured, or torn such that contents are revealed must be set aside in an isolated area and inspected by a qualified person. If the package is deemed not suitable for shipping, the contents must be promptly collected, segregated, and either the consignor or consignee should be contacted.

5.1. Dimensions and weight (total)

			Dimensions (installation)			
			Unit	Hub Cabinet	Bricks Cabinet	Power Brick
Width [W]	Delphys XL 1000	(mm)	2625	1405	1220	378
	Delphys XL 1200		3003	1405	1605	
Depth [D]	Delphys XL 1000	(mm)	1000	1000	1000	949
	Delphys XL 1200		1000	1000	1000	
Height [H]	Delphys XL 1000	(mm)	2005	2005	2005	1731
	Delphys XL 1200		2005	2005	2005	
Weight	Delphys XL 1000	(kg)	2600	767 + 1 x 363	366 + 3 x 363	363
	Delphys XL 1200		3200	937 + 1 x 363	448 + 4 x 363	
Single unit clearances			No rear or lateral clearance, Top = 400mm			
Access for maintenance and operation			Front only (≥ 1200mm free space to remove Power Brick)			
Installation			Back-to-back installation / against a wall			

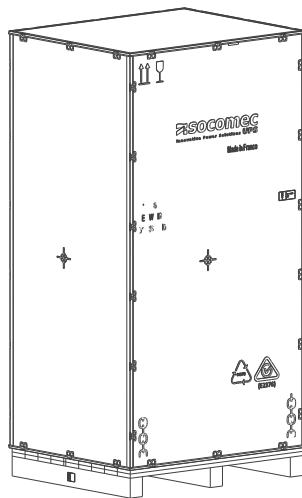


5.2. Unpacking procedure

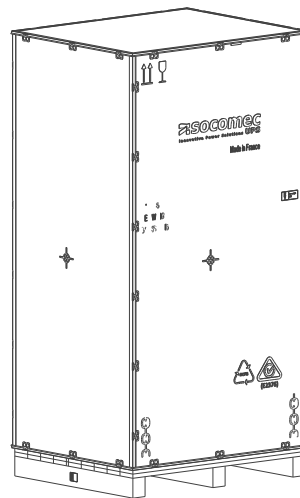
Place the various elements in the installation area.



The packaging guarantees the stability of the product during transport and delivery. Place the packaged product as close as possible to the installation site.



Hub Cabinet



Bricks Cabinet



IMPORTANT: IN THE EVENT OF DAMAGE Packages that are crushed, punctured, or torn such that contents are revealed must be set aside in an isolated area and inspected by a qualified person. If the package is deemed not suitable for shipping, the contents must be promptly collected, segregated, and either the consignor or consignee should be contacted.



All packaging material must be recycled in compliance with the laws in force in the country where the system is installed.

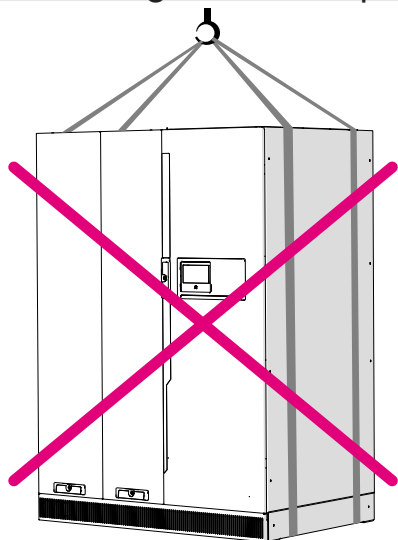


CAUTION: Handle with care to avoid damaging the Bricks Cabinet and Hub Cabinet.

5.3. List of accessories

Description	DXL1000	DXL1200
Battery temperature sensor kit	E943216	
Trolley	E919807	
Cabinet interconnection kit	E920927	
TELEX rails kit	E921387	
Network connection screw kit	E922607	E921377
Service base (maintenance rail)	E919817	
Lower grille 1400 Hub Cabinet	EA236823-AX	
Back lower grille 1400 Hub Cabinet	EA236853-AX	
Lower side closing panel Hub Cabinet	EA236863-AX	
Lower side closing panel Bricks Cabinet	EA236863-AX	
Lower grille 1600 Bricks Cabinet	/	EA236813-AX
Back lower grille 1600 Bricks Cabinet	/	EA236843-AX
Lower grille 1220 Bricks Cabinet	EA248773-AX	/
Back lower grille 1220 Bricks Cabinet	EA248783-AX	/

5.4. Handling from the top

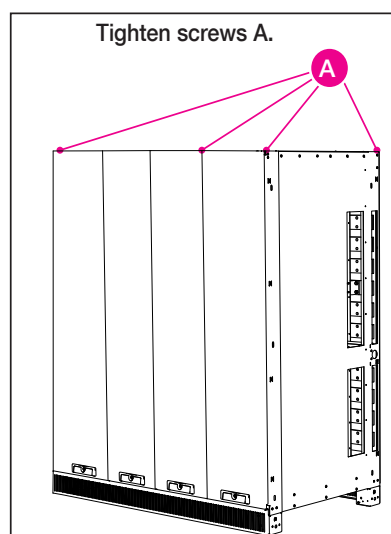
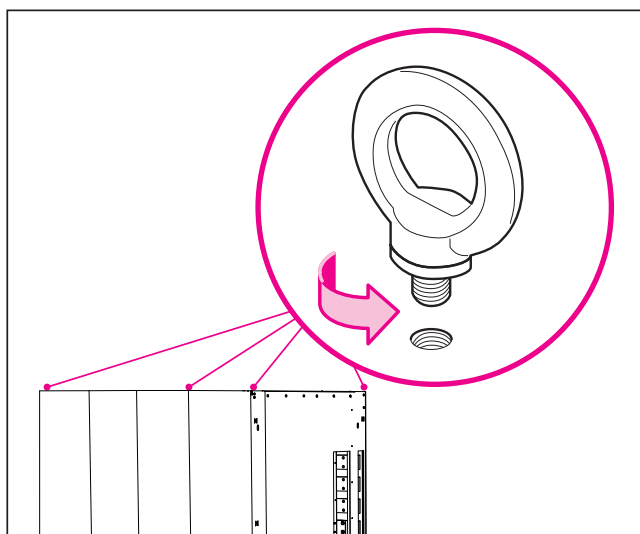
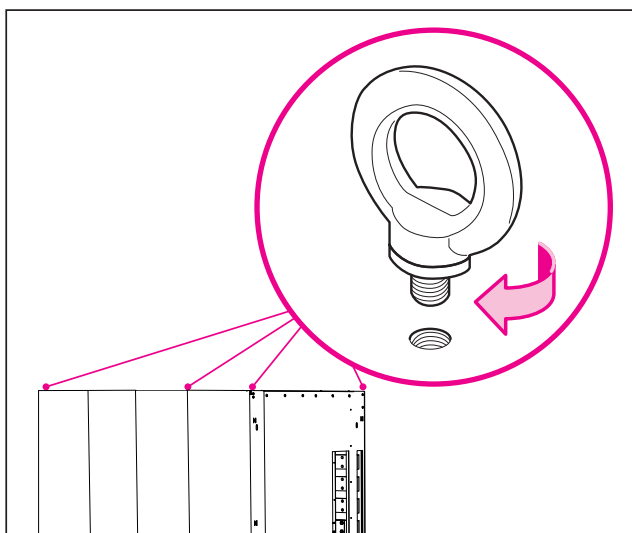
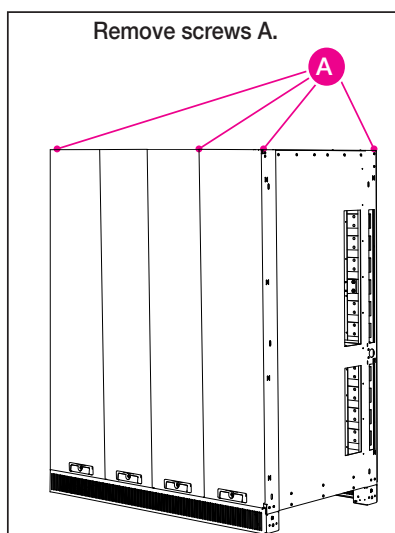


	Always keep cabinets in an upright position during transit. Lift and handle the cabinets with the utmost care and without jerking.
	Never use harnesses!

5.4.1. Handling with belts

- Hoisting rings (delivered on request): inner $\varnothing$ 30 mm, M12 thread.

	Lift and handle the cabinets with the utmost care and without jerking.
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Length of belts = 200 cm

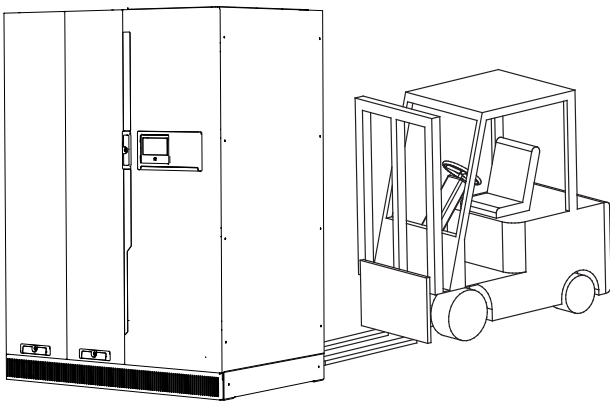
5.5. Handling from underneath

The Hub Cabinet and Bricks Cabinet are delivered on pallets.

	The equipment is heavy; handling using a pallet truck on slopes or ramps – even only slightly inclined, is hazardous and can cause severe accidents.
	When moving the unit on even slightly sloping surfaces, use the blocking equipment and braking devices to ensure that the unit does not fall over.
	Take all required precautions and use appropriate means and tools.

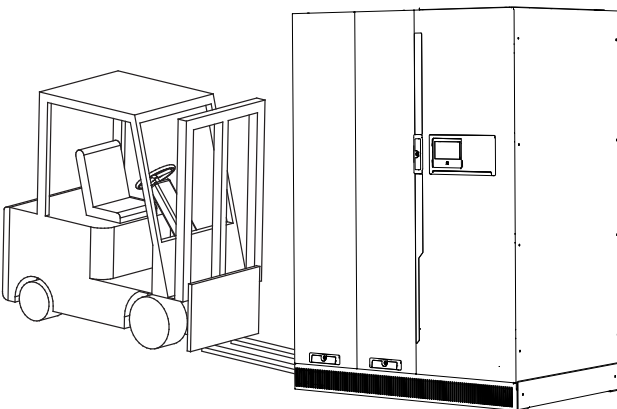
HANDLING FROM THE FRONT OR REAR

Remove the lower grilles on the front and rear of the Hub Cabinet or Bricks Cabinet and place the forklift under the unit.



LATERAL HANDLING

Lateral handling is also possible, provided that the side panels are removed.



	The fork should be at least 2 cm longer than the cabinet.
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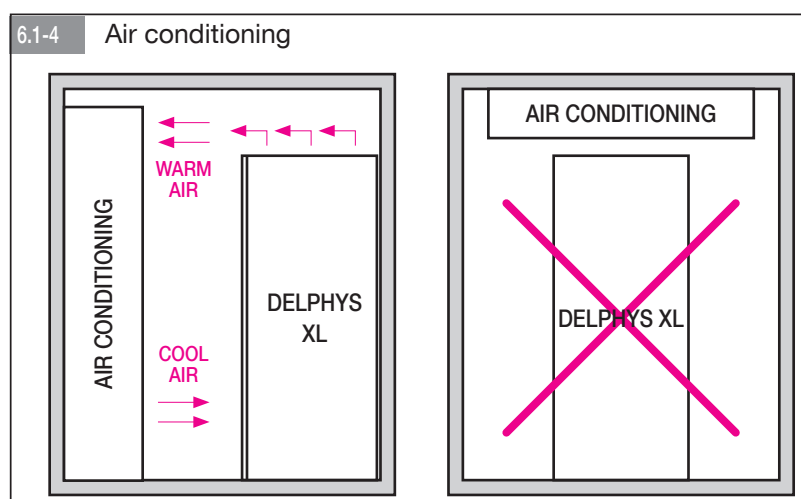
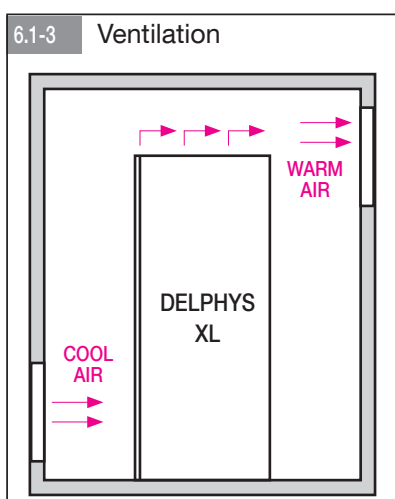
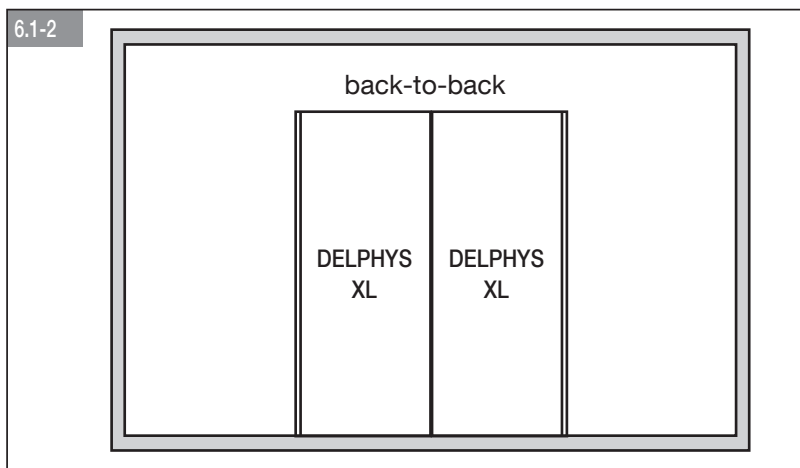
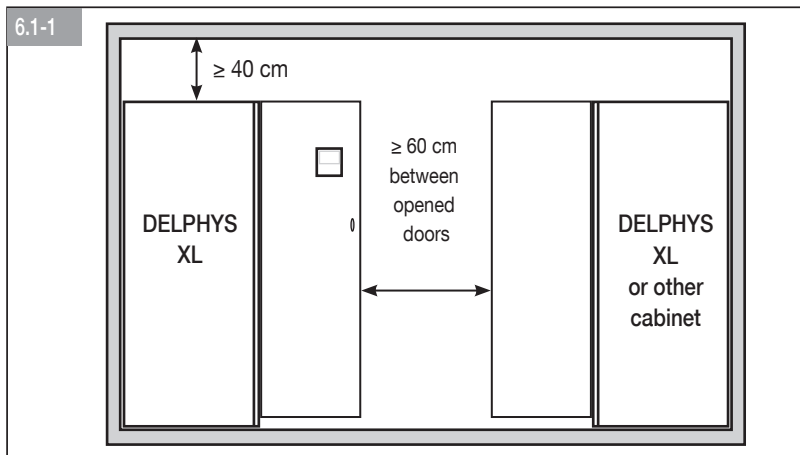
To take the Hub Cabinet and the Bricks Cabinet off the pallet, lift them from the side.

6. POSITIONING

6.1. Environmental requirements

- The DELPHYS XL is not designed for outdoor use.
- Do not expose the DELPHYS XL to direct sunlight or to sources of excessive heat.
- The recommended operating temperature, humidity and altitude values are listed in the technical specifications table (see Section 16). Cooling systems may be required to maintain these values.
- The DELPHYS XL must be installed in an environment without obstructions and which is dry, clean and dust-free.
- Avoid dusty environments or areas where there is dust from conductive or corrosive materials (e.g. metal dust or chemical solutions).
- DXL has been designed for a pollution degree 2-environment according to the table 8 Section 4 .4.7.1.2 of IEC 62040-1
- Definition of pollution degree 2: Normally, only non-conductive pollution occurs. Occasionally, however, temporary conductivity caused by condensation is to be expected.
- Site environmental condition must be compliant with PD2 level in order to guarantee the equipment lifetime and proper operation.
- If you want to operate the equipment in a G3 environment, take caution (filtering, heat drying, etc.) to ensure the aforementioned pollution degree 2 conditions in the UPS technical room.
- The DELPHYS XL can be installed against a wall. The upper part of the DELPHYS XL must be positioned at least 40 cm away from the ceiling (see Fig. 6.1-1).
- DELPHYS XL switches are accessed from the front; always leave a space of at least 1.2 metres should at the front of the DELPHYS XL for maintenance purposes.
- For UPS Units arranged facing each other, leave a minimum space of 60 cm between the 2 cabinets with the doors open to allow a passageway (in accordance with the provisions of standard IEC 60364 - see Fig. 6.1-1).
- Two DELPHYS XL can be installed back-to-back (see Fig. 6.1-2).
- Observe the direction of the ventilation flows (see Fig. 6.1-3) and heat dispersion flows (see Fig. 6.1-4). See Section 6.2 for the technical specifications relating to the required ventilation values.

	Provide enough space around DELPHYS XL to be able to move the Power Brick in case of removal.
	The DELPHYS XL should only be installed on a concrete surface or other non-combustible surface.
	In case of corrosive or industrial atmosphere environments, please contact us.
	For all the safety requirements of the battery installation, such as battery room ventilation, also refer to the applicable international and local safety codes and standards.
	In compliance with standard IEC 60364-4-42, the DELPHYS XL must be installed in a room with restricted access; entry into this restricted access room should only be possible for authorised qualified personnel.
	For optimum ventilation, the side panels must remain in place.
	To fix to the floor, see Section 17.



6.2. Heat dissipation and ventilation

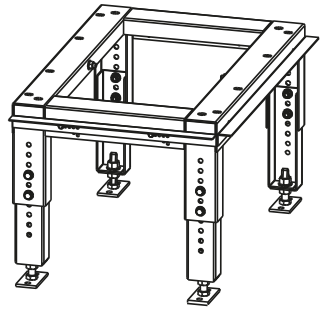
UNIT rated power (kVA)		1000	1200
Max. air flow	(m ³ /h)	8000	10000
	(kW)	46	55
Power dissipation (max.) in nominal conditions	(kcal/h) x1000	39.6	47
	BTU/h x1000	157	188

6.3. Floor mounting

Extension feet may be required depending on the UPS Unit system and its configuration.

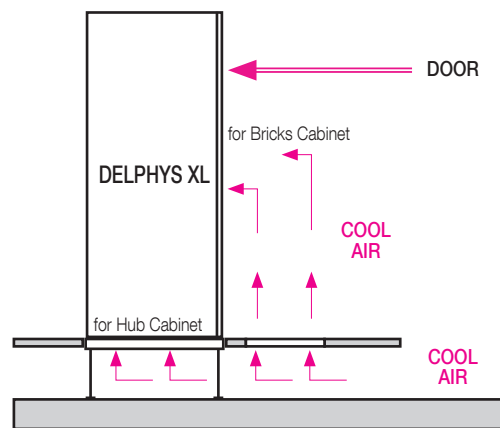
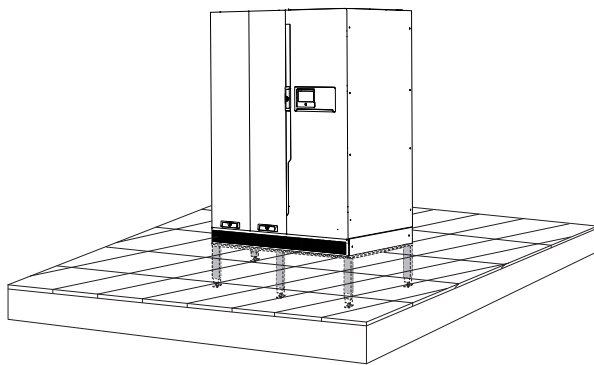
6.3.1. Installation on raised flooring

If the DELPHYS XL is to be installed on raised flooring, a Socomec adjustable frame (see image on the right) must be used to support the weight of each cabinet (see image below left).



Refer to the relevant installation manual provided in the packaging to assemble the frame.

Allow for small openings in the floor panels to ensure the air flow at the front for the Bricks Cabinet and from below for the Hub Cabinet (see image below right).



7. ASSEMBLY



Using a ruler, check the flatness of the floor under the unit.

Tolerances: Apply Class 2 (CSTC Records 2015 / 2.31).

Flatness classes	Screed flatness tolerance depending on the length of the ruler	
	1 m	2 m
Class 1 (severe)	2 mm	3 mm
Class 2 (normal)	3 mm	4 mm
Class 3 (large)	5 mm	6 mm



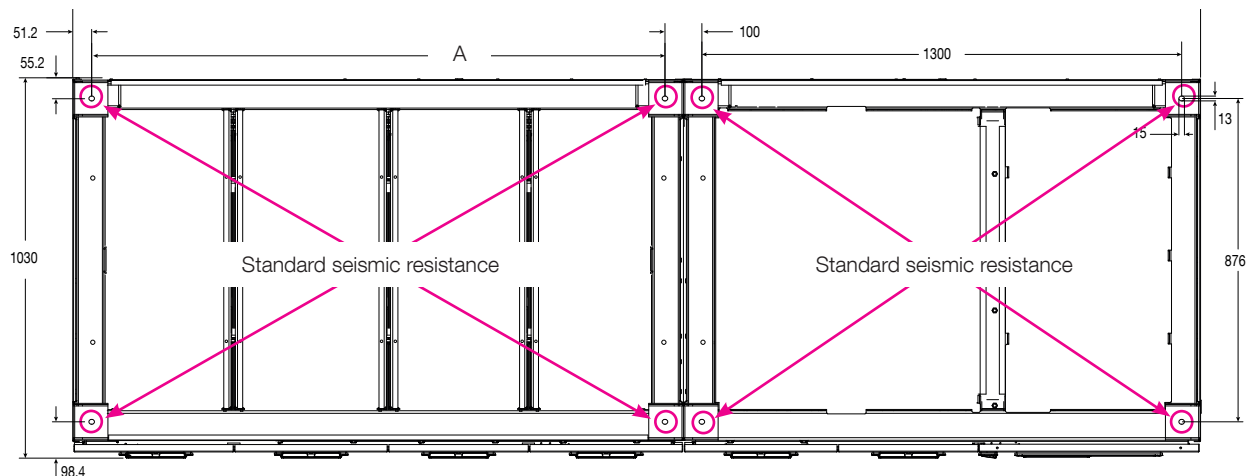
To ensure the cabinets are correctly assembled, pay particular attention at each step of the assembly process; the 2 cabinets must be horizontal so that they can be perfectly joined together.



Install the cabinets on a dry, smooth floor. Acceptable weight of the slab: 1.5T/m².

The floor in front of the cabinet must be level and flat to facilitate the use of the handling trolley and the maintenance rails.

7.1. Cabinet positioning



A = 1120 mm (DELPHYS XL 1000), 1500 mm (DELPHYS XL 1200). See the drawing in Section "17 Appendix" for more details.

To fasten both cabinet bases (mandatory for standard seismic resistance), drill the floor and use 8 dowels with M12 lag bolts. Without seismic constraints, it is not necessary to fix both cabinets to the floor.

7.2. Assembly order

1. Place the 2 cabinets against each other – Bricks Cabinet on the left, Hub Cabinet on the right (see next page) –

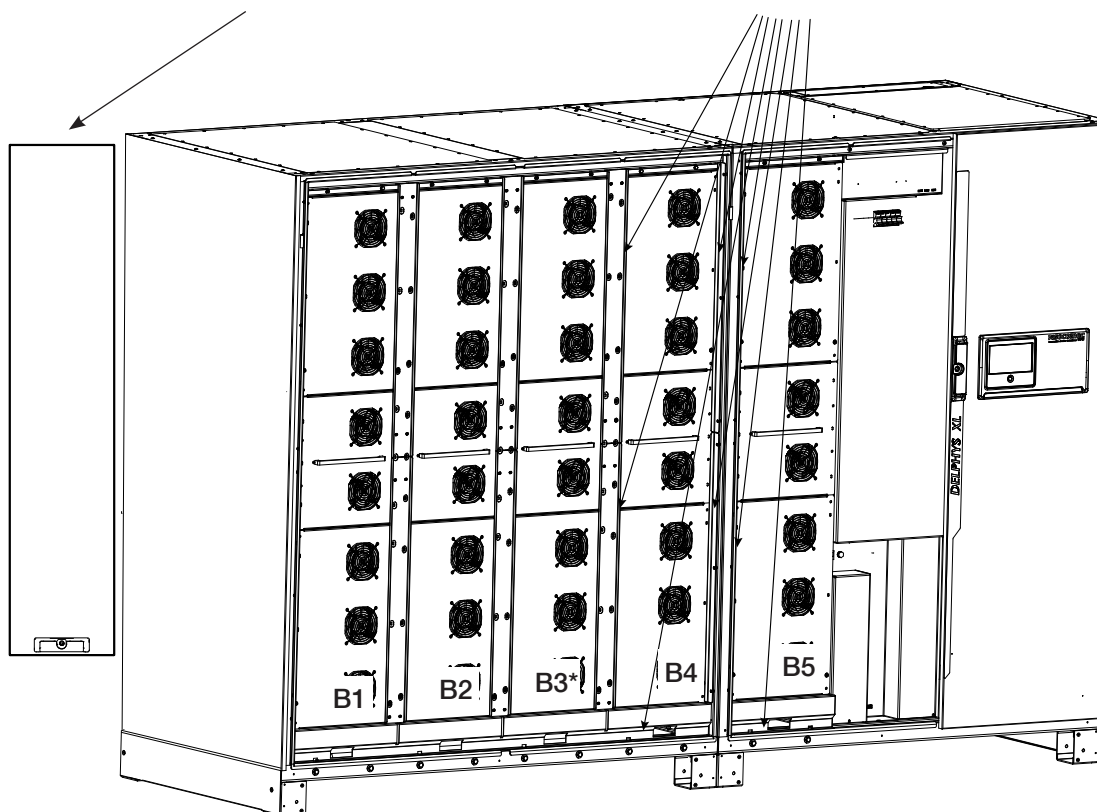


in their final location.

2. Remove the front panels.
3. Assemble the handling trolley.
4. Completely remove the Power Brick B4 from the handling trolley.
5. Assemble the maintenance rails.
6. Completely pull out Power Brick B5 on the maintenance rails.
7. Mechanically assemble the 2 cabinets.
8. Install connection pads to ensure the electrical connection between the 2 cabinets.
9. Connect the RJ45 cable.
10. Insert Power Brick B4 and B5 back into the cabinet and replace the anti-recycling panels and front panels.
11. Dismantle the handling trolley and the maintenance rail to store them in the bottom of the machine.

7.3. Removing the front panels

Remove the lower grilles, the front panels and anti air recycling parts of the Power Brick:



The Power Brick must be used only with compatible models of front panel, as follows:

- Power Brick B1: front panel EA235993 (width 415 mm)
- Power Brick B2: front panel EA236023 (width 380 mm)
- Power Brick B3*: front panel EA236023 (width 380 mm)
- Power Brick B4: front panel EA235993 (width 415 mm)
- Power Brick B5: front panel EA235993 (width 415 mm)
- Hub Cabinet: front panel EA236873 (width 380 mm)



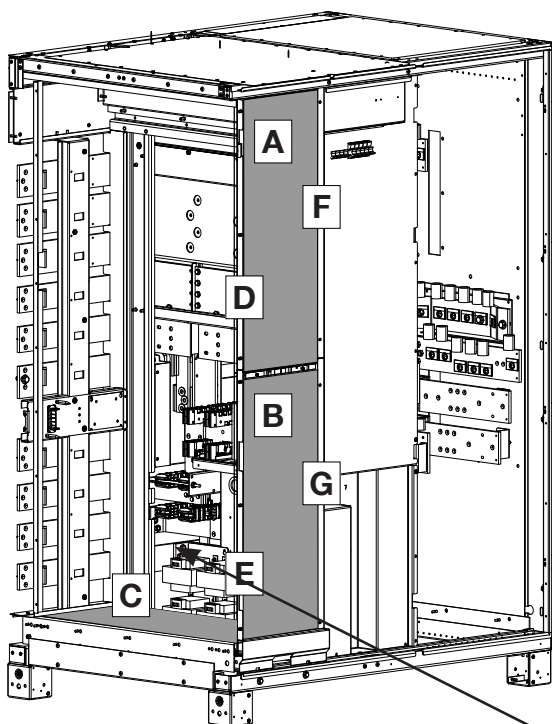
*The Power Brick B3 is not used in DELPHYS XL 1000

7.4. Cabinet delivered without all its Power Bricks

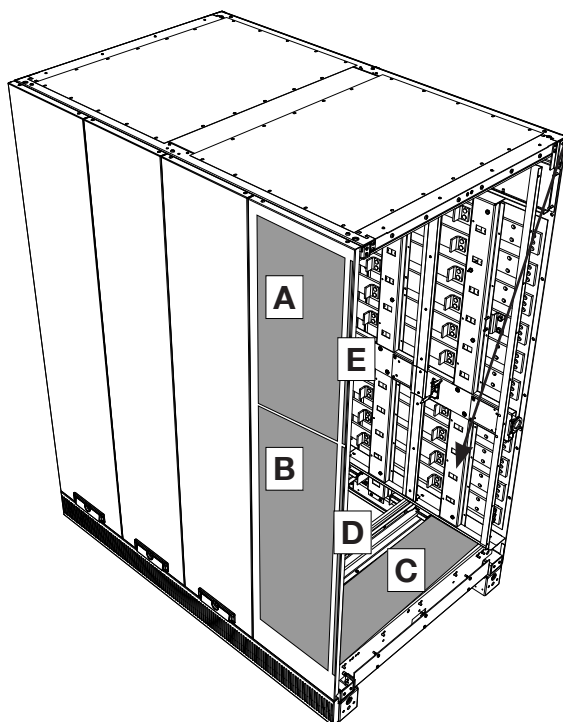


If the cabinet arrives without one or more Power Bricks, the covers replacing them must be removed to proceed with assembly.

HUB CABINET



BRICKS CABINET



Symbol	Description	Reference
A	Shutter high	EA246853
B	Shutter low	EA246843
C ⁽²⁾	Shutter bottom ⁽¹⁾	EA246863
D	Fixing bracket 1	EA247433
E	Fixing bracket 2	EA247443
F	Fixing top front shutter	EA247453
G	Fixing bottom front shutter	EA247463

(1) fixed with 2 screws CBX ATFOR M5x8 E432378



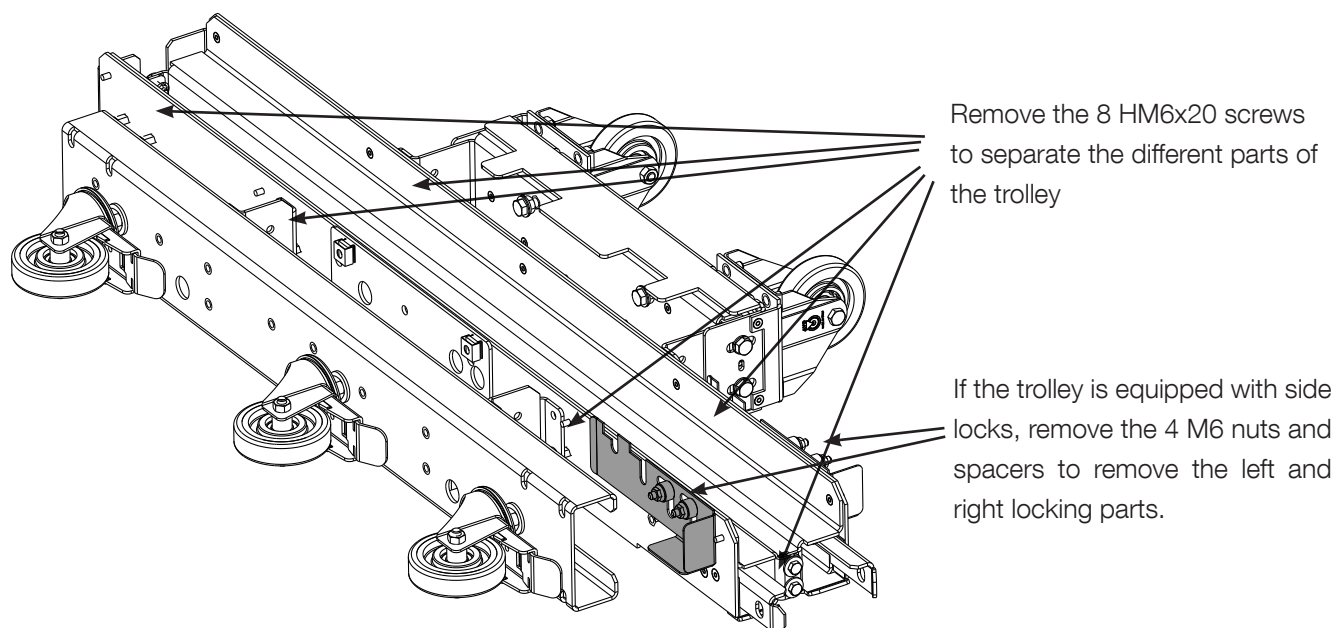
(2) Be careful not to lean or step on this shutter.

7.5. Assembling the handling trolley

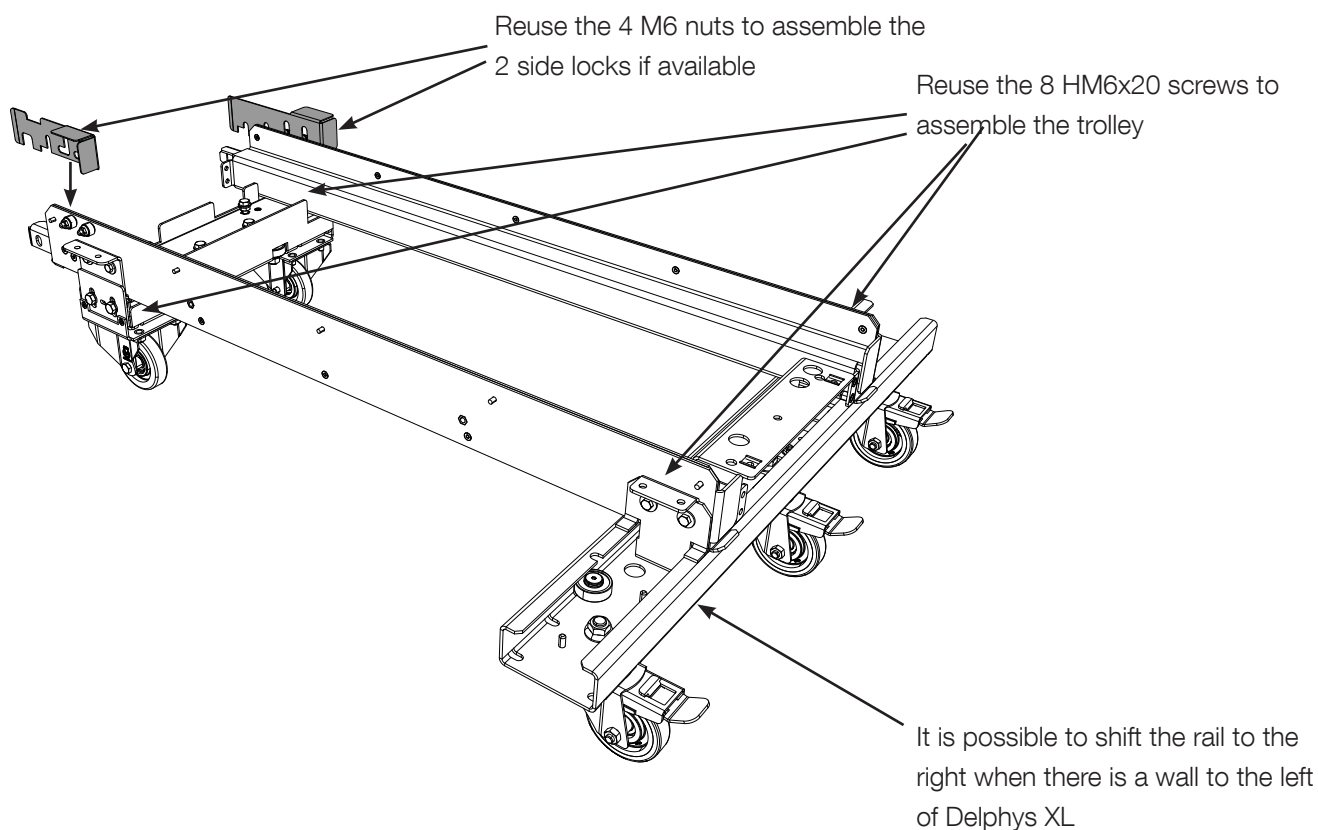


Only do this to move a Socomec Power Brick.

A. Dismantle from the storage position:



B. Assembly:



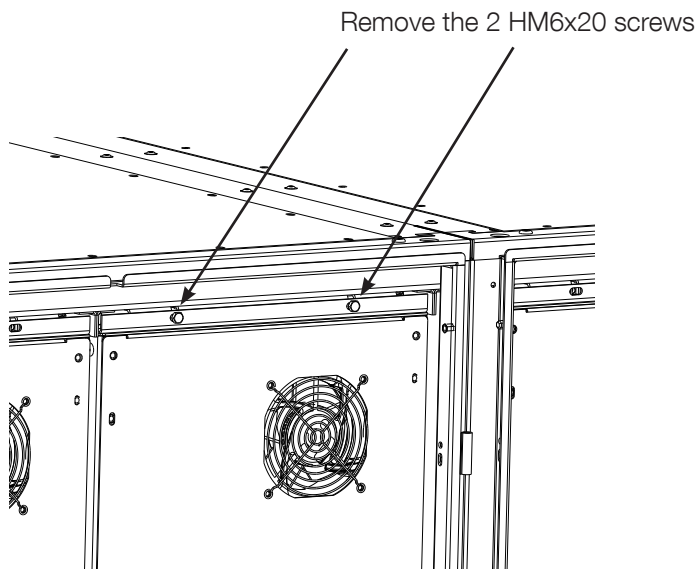
Do not store in traffic aisles

Do not use on a slope of more than 10°

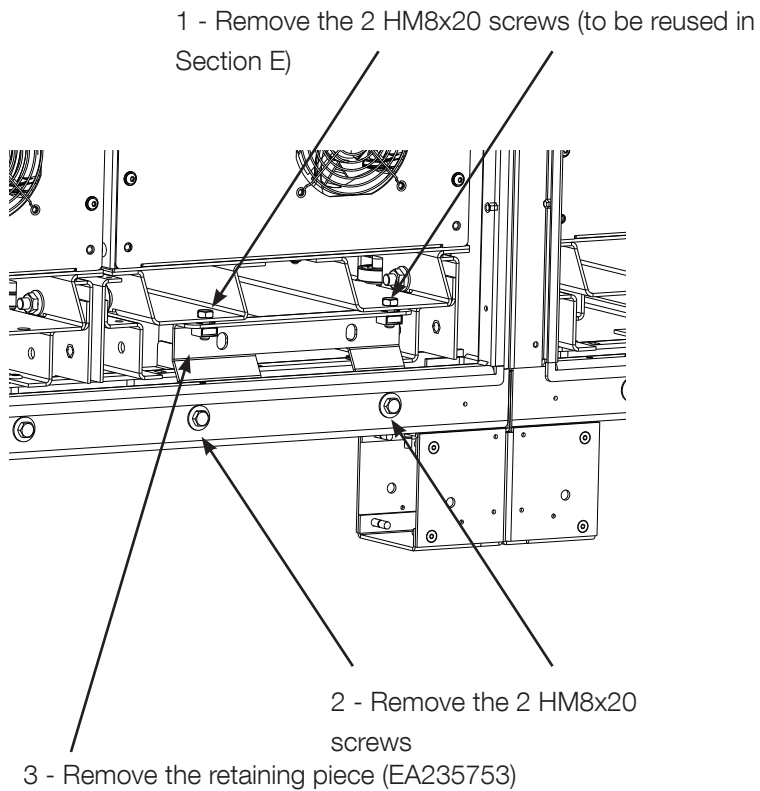
7.6. Removing Power Brick B4

A. Unlock the right Power Brick from the Bricks Cabinet.

Upper part



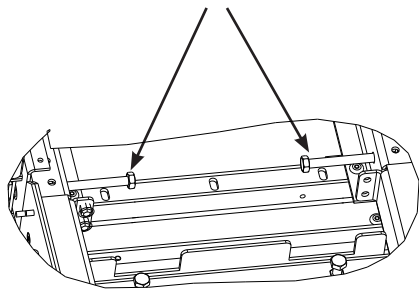
Lower part



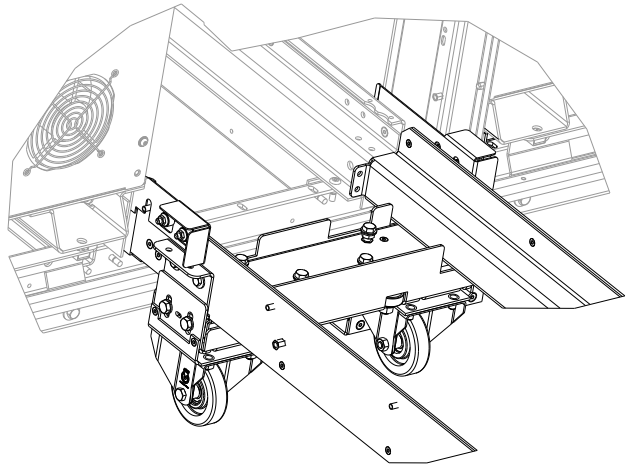
B. Fix the trolley and height adjustments.

1. Locking the trolley at the front of the Power Brick:

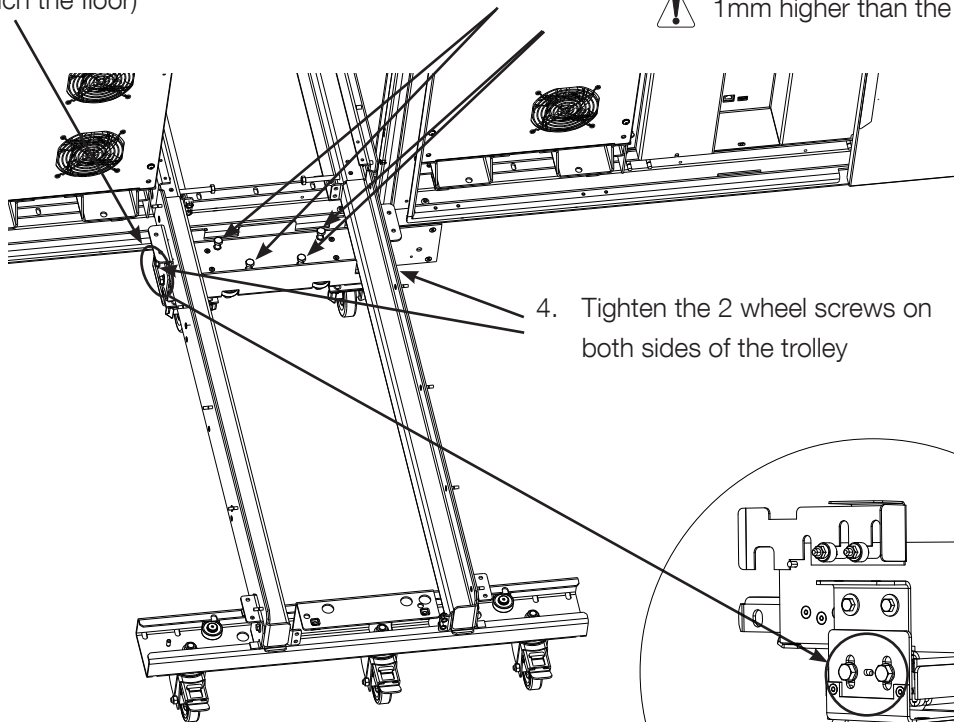
Version A: by using 2 HM8x80 screws



b. Lock the trolley using the left and right locking parts



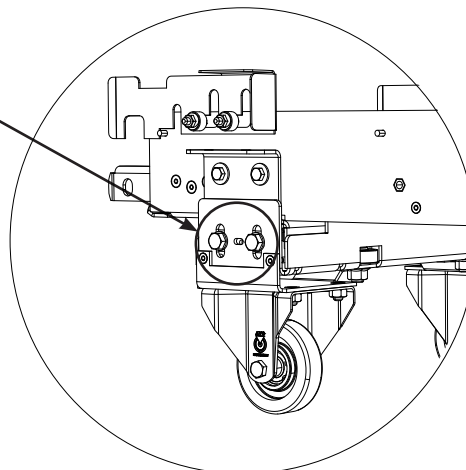
2. Loosen the 2 wheel screws on both sides of the trolley (so that the wheels touch the floor)



3. To adjust the height: progressively increase the tightening of the four screws until the trolley rails are raised

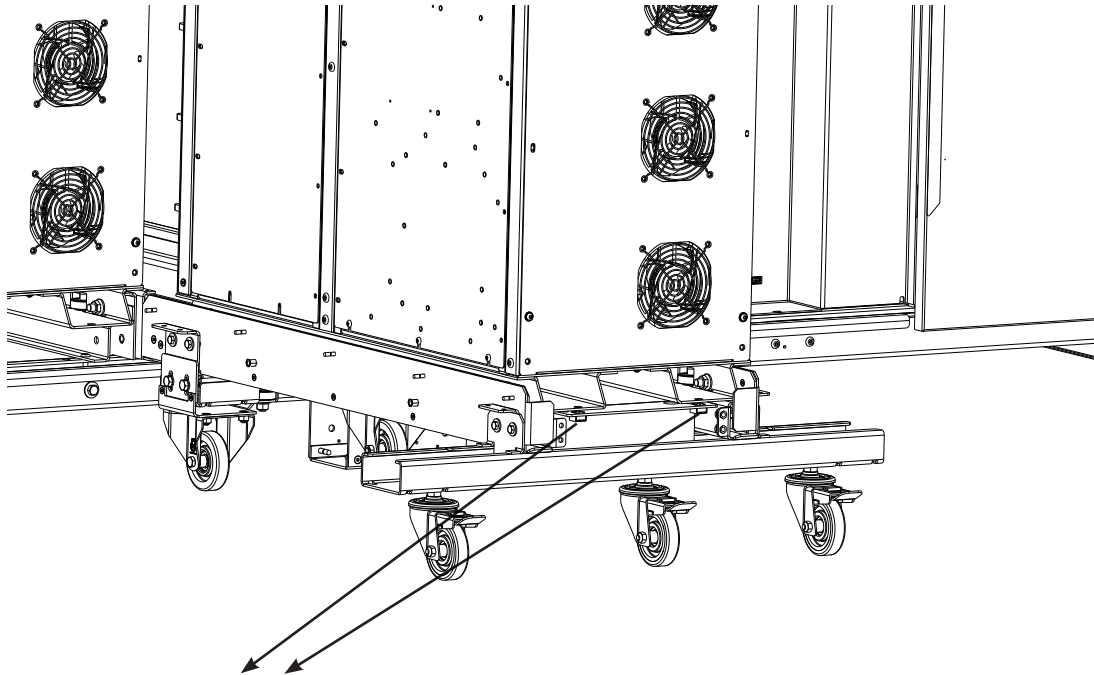
⚠ 1mm higher than the frame rails

4. Tighten the 2 wheel screws on both sides of the trolley



C. Lock the wheel brake.

D. Slide the Power Brick onto the trolley as far as the front stop of the trolley:



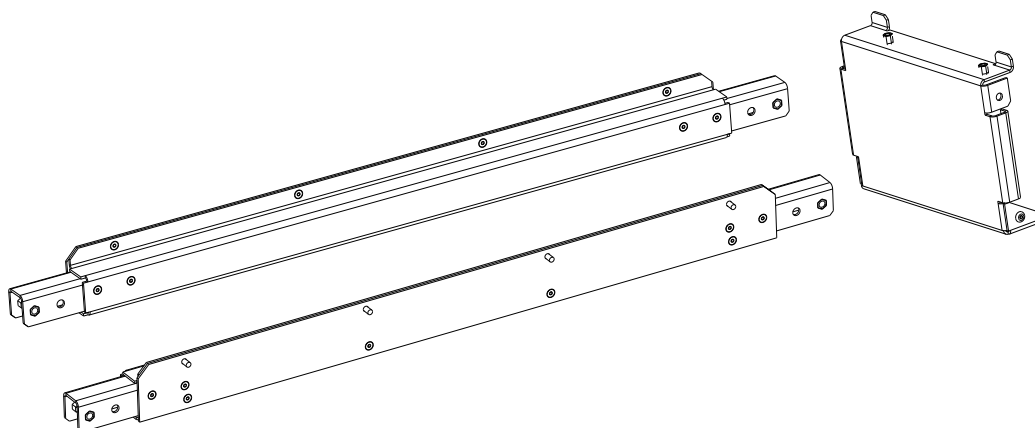
E.  Secure the Power Brick on the trolley by using the 2 HM8X20 screws (from Section A lower part).

F. Unlock the trolley in front of Power Brick (see B).

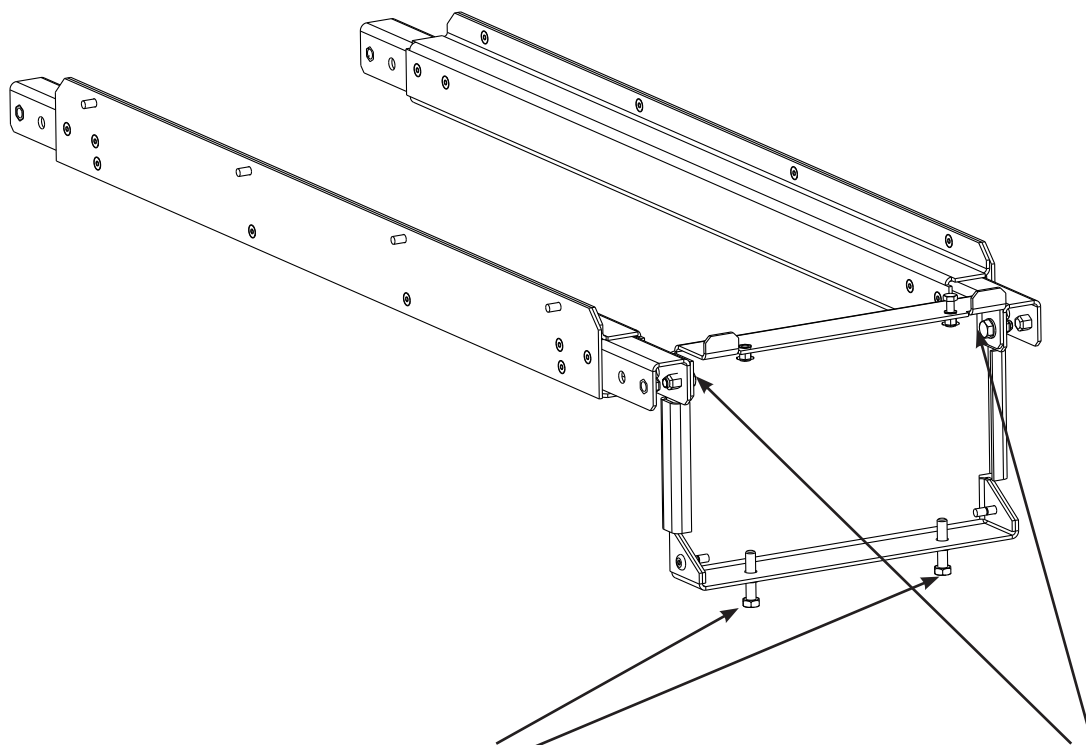
G. Unlock the wheel brake and move the trolley with the Power Brick on it.

7.7. Assembling the maintenance rails

The maintenance rails comprise 2 side parts and a foot:



To assemble the maintenance rails:



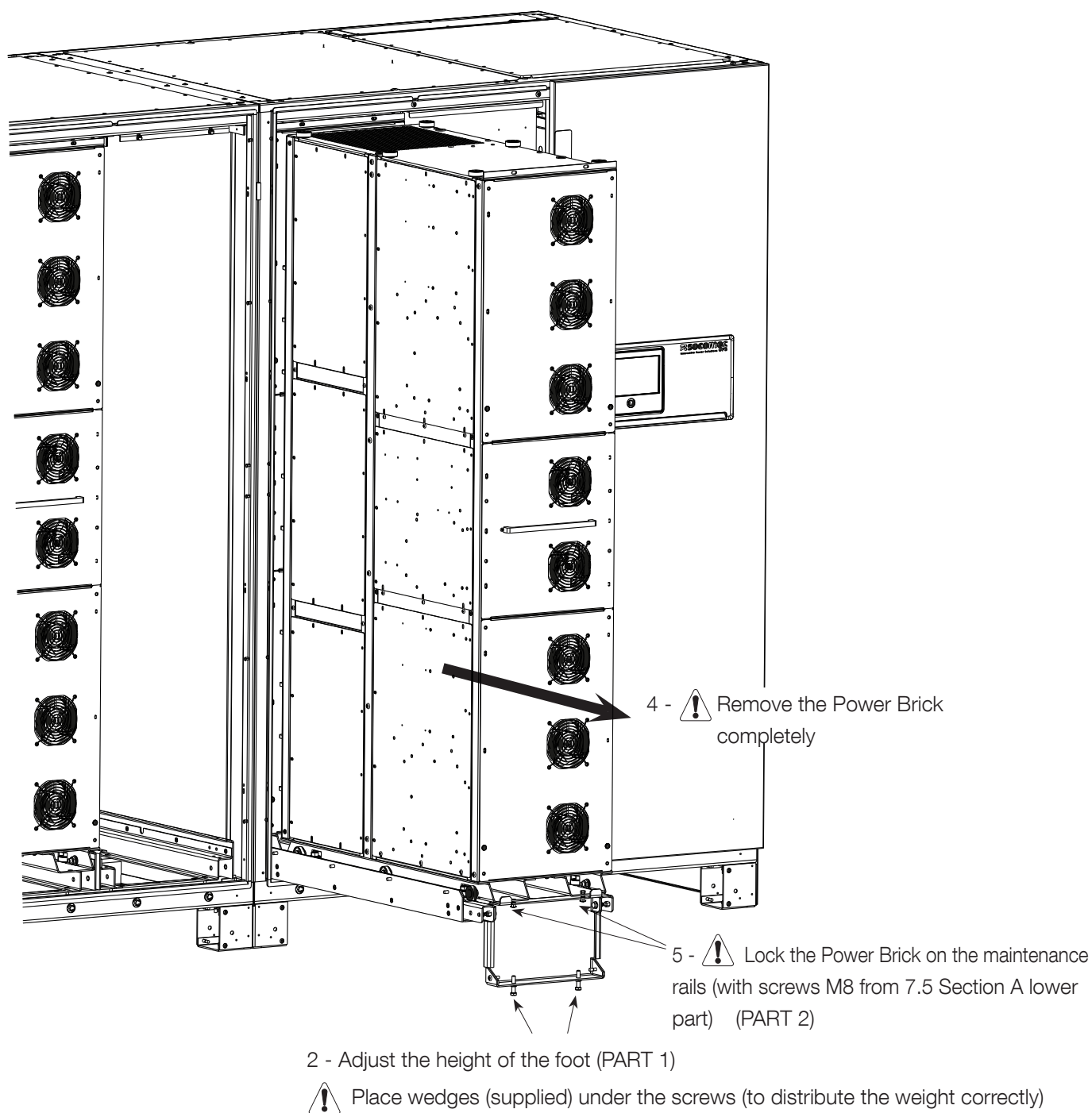
2 HM8x40 screws for adjusting the height of the foot

2 HM8x20 assembly screws from the kit

PART 1

7.8. Removing Power Brick B5

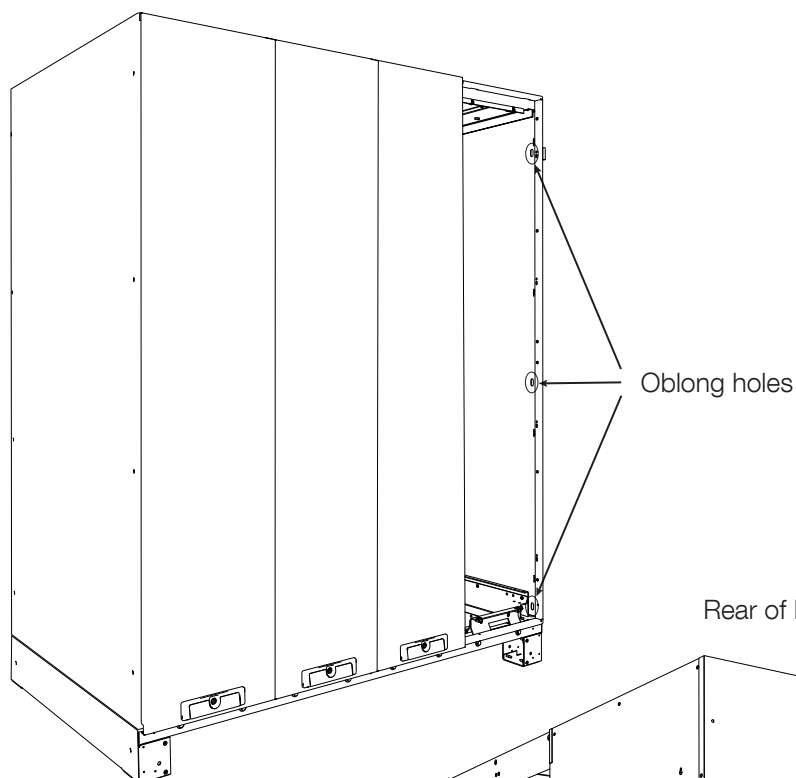
1. Unlock Power Brick B5 from the Hub Cabinet: see Section 7.6. Step A.
2. Position and adapt the height (PART 1 below) of the maintenance rails in front of Power Brick B5.
3. ⚠ Lock it onto the Hub Cabinet: see Section 7.6. Step C.
4. Slide out the Power Brick completely so you can access the connection pads.
5. ⚠ Lock it onto the maintenance rail (PART 2 below).



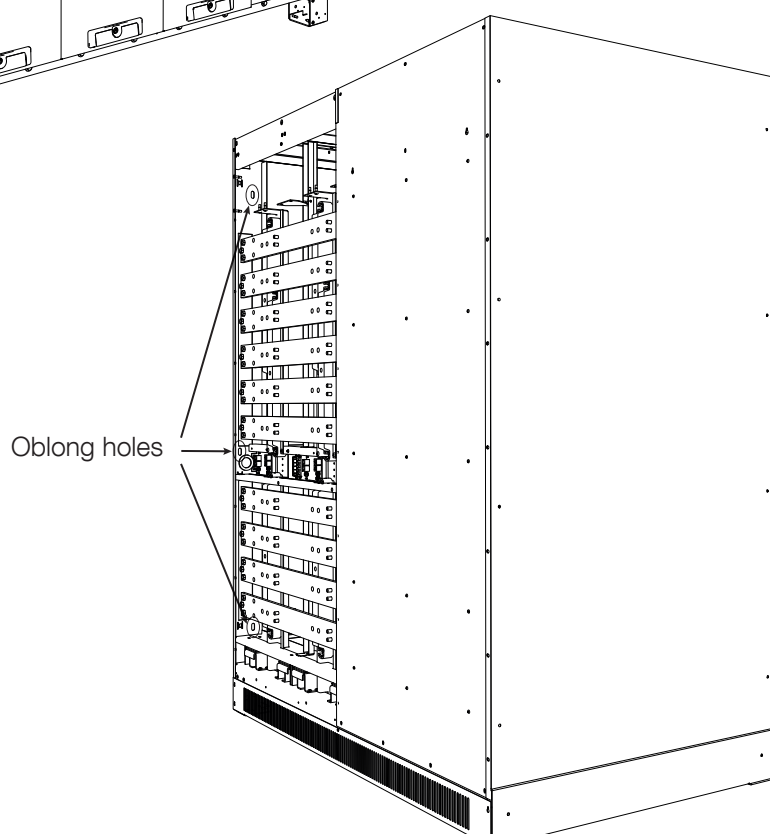
7.9. Mechanically assembling the 2 cabinets

To fix the 2 cabinets against each other, pass the 3 Tensilock screw and nut (M10x25) through the 3 oblong holes at the top front of the cabinets and repeat the operation to fix the rear.

Front of Bricks Cabinet (here DELPHYS XL 1200)



Rear of Bricks Cabinet



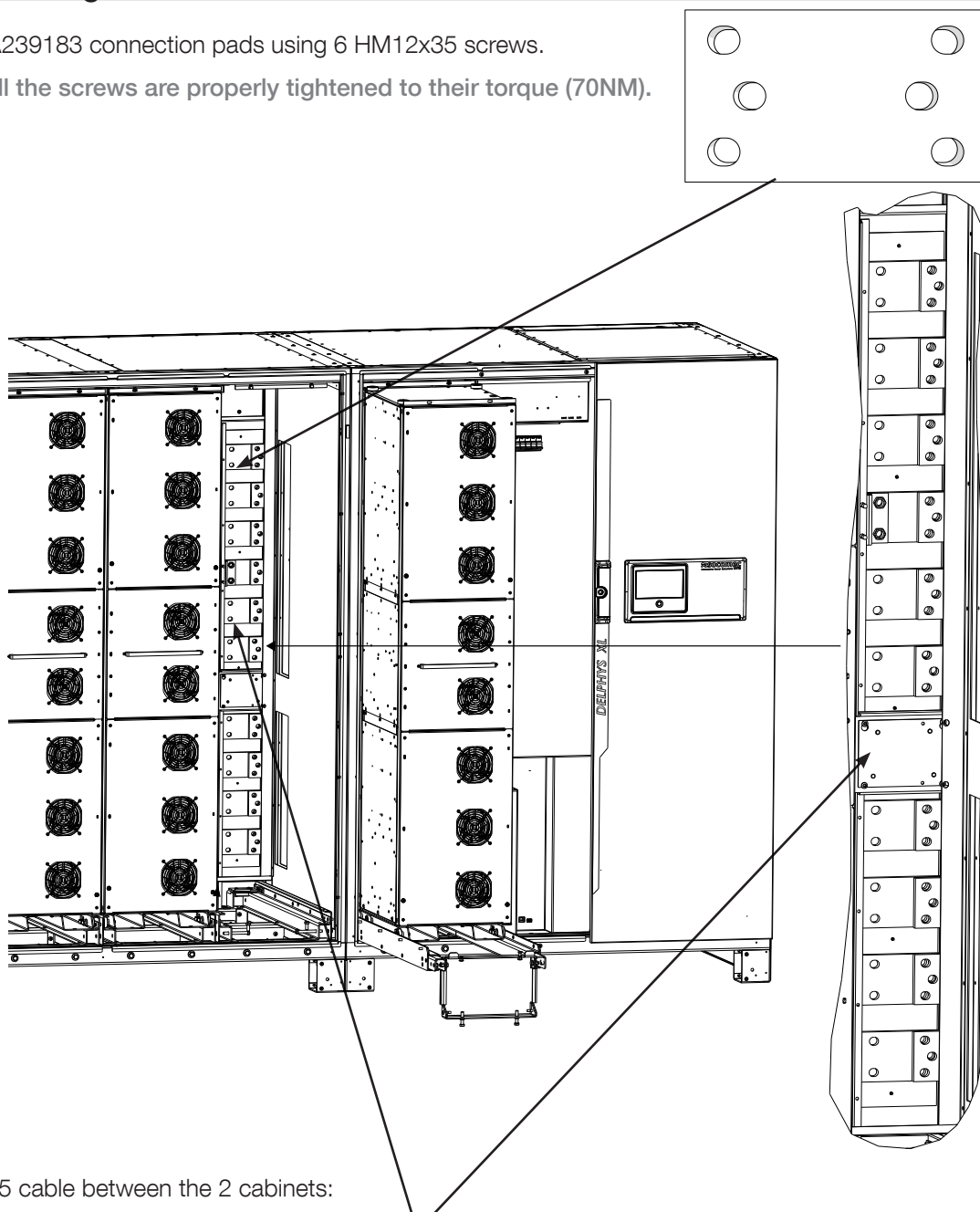
These steps are to be carried out from the front

7.10. Interconnecting the 2 cabinets

A. Install the 10x EA239183 connection pads using 6 HM12x35 screws.



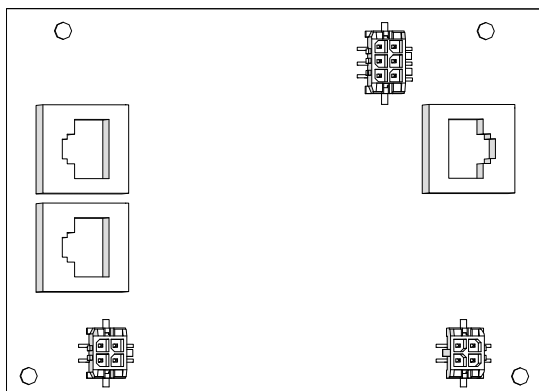
Check that all the screws are properly tightened to their torque (70NM).



B. Connect the RJ45 cable between the 2 cabinets:

Unscrew the 4 screws at each corner of the plate shown above, rotate it in a horizontal position to have access to the RJ45 terminals.

Retrieve the RJ45 cable from the Hub Cabinet through the right opening and connect it to the card on the RJ45 terminal XC5. The other 2 RJ45 terminals are already equipped with cables.



to guarantee the performance of the system, after the assembly, reassemble the elements dismantled in § 7.3 and 7.4.

8. ELECTRICAL PROPERTIES

8.1. Electrical safety

The installation and the system must comply with national plant regulations. The electrical distribution panel must have a protective device and emergency breaking system installed for the input mains and the auxiliary mains. If a differential switch is installed on the mains power switch (optional), it must be inserted upstream of the distribution panel.

8.2. Backfeed protection

The DELPHYS XL is preset for the installation of external protection devices against the backfeed of dangerous voltages on the auxiliary backup mains power supply line (AUX MAINS SUPPLY). The input power supply line (MAINS SUPPLY) is already equipped internally.

Warning labels must be affixed on all mains power disconnectors installed away from the DELPHYS XL area, to remind support personnel that the circuit is connected to a UPS Unit (see also Section 3 "Safety" of this manual and para. 4.9.3 of standard IEC62040-1). This label is supplied with the equipment.

For the connections, see image on the next page.

STANDARD:

The backfeed protection is compliant with standard IEC 62040-1.

PURPOSE:

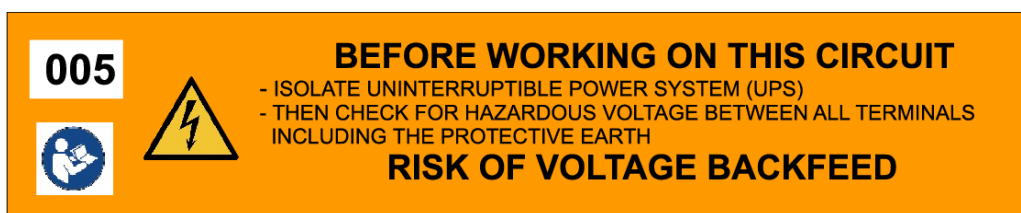
The backfeed protection ensures personnel are safeguarded against the risk of accidental resumption of power into the upstream circuit. The backfeed protection trips the automatic opening of the isolation device in the event the static commutator malfunctions.

PRINCIPLE:

The backfeed protection consists of an electronic voltage detection PCB ($> 30 \text{ Vrms Ph/N}$) fitted inside the DELPHYS XL, combined with an external electromechanical device for isolation from the power circuit (not supplied). For further details about the size of the protective device, please see Section 8.7.

LABEL (SEE SECTION 3.3):

A safety label is provided with the equipment, as follows:

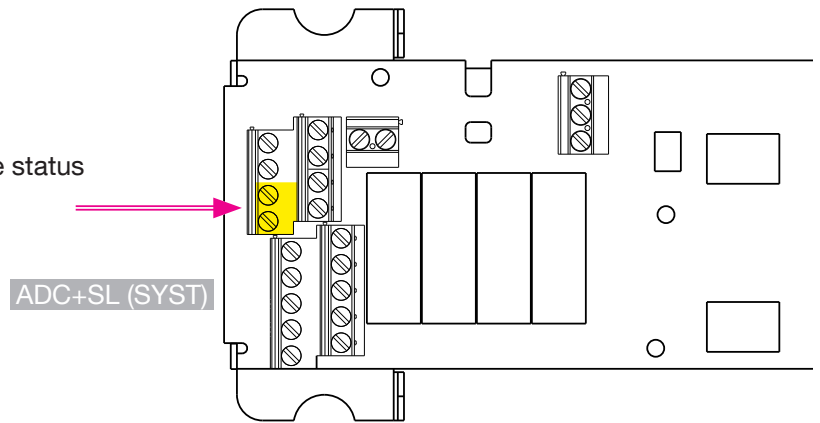


The operator must affix the label to the electromechanical device for isolation from the power circuit.

IN3+ and IN3- terminals (XB4 7-8):

In: Backfeed status

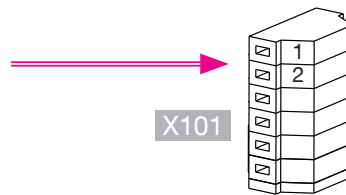
Connect the auxiliary contact indicating the status of the power isolating device.



X101 terminals 1-2 (NO):

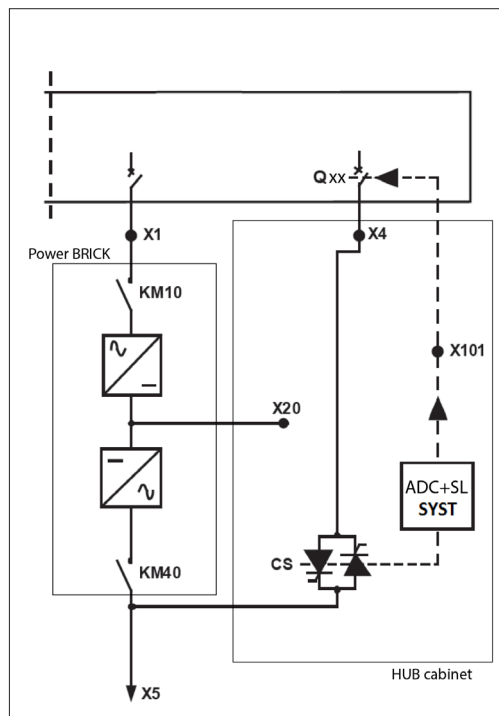
Out: Backfeed tripping coil

Connect the 220V-240V trip coil of the electromechanical device for isolation from the power circuit.



(SEE SECTION 9.6)

FUNCTIONAL DIAGRAM



Qxx: Local switch of the installation used to trigger the backfeed.

8.3. General rules for installing cables on trays

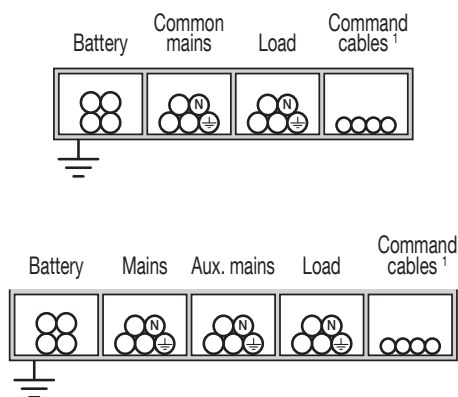


The cables must be installed on trays as indicated in the following diagrams. The trays must be positioned near the DELPHYS XL UPS Unit.

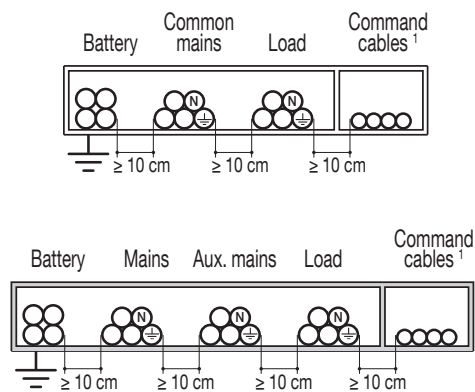


All metal and suspended trays or those on raised flooring **MUST** be earthed and connected to the various cabinets.

Correct installation

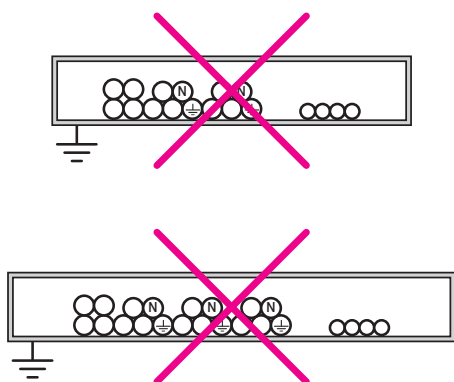


Authorised installation



Risk of electromagnetic interference between battery cables and output cables.

Incorrect installation



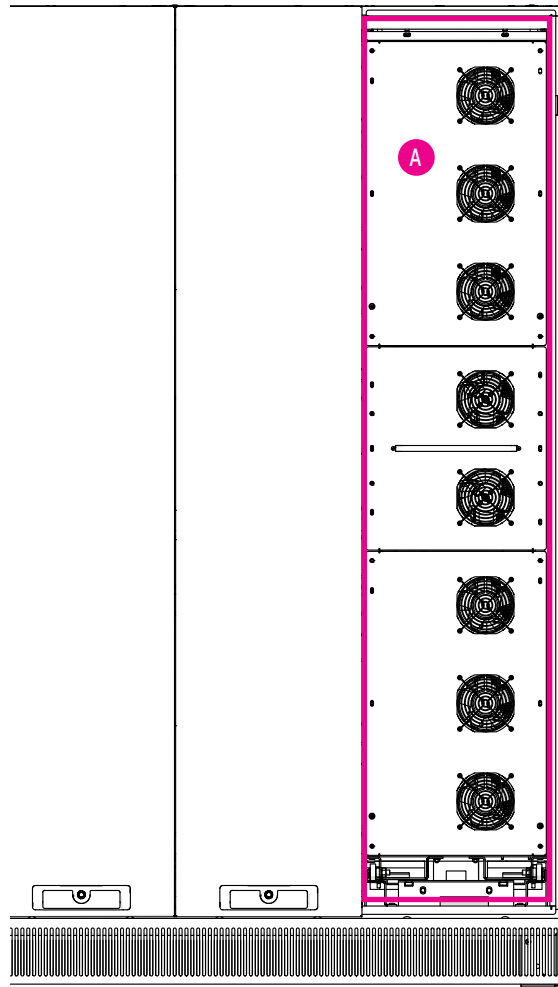
¹ Command cables: connections between the cabinets and each unit, alarm signals, connection to the BMS (Building Management System), emergency stop, connection to generator.



Do not route control and power cables close to other equipment sensitive to electromagnetic fields.

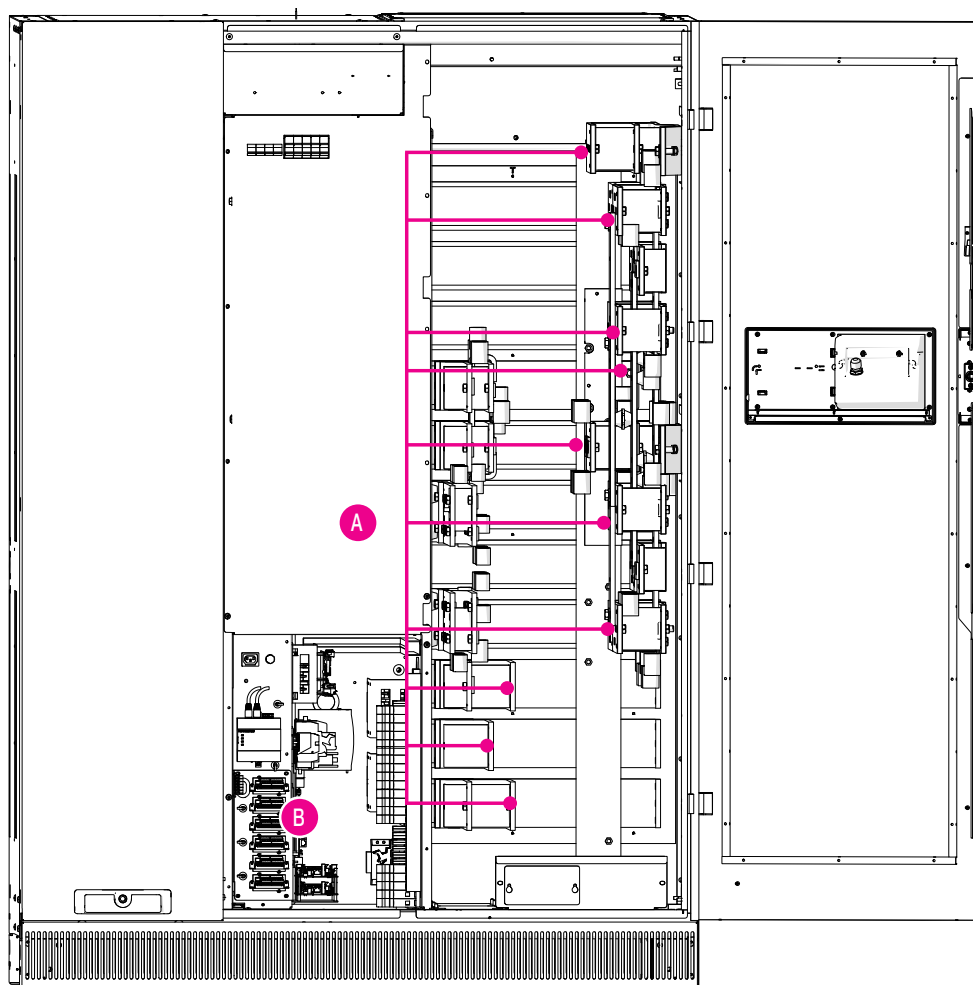
8.4. Identifying switching and connection devices

Bricks Cabinet



Key:

A Power Brick



Key:

- A Power connections
- B Communication slot (see Section 9.6)

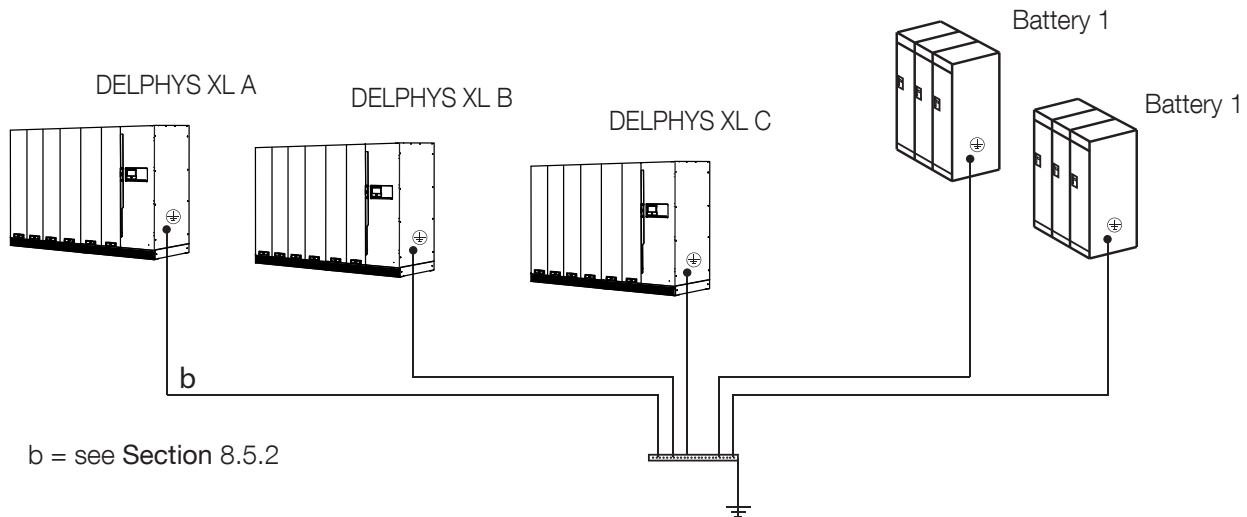
8.5. External connections

8.5.1. Connecting earth cables

IMPORTANT: due to EMI filters*, there are "HIGH LEAKAGE CURRENTS".

As a consequence, it is imperative to connect the earthing cables before the mains cables.

* EMI filters = protection against electromagnetic disturbances.



Earth the auxiliary cabinets directly to the reference earth.

Never use the UPS Unit cabinet as an earthing unit.

8.5.2. Earthing cable cross-section

We recommend an earthing cable cross-section of at least half the phase cross-section of the cable AND it should comply with national standards (for example NFC 15100 in France).

8.5.3. Leakage current (rating of the earth leakage current device)

The minimum "off-delay relays" recommended is 3 A.

8.5.4. Earthing systems and the UPS Unit



Only one copper bar is provided to connect the earth (see Section 17.11).

In TNC: UPS Unit output neutral must be earthed.

In TNS: when opening a 4-phase switch between the UPS Unit output and the transformer upstream of the bypass system, the earth connection must be present to earth the neutral.

8.5.5. Neutral cable cross-section

Check the following:

- a) The minimum cross-section of the neutral cable must be at least equal to active poles (L1-L2-L3)
- b) The balancing of the loads across the three phases
- c) The values that trip the protective devices

8.6. Values of currents for cable sizing

NOTE: These values are only indicative for standard single unit systems.

8.6.1. Input rectifier currents for DELPHYS XL

DELPHYS XL power output (kVA)	1000	1200
Max. rectifier input current (A)	1560	1950

8.6.2. Mean current supplied by the battery when discharging

The mean current value has to be taken into account for sizing connecting cables between the battery and the DELPHYS XL.

Example with VRLA batteries, 43 blocks

Rated power (kW)	1000	1200
Mean current (A)	2216	2646

For others VRLA battery configurations, please refer to the project folder or use this formula:

- DELPHYS XL 1000: Mean current_{Nbr blocks} (A) = 2216 A x 43 blocks/Nbr blocks,
- DELPHYS XL 1200: Mean current_{Nbr blocks} (A) = 2646 A x 43 blocks/Nbr blocks

For lithium batteries, please contact us for battery cable sizing.

8.6.3. Bypass current (or output current to the load)

Operating conditions are as follows:

- Rated input/output power supply voltage is 3 x 400V. For 380V or 415V, the current value must be multiplied by 1.052 and 0.964 respectively.
- The DELPHYS XL is operating at rated power.

UPS Unit power output (kVA)	1000	1200
Bypass current or output current (A)	1443	1732

Note: The sizing of cables and protections upstream of the bypass must take into account the following:

- Overloads caused by non-linear loads.
- Occasional overloads tolerated by the DELPHYS XL UPS Unit (i.e., 1.1 In continuous, 1.25 In for 10 mn or 1.5 In for 1 mn).

8.7. Sizing of circuit breakers

CIRCUIT BREAKER ON RECTIFIER INPUT, BYPASS INPUT AND COMMON RECTIFIER AND BYPASS INPUT

Values are only indicative as per the following conditions:

- The rectifier and bypass input voltage is 3x400V
- The length of cabling between the circuit breaker and the *DELPHYS XL* UPS Unit is <10 metres:

Rectifier input

DELPHYS XL power output (kVA)	1000	1200
Circuit breaker rating (A)	1600	2000

Bypass input

DELPHYS XL power output (kVA)	1000	1200
Circuit breaker rating (A)	1600	2000

Note 1: The rating of the circuit breakers must be set accordingly to the rated voltage and associated tolerances.

Note 2: Ensure that the bypass circuit breaker trigger curve takes into account the overload capacity.



In the event of a fault, the protection must open in less than 60 ms.

8.8. Protection and cross-section of battery cables

The size of the protective devices depends on the power and back-up time of the system. Protective devices other than the ones defined may cause an electrical hazard or damage to the equipment.



Please contact us to ensure the correct cable sizing.

Use double insulated cables 90°C

9. CONNECTION

9.1. Installation procedures and instructions

Before carrying out work on the terminal board or on UPS Unit internal parts, switch off the DELPHYS XL, disconnect the power supply, open the external battery cabinet disconnectors, isolate the system and wait 5 minutes.



Risk of electrocution!

- Only qualified and authorised personnel are allowed to work on or to install/disassemble the product.
- These instructions apply together with the operating instructions of the product.
- The product is designed only for the application specified in the operating instructions.
- Accessories can be used with the product only if approved or specified by Socomec.
- Before proceeding with the implementing, mounting, commissioning, configuration, cleaning, decommissioning, dismantling, wiring or maintenance operations, the product and the installation must be powered off. However, specific instructions for a product may allow live intervention under certain conditions, means, qualifications and authorisations.
- The user must not carry out repair work on this product.
- Contact Socomec for any questions regarding the disposal of the product.
- For other languages, please contact Socomec or your local distributor.
- Failure to follow the product instructions and this safety information may result in personal injury, electric shock, burns, death or damage to property.

9.2. Terminal connections (Hub Cabinet)

	Designation	Centre-to-centre distance	Screws	Max. number of cables according to size (others on request)			Clamping torque
PE	PE	See Section17.11	M12x35 ⁽¹⁾	6 x 240 mm ² per pole	5 x 300 mm ² per pole	4 x 400 mm ² per pole	70 Nm
X1	Rectifier mains input 3PH			6 x 240 mm ² per pole	5 x 300 mm ² per pole	4 x 400 mm ² per pole	
X4	Bypass mains input 3PH+N			6 x 240 mm ² per pole	5 x 300 mm ² per pole	4 x 400 mm ² per pole	
X5	Load output 3PH+N			6 x 240 mm ² per pole	5 x 300 mm ² per pole	4 x 400 mm ² per pole	
X2	Battery input			up to 10 x 240mm ² per pole (+/-)			



⁽¹⁾ Must be connected using M12x35 screws + contact washer supplied



Double insulated cables 90° should be used; please contact us for other requirements.



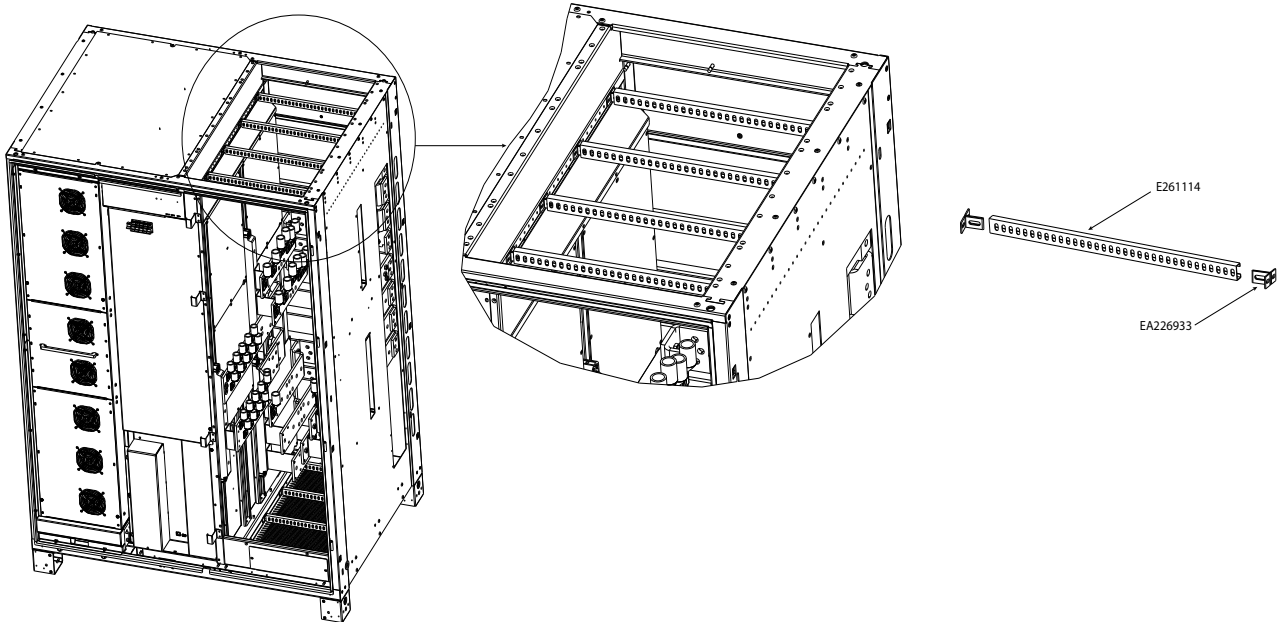
All terminal blocks are already fitted with a nut at the back.

9.3. TELEX rails

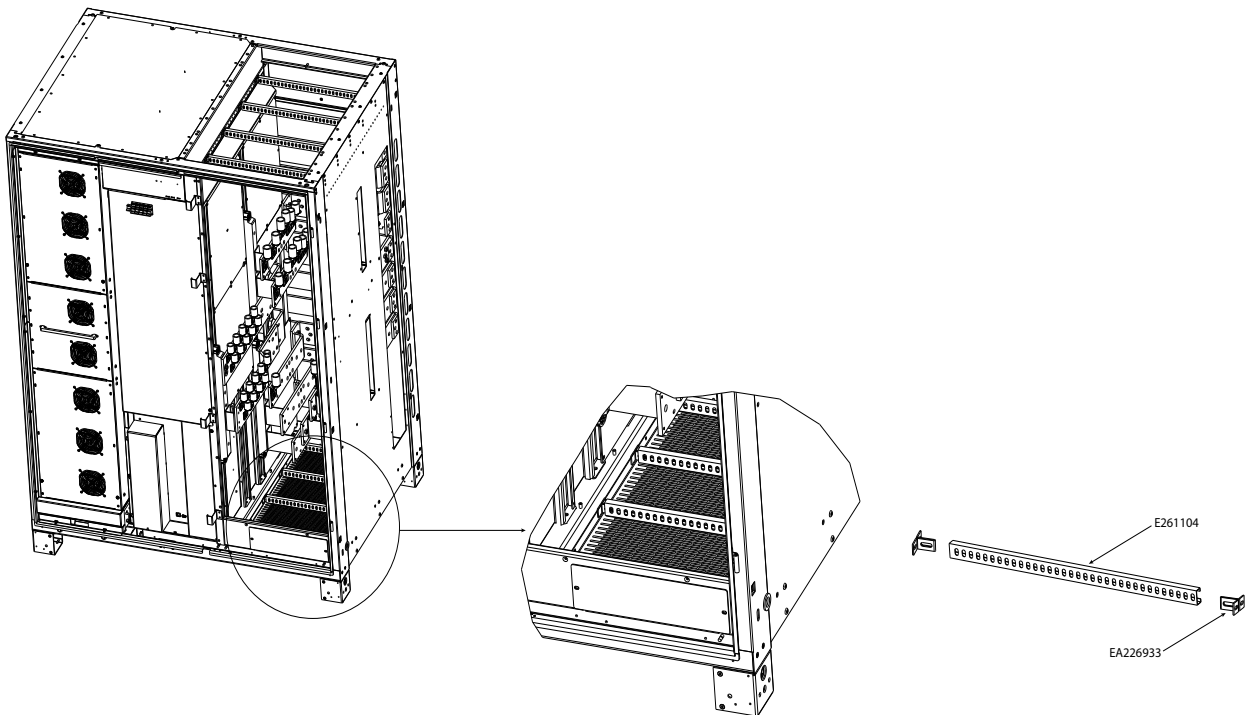
These rails are used to support the weight of your routed power cables. As such, they can be installed according to your configuration.

They are supplied as a kit:

- For the top: TELEX rail length 570 mm E261114 (x4) + fix TELEX rail EA226933 (x8)



- For the bottom: TELEX rail length 420 mm E261104 (x4) + fix TELEX rail EA226933 (x8)



- TENSILOCK screw H M6x16 8.8 ZnB E430028 (x8)
- TENSILOCK nut M6 CL.8 ZnB E430048 (x8)
- Screw ATFOR CBX M5-12 ZnB E432388 (x16)

9.4. Cabling the mains power to the Hub Cabinet

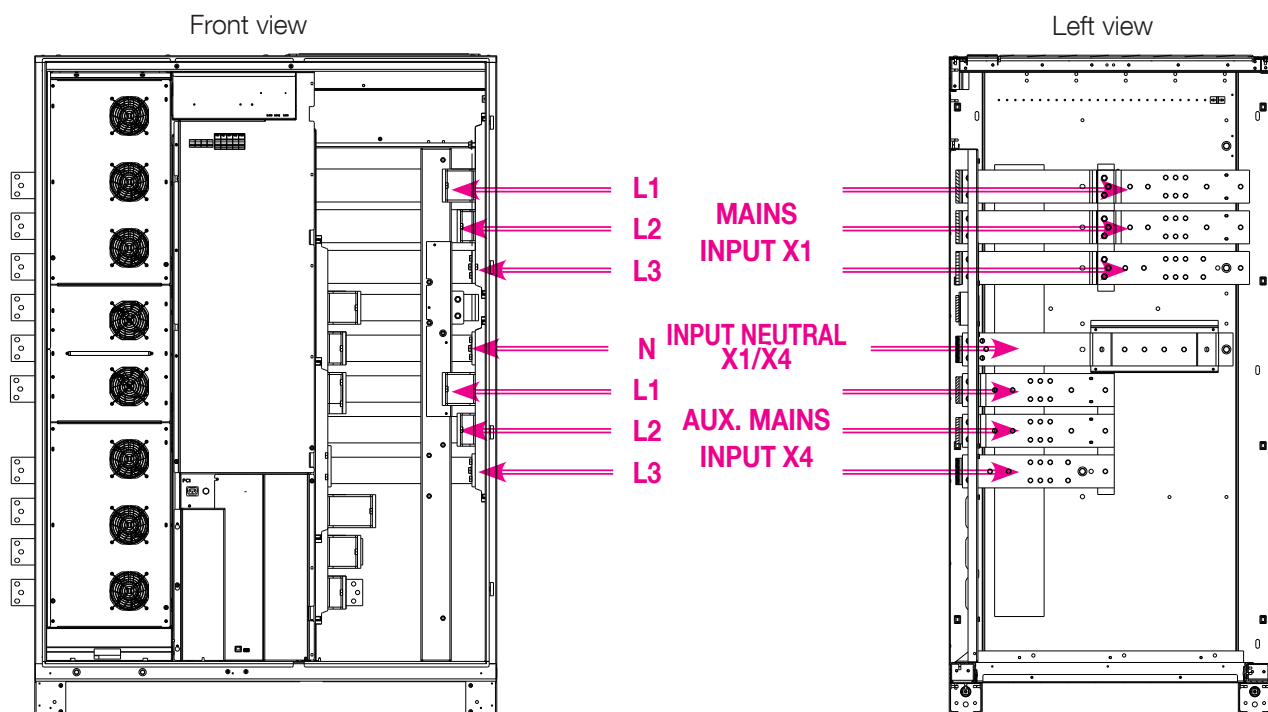
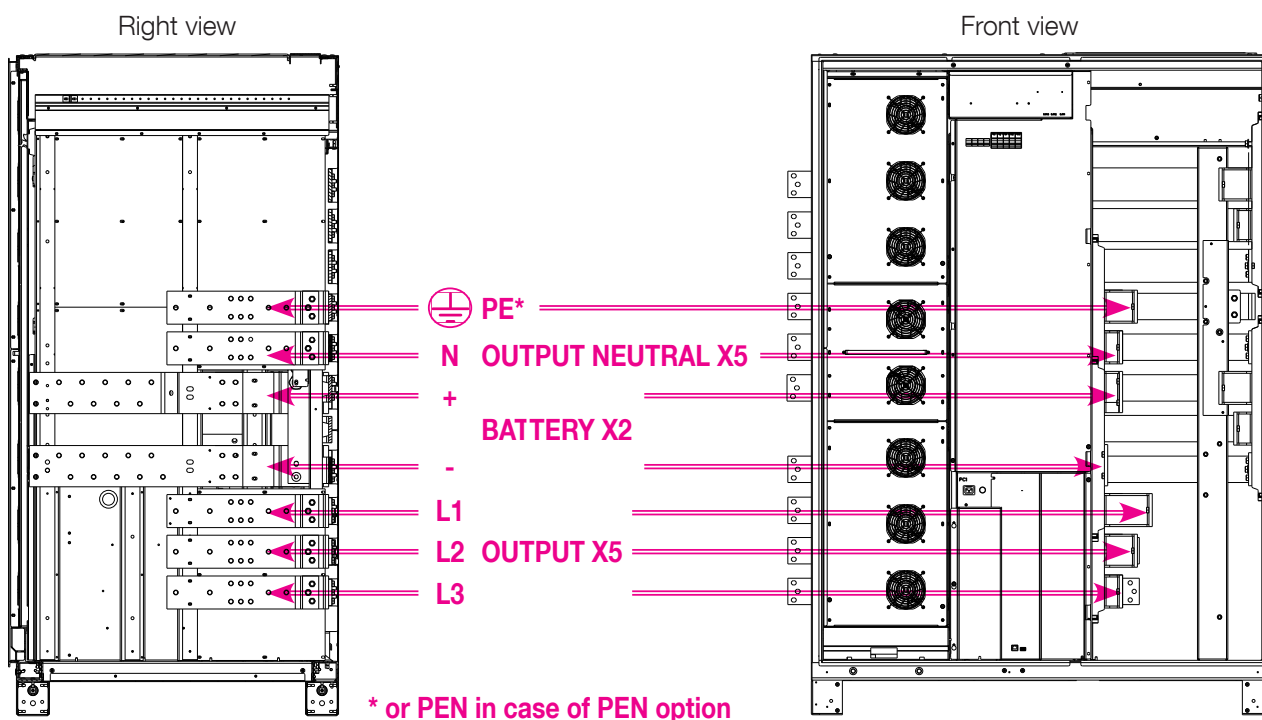


Ensure the Hub Cabinet switches are "open" before starting these steps.



Finish the connections with the battery cables.

9.4.1. MAINS and AUX MAINS are connected SEPARATELY, input from below



For other configurations (mains and aux. mains connected in common, input from the top...) see the drawing in Section 17 Appendix.

9.4.2. Optional configurations

Please ask us for optional configurations (extended neutral R1).

9.5. External battery connection



Before carrying out any of these steps, ensure that:

- The battery protections are open
- The DELPHYS XL is not live and all mains or battery switches are open
- The switches upstream of the DELPHYS XL are open



Use double insulated cables or the cables supplied with the unit to connect the DELPHYS XL to the battery coupling cabinet.



Cabling errors with inversion of the battery polarity may cause permanent damage to the equipment.



If batteries not supplied by the manufacturers of the DELPHYS XL are used, it is the responsibility of the installer to check the electrical compatibility and the provision of suitable protective devices between the DELPHYS XL and the batteries (fuses and switches of sufficient capacity to protect the cables from the DELPHYS XL to the batteries protection cabinet). As soon as the DELPHYS XL is switched on (before closing the battery switches) the battery parameters must be verified accordingly (voltage, capacity, number of elements, etc.) by Socomec technician.



For safety reasons during transport and handling, the batteries are disconnected at each rack (or by sections not exceeding 150 V). Take all necessary precautions when reconnecting the cables.



Connection must be performed by authorised staff, who have been previously trained. The following connections must be made:

- Battery cabinet to earth
- Polarities + and - to the UPS
- Between battery sections and/or between racks

IMPORTANT:



Before closing the battery protection, make sure all rectifiers have started up!

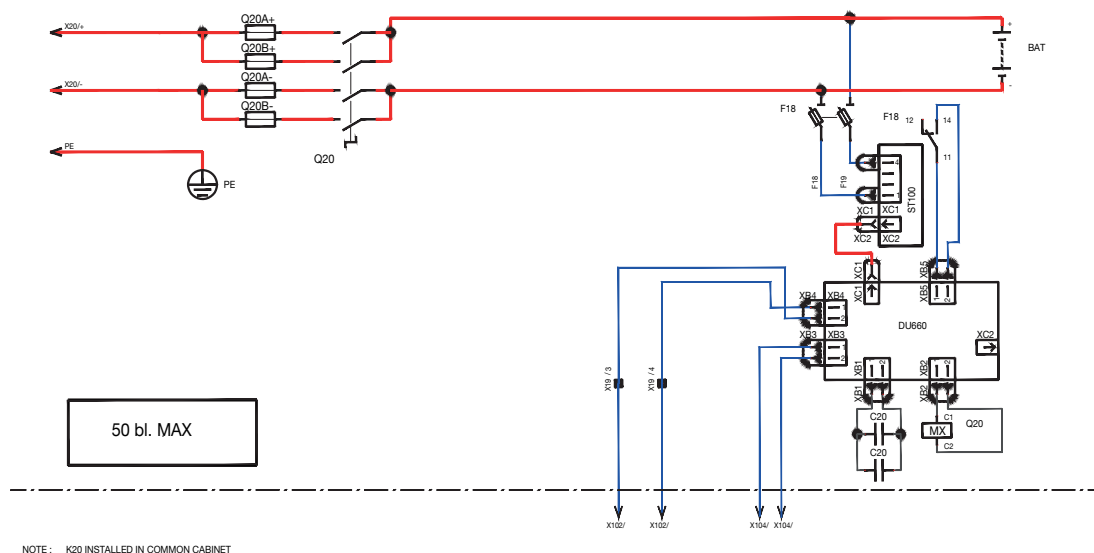
AUTOMATIC TRIPPING OF BATTERY PROTECTION Q20

DELPHYS XL detects the presence or absence of the battery to inform the user and manage the corresponding states/alarms. No dry contact information is required from the battery protection device.

If a triggering system is on board the battery protection device, information on its availability is sent to the UPS (X104) (see Section 9.6).

This option enables Q20 to be opened following an UPS Power OFF activation, a battery slow discharge detection or the end of back-up time (if requested).

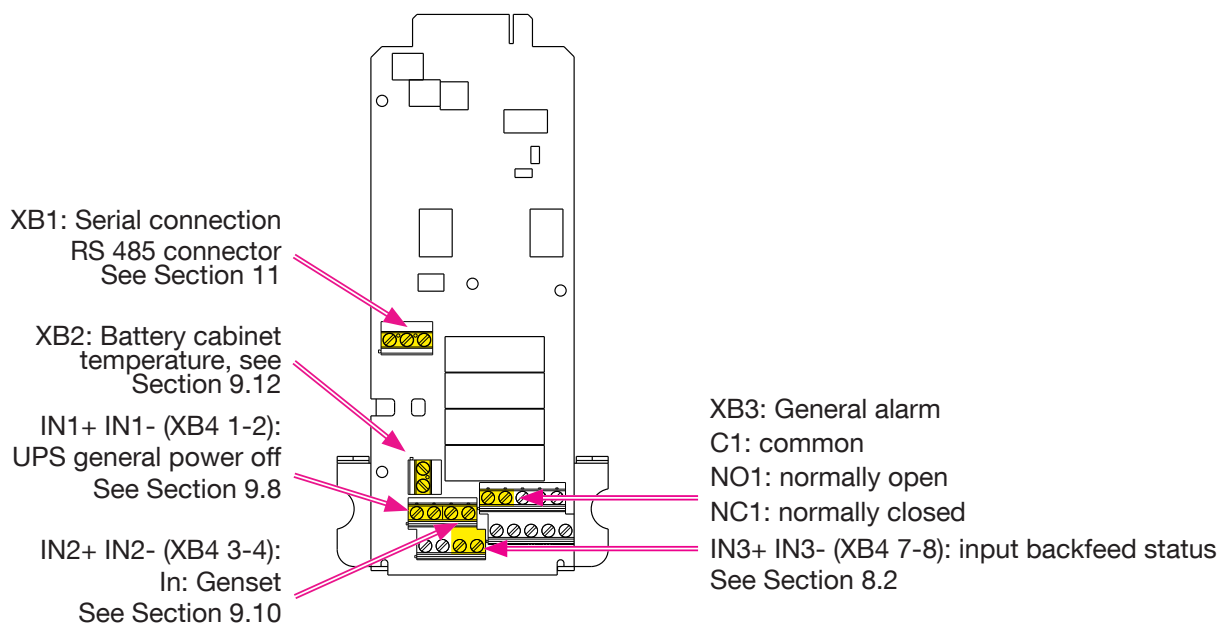
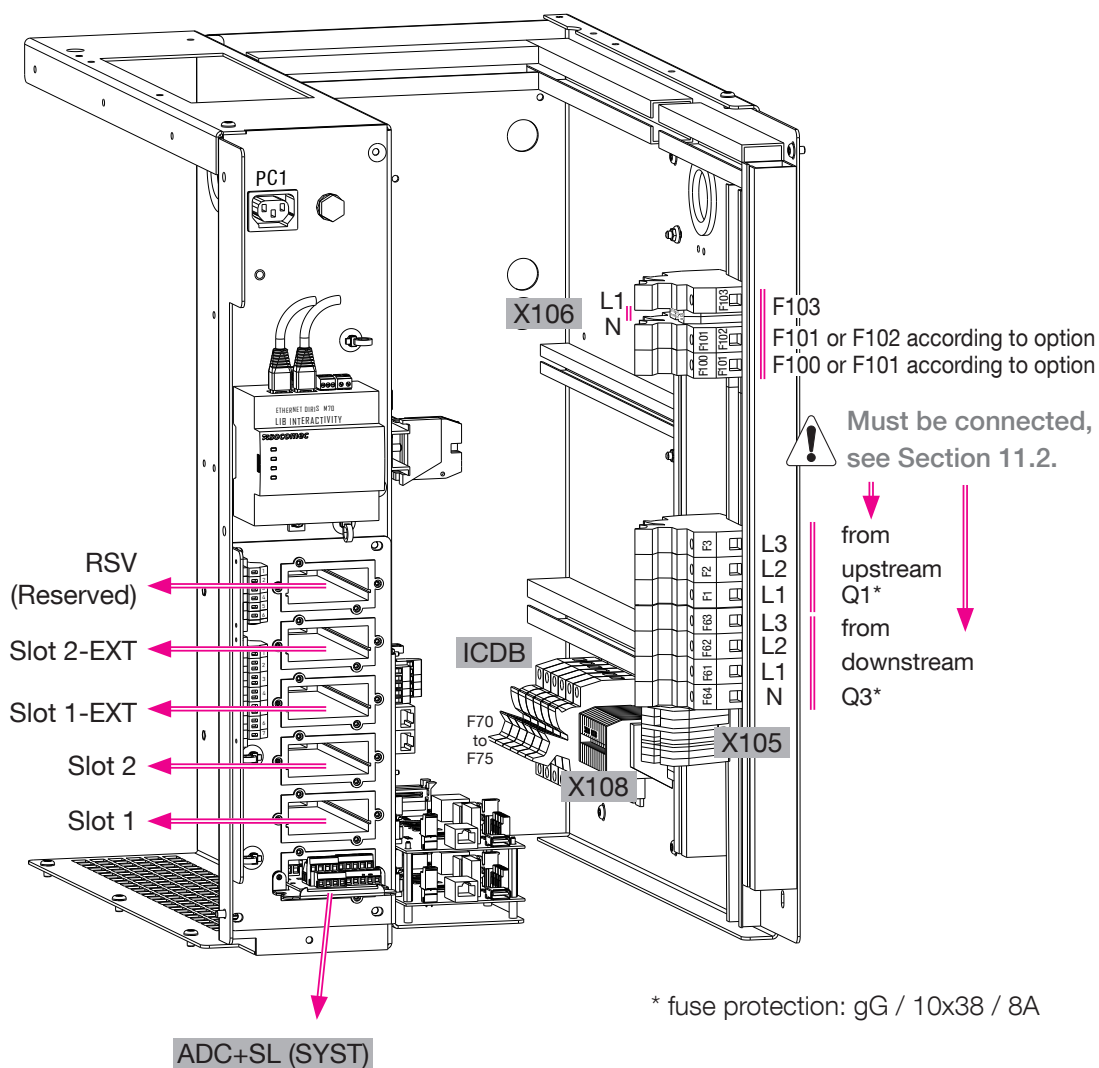
Example of a battery tripping system:

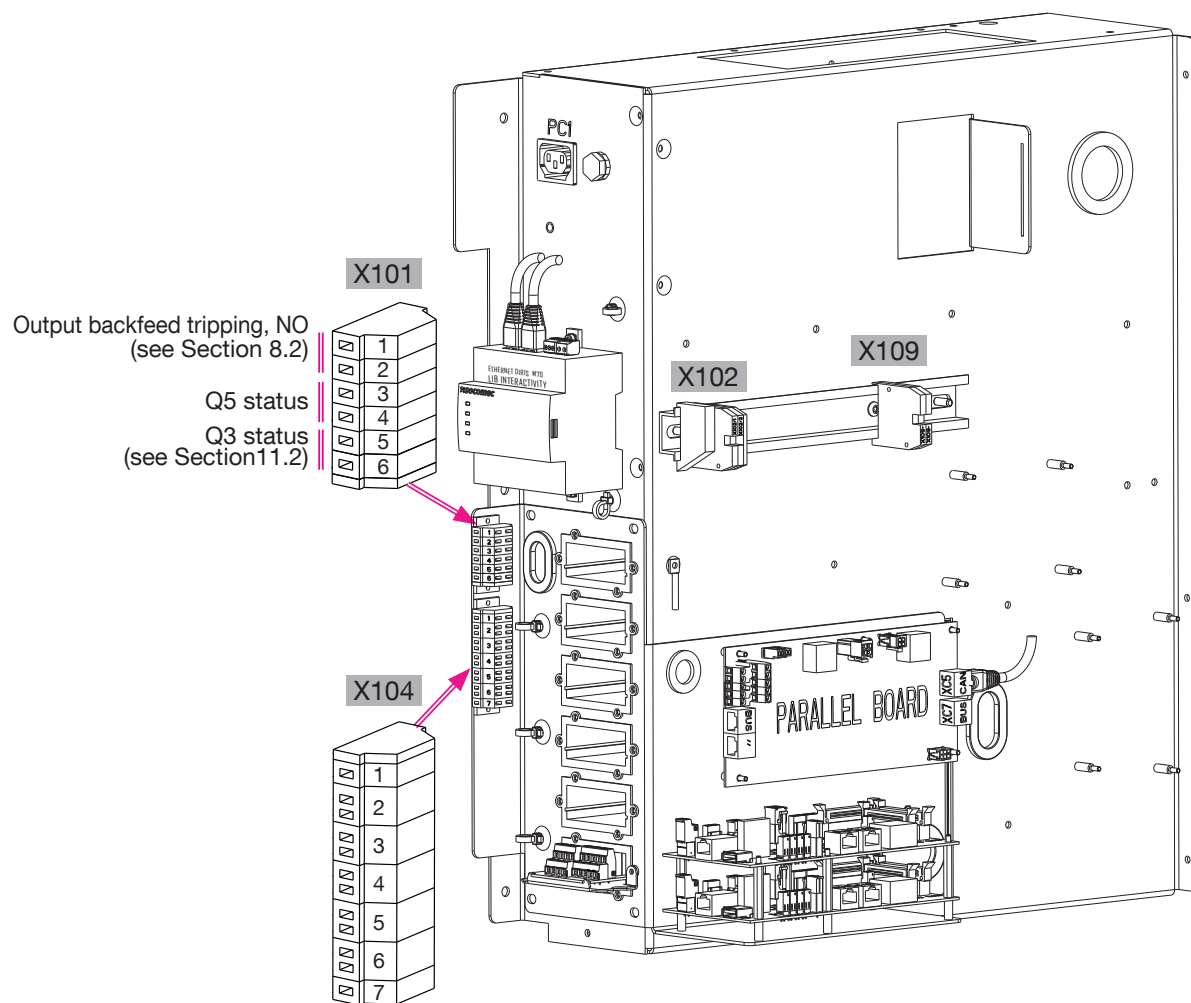


9.6. Terminals

Depending on your ordered options

LEFT VIEW





9.7. Completing the installation



Remember to put the protective screens back on.

9.8. External "UPS general power off" connection

A "UPS general power OFF" contact can be connected to the ADC+SL (SYST) card (See Section 9.6).

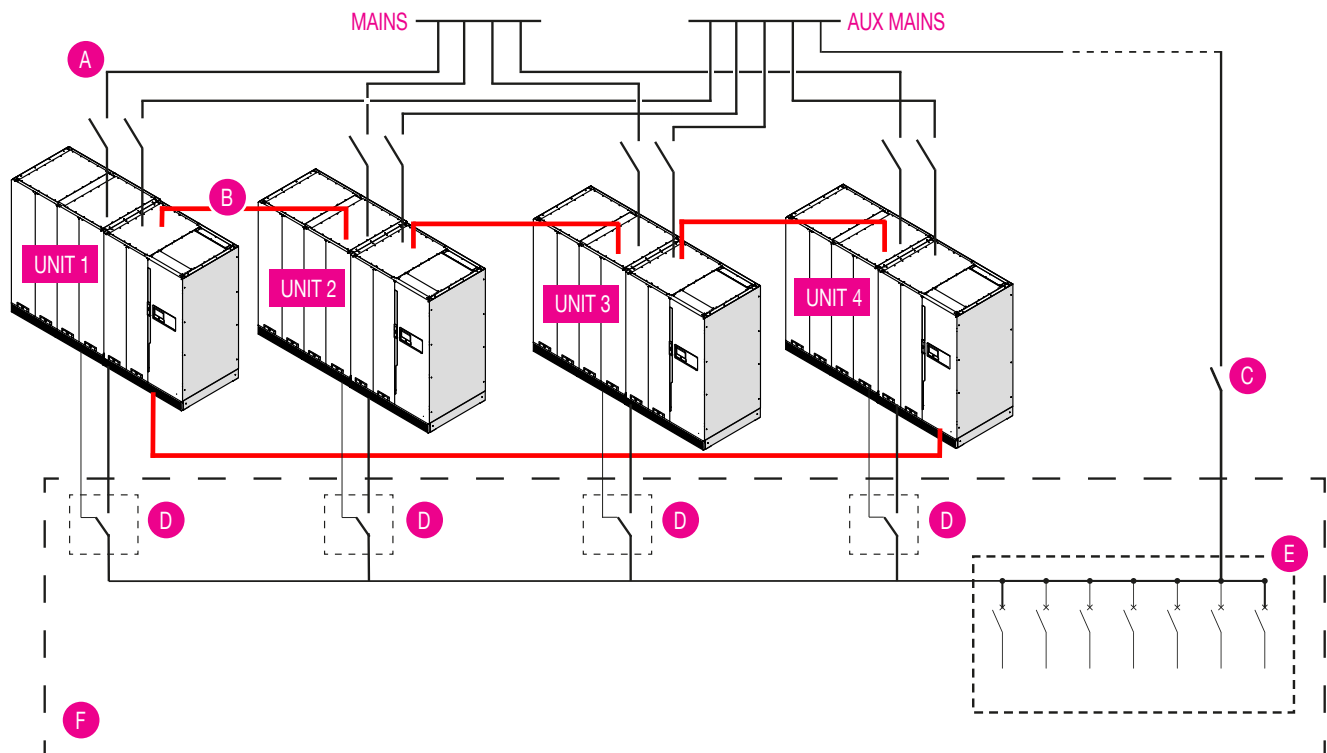
The UPS general power OFF causes the following:

- Load power off (< 3 s)
- Inverter, rectifier and automatic bypass shutdown
- Battery disconnection if the additional Mx coil is mounted (optional) Otherwise, the battery remains connected.

This situation does not meet all cases of an "emergency shutdown".

Connect a dry NO contact to terminals IN1+ and IN1- on the ADC+SL (SYST) card of each Hub Cabinet.

9.9. Parallel configuration



Key:

- | | |
|--|--------------------------|
| A Input protections Q1 (rectifier) Q4 (Bypass or common) | D Coupling switches (Q3) |
| B "Parallel bus" cable (RJ45) | E Distribution |
| C Maintenance bypass Q5 | F PDU |

The cross-section of the input and output cables must be identical for all the units. If this is not possible due to the site configuration, please contact us.



The impedance deviation of the length of the cables (input + output) must be a maximum of 2.5% ($Z \pm 1.25\%$ compared to the average impedance of the lines, respectively phase by phase). In this case, the load rate of the units will be between 97% and 103%, which is fully within the capacity of the UPS under normal conditions.

9.10. Genset contact connection

GENERATOR SET information allows the DELPHYS XL to modify its behaviour when the generator set is supplying power to the

UPS Unit. The corresponding input is located on terminals IN2+ and IN2- on the ADC+SL (SYST) card (see Section 9.6),

When used, this feature allows the following options:

- Power walk-in to avoid load step on the generator (configurable ramp)
- Battery charge current limitation (configurable)
- Greater bypass voltage/frequency tolerances (configurable)
- Inhibition of the synchronisation to the bypass line (on request)
- Option to lock the transfer to the bypass line (on request)
- Advanced genset management

9.11. Galvanic isolation transformer

If an external isolation transformer cabinet is required, the following instructions should be followed:

- The protection cable marked with the earth symbol should be connected directly to the distribution panel.
- The transformer can either be connected to the DELPHYS XL input or output.



If the neutral is not connected to the bypass input, please contact us.

For details of the connections, refer to the transformer terminal board diagram on the DELPHYS XL door.

9.12. Connecting the battery cabinet temperature sensor

One sensor per unit

As standard, DELPHYS XL delivers one input to connect a battery temperature sensor

- Use the specific kit available with the UPS Unit.
- Fix the sensor in the battery compartment or inside the battery cabinet.
- Connect the temperature sensor to XB2 on the ADC+SL (SYST) card (See Section 9.6); without cabling distance limits and without the need to observe polarity, by using a 2 x 1 mm² double isolation cable.

10. COMMUNICATION

10.1. Multiple communication options

The DELPHYS XL UPS Unit can manage various serial, contact and Ethernet communication channels at the same time. The 2 communication slots available allow the use of signalling accessories and cards.

Each communication channel is independent; you can set up simultaneous connections for various levels of remote signalling and monitoring (see Section "11 Options" for details on the functionality of the cards that can be installed in the slot).

The table below shows the possible connections between the UPS Unit communication channels and the external devices.

POSSIBLE OPTIONS

	slot 1	slot 2	slot 1 - EXT	slot 2 - EXT
ADC + Serial Link interface	•	•	a ^(*)	b ^(*)
NetVision	•	•	a ^(*)	b ^(*)
Modbus TCP	•	•	a	b
IoT Gateway	•	•	a	b
BACnet	•	•	a	b
External gateway for LIB	•	•		

a: possible only if slot 1 is equipped with an ADC + Serial Link interface.

b: possible only if slot 2 is equipped with an ADC + Serial Link interface.

For details, please see Section "8.4 Identifying switching and connection devices".

(*) ADC+Serial Link interface type "bootloader" is not compatible with slots 1-EXT or 2-EXT.

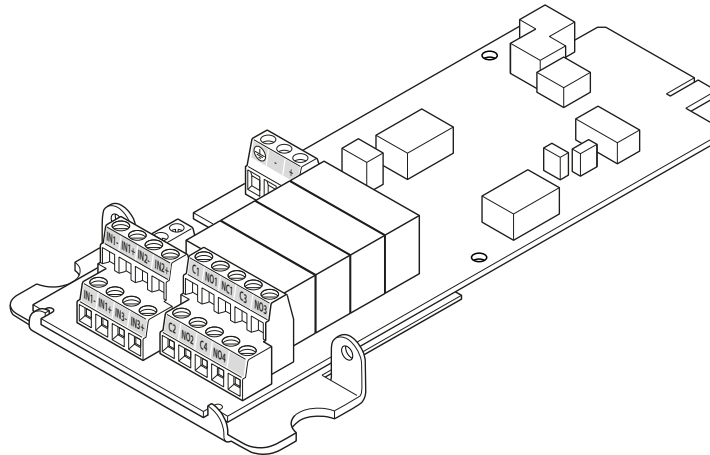
11. OPTIONS

11.1. ADC + Serial Link interface

The ADC+SL (Advanced Dry Contact + Serial Link) is an optional slot board that provides:

- 4 relays for external device activation (can be set as normally closed or normally open)
- 3 free inputs to signal external contacts to the UPS Unit
- 1 connector for an external temperature sensor (optional)

The board is plug&play: the UPS Unit is able to recognise its presence and configuration and manages the ADC outputs and the inputs accordingly. It is possible to create a customised operating mode using the XpertSoft tool. For more details, please see the Quick Start Guide.



11.2. External switch

For the safety of the equipment, the open or closed status of the output switches (Q3 and Q5) must be connected to terminal block X101; see Section 9.6.

If there is no Q3 on a single DELPHYS XL installation, shunt X101 5-6 to simulate the auxiliary contact (similar to an always closed Q3).

To supply voltage to certain optional features, the input voltages (to be tapped upstream of the primary network power switch Q1) and the output voltages (to be tapped downstream of the output switch Q3) must be connected to the fuse holders:

F1 to F3:

- Li-ion battery option for SAMSUNG & VISION models only

F61 to F64:

- ACS option for a connection between SOCOMEC UPS Units
- PROFIBUS option
- PROFINET option
- Li-ion battery option for SAMSUNG models only
- Long distance parallel wiring

See Section 9.6.

11.3. Isolation controller

This device continually checks the transformer isolation, displaying an alarm message on the mimic panel.

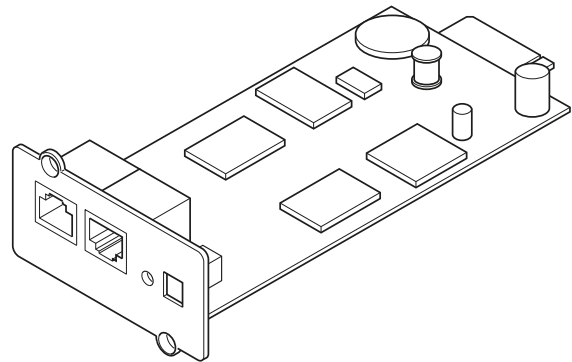
11.4. External maintenance bypass

This device will electrically exclude and isolate the DELPHYS XL UPS Unit (e.g. for maintenance operations) without interrupting the power supplied to the load (please see Section 9.6).

11.5. Net Vision card

NET VISION is a communication and management interface designed for business networks. The UPS Unit behaves exactly like a networked peripheral. It can be managed remotely, and allows the shutdown of network workstations.

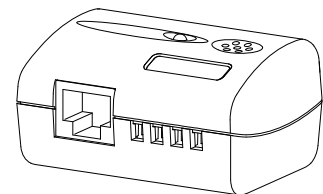
NET VISION provides a direct interface between the UPS Unit and LAN network avoiding dependence on the server and supports SMTP, SNMP, DHCP and many other protocols. It interacts via the web browser.



11.5.1. EMD

The EMD (Environmental Monitoring Device) is a device to be used in conjunction with the NET VISION interface and provides the following features:

- Temperature and humidity measurements + dry contact inputs
- Alarm thresholds configurable via a web browser
- Notification of environmental alarms via email and SNMP traps



11.6. ACS card

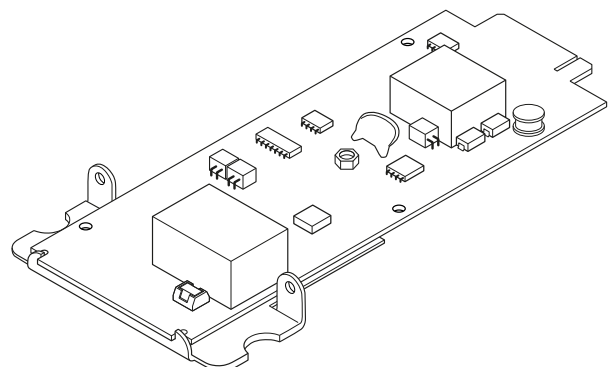
ACS (Automatic Cross Synchronisation) card is used to receive a synchronisation signal from an external source and manage it for the UPS Unit where it is installed, and provide a synchronising signal, where requested, to another UPS.

11.7. Modbus TCP card

With the MODBUS TCP card fitted in the options slot, the UPS Unit can be monitored from remote stations using the appropriate protocol (MODBUS TCP - IDA).

11.8. BACnet card

With the BACnet card fitted in the options slot, the UPS Unit can be monitored from remote stations using the appropriate protocol (BACnet - IDA).



12. PREVENTIVE MAINTENANCE



All operations on the equipment must be carried out solely by Socomec personnel or by authorised service personnel.

Maintenance requires accurate functionality checks of the various electronic and mechanical parts and, if necessary, the replacement of parts subject to wear and tear (batteries, fans and capacitors). It is recommended to carry out periodic specialised maintenance (annually), to keep the equipment at the maximum level of efficiency and to avoid the installation being out of service with possible damage/risks. Moreover, attention should be paid to any requests for preventive maintenance that the equipment may automatically display with alarm/warning message.

12.1. Batteries

The state of the battery is fundamental to the UPS's operation.

Thanks to the Expert Battery System, the information relating to the state and the conditions of use of the battery is processed in real-time. The recharging and discharging procedures are selected automatically in order to optimise battery life expectancy and offer maximum performance.

Since the expected life of the batteries is very much dependent on operating conditions (number of charging and discharging cycles, load rate, temperature), a periodic check by authorised personnel is recommended.



When replacing the batteries, use the same type and configuration by placing them in the appropriate containers so as to avoid the risk of acid leakage.



The replaced batteries must be disposed of at authorised recycling and disposal centres.



Do not open the plastic cover of the batteries as they contain harmful substances.

12.2. Fans

The service life of the fans used to cool the power parts depends on the usage and environmental conditions (temperature, dust).

Preventive replacement by an authorised technician is recommended within 7 years (in normal operating conditions).



When needed, fans must be replaced as per Socomec specifications.

12.3. Capacitors

The equipment houses electrolytic capacitors (used in the rectifier and inverter section) and filtering capacitors (used in the output section). Their service life depends on the usage and environmental conditions.

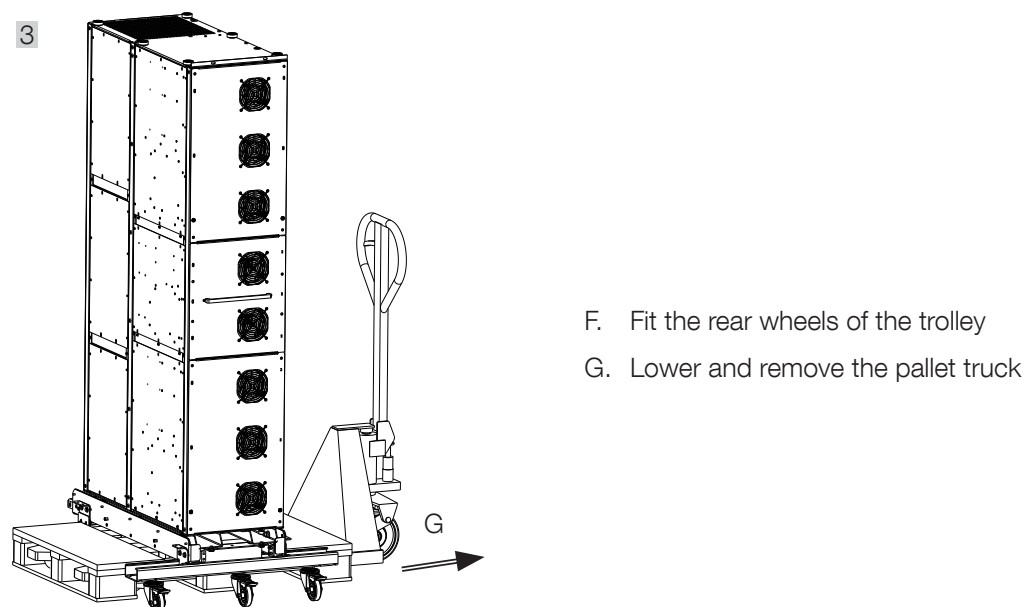
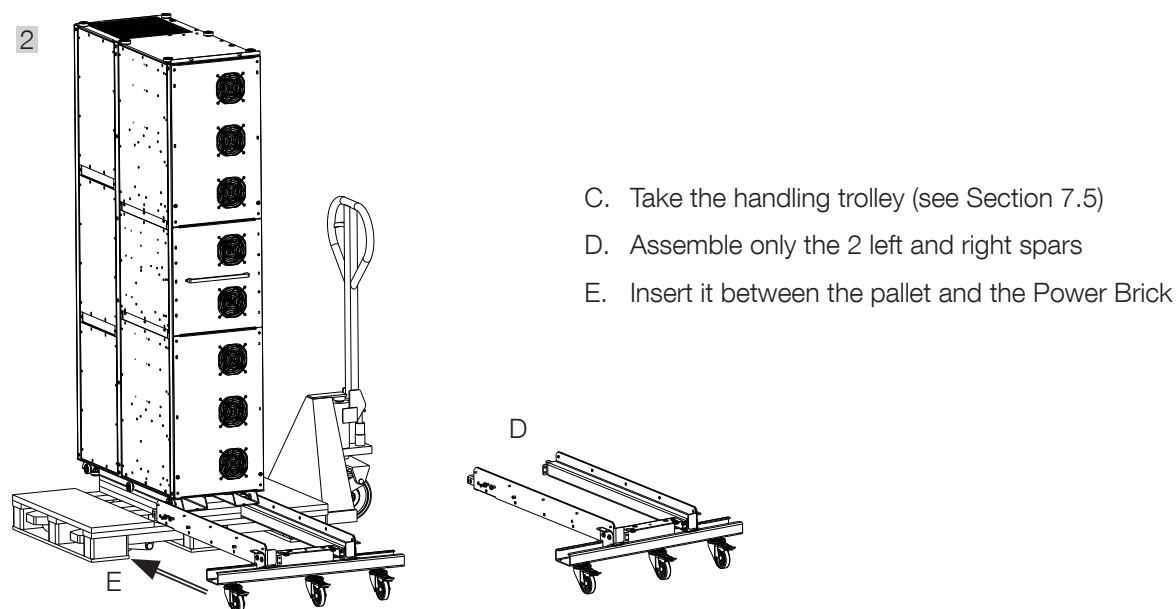
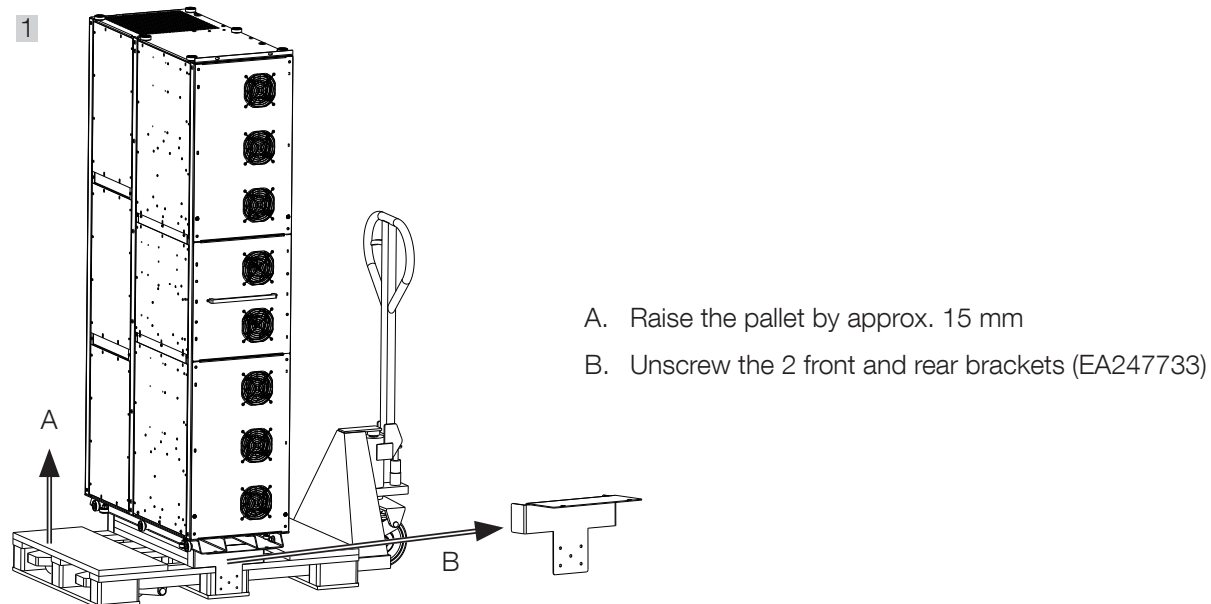
The average expected service life of these components is shown below:

- Electrolytic capacitors: 7 years
- Filtering capacitors: 7 years

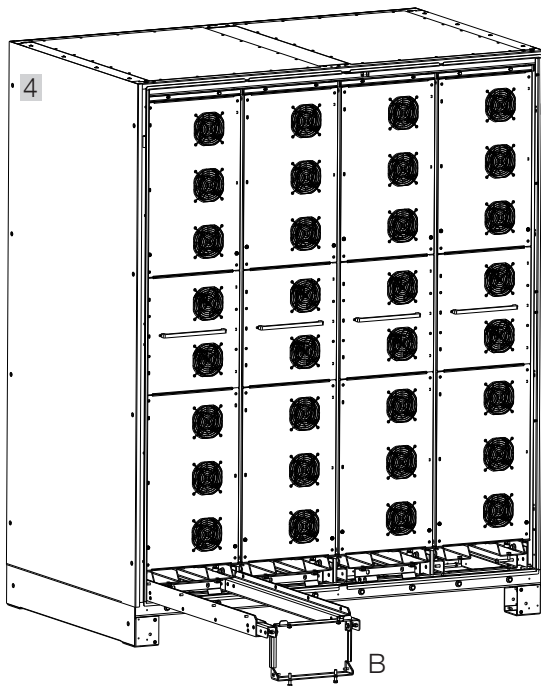
In any case, preventive maintenance will prolong the effective state of the components.

13. REPLACING A POWER BRICK WITH A SPARE POWER BRICK

13.1. Removing a Spare Power Brick from its pallet



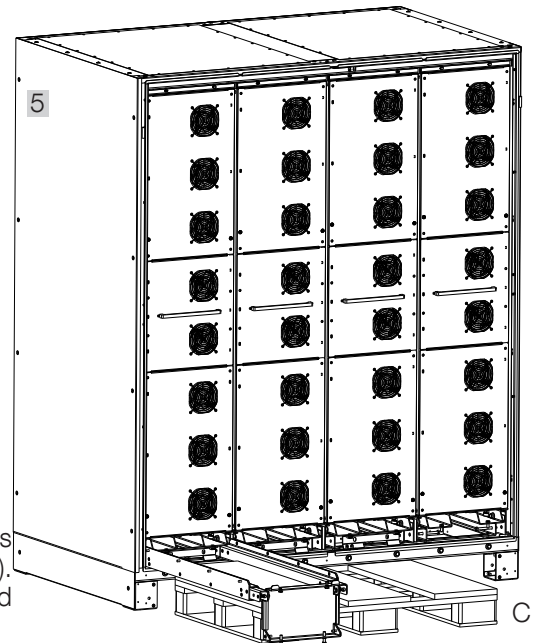
13.2. Removing a brick from the cabinet using the service foot



- A. Remove the 4 front panels and the lower grille
- B. Install the service foot (E919817)

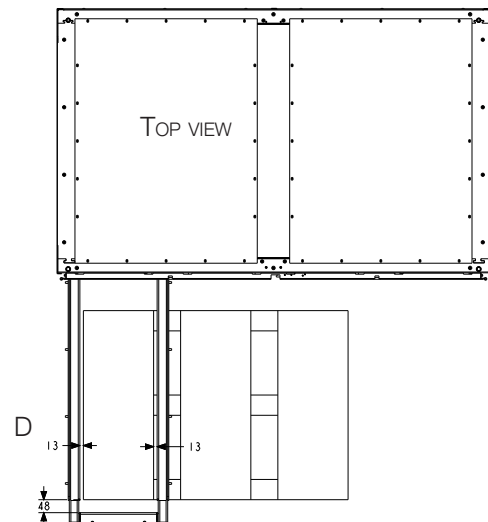
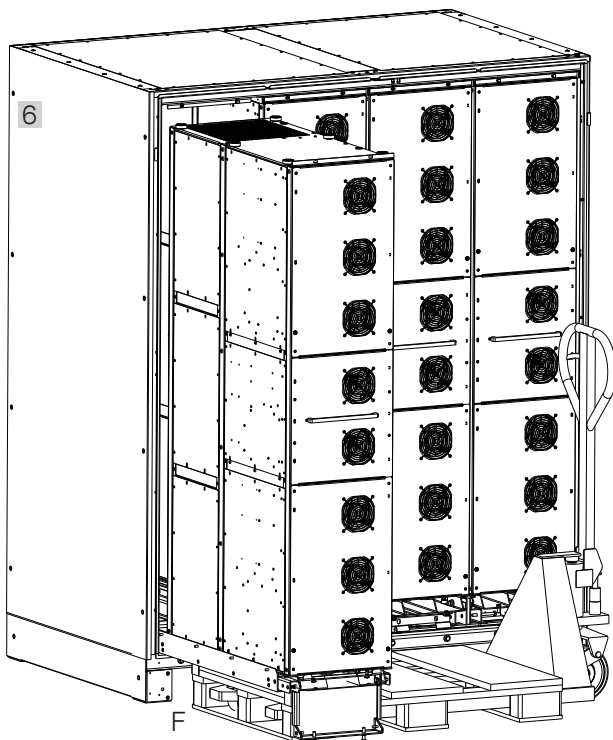


The Power Brick must be locked onto the cabinet.

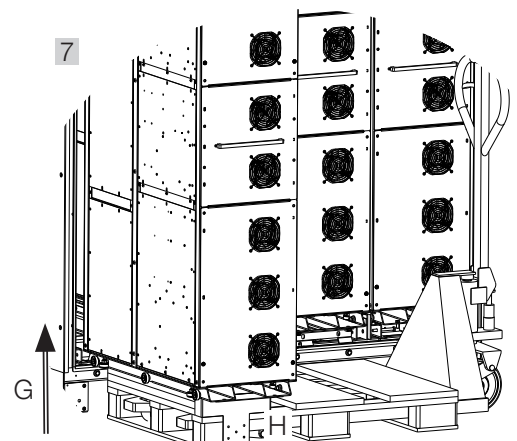


- C. Place the pallet recovered from the Spare Power Brick which has been transferred to the handling trolley (see previous section). The pallet can hold the Brick on the left (if the cabinet is placed near the wall on the left side), in the middle or on the right.

- D. Respect the positioning dimensions.



- E. Unlock the Power Brick at the top and bottom.
- F. Remove it completely.



- G. Raise the pallet by 40 mm. Remove the service foot.
- H. Install the front brackets EA247733. Screw the brackets under the Power Brick with the 2 M8 bolts, then screw the brackets against the pallet with the 5 wood screws (the screws are recovered from dismantling the pallet of the Spare Power Brick).



Do not move the pallet without the Brick being fixed onto the pallet.

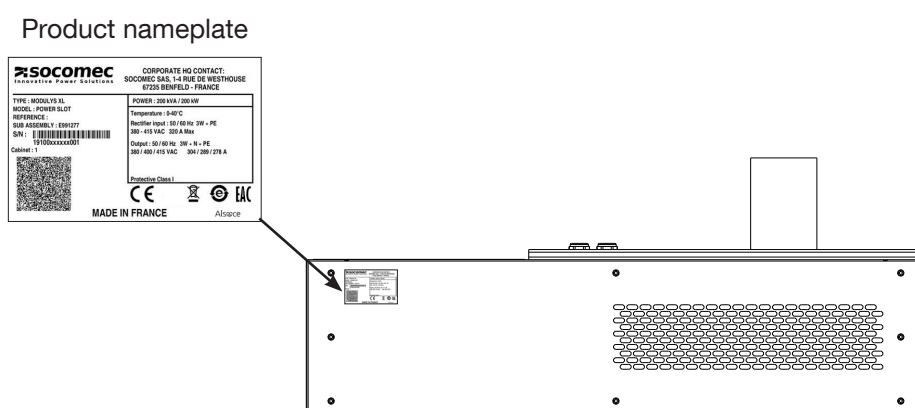
14. INSTALLING THE TOP BOX FOR COMMON INPUTS

Install a compatible top box on top of the Hub Cabinet to install local busbar flanges.

Busbar flanges allow common AC inputs and AC output from the top. Battery connections must be cabled at the top/bottom of the Hub Cabinet.

	Battery cables must be mounted after connecting the TOP BOX.
---	---

14.1. Symbols and labels affixed to the unit



DANGER! HIGH VOLTAGE. RISK OF ELECTROCUTION (BLACK/YELLOW)



PROTECTIVE EARTH

TO IDENTIFY THE MAIN EARTH TERMINAL BLOCK TO BE CONNECTED TO THE EQUIPMENT EARTH WIRE.

THERE CAN ONLY BE ONE PER CABINET.

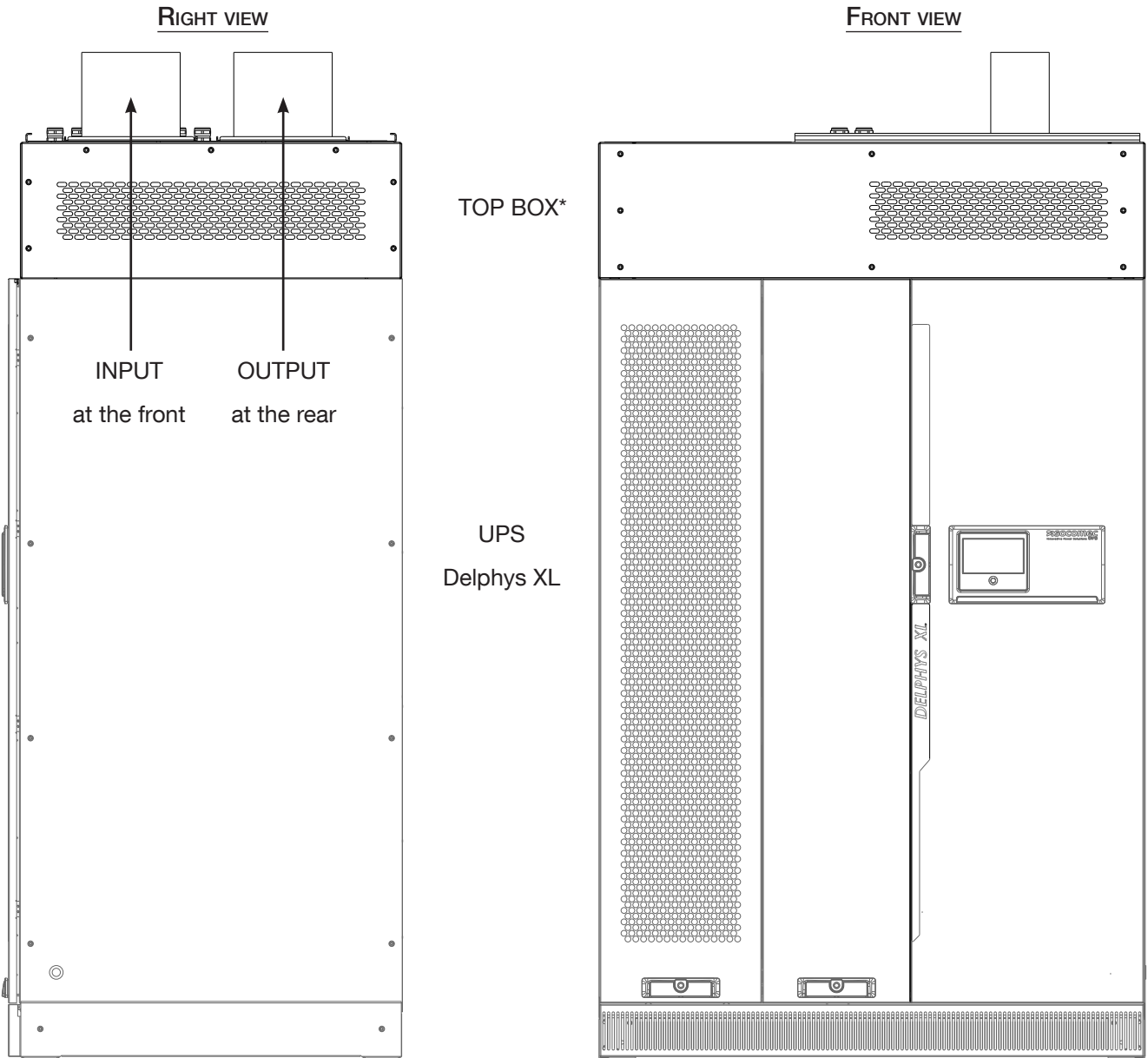


READ THE MANUAL BEFORE USING THE EQUIPMENT.



DO NOT DISPOSE OF IN NORMAL WASTE STREAM (SYMBOL WEEE).

14.2. Mechanical views of the cabinets



* For dimensions, see Section 16 Appendix, Drawings 3 and 4

14.3. Weight of the equipment

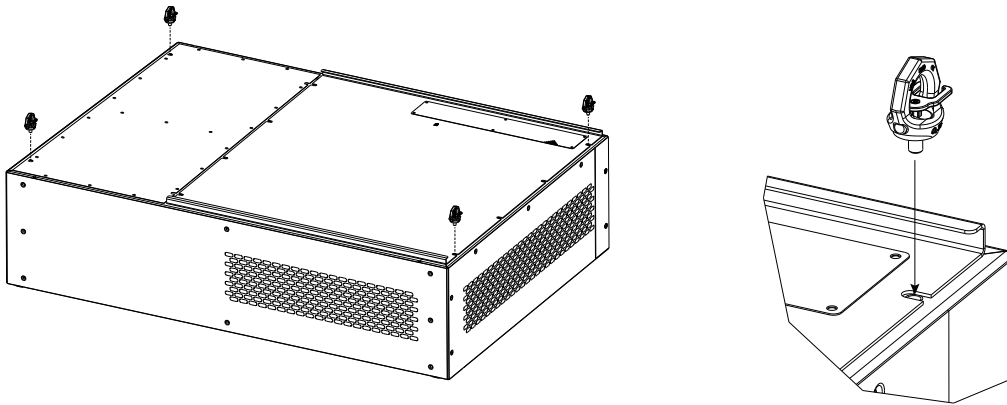
Copper bars are implemented and connected in the Hub Cabinet for shipment.
Take into consideration that the Hub Cabinet weight increases with the weight of the TOP BOX (+80 kg without busbar flanges) and copper bars (+ 90 kg).

	Estimated weight of components: - 2000 A busbar flange: between 25 to 30 kg for each flange - TOP BOX without busbar flanges 80 kg
--	---

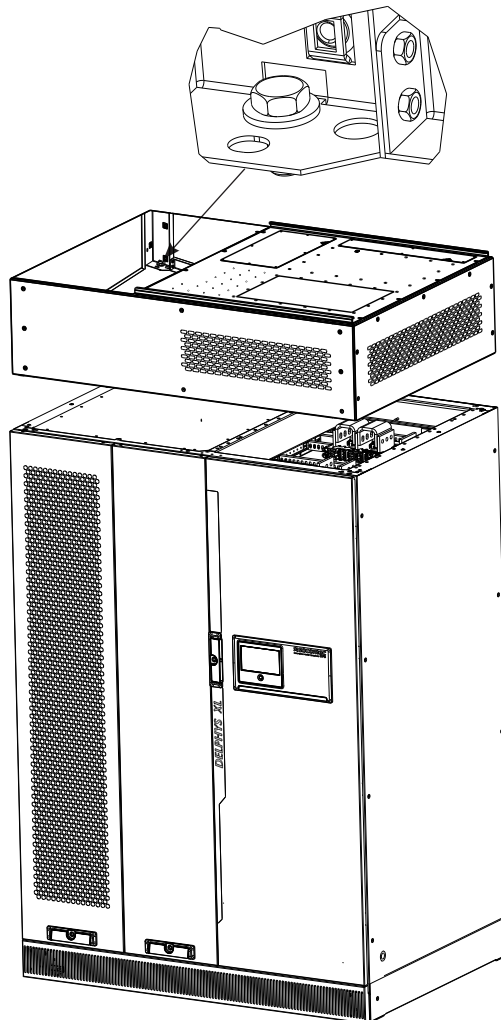
14.4. Installing the TOP BOX on the Delphys XL Hub Cabinet

The top box can be hoisted to be placed correctly on the top of the Hub Cabinet.

If needed, install the lifting rings on the four corners of the TOP BOX (see image below).



Use 4 M12 screws to install the TOP BOX on the Hub Cabinet at the corners.



14.5. Mechanical installation

The Top Box is shipped without flange ends, or the flange ends are shipped separately.

The first step is to mount the flange ends on the TOP BOX, when the box is still on the floor or on the pallet:

- Remove all side panels and cover plates of the TOP BOX.
- Mount the busbar flange ends on the plate at the top of the TOP BOX in the correct order:
 - Front => input
 - Back => output

14.6. Electrical connections

To connect the busbar flange end to the Hub Cabinet, please use the specific copper bars delivered with the UPS. Follow the indications written on the copper bars (phase L1,...) and colours. See the table below for more information.

Installation constraints:

- Front access required to interconnect the inputs/outputs to the busbar flanges.
- Each terminal requires a M12 screw, torque 70Nm.(8.8).

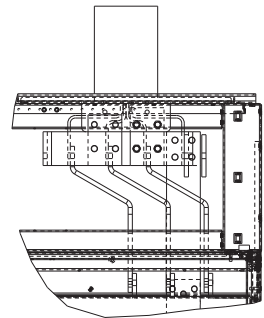
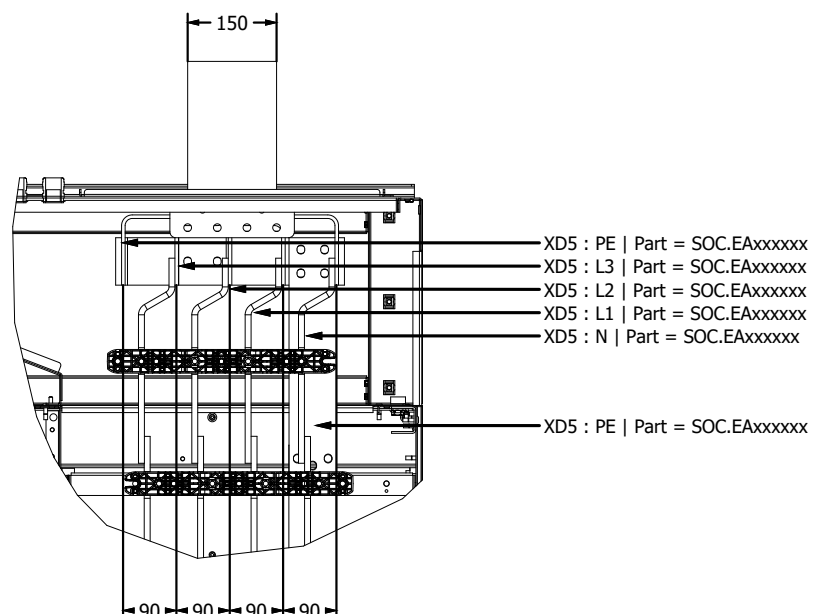


TABLE OF COMPATIBLE BUS BAR FLANGES FOR COMMON INPUTS

Brand	Ref	Space between phases	Rating	Phase order
Power Bar	BP_A-PF-200-TPNE	100	2000	PE/L3/L2/L1/N
EAE	KXA_20505_P10_(5)_(PE)	90	2000	PE/L3/L2/L1/N
Legrand	XCP-HP-5C-AL-UB-2000	100	2000	L3/L2/L1/N/PE
EAE	KXA 20504-B-sP10 - 90mm	90	2000	PEN/L3/L2/L1
EAE	KXA-II_20505_P10_(5)_(PE)	100	2000	PE/L3/L2/L1/N
Schneider Electric	EPAN_SCHNEIDER_KTA2000ER52_P90	90	2000	L3/L2/L1/N/PE
	EPAN_SCHNEIDER_KTA2000ER53_P90			

Please refer to the project drawing plan for more details on the interconnections between the UPS inputs/outputs and the busbar flange ends (drawings, parts numbers, exploded views).

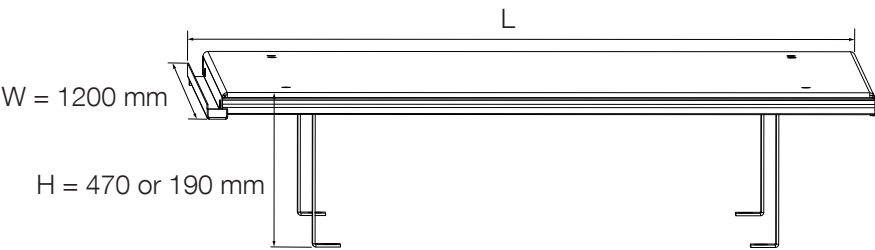
Example:



For busbar flanges not listed above or for busbar flanges with separated inputs, please contact us.

15. IP21 ROOF FOR DELPHYS XL CABINET

15.1. Dimensions and weight



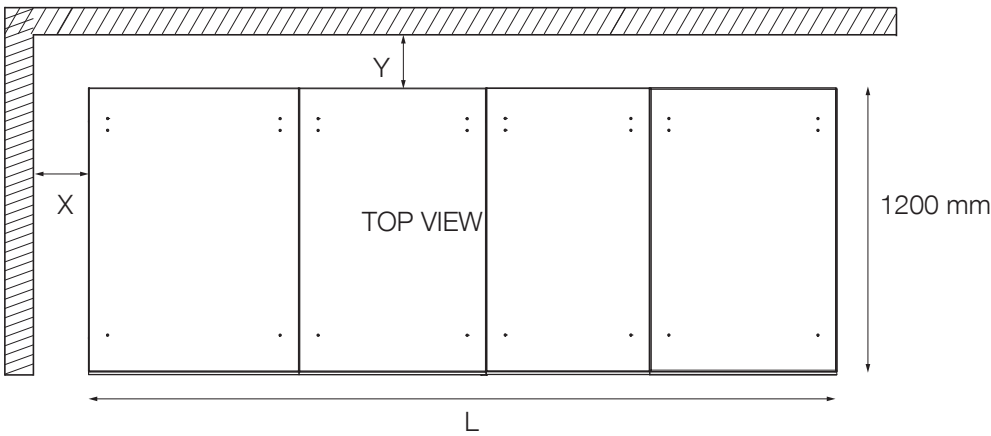
DELPHYS XL 1000 kVA

From left to right	EA253213	EA253163	EA253183	EA253203
L (mm)	900	425	700	800
Weight (kg)	18.5	9.2	14.5	16

DELPHYS XL 1200 kVA

From left to right	EA253213	EA2533203	EA253183	EA253203
L (mm)	900	800	700	800
Weight (kg)	18.5	16	14.5	16

15.2. Implementation



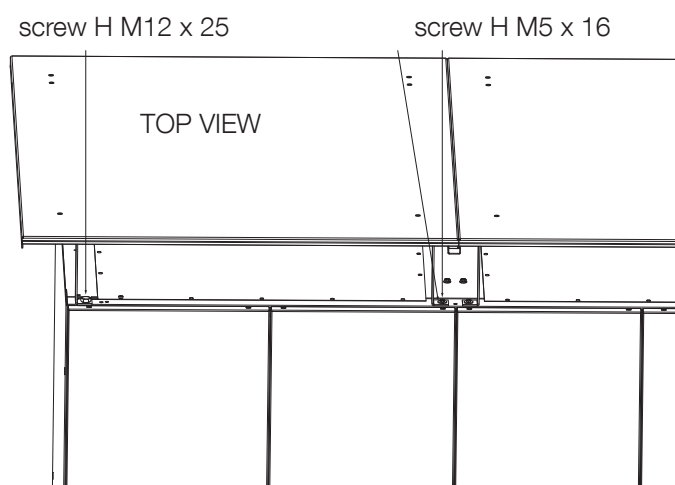
Delphys XL	L (mm)
1000	2825
1200	3200

	X (mm)	Y (mm)
H = 470	0	0
H = 190	0	200*

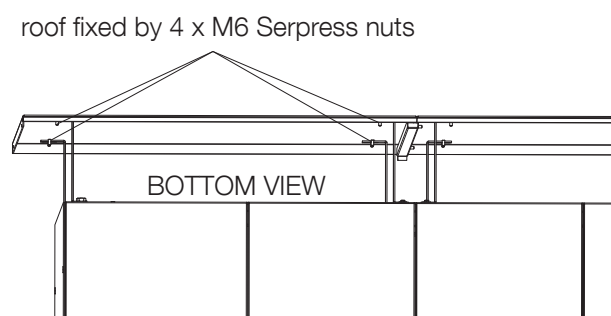
* if lower, please contact us

15.3. Assembly

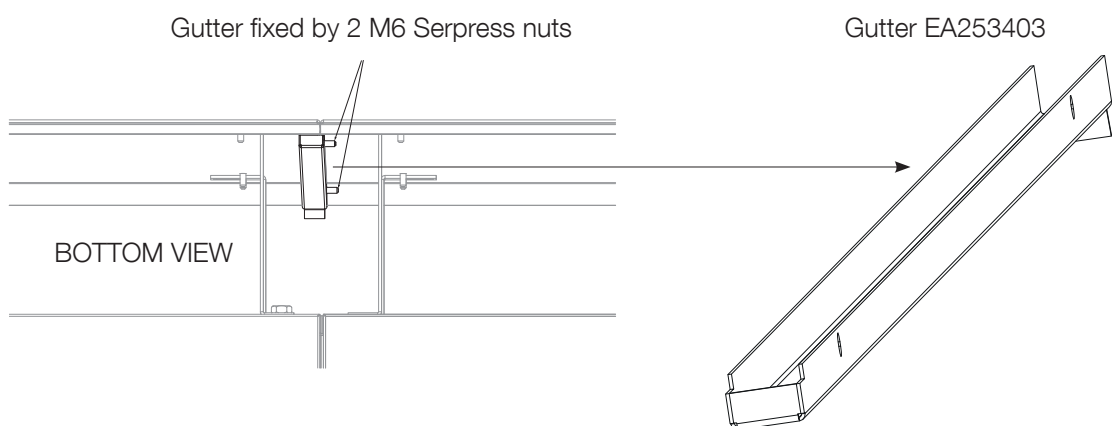
BRACKET MOUNTED ON TOP OF CABINET



BRACKET MOUNTED ON ROOF UNDERSIDE



GUTTER MOUNTED BETWEEN TWO ROOFS



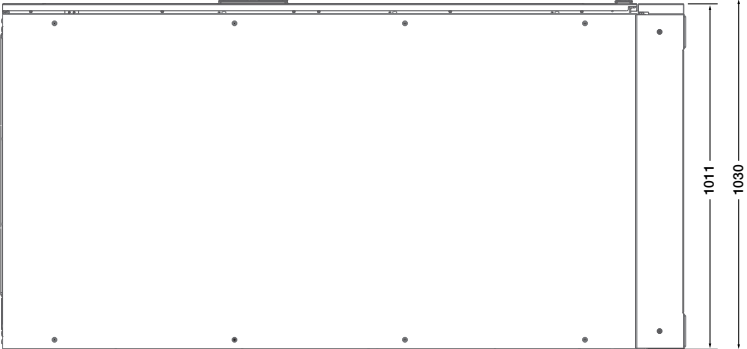
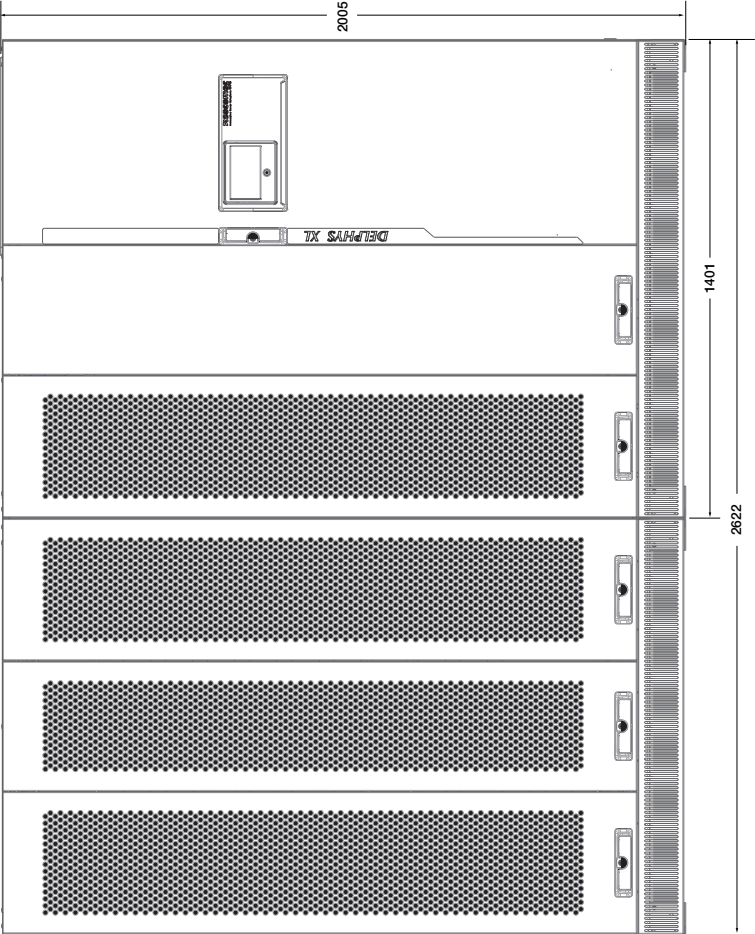
16. TECHNICAL SPECIFICATIONS

DELPHYS XL	1000 kVA	1200 kVA
Electrical specifications – rectifier input		
Mains voltage (power rating, power factor $\cos \phi = 1$)	400 V 3-ph	
Voltage tolerance ⁽¹⁾	200 V to 480 V	
Input frequency	45 - 65 Hz	
Input power factor	> 0.99	
THDI (at full load and rated voltage)	< 2.5% (with THDV input < 1%)	
Electrical specifications – output		
Output voltage on inverter	3 x 380/400/415 V with neutral	
Frequency	50 / 60 Hz ($\pm 0.01\%$ if no mains power supply)	
Rated power	1000 kVA / kW (30 °C)	1200 kVA / kW (35 °C)
Overload ⁽¹⁾ :		
• 60 minutes	1100 kW	1320 kW
• 10 minutes	1250 kW	1500 kW
• 1 minute	1440 kW	1800 kW
Total voltage distortion	ThdU < 1% with linear load	
Inverter short-circuit capacity	3230 A	4090 A
Electrical specifications – bypass input		
Bypass rated voltage	Output rated voltage	
Bypass voltage tolerance	$\pm 15\%$ (configurable)	
Input frequency	50 / 60 Hz	
Maximum overload capacity admitted	110% continuous, 125% 10 min, 150% 1 min	
Bypass short-circuit capacity	Up to 33500 A peak	Up to 45500 A peak
Rated short-time withstand current I_{cw}	65 kA (100 kA optional)	
Environment		
UPS storage conditions	-20 to 70 °C under $\leq 70\%$ condensation free RH	
UPS start-up and working conditions	0 to 40 °C under $\leq 95\%$ condensation free RH	
Max. altitude	1000 m	
Acoustic	< 83 dBA	
Airflow	8000 m³ / h	10000 m³ / h
Heat dissipation (max.) in worst conditions	50500 W	62500 W
	172314 BTU/h	213125 BTU/h
Standards		
Appliance classes	Protective Class I (IEC 62477-1)	
Safety	IEC 62040-1	
EMC	IEC 62040-2	
Product certification	  	
Protection degree	IP20 (others on request)	

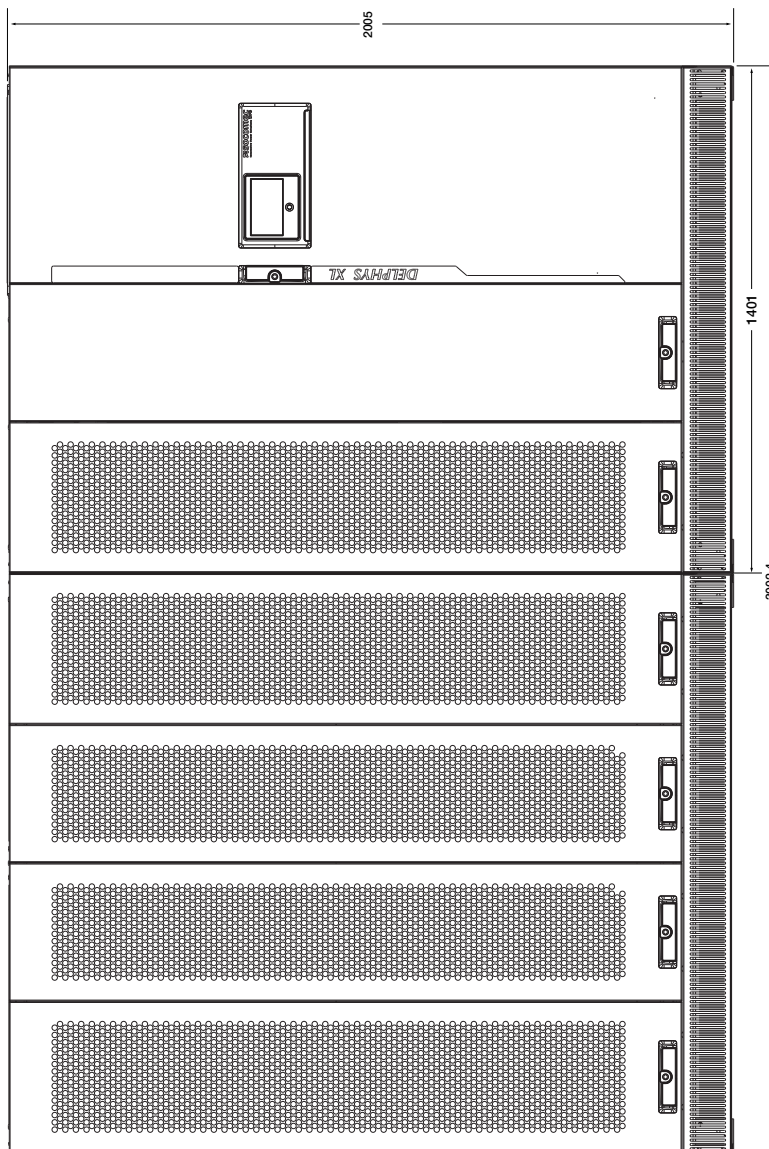
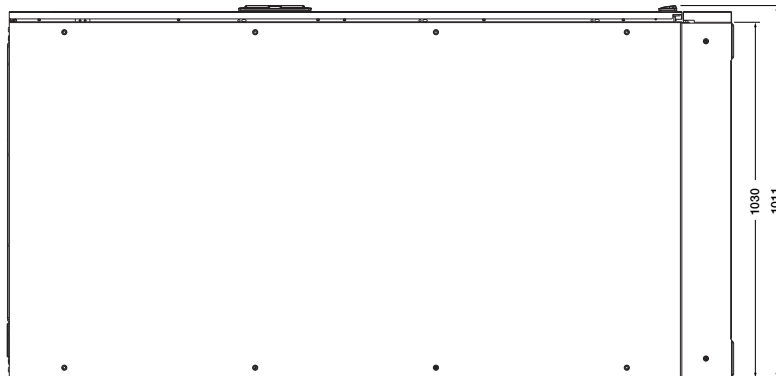
⁽¹⁾ Conditions apply – contact us

17. APPENDIX

17.1. Drawing 1: DELPHYS XL 1000 unit dimensions

 Dimensional tolerances per cabinet: ± 2mm	 DELPHYS XL 1000 UNIT dimensions Dimensions de l'Unité  socomec Innovative Power Solutions
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17.2. Drawing 2: DELPHYS XL 1200 unit dimensions



Dimensional tolerances per cabinet: $\pm 2\text{mm}$

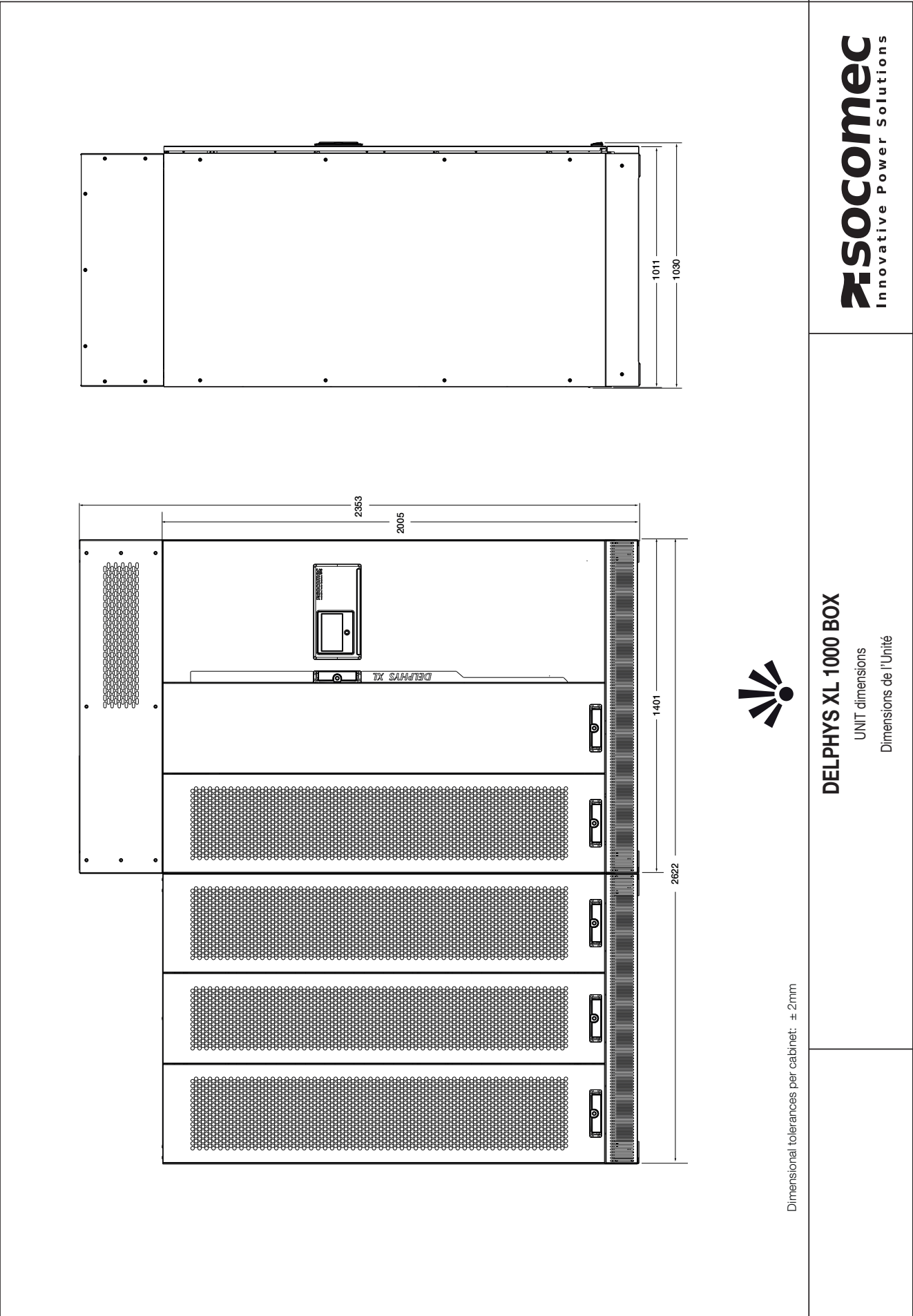
DELPHYS XL 1200

UNIT dimensions

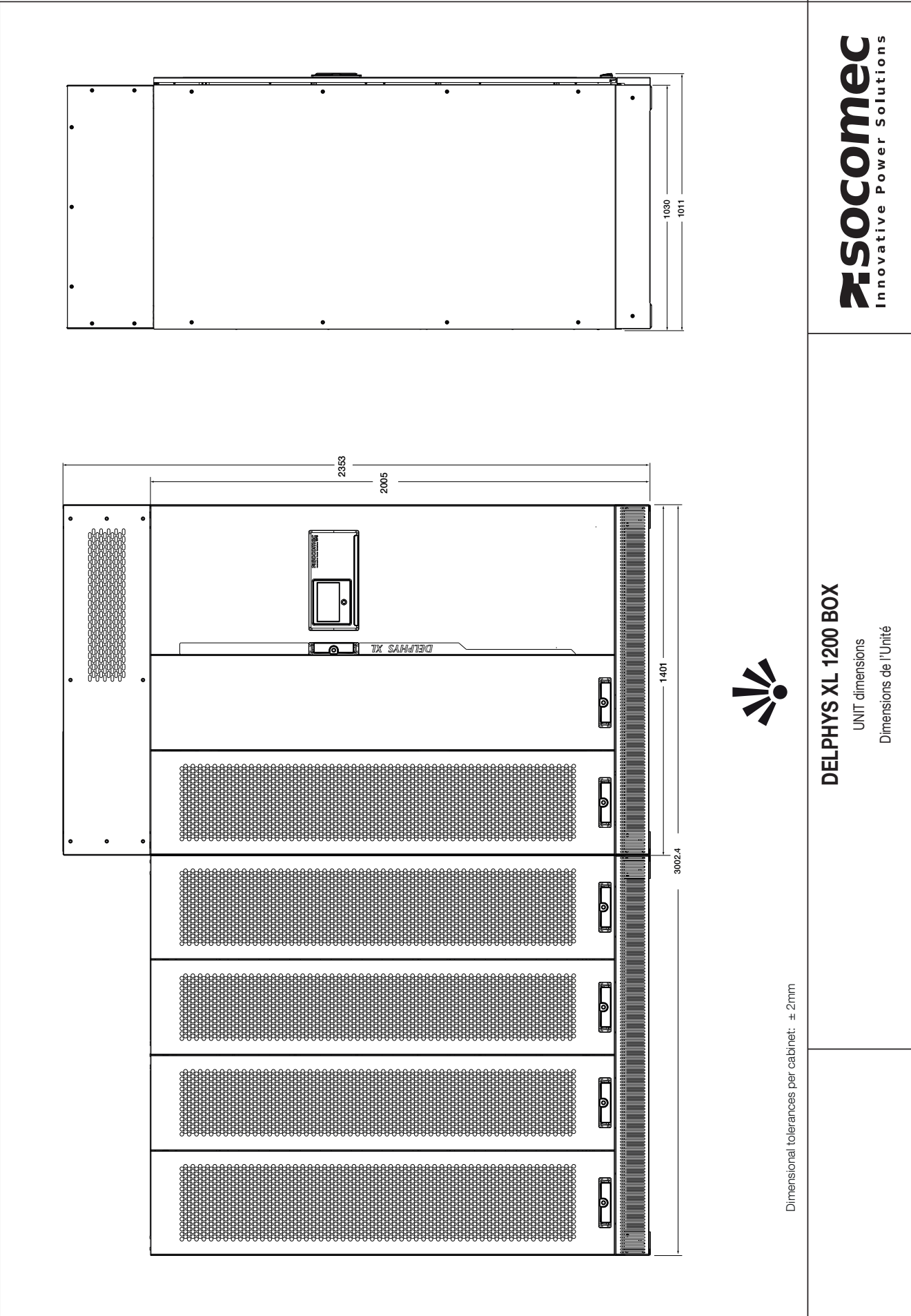
Dimensions de l'Unité

socomec
Innovative Power Solutions

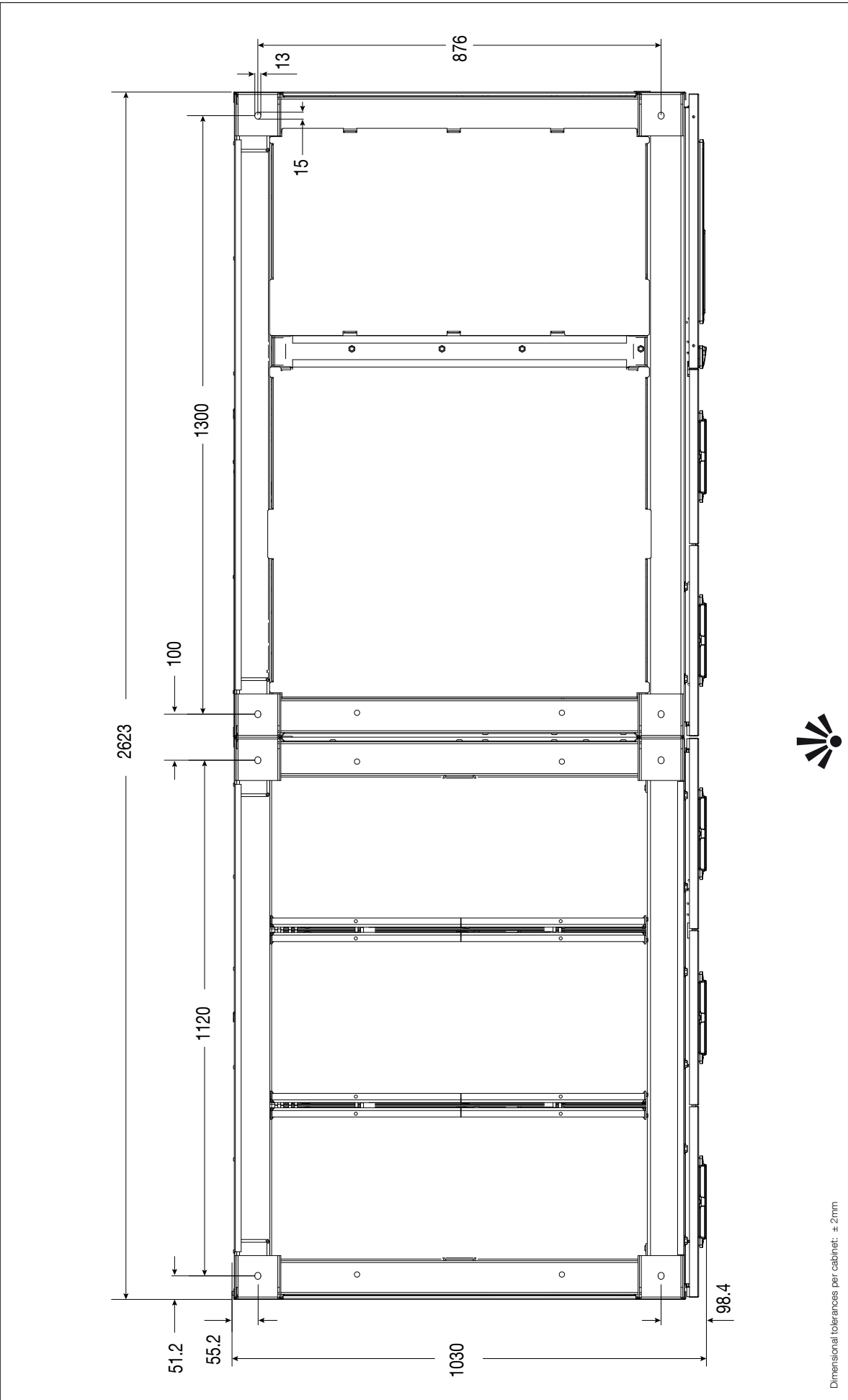
17.3. Drawing 3: DELPHYS XL 1000 BOX unit dimensions



17.4. Drawing 4: DELPHYS XL 1200 BOX unit dimensions



17.5. Drawing 5: DELPHYS XL 1000 unit floor-mounted



Dimensional tolerances per cabinet: $\pm 2\text{mm}$



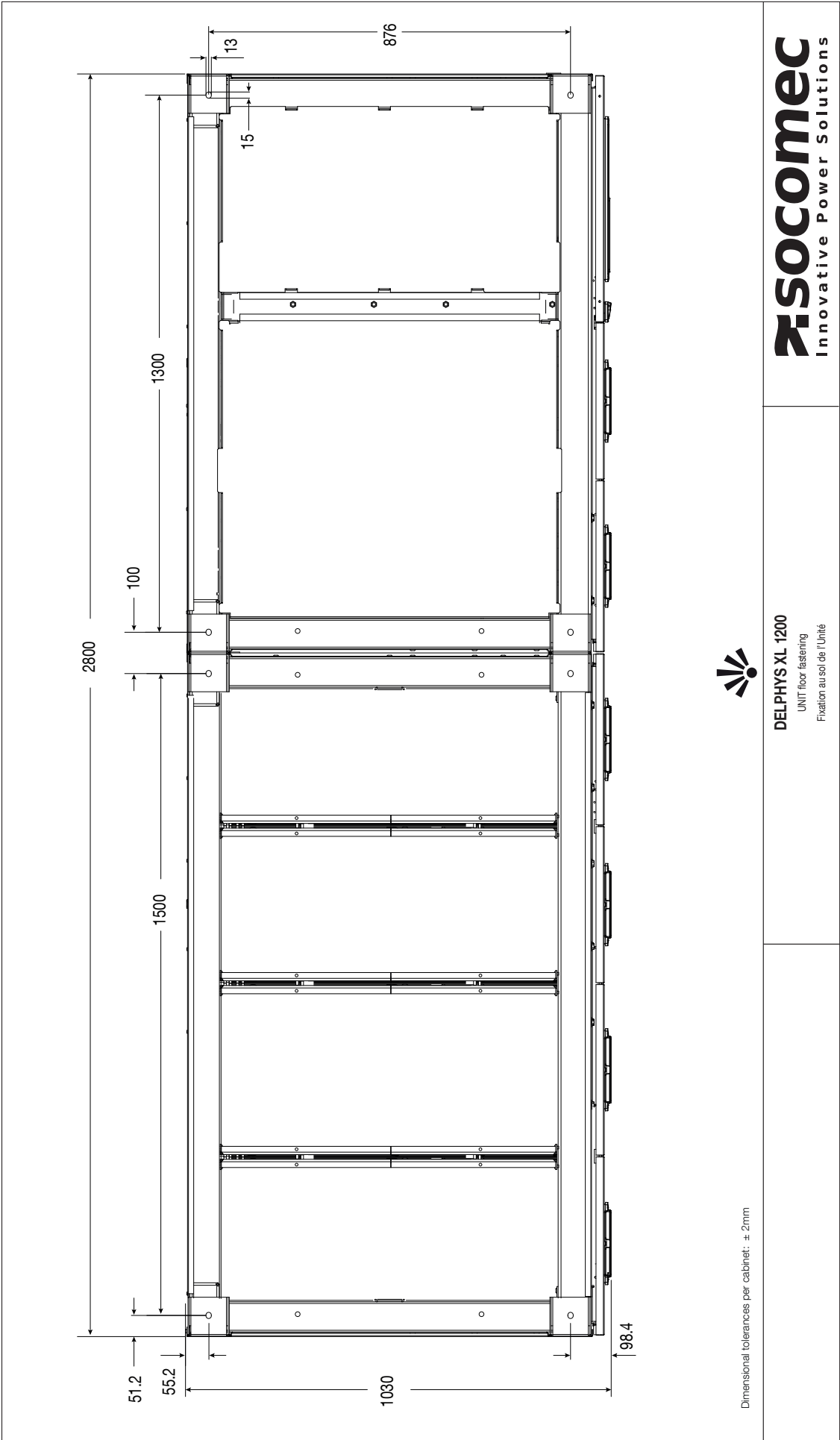
DELPHYS XL 1000

UNIT floor fastening

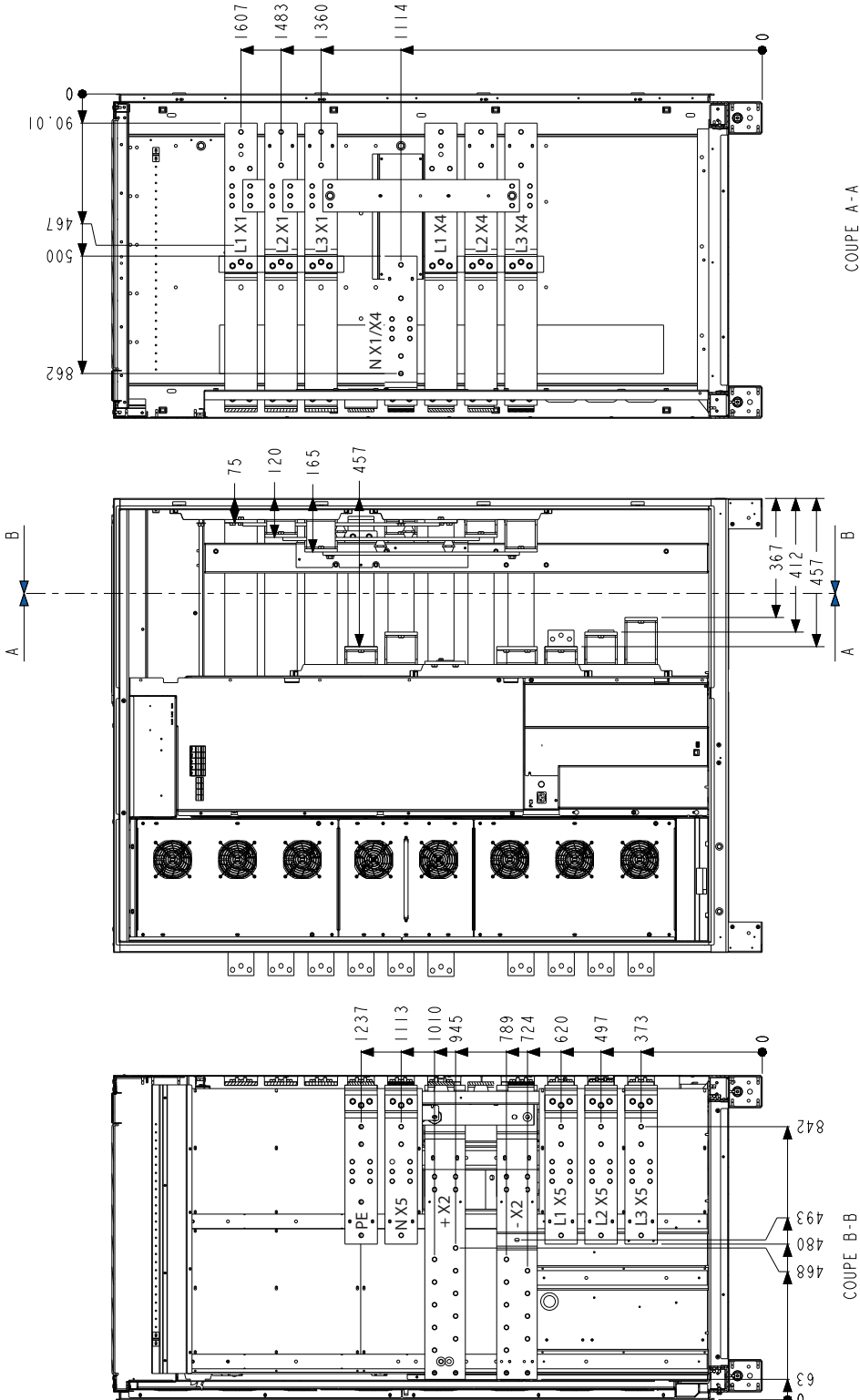
Fixation au sol de l'Unité

Esocomec
Innovative Power Solutions

17.6. Drawing 6: DELPHYS XL 1200 unit floor-mounted



17.7. Drawing 7: Hub Cabinet, common mains input, top



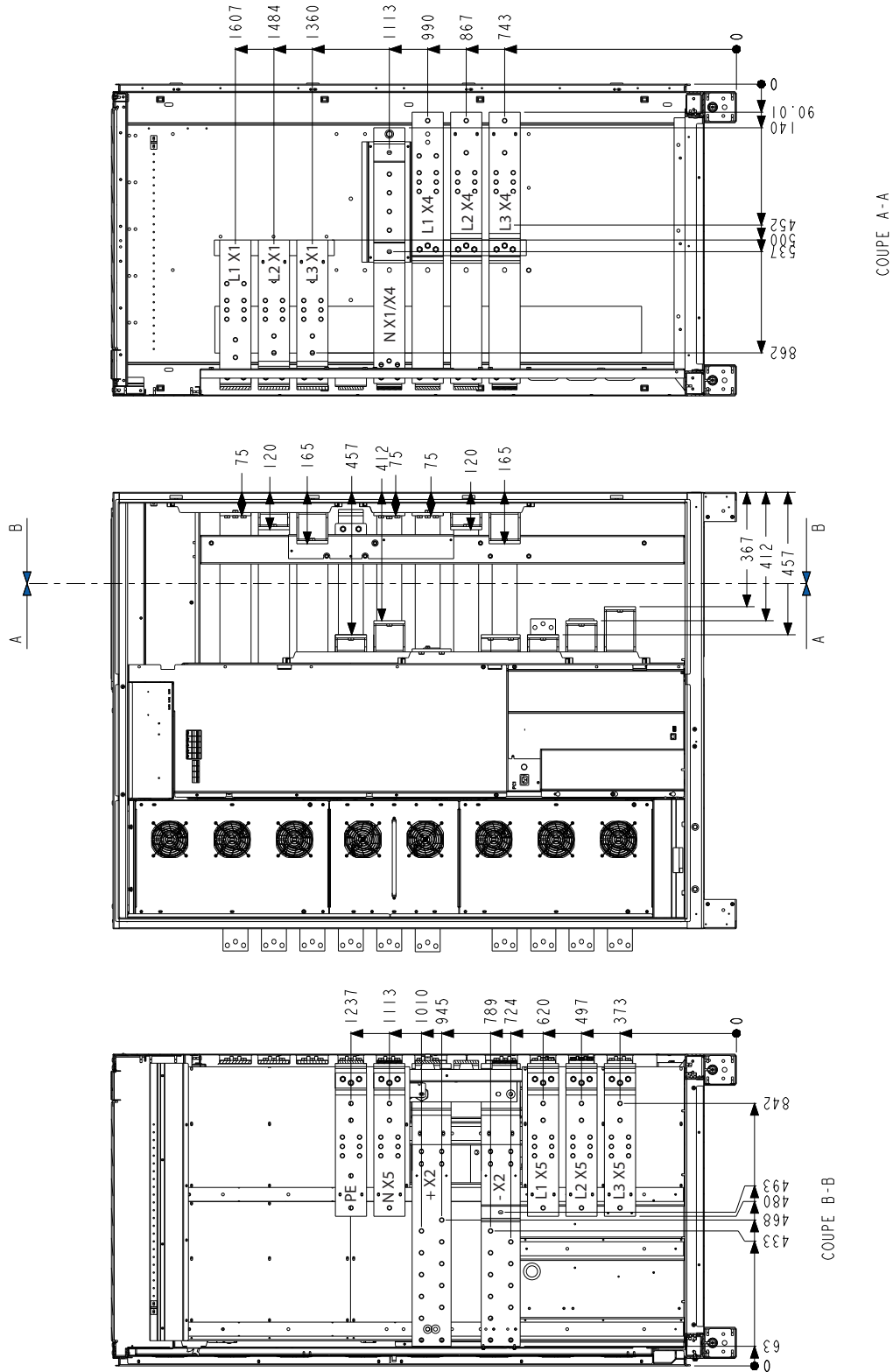
Dimensional tolerances per cabinet: $\pm 2\text{mm}$

DELPHYS XL

HUB cabinet equipment: common mains input - top arrival
Équipement Armoire HUB: réseau commun - arrivée par le haut

asocomec
Innovative Power Solutions

17.8. Drawing 8: Hub Cabinet, separated mains input, top



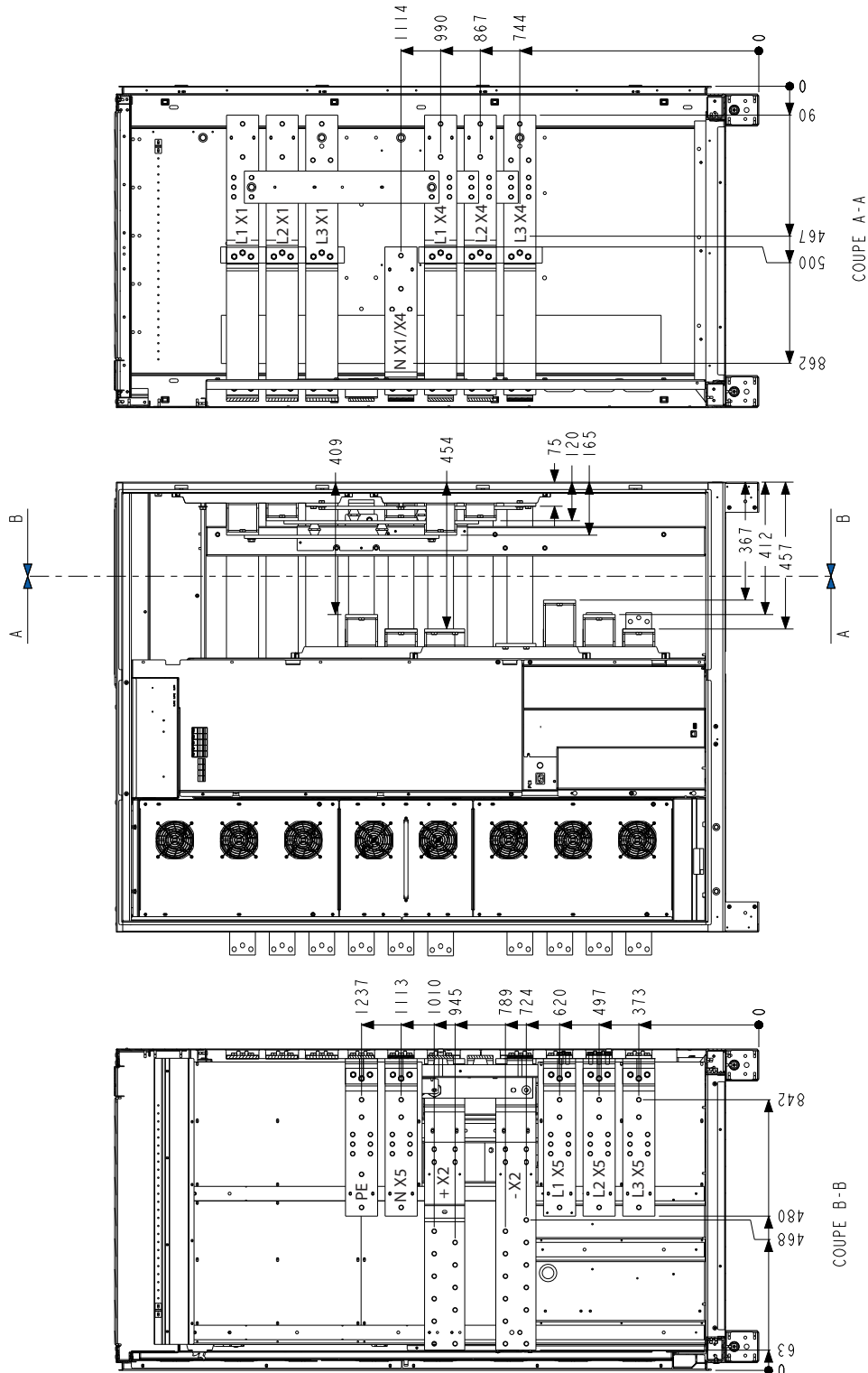
Dimensional tolerances per cabinet: $\pm 2\text{mm}$

DELPHYS XL

HUB cabinet equipment: separated mains input - top arrival
Équipement Armoire HUB: réseau séparé - arrivée par le haut

xsocomec
Innovative Power Solutions

17.9. Drawing 9: Hub Cabinet, common mains input, bottom



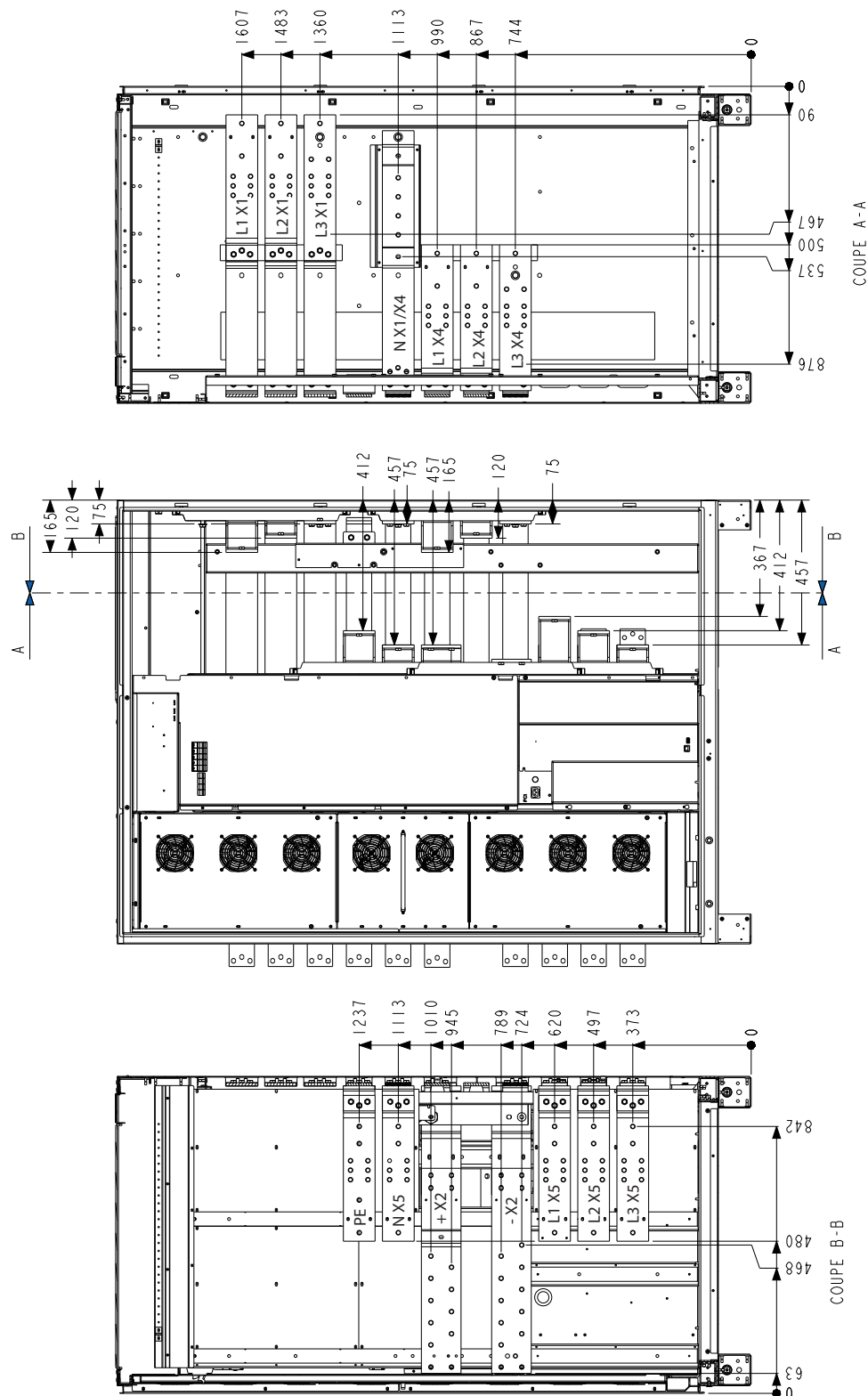
Dimensional tolerances per cabinet: $\pm 2\text{mm}$

DELPHYS XL

HUB cabinet equipment: common mains input - bottom arrival
Équipement Armoire HUB: réseau commun - arrivée par le bas

rsocomec
Innovative Power Solutions

17.10. Drawing 10: Hub Cabinet, separated mains input, bottom



Dimensional tolerances per cabinet: $\pm 2\text{mm}$

DELPHYS XL
HUB cabinet equipment: separated mains input - bottom arrival
Équipement Armoire HUB: réseau séparé - arrivée par le bas

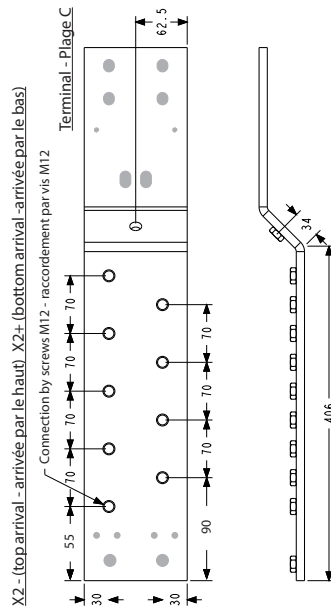
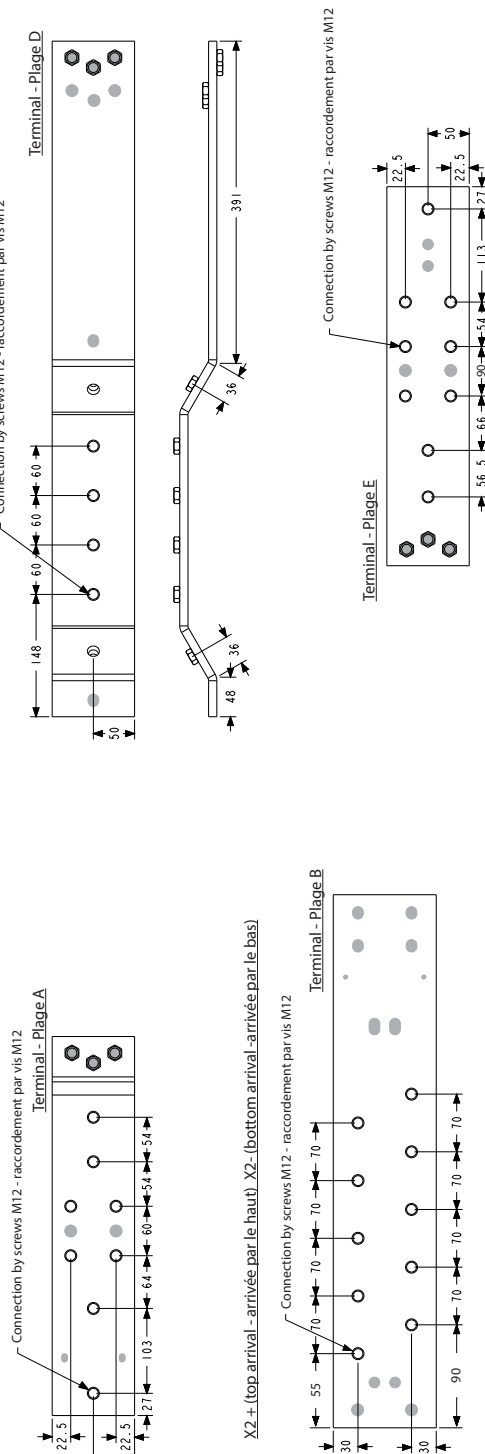
socomec
Innovative Power Solutions

17.11. Drawing 11: Terminals



Must be connected using M12x35 screws + contact washer supplied

All terminal blocks are already fitted with a nut at the back.



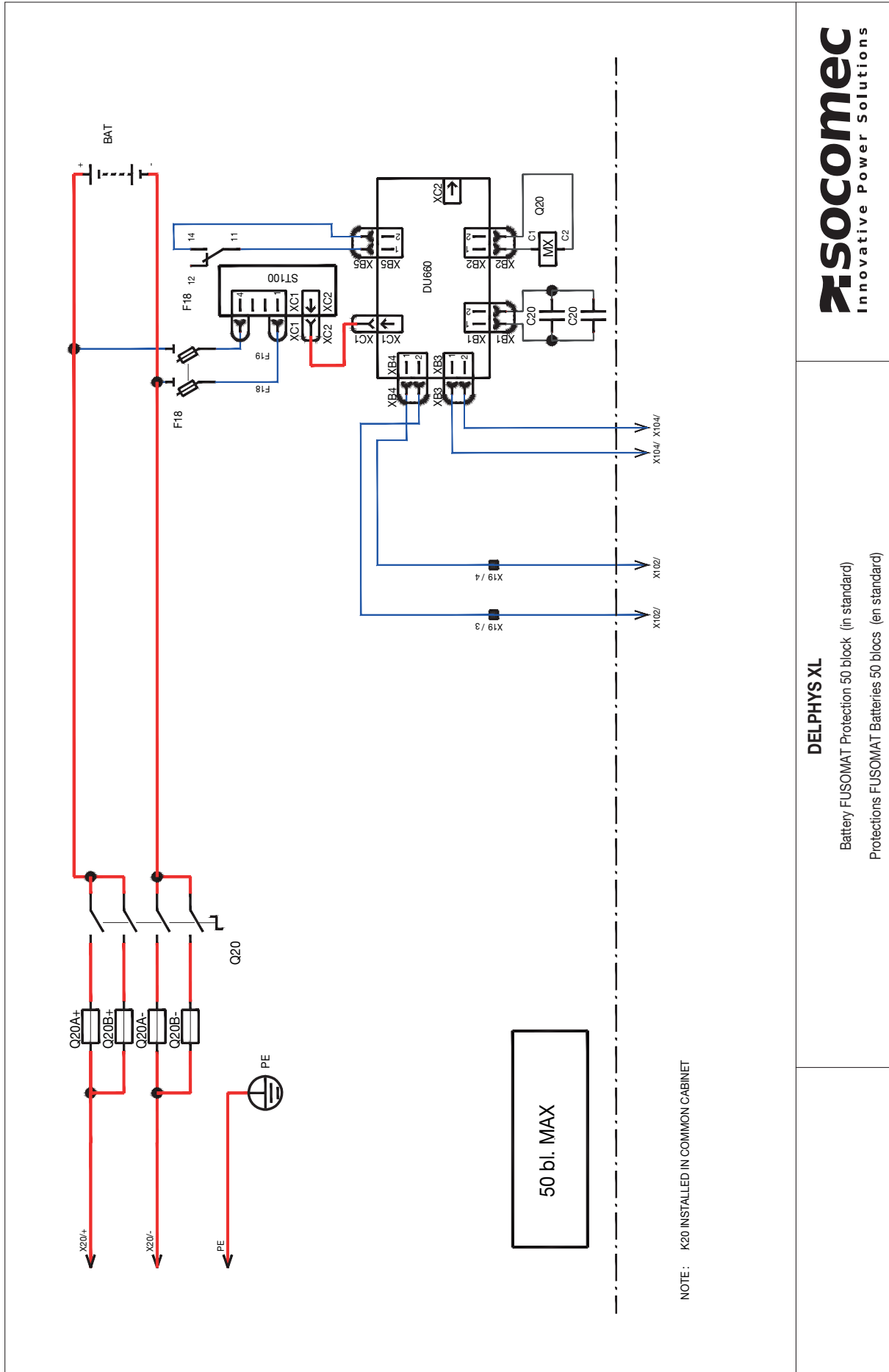
	Terminals											
	Mains				Aux. Mains				Output	Battery		PE
	X1				X4				X5	Battery		
										X2+	X2-	
Connection type	L1	L2	L3	N	L1	L2	L3	N				
Common mains input – top	A	A	E	A	/	/	/	/	A	B	C	A
Separated mains input – top	E	A	A	D	E	A	A	D	A	B	C	A
Common mains input – bottom	A	A	E	A	/	/	/	/	A	C	B	A
Separated mains input – bottom input	A	A	E	D	A	A	E	D	A	C	B	A

Dimensional tolerances per cabinet: $\pm 2\text{mm}$

DELPHYS XL
HUB cabinet equipment: Terminal connection
Équipement Armoire HUB: Plage de raccordement

xsocomec
Innovative Power Solutions

17.12. Drawing 12: Battery protection



Socomec: our innovations supporting your energy performance

1 independent manufacturer

3,600 employees
worldwide

10 % of sales revenue
dedicated to R&D

400 experts
dedicated to service provision

Your power management expert



POWER
SWITCHING



POWER
MONITORING



POWER
CONVERSION



ENERGY
STORAGE



EXPERT
SERVICES

The specialist for critical applications

- Control, command of LV facilities
- Safety of persons and assets
- Measurement of electrical parameters
- Energy management
- Energy quality
- Energy availability
- Energy storage
- Prevention and repairs
- Measurement and analysis
- Optimisation
- Consultancy, commissioning and training

A worldwide presence

12 production sites

- France (x3)
- Italy (x2)
- Tunisia
- India
- China (x2)
- USA (x3)

28 subsidiaries and commercial locations

- Algeria • Australia • Belgium • China • Canada
- Dubai (United Arab Emirates) • France • Germany
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