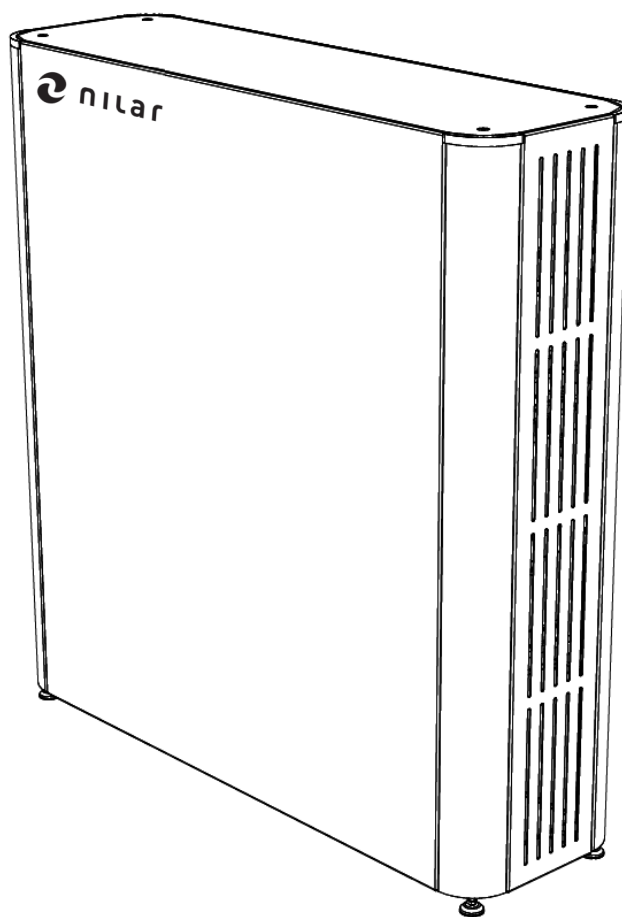


Nilar Home Box

288VDC



Valid for products:

210016E & 210016EP



Important information

Read carefully

Keep this information for further reference

THIS QUICK GUIDE IS ONLY INTENDED TO BE USED BY INSTALLATION PERSONNEL WITH PREVIOUS INSTALLATION EXPERIENCE AND FULL UNDERSTANDING OF THE PROCEDURE AND SAFETY WARNINGS EXPLAINED AND DESCRIBED IN THE MORE EXTENSIVE **INSTRUCTION MANUAL (73-H014)!**

IF UNCERTAINTY ARISES, ALWAYS REFER TO **INSTRUCTION MANUAL (73-H014)!**

THE INSTRUCTION MANUAL CAN BE DOWNLOADED AT : <https://www.nilar.com/partner-login/>

WARNING

This product contains powerful battery packs (NiMH) and is supplied by multiple hazardous electrical sources. Beware of stored and residual energies.

Obey local regulations for live working when casing/door is open.

Wear electrically insulated gloves when handling battery packs. Battery surfaces may carry hazardous voltage due to lowered insulation resistance. Do not place battery packs on conductive surfaces.

Risk for electric shock and arcing if product is used incorrectly.

The battery packs cannot be turned off electrically. Please note:

- Work only with one battery pack terminal at the time.
- Rupture disc may release electrolyte during abnormal use. We therefore recommend wearing safety glasses.

Risk for electrical hazards if product is exposed to rain or moisture.

Do not operate the product with suspected failures. If you suspect that the product is damaged, have it inspected by qualified service personnel.

Never install a damaged battery pack or a damaged insulation tray.

Do not block or cover the rupture disc outlet on the battery pack.

If a fire occurs, it can be extinguished by using CO₂. Ensure that fire extinguishers are available.

CAUTION

If a battery pack is damaged mechanically, the following may occur:

- High heat generation on the surface of the battery cells.
- Electrolyte may escape.
- Eventual smoke from the battery packs can irritate the skin, eyes and respiratory system.

Therefore, follow these guidelines:

- Do not open the battery packs.
- Do not modify or mechanically damage the battery packs.
- Operate the Nilar Home Box only within the allowed operating range.
- Do not short-circuit the battery packs.
- Do not continue to use the battery packs after identified as faulty.

It is required that a smoke alarm, preferably with connected surveillance function, is installed in close and strategical connection with the installation of the product. Furthermore, the installation of a gas alarm that warns in case of high levels of hydrogen is recommended.

Always install the product in a well-ventilated location.

To avoid potential hazards, use this product only as specified.

Do not operate the product with covers removed. If covers are removed during e.g. repair, do not touch any exposed connections.

The product shall not be exposed to liquids (not even dripping or splashing) and objects filled with liquids must not be placed on or close to the product.

Remove personal metal items such as rings, bracelets, necklaces, and watches when physically handling the product since it can result in a short-circuit current causing severe burn.

Keep product surfaces clean and dry.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Always use PPE during handling and installation of product. At minimum this includes safety shoes with steel toe, safety glasses, and electrically insulated gloves:



WARNING & CAUTION SYMBOLS

The following warning and caution symbols are used throughout the document:



WARNING
HAZARDOUS
VOLTAGE



WARNING
CRUSH HAZARD



GENERAL
CAUTION

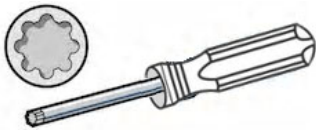


CAUTION
HEAVY
WEIGHT

TOOLS & ACCESSORIES

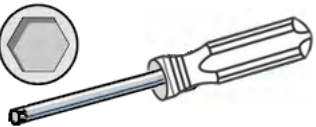
TX20

Torx screwdriver, size 20



HX4

Hex screwdriver, size 4



PH2

Cross screwdriver, size 2



WS

Wire stripper





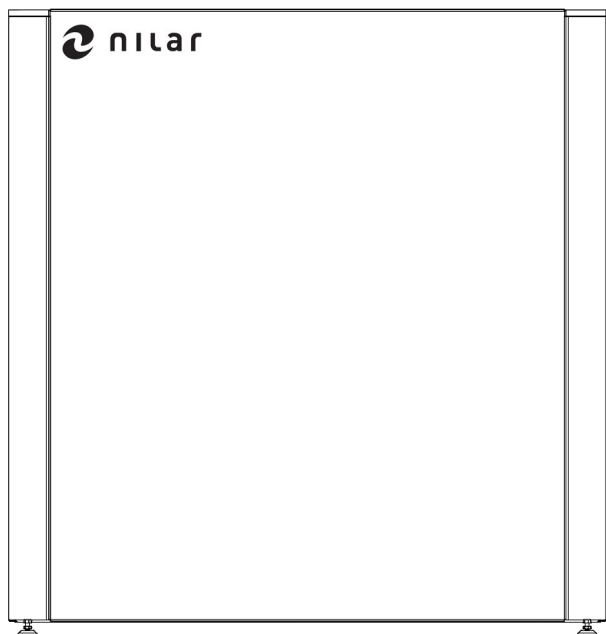
Important information
Read carefully
Keep this information for further reference

SCOPE OF SUPPLY

The following components are part of the product delivery.

Note! For illustrative purposes, the components are not depicted to scale!

- ❶ Cabinet assembly (1 unit)
- ❷ Ambient temperature sensor (1 unit)
- ❸ Communication cables (3 units incl. 1 spare)
- ❹ 120Ω CAN termination plug (1 unit)
- ❺ Nilar battery packs (4 units)
- ❻ Insulation trays (4 units)
- ❼ Battery holders (4 units)
- ❽ Screws for battery holders (4 units)



❶



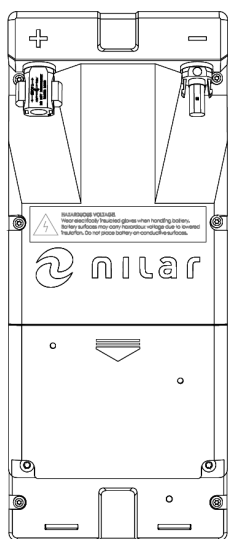
❷



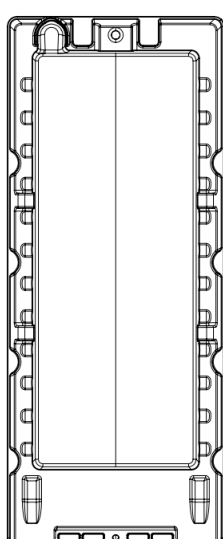
❸



❹



❺



❻



❼



❽

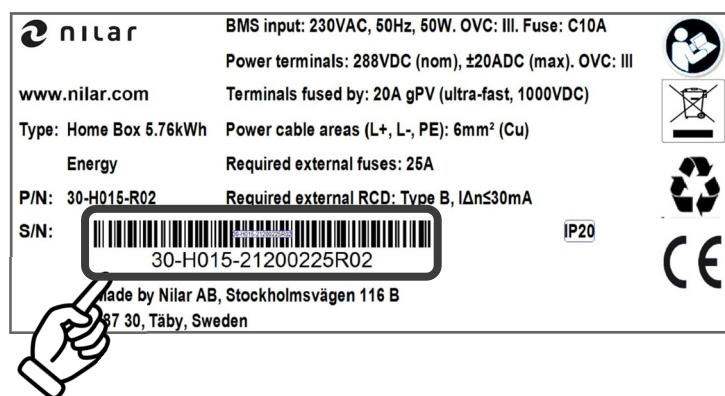
PRODUCT REGISTRATION

In order to obtain and claim full warranty for the product, the Nilar Home Box must be registered on the Nilar product registration webpage (<https://www.nilar.com/product-registration/>). As an alternative the QR-code below can also be used for direct access to the webpage. Regarding the complete warranty conditions in detail, please contact your authorized local Nilar representative.

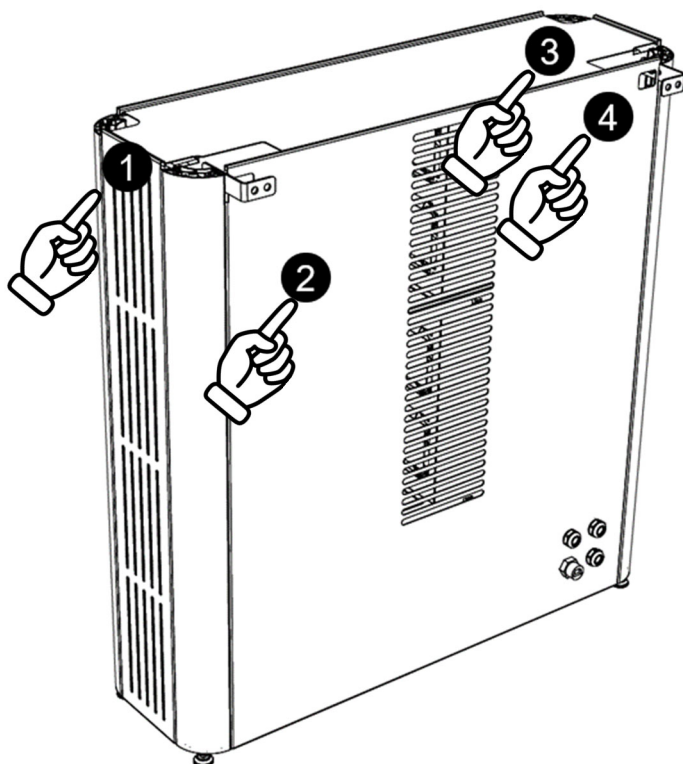


SERIAL NUMBER

For registration the serial number of the Nilar Home Box is needed. The serial number can be found on the Nilar labels.

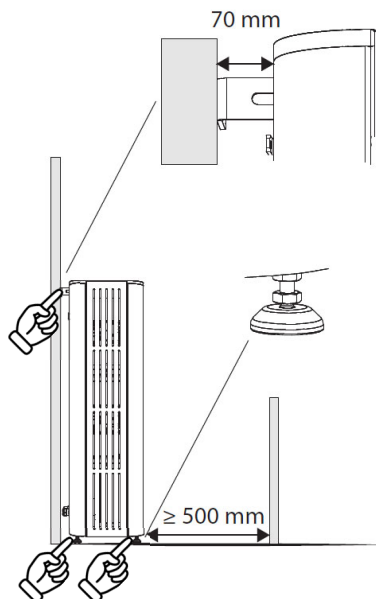
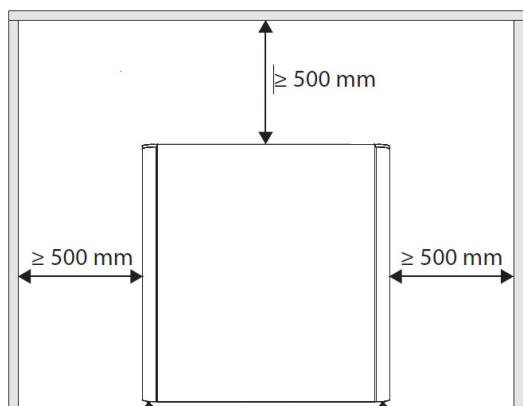


The labels are placed in four (4) different locations of the Nilar Home Box. On one side of the side plates ①, as a loose sticker in the plastic pocket for the quick guide ②, on the top plate below the cover lid ③ and on the back plate ④.



1

1

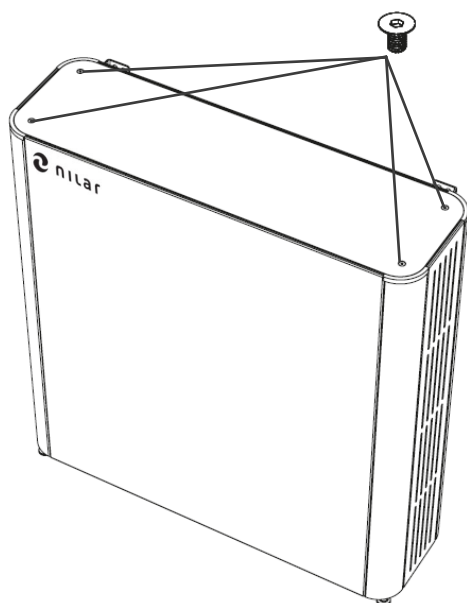


DO NOT ATTACH THE HOME BOX TO THE WALL UNTIL INSTALLATION HAS REACHED STEP 21 IN THIS INSTALLATION GUIDE

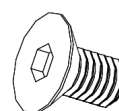
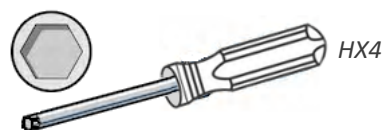
Ensure appropriate space for the Home Box.

If required, adjust the support legs of the Home Box to level.

2

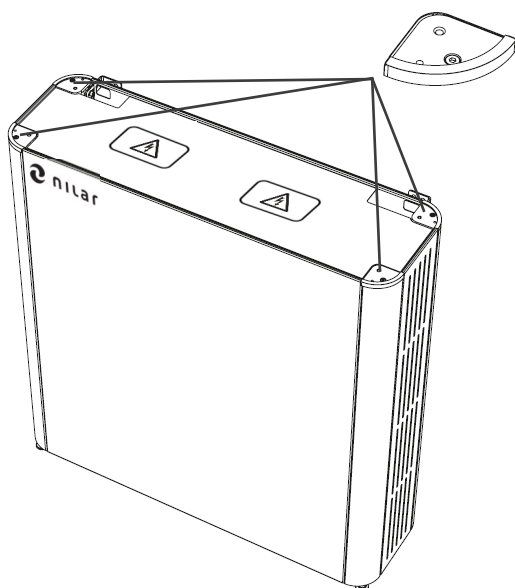


Unscrew and remove the cover lid.



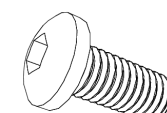
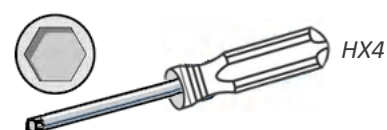
x 4

3

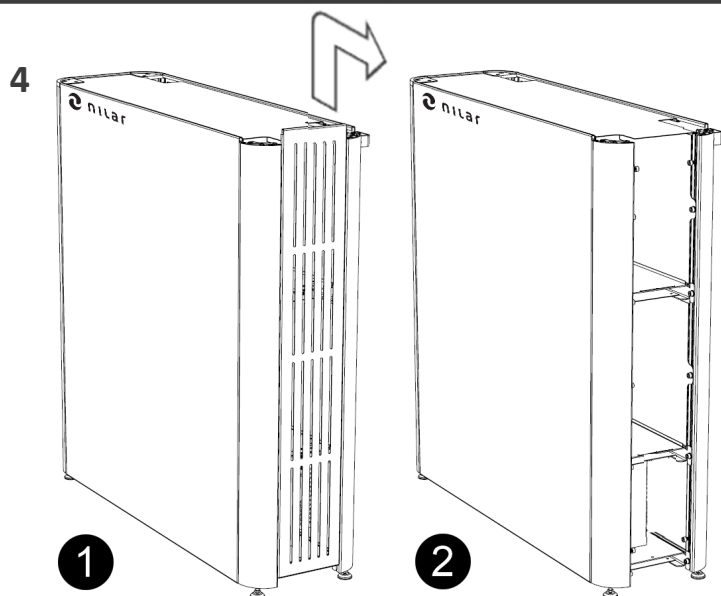


PLEASE READ THE WARNING STICKERS ON THE TOP PLATE BEFORE PROCEEDING

Unscrew and remove the corner tops.

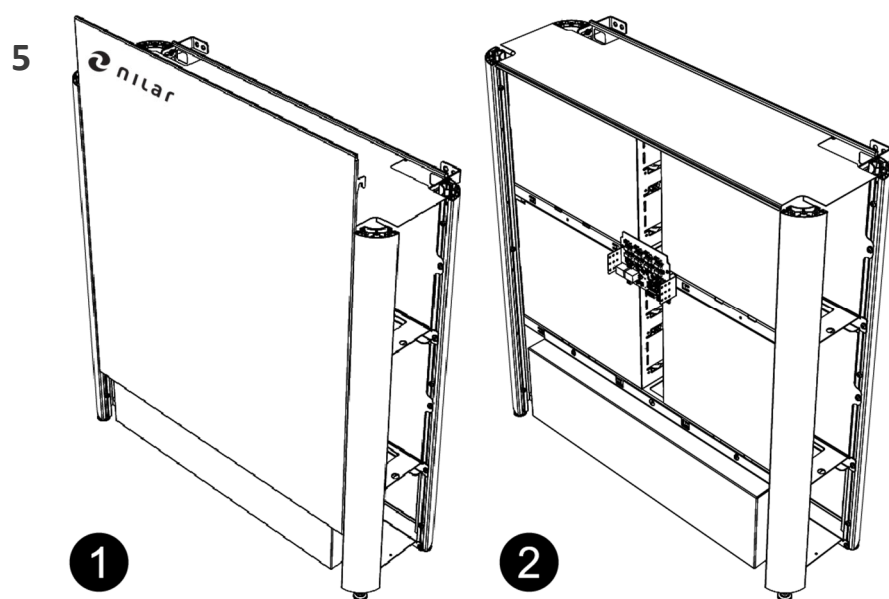


x 4

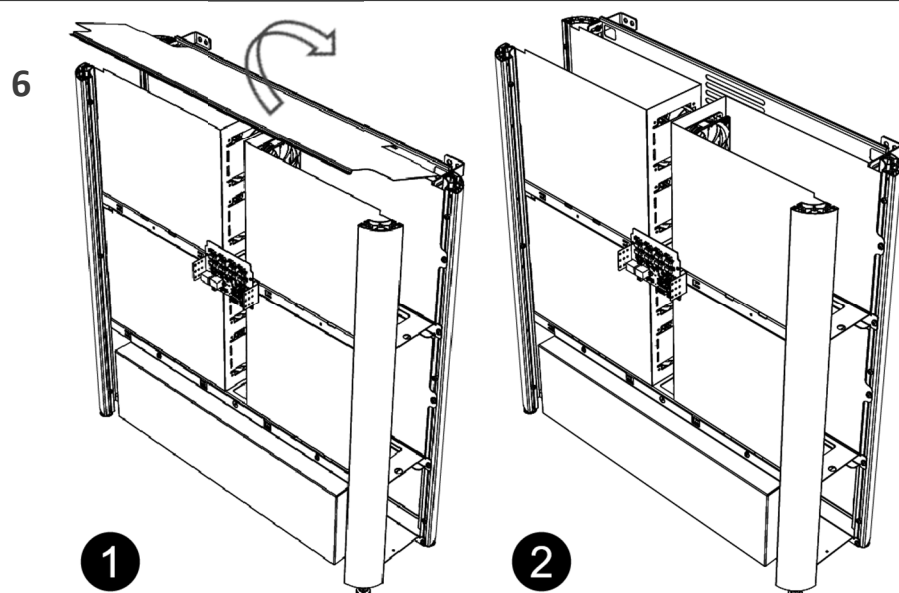


Slide the side plate upwards to unhook it and lift it thereafter outwards and off.

Repeat procedure for the side plate on the opposite side.

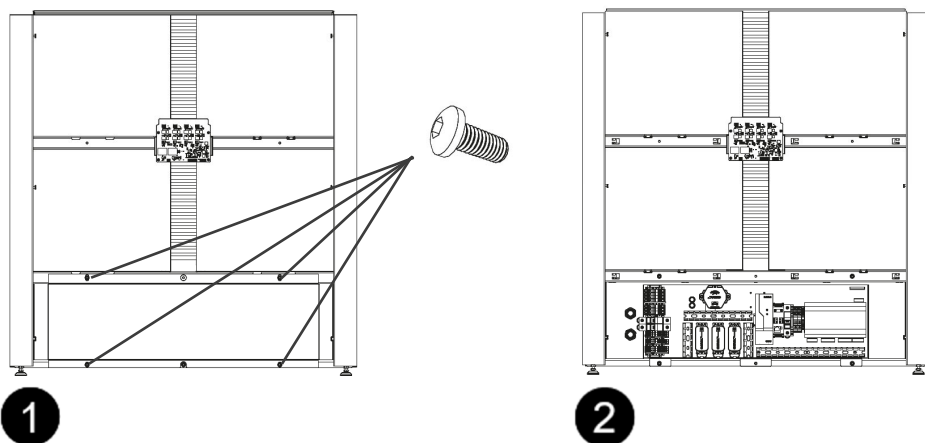


Slide the front plate upwards to unhook it and lift it thereafter outwards and off.

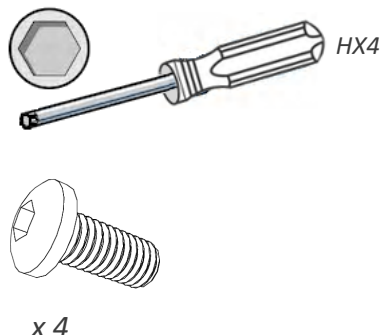


Tilt the top plate upwards and lift it off.

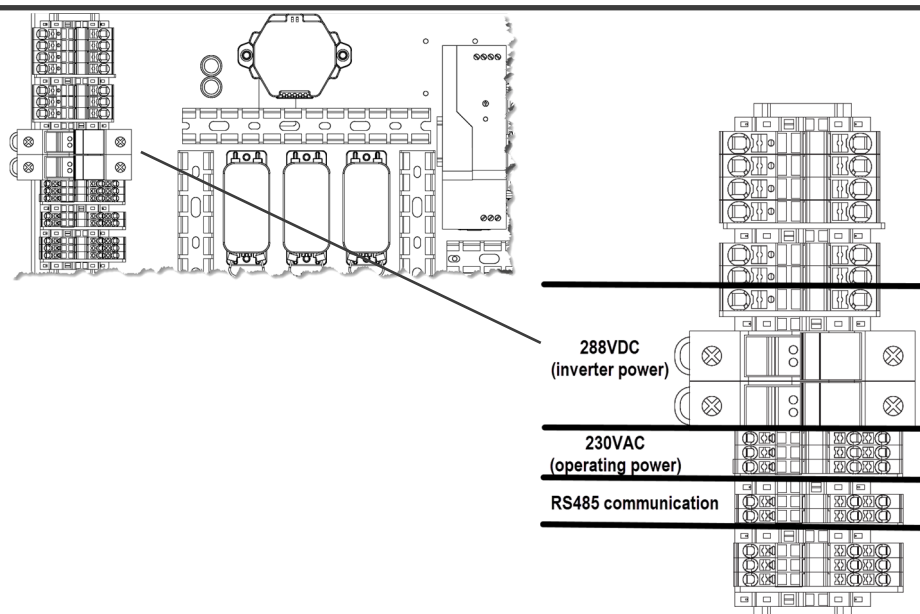
7



Unscrew and remove the BMS cover.

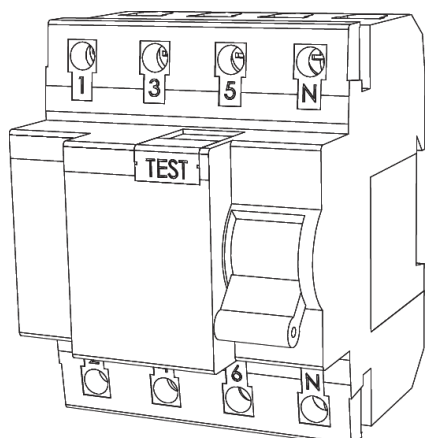


8



GENERAL CAUTION IS
REQUESTED WHEN
WORKING WITH THE BMS

9



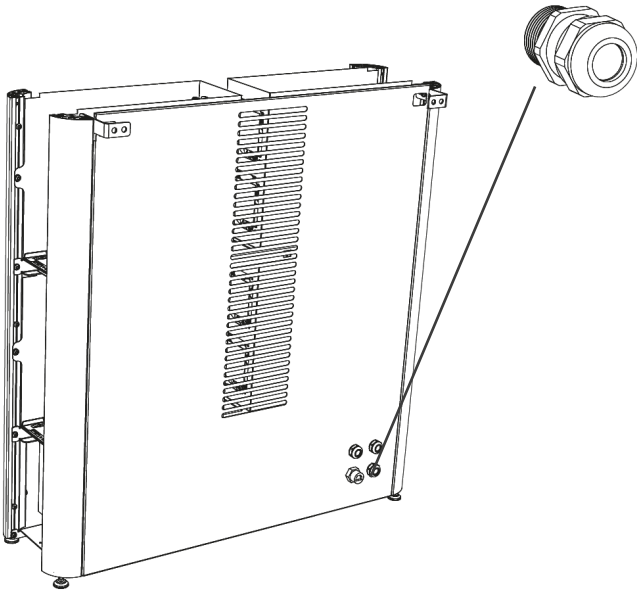
Type B		✓
Type B+		✓
Type AC		✗
Type A		✗
Type F		✗



IF THE HOME BOX IS IN-
STALLED TOGETHER WITH A
KOSTAL INVERTER WITH ITS
IN-BUILT TYPE B RCD ($I_{\Delta n}$
=6mA) ACTIVATED, THIS
INSTALLATION STEP IS NOT
APPLICABLE

Always install a type B or B+ ($\leq 30\text{mA}$) Residual Current Device (RCD). If an RCD of another type (AC, A or F) is already installed between grid and inverter, it needs to be replaced with an RCD of type B or B+.

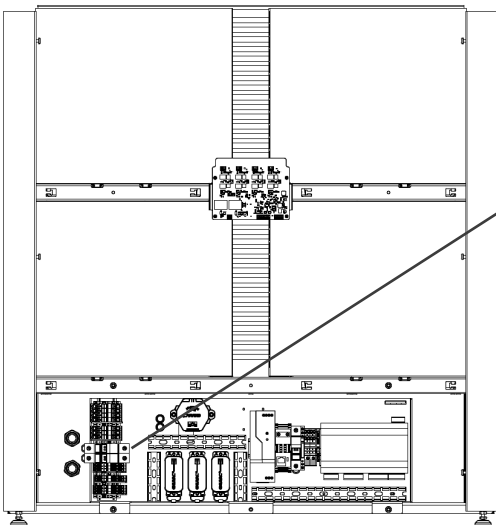
10



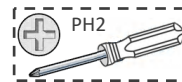
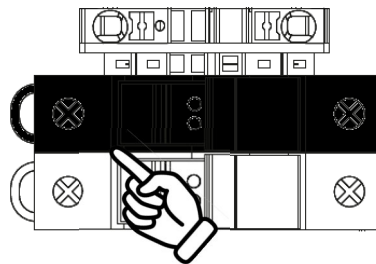
THE INVERTER MAY STILL PROVIDE HAZARDOUS VOLTAGE AND RESIDUAL ENERGY, ALTHOUGH IT IS SWITCHED OFF OR MAY APPEAR SWITCHED OFF

Route the 288VDC system power cable(s) from the inverter through the lower right cable gland located on the backside of the Nilar Home Box.

11



288VDC, positive



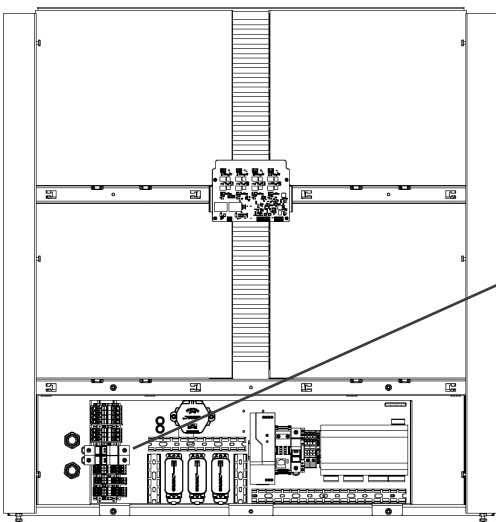
THE POSITIVE (+) WIRE OF THE INCOMING POWER CABLE(S) MUST ALWAYS BE EXTERNALLY PROTECTED BY A 25A MCB/FUSE



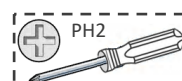
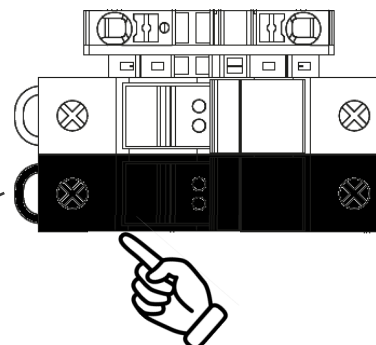
CONDUCTOR CROSS-SECTION MUST BE 6mm² (Cu)

Positive (+) wire of power cable(s) connects to the fuse marked 'F1' of the Nilar BMS.

12



288VDC, negative

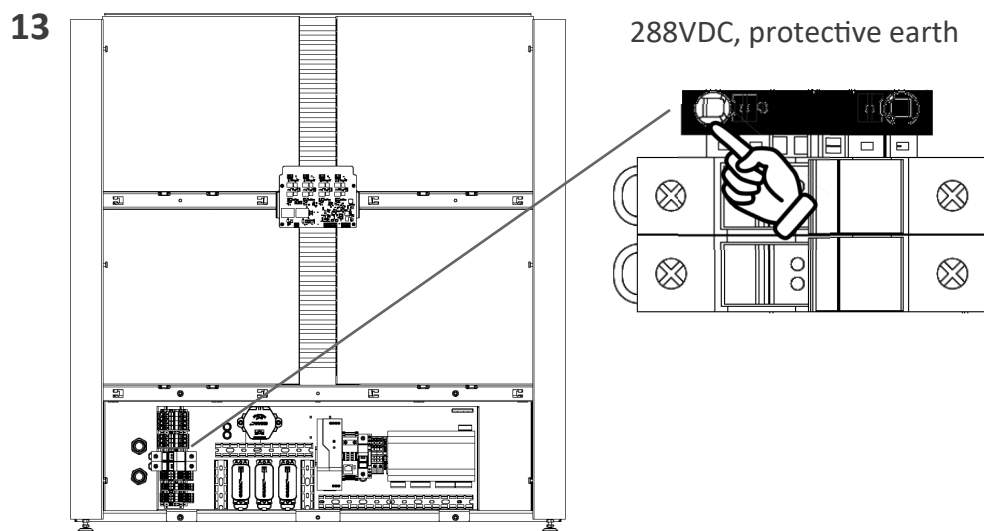


THE NEGATIVE (-) WIRE OF THE INCOMING POWER CABLE(S) MUST ALWAYS BE EXTERNALLY PROTECTED BY A 25A MCB/FUSE



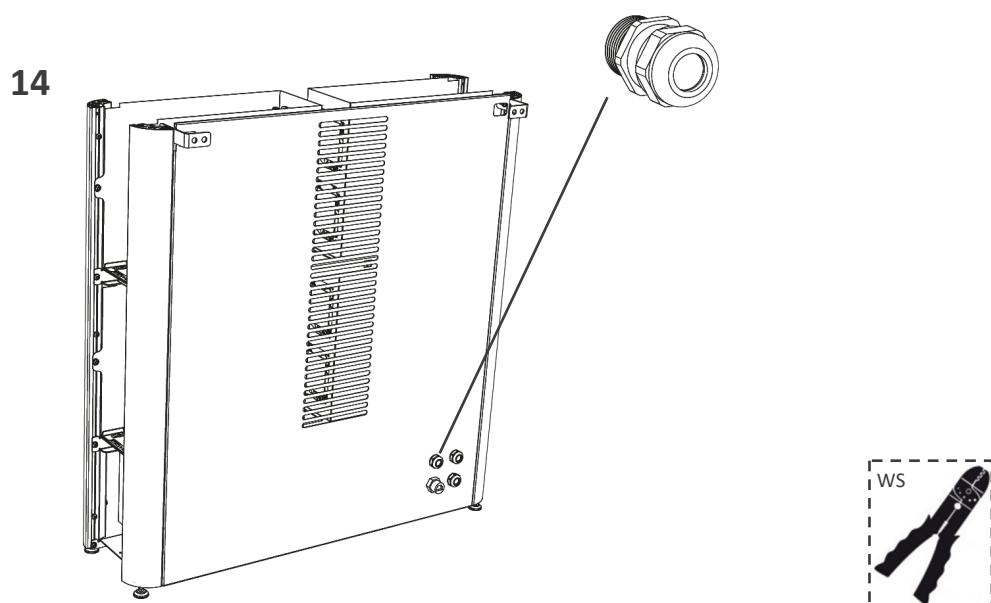
CONDUCTOR CROSS-SECTION MUST BE 6mm² (Cu)

Negative (-) wire of power cable(s) connects to the fuse marked 'F2' of the Nilar BMS.



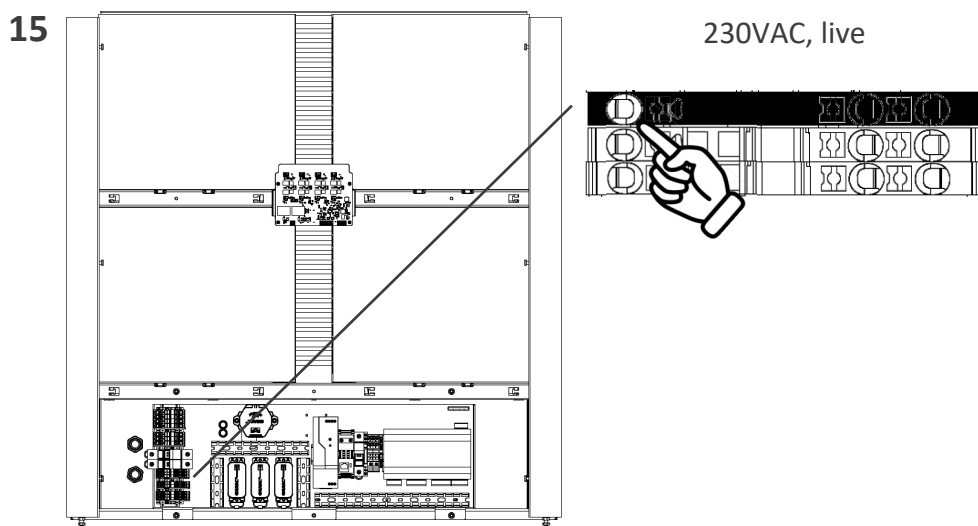
CONDUCTOR CROSS-SECTION
MUST BE 6mm² (Cu)

The protective earth (PE) wire of the power cable(s) is to be connected to the terminal marked 'PE' of the Nilar BMS.



Route the 230VAC operating power cable through the upper left cable gland located on the backside of the Nilar Home Box.

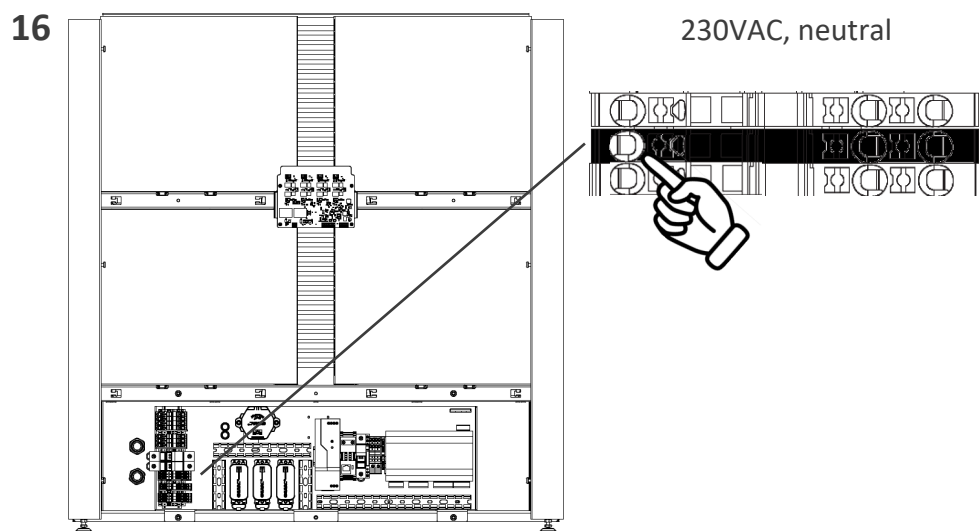
Nilar recommends that a switch is installed for the operating power cable, preferably in the vicinity of the Nilar Home Box.



CONDUCTOR CROSS-SECTION MAX 2,5MM² (CU).

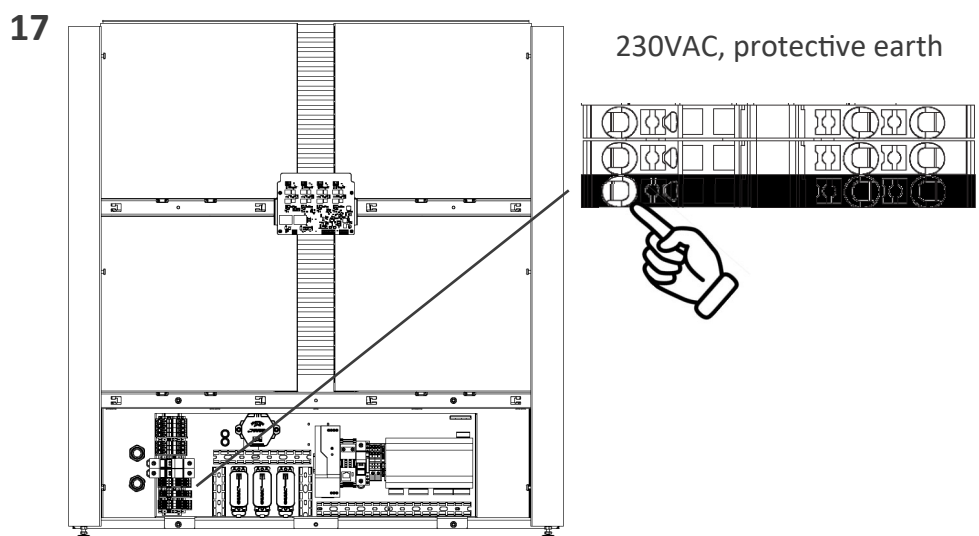
FUSE/MCB: C10A
(MIN. 6A AND MAX. 10A,
CHARACTERISTICS: B, C, D
OR K ARE POSSIBLE)

The live wire of the operating power cable connects to the terminal marked '1' of the Nilar BMS.



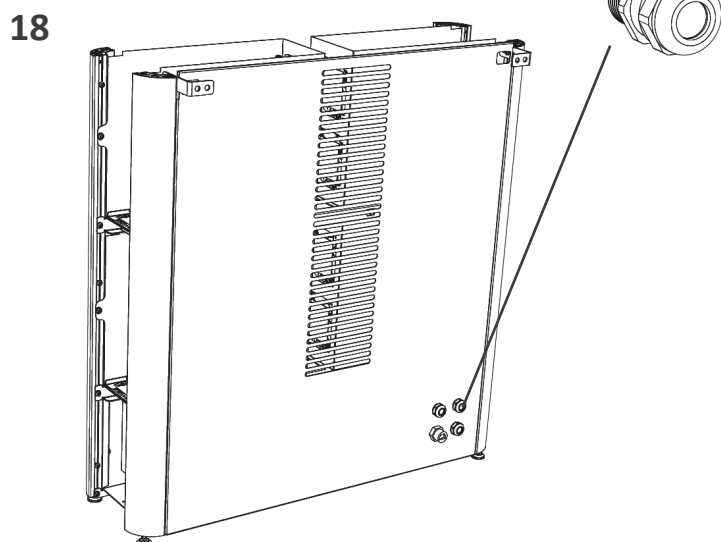
CONDUCTOR CROSS-SECTION
MAX 2,5mm² (Cu)

The neutral wire of the operating power cable connects to the terminal marked '2' of the Nilar BMS.



CONDUCTOR CROSS-SECTION
MAX 2,5mm² (Cu)

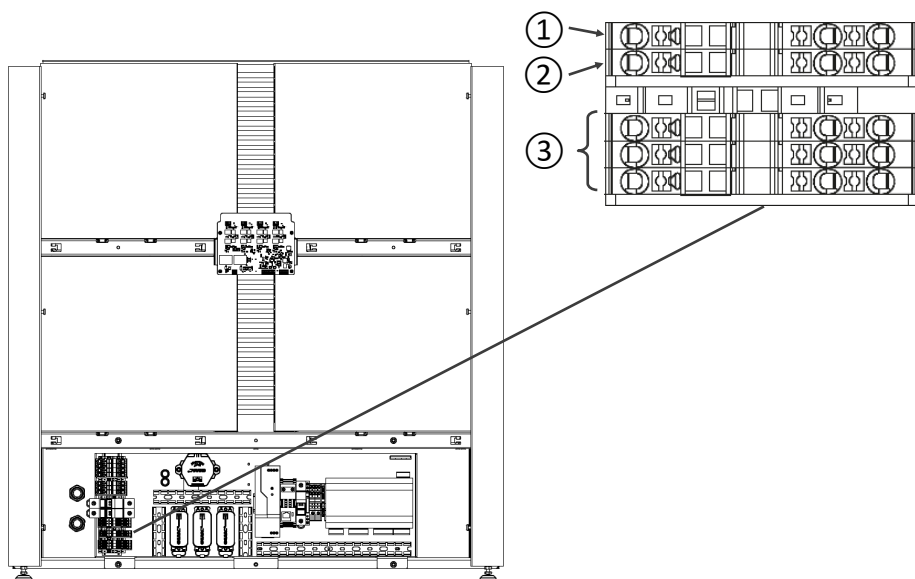
The protective earth (PE) wire of the operating power connects to the terminal marked 'PE' of the Nilar BMS.



Route the inverter communication cable through the upper right cable gland located on the backside of the Nilar Home Box.



19

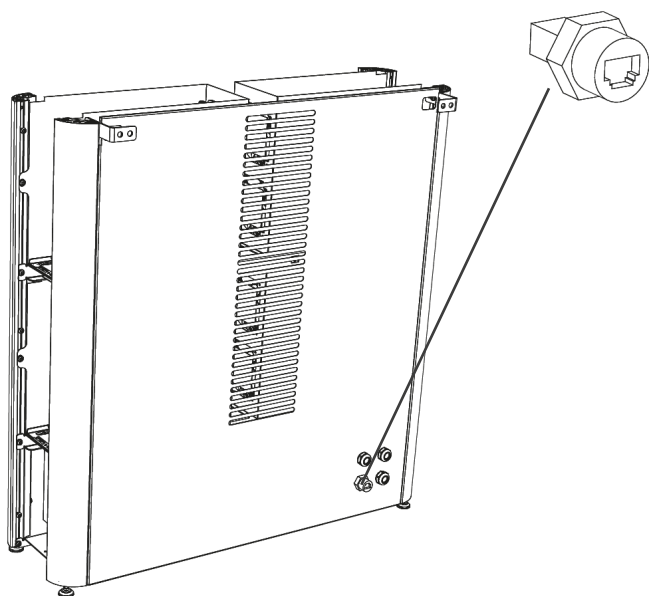


CONDUCTOR CROSS-SECTION
MAX 2,5mm² (Cu)

Attach the RS485 signal wires to the correlating terminals of the Nilar BMS.

- ① Signal A: Terminal 7
- ② Signal B: Terminal 8
- ③ Signal gnd: Empty PE terminal

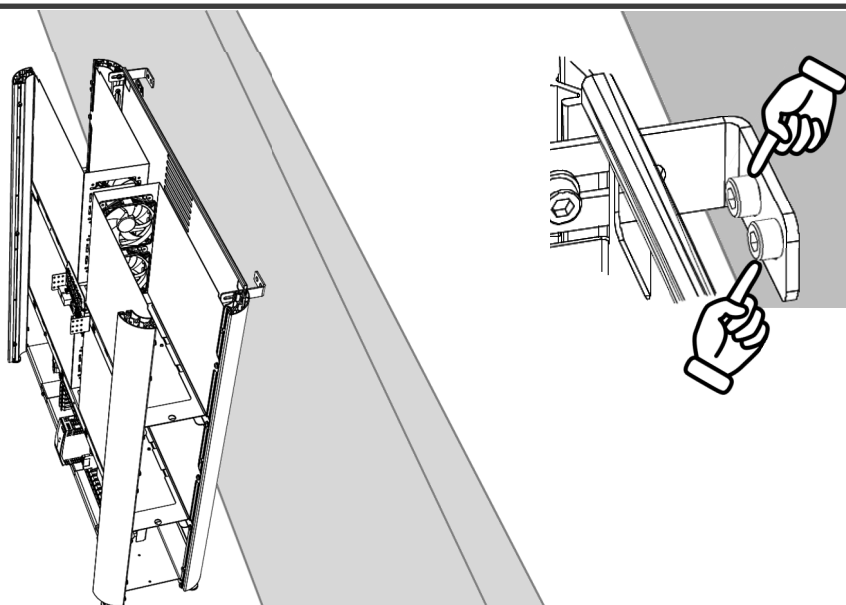
20



THE NILAR HOME BOX
REQUIRES A STABLE
INTERNET CONNECTION FOR
TECHNICAL SUPPORT AND
FULFILLING OF WARRANTY
CONDITIONS

Connect an internet cable to the RJ45 port on the backside of the cabinet.

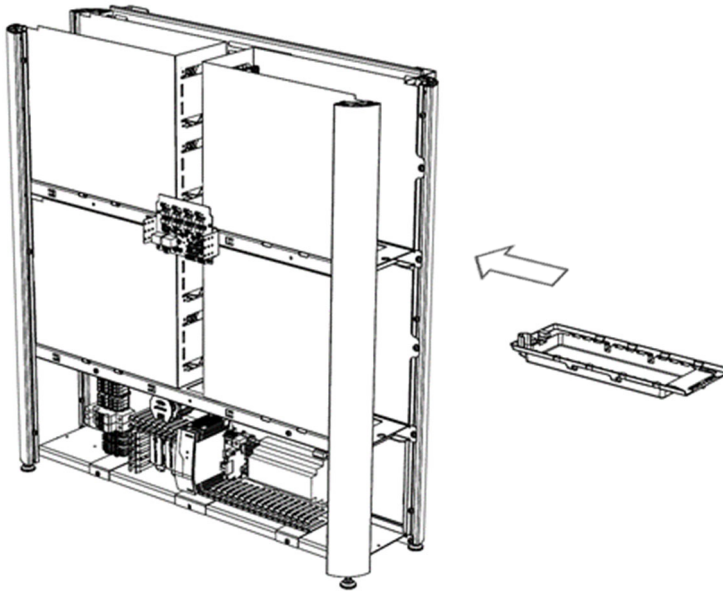
21



THE HOME BOX MUST
ALWAYS BE FIRMLY
ATTACHED TO A STABLE
WALL. TYPE AND LENGTH OF
SCREWS DEPEND ON
MATERIAL IN WALL AND THE
SCREWS ARE NOT SUPPLIED
WITH NILAR HOME BOX.

Fix the Home Box by attaching the mounting brackets with two (2) screws each onto a stable wall.

22



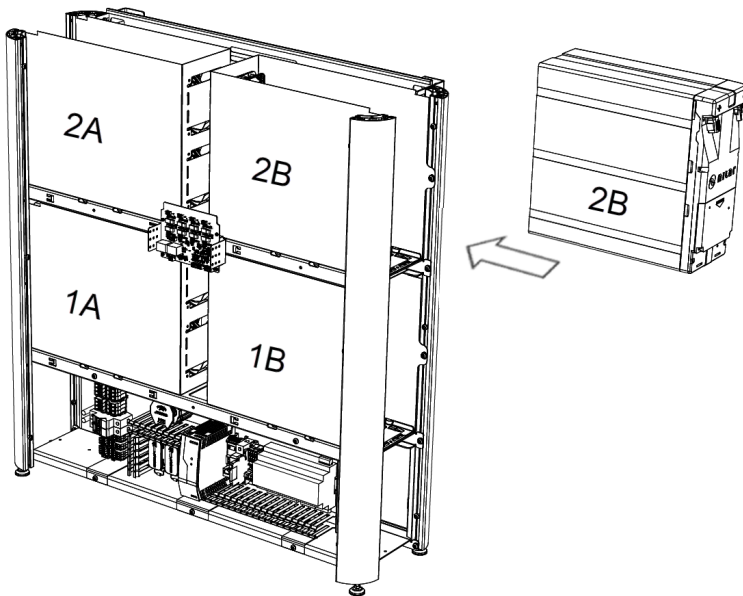
NEVER EVER INSTALL
BATTERY PACKS WITHOUT
INSULATION TRAYS



ENSURE THAT NO CABLES
ARE SQUEEZED IN-BETWEEN
THE SHELVES AND THE
INSULATION TRAYS

**Place all four (4) insulation trays
in all four (4) shelf openings of
the Home Box.**

23



REMOVE BOTH LIFTING
STRAPS FROM THE BATTERY
PACKS



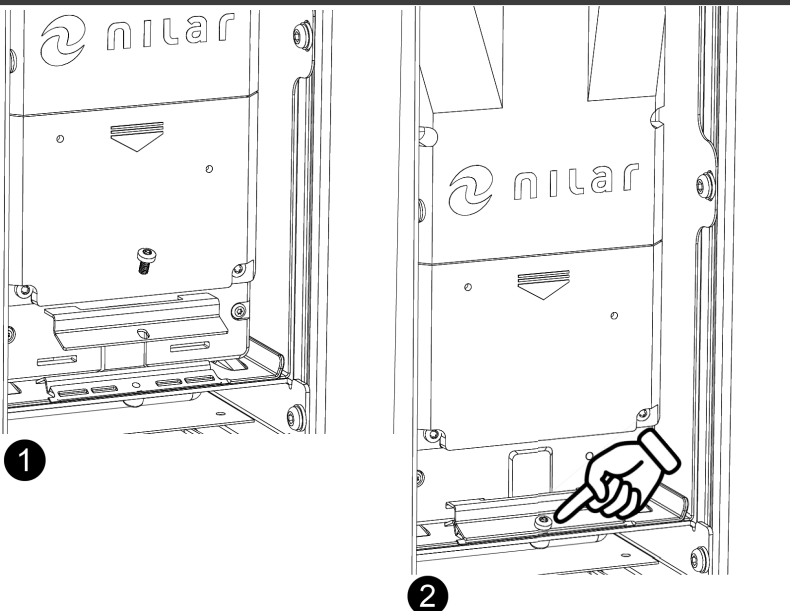
ID-MARKING ON BATTERY
PACK MUST MATCH
ID-MARKING IN BATTERY
SHELF SLOT OF HOME BOX



IT IS RECOMMENDED TO USE
LIFTING AIDS

**Carefully lift/slide all four (4)
battery packs into their
dedicated shelf slots.**

24



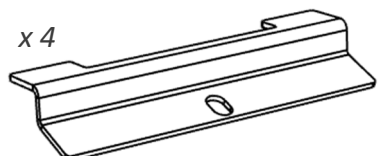
**Fix the battery pack to the
insulation tray with the screw.
Repeat for all battery packs.**



TX20

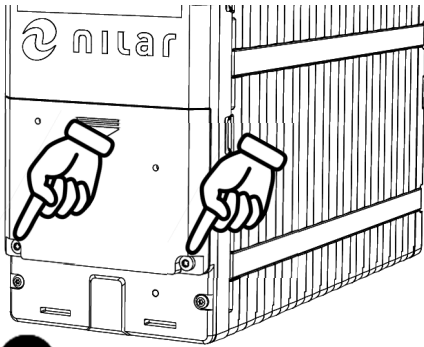


x 4

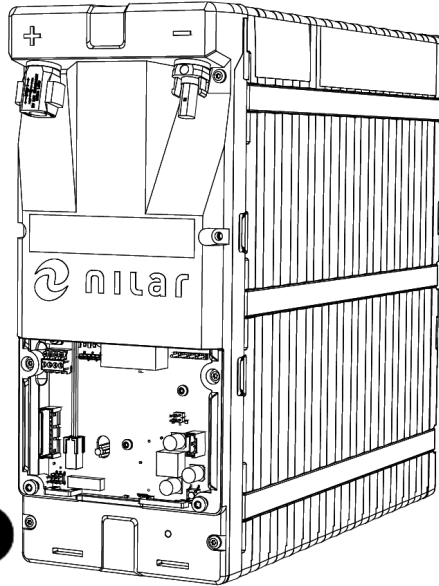


x 4

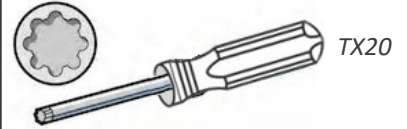
25



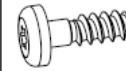
1



2

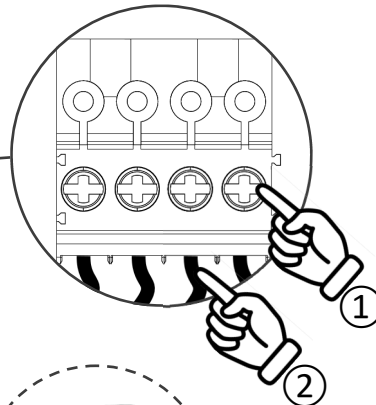
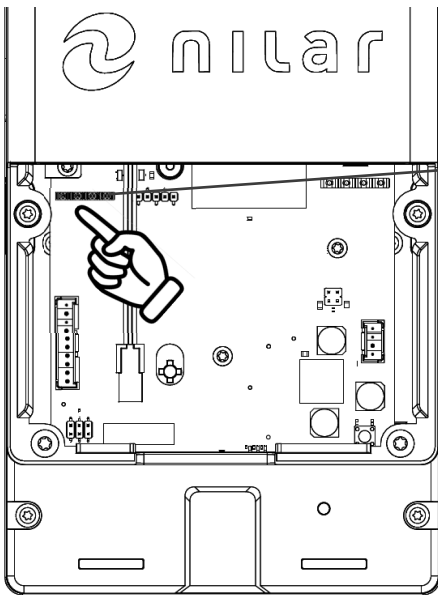


TX20



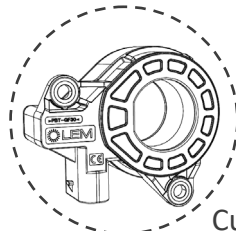
x 2

26



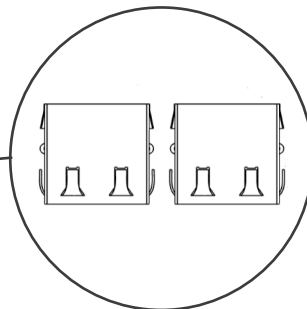
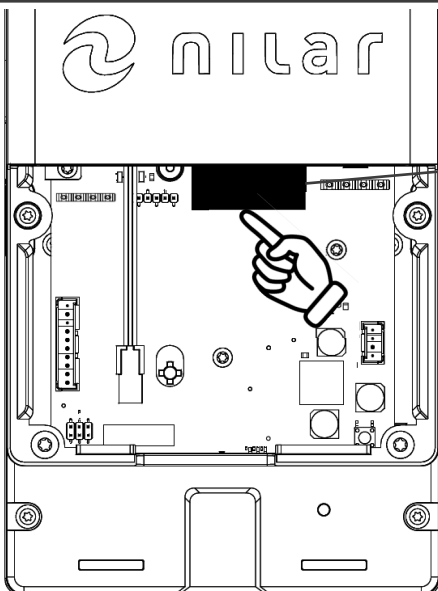
BE CAREFUL TO CONNECT THE CURRENT SENSOR CONNECTORS WITH THE CORRECT ORIENTATION. THE CLAMPING SCREWS ① MUST BE VISIBLE ON THE FRONT SIDE AND THE CABLES ② MUST POINT DOWNWARDS.

Connect the current sensor cable connectors to the battery packs '1B' and '2B'.



Current sensor

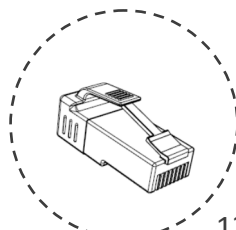
27



Connect the pre-routed communication cable from BMS to battery pack '1A' (RJ45).

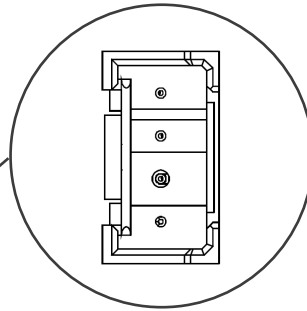
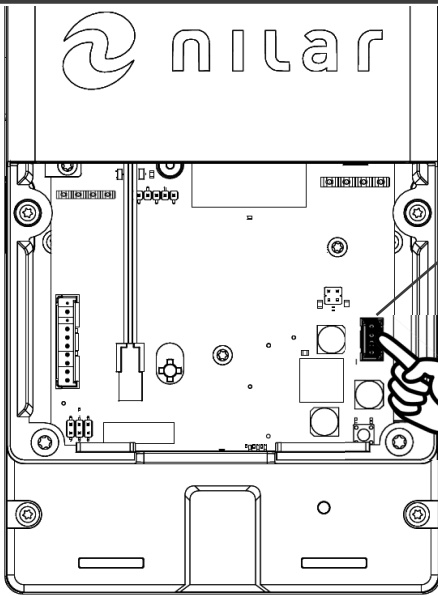
Connect the interpack communication cables between battery pack '1A' and '2A', between '2A' and '2B' (pre-routed), and between '2B' and '1B'.

Insert the 120Ω termination plug in the last empty CAN connection of battery pack '1B'.



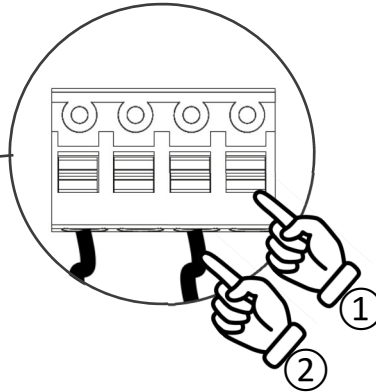
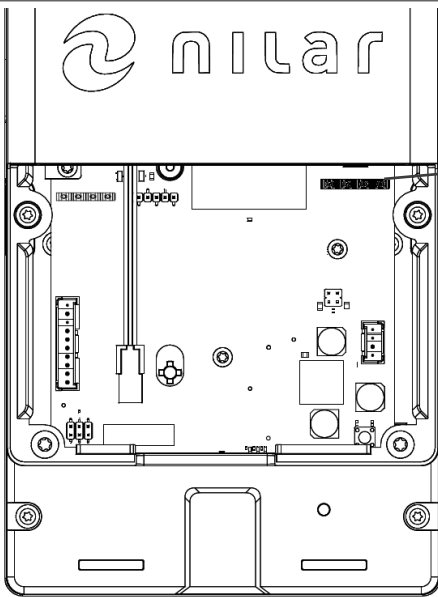
120Ω t. plug

28



Connect all the pre-routed fan cables to all battery packs.

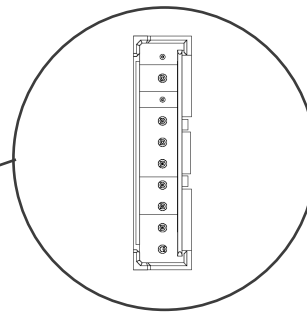
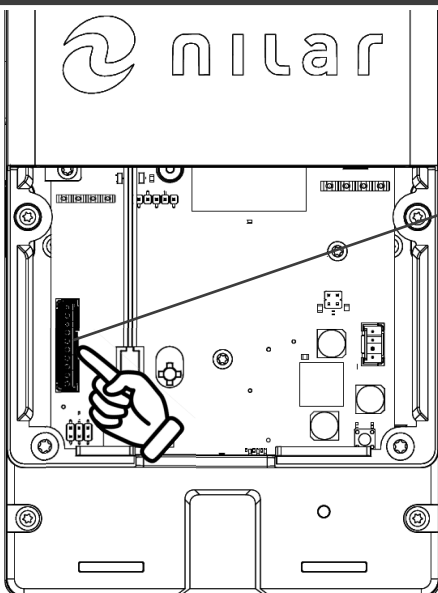
29



BE CAREFUL TO CONNECT THE 24VDC CONNECTORS WITH THE CORRECT ORIENTATION. THE CLAMPING SPRINGS ① MUST BE VISIBLE ON THE FRONT SIDE AND THE CABLES ② MUST POINT DOWNWARDS.

Connect all the pre-routed 24VDC power supply cable connectors to all battery packs.

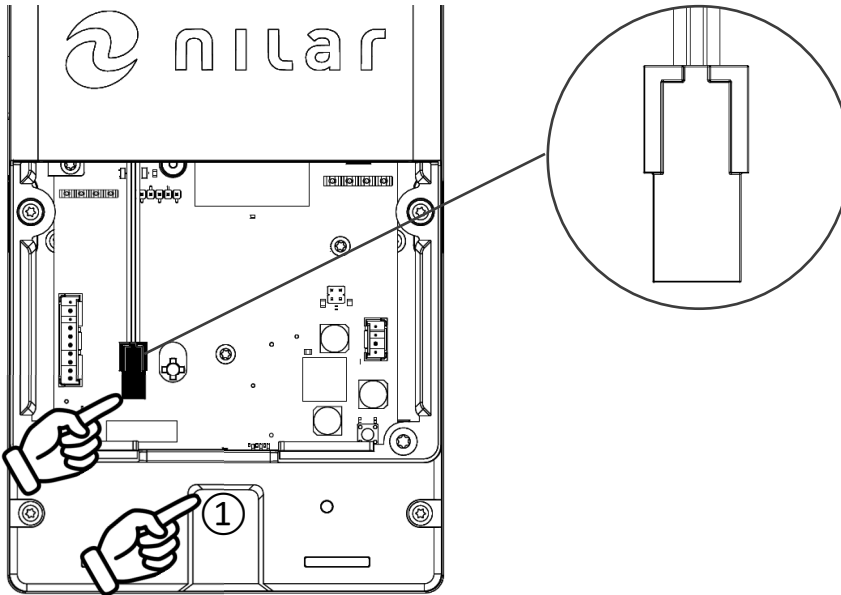
30



ALWAYS LET THE AMBIENT TEMP. SENSOR CABLE HANG DOWN FREELY. NEVER EVER LET IT TOUCH THE BATTERY PACK MODULES.

Connect the ambient temperature sensor cable to battery pack '1A'.

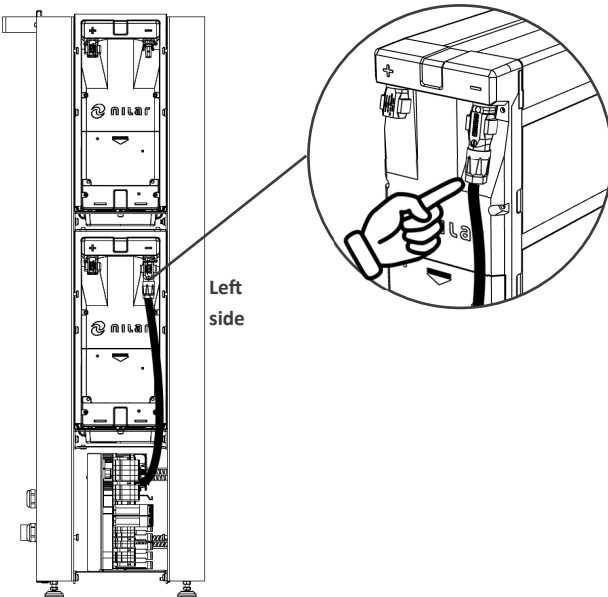
31



Connect all the ETPU-cable connectors with all the pre-routed ETSU-cable connectors for each battery pack.

Install the cover lids back on all the battery packs and check that all connected cables are routed through the cable entry ①.

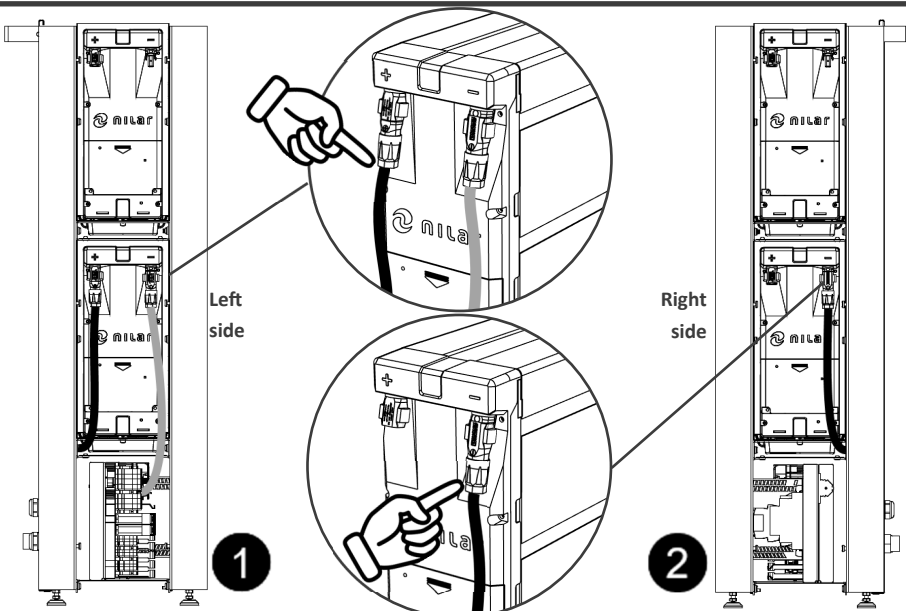
32



CHECK THAT THE FUSES ARE NOT ACTIVATED, SEE INSTALLATION STEP #38

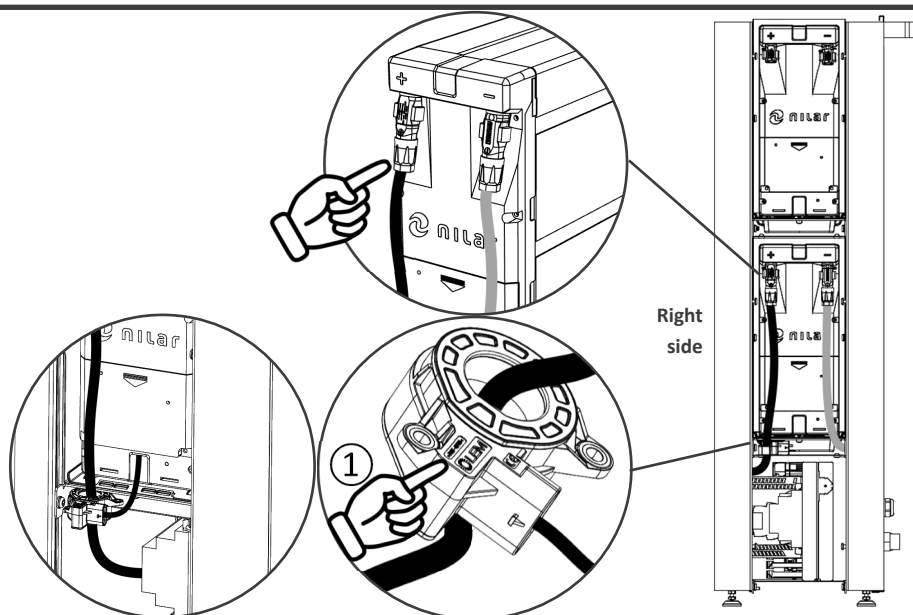
Connect the pre-routed negative (-) power cable into the negative (-) chassis connector of battery pack '1A'.

33



Connect the positive (+) chassis connector of battery pack '1A' to the negative (-) chassis connector of battery pack '1B' by using the pre-routed interpack power cable located beneath the battery pack shelf.

34



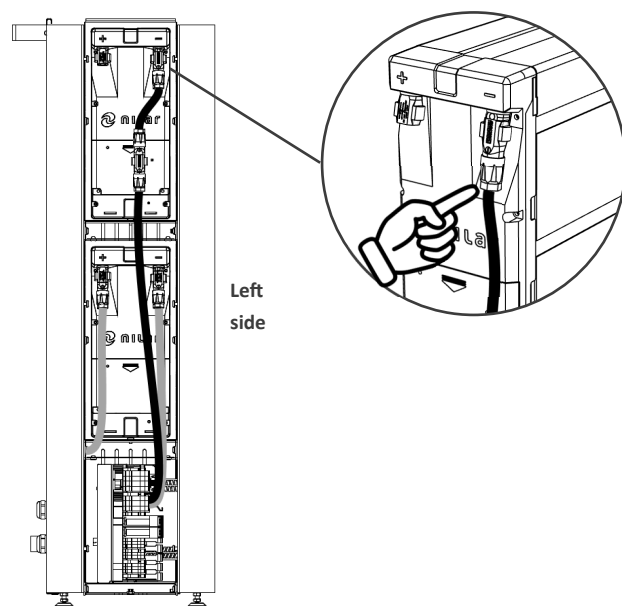
THE TEXT MARKING "LEM" ① OF THE CURRENT SENSOR MUST ALWAYS POINT TOWARDS THE POSITIVE (+) CHASSIS CONNECTOR.



Connect the pre-routed positive (+) power cable equipped with the current sensor and connect it to the positive (+) chassis connector of battery pack '1B'.

Place the current sensor partly inside the shelf beneath.

35

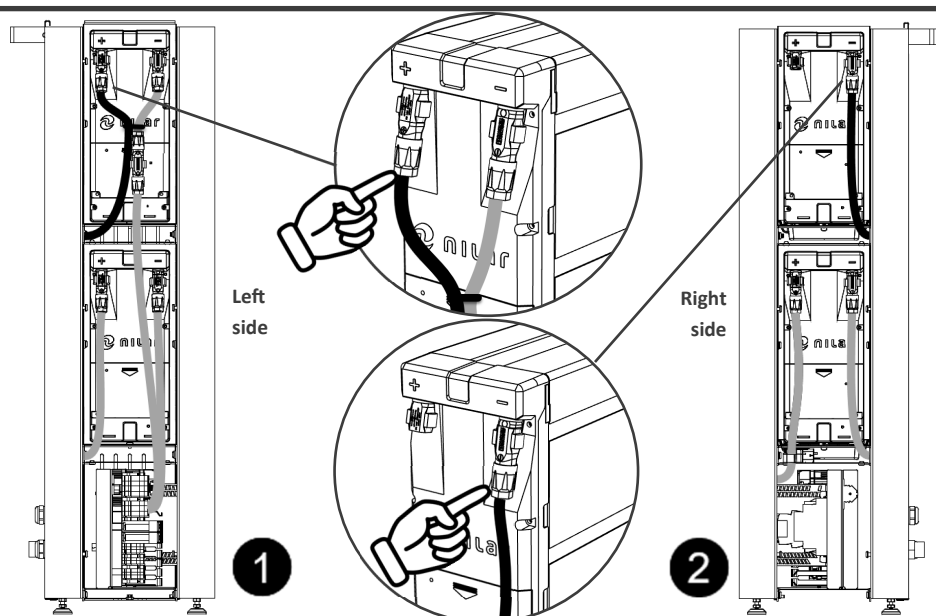


THE CABLE IS A TWO (2) CABLE ASSEMBLY EQUIPPED WITH A FUSE. DO NOT DETACH THE CABLE ASSEMBLY.



Connect the pre-routed fuse equipped negative (-) power cable into the negative (-) chassis connector of battery pack '2A'.

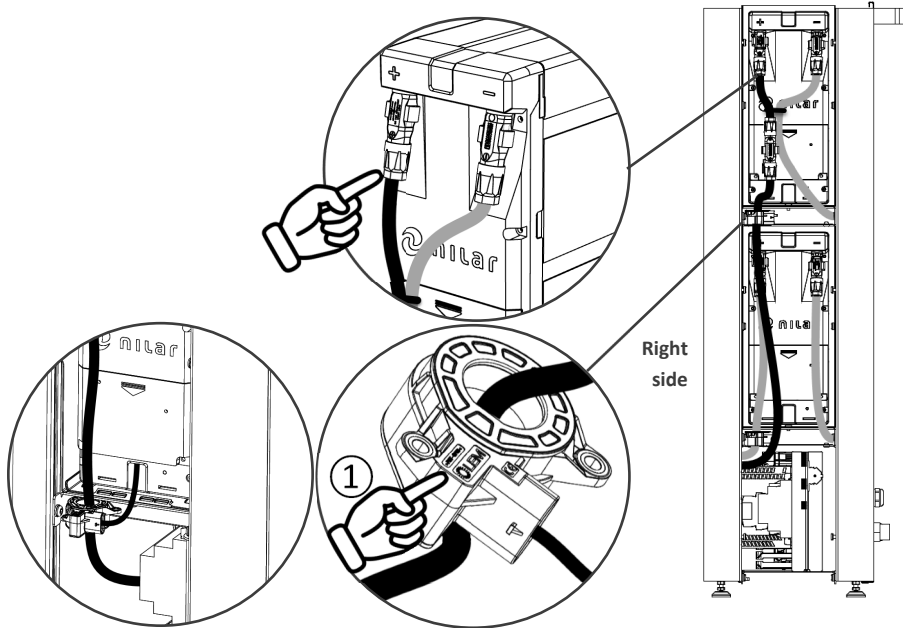
36



THIS CABLE IS ATTACHED TO THE PREVIOUSLY INSTALLED CABLE BY CABLE TIES. DO NOT DETACH CABLES FROM EACH OTHER.



Connect the positive (+) chassis connector of battery pack '2A' to the negative (-) chassis connector of battery pack '2B' by using the pre-routed interpack power cable located beneath the battery pack shelf.



THE TEXT MARKING "LEM" (1) OF THE CURRENT SENSOR MUST ALWAYS POINT TOWARDS THE POSITIVE (+) CHASSIS CONNECTOR.



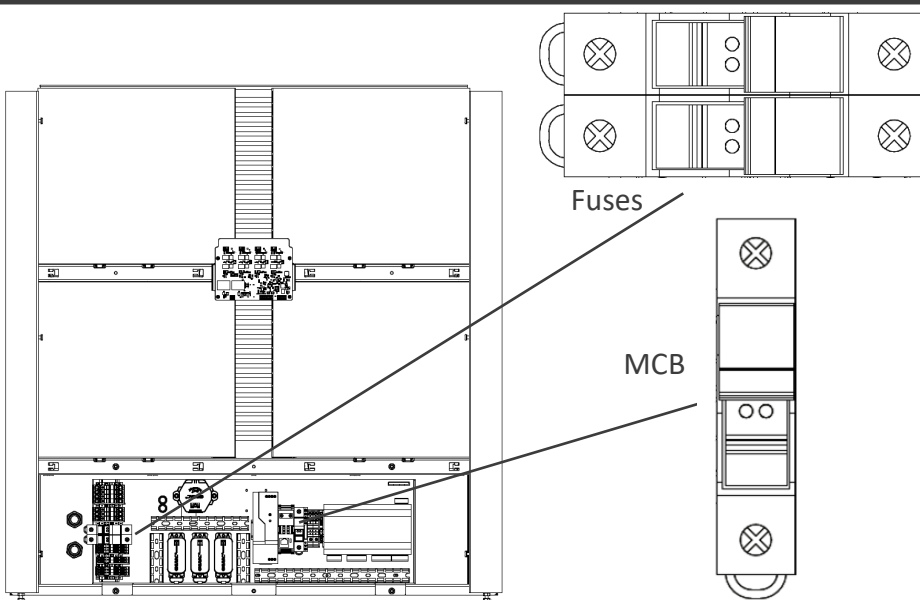
THE CABLE IS A TWO (2) CABLE ASSEMBLY EQUIPPED WITH A FUSE. DO NOT DETACH THE CABLE ASSEMBLY.



THIS CABLE IS ATTACHED TO THE PREVIOUSLY INSTALLED CABLE BY CABLE TIES. DO NOT DETACH CABLES FROM EACH OTHER.

Connect the pre-routed fuse equipped positive (+) power cable equipped with the current sensor and connect it to the positive (+) chassis connector of battery pack '2B'.

Place the current sensor partly inside the shelf beneath.



Remove the adhesive tape over the blow fuses (288VDC), activate the fuses by closing the hatches.

Switch the MCB (24VDC) for the operation power to position 'ON'.

- 39**
- *HAVE ALL THE PREVIOUSLY STATED SAFETY WARNINGS AND CAUTIONS BEEN FOLLOWED?*
 - *IS THE INVERTER POWER AND THE PROTECTIVE EARTH CONNECTED CORRECTLY TO THE NILAR HOME BOX?*
 - *IS THE OPERATING POWER INSTALLED CORRECTLY?*
 - *IS THE COMMUNICATION CONNECTION OF THE INVERTER MADE CORRECTLY?*
 - *IS A STABLE INTERNET CONNECTION ESTABLISHED?*
 - *IS THE NILAR HOME BOX FIRMLY ATTACHED TO A STABLE WALL?*
 - *ARE THE INSULATION TRAYS AND BATTERY PACKS INSTALLED CORRECTLY?*
 - *ARE ALL EIGHT LIFTING STRAPS REMOVED FROM THE BATTERY PACKS?*
 - *ARE THE FUSES INSERTED AND THE MCB ACTIVATED?*



PLEASE VERIFY THAT ALL THE LISTED CHECKPOINTS ARE CARRIED OUT AS PREVIOUSLY DESCRIBED

40



ASSEMBLE THE NILAR HOME BOX CABINET IN THE REVERSE ORDER OF HOW IT IS DESCRIBED IN INSTALLATION STEP 2 – 7 AND CHECK THE INVERTER MANUFACTURER'S INSTRUCTIONS FOR FURTHER INFORMATION BEFORE TAKEN INTO OPERATION.

41



PLEASE HAND OVER THE ENCLOSED 'END CUSTOMER LETTER' TO THE CLIENT



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