FIND YOUR OPERATING MANUALS
www.fronius.com/energy-package-manuals

Fronius Symo Hybrid Installation

Installation Instruction

Grid connected inverter

42,0410,2145 013-06092017

Safety EN

WARNING! Incorrect operation or poorly executed work can cause serious injury or damage. Commissioning of the hybrid system may only be carried out by trained personnel in accordance with the technical regulations. Read the Installation and Operating Instructions before installing and commissioning the equipment.

WARNING! An electric shock can be fatal. Danger due to grid voltage and DC voltage from solar modules that are exposed to light.
- Ensure that both the AC side and the DC side of the inverter are de-energised before carrying out any connection work.
- Only an authorised electrical engineer is permitted to connect this equipment to the public grid.

WARNING! An electric shock can be fatal. Danger due to grid voltage and DC voltage from solar modules or battery.
- The DC main switch is only to be used to de-energise the power stage set. The connection area is still live when the DC main switch is switched off.
- Ensure that the power stage set and connection area are disconnected from one another before carrying out any maintenance or service tasks.
- The power stage set is only to be disconnected from the mounting bracket once it is de-energised.
- Maintenance and servicing in the power stage set of the inverter must only be carried out by Fronius-trained service technicians.

WARNING! An electric shock can be fatal. Danger due to residual voltage in capacitors. Wait for the capacitors to discharge. The discharge time is five minutes.

WARNING! An inadequate ground conductor connection can cause serious injury or damage. The housing screws provide a suitable ground conductor connection for grounding the housing and must NOT be replaced by any other screws that do not provide a reliable ground conductor connection.

CAUTION! Risk of damage to the inverter from dirt or water on the terminals and contacts of the connection area.
- When drilling, ensure that terminals and contacts in the connection area do not become dirty or wet.
- Without a power stage set, the mounting bracket does not conform to the protection class of the inverter as a whole and so must not be installed without the power stage set.
  The mounting bracket should be protected from dirt and moisture during installation.

CAUTION! Risk of damage to the inverter as the result of incorrectly tightened terminals. Incorrectly tightened terminals can cause heat damage to the inverter that may result in a fire. When connecting AC and DC cables, ensure that all the terminals are tightened to the specified torque.

CAUTION! Risk of damage to inverter from overload.
- The maximum amperage when connecting to a single DC terminal is 32 A.
- Connect the DC+ and DC- cables to the DC+ and DC- terminals on the inverter, taking care to ensure that the polarity is correct.
- The maximum DC input voltage must not exceed 1000 V DC.

NOTE! Degree of protection IP 65 is only applicable if
- the inverter is placed in the mounting bracket and permanently attached using screws
- the cover for the data communication area is permanently attached to the inverter with screws.

Degree of protection IP 20 applies to the mounting bracket with no inverter.

NOTE! The solar modules connected to the inverter must comply with the IEC 61730 Class A standard.

NOTE! When photovoltaic modules are exposed to light they supply current to the inverter.

IMPORTANT! Please refer to the User Information "Installation and commissioning information sheet" (42,0410,1962).

IMPORTANT! Please set up the Fronius Energy Package in the following order:
1. Install the Fronius Symo Hybrid inverter
2. Install the Fronius Smart Meter
3. Install the Fronius Solar Battery

Fire prevention

CAUTION! Risk of damage to inverters and other live photovoltaic system components due to poor or unprofessional installation.
Poor or unprofessional installation can cause overheating of cables and terminal connections and result in arcs. These can cause heat damage, which in turn may lead to fires.

Observe the following when connecting AC and DC cables:
- Tighten all terminals to the torque specified in the Operating Instructions
- Tighten all grounding terminals (PE / GND), including free ones, to the torque specified in the Operating Instructions
- Do not overload cables
- Check cables for damage and verify that they are laid correctly
- Take note of the safety instructions, Operating Instructions and any local connection regulations

Using fastening screws, always screw the inverter firmly to the mounting bracket to the torque specified in the Operating Instructions.
Ensure that the fastening screws are tight before starting the inverter!

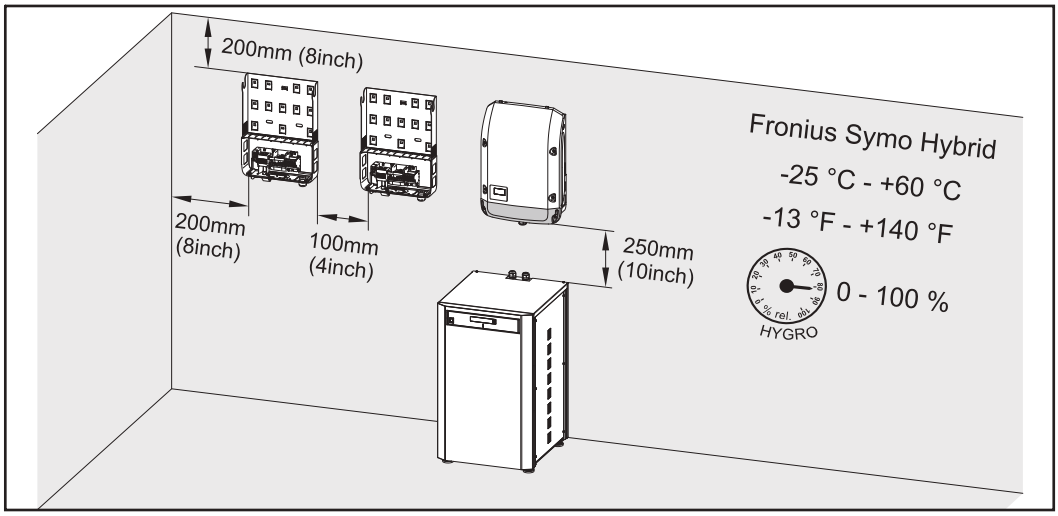
Observe the manufacturer's connection, installation and operating instructions at all times. To reduce the hazard potential to a minimum, perform all installation and connection work carefully according to the instructions and regulations.
Refer to the device Operating Instructions / Installation Instructions for the tightening torques to be used at the relevant terminal connections.

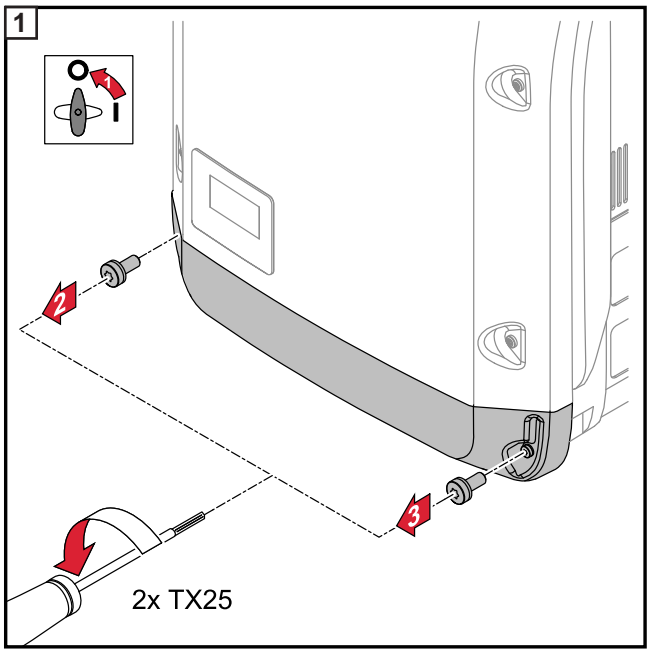
Fronius manufacturer's warranty

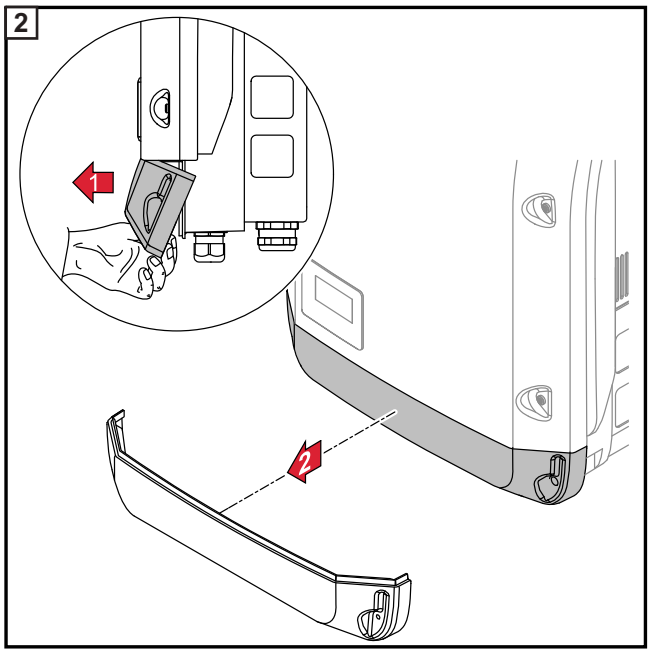
Detailed, country-specific warranty terms are available on the internet: www.fronius.com/solar/warranty

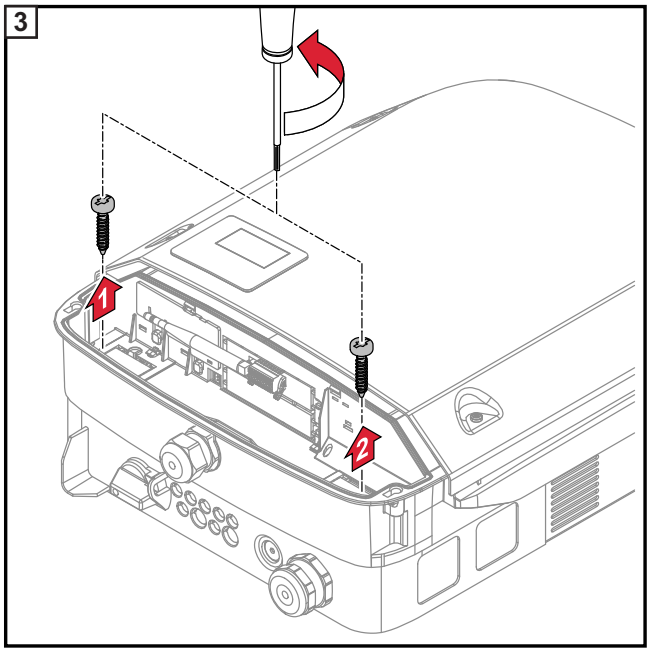
To obtain the full warranty period for your newly installed Fronius inverter or storage system, please register at: www.solarweb.com.

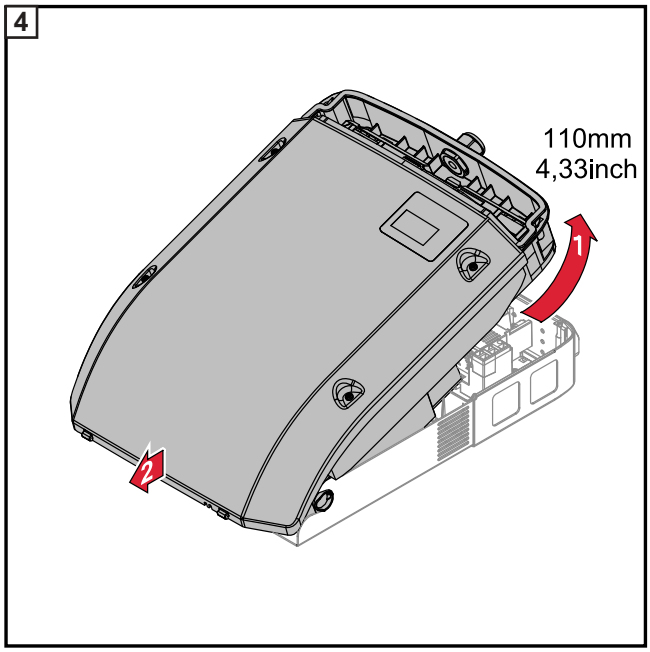
Fronius Symo Hybrid Installation

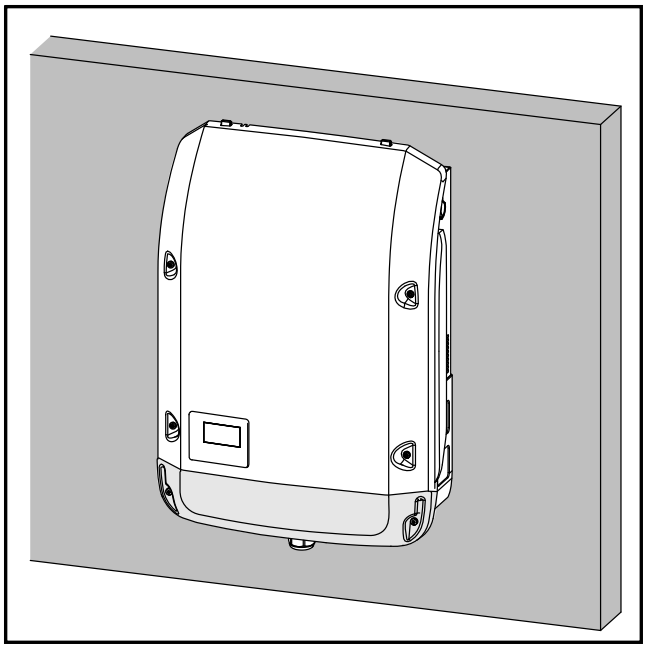

200mm (8inch)
200mm
(8inch)
100mm
(4inch)
250mm
(10inch)
Fronius Symo Hybrid
-25 °C - +60 °C
-13 °F - +140 °F
0 - 100 %
HYGRO

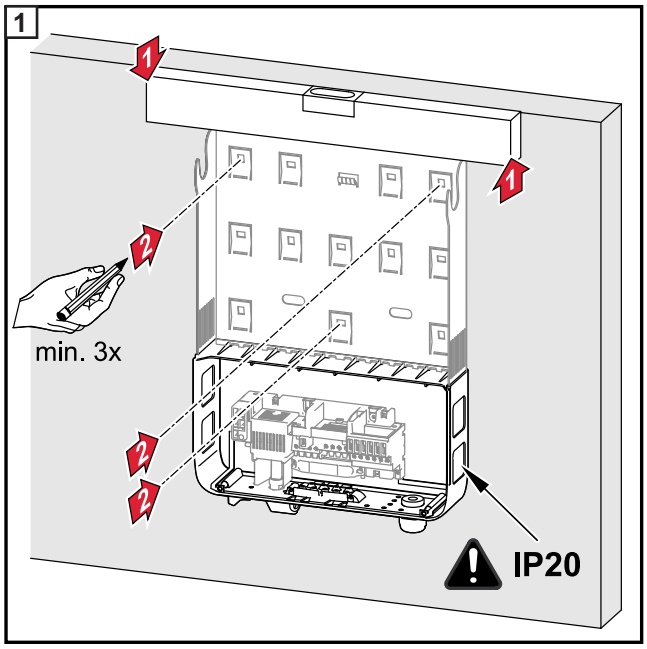

1
2
3
2x TX25

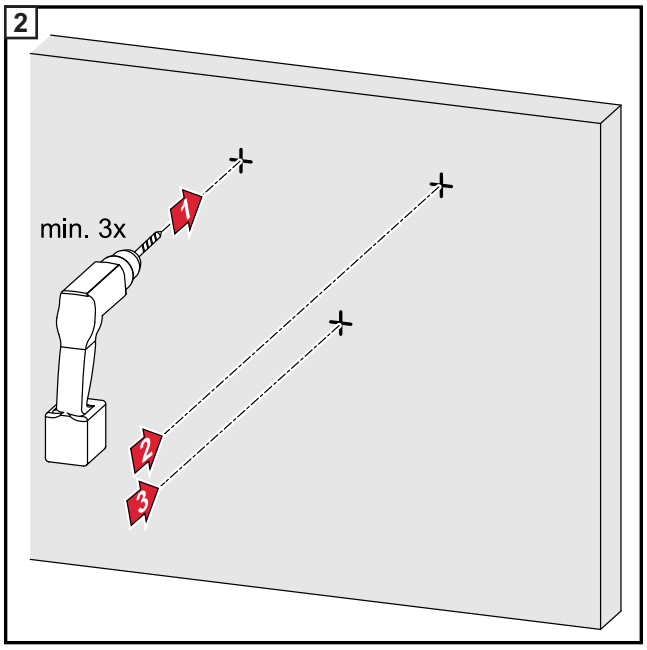

2
1
2

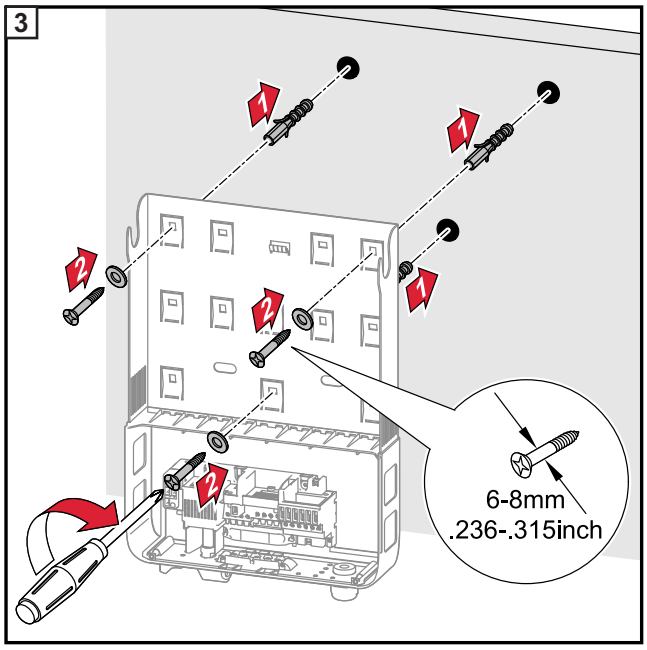

3
1
2

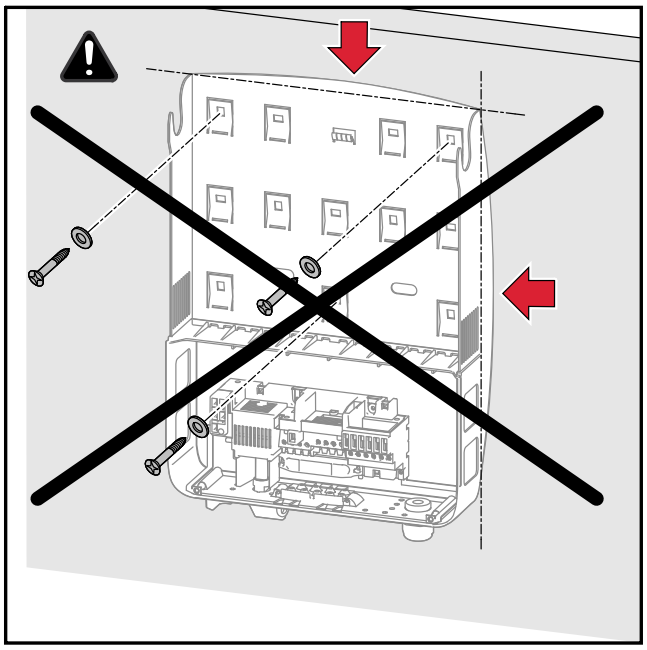

4
110mm
4,33inch
1
2

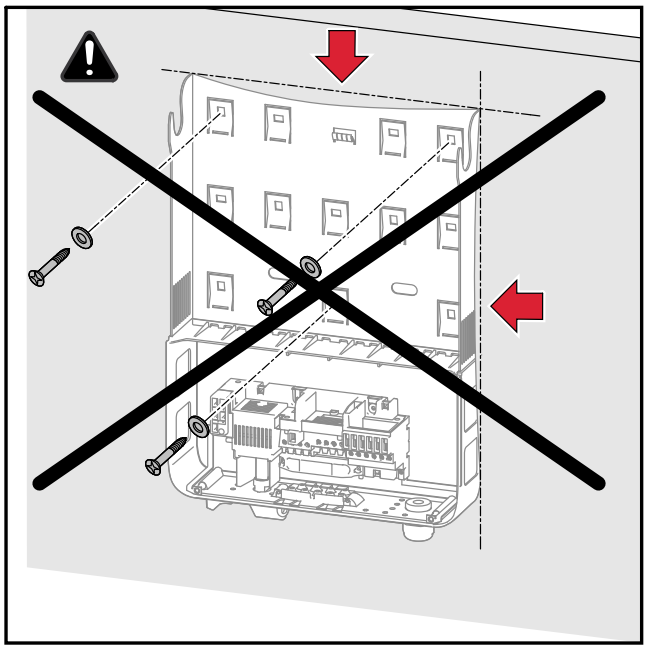


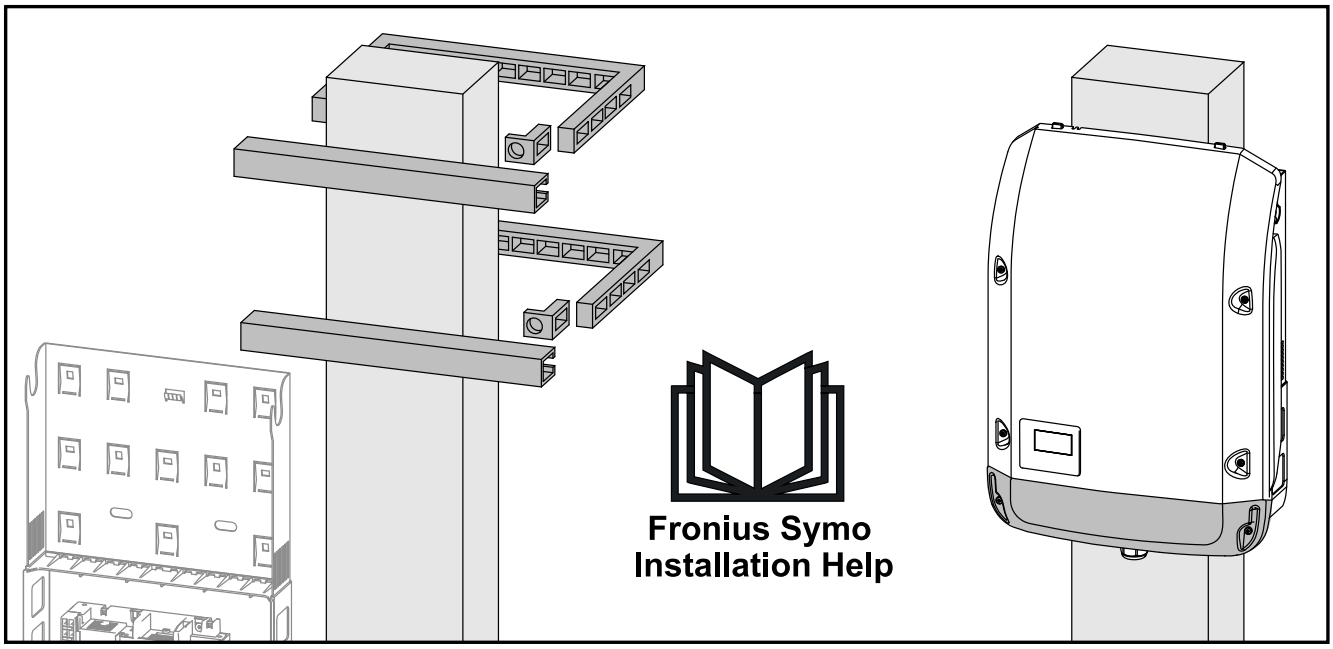

1
min. 3x
IP20

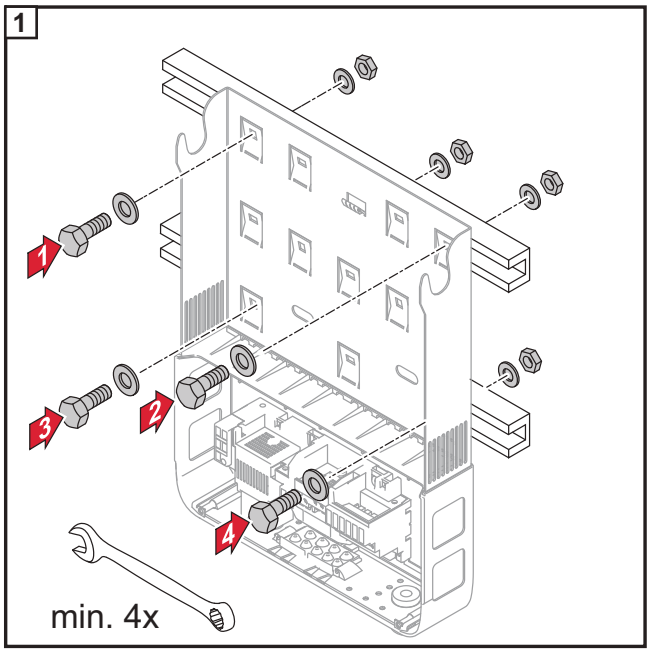

2
min. 3x

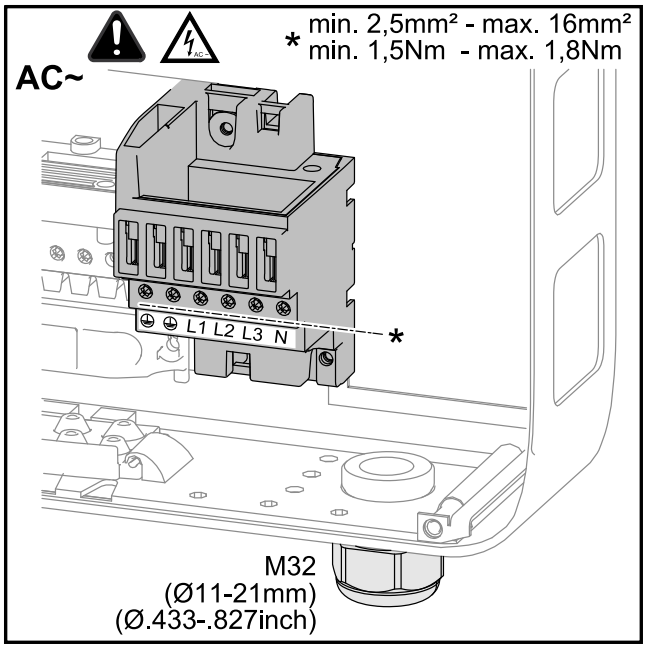

3
6-8mm
.236-.315inch

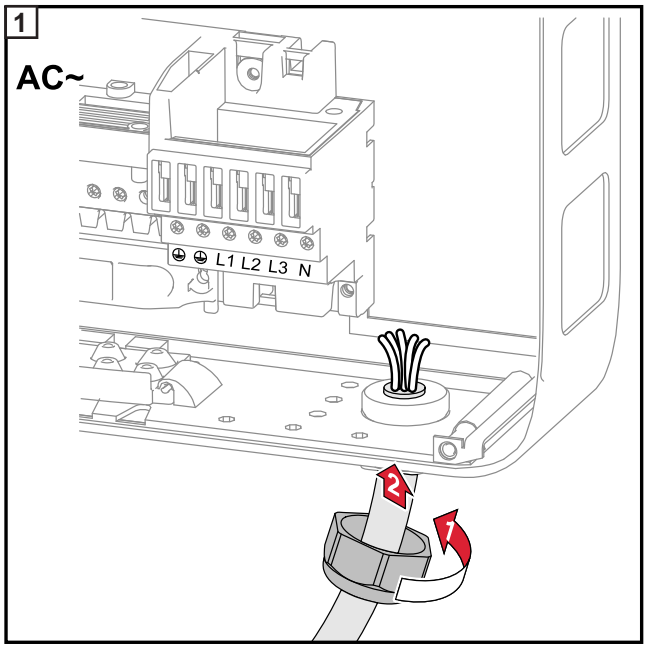


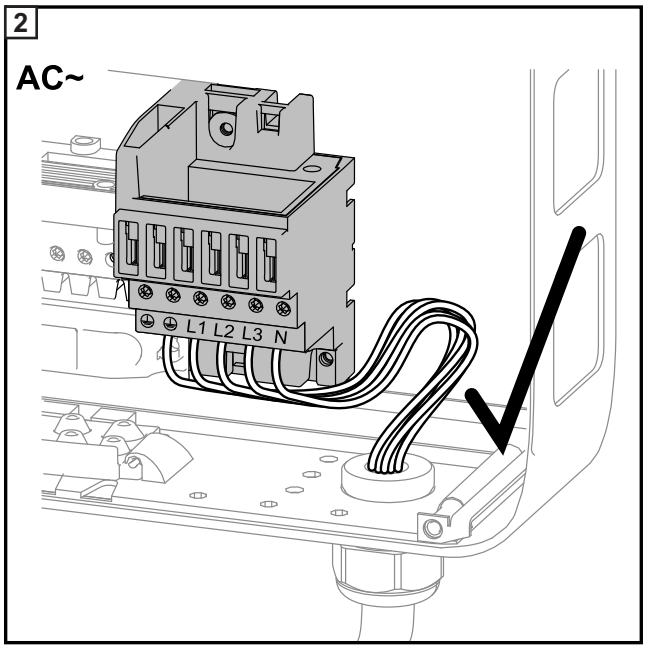


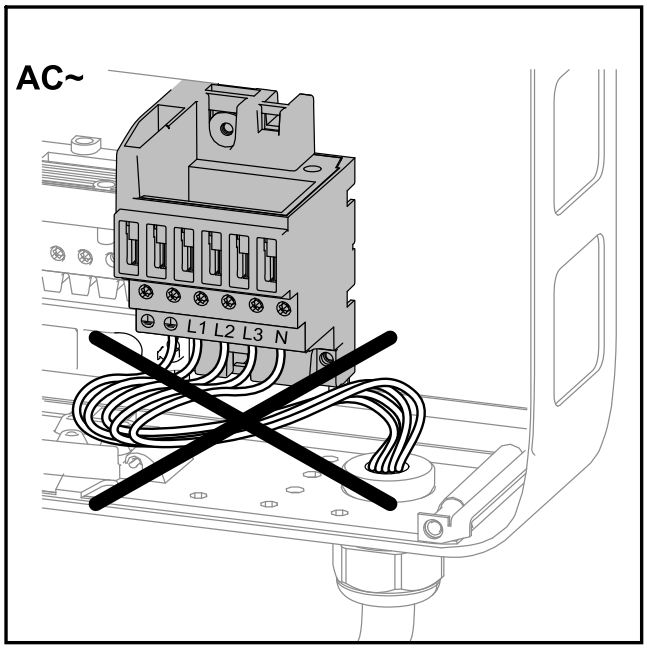

Fronius Symo
Installation Help

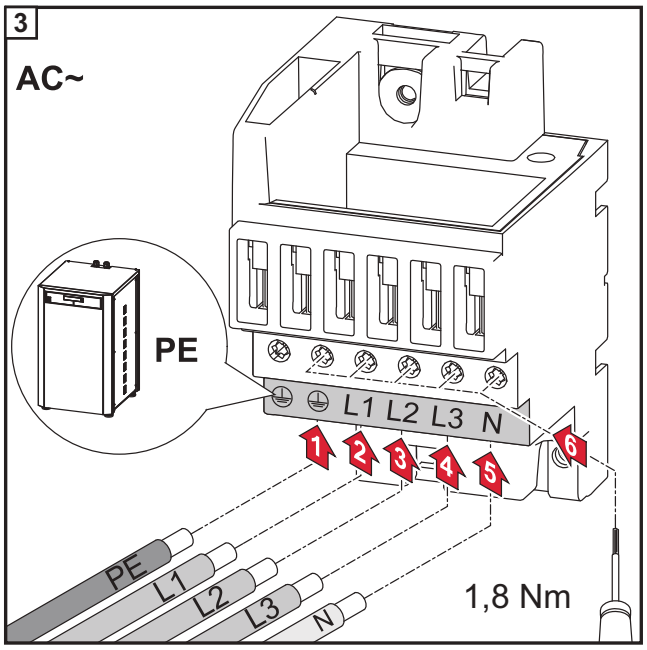

1
1
2
3
4
min. 4x

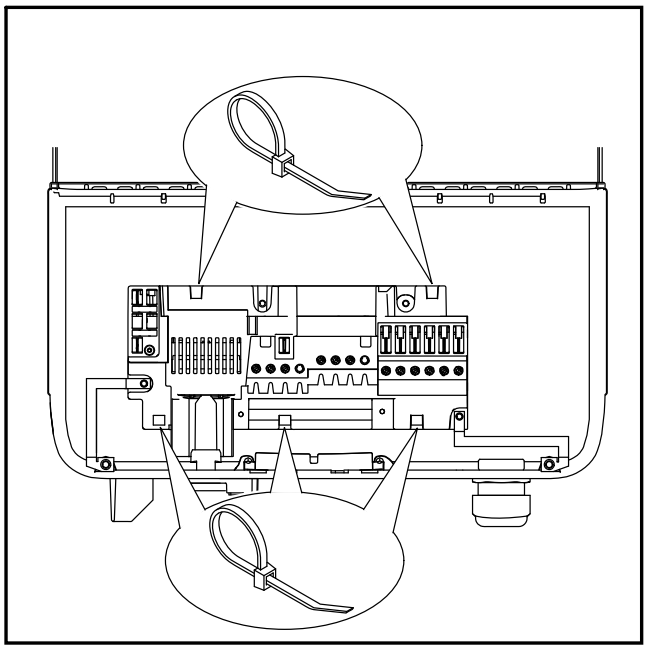

AC~
* min. 2,5mm² - max. 16mm²
* min. 1,5Nm - max. 1,8Nm
L1 L2 L3 N
*
M32
(Ø11-21mm)
(Ø.433-.827inch)

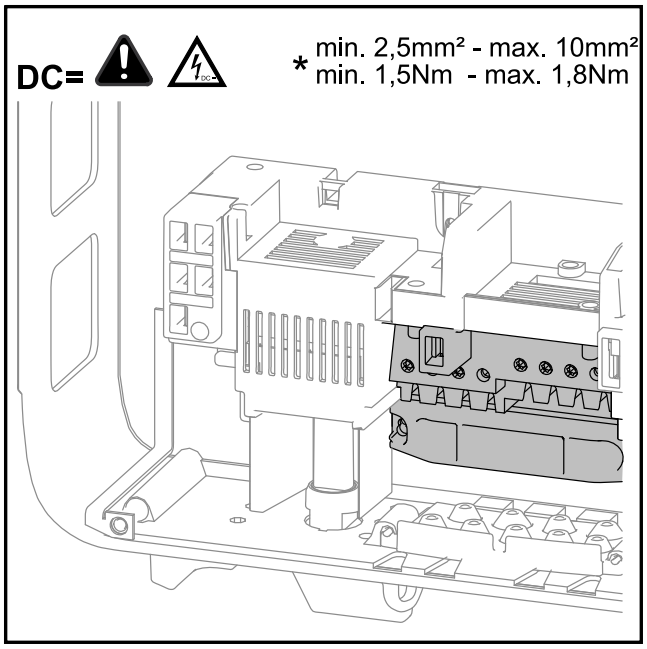

1
AC~
L1 L2 L3 N
2
1

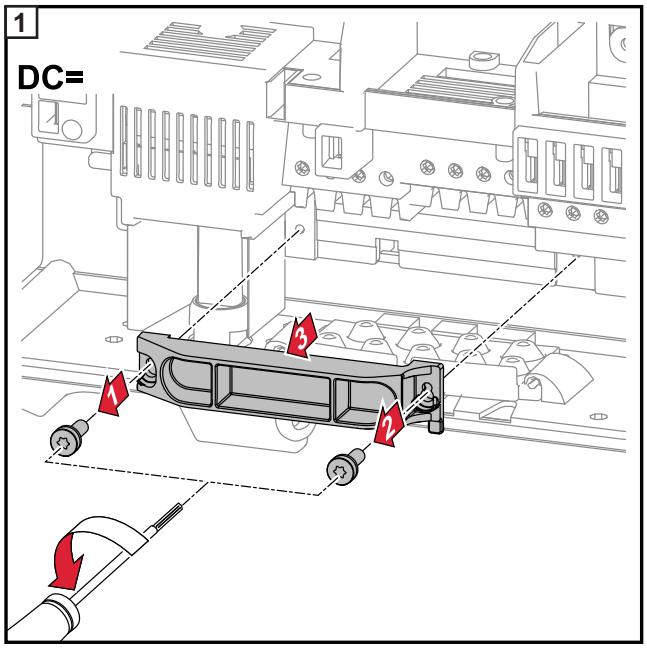

2
AC~
L1 L2 L3 N

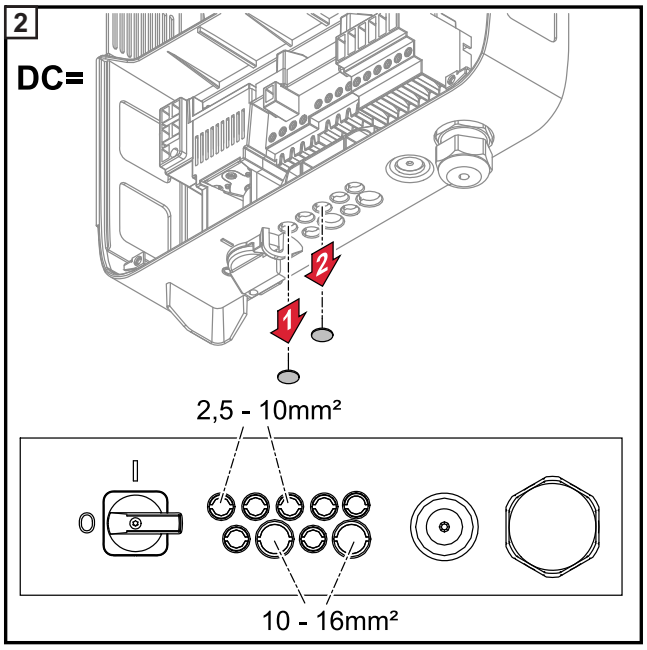

AC~
L1 L2 L3 N

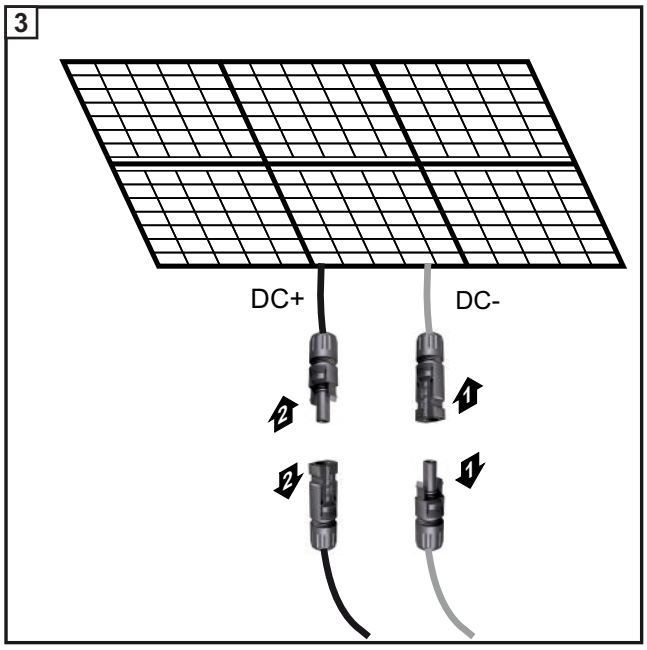

3
AC~
PE
L1 L2 L3 N
1
2
3
4
5
6
PE
L1
L2
L3
N
1,8 Nm

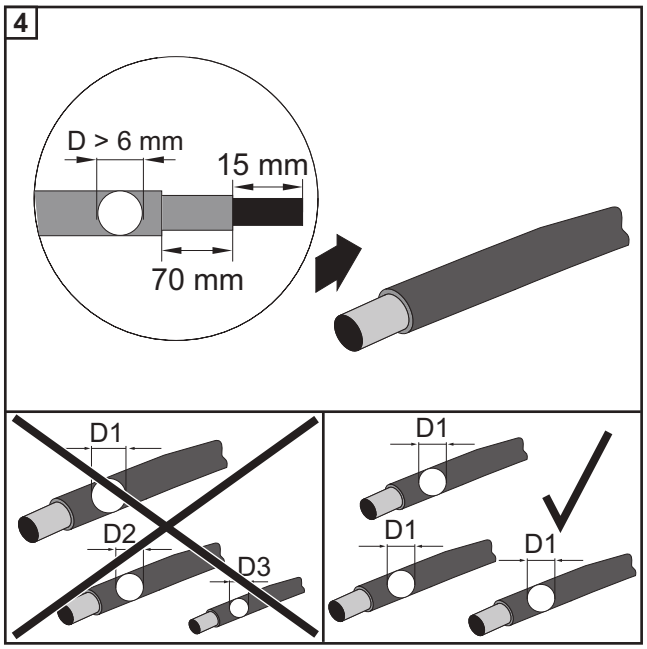


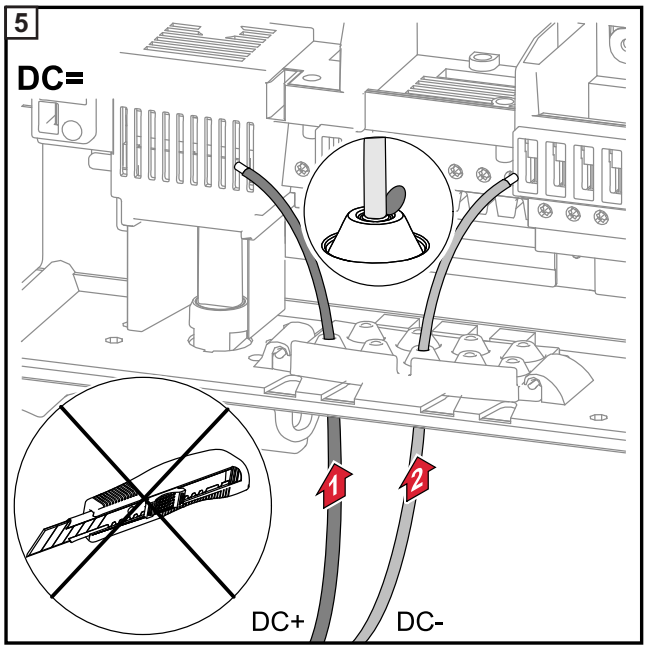

DC=
* min. 2,5mm² - max. 10mm²
min. 1,5Nm - max. 1,8Nm

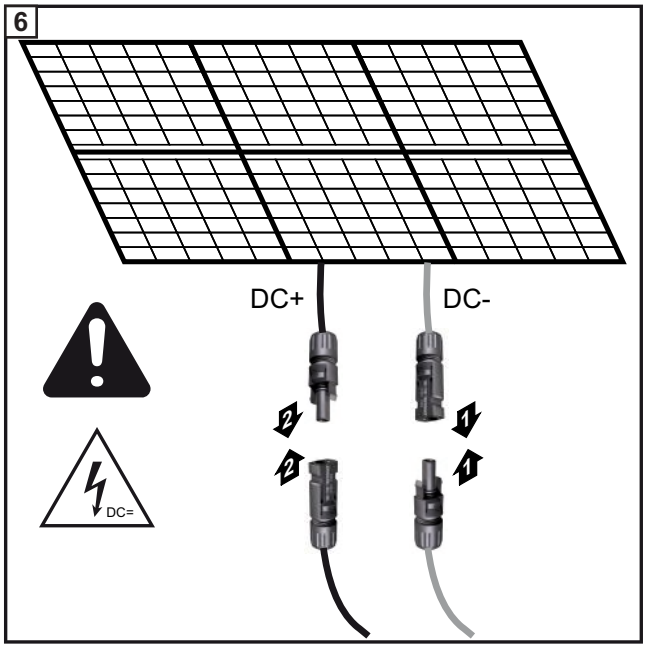

1
DC=
1
2
3

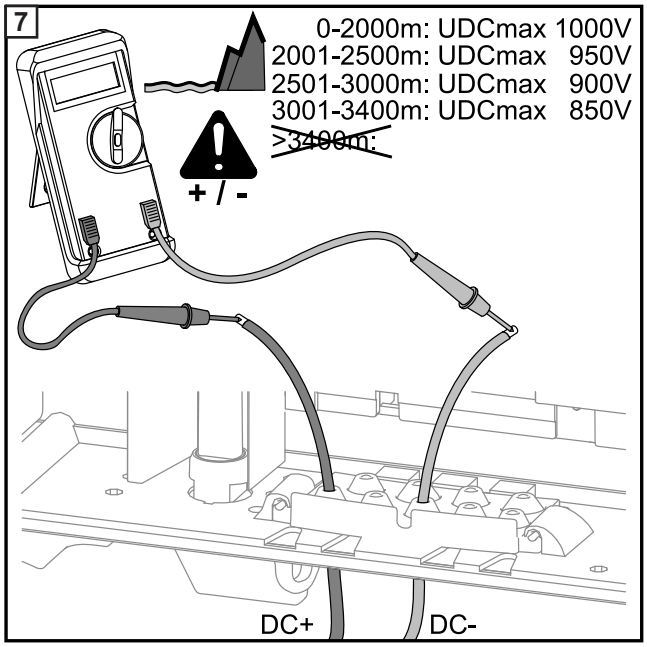

2
DC=
2
1
2,5 - 10mm²
10 - 16mm²

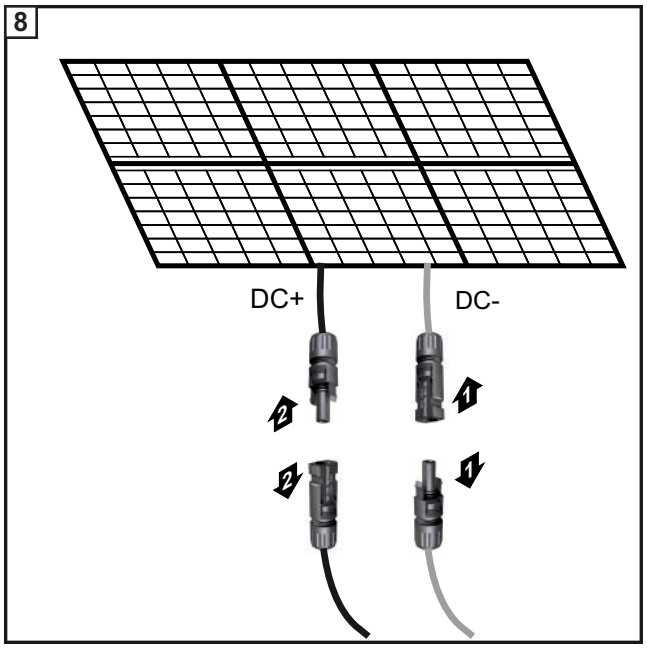

3
DC+
DC-
2
1
2
1

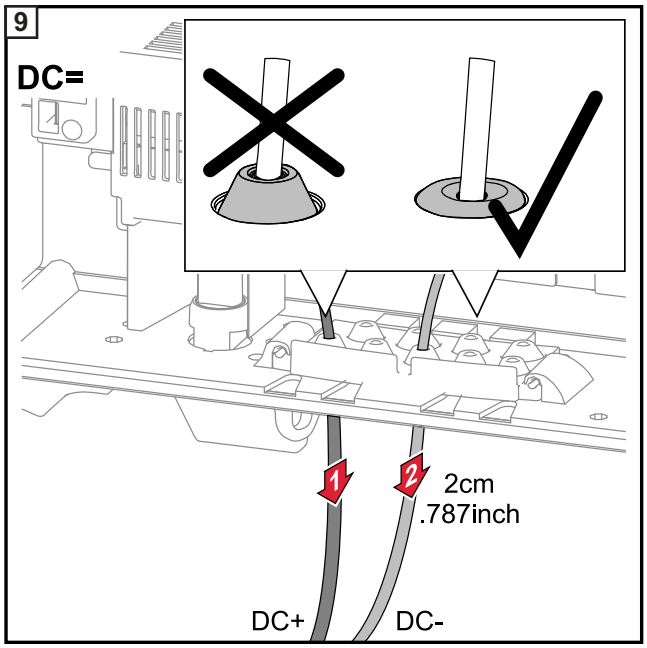

4
D > 6 mm
15 mm
70 mm
D1
D2
D3
D1
D1
D1

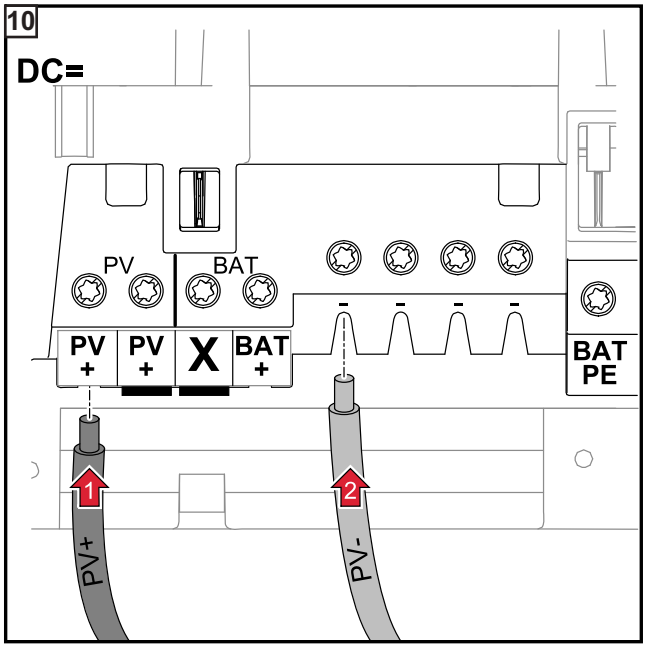

5
DC=
1
2
DC+
DC-

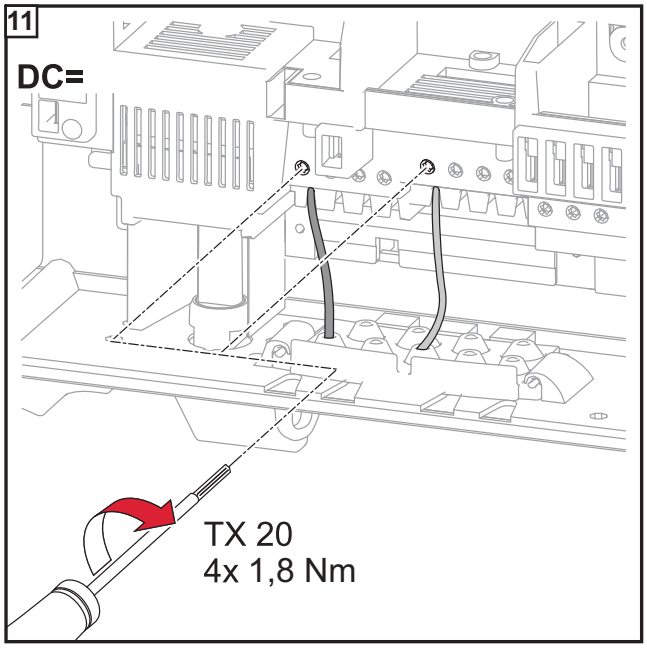

6
DC+
DC-
DC=

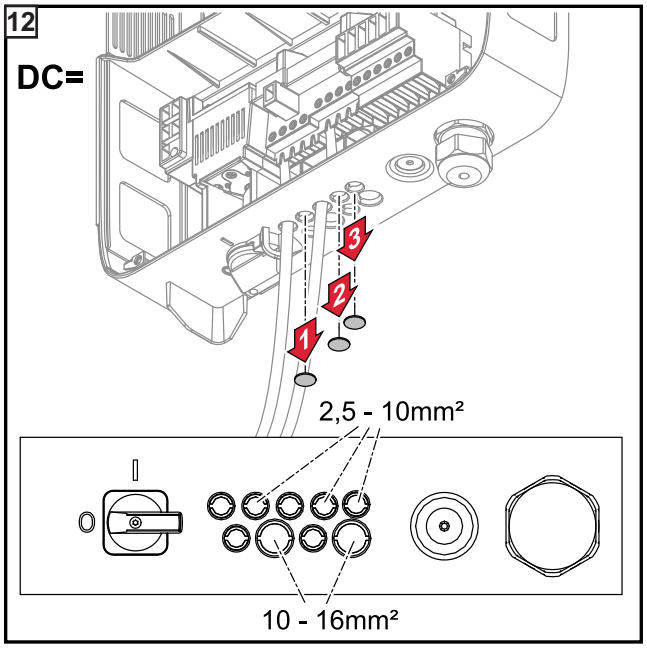

7
0-2000m: UDCmax 1000V
2001-2500m: UDCmax 950V
2501-3000m: UDCmax 900V
3001-3400m: UDCmax 850V
>3400m:
+ / -
DC+
DC-

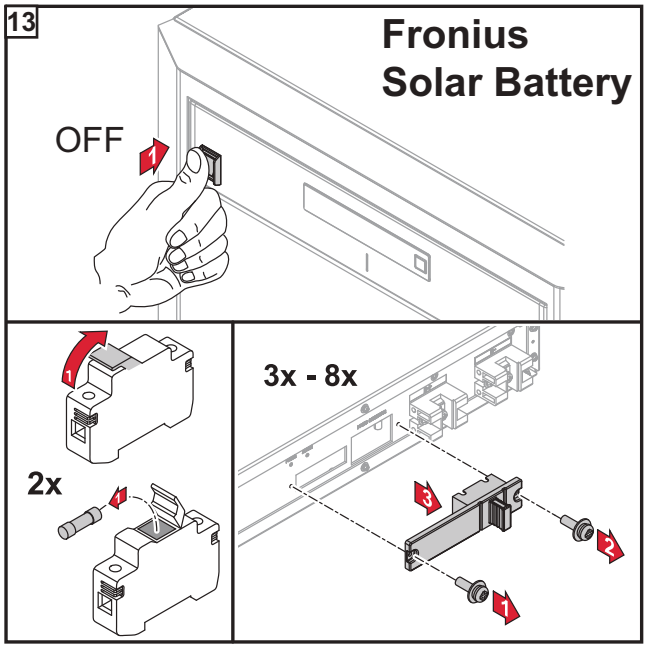

8
DC+
DC-

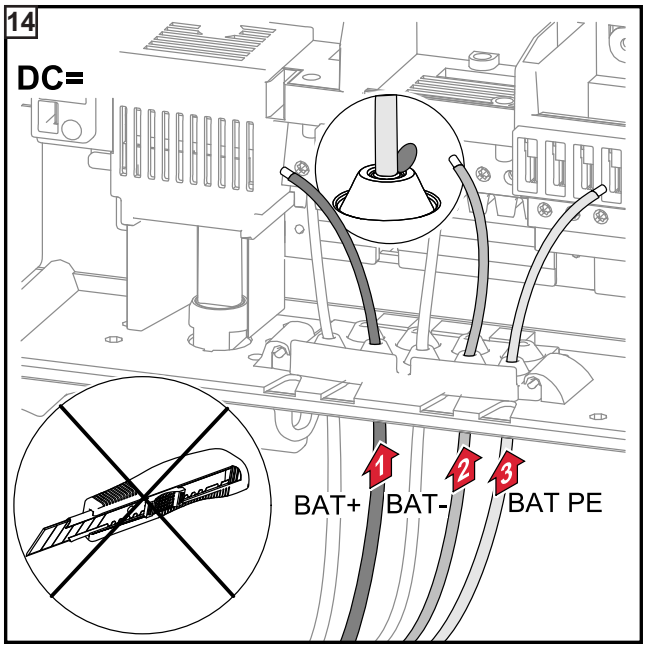

9
DC=
2cm
.787inch
DC+
DC-

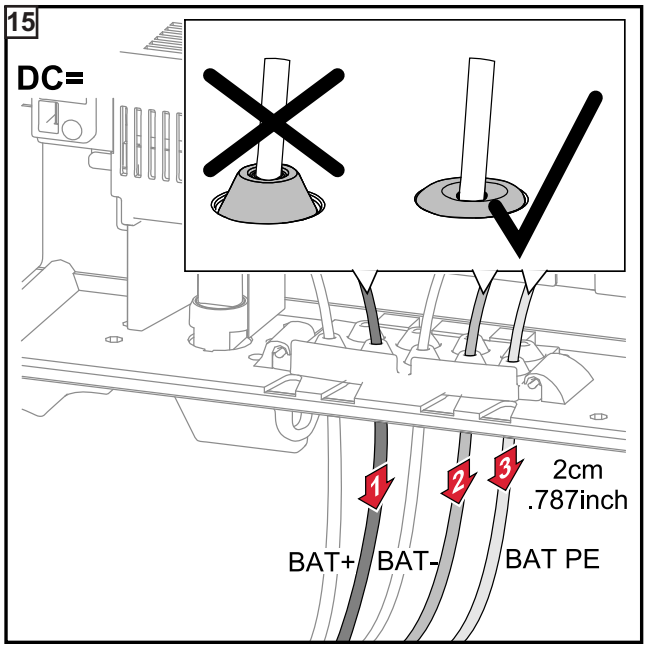

10
DC=
PV
BAT
PV +
PV +
X
BAT +
BAT PE
PV+
PV-

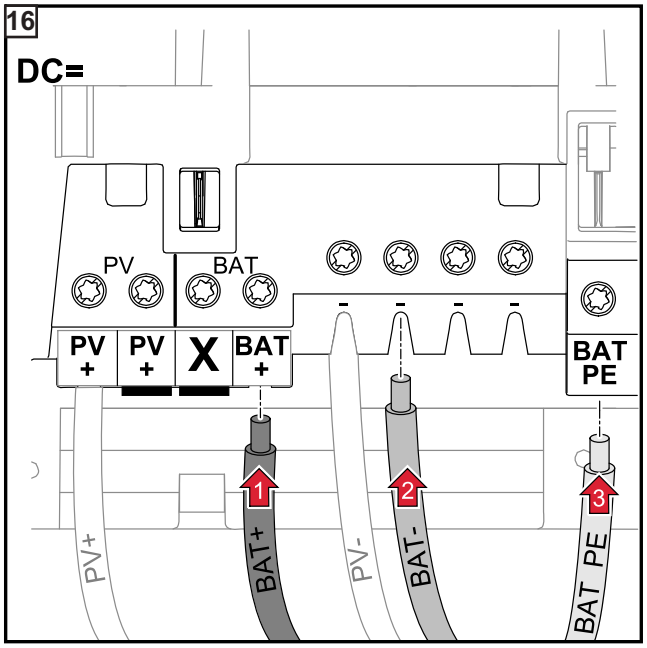

11
DC=
TX 20
4x 1,8 Nm

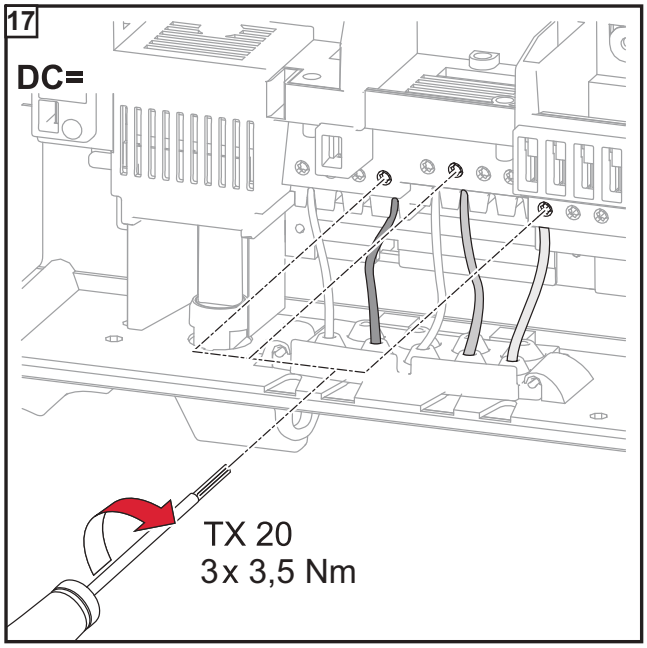

12
DC=
2,5 - 10mm²
10 - 16mm²

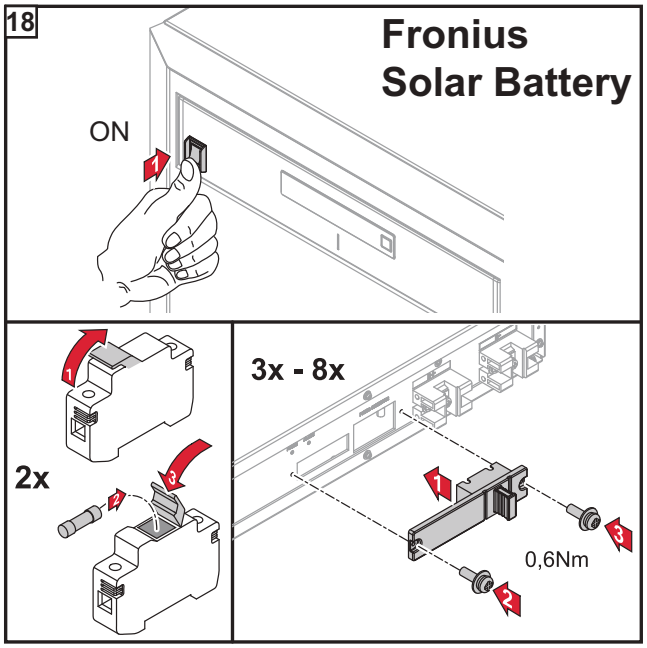

13
Fronius
Solar Battery
OFF
2x
3x - 8x

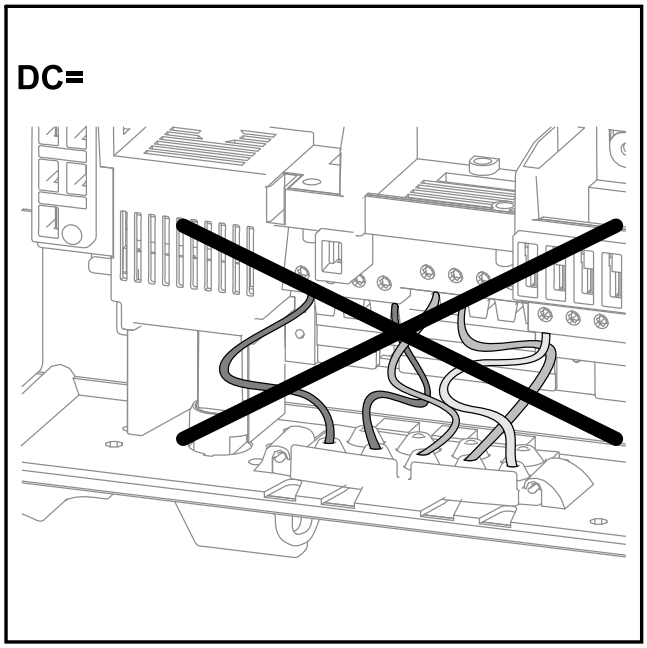

14
DC=
BAT+
BAT-
BAT PE

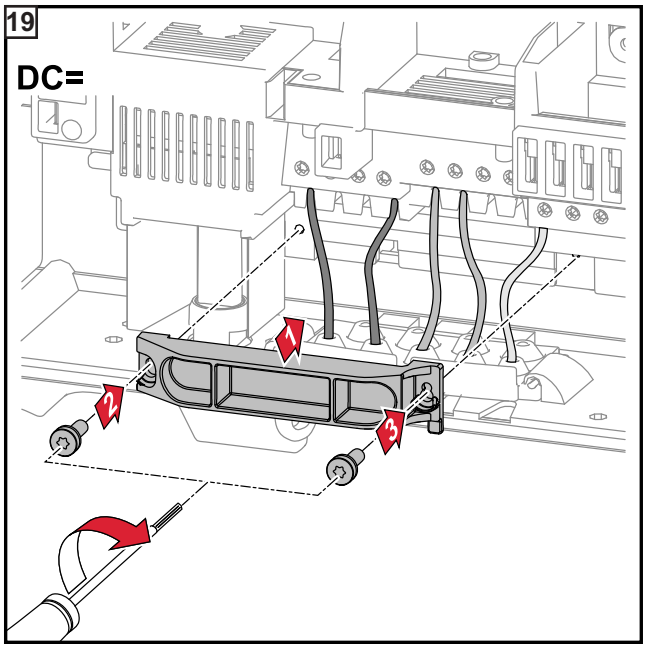

15
DC=
2cm
.787inch
BAT+
BAT-
BAT PE

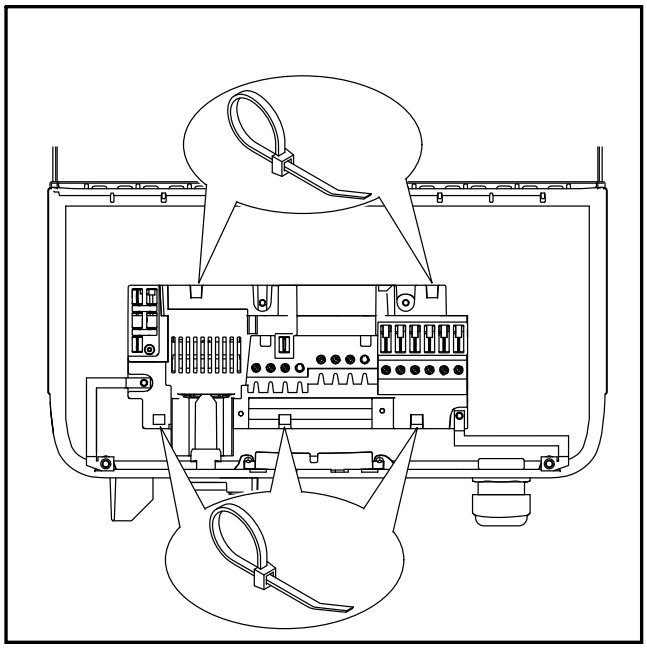

16
DC=
PV
BAT
PV +
PV +
X
BAT +
BAT PE
PV+
BAT+
PV-
BAT-
BAT PE

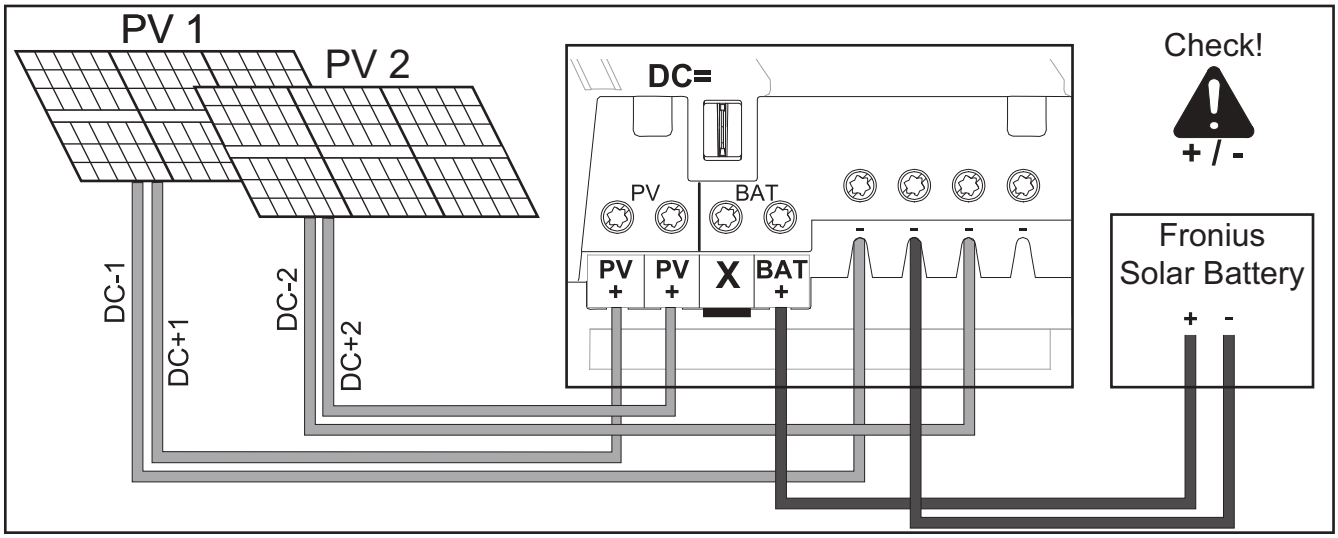

17
DC=
TX 20
3x 3,5 Nm

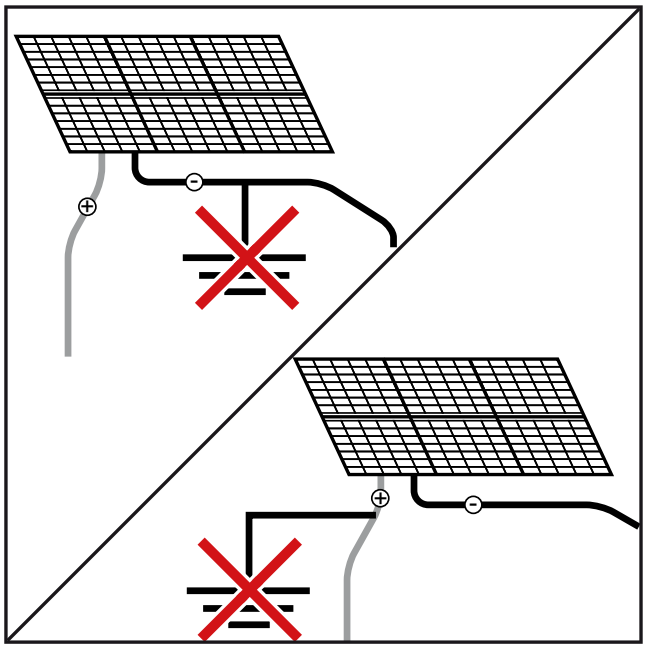

18
Fronius
Solar Battery
ON
2x
3x - 8x
0,6Nm

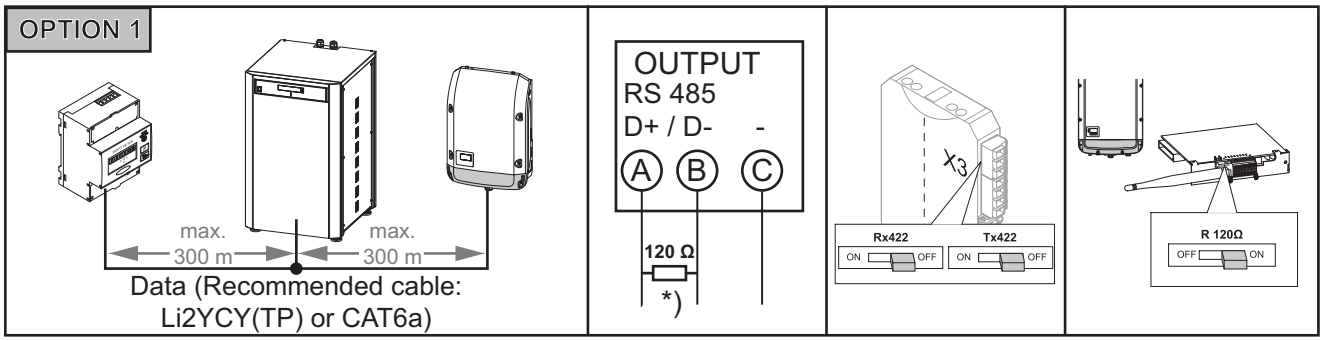

DC=

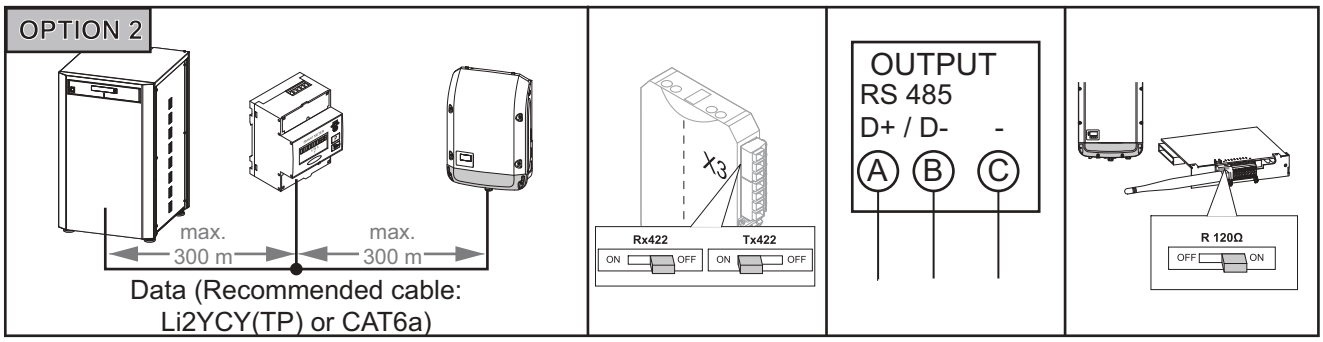

19
DC=

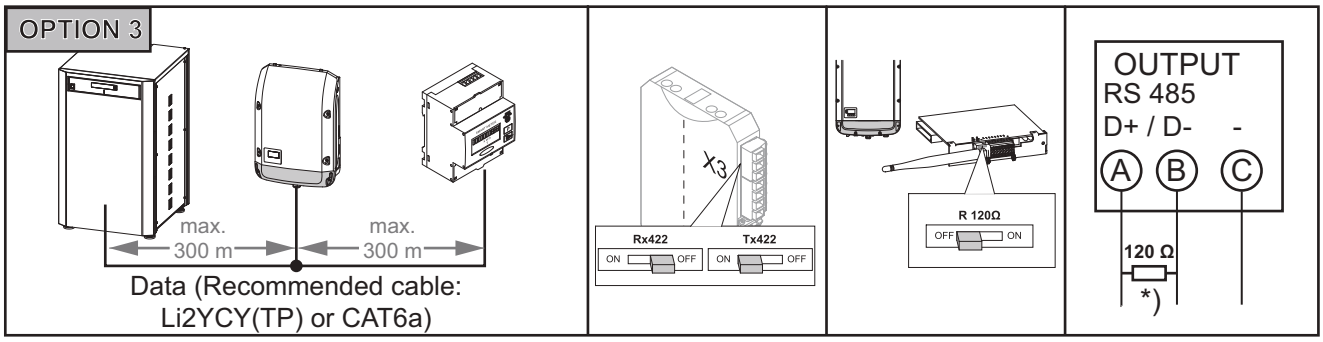



PV 1
PV 2
DC=
Check!
+ / -
PV
BAT
PV +
PV +
X
BAT +
DC-1
DC+1
DC-2
DC+2
Fronius
Solar Battery
+
-

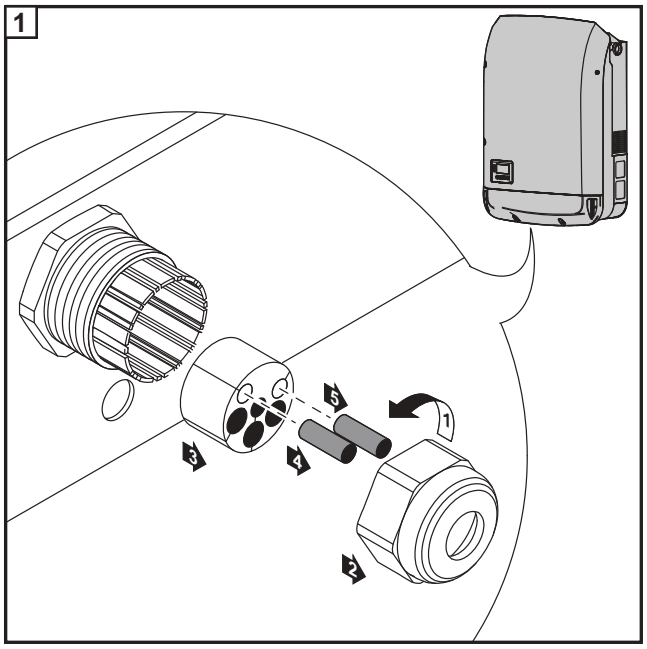


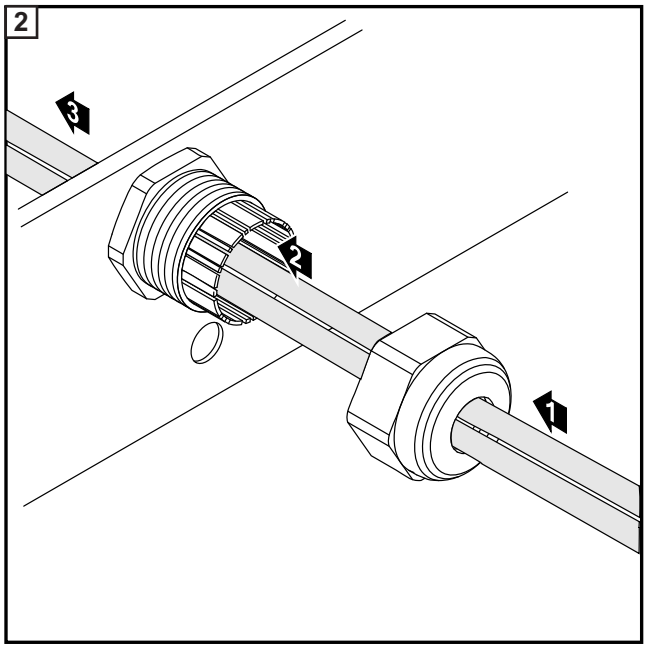


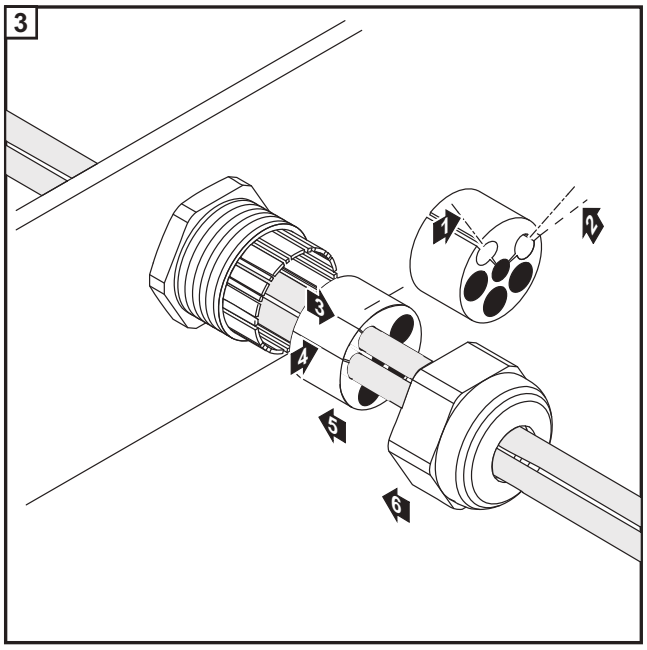


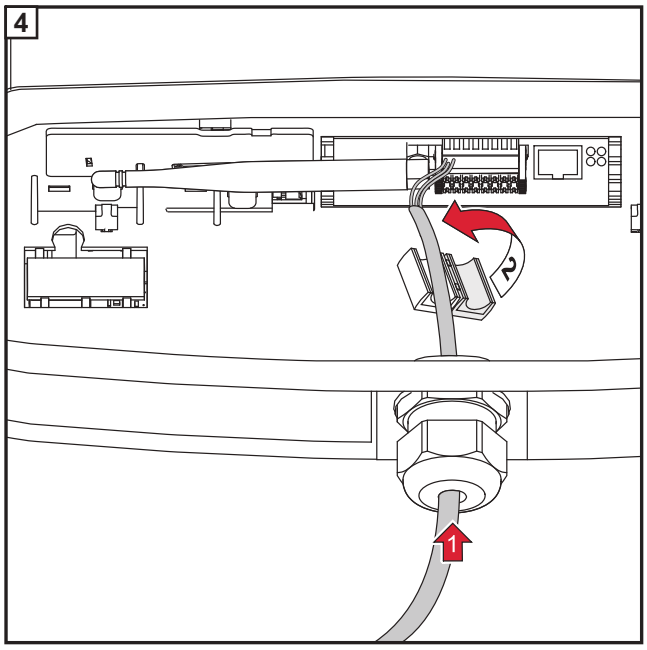


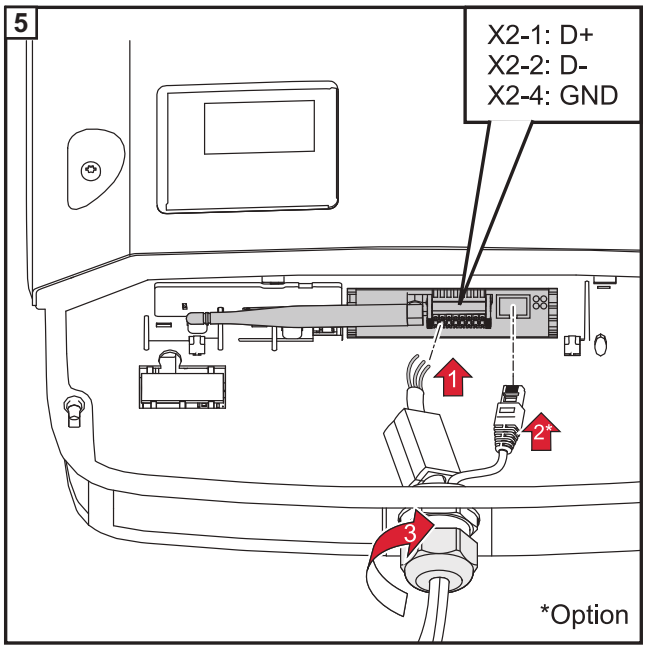
DE	*) Abschlusswiderstand R 120 Ohm liegt beim Fronius Smart Meter bei
EN	*) Terminating resistor R 120 is supplied with the Fronius Smart Meter
FR	*) Le Fronius Smart Meter dispose d'une résistance terminale de R 120 Ohm
ES	*) La resistencia final R 120 ohmios se encuentra junto al Fronius Smart Meter
IT	*) La resistenza terminale R 120 Ohm è inclusa con Fronius Smart Meter
NL	*) Afsluitweerstand R 120 ohm wordt bij Fronius Smart Meter meegeleverd
DA	*) Afslutningsmodstand R 120 ohm er vedlagt Fronius Smart Meter
EL	*) Η αντίσταση τερματισμού R 120 Ω στο Fronius Smart Meter είναι
HU	*) A Fronius Smart Meter R 120 Ohm lezáró ellenállással rendelkezik
TR	*) Sonlandýrma direnci R 120 Ohm'ýn Fronius Smart Meter'de düzeyi
PL	*) Terminator R 120 Ω jest dołączony do urządzenia „Fronius Smart Meter”
CS	*) Zakončovací odpor R 120 Ohm je přiložen k elektroměru Fronius Smart Meter
SK	*) Zakončovací odpor R 120 ohmov je pri Fronius Smart Meter
PB	*) Está anexada a resistência de conexão R de 120 Ohm no Fronius Smart Meter
SV	*) Ett avslutningsmotstånd R 120 ohm följer med Fronius Smart Meter
FI	*) päätevastus R 120 Ohm sisältyy Fronius Smart Meter -mittarin toimitukseen

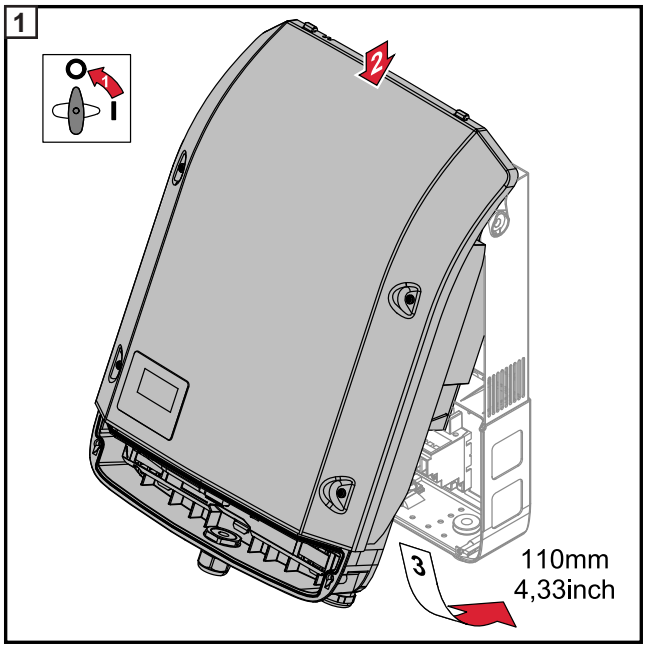

1
1
2
3
4
5

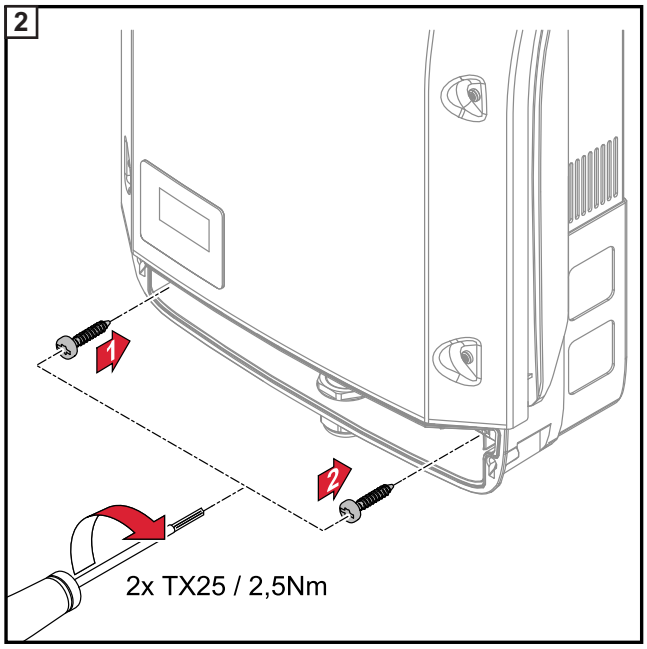

2
1
2
3

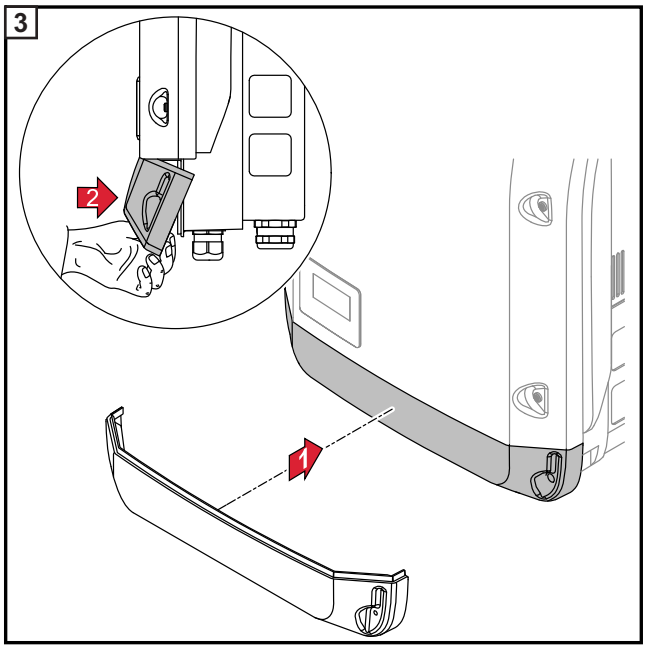

3
1
2
3
4
5
6

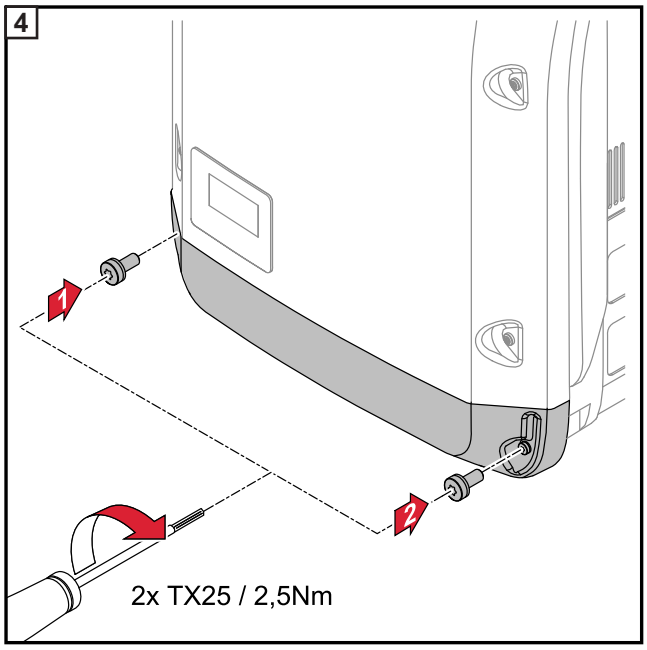

4
1
2

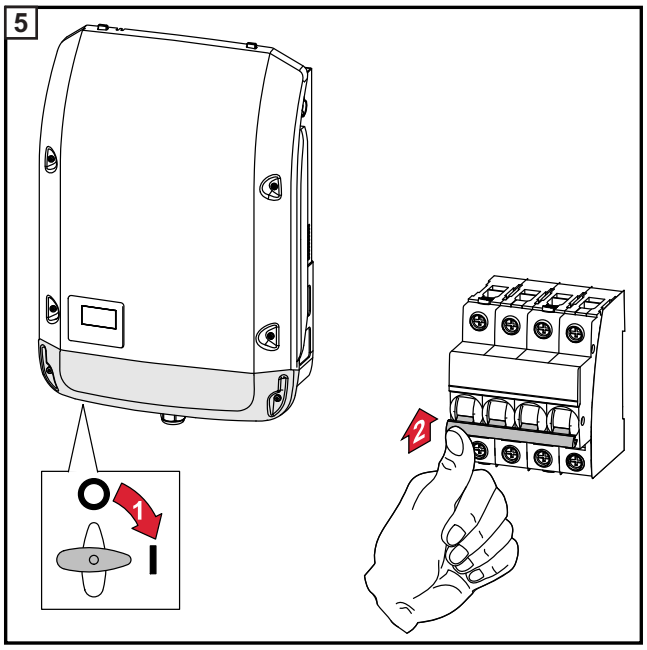

5
X2-1: D+
X2-2: D-
X2-4: GND
1
2*
3
*Option

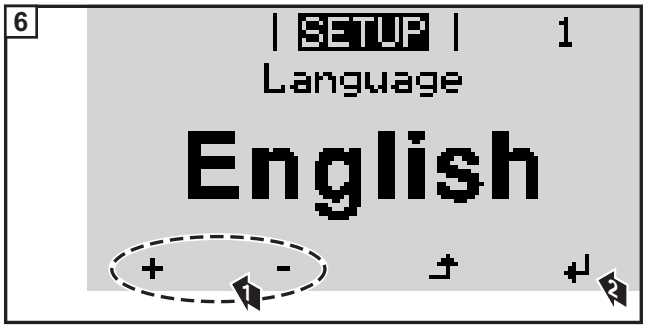

1
2
3
110mm
4,33inch


2
1
2
2x TX25 / 2,5Nm


3
2
1

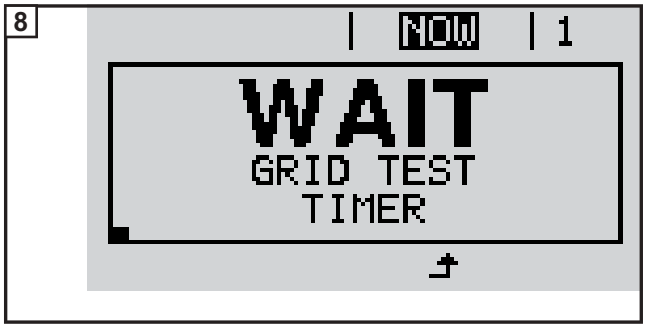

4
1
2
2x TX25 / 2,5Nm

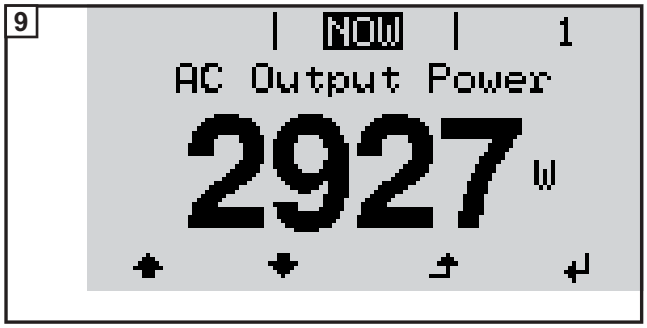

5
1
2



* available Country Setups

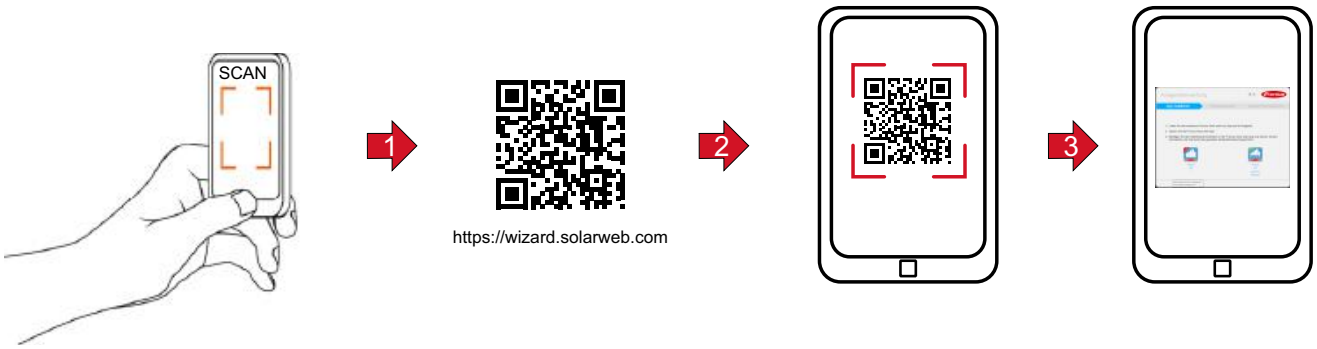
50HZ	International 50 Hz
60HZ	International 60 Hz
AT1	Österreich: Anlagengröße < 3,68 kVA
AT2	Österreich: Anlagengröße > 3,68 kVA und < 13,8 kVA
AT3	Österreich: Anlagengröße > 13,8 kVA
AU	Australia
BE	Belgique / België
CH	Schweiz / Suisse / Svizzera / Svizra
CL	Chile
CY	Cyprus
CZ	Česko
DE1	Deutschland: Anlagengröße < 3,68 kVA
DE2	Deutschland: Anlagengröße > 3,68 kVA und < 13,8 kVA
DE3	Deutschland: Anlagengröße > 13,8 kVA
DKA1	Danmark: Anlægsstørrelse <11 kVA
DKA2	Danmark: Anlægsstørrelse 11 - 50 kVA
EP50	Emergency power 50 Hz
EP60	Emergency power 60 Hz
ES	España
ESOS	Territorios españoles en el extranjero (Spanish Oversea Islands)
Eesti	Vali Setup PT
FR	France
FROS	Territoire d'Outre-Mer (French Oversea Islands)
GB	Great Britain
GR	Ελλάδα
HR	Kroatien
IE	Éire / Ireland; Malta
IT4	Italia: Dimensioni impianto <= 11,08 kVA
IT4B	Italia: Dimensioni impianto <= 11,08 kVA con la batteria
IT5	Italia: Dimensioni impianto >= 11,08 kVA
IT5B	Italia: Dimensioni impianto >= 11,08 kVA con la batteria
NIE1	Nordirland
NL	Nederland
NZ	New Zealand
PF1	Polynésie française
PT	Portugal
SE	Sverige
TR	Türkiye
ZA	South Africa





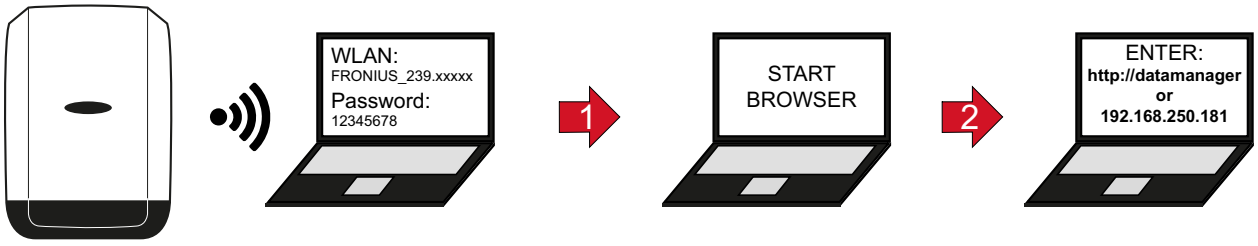
START „WiFi Access Point.“

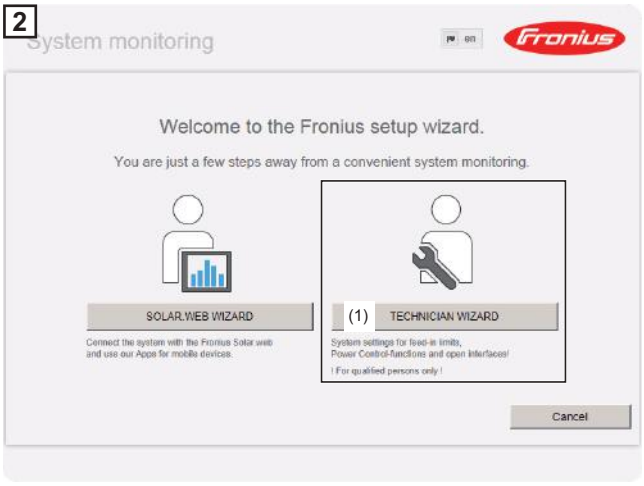
OPTION A:

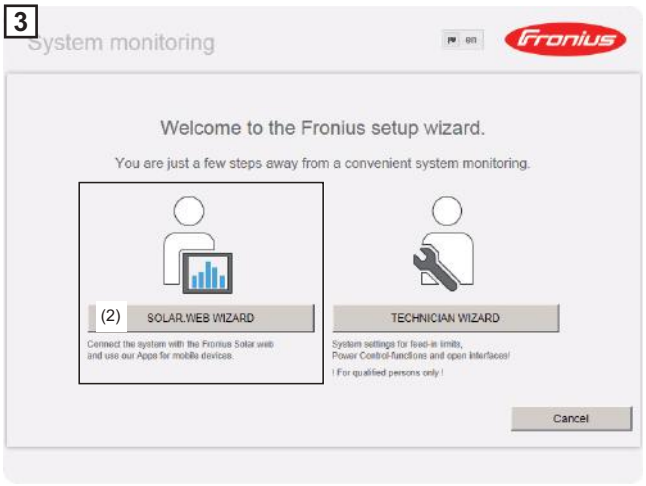


OPTION B:

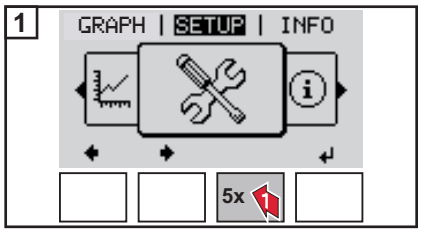
CHECK CONNECTION:

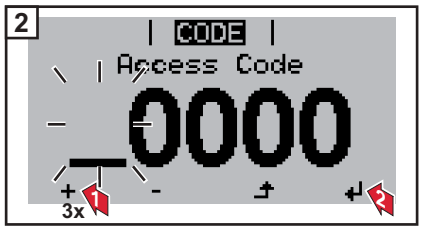


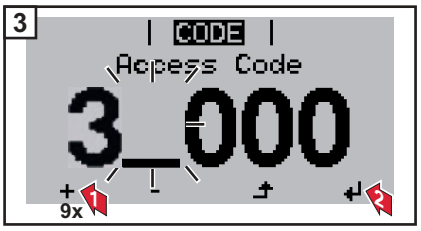


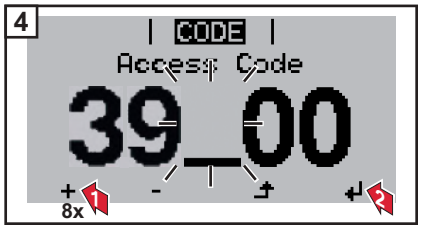


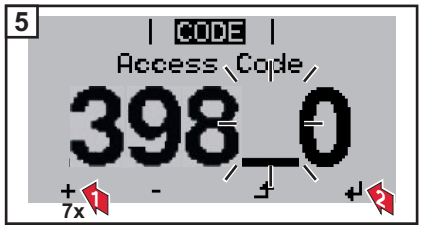
Activate emergency power function

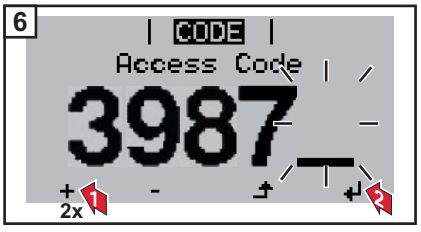


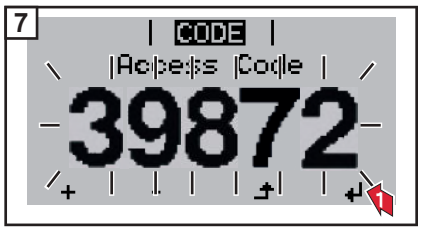


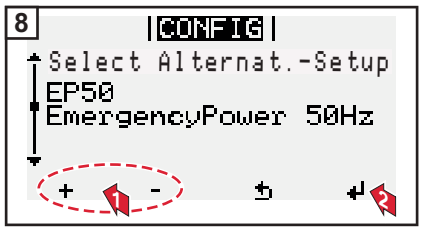












Fronius Worldwide - www.fronius.com/addresses

Fronius International GmbH
4600 Wels, Froniusplatz 1, Austria
E-Mail: pv-sales@fronius.com
http://www.fronius.com

Fronius USA LLC Solar Electronics Division
6797 Fronius Drive, Portage, IN 46368
E-Mail: pv-us@fronius.com
http://www.fronius-usa.com

Under http://www.fronius.com/addresses you will find all addresses of our sales branches and partner firms!