



## **Fronius Eco - Installation 25.0-3-S / 27.0-3-S**

Installation Instruction

Grid connected inverter



# Safety EN



**WARNING!** Incorrect operation or poorly executed work can cause serious injury or damage. Commissioning of the inverter may only be carried out by trained personnel in accordance with the technical regulations. You should read the safety rules before commissioning the equipment or carrying out maintenance work.



**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.

- 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, which is enclosed in a separate housing, must only be disconnected from the connection area when in a de-energised state.
- 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 from 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.



**WARNING!** Work that is not carried out correctly can cause serious damage and injury. Overvoltage protection must only ever be installed and connected by a qualified electrical engineer. Follow the safety rules! Make sure that both the AC side and the DC side of the inverter are de-energised before carrying out any installation or connection work.



**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 wall 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 wall bracket should be protected from dirt and moisture during installation.



**CAUTION!** Risk of damage to the inverter as a result of incorrectly tightened terminals. Incorrectly tightened terminals can cause heat damage to the inverter and, in turn, lead to 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 10 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 66 is only applicable if


- the inverter is permanently attached to the wall bracket with screws
- the cover for the data communication area is permanently attached to the inverter with screws.

Degree of protection IP 20 applies to the wall 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.

 **NOTE!**

- Ensure that the grid neutral conductor is grounded. This may not be the case for IT networks (insulated networks with no grounding); it will then not be possible to use the inverter.
- In order to use the inverter, the neutral conductor must be connected.  
A neutral conductor that is too small may adversely affect the grid power feed operation of the inverter. The neutral conductor must therefore be the same size as the other live conductors.

 **NOTE!** To avoid the risk of a fire, only replace faulty fuses with new ones of the same rating.

## 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 wall 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.

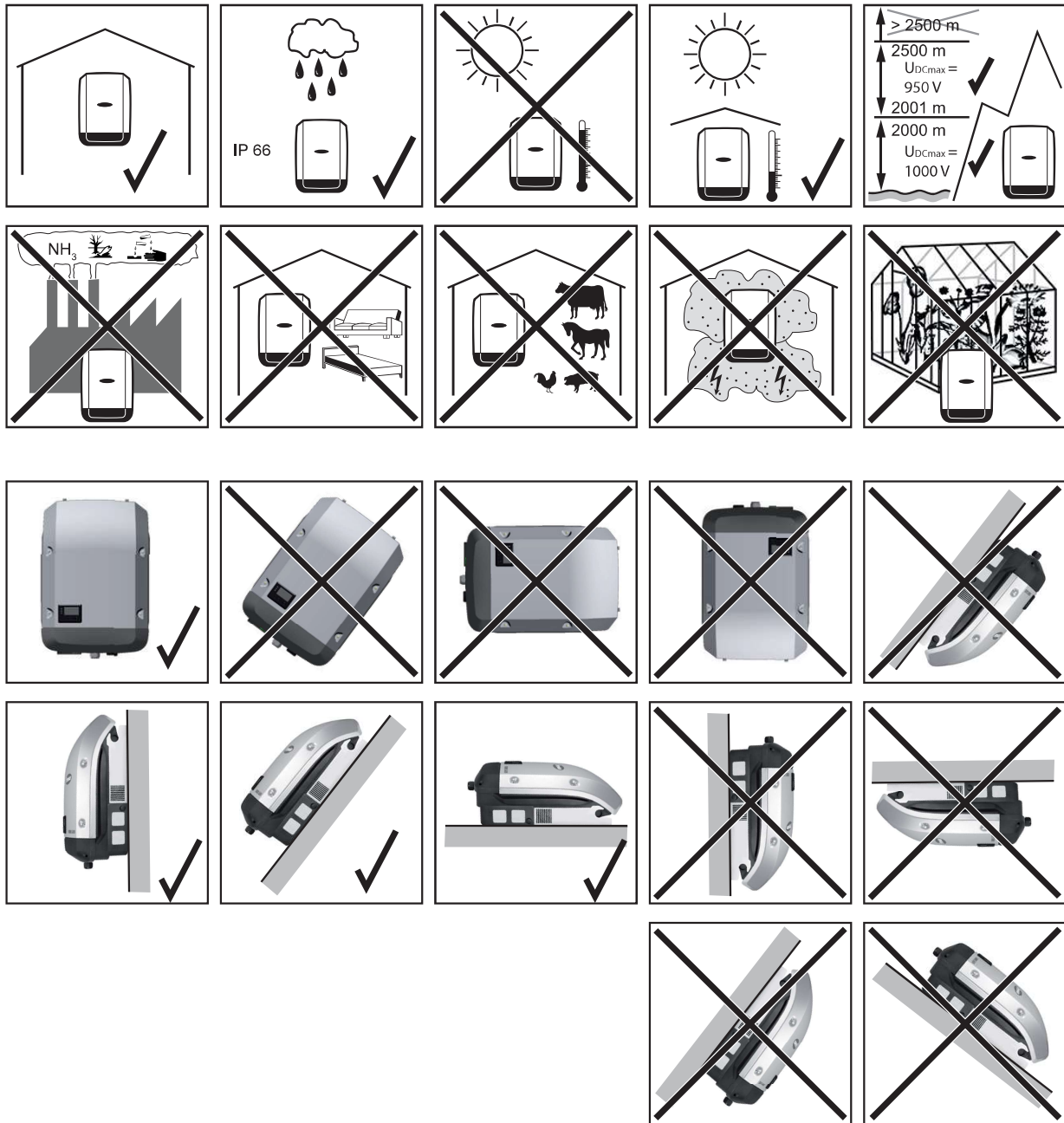
Refer to the device operating instructions / installation instructions for the tightening torques to be used at the relevant terminal connections.

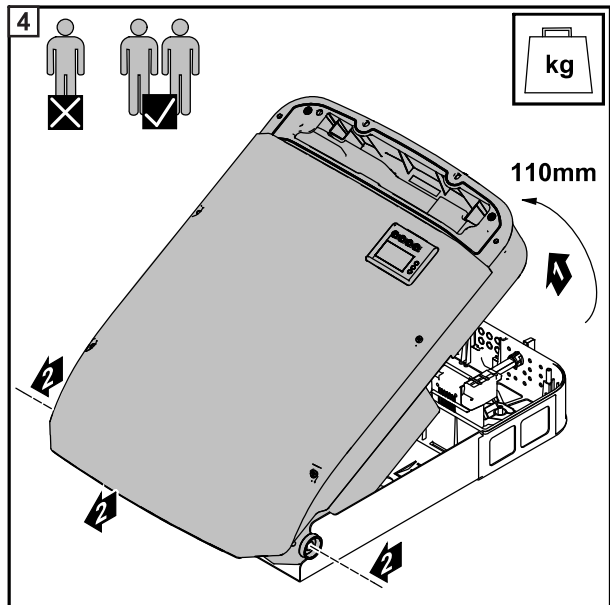
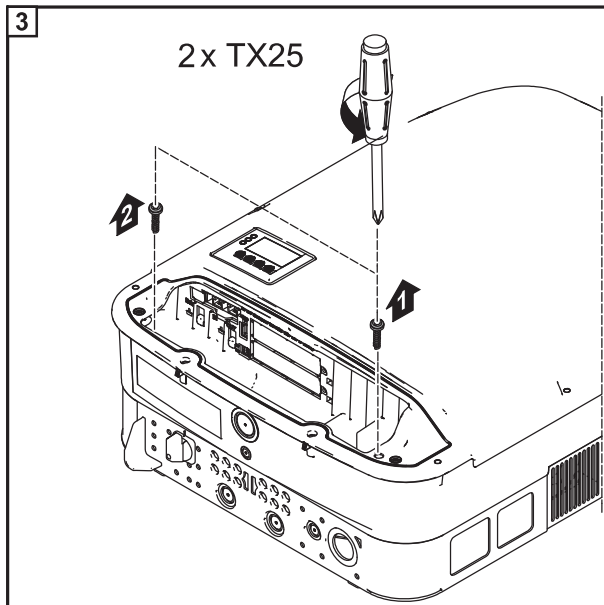
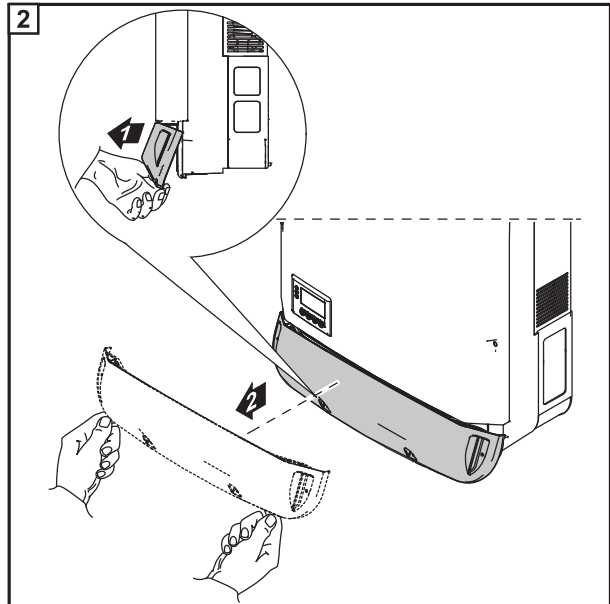
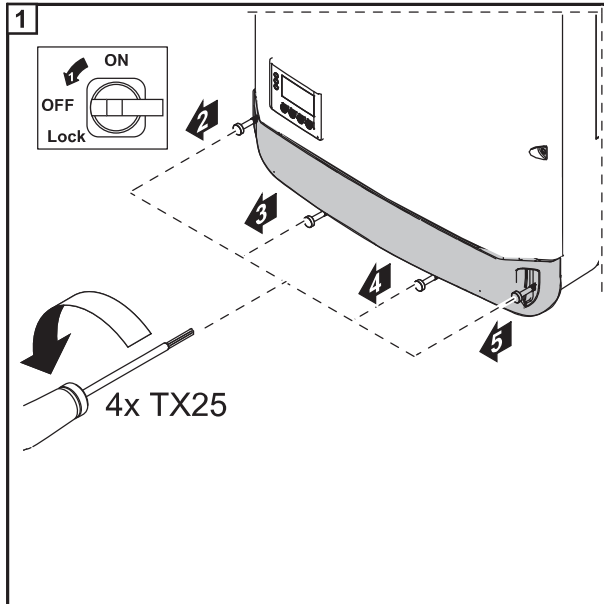
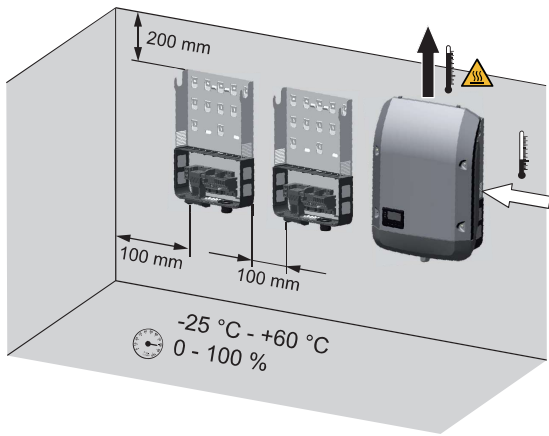
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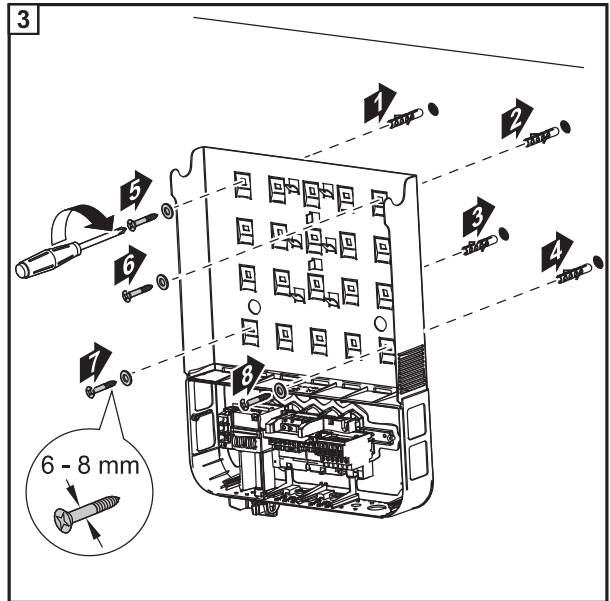
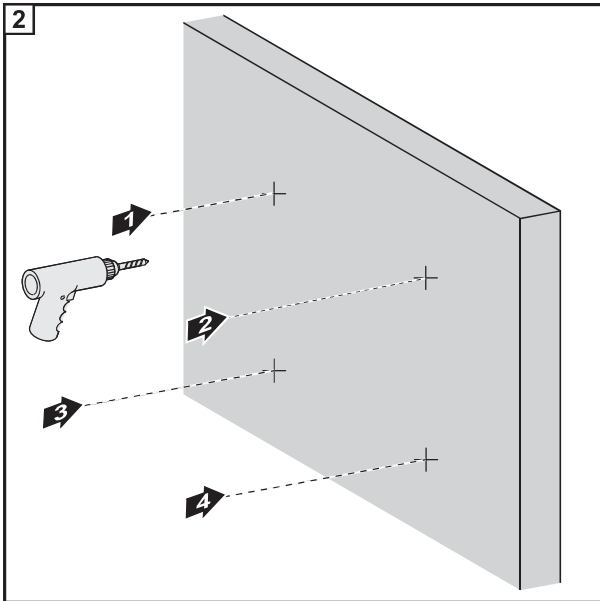
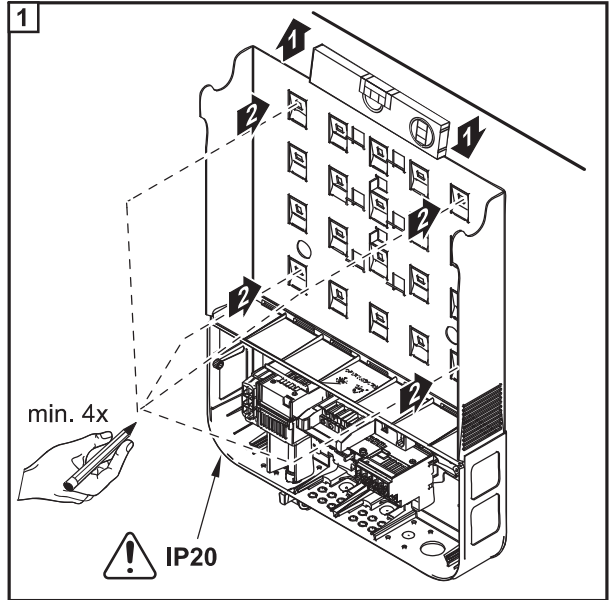
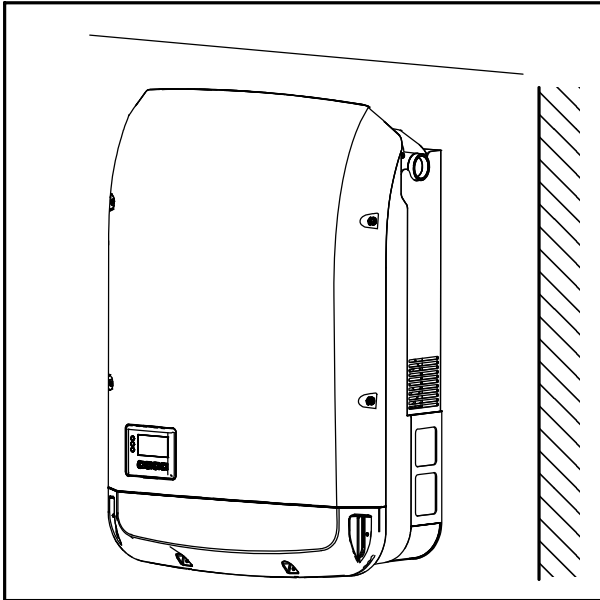
**Fronius manufacturer's warranty** Detailed, country-specific warranty terms are available on the internet: [www.fronius.com/solar/warranty](http://www.fronius.com/solar/warranty)

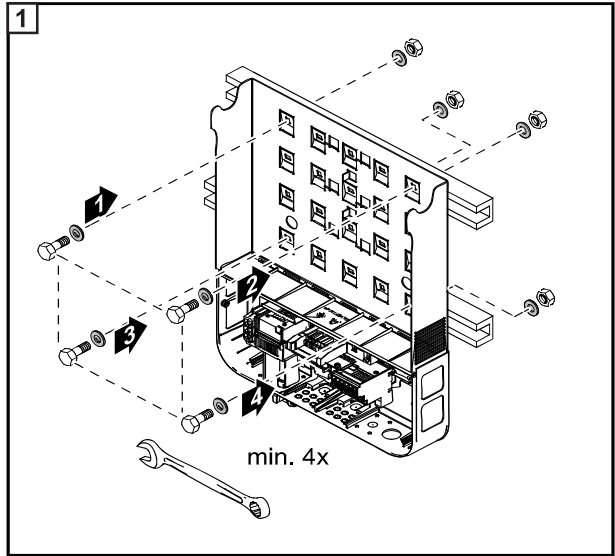
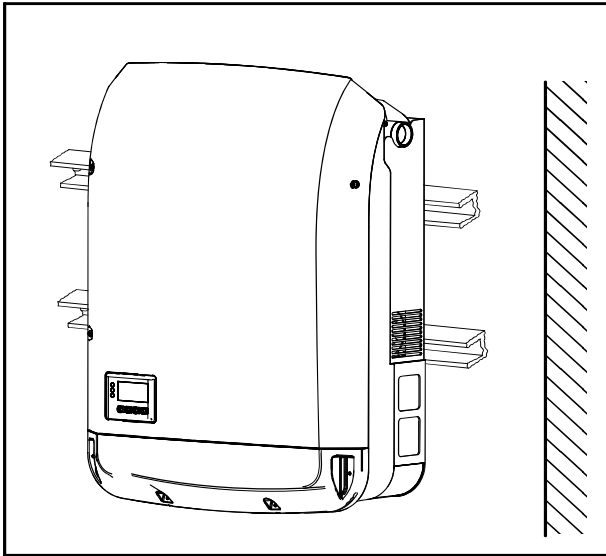
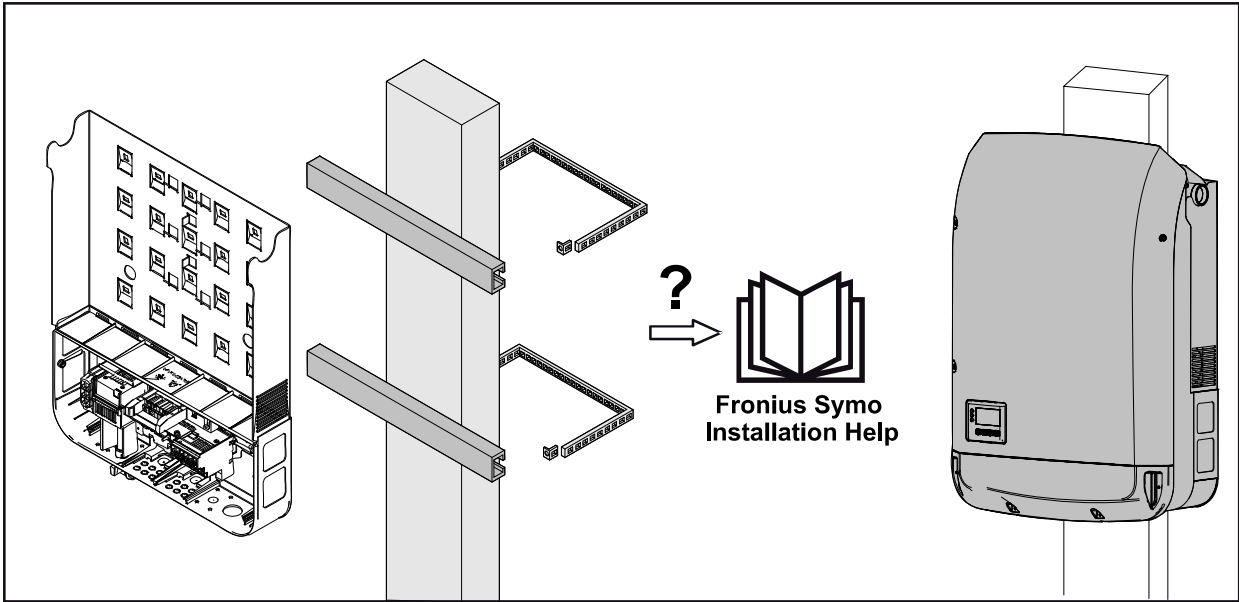
To obtain the full warranty period for your newly installed Fronius inverter or storage system, please register at: [www.solarweb.com](http://www.solarweb.com).

# Fronius Eco Installation

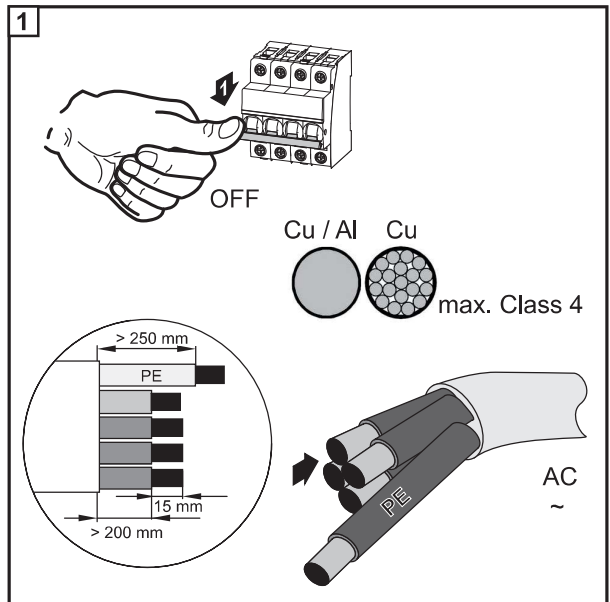
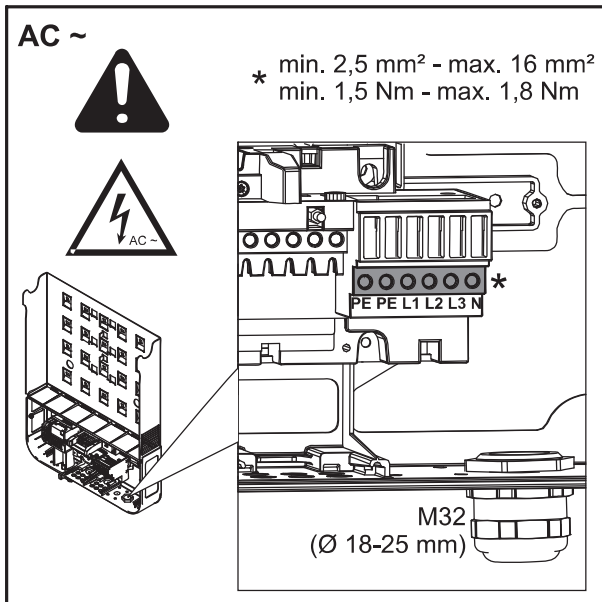




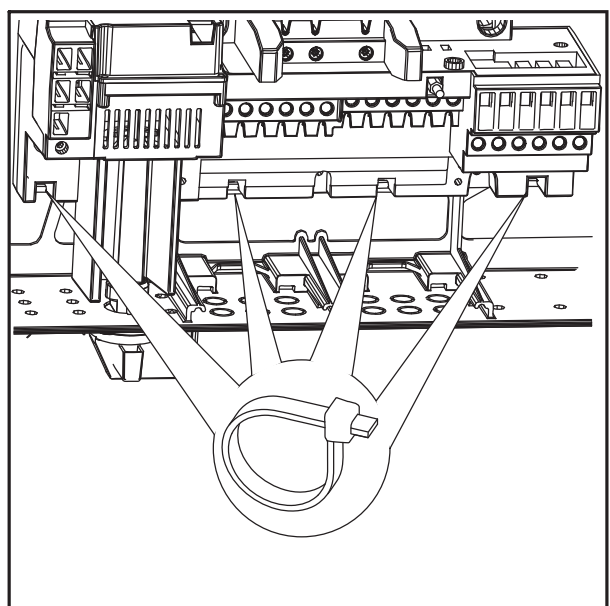
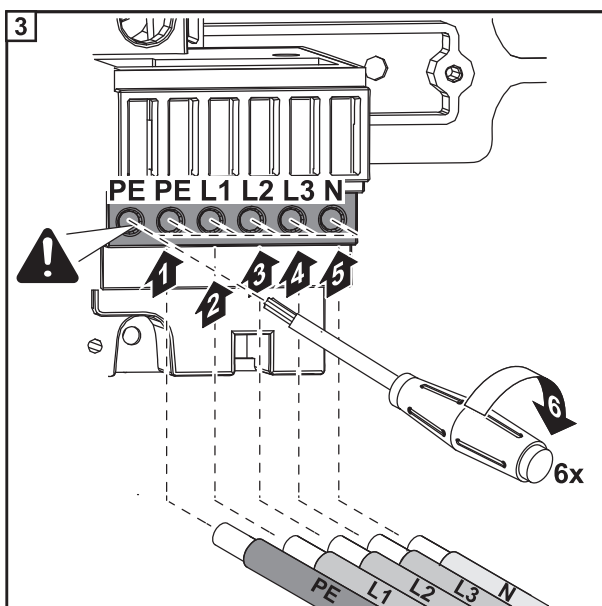
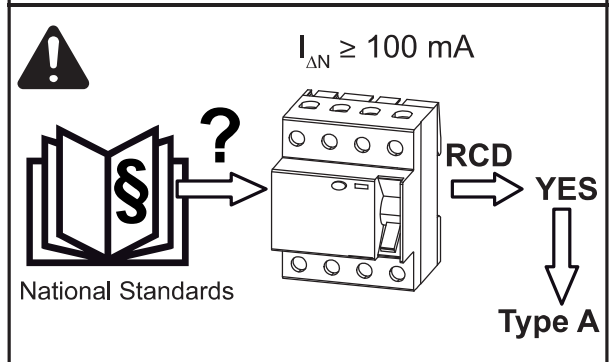
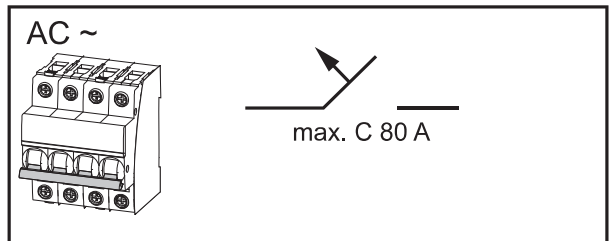
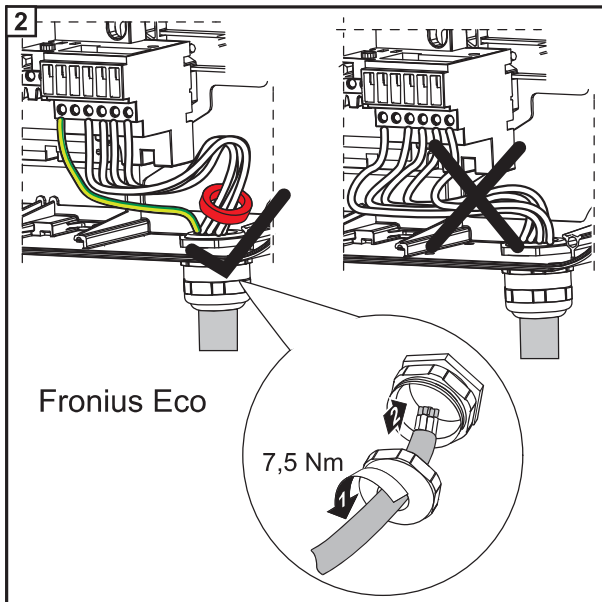




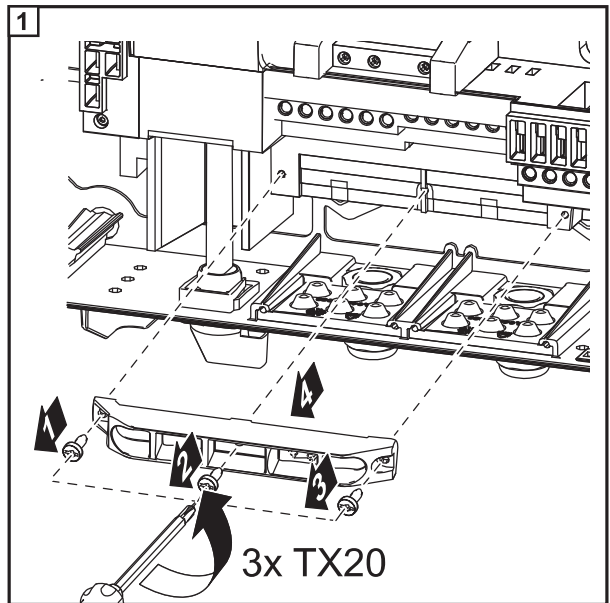
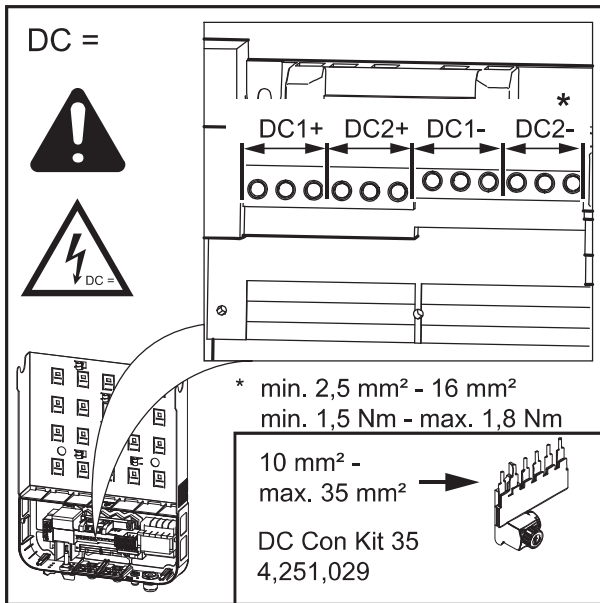




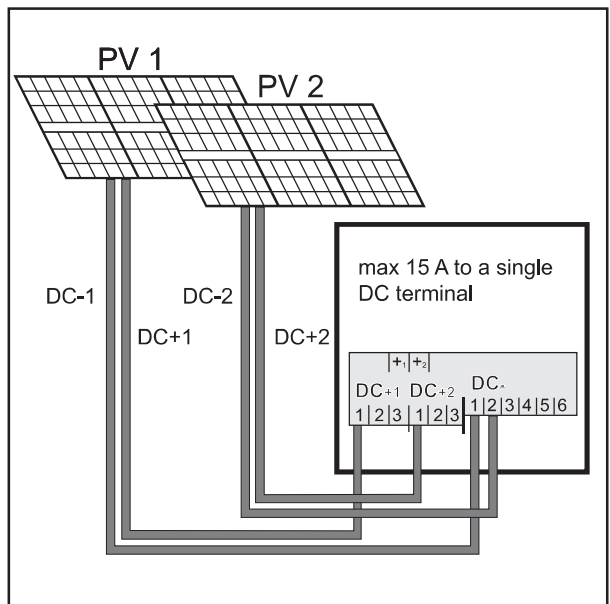
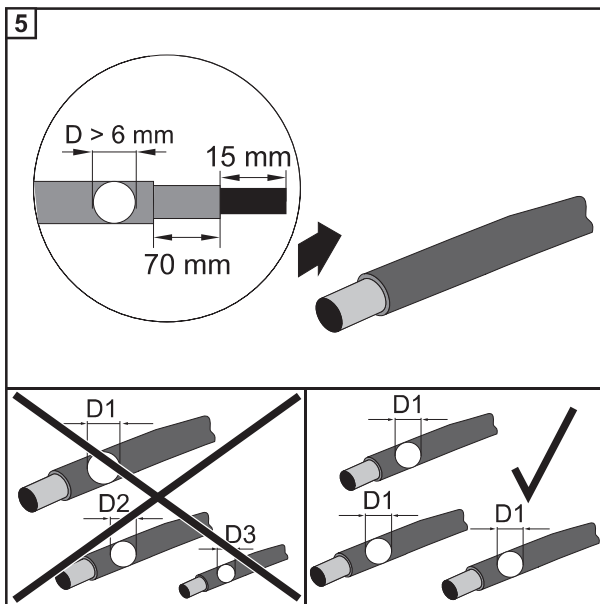
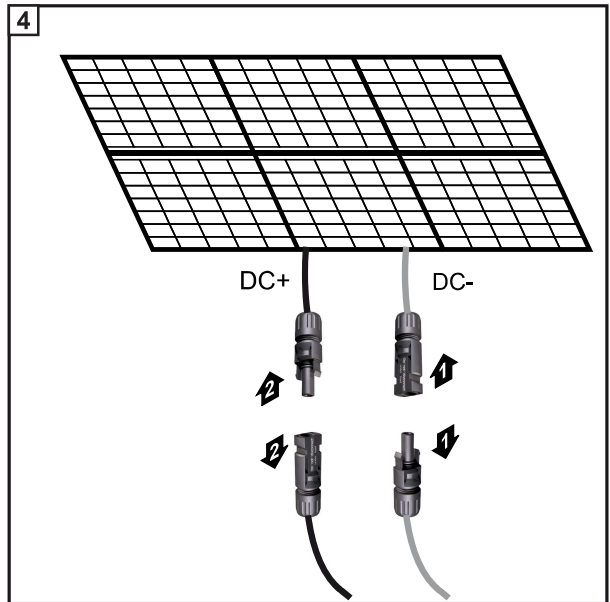
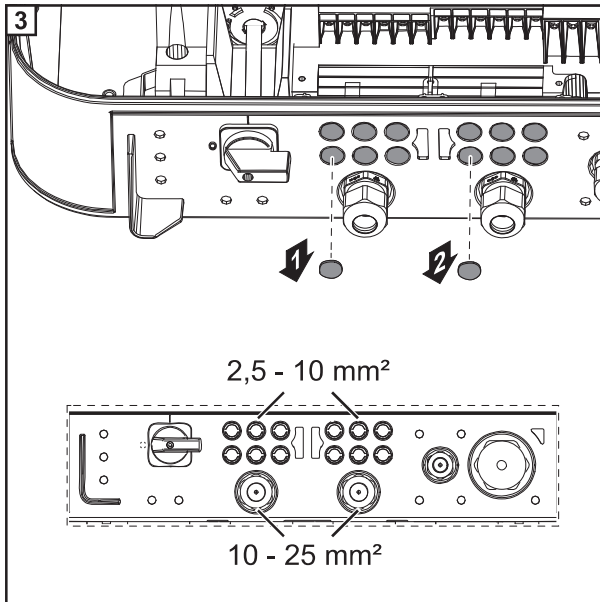
optional: Installation „Option DC SPD Typ 2“ - see Chapter „Option DC SPD Typ 2 - retrofitted“

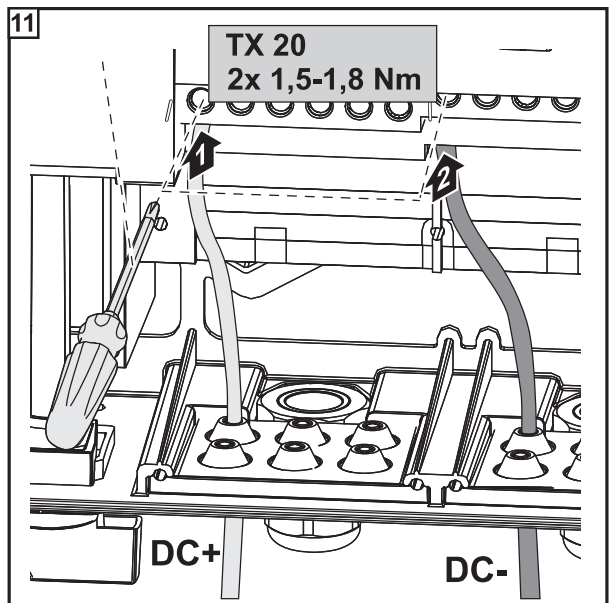
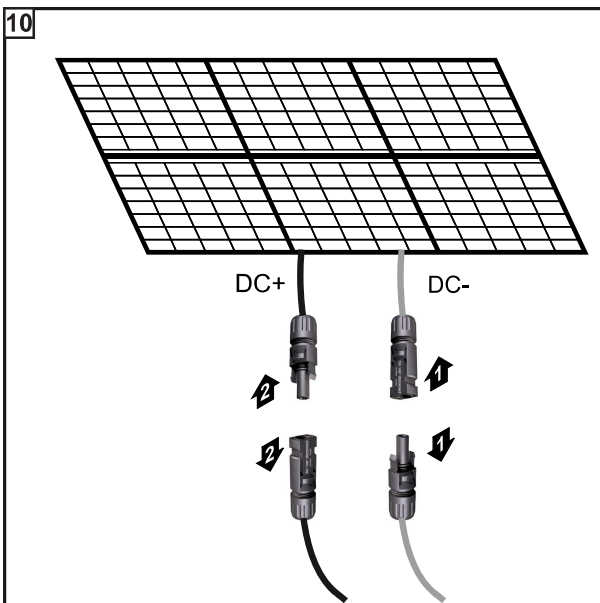
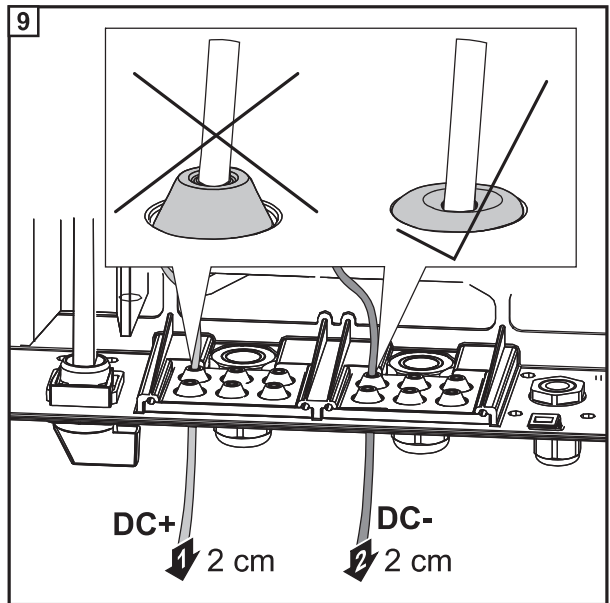
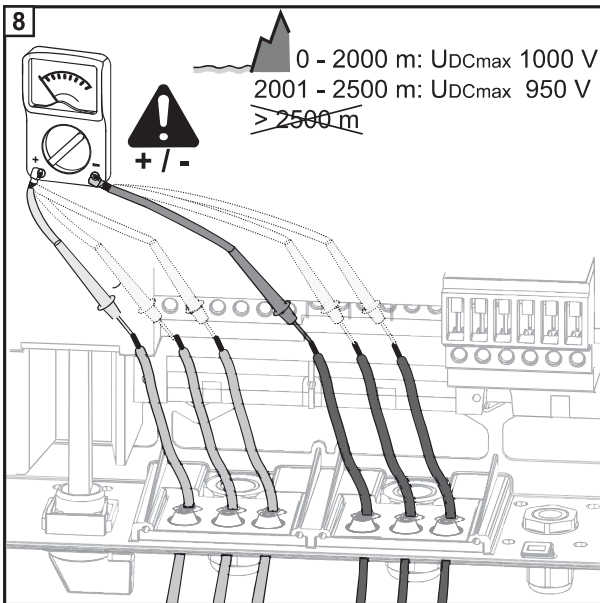
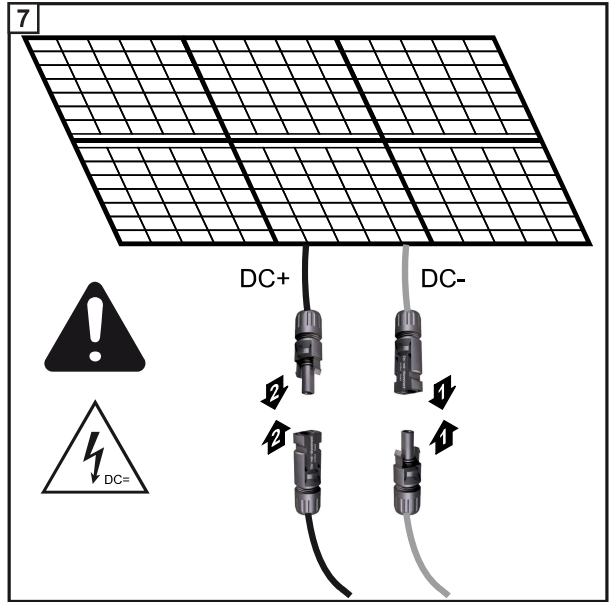
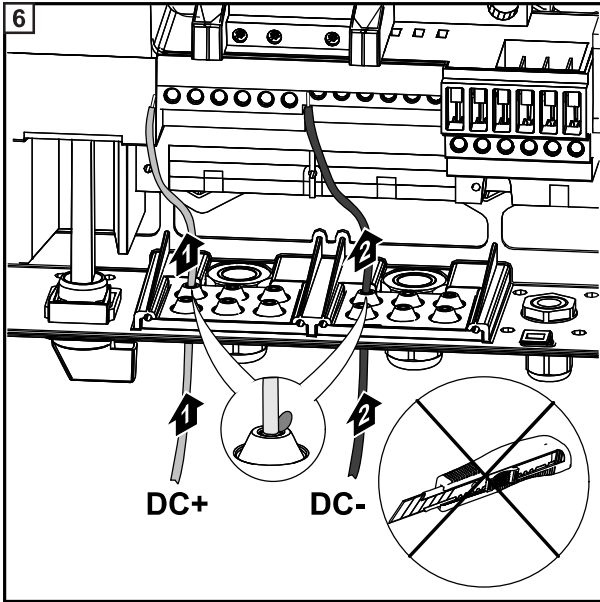


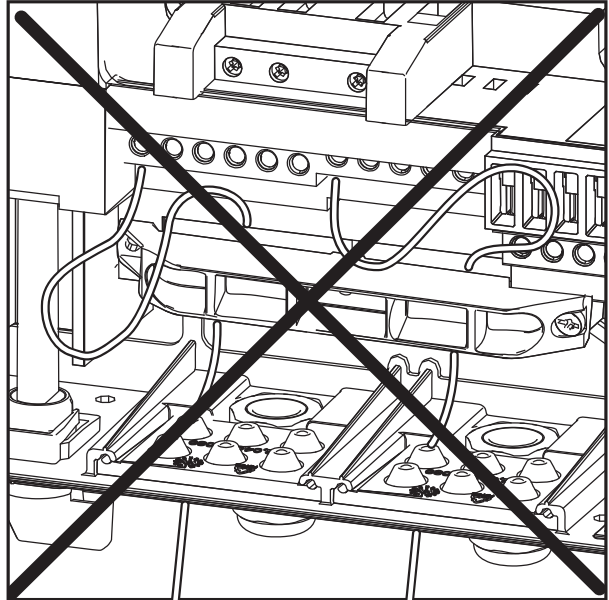
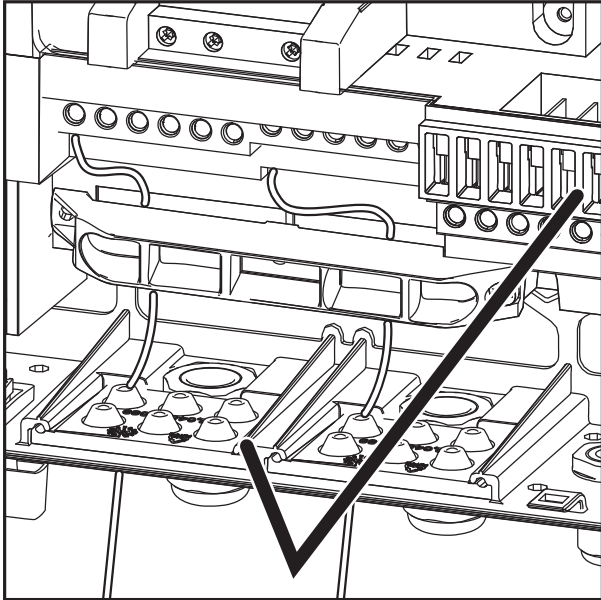
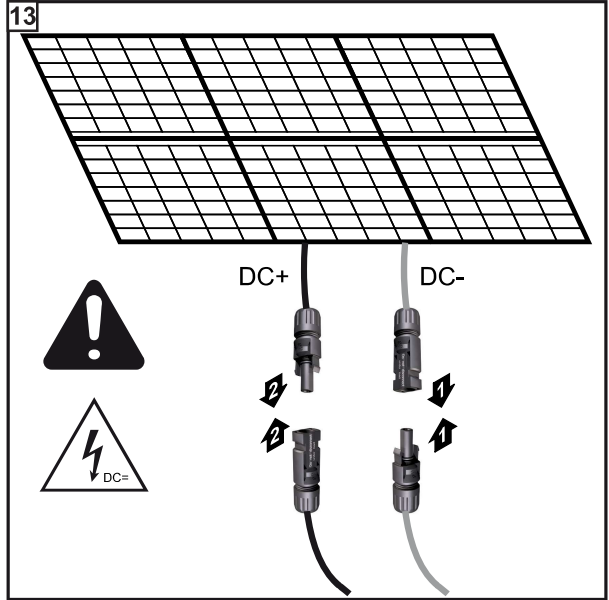
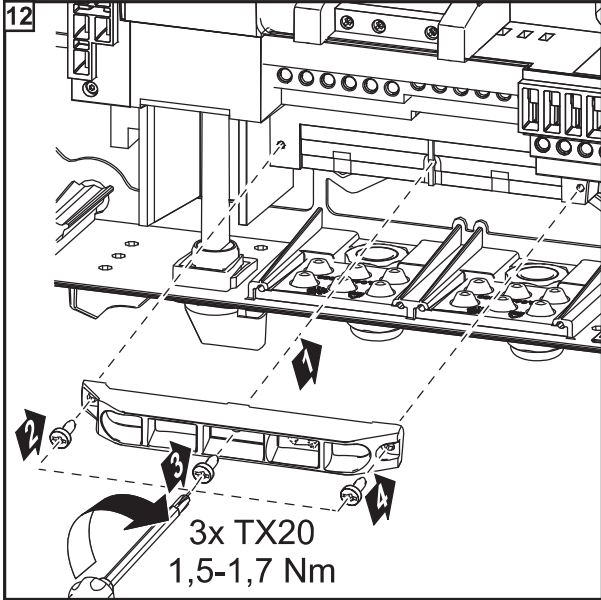




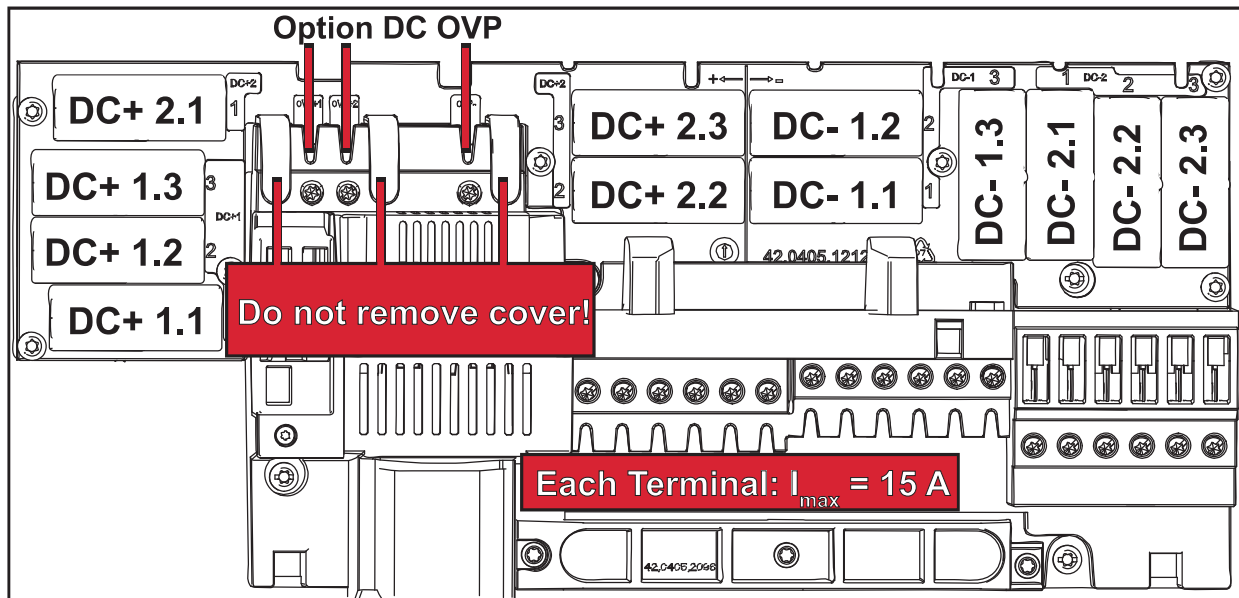
2 Check fuses



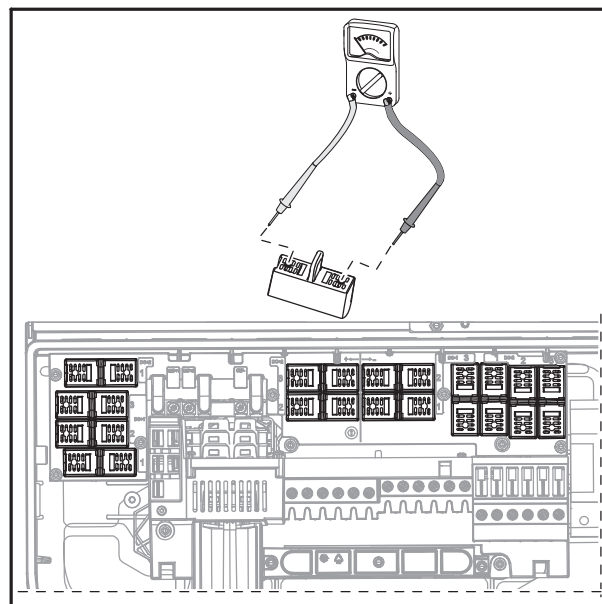
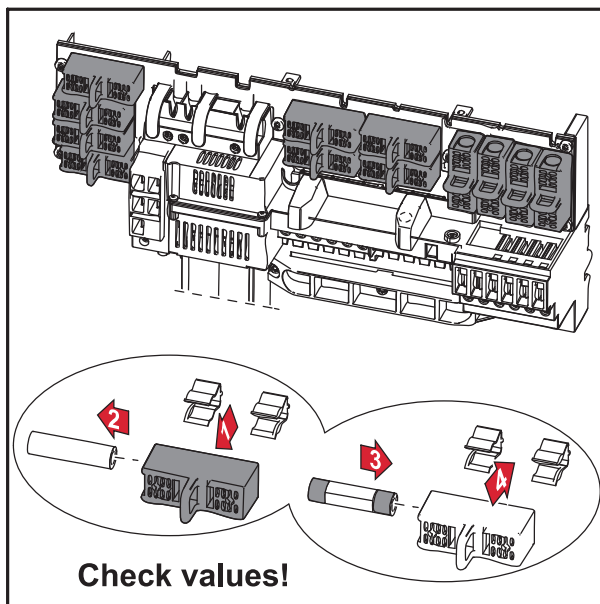




# Fuses



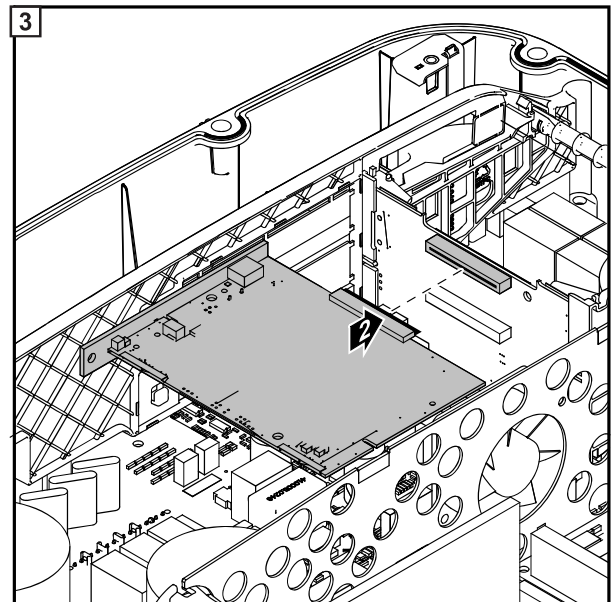
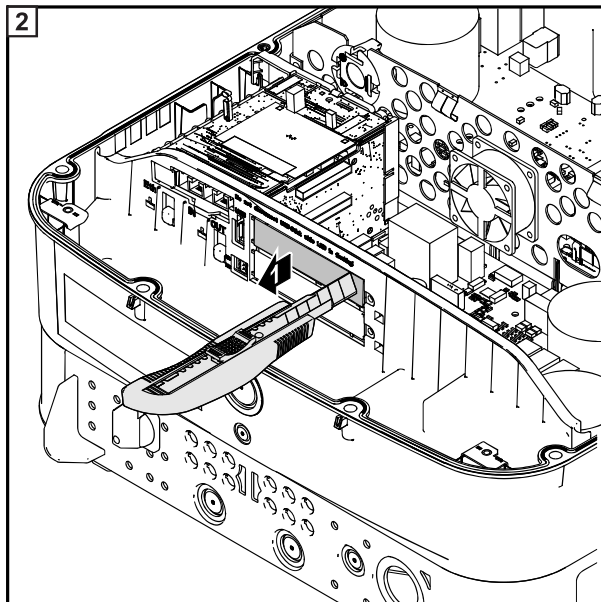
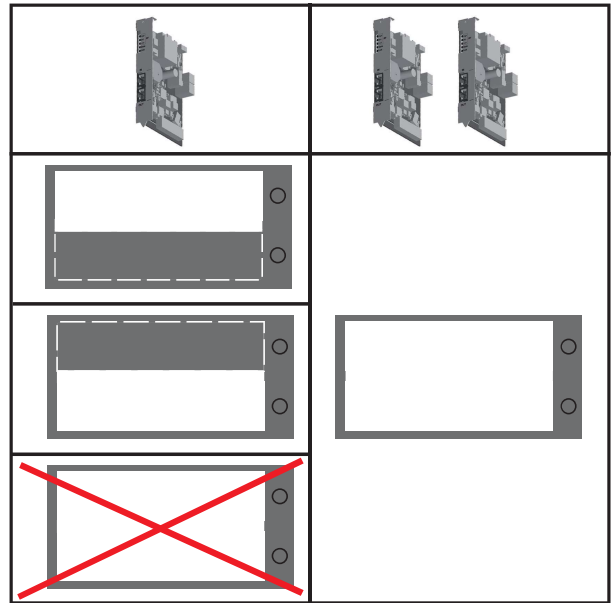
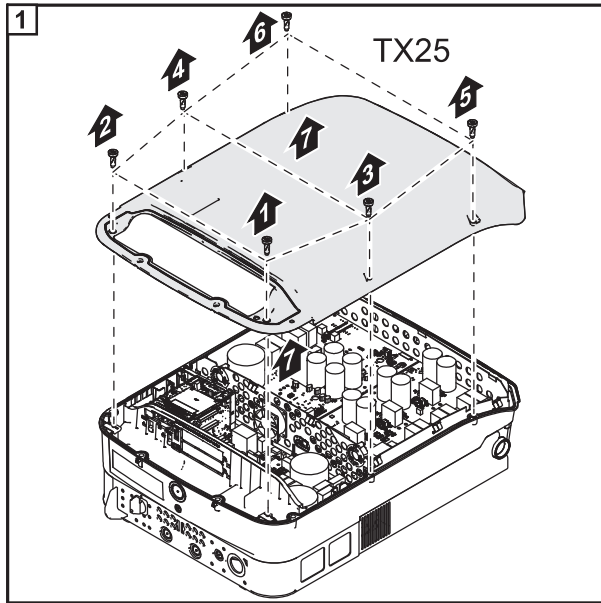
## Replacing fuses:



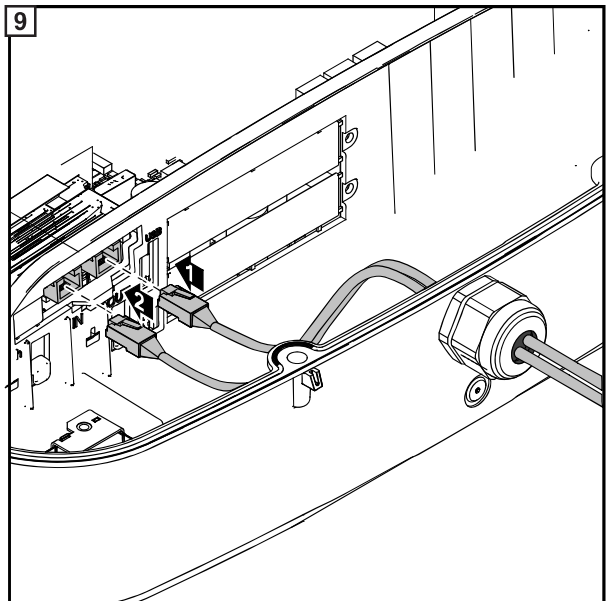
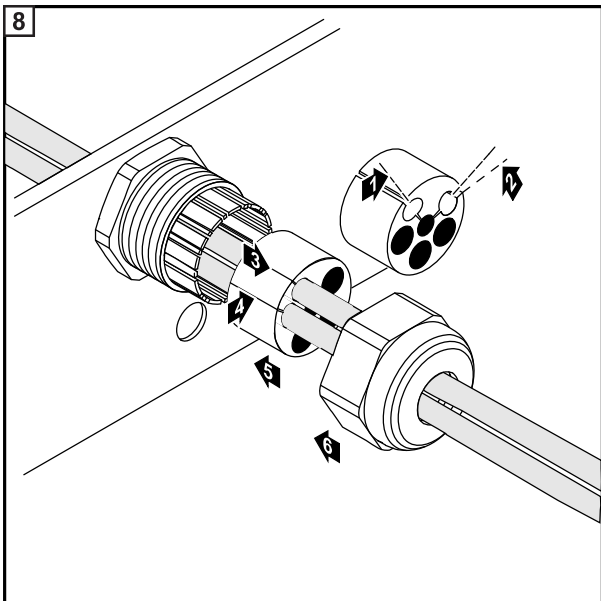
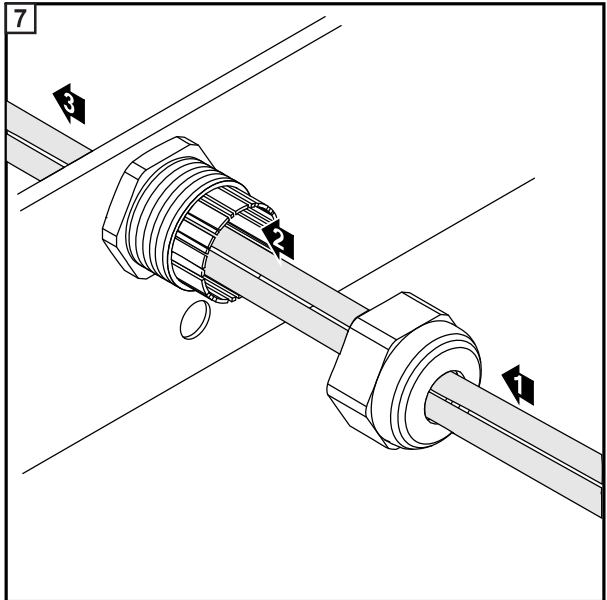
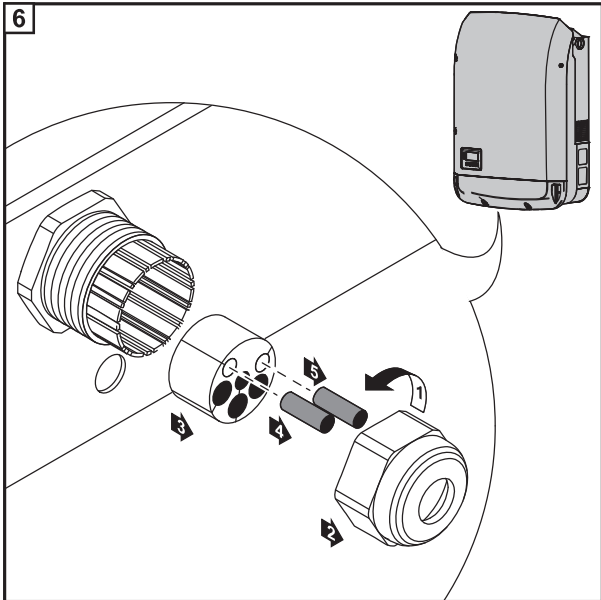
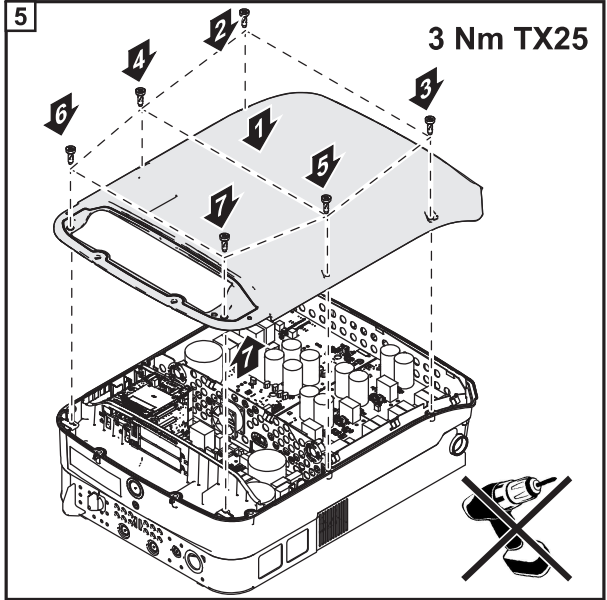
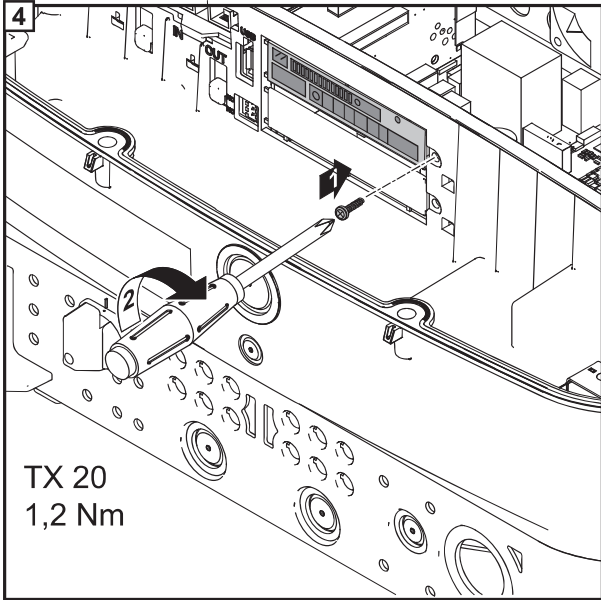
- DE Zur Vermeidung einer Brandgefahr, defekte Sicherungen nur durch Sicherungen vom gleichen Typ und Wert ersetzen.
- EN To avoid the risk of a fire, only replace faulty fuses with new ones of the same rating.
- FR Afin d'éviter les risques d'incendie, les fusibles défectueux doivent être remplacés uniquement par des nouveaux fusibles équivalents.
- ES Los fusibles defectuosos deben ser sustituidos únicamente por otros equivalentes para evitar así el peligro de incendio.
- IT Per scongiurare il pericolo di incendi, sostituire i fusibili difettosi solo con fusibili equivalenti..
- NL Om brand te voorkomen, vervangt u defecte zekeringen alleen door nieuwe gelijkwaardige zekeringen.
- DA Udsift kun defekte sikringer med nye af samme kvalitet, så brandfare undgås.
- EL Για να μην υπάρχει κίνδυνος πυρκαγιάς αντικαταστήστε τις ελαττωματικές ασφάλειες με νέες ισότιμες ασφάλειες.
- HU A tűzveszély elkerülése érdekében a hibás biztosítókat csak új, egyenértékű biztosítókkal szabad pótolni.
- TR Bir yangın tehlikesini önlemek için arızalı sigortaları sadece eş değerli yeni sigortalarla değiştirin.

- PL W celu uniknięcia ryzyka pożaru, uszkodzone bezpieczniki należy wymieniać wyłącznie na równorzędne.
- CS Abyste předešli nebezpečí požáru, nahrazujte vadné pojistky pouze novými ekvivalentními pojistkami.
- SK Na zabránenie nebezpečenstva požiaru vymieňajte chybné poistky len za nové rovnocenné poistky.
- PT-  
BR Para evitar um risco de fogo, os fusíveis com defeito devem ser substituídos por novos fusíveis equivalentes.
- SV Byt defekta säkringar till likvärdiga för att undvika brandfara.
- RO Pentru a evita pericolul unui incendiu, siguranțele defecte se vor înlocui numai cu siguranțe noi de aceeași calitate.
- FI Palovaaran välttämiseksi vialliset sulakkeet täytyy vaihtaa vain samantyyppisiin ja samanarvoisiin sulakkeisiin.

# DATCOM

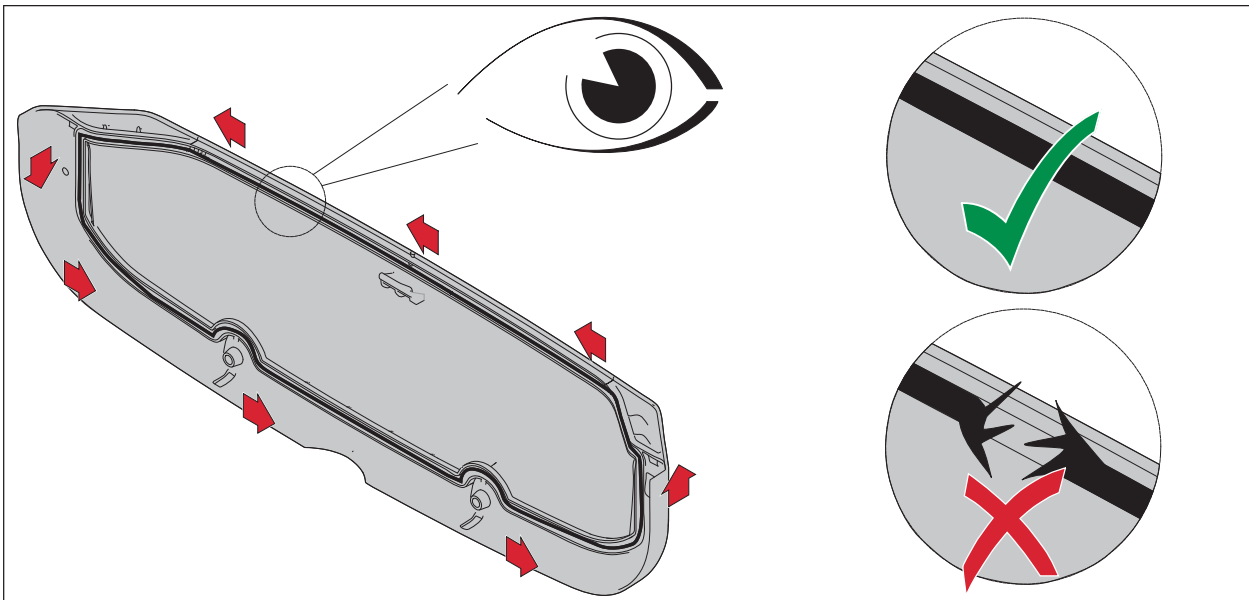
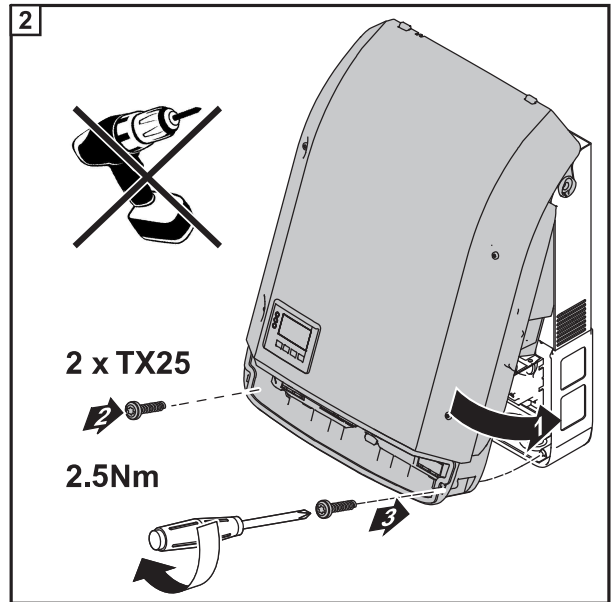
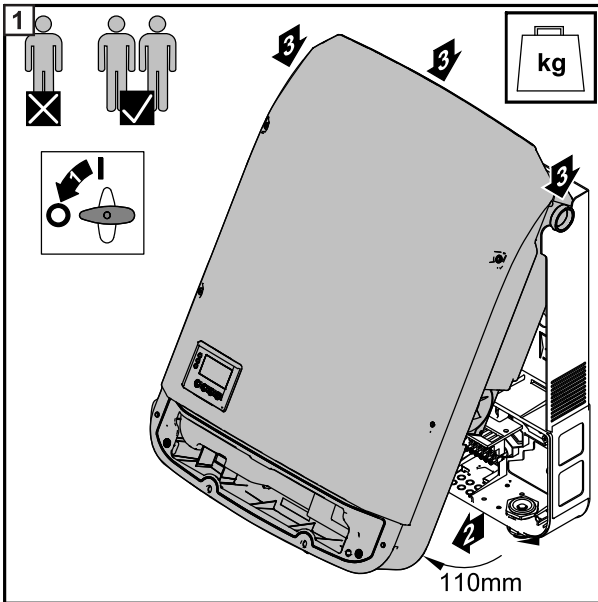
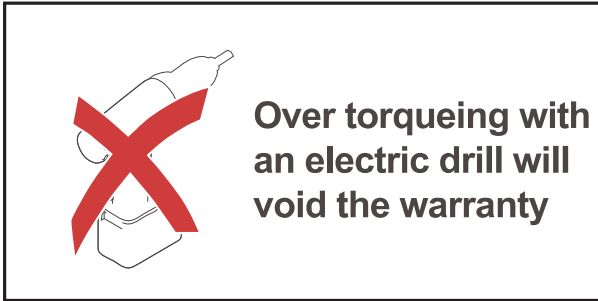


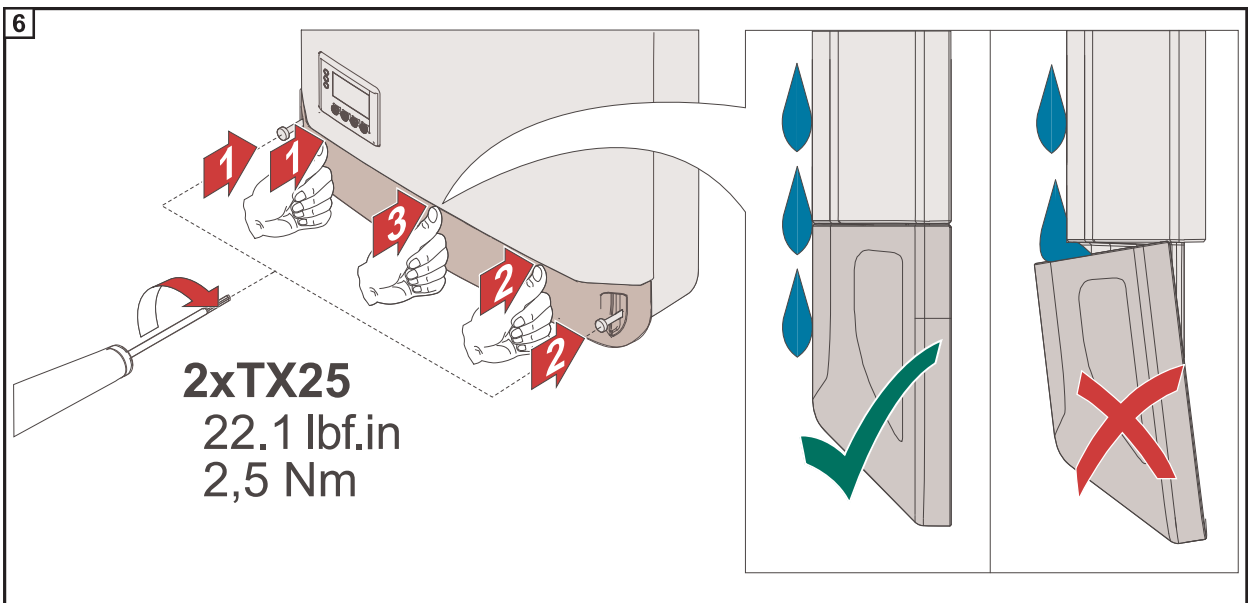
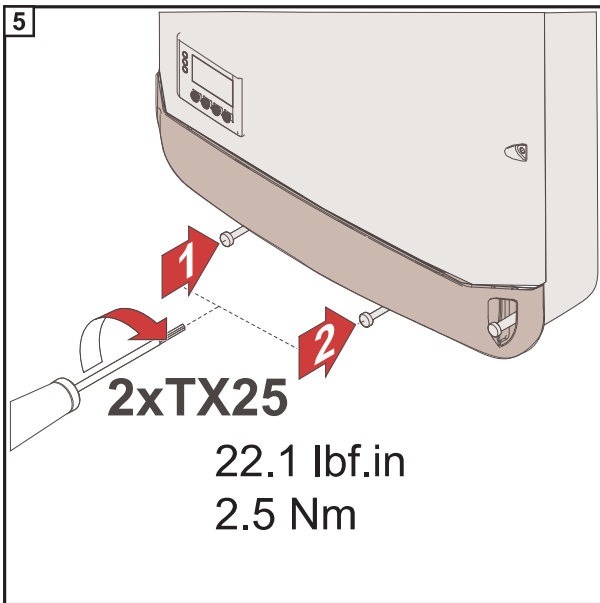
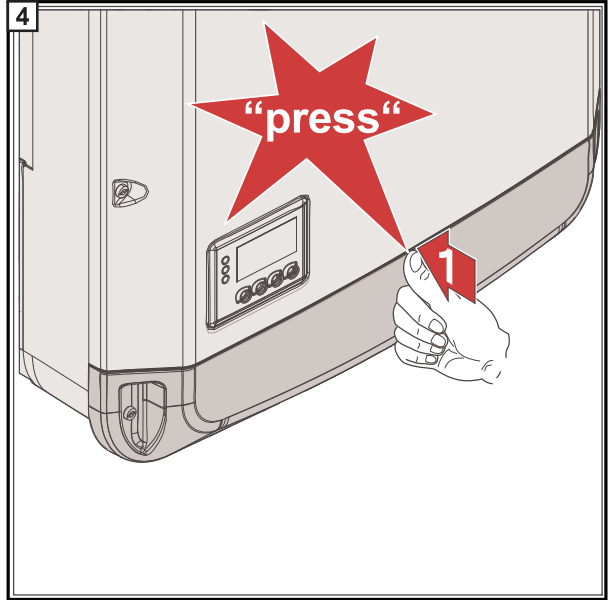
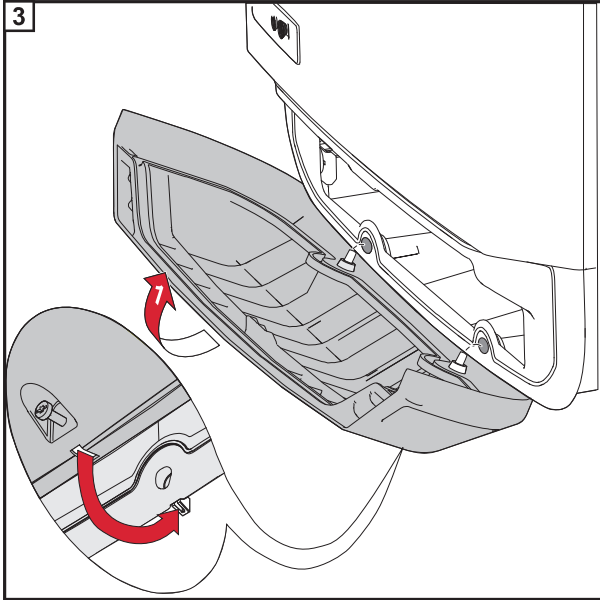


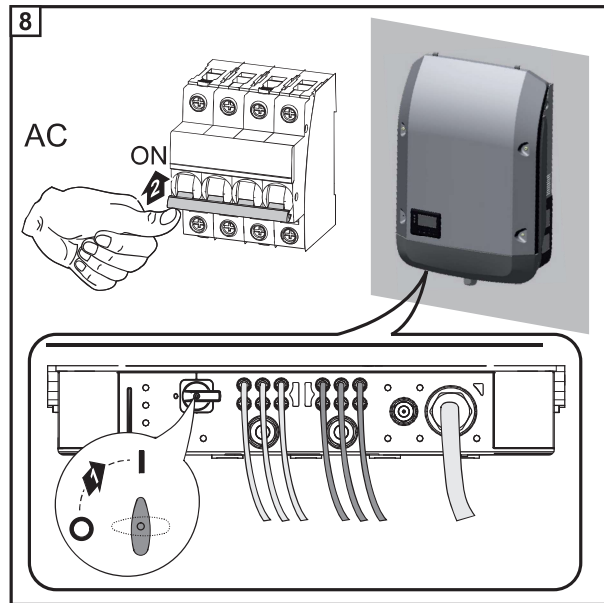
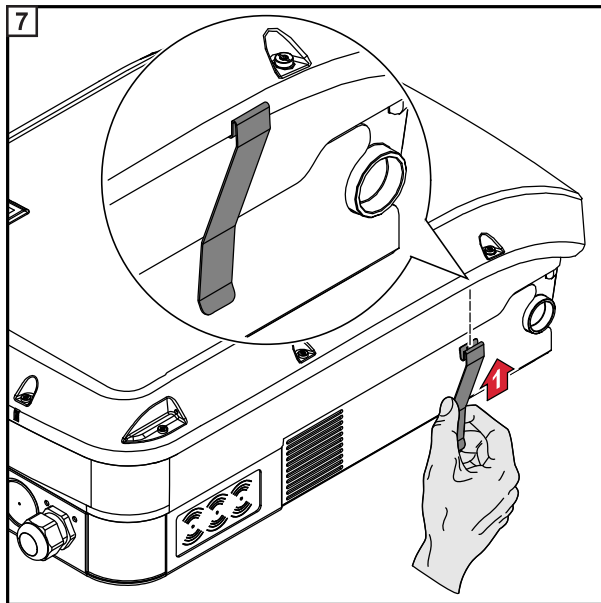




# Operation

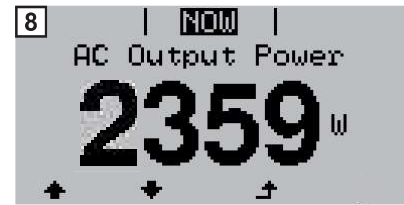




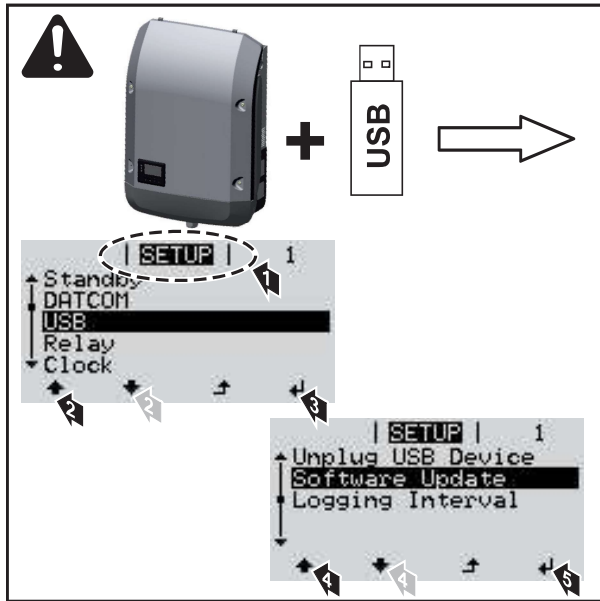


**\* Country Setups**

50Hz	International 50 Hz	DK B	Danmark 50 kW to 1,5 MW	IN	India
60Hz	International 60 Hz	DKA1	Danmark Anlægsstørrelse <11 kVA	IT4	Italia: Dimensioni impianto < 11,08 kVA
AT1	Österreich: Anlagengröße < 3,68 kVA	DKA2	Danmark Anlægsstørrelse 11 - 50 kVA	IT5	Italia: Dimensioni impianto > 11,08 kVA
AT2	Österreich: Anlagengröße > 3,68 kVA und < 13,8 kVA	DU2	يبيد > 10 kW and < 400 kW	ITMT	Italia: media tensione
AT3	Österreich: Anlagengröße > 13,8 kVA	DU3	يبيد > 400 kW	LK	Sri Lanka
AU	Australia	ES	España	MG50	Microgrid 50 Hz
BE	Belgique / België	ESOS	Territorios españoles en el extranjero (Spanish Oversea Islands)	MG60	Microgrid 60 Hz
BR2	Brasil: < 6 kVA	Eesti	Vali Setup PT	NIE2	Northern Ireland / Tuaisceart Éireann > 16 A
BR3	Brasil: > 6 kVA	FR	France	NL	Nederland
CH	Schweiz / Suisse / Svizzera / Svizra	FROS	Territoire d'Outre-Mer (French Oversea Islands)	NO	Norge
CL	Chile	GB	Great Britain	NZ	New Zealand
CY	Κύπρος / Kibris / Cyprus	GR	Ελλάδα	PT	Portugal
CZ	Česko	HR	Hrvatska	RO	România
DE1	Deutschland: Anlagengröße < 3,68 kVA	HU	Magyarország	SE	Konungariket Sverige
DE2	Deutschland: Anlagengröße > 3,68 kVA und < 13,8 kVA	IE	Éire / Ireland; Malta	SI	Slovenija
DE3	Deutschland: Anlagengröße > 13,8 kVA	IL	לישראל / لإسرائيل / Israel	SK	Slovensko
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				TR	Türkiye
				UA	Україна
				ZA	South Africa / Suid-Afrika

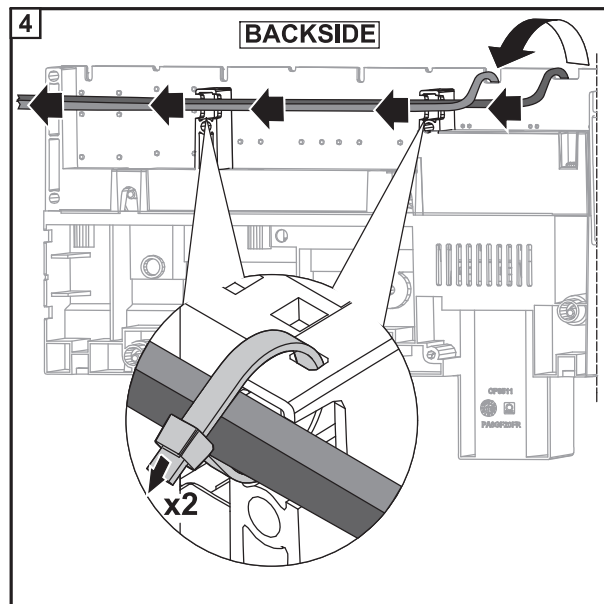
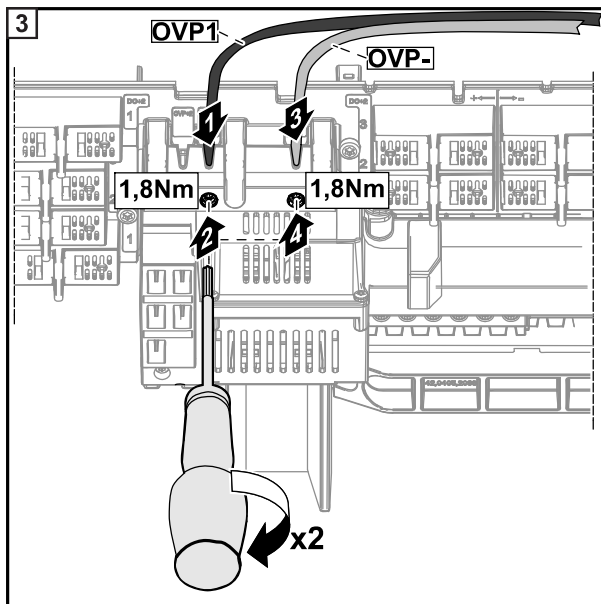
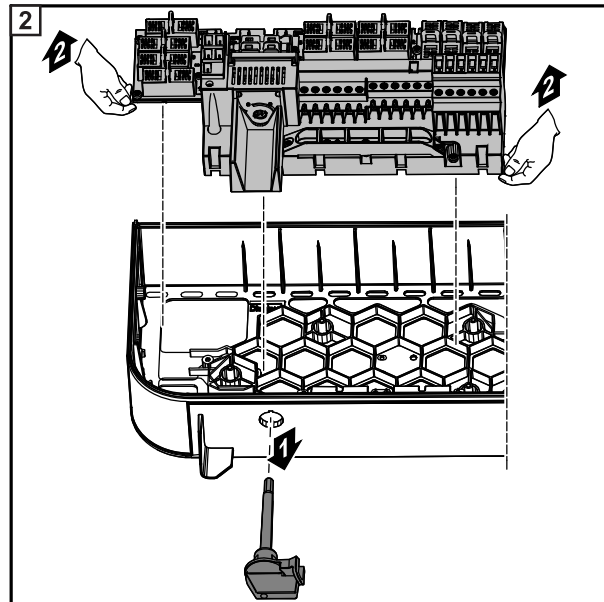
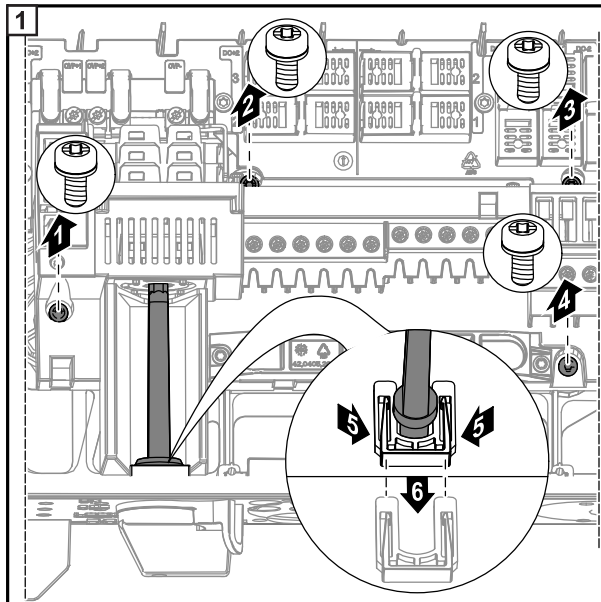
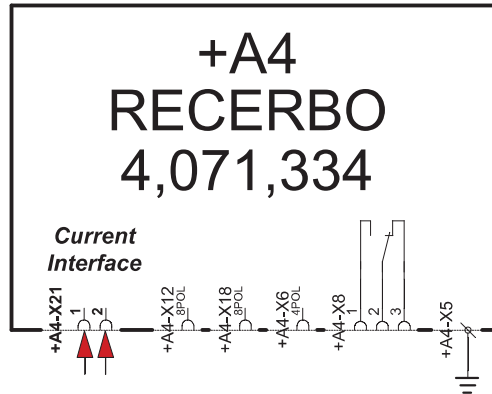
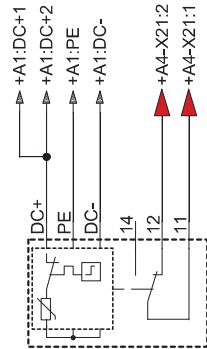


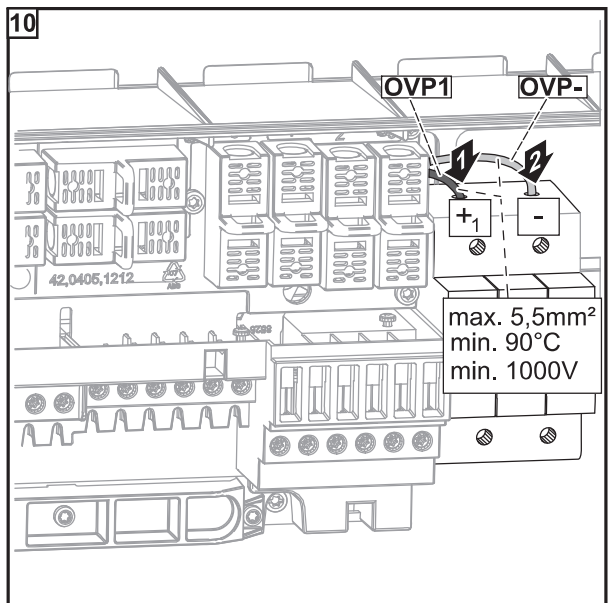
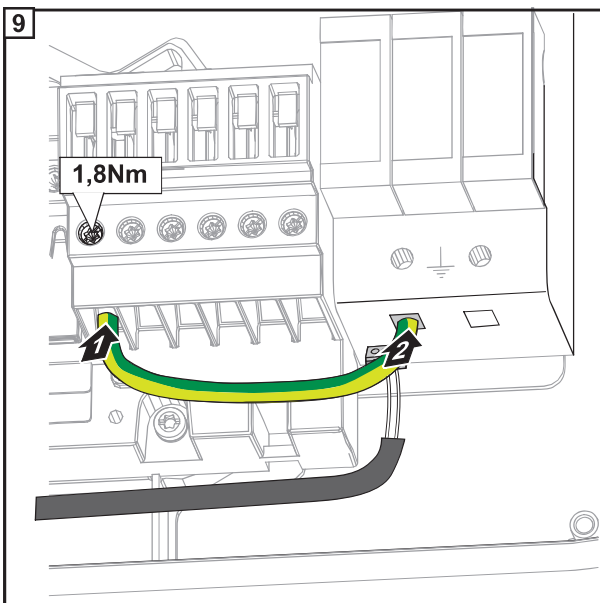
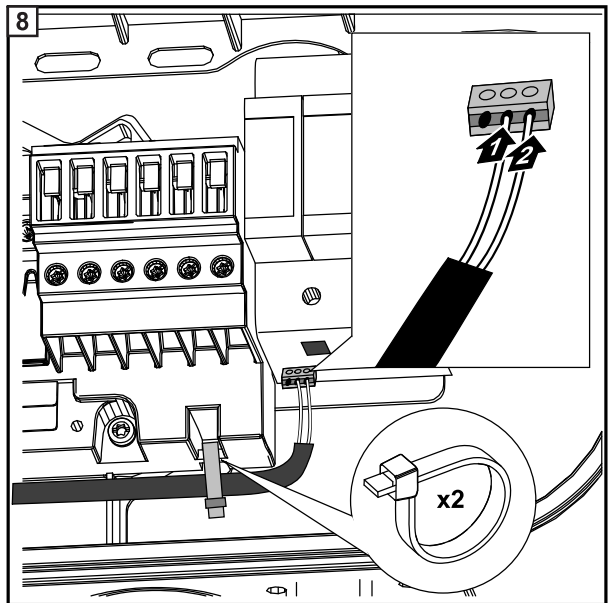
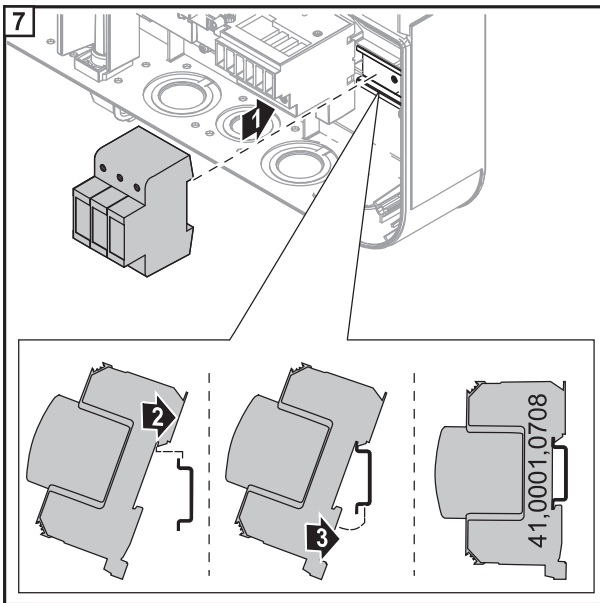
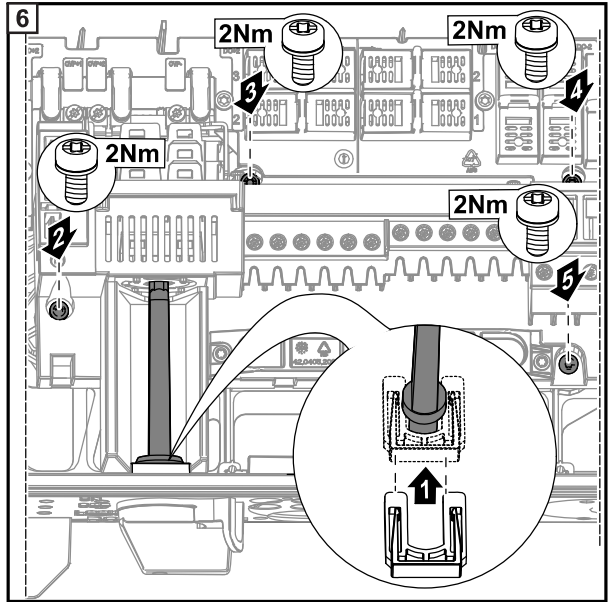
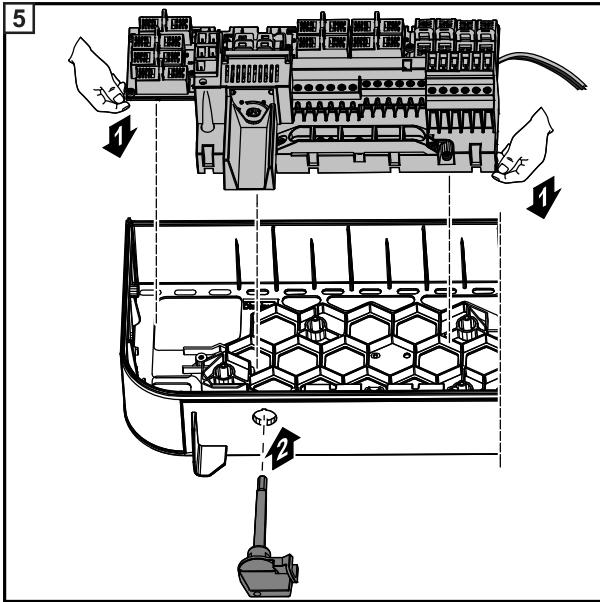
# Firmware Update



# Option DC SPD - retrofitted

Option SPD

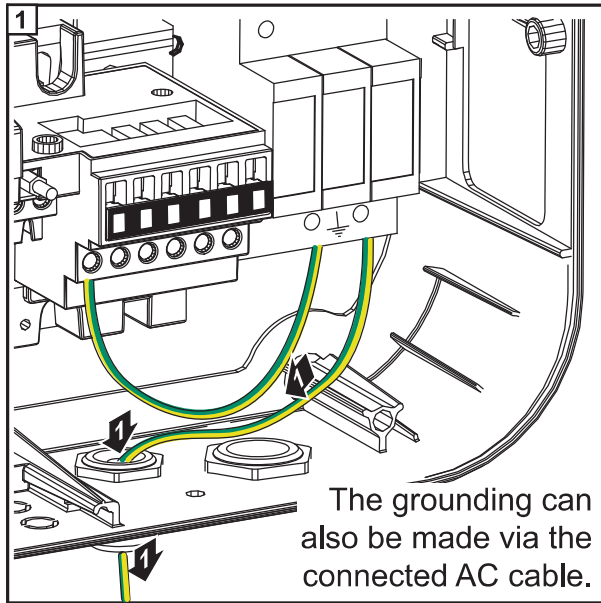




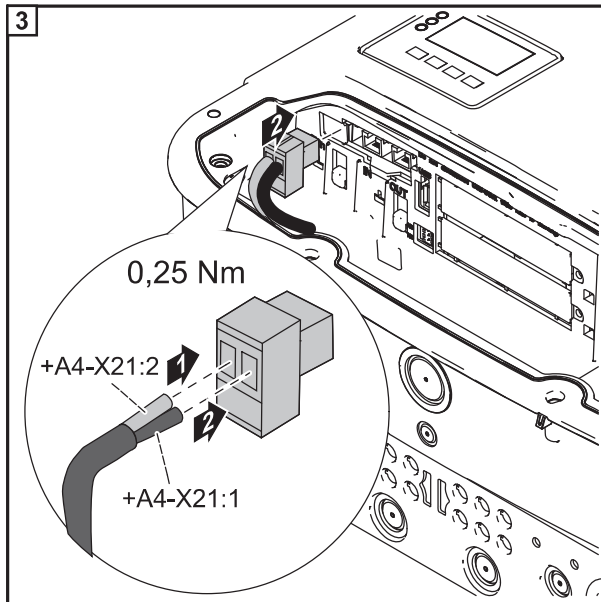
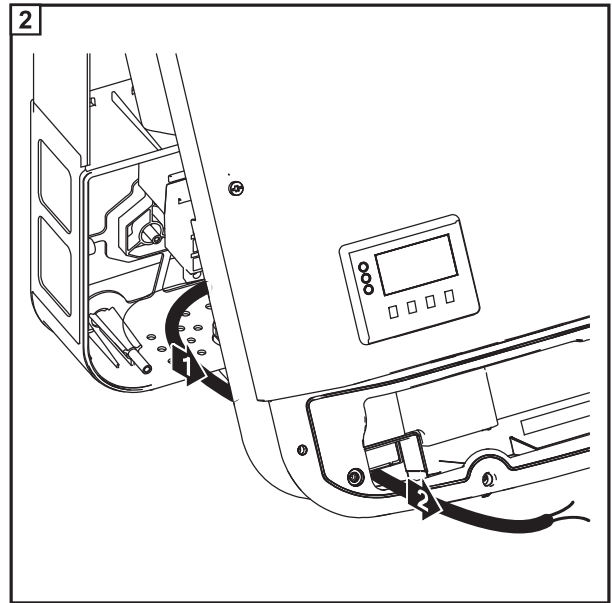


# Option DC SPD

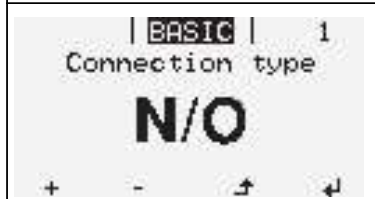
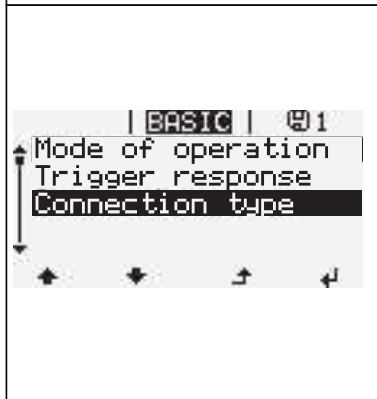
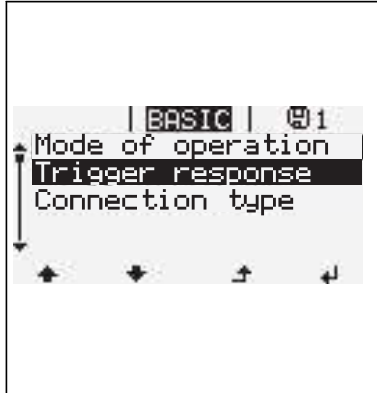
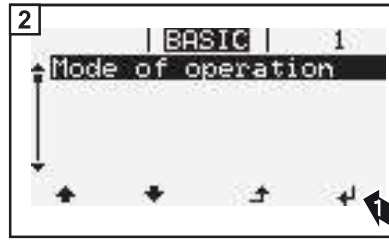
## Option DC SPD Typ 2 - S



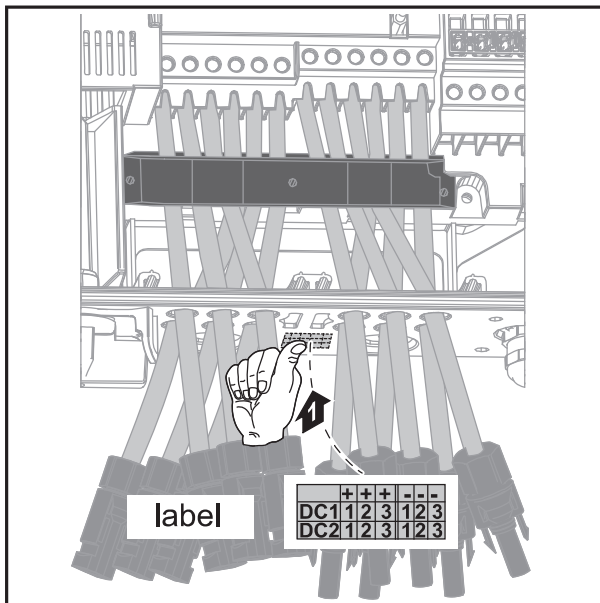
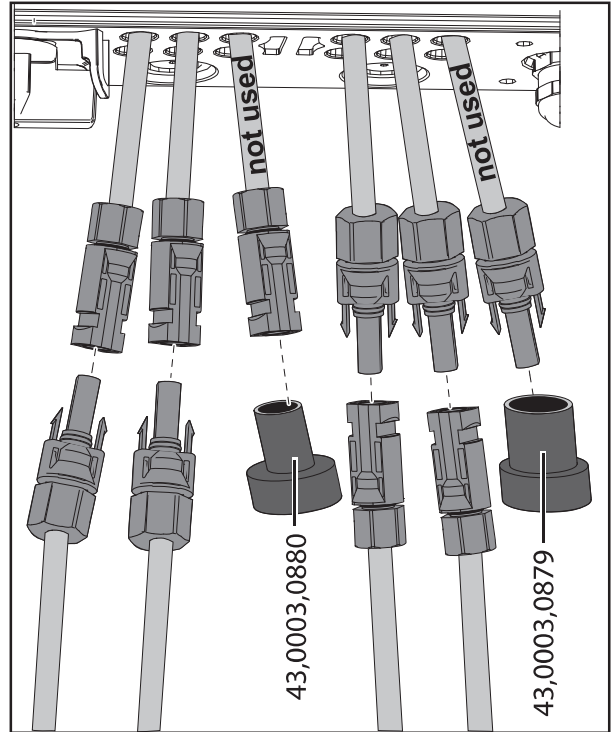
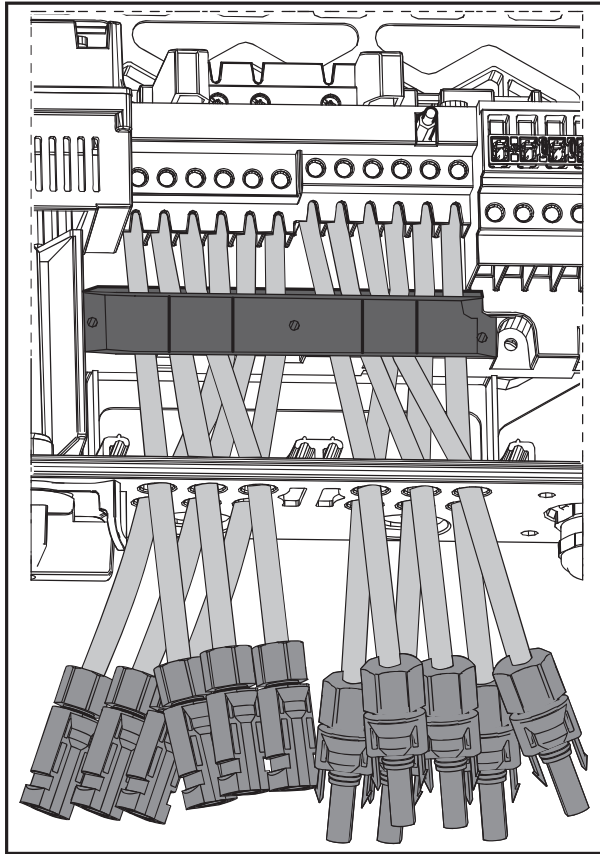
M16 cable gland - enclosed



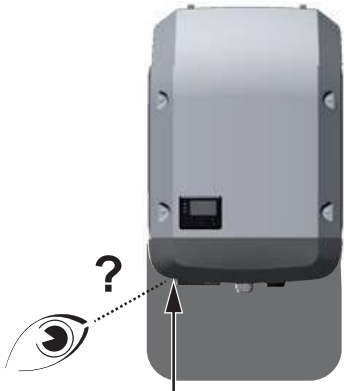
# Option DC SPD - Menu settings



# Option DC-plug +- pair MC4

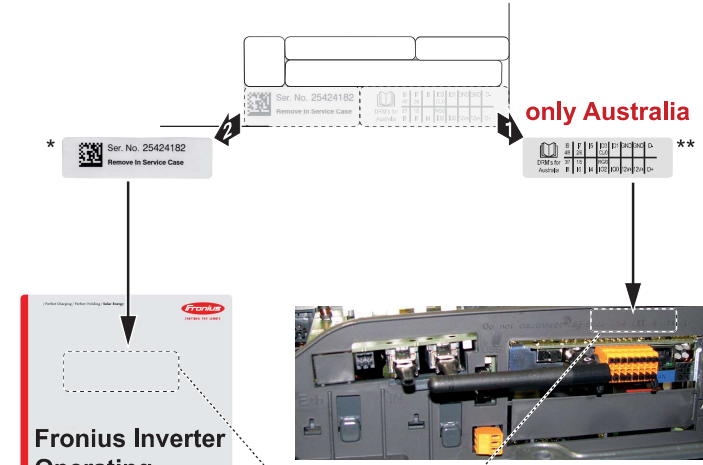



# Serial Number Sticker for Customer Use





Serial No. on rating plate

Application example









\* Serial Number Sticker for Customer Use, 57 x 20 mm

\*\* DRMs for **Australia** for Customer Use, 67 x 20 mm