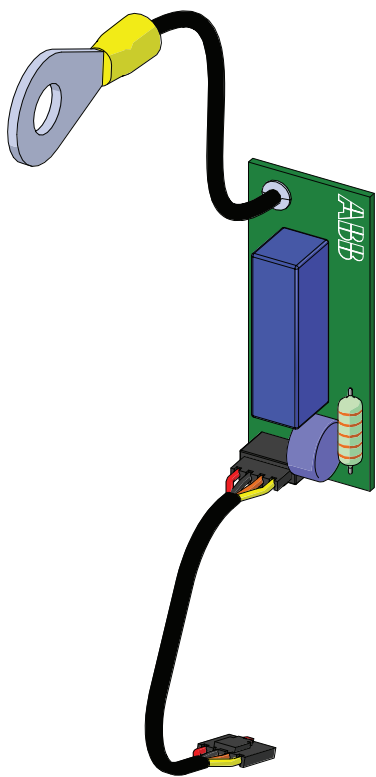


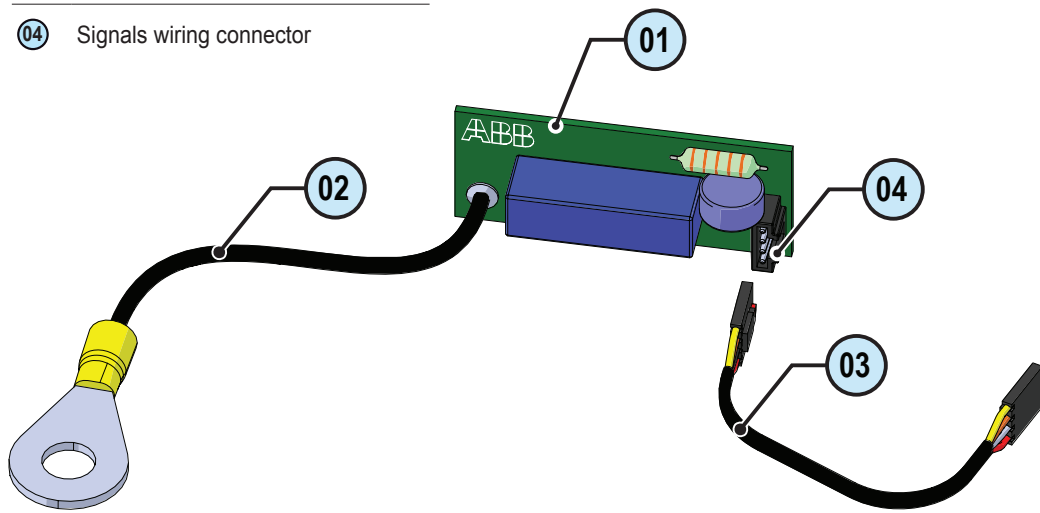
EN




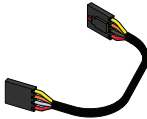
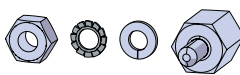

ABB

1. Main components

Main components	
01	Negative grounding board
02	Connection cable for negative pole
03	Signals wiring
04	Signals wiring connector



2. Supplied component list

Components available in the kit		Quantity
	Grounding board	1
	Signals wiring	1
	Components for mounting the cable to negative pole of DC disconnect switch: Nut, threaded washer, cutted washer, metallic support	1 + 1 + 1 + 1
	Quick Installation Guide	1

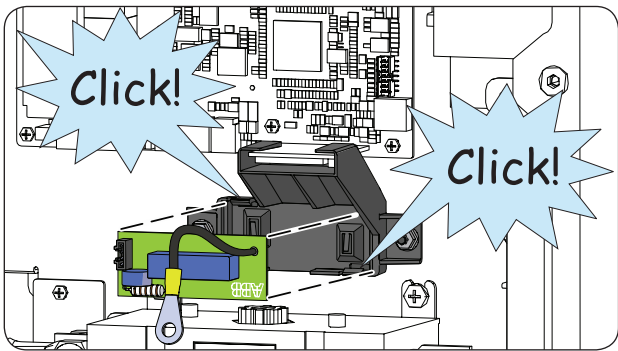
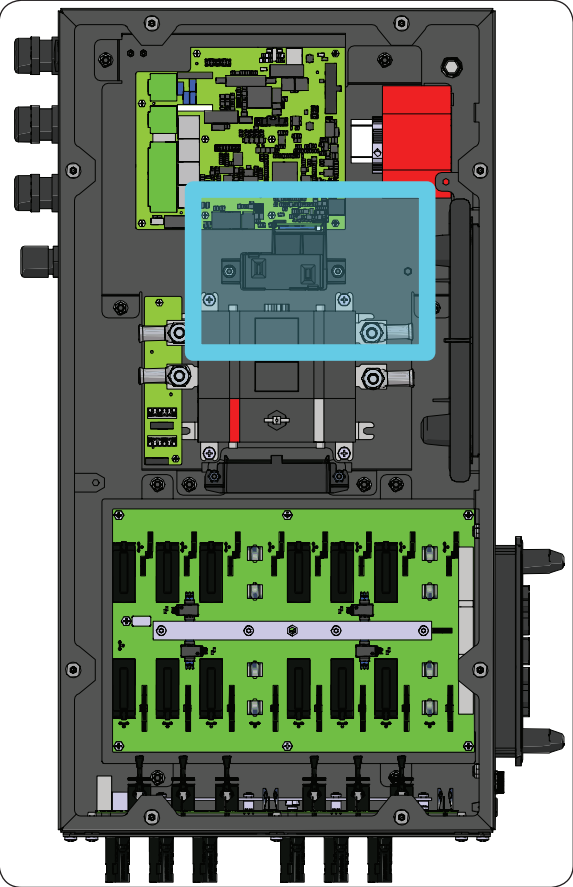
3.



Access to the zones inside the inverter must be carried out with the equipment disconnected from the network and from the photovoltaic generator. Isolate the inverter by externally disconnecting the side AC, DC and any voltages connected to the multifunction relay. Acting only on switches present on the inverter, some internal parts have hazardous voltages.

The GROUNDING KIT must be installed inside the DC wiring box.

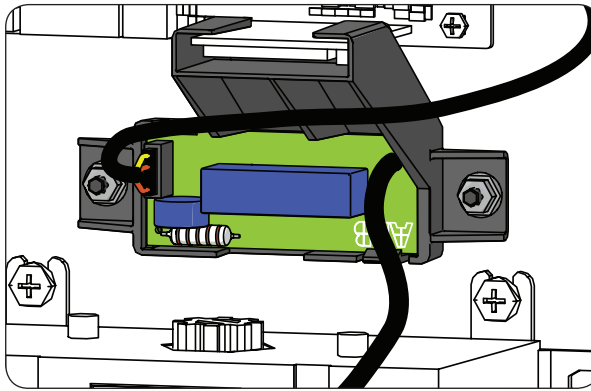
- Before removing the front cover, place the DC disconnect switch to OFF position. In "ON" position, the switch does not allow the removal of the front cover.
- Proceed to remove the 8 screws holding the front cover of the DC wiring box.
- The grounding board must be installed on the appropriate holder positioned on the lower side of the communication and control card (area highlighted in the figure to the side).



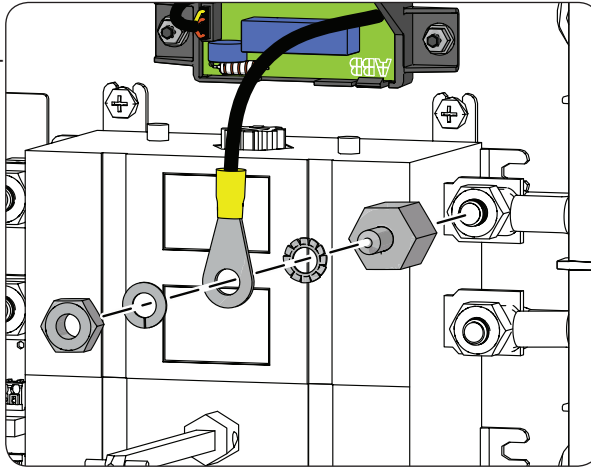
- Press down lightly on both sides of the board until the two holding clips will block the board to the support.

Assembly instructions

- Connect the signals wiring between the grounding board and the communication and control board. One side of the signals wiring must be connected to the J13 connector on the grounding board; the other end must be connected to J1 connector present on the communication and control board.

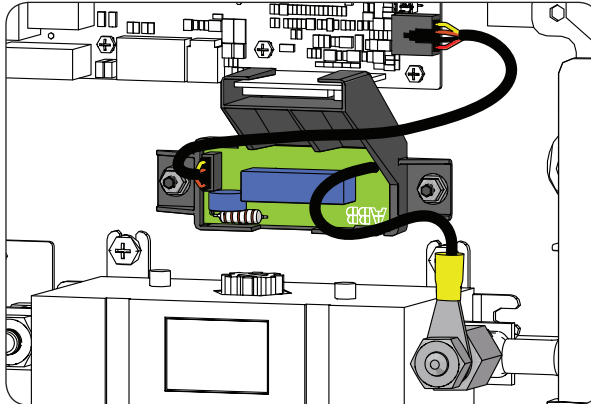


- Connect the cable present on the grounding board to negative pole placing the cable on the negative connection of the DC disconnect switch (first terminal at the top right of the disconnect switch). Observe the installation sequence shown in the figure.
 - Metallic support (tightening torque 4 Nm)
 - Toothed washer
 - Cable from the grounding board
 - Cutted washer
 - Hexagonal nut (tightening torque 4 Nm)

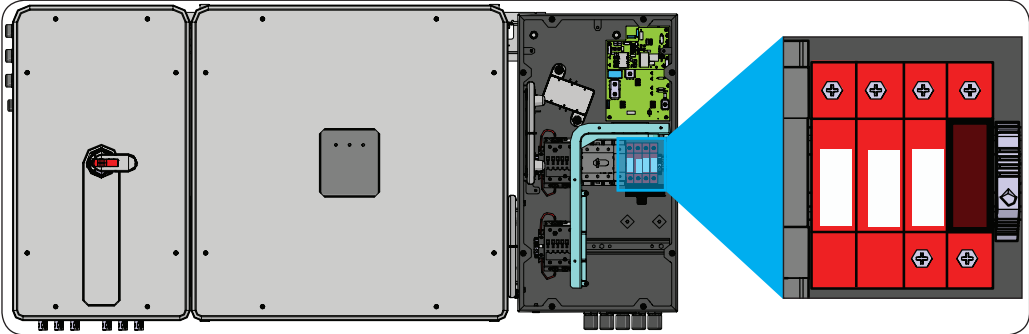


The components required for the fixation of the cable are present in the materials supplied.

- Check the correct installation of the board, signals wiring and connection cable to the negative pole



In -SX version of the Wiring Box AC, a cartridge must be removed from the AC overvoltage dischargers (as described below)

- Before removing the front cover, place the AC disconnect switch to position OFF. In position "ON", the switch does not allow the removal of the front cover.
 - Proceed to remove the 8 screws holding the front cover of the AC wiring box.
 - Remove the first cartridge in the right from the AC discharger.
- 
- Reinstall the cover of the AC wiring box cover using the 8 fixing screws (tightening torque 2.4Nm).

4.

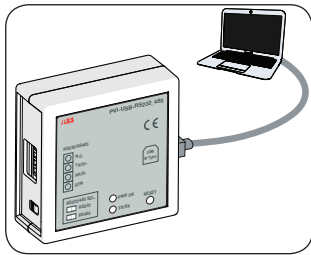
After installing the GROUNDING KIT, it is required to connect a PC to the inverter via a signal converter PVI-USB-RS232_485 in order to perform the necessary software configurations for the proper functioning of the system.

- Download the Aurora Manager LITE software, which allows to do the inverter configurations available on the following website: <http://new.abb.com/power-converters-inverters/solar/string/three-phase/trio-50-0kw> in the section Download > Software.
- Check the presence of the RS485 serial line, to which the signal converter PVI-USB-RS232_485 will be connected. Otherwise, connect a signals wiring to the terminals of the J7 connector on the communication and control board:
 - J7 terminal 1 → -T/R serial line RS485-1
 - J7 terminal 2 → +T/R serial line RS485-1
 - J7 terminal 7 → -T/R serial line RS485-2
 - J7 terminal 8 → +T/R serial line RS485-2
 - J7 terminal 6 → RTN signal common to two serial lines

The cable must be passed inside the DC wiring box using the cable glands placed on the left side of the external machine.

- Connect the serial wiring to the signal converter PVI-USB-RS232_485 following the connection of the signals performed on the communication and control board.

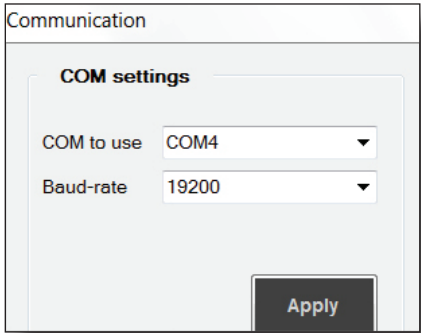
- Connect a USB cable (Type B) between the signal converter PVI-USB-RS232_485 and PC



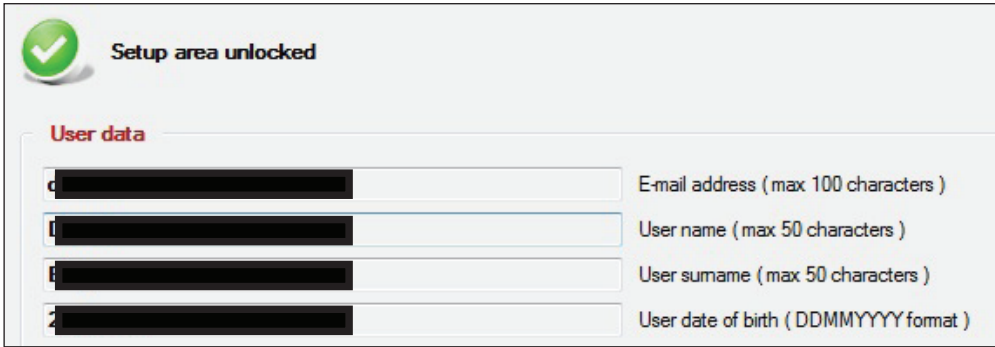
- Reinstall the cover of the DC wiring box cover using the 8 fixing screws (tightening torque 2.4Nm).

- Place the DC disconnect switch to position ON.

- Open the Aurora Manager LITE software.
- Set the COM port, to which the converter is connected on the Communication>COM settings menu



- Access the advanced functions (INSTALLER) on the menu Configuration> Setup area access. The personal information and password to be entered are the same as those used during the registration on the website <https://registration.abbsolarinverters.com/> After entering your personal data, press ENTER. Aurora Manager LITE will allow you to do the advanced configuration of the inverter.



To get the password, register on the site <https://registration.abbsolarinverters.com/>, where, entering your personal data, you will receive an email with your login credentials.

- Scan the RS485 bus using the "Refresh" button.



Once the scanning will be completed, the inverters detected are displayed in the system tree.



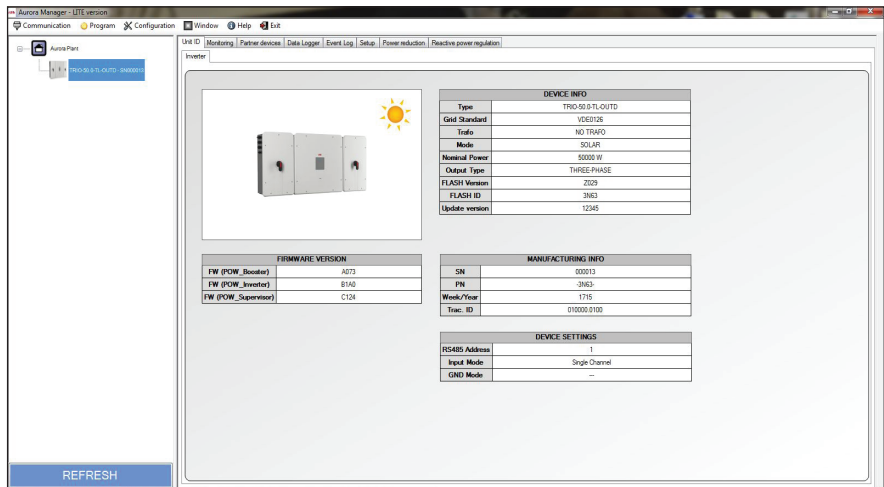
5.

TRIO-50.0/60.0-GROUNDING KIT

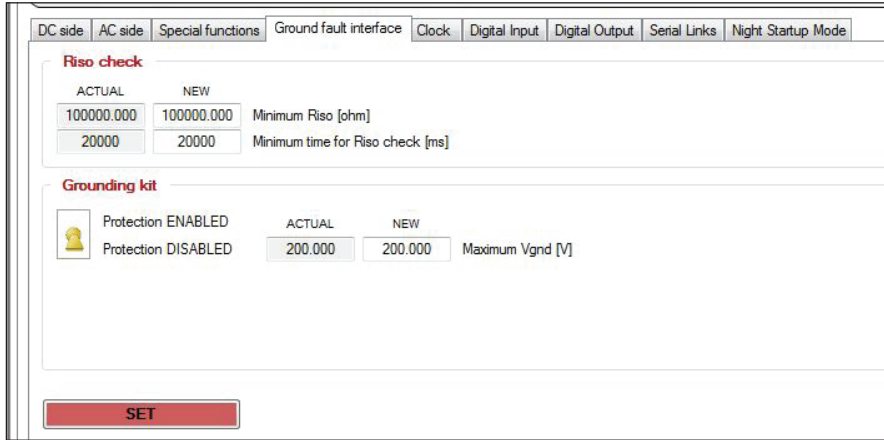
Grounding kit						
Compatibility			Three-phase inverter models: TRIO-50.0-TL TRIO-60.0-TL			
Type of grounding			Resistive			
Pole that can be connected to the earth			Negative			
System requirements						
Isolating transformer			Mandatory ¹⁾			
Configuration of the isolating transformer			IT System (Star point not connected to the earth)			
Configuration of the photovoltaic strings			If the system has multiple inverters connected to the same transformer, all strings must be made of the same type and number of panels in series.			
Maximum number of inverters that can be connected in parallel on a single winding of transformer:						
Nominal power of the transformer	1000 kVA	1250 kVA	1600 kVA	2000 kVA	2500kVA	
Maximum number of TRIO-50.0-TL	20	25	32	40	N.A.	
Maximum number of TRIO-60.0-TL	17	21	27	33	40	

1. NOT SUITABLE for mono- or multi-inverter systems that are directly connected to low voltage network.
Note: The features that are not specifically mentioned in this data sheet are not included in the product

Contact us www.abb.com/solarinverters TRIO-50.0_60-0-Grounding Kit-Quick Installation Guide EN-RevA
EFFECTIVE 13-02-2017
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Specifications are subject to change without prior notice.



- Access the "Setup" tab and then the section of "Ground fault interface"



In the section related to Grounding kit, enable the function by moving the selector to "protection ENABLED"



In this section, you can also customize (depending on the type of PV modules used) the maximum threshold of the voltage between the negative pole and the earth, for which the inverter turn on the "protection of Ground Fault" (E037)