ABB Solar inverters
Quick Installation Guide
TRIO-8.5-TL-OUTD-400 / TRIO-8.5-TL-OUTD-6-400

ABB
Power and productivity for a better world

Installation above 2000 metres
On account of the rarefaction of the air (at high altitudes), particular conditions may occur:
- Less efficient cooling and therefore a greater risk of the device going into derating because of high internal temperatures
- Reduction in the electric resistance of the wires, in the presence of high operating voltages (DC inputs), can create electric arcs (discharges) that can reach the point of damaging the inverter

All installations at altitude of over 2000 metres must be assessed case by case by the ABB Service department.

Note: In the event of exceptionally high temperatures, the inverter's acoustic emissions may be unpleasantly loud (about 50dB(A) at 1 m).

List of supplied components

- Three-hole gasket for M25 DC cable glands
- Two-hole gasket for M20 signal cable glands
- Connector for the connection of the communica
tion and maintenance devices
- Additional components for models with disconnect
  switch
- Additional components for 7.5/8.5kW models

LEDs and Buttons
- Yellow: The inverter has no faults and is running correctly.
- Green: The inverter has no faults and is running correctly.
- Red: Faulty when the device is running or in stand-by mode and the inverter is on the display.

Description of symbols and display fields:

LED: The inverter is working correctly. Flashes when the invertor is in stand-by mode. The inverter is shown on the display.

Alarms:
- Ground fault on the DC side of the PF generator: The error is shown on the display.

Definitions:
- Status bar: Shows the status of the inverter.
- Module: Shows the status of the module.
- System: Shows the status of the system.
- Event: Shows the status of the event.
- Error: Shows the status of the error.

Transport and handling: The inverters, especially by road, must be carried out with great care and means for protecting the components (in particular, the electronics components) from violent shocks, humidity, vibration, etc.

Installation:
- Secure the inverter to the bracket by screwing the installed inverter, as described in the procedure below:
  - Remove the three screws securing the front cover
  - Unscrew the 8 screws that secure the front cover (step 1)
  - Open the cover by pulling it towards you. First push 100 mm forwards on both sides of the inverter (Figure A1 and A2)
  - Secure the inverter to the bracket by screwing the 2 lock screws on both sides of the inverter (Figure A3)

Environmental checks:
- Consult the technical data to check the environmental parameters to be observed:
  - If the space available does not allow this arrangement, position the inverters in a staggered
    arrangement as shown in the figure so that heat dissipation is not affected by other inverters

Components available for all models:

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector for connecting the power grid</td>
<td>2</td>
</tr>
</tbody>
</table>
| Connector for connecting the commu
  nication and maintenance devices    | 1        |

Additional components for 7.5/8.5kW models:

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
</table>
| Two-hole gasket for M25 signal cab
  gle glands and clip               | 1        |
| Two-hole gasket for M20 signal cab
  gle glands and clip               | 1        |

Additional components for models with do
nect

<table>
<thead>
<tr>
<th>Component</th>
<th>Quantity</th>
</tr>
</thead>
</table>
| Three-hole gasket for M25 DC cab
  gle glands and clip               | 1        |

Assembly Instruction

1. Open the cover by pulling it towards you. First push it 100 mm forwards on both sides of the inverter (Figure A1 and A2)
2. Secure the cover by pulling it forwards and then downwards (steps 2 and 3)
3. Secure the cover by pulling it forwards and then downwards (steps 2 and 3)
Commissioning

1000 V

Format the SD card using a “FAT32” File System

<20 Arms (100 mS)

320...480 V

TRIO-7.5-TL-OUTD

II (DC input) III (AC output)

R29

NEGATIVE GROUNDING KIT

30 A / 15 A

is made by inserting the cables in the AC cable gland

The inverter performs a control of grid parameters. The b22 icon, which represents the grid distribution, can have different statuses:

300mA

14.5 A

-25...+60°C / -13...140°F con derating sopra i 50°C/122°F

2 aspects and 1 PT100/ PT1000 inputs.

24.0 A

16.5 A

7650 Wp

MPPT2

Switch to set the inverter to normal or service mode

Connection of inputs on models with disconnect switch

S2

IP 65

3

Transformerless (TL)

Ethernet card with webserver (opt.), PVI-USB-RS232_485 (opt.), PVI-DESKTOP (opt.)

J9

55 m

-2

... 

The accessories can be bought separately and installed directly by a qualified technician or by the installer.

The firmware can be simply updated via the SD-Card (5 MB maximum storage).

The most recent firmware version is available in the download section of the Website or upon request to the ABB Service.

Leave the update while in good irradiation conditions (avoid the direct sun light).

Format the SD card using a “FAT32” File System

Save the firmware file to the root directory of the SD-Card. The firmware are compressed and nested inside folders.

Unzip the firmware file by physically disconnecting the AC and DC voltages, as well as any voltage connected to the multi-function relay, from the inverter front panel.

Insert the SD Card in the dedicated memory and housing with the notch side facing down.

Connect the inverter on as per the procedure described in Section 14 of the installation guide.

The inverter displays prompts for configuration to launch the update.

The update procedure starts automatically. Do not operate the inverter in any way during the update process.

Once the procedure is completed, the display shows the update results.

The display has a section 3.0 graphic display) for menuing through the user settings.

The inverter can be controlled by touching the screen. The screen can be locked by selecting the Lock icon at the bottom of the display.

The inverter provides a connection to ground in case of any equipment failure.

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