

ABB solar inverters

Quick installation guide TRIO-50.0-TL-OUTD

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In addition to the information given below, it is mandatory to read and observe the safety information and installation instructions shown in the installation manual. The technical documentation and the interface and management software for the product are available on the website.
The equipment must be used in accordance with this manual and all other ABB documentation. Otherwise, the protections provided and performance guaranteed by the inverter may be affected.



1. Labels and symbols

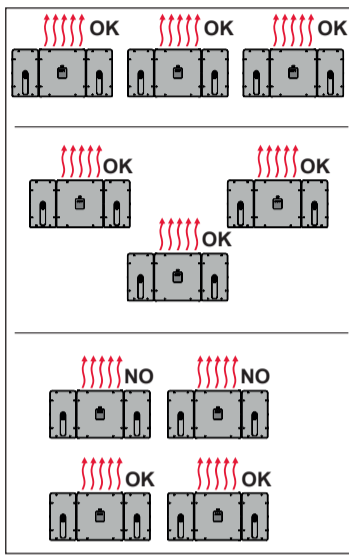
The labels on the inverter have the conformity marking, main technical data and identification of the equipment and manufacturer. The below labels are intended as example only: in fact other models of DC Wiring Box and AC Wiring Box are available.

The labels attached to the equipment must NOT be removed, tarnished, dirtied, hidden, etc.

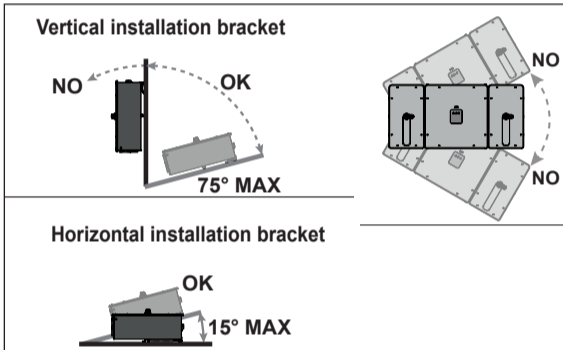
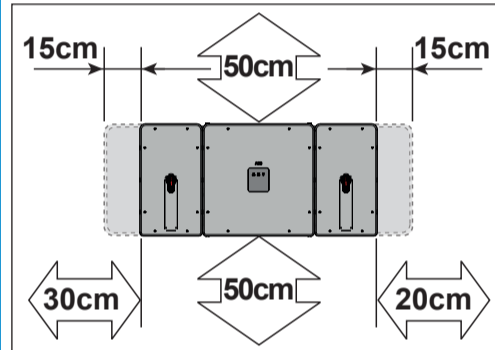
Always refer to the manual	General warning - Important safety information	Hazardous voltage	Hot surfaces
Protection rating of equipment	Temperature range	Without insulation transformer	Direct and alternating current, respectively
Positive pole and negative poles of the input voltage (DC)	Always use safety clothing and/or personal protection equipment	Point of connection for grounding protection	Stored energy discharge time

2. Choice of installation location

- Installation site and position**
- Consult technical data to confirm the environmental specifications will be met.
 - Installation of the unit in a location exposed to direct sunlight is acceptable.
 - Do not install in closed spaces where air does not freely circulate.
 - Always ensure that the flow of air around the inverter is not blocked, so as to prevent overheating.
 - Do not install the equipment near flammable substances (minimum distance: 3m).
 - Do not install the equipment on wooden walls or other flammable surfaces.
 - Do not install in inhabited rooms or where the prolonged presence of people or animals is expected due to inverter's noise level during operation. The sound level is heavily influenced by its location (for example, the surface around the inverter, the environment, etc.) and grid quality.
 - Install on a wall or structure capable of bearing the weight of the inverter.
 - Install vertically or horizontally (i.e. with the inverter on its back), with a maximum inclination as indicated in the adjacent figures.
 - Maintain minimum clearance and spacing between inverters as indicated in the adjacent figures to prevent limitations on air circulation.
 - Ensure sufficient working area in front of the inverter for wiring box access.
 - If possible, install at eye-level so that the LEDs can be easily seen.
 - Install at a height that allows the equipment to be serviced considering its size and weight.
 - Position multiple inverters side-by-side, maintaining minimum clearances (measured from the outermost edge of the inverter).
 - Multiple inverters can also be placed in a staggered arrangement. Minimum clearances for staggered arrangements include the width of the inverter plus additional allowances for inverters arranged above or below.
 - All installations over 6500' (2,000 meters) must be assessed by ABB Technical Sales to determine the proper output derating.



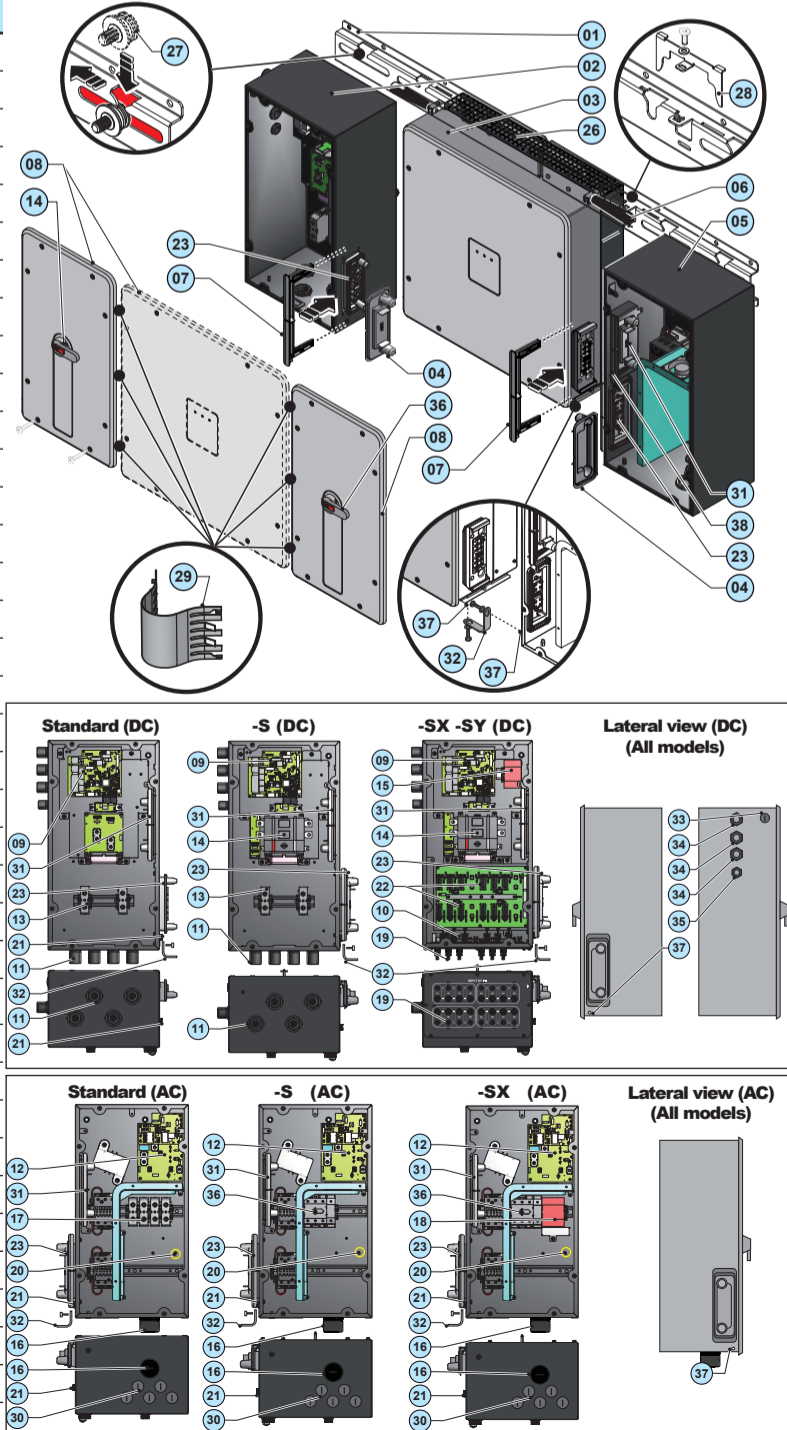
Do not block access to the external AC and DC disconnects. Please refer to the warranty terms and conditions and avoid voiding the warranty with improper installation.



3. Inverter models and components

The inverter model must be chosen by a specialized technician who has a good knowledge of the installation conditions, the devices that will be installed externally to the inverter and whether it will eventually be integrated into an existing system.
The power module is the same for all inverters, however different AC and DC wiring boxes will depend on the site design:
- DC wiring box models: Standard; -S; -SX; -SY.
- AC wiring box models: Standard; -S; -SX;

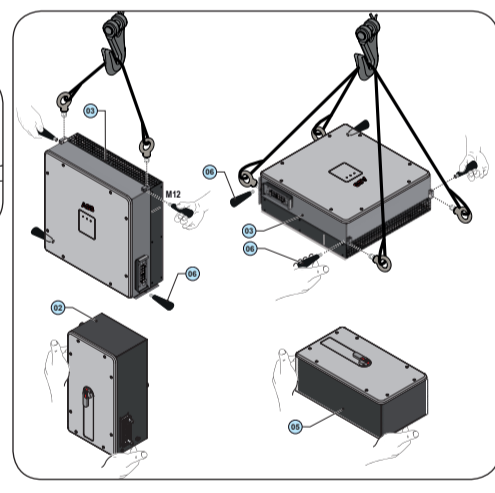
- Main components**
- 01 Mounting bracket
 - 02 DC wiring box
 - 03 Power module
 - 04 Quick disconnect connector cover
 - 05 AC wiring box
 - 06 Handles (optional)
 - 07 Metallic locking forks
 - 08 Front cover
 - 09 Communication and control board
 - 10 Positive (+) side string fuses
 - 11 DC cable glands
 - 12 AC filter board
 - 13 DC input terminal block
 - 14 DC disconnect switch
 - 15 DC surge protection device
 - 16 Single AC cable gland PG42
 - 17 AC output terminal block
 - 18 AC surge protection device
 - 19 Input connectors (mppt)
 - 20 Grounding terminal
 - 21 Anti-condensation valve
 - 22 Negative (-) side string fuses
 - 23 Quick disconnect connectors
 - 24 Spacers
 - 26 Heatsink
 - 27 Rear pins attached to inverter back side
 - 28 Stabilization bracket
 - 29 Conducting springs
 - 30 Single AC cable glands M32 (not included)
 - 31 Quick disconnect cover storage rack
 - 32 Ground brackets
 - 33 Wifi antenna M20 cap
 - 34 Service cable gland PG21
 - 35 Service cable gland PG16
 - 36 AC disconnect switch
 - 37 Ground bracket attachment points
 - 38 Plastic locking forks



4. Lifting and transport

Transport and handling
Transport of the equipment, especially by road, must be carried out by suitably so as to protect the components from violent shocks, humidity, vibration, etc.

Lifting
The means used for lifting must be suitable for bearing the weight of the equipment. The handling kit (ABB part number "TRIO HANDLING KIT") should be used to correctly handle the power module. Do not pick up the inverter by the cover.



Unpacking and checking
The components of the packaging must be disposed of in compliance with all laws and regulations applicable in the country where the equipment is being installed. When you open the package, check that the equipment is not damaged and make sure all components are present. If you find any defect or damage, stop unpacking, contact the carrier, and promptly inform the ABB Service department.

Weight of the equipment units

Model	Weight
Power module	66 kg
DC wiring box	Std / -S : 13 kg -SX / -SY : 14 kg
AC wiring box	Std / -S : 14 kg -SX : 15 kg

5. List of supplied components

Components available for all DC wiring box models	Quantity	Components available in the bracket kit	Quantity (vertical kit)	Quantity (horizontal kit)
Configurable relay connectors	2	Bracket 01 for vertical wall mounting	1	0
Control and communications signal connectors	2	Bracket 01 for horizontal mounting	0	1
Two-hole gasket for PG 21 signal cable glands and cap	2 + 2	countersunk M5 x 14 hex screws for assembling the attachment bracket	4	10
Two-hole gasket for PG 16 signal cable glands and cap	1 + 1	M6x16 hex screw (4 to clamp ground brackets and 2 for caged nuts)	6	6
M6 hex nut to clamp the grounding terminal on the AC wiring box	1	Stabilization brackets to attach the Power module to the wiring box	2	2
Serrated lock M6 washer for securing the ground terminal to the AC wiring box	2	Back spacers for wall alignment (vertical installation)	4	0
Technical documentation		Ground brackets for wiring box-power module connection	2	2
Components available for -SX / -SY DC wiring box models	Quantity	Fuseholder	12 or 16 (depending on the type of wiring box)	
Fuseholder	12 or 16 (depending on the type of wiring box)	M6 flat washer (4 for ground brackets and 2 for cage nuts)	6	6
Negative string fuses (-) (gPV - 1000Vdc - max rating 20A)	12 or 16 (depending on the type of wiring box)	M6 serrated washer to clamp the ground connection bracket	4	4
		Conducting springs	6	6

6. Assembly instructions

