ABB solar inverters
Quick installation guide
UNO-DM-3.3/3.8/4.6/5.0-TL-PLUS-US (from 3.3 to 5.0 kW)

Before starting installation, download the product manual from www.abb.com/inverters. Choose the correct installation kit, unpack the kit, choose the product and proceed to the “unbox” section. Read and follow all safety and installation instructions to avoid disabling any safety features or making the warranty invalid.

3. Installation site and position

- Note: Olesk pursuant to the environmental specifications have been met to ensure an installation site is chosen. A sunny, sheltered area can be chosen. A solar panel should not be in direct sunlight, especially for temperate climates such as desert conditions.
- Do not install the equipment in regions with frequent earthquakes.
- Always ensure that the floor or the surface where the inverter is to be installed is not leaking, as this can prevent overheating.
- Do not install the equipment near the flammable substances (minimum distance: 10 ft).
- Ensure sufficient clearances in front of the inverter for easy access to the wiring box.
- Position multiple inverters side-by-side, maintaining minimum clearances for the air flow as determined by the inverter and the equipment.
- All installations over 6500' high (2,000 meters) must be assessed by ABB.
- For more detailed information regarding proper installation and use of this product, refer to the manual located on www.abb.com/inverters. The manual on the drive contains the technical data and identification of the equipment manufacturer. The technical data on this quick installation guide only refers to the equipment that is attached to the equipment.

5. Power conduits will be inserted in the spring clamp terminals.

- If a RSD device was installed into the plant, it also will be needed to connect the AC grid to allow the inverter to power-up the inverter.
- The installer must use an external rapid shutdown device compliant with the 2014 NEC. The automatic shutdown occurs at the roo first time when utility power is lost or otherwise the PV system’s AC is connected to grid. It is required that everyone operating the shut off switch in case of an emergency stop.
- Install the RSD wiring terminals accommodate a wire size range of 26-12 AWG.
- Connect the positive side of the first PV array to +IN1, and its negative side to -IN1.
- Connect the strings in either independent or parallel mode, following the appropriate set of instructions below:

6. Note: If a RSD device was installed into the plant, it also will be needed to connect the AC grid to allow the inverter to power-up the inverter.

- Confirm the correct polarity in the input wires. Confirm there is no ground leakage current in the PV array. The inverter is designed to be used to power a RSD device.
- The RSD wiring terminals accommodate a wire size range of 26-12 AWG.
- RSD wiring terminals must be used by the inverter. The inverter’s solar DC disconnect switches the DC current to the plant. In the “OFF” position, the inverter will stop producing power, but the RSD device disconnects the AC from the grid. To prevent electric shocks to personnel, the RSD device must be used together with the RSD wiring terminals.

7. Confirm that the maximum PV array short-circuit current for each DC input channel is within the inverter specification (see table in Section 14). Any equipment grounding must be included per the requirements of the NEC and the responsibility of the installer. A configuration program that can help to correctly size the photovoltaic system is available on at http://www.stringizer.abb.com.

4. Important Safety Instructions

- Save these instructions – keep in a safe place!
- The installer must read these instructions in its entirety before installing or commissioning the equipment. The procedure described in this quick installation guide only refers to the equipment that is attached to the equipment.

- Importantly, these instructions are not applicable to a single-channel array. They may be converted to an R2W array, each with their own MPPT. In this case, do nothing with the inverter.
- Connect the positive side of the PV array to IN1, and the negative side to IN2. Connect the positive side of the second PV array to IN2, and the negative side to IN3. Up to four strings can be connected in one independent input.
- Connect the inverter to the AC grid, first with the inverter rated at 2000 kW, then the inverter-rated at 2000 kW. When the inverter is not supplied by a RSD device, the inverter is not supplied by a RSD device. When the inverter is not supplied by a RSD device, the inverter is not supplied by a RSD device.
- The installer must follow the step-by-step procedure below.

- Do not remove the inverter chassis cover in adverse weather conditions (e.g., wind, snow) or during periods of high humidity (>95%).

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Before proceeding with commissioning, make sure you have carried out all the operations and checks indicated in the previous sections of this quick installation guide.

Commissioning and configuration of the inverter can also be done through the Access Point (AP) and the Web Server. In order to access the inverter via AP or Web Server, you must first set the IP address assigned to the inverter through the configuration wizard page. The set IP address to access the configuration wizard page:

1. Turn off the inverter (switching off both DC and AC switches) and, if a RSD device was installed into the plant, it also will needed to connect the AC grid to allow the inverter to power-up!
2. Enable Wireless on the device that is being used for the inverter commissioning (tablet, smartphone or PC) and connect it to the Access Point created by the inverter which was previously applied to this quick installation guide - see cover page).
3. Once both AC and DC switches are closed and the wizard commissioning procedure is finished, the inverter starts the grid connection sequence: the inverter performs the grid voltage check, measures the PV array insulation resistance against earth and carries out other self-diagnosis checks. During this period, the “Power inverter” LED performs a fast blink (i.e., a short period of darkness followed by a short period of illumination) to indicate that it is performing this self-diagnosis. Once the self-diagnosis is completed, the inverter checks the grid and begins to export power to the grid. The “Power inverter” LED remains fixed on while the “Alarm” and “GFI” LEDs are off.

Any subsequent access to the internal webserver will be possible only using the PRODUCT KEY printed on the “Wireless Identification label” previously applied to this quick installation guide (see cover page) as access point password.

If the self-test results are OK, the inverter will continue with the AC grid connection. If a potential problem on the Arc Fault Detection (AFD) board is detected, the self-test will result in an error.

If the self-test results are OK, the inverter will reconnect to the AC grid.

If the AFD circuit interrupter automatically run a self test every morning when sunlight is sufficient for connection. The inverter display shows the results of the self-test.

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