ABB solar inverters
Quick installation guide
UNO-DM-6.0-TL-PLUS-US-Q (6.0 kW)

Installation location
- Do not install the inverter in full sun. If needed, use a sun shade to minimize solar irradiation, especially for temperatures over 104°F/40°C.

- Install on a wall or strong structure capable of bearing weight.
- Multiple inverters can also be placed in a staggered arrangement.

- DC wiring terminals are spring pressure type and accommodate a wire size range of 20-8 AWG.

Installation instructions

1. **Before starting installation, download the product manual from www.abb.com/solarinverters and read fully before proceeding.**

2. **This installation guide covers the inverter model UNO-DM-6.0-TL-PLUS-US-Q (6 kW).**

3. **Note:**

   - UNO-DM-PLUS internal DC-AC kit (if available)
   - UNO-WDM-PLUS internal COM Kit (if available)
   - UNO-WDM-PLUS internal Ethernet Kit (if available)
   - UNO-WDM-PLUS internal Wi-Fi Kit (if available)

4. **Main components**

   - **Inverter**
   - **DC power panel**
   - **Wi-Fi antenna** (if available)
   - **Power supply for rapid shutdown**
   - **Equipment Grounding Conductor (EGC)**

5. **Equipment Grounding Conductor (EGC)**

   - **Technical Sales** to determine the proper datasheet derating for your installation.

6. **Loose screws**

   - **Locking Screw**
   - **Wiring box cover**

7. **Equipment Grounding Conductor (EGC)**

   - **Required**
   - **Recommended**

8. **Power supply for rapid shutdown**

   - **Automatic shutdown occurs at the rooftop box when utility power (AC) is lost or when the PV system’s AC disconnect switch is opened.**

   - **If an RSD device is installed on the plant, the inverter will power-up only if both AC and DC supply are supplied.**

   - **If using an external rapid shutdown device, connect it to the output terminals of the inverter.**

   - **DOES NOT** disconnect the AC from the grid. To prevent electrocution hazards, all the connection operations must be carried out with the inverter switched OFF.

9. **Equipment Grounding Conductor (EGC)**

   - **Consult the product manual located at www.abb.com/solarinverters.**

   - **For more detailed information regarding proper installation and use of this product, refer to the product manual located at www.abb.com/solarinverters.**

   - **The tables on this page have been extracted from the manuals of the equipment and manufacturer.**

   - **The technical data shown in this quick installation guide does not replace that shown on the labels attached to the equipment.**

   - **The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:**
     - **(1) the device may not cause harmful interference, and**
     - **(2) the device must accept any interference received, including interference that may cause undesired operation.**

   - **Please refer to the warranty terms and conditions and avoid voiding the warranty.**

   - **Read and follow all safety and installation instructions to avoid disabling any safety features or making the warranty invalid.**
Precautions
- Only use the inverter in an environment with proper ventilation.
- If the ambient temperature is too high, the inverter may enter a protective state.
- When mounted on a wall, allow at least 20 cm of clearance on all sides for proper ventilation.
- Do not install the inverter in places with high humidity or dust, or in environments where it may be exposed to rain or water.
- The inverter should be installed and connected according to the instructions provided by the manufacturer.
- Before connecting the inverter to the grid, ensure that the grid parameters comply with the manufacturer's specifications.
- Regularly check the inverter’s operation and performance.
- Always follow the manufacturer’s recommendations for maintenance and servicing.

Connecting the inverter to the AC grid:
- The inverter is equipped with a three-phase AC output.
- Connect the protective earth (PE) cable to the wiring box busbar (wiring connections based on the AC grid type are shown in the table also found on a label in the wiring box).
- Determine which AC output is applicable for the inverter model being installed. The AC output circuits may show the status conditions or perform different operation.
- Under high ambient temperatures, the inverter is designed to automatically reduce its output power.
- The inverter has detected an anomaly. The anomaly is shown on the “EVENTS” section of the internal webserver.

LEDs & SETTINGS:
- Power Comm ALARM WLAN GFI
- A message will ask for confirmation. Click “Next” to connect the inverter to the home wireless network.
- The steps to connect your inverter to your home wireless network.

Fault current RMS (A)
- Tolerance ±50% of the nominal value.
- The inverter will start up when the grid voltage is greater than the minimum starting voltage.

Reactance control (Q Set): The operator can set the output power factor to a fixed value. When enabled, a new value will be set in the inverter.

5. Reactive power control
- In this mode, the operator can set the output power factor to a fixed value. When enabled, a new value will be set in the inverter.

4. Active power control
- The inverter provides several modes of operation for reactive power control and is described below.
- The inverter can be configured to limit active power output to a specific value.
- The inverter can be configured to limit active power output to a specific value.

3. Reactive power control
- In this mode, the operator can set the output power factor to a fixed value. When enabled, a new value will be set in the inverter.

2. Voltage control
- The operator can set the output power factor to a fixed value. When enabled, a new value will be set in the inverter.

1. Frequency/Watt control
- In this mode, the inverter limits the active power as a function of the grid frequency.

Before proceeding with commissioning, make sure you have carried out all the operations and checks indicated in the previous section, pay particular attention to AC grid connection, and ensure that the inverter covers the AC power grid parameters.

The inverter is power-off by the voltage coming from the photovoltaic generator: the presence of grid voltage signal I0 N1050 S is NOT SUFFICIENT to allow the inverter to power-up.

If the inverter is installed on the plant, the inverter will power-up only if AC grid and DC supply is available.

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Refer to the dedicated application note in the ABB Solar website for more details about the grid support functions.

Please note that the installation and commissioning process should be performed by qualified personnel and that the manufacturer’s instructions should be followed at all times.

Contact us
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