

Connecting the Manual Shutdown Switch to the SolarEdge Home Hub Inverter - Three Phase - Application Note

Revision History

- Version 1.5, September 2024: Text edit
- Version 1.4, June 2024: Added a connection diagram for multiple Home Hub inverters.
- Version 1.3, March 2024: Added a Note and a step to configuration, Added a single-inverter connection to MSD diagram. Changed the procedure for turning the inverter on.
- Version 1.2, November 2023

Overview

The Manual Shutdown (MSD) switch is an external switch that remotely turns off the AC of the SolarEdge Home Hub Inverter - Three Phase and reduces the DC Voltage from the PV strings to a safe level of less than 50V.

IMPORTANT! SolarEdge recommends adding an MSD switch to any Backup installation using the SolarEdge Home Hub Inverter - Three Phase.

This application note describes the installation and operation of the MSD switch to a SolarEdge Home Hub Inverter - Three Phase providing home backup power during grid outages.

General description

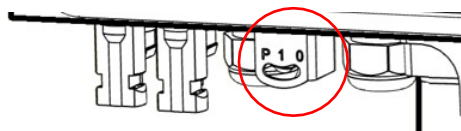
The inverter starts supplying backup power a few seconds after a grid outage or when you turn off the main AC circuit breaker.

Turning off the main AC circuit breaker for maintenance operations introduces a safety risk because though the main AC is turned off, the inverter continues providing backup power to all home wall plugs.

To prevent the inverter from providing backup power during maintenance operations, the inverter must be turned off and the PV string voltage must be reduced to a safe DC level of <50V.

To turn the Inverter off, you can do one of the following:

- Turn the P/1/0 switch of the inverter to the 0 position.



- Use the MSD switch as described in [Operation](#).

MSD switch requirements

- Use a Normally Closed (N.C) switch that latches in an open position when pressed, and when pressed again, returns to the closed position.

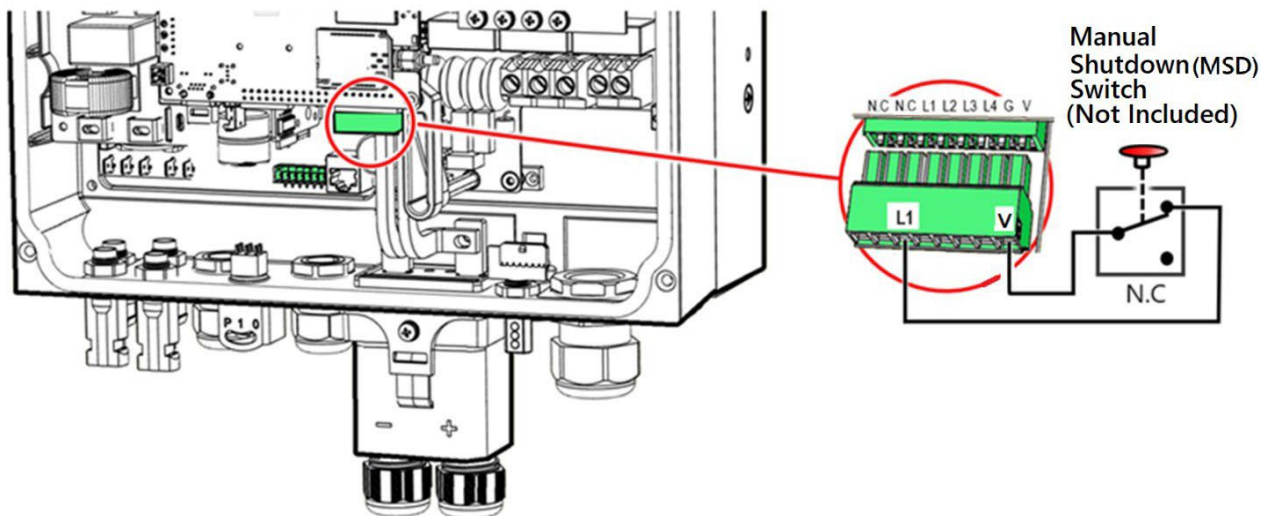
**CAUTION**

DO NOT use a toggle switch instead of an MSD switch. Using a toggle switch may cause the remote shutdown and the Inverter operation to malfunction.

- Locate the MSD switch as close as possible to the main circuit breaker panel and at a visible location to anyone who switches off the main AC circuit breaker.
- The maximum distance between MSD and the inverter is 50 meters.
- Clearly label the MSD switch as a Backup Inverter External Shutdown.
- Attach the Dual Supply sticker, provided with the backup interface, at a visible location to anyone who may switch off the main circuit breaker.

Connection diagram single Home Hub inverter

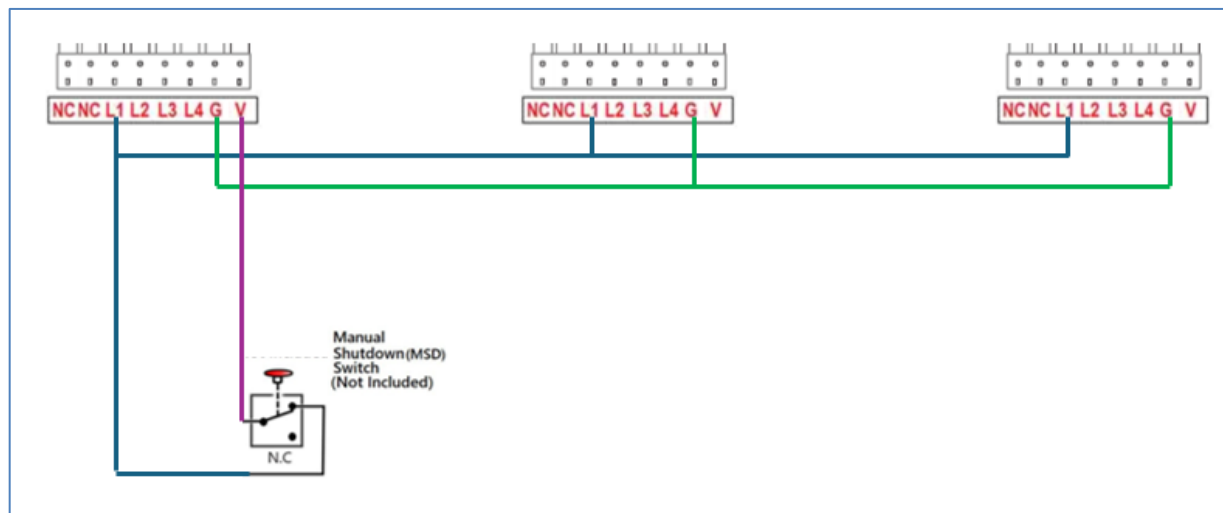
The following figure displays the connection of the MSD switch to the inverter.



For more information on connecting the MSD switch to the SolarEdge Home Hub Inverter - Three Phase, refer to the [SolarEdge Home Hub Inverter Three Phase Quick Installation Guide](#).

Connection diagram multiple Home Hub inverters

The following figure is a diagram of multiple Home Hub inverters connected to the MSD switch:



NOTE

For Multi Inverter Backup (MIB) configurations, when supported by the inverter FW version, it is required to connect all hub inverters to the MSD as described in the [Connection diagram](#) in parallel to all inverters. For instance, all hub inverters should share the same L1 and G connections while the V pin should be connected to the switch ONLY from the leader.

To configure hub inverters:

1. Start the SetApp mobile application and follow the on-screen instructions.
2. From the Commissioning screen, go to **Site Communication > GPIO > Power Reduction Interface (RRCR) Mode > AC Relay**.
3. In the MIB configuration, configure the leader and follower inverters to the AC relay.

Operation

To turn off the inverter:

Press the MSD switch.

The inverter's AC power turns off, and the PV strings DC Voltage drops to a safe level after approximately five minutes (Safe DC).

To turn on the inverter:

1. When it is safe, press the MSD switch again.
2. Set the P/1/0 switch on each inverter to 0 and then back to 1.