Technical Note – Connecting the Home Hub Inverter to Multiple Home Batteries – North America

Version History

- Version 1, July 2023

Contents

Overview

This document describes the connection of a SolarEdge Single Phase Home Hub Inverter to multiple SolarEdge Home Batteries using a special Y-type connector ("Y-connector") cable. When more than one battery is connected, the Y-connector is required in order to create parallel connections to the inverter.

Kit Contents

The Y-connector is supplied by SolarEdge in a package containing 10 units. The package P/N is: **IAC-RBAT-RWYCBL-01**

⚠ CAUTION!

Only the Y-connector kit provided by SolarEdge is approved for parallel connections between the batteries and the inverter.

Kit Type	Part Number	Kit Contents
Distributor Kit	IAC-RBAT-RWYCBL-01	10 x **FLD-USRB-YCBL-A-01** in one box

Field Kit	FLD-USRB-YCBL-A-01	• Two Y-connector cables with MC4 connectors. The side of the connector that connects to the battery utilizes 10 AWG connectors, while the side that connects to the parallel bus utilizes 8 AWG connectors.
		
		    • One MCI-CB-01304-A Y-connector (two male MC4 connectors, one female MC4 connector)
		
		    • One MCI-CB-01305-A Y-connector (one male MC4 connector, two female MC4 connectors)
		
		• Two male MC4 connector for 8 AWG wires.
		
		• Two female MC4 connector for 8 AWG wires.

Installation Rules

Up to 3 batteries can be connected to the inverter. If 'n' batteries are to be connected to the inverter, then 'n-1' connector field kits are required, as detailed in the following table:

Number of Batteries to Connect	Number of Y-Connector Field Kits Required
1 battery	0 field kits
2 batteries	1 field kit (1x **FLD-USRB-YCBL-A-01)**
3 batteries	2 field kits (2x **FLD-USRB-YCBL-A-01)**

Note: Where direct connectivity between the inverter and a single battery requires the use of 10 AWG wiring, the deployment of multiple batteries operating in parallel requires use of 8 AWG wiring.
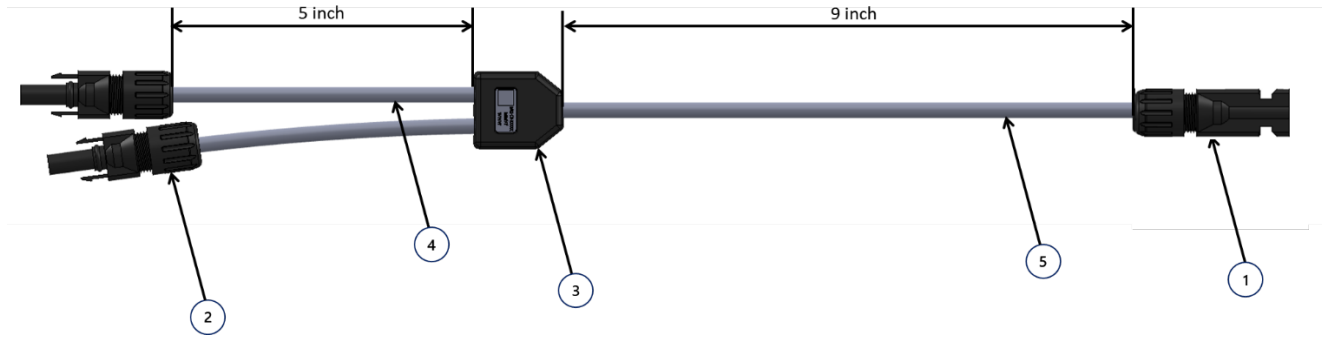
Required Additional Equipment

The following additional items are needed to perform the connection and are to be provided by the installer:

- 10 AWG wiring
- 8 AWG wiring
- MC4 connectors for 10 AWG wiring, supplied in the SolarEdge Home Battery 400V package
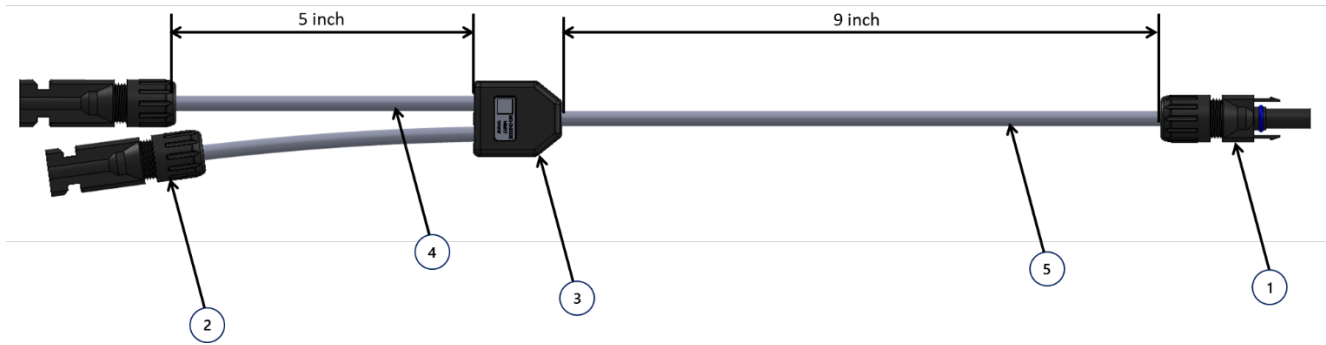- Crimping tool for 10 AWG and 8 AWG MC4 connectors

Y-Connector Diagram and Component Specifications

MCI-CB-01304-A

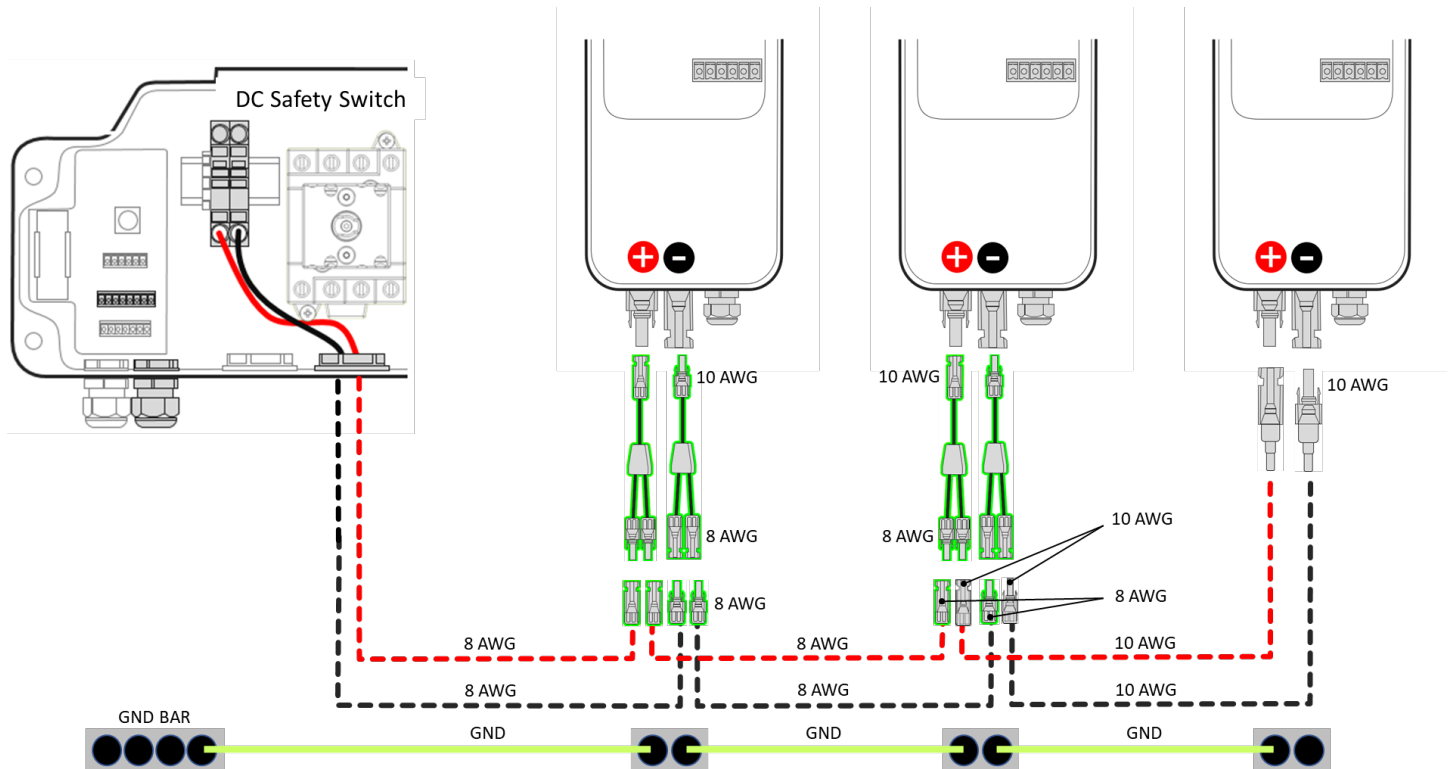| #	Component Description	Qty.
1	MC4 Female Connector • Conductor cross section: 10-12 AWG • Rated Voltage: 1000 Vdc • Rated current: 30A • Upper limiting temperature: 221ºF	1
2	MC4 Male Connector • Conductor cross section: 8 AWG • Rated voltage: 1500 Vdc • Rated current: 50A • Upper limiting temperature: 221ºF	2
3	Thermoplastic Vulcanizate (TPV) Santoprene 151-70W256 Black, Flame retardant Weight: 16 grams	1
4	PV cable 8 AWG • Rated voltage: 2000V • Upper limiting temperature: 221ºF • Cable length: 5 inch	2
5	PV cable 10 AWG • Rated voltage: 1000V • Upper limiting temperature: 221ºF • Cable length: 9 inch	1

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Sample Connection Scheme

A sample connection scheme with three batteries is illustrated in the figure below. Items supplied with the field kit are highlighted in green. For other items, the wire and connector gauges are specified.

NOTE
- Items highlighted in green are supplied with the field kit **FLD-USRB-YCBL-A-01**.
- For non-supplied items, wire and connector gauges are specified.

Safety Symbols Information

The following safety symbols are used in this document. Familiarize yourself with the symbols and their meaning before installing or operating the system.

WARNING

Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **injury or loss of life**. Do not proceed beyond a warning note until the indicated conditions are fully understood and met.

CAUTION!

Denotes a hazard. It calls attention to a procedure that, if not correctly performed or adhered to, could result in **damage or destruction of the product**. Do not proceed beyond a caution sign until the indicated conditions are fully understood and met.

NOTE

Denotes additional information about the current subject.

IMPORTANT SAFETY FEATURE

Denotes information about safety issues.

Disposal requirements under the Waste Electrical and Electronic Equipment (WEEE) regulations:

NOTE

Discard this product according to local regulations or send it back to SolarEdge.

Support Contact Information

If you are having technical problems concerning SolarEdge products, please contact us:

https://www.solaredge.com/service/support

Before contacting SolarEdge, make sure to have the following information at hand:

- The model and serial number of the product in question.
- The error indicated on the LEDs, the SetApp mobile application, the LCD screen, or on the monitoring platform, if there is such an indication.
- System configuration information, including the type and number of modules connected and the number and length of strings.
- The method of communications with the SolarEdge server, if the site is connected.
- The product's software version as it appears in the ID status screen.