

ADDENDUM | UL 3741 Compliance with Tesla MCIs, Powerwall, and Solar Inverter

Published 02-27-2026

WARNING: It is critical that the minimum number of required MCIs is installed; without the appropriate number of MCIs, the MCIs may not function as intended which could lead to equipment damage.

The quantity and placement of MCIs necessary to meet Rapid Shutdown requirements in NEC Article 690.12 (B) is governed by the UL 3741 (PV Hazard Control System or PVHCS) listing applicable to various array types. The following table lists the systems that have been certified to UL 3741 when installed with Tesla MCIs in combination with Powerwall 3, Powerwall+, and Tesla PVI.

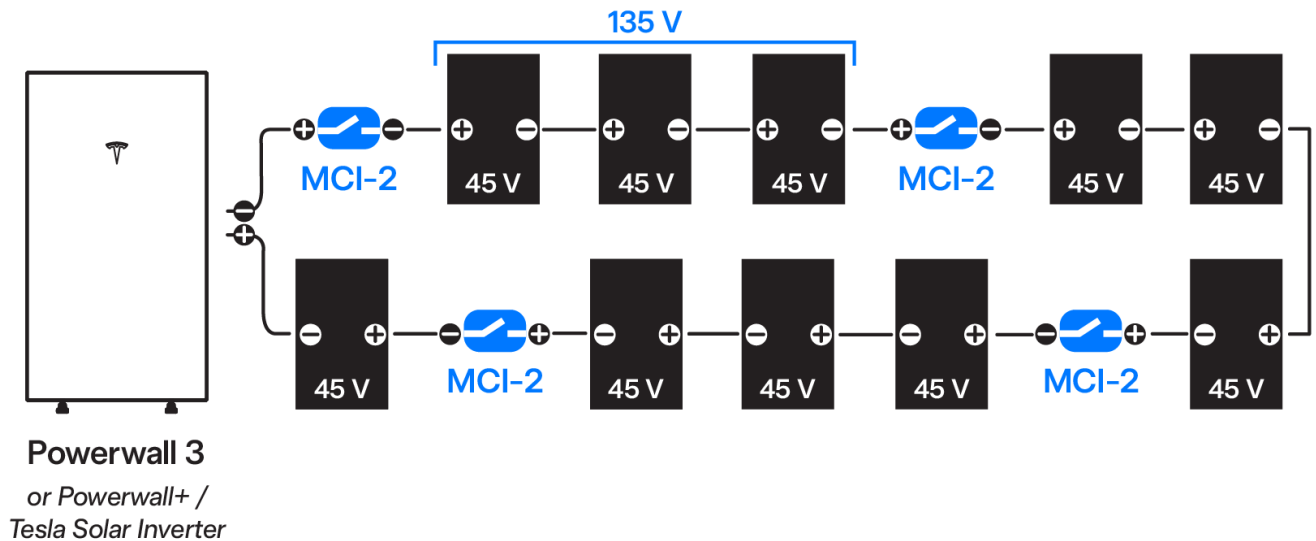
UL 3741 Systems using Tesla MCIs in combination with Powerwall 3, Powerwall+, or Tesla Solar Inverter

PVHCS System	Equipment	Required MCIs	PVHCS Datasheet
Tesla ZS Based Systems and Generic PV Arrays	Tesla ZS arrays and systems using certified PV modules and mounting systems are covered by Tesla's UL 3741 certification if they are in compliance with the PVHCS listing instructions	MCI at one end of string or sub-array, plus 1 MCI every 165 Voc at low design temperature (typically 1 per 3 modules)	Generic PV Array PVHCS datasheet
Tesla Solar Roof	Solar Roof V3 Modules (SR60T1, SR72T1, SR72T2)	MCI at one end of string or sub-array, plus 1 MCI per 10 modules	Solar Roof PVHCS datasheet
Tesla Solar Roof V3R	Solar Roof V3R Systems (SR72T3R, SR73T3R)	MCI required only at both positive and negative ends of strings, and where strings span mounting planes. See the Solar Roof V3R installation manual for important distinctions regarding the usage and placement of MCI-1s vs MCI-2s	Solar Roof V3R PVHCS datasheet
IronRidge and Ecofasten Systems	Mounting system and module combinations using IronRidge XR Flush Mount, IronRidge Aire Flush Mount, Ecofasten ClickFit, or Ecofasten RockIt	MCI-1 required only at both positive and negative ends of strings, and where strings span mounting planes	See IronRidge and Ecofasten UL 3741 Addendums for detailed requirements
Pegasus SkipRail Systems	Mounting system and module combinations using Pegasus SkipRail.	MCI-1 required only at both positive and negative ends of strings, and where strings span mounting planes	See Pegasus SkipRail UL 3741 Addendum for detailed requirements
Unirac Systems	Mounting system and module combinations using Unirac NXT UMount and SolarMount for flush mount and tilt installation	MCI-1 required only at both positive and negative ends of strings, and where strings span mounting planes	See Unirac UL 3741 Addendums for detailed requirements
SnapNrack Solar Mounting Solutions	Mounting system and module combinations using SnapNrack Ultra Rail	MCI required only at both positive and negative ends of strings, and where strings span mounting planes	See SnapNrack Ultra rail UL 3741 Addendums for detailed requirements

WARNING: Where it is allowable to install only (1) MCI per string, MCI-1 must be used.

Using MCI-2 for 165V & 600V PVHCS Applications

MCI-2 can continue to be used for Tesla's commonly applied UL3741 PVHCS generic 165V inside-the-array listing (also referred to as the 1 MCI per 3 module rule of thumb).



MCI-2 can be used for 600V UL 3741 system applications by utilizing the "Always 4" rule (detailed below). This approach can also be used for Powerwall 3 installations in Canada or in locations following the 2014 NEC.

The "Always 4" Rule: Always Install (4) MCI-2s on Each String

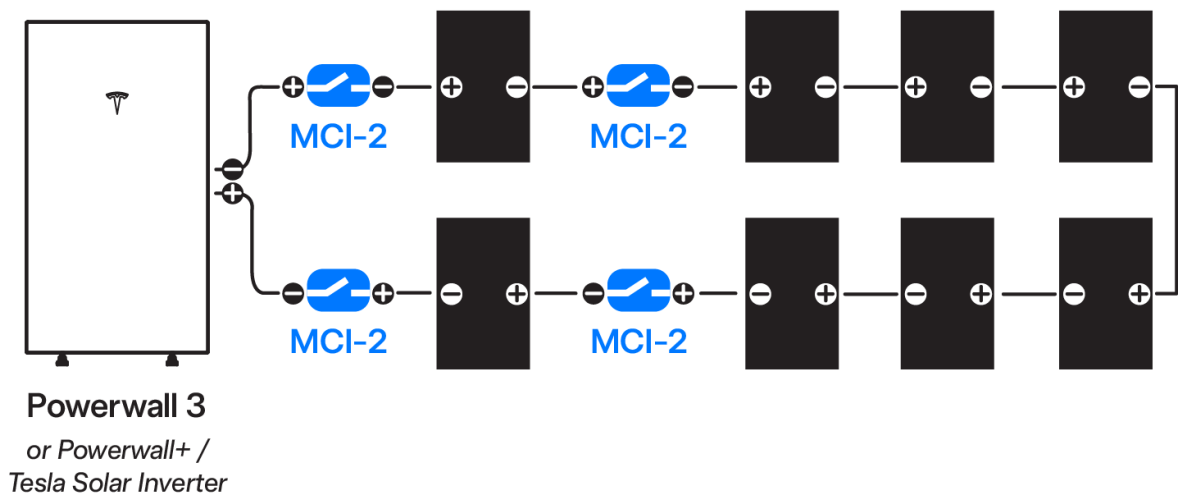
Requirements:

Maximum (2) arrays per string*

- At least (1) MCI must be placed on each end of the string
- MCI-2s are not allowed to be plugged directly into each other due to risk of damaging the connectors from rotating them.

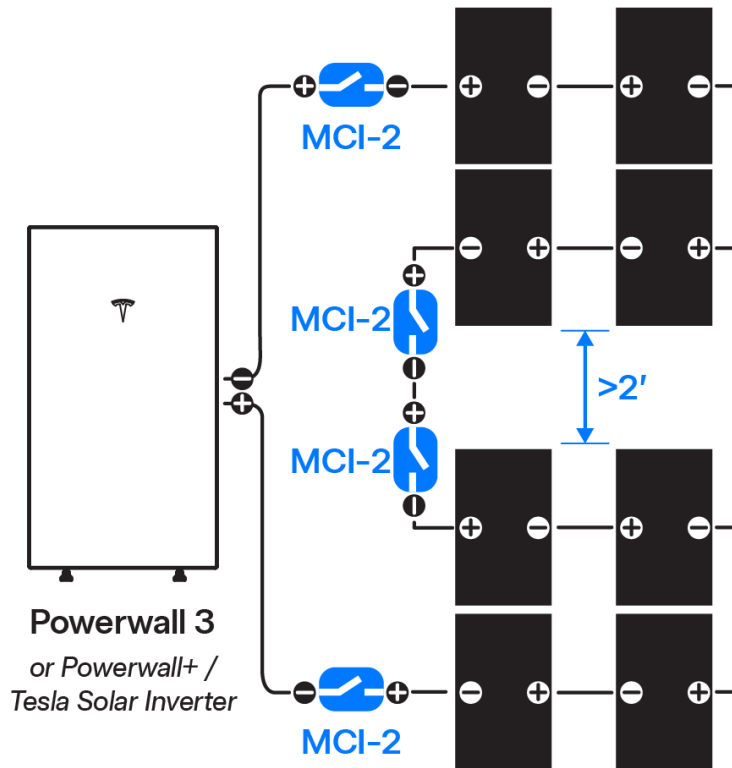
Examples:

- String spans 1 array: Install a total of (4) MCIs, (1) MCI on each end of the string. The other two can be placed anywhere in the string but it is suggested to locate them near the ends as well



Using MCI-2 for 165V & 600V PVHCS Applications, cont.

- String spans 2 arrays: Install (1) MCI on each end of the string, and (1) MCI on each end of the jumper (for a total of (4) MCIs)



*Rule created for simplicity. Designs should either prohibit 3 arrays per string or use Tesla's 165V inside-the-array PVHCS listing.