

Assembly Guide

Step-by-step assembly procedures for the Chassis Size 2 power stage.

Supported by



Assembly Guide

This guide documents the build of a Chassis Size 2 inverter, chapter by chapter, in the order the physical assembly is performed. Chapters are published as each build phase is documented, so this index grows alongside the physical unit.

Chapters

1. Preparation - workspace, tools, and materials to have ready before starting.
2. IGBT Mounting - mounting the three IGBT half-bridge modules to the heatspreader, including thermal compound application and torque procedure.
3. IGBT Temperature Sensor Wiring Harness - building the temperature-sensor harnesses that connect to the control assembly.
4. IGBT Temperature Sensor Mounting - mounting the ring-lug temperature sensors to the heatspreader.
5. DC-Link Capacitor Board - populating and soldering the DC-link capacitor PCB.
6. DC-Link Filter Board - populating and soldering the DC-link filter PCB.
7. Bottom Stack Assembly - installing the bottom spacers, DC-link bus bars, filter board, and phase bus bars onto the heatspreader.

Planned build order

The physical build proceeds in roughly this order, and chapters follow it:

1. Preparation
2. IGBT mounting
3. IGBT temperature-sensor wiring harnesses
4. IGBT temperature-sensor mounting
5. DC-link capacitor board (PCB population)
6. DC-link filter board (PCB population)
7. Bottom stack assembly — spacers, bus bars, and filter board mounting
8. DC-link module assembly and insertion
9. Chassis boards
10. Final assembly and test