HYPERTHERM®
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Powermax65 SYNC® CSA Inverter IGBT Replacement

Field Service Bulletin

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Introduction

Purpose

This field service bulletin provides instructions for replacing the inverter IGBT in the Powermax65 SYNC CSA model. These instructions are necessary due to a supplier change to the inverter IGBT that only affects the CSA model of the Powermax65 SYNC.

Materials and tools

- Assorted Phillips®, TORX®, Hex, and blade screwdrivers
- Assorted offset screwdrivers
- Assorted hexagonal socket wrenches
- Needle nose pliers
- Grounded wrist strap (or similar grounding accessory)
- Anti-static container to store printed circuit boards (PCBs)
- Plastic scraper
- Isopropyl alcohol
- Paper towels
- Lint-free cloth

Kit 528039 contents (Powermax65 SYNC CSA)

528039 Kit: Powermax65 SYNC CSA inverter IGBT	
209444 *	Inverter IGBT
223738	PFC to inverter cable (2)
075567	Screw: M6 X 16-12.5, pan head (3)
075569	Screw: M6 X 14-12, pan head (3)
075851	Screw: M6 X 18.5±0.5 12.5, pan head
128836	Thermal grease, 0.125 ounce

* 209444 is the new inverter IGBT that replaces 109933.

Inverter IGBT replacement

Before you begin

Identify which replacement procedure you must follow. There are three possible situations:

- **If you have the 209444 inverter IGBT (*Figure 2*) already installed in the Powermax65 SYNC**, installing kit 528039 will require no additional action. Follow the instructions outlined in the *Powermax65/85 SYNC Service Parts and Procedures Guide* (810440).

- **If you have the original 109933 inverter IGBT (*Figure 1*, *Figure* 3) installed in the Powermax65 SYNC AND the serial number is *higher than* 65SS-001712**, the contents of kit 528039 may look different, but will still function as intended. Refer to the instructions below.

- **If you have the original 109933 inverter IGBT installed AND the serial number of the Powermax65 SYNC is 65SS-001712 or *lower***, the contents of kit 528039 may look different, but will still function as intended. Refer to the instructions below AND contact Hypertherm Technical Services for additional support.

Identify the inverter IGBT

This is the location of the inverter IGBT on the CSA model heatsink:

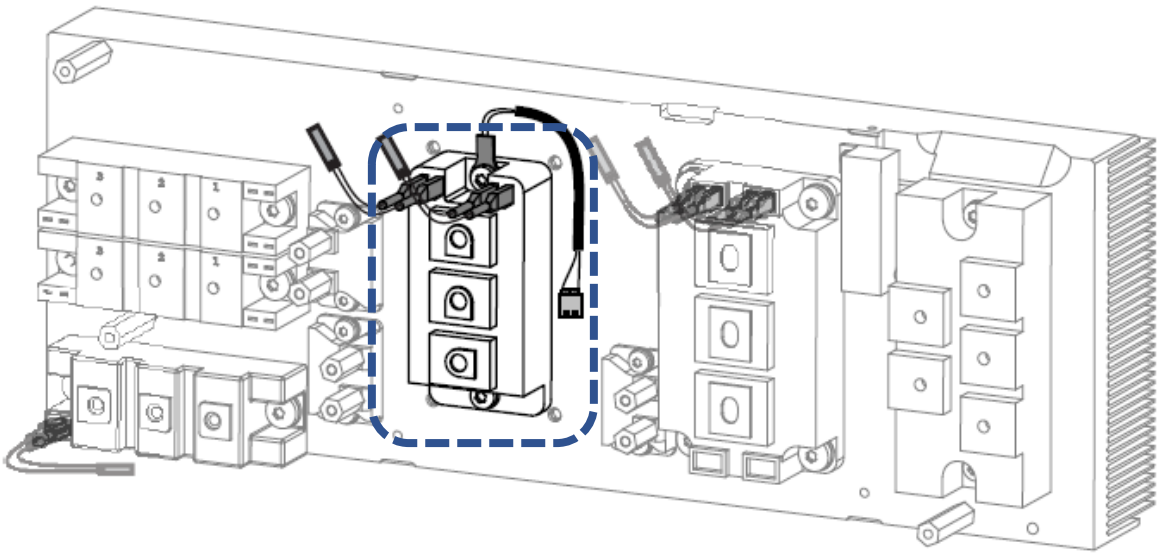


*Figure 1 – original **109933** inverter IGBT*

This is the new **209444** inverter IGBT:

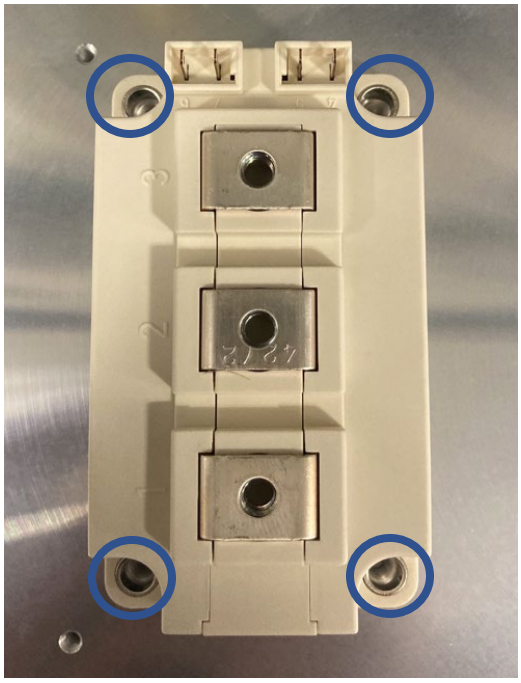


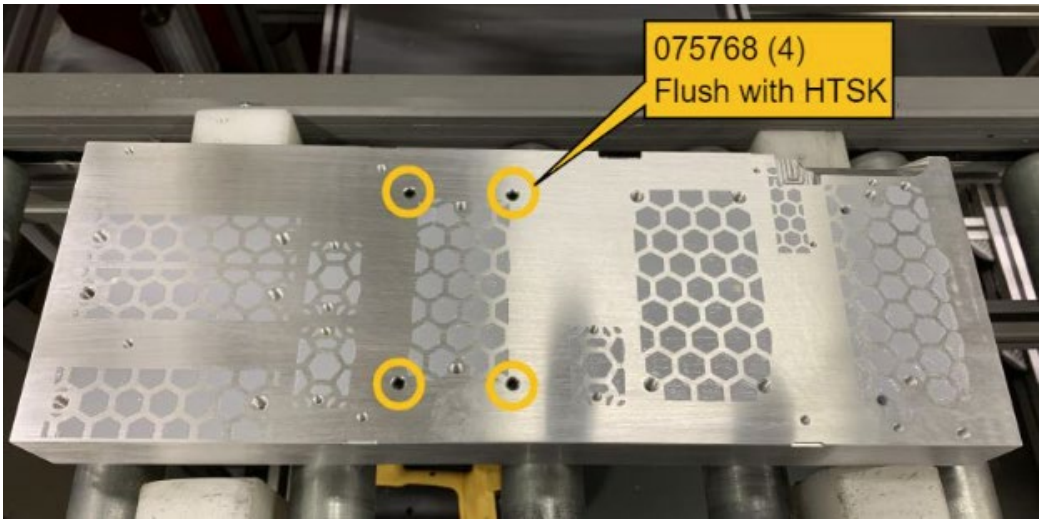
Figure 2 – Four mounting holes

This is the original **109933** inverter IGBT:

Figure 3 – Two mounting holes

If you have 109933 and the serial number is higher than 65SS-001712

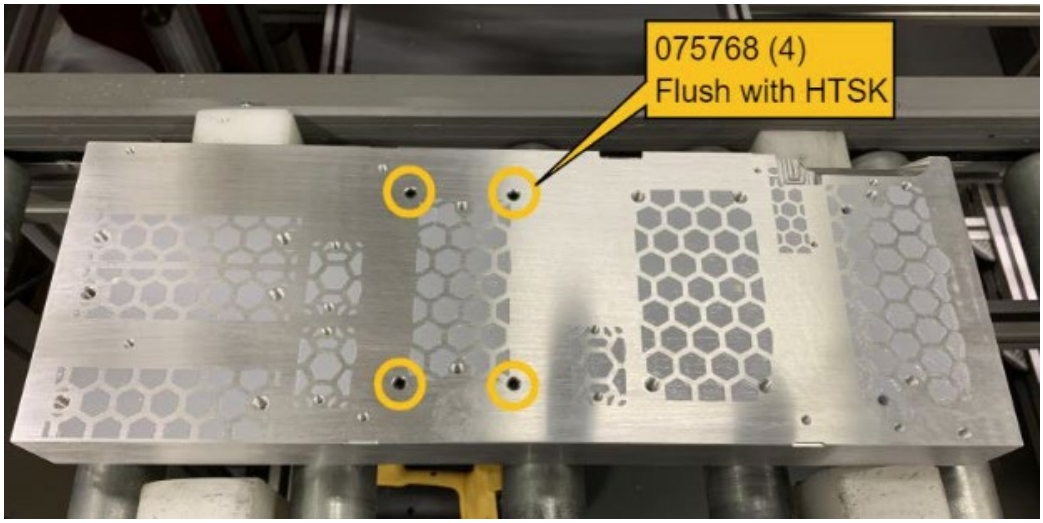
1. Follow the disassembly instructions outlined in the *Powermax65/85 SYNC Service Parts and Procedures Guide* (810440) to access the heatsink components.
2. Using a 3mm Hex driver, remove and then discard the four set screws (075768) installed in the heatsink.



3. Complete the 209444 inverter IGBT installation according to the instructions outlined in the *Powermax65/85 SYNC Service Parts and Procedures Guide* (810440).

If you have 109933 and the serial number is <u>65SS-001712 or lower</u>

1. Follow the disassembly instructions outlined in *Powermax65/85 SYNC Service Parts and Procedures Guide* (810440) to access the heatsink components.
2. Using a 3mm Hex driver, remove and then discard the four set screws (075768) installed in the heatsink.



3. Contact your regional Hypertherm Technical Services department for additional installation instructions.