





INSTRUCTIONS

KIT NUMBER: 100024	DESCRIPTION: KIT - MODULE - COMPRESSOR CONTROLLER (CC)
DOCUMENT No: 700451 REV: A	

Parts list

Qty	P/N	Description	Picture
1	310031	MODULE-COMPRESSOR CONTROLLER	
1	TBD	ESD WRIST STRAP	

Handling Electronic Static Sensitive Devices

Active electronic components are susceptible to damage when exposed to static electrical charges. Damage to such components may lead to outright failure or reduction in service life. Since the presence of static charges is not always evident, it is essential that service personnel follow static control procedures at all times when handling sensitive electronic components.





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This section outlines static control precautions that must be followed when providing service support in the field. Service support personnel should create a safe, static-free environment.

Service personnel must use a commercially available service kit for handling static-sensitive devices. The kit typically includes:

- Ground cord Assembly
- Alligator clip
- Grounding wrist strap
- Wrist strap tester

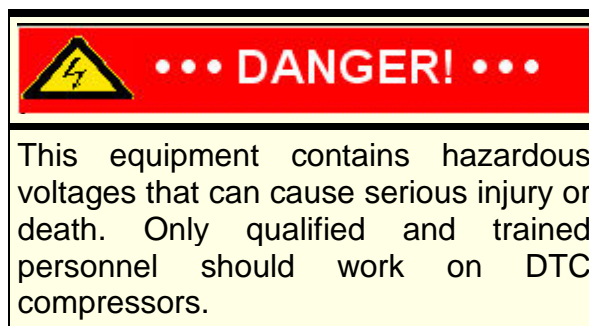
If a safe, static control environment cannot be created for a specific reason, the operator will ensure that ESDS items and personnel are at the same electrical potential as the equipment before touching the module and will not carry the module without its electrostatic discharge (ESD) protective bag.

The electronic modules should only be removed from the ESD protective bag at the last moment, just before installation when the operator is ready to do the replacement. The operator should avoid touching any components or connectors on the module and should hold the module by its edge or enclosure, as applicable. To start follow these procedures.

REPLACEMENT PROCEDURE

Section 1: Electrical Isolation of the Compressor

Before replacing the Soft-Start, you must isolate the compressor power by completing the following steps:




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 **... DANGER! ...**

Always wear appropriately rated safety equipment when working around equipment and/or components energized with high voltage. Faulty components can explode and cause serious injury or death.

1. Turn off the mains input power to the compressor.
2. Secure/lock-out/tag-out the mains disconnect to ensure no accidental or unauthorized re-application of the mains input power can occur.

 **... DANGER! ...**

Removing the mains input cover will expose you to a high voltage hazard of up to 640VAC. Ensure the mains input power is turned off and locked out before removing it.

 **... DANGER! ...**

Do not allow the mains input or top covers to touch any components during their removal.

In particular, be careful with the CE type covers because they are coated on the outside for the purpose of being conductive. The painted covers only apply to TT300P and TT300C.

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3. Remove the mains input cover. Remove the Mains Input cover. See Figure 1.

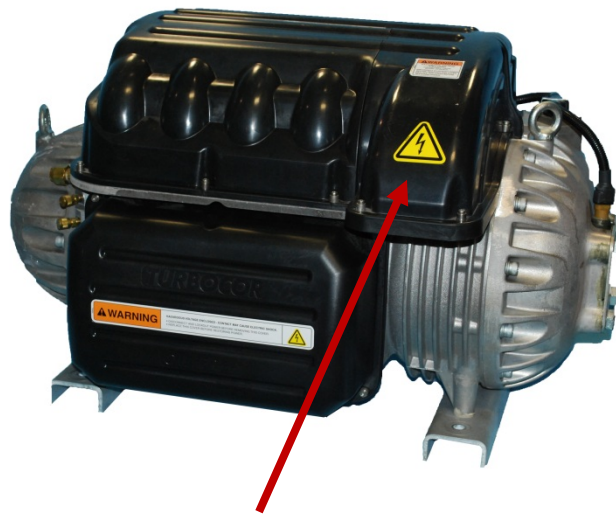



Figure 1 Mains Input Cover

NOTE

The mains input fast-acting fuses are installed in the power panel for all compressor models except the TT300.

4. Using an appropriately rated multimeter (set for AC voltage measurements) and leads, on the line side of the mains input fast-acting fuses, place the red (+) multimeter lead on the phase 1 mains input terminal and the black (-) multimeter lead on the compressor main housing and record the result. The measured value should be 0.0VAC. If the measured voltage is not the expected value, determine the source of the voltage and turn it off, otherwise proceed with the next step.
5. Repeat step 4 for the remaining phases.
6. Remove the top cover.

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 ... DANGER! ...
Removing the top cover will expose you to a high voltage hazard of up to 860VDC, wait at least 15 minutes to allow the DC capacitors to discharge and ensure there is no mains input voltage present before removing it.

Section 2: ESD Protection/Grounding Instructions

All parts that are susceptible to damage by Electrostatic Discharge (ESD) will be marked using the following label. Please follow the instructions below to ensure safety and to protect the parts from ESD damage.



Figure 2 ESD Label

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1. Using an appropriately rated multimeter (set for DC voltage measurements) and leads, place the red (+) multimeter lead on the positive (+) SCR DC bus bar and the black (-) multimeter lead on the negative (-) SCR DC bus bar and record the result. The measured value should be below 5VDC. If the measured value does not correspond to the expected DC bus voltage, then wait at least 5 minutes and repeat this step until 5VDC or less is measured.
2. Clip the ESD strap ground clip to the compressor ground post. See blue arrow in Figure 3.

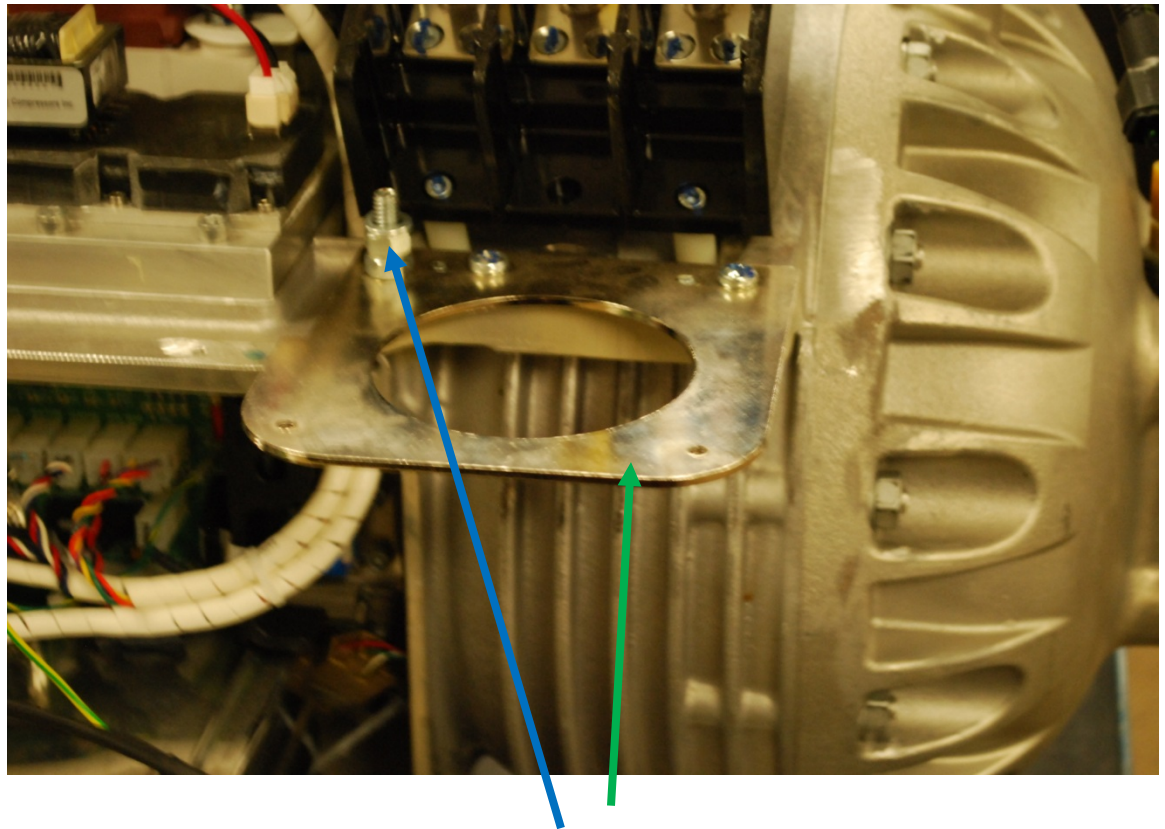


Figure 3 Mains Plate Ground Post

3. If you need to remove the Soft-Start, clip the ESD strap ground clip to the Mains Plate. See green arrow in Figure 3.

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4. If you only need to remove the Service Side cover, clip the ESD strap ground to the cover screw hole that is part of the compressor housing. See yellow arrows in Figure 4.

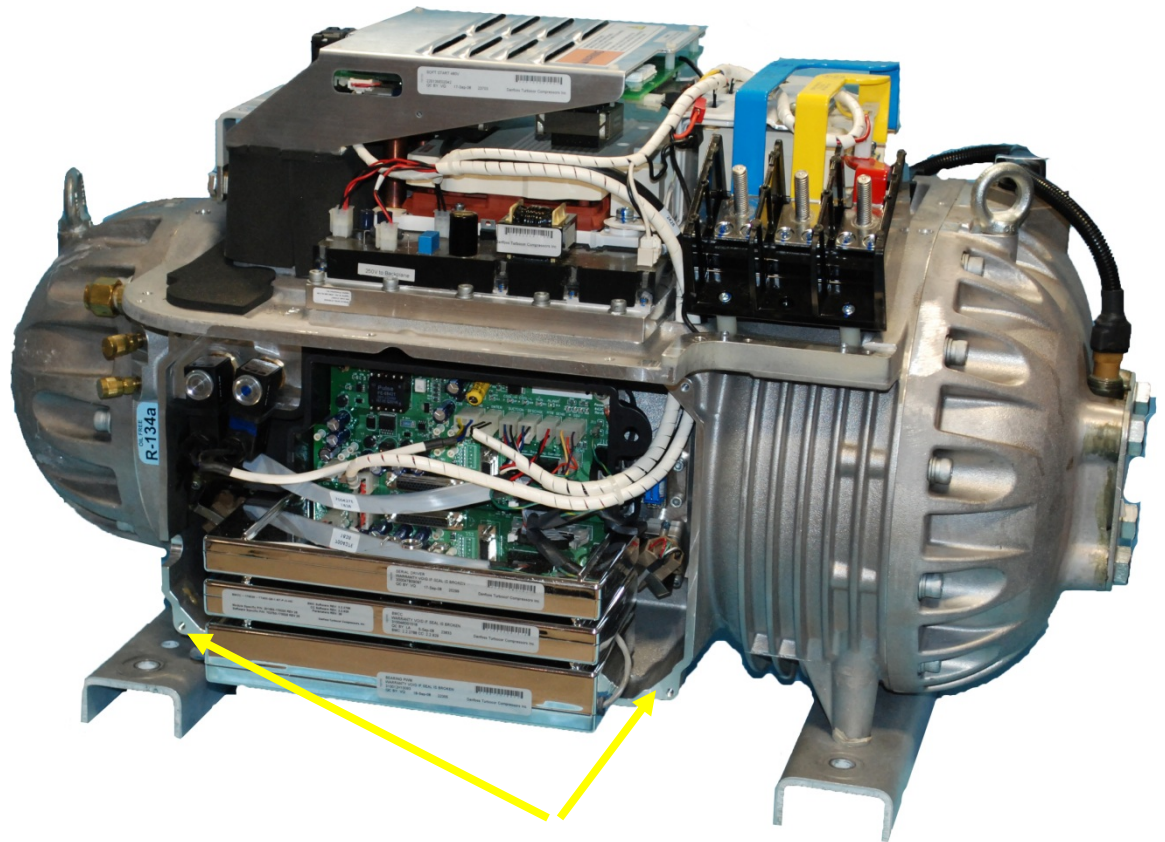


Figure 4: Compressor Grounding Points

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REPLACEMENT PROCEDURE:

Removal

1. Release the six captive screws that secure the service-side cover. Lift away the cover.
2. Pull the Compressor Controller module (CC) out of its slot and keep it in a safe place and never touch the connector's pins.

Installation:

1. Remove the new module from the ESD protective bag that has been shipped.
2. Align the Compressor Controller module's two lower guides so that they are aligned on the inside of the BMC module's two upper guides. Note the insertion guides in the following figure:

