



# KIT BEARING MOTOR COMPRESSOR CONTROL (BMCC)

201055



**Installation and servicing of Danfoss Turbocor® compressors by qualified and product trained personnel only. Follow these instructions and sound refrigeration/electrical/servicing practices relating to installation, commissioning, maintenance and service.**

<p>Consult the appropriate DTC Service Manual on <a href="http://turbocor.danfoss.com">turbocor.danfoss.com</a> for detailed service instructions.</p>	<p><b>Never power compressor without covers in place and secured.</b></p> <p><b>Removing the mains input cover will expose you to a voltage hazard of up to 575V. Ensure the mains input power is off and locked out before removing cover.</b></p> <p><b>Before removing top cover, wait at least 20 minutes after isolating AC power to allow the high voltage capacitors to discharge.</b></p>	<p>Always wear appropriately rated safety equipment when working around equipment and/or components energized with high voltage.</p> <p><b>This equipment contains hazardous voltages that can cause serious injury or death.</b></p>	<p><b>Recover all refrigerant from compressor in accordance with local codes and ensure pressure is fully vented before the removal of refrigerant containing components.</b></p>
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1 - Introduction:

BEARING MOTOR COMPRESSOR CONTROL (BMCC) Removal and Installation Instructions.

2 - IMPORTANT: Commissioning of BMCC with Compressor Control Version 3.0.0 and Later:

Danfoss Turbocor has re-configured compressor part numbers to a single part number for each compressor model series (within an electrical supply category) in Compressor Control (CC) software version 3.0.0 and later.

The variables of Full Load Amperage (FLA) and Locked Rotor Amperage (LRA) alarm must be adjusted for the application.

For the TT300, the Discharge Pressure trip and alarm and the Pressure Ratio trip and alarm must be adjusted for the application.

All compressors utilizing CC software version 3.0.0 and later will have a default minimum setting for:

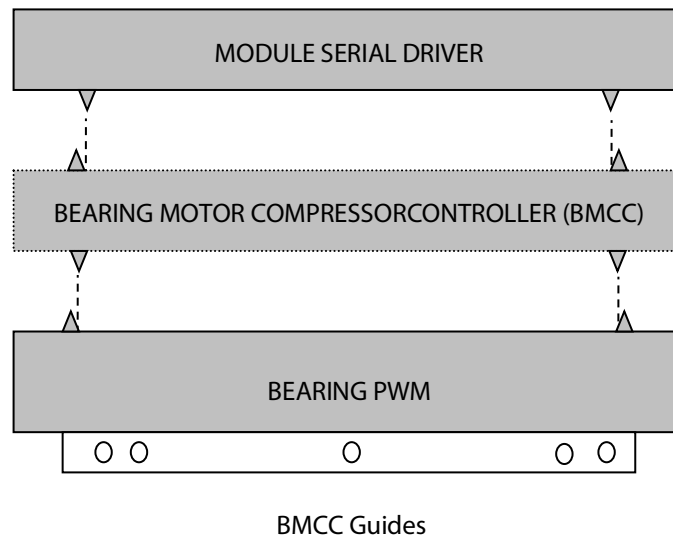
- 3-Phase Current fault (LRA) setting
- 3-Phase Current alarm (FLA) setting
- High Discharge Pressure fault setting
- High Discharge Pressure alarm setting
- High Pressure Ratio fault setting
- High Pressure Ratio alarm setting

Fault settings will require OEM level access and alarm settings will require Technician level access to modify.

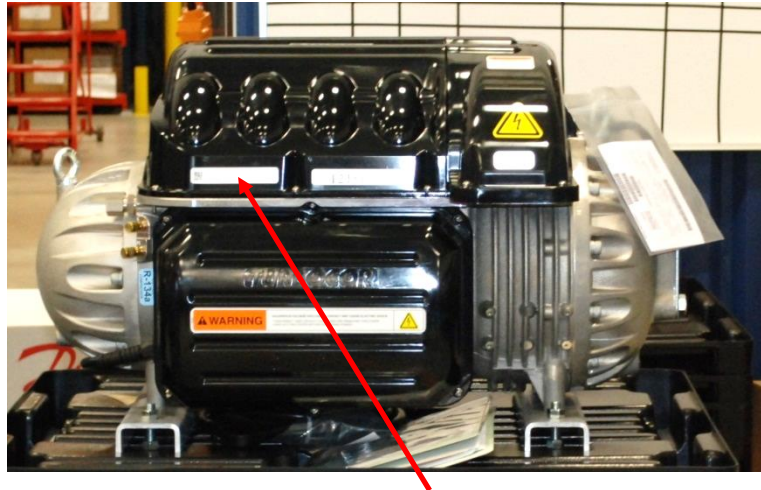
- Note: It is possible to adjust the FLA Maximum to equal the LRA Minimum, but this is not recommended. A difference should be maintained of no less than 10% between the FLA and LRA in order to allow the compressor to adjust prior to tripping on over current.
- ⚠ Failure to adjust the 3-Phase Current Alarm and Fault limits from the factory settings could result in limitation of the compressor performance.
- ⚠ Adjustment to the 3-Phase Over Current Alarm and Fault Limits cannot exceed the electrical rating for the disconnect, fuses or wire size. Power configuration must be in accordance with applicable local, national and international building codes (such as NEC/CEC).

### 3 - REPLACEMENT PROCEDURE:

1. Isolate power from the compressor and practice ESD protection as described in sections 1.7 through 1.9 of the Service Manual (M-SV-001).
2. Remove the service-side cover
3. Remove the serial driver module.
4. Remove the BMCC module.
5. Install the new BMCC module. Note the insertion guides in following figure:



6. Reinstall the serial driver.
7. Reinstall the service side cover.
8. Reapply power to the compressor.
9. **When a new BMCC is installed, a bearing calibration must be completed and saved to the EEPROM to match the BMCC to the compressor.**
- ⚠ Failure to perform the bearing calibration on a new BMCC before attempting to run the compressor for the first time will result in bearing faults with a short abnormal noise
10. Place the BMCC Label on the outside cover. See Figure.



Location of BMCC Label on Cover



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#### 4 - Procedure for commissioning range setting in BMCC:

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1. Determine OEM Design requirements of LRA, FLA, High Discharge Pressure fault and alarm setting, High Pressure Ratio fault and alarm setting.
2. Connect Service Monitoring Tools software (SMT) to compressor, log in at OEM access level.
  - Note: The latest SMT version MUST be used. This can be downloaded from [www.turbocor.com](http://www.turbocor.com).
3. On the Connection Manager Tool, ensure that Parameter Saving selection is set to 'RAM&EEPROM'.
4. Open the Active Alarm and Fault Viewer Tool and click on Configure Alarms/Faults.
5. Set 3-Phase Current Fault Limit (LRA).
6. Set 3-Phase Current Alarm Limit (FLA).
7. **TT300 only:**
  - 1) NOTE: In all cases of setting Discharge Pressure Fault Limit, the system high side pressure relief valve must be verified to have adequate margin between compressor Discharge Pressure Fault Limit and relief valve operation setting.
  - 2) Discharge Pressure Fault Limit: Set to maximum of 1800 kPag (260 psi) if system has air cooled condenser OR FLA is 120 amps or greater.
  - 3) Discharge Pressure Alarm Limit: Set to maximum of 1730 kPag (250 psi) if system has air cooled condenser OR FLA is 120 amps or greater.
  - 4) Pressure Ratio Fault Limit: Set to maximum of 5.2 if system has air cooled condenser OR FLA is 120 amps or greater.
  - 5) Pressure Ratio Alarm Limit: Set to maximum of 4.8 if system has air cooled condenser OR FLA is 120 amps or greater.

5 - Kit Contents

QTY	Part(s) Description	Picture(s)
1	BEARING MOTOR COMPRESSOR CONTROLLER (BMCC)	
1	STICKER - BMCC SPECIFIC	

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