

EVC OI.AC Alarm & Compressor Surging

Description

This **Mandatory** service bulletin applies to all packaged Dx cooling or air-source heat pump units with inverter scroll compressors driven by EVC drives when the EVC drive has a firmware version of 1.54 or 1.57. These units are seeing periodic unexpected Oi.Ac alarms and occasional surging/revving conditions of the compressor at startup.

A firmware version update for the EVC has been issued by Copeland to resolve the drive firmware issues. The Copeland drive firmware update will resolve the revving/surging operation at startup and remedy the unexpected overcurrent alarms.

A controller program update is also available from Valent to update our internal controller logic to reset any nuisance trips and to improve the logic surrounding the surging of the compressor during startup. Additional controller information has also been added to the internal logging of unit operation to collect better operational information from the EVC.

Overcurrent alarms may still occur if the compressor is damaged, or there are site power issues.

Category

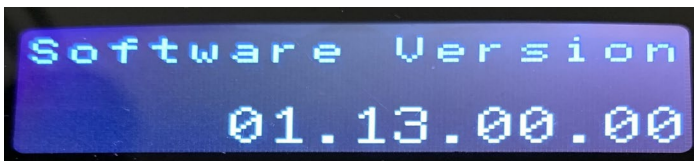
This technical service bulletin affects the following areas of a unit:

- Compressor Drive Firmware

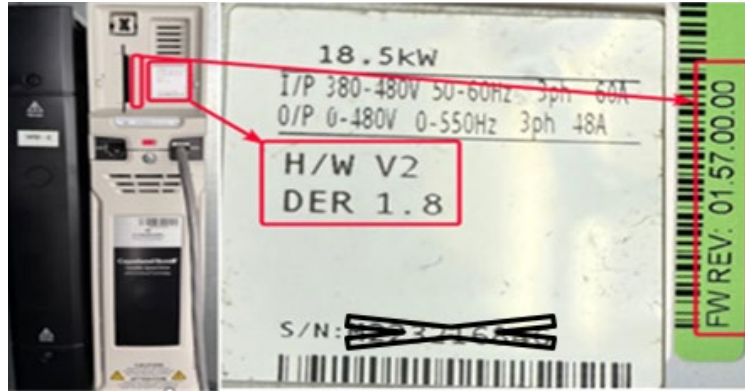
Unit Affected

All units with inverter scroll compressors that use an EVC drive with a firmware version of 1.54 or 1.57. Units shipped after March 1, 2022 or had an EVC drive replaced in the field after March 1, 2022.

1. Check the EVC drive firmware version,
 - a. If a display is available.
 - i. Scroll to check parameter 00.077 – Make sure it is set to All menus
 - ii. Scroll to the right to find menu 11. Miscellaneous
 - iii. Scroll up to check parameter 11.029



- iv. If Software version is 01.57 or 01.54 a update is required
- b. If a display it not available check the firmware version using the label on the drive
 - i. If H/W V2 and DER 1.8 is printed on the rating label or FW REV: 01.57.00.00 is next to the rating label, the drive must be updated.



c. **No Update needed**

H/W V2 is **NOT** present or the derivate is DER 1.9 or DER 1.10, the firmware on that drive does **NOT** need to be updated.

Example: Left label = no update needed (example pre March 2022, 1.13) Right = requires update (example post March 2022 1.54 or 1.57)



Ignore S/N shown on the labels above. Required S/N on top of drive using separate label.

- Find and **Record below** the EVC Drive Serial Number **located on the top of the drive** starting in AT or AY followed by 22, 23, or 24 – NOTE the “S/N” listed on the *front* label is not required.



Symptoms

The following symptoms may appear in a unit that needs updated drive firmware and controller software:

1. Oi.Ac alarms frequently occurring but able to reset and run again after cycling power.
2. Continuous low delta or low differential pressure envelope alarms during startup.
3. The compressor may get stuck in its startup sequence.

When this occurs, the compressor is reported as revving or surging, pulling low amperage. The RPM of the compressor will ramp between ~800-1400 RPM, never getting to the 3600 RPM start speed to allow full control of the compressor. The compressor could continue to surge even without a start command from the controller.

Resolution

1. Obtain the latest controller program update for the current controller program installed on the unit.
 - a. Version DOAS_07 and prior → Call for availability.
 - b. Version DOAS_08 and DOAS_09 → DOAS_09.009.002_EmptyStandard.ap1.
2. Follow the included instructions for installing the updated controller program.
3. Follow the included instructions for installing new firmware on the Copeland EVC Drive, a special USB to RS-485 converter cable will be sent to each rep office from Valent.

Reimbursement

For reimbursement the following criteria must be met.

1. Technical support will authorize labor at one hour per unit to implement the update.
2. Total travel time to not exceed two hours per jobsite. TSB-24-1008 must be included on any submitted invoice for payment.
3. Compressors impacted by this TSB will have an extended warranty of 5 years from the date the TSB is performed.
4. This TSB must be completed by May 31st of 2025.
5. The form on the next page must be submitted for the extended warranty to be honored and prior to any invoice submittal.

Technical Support Contact

Phone: (866) 478-2574
Email: support@doas.com

Internal Tech Support Notes:

Issue #:	CFC-1261, CFC-1262, CFC-1263, CFC-1264, CFC-1265, CFC-1267, CFC-1273
c.pCO program versions:	DOAS_08 and later
Update versions:	DOAS_09.009.002

Submit the following completed form to Valent

Rep Office	<input type="text"/>
Unit Serial Number	<input type="text"/>
Job Name	<input type="text"/>
Inverter Serial Number	<input type="text"/>
Compressor Serial Number*	<input type="text"/>

REPAIR COMPLETED BY:

Company	<input type="text"/>
Technician	<input type="text"/>
Telephone Number	<input type="text"/>
E-mail	<input type="text"/>
Date	<input type="text"/>



*For tandem assemblies, two serial numbers are needed - include the serial number for both the ZPV066/096 compressor and the separate serial # for the ZPVU tandem assembly.