



Carrier

A United Technologies Company

REPLACEMENT COMPONENTS DIVISION

SERVICE BULLETIN

SUBJECT: 19XR PIC II Software, Version 04

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SUPERSEDES:

DATE:

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MODELS AFFECTED: 19XR Chillers

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PURPOSE:

The bulletin is to inform the field that 19XR PIC-II software Version 04 has replaced Version 03 in new production shipments beginning in June of 2000.

INFORMATION:

In general, field retrofit to Version 04 is not required.

Version 04 addresses field issues which were present in prior versions, including resolution of oil pressure sensor alarms and rare communication lockups, plus significant changes in VFD control.

The software version can be read from the **SERVICE, CVC CONFIGURATION** screen in a powered-up CVC.

Software Version:	CESR-131158-03 (Version 03)	CESR-131158-04 (Version 04)
Vendor	CEPL 130286-02	CEPL 130286-03
RCD Part No.	19XR0401-1603	19XR0401-1604

CHANGES IN THE NEW SOFTWARE:

- For 19XR5 units (with variable diffuser) the controls will now provide protection against rotating stall regardless of whether or not the Variable Diffuser option has been set as **ENABLED** in the **SETUP2** screen.
- For VFD units, the equation used to predict VFD load side current from line side current (measured by the ISM) and VFD speed has been modified to improve its accuracy.
- For VFD units, a new algorithm similar to standard Demand Limit operation has been added to prevent increases in VFD load side current when that current approaches or exceeds a configured VFD current limit. This takes into account the situation, particularly likely at lower speeds, when VFD load current is higher than the line side current measured

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by the ISM. Also, the ratio of predicted VFD load current to VFD current limit is now displayed in the Control Algorithm CAPACITY screen as "VFD Load Factor".

- Changes in the CVC operating system software have been made (a) to avoid communications lockups which may occur on the CCN bus (found on rare occasions, particularly with 3rd party control interfaces), and (b) to avoid communications lockups which may occur on the SIO bus (in which case the CVC may appear to indicate that the chiller is running with 0 amps although it has, in fact, been shut down). (Note: concurrent changes in Benshaw starter software also address the latter issue. See Service Bulletin C0005.)
- Changes have been made to correct values for "Compressor Starts in 12 Hours" which may previously have shown up as non-zero after time and date were reset well into the future or past. Also, both starts counters are now incremented when "Start Complete" occurs; rather than as soon as the 1CR relay is closed, avoiding counting incomplete startup attempts.
- The minimum allowable control point has been corrected to match the minimum allowable setpoint (10° F or -12.2° C). (Previously it would not go below 20° F or -6.7° C.)
- The set of alarms which may *not* be cleared remotely via CCN has been modified to include: Starts in 12 Hours Exceeded, High Bearing Temperature, Diffuser Position Fault, High Motor Temperature, and Refrigerant Leak Alarm.
- The window for checking and possibly declaring an Oil Pressure Sensor Fault (oil pressure > 4 psi when the pump is off) will now be limited to a brief period immediately before startup. In prior versions this was checked continuously whenever the pump was off.
- During an "oil stir cycle" the oil pump will now remain on for 60 seconds. Previously it would be shut off (sooner) based on oil temperature.
- Range and default values for the Head Pressure Reference algorithm settings have been modified such that (a) output is zero when the condenser pump is off, (b) minimum output with the condenser pump on is equal to the "Minimum Output" configured in the OPTIONS table, and (c) the capability has been added to invert the slope of the output to accommodate both direct and reverse acting controllers. Output will now be provided only when the condenser pump is running (additional dependence on the chilled water pump state has been removed).