BULLETIN

Carrier Corporation

Carrier
A United Technologies Company

North American Operations

Number: C9918 Date: 11/12/99 Supersedes: N/A Date:
Title: 19XR PIC II CVC Software Version 03
Category: *GENERAL* Termination Date:
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Models Affected: CAC: 19XR with PIC II
BDP: None

Purpose:

This bulletin is to inform the field regarding newly released 19XR PIC-II CVC (chiller visual controller) Software Version 03.

Information:

19XR centrifugal chiller PIC-II software Version 03 has replaced Version 02 in production shipments beginning in September, 1999.

Version 03 is *not* a *necessary* upgrade to 19XR PIC-II software in general. However, it *is* essential for machines with VFD drive. (VFD units have been shipped from the Carrier factory with Version 03.) In addition, the new version may be required for certain CCN customers that have both PIC-I and PIC-II 19XR chillers on the network.

When examining a CVC in the field, the parts may be distinguished by their labels as shown in the table below. The software version can also be read from the **SERVICE, CVC CONFIGURATION** screen in a powered-up CVC. Note that, unlike with PIC-I PSIO modules, which can have software replaced by downloading, these PIC-II software versions only work with the corresponding CVC hardware (CEPL and CEPP) specified.

	PRIOR	NEW
Software Version:	CESR-131158-02	CESR-131158-03
HARDWARE: CEPL-	130286-01	130286-02
HARDWARE: CEPP-	130194-00-xx-xx through 130194-03-xx-xx	130194-04-01-01
RCD PART NUMBER	19XR04011602	19XR04011603

Mail Keys: 2.33A, 2.33B, 2.33D, 2.40, 2.40A, 2.40B, 2.40D, 2.40M, 2.46A, 5.25G

Changes in the New Software:

- Comfortworks and other CCN products can now distinguish PIC-I and PIC-II 19XR chillers. In addition, Mode, Run Status, and other "multistate" points can be read by DataPort, DataLink, and BACnet.
- The feature which permits entry of compressor starts and compressor run time (recorded from a CVC being replaced) into a new CVC prior to first startup has been fixed.
- The maximum configurable Potential Transformer (PT) Ratio in the **ISM_CONFIG** table has been upped from 33 to 35 to cover the common 4160 volt case for medium voltage starters.
- Changes have been added to enhance and/or correct control operation with VFD's, particularly when operating in the near-surge region. Also, for VFD applications a VFD current limit (usually set to equal Rated Load Amps) is to be entered into the **SERVICE / EQUIPMENT SERVICE / SETUP2** table under "VFD Current Limit". A new algorithm predicts VFD load-side current based on ISM-measured line-side current for comparison with this limit. It prevents the VFD's own over-current protections from being activated based on load-side current, when none are invoked from the PIC-II controls based on line-side current.
  The table entry value for "VFD Current Limit" may be set at Rated Load Amps, although in some cases this may limit minimum VFD speed unnecessarily. The ideal entry would be the lesser of (a) the maximum motor amp rating, or (b) the VFD's maximum current rating, if available.
- The ground fault configuration choice in the **ISM_CONFIG** table has been changed from "3 Gnd Fault CT's? (1=No)" to "Ground Fault Protection?". "Ground Fault Protection = Yes" is treated as the 3-CT configuration was originally, with all 3 phases monitored for fault current. This has been added because (a) the ground (or phase) fault protection has been made optional, and (b) the original 1-CT ground fault configuration was not set up correctly in some machines. Note that "Yes" should be selected if any ground fault (or phase-to-phase fault) protection system is included (regardless of the number of CT's used).
- The analog 4-20 mA output channel currently labeled "SPARE" at terminal block J8 on the ISM board has been set up for Head Pressure Reference. A head pressure reference algorithm is set up such that a 4 mA output corresponds to "DELTA P at 0%", and 20 mA corresponds to "DELTA P at 100%". These DELTA P values are condenser-to-evaporator pressure differentials entered in the **SERVICE / EQUIPMENT SERVICE / OPTIONS** table.
- A channel on the CCM board (terminals J8-1 and J8-2) has been configured to provide a 4-20 mA analog output proportional to Percent Motor Rated kW, for customer use. (Motor Rated kW is entered in the **SERVICE / EQUIPMENT SERVICE / RAMP_DEM** table.)
- The ability to reset (clear) a limited set of alarms from a remote location via the CCN Communications Port has been added. The feature also permits restarting the chiller remotely (in the CCN mode) after one of the resettable alarms has been cleared. This option can be enabled in the **CVC PASSWORD** screen.