



**Carrier**

A United Technologies Company

REPLACEMENT COMPONENTS DIVISION

# SERVICE BULLETIN

**SUBJECT:** ISM Changes, Version 04

**NUMBER:** C9920

**DATE:** 11-12-99

**SUPERSEDES:**

**DATE:**

**PAGE:** 1 of 2

**MODELS AFFECTED:** Chillers with PIC II Controls

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## PURPOSE:

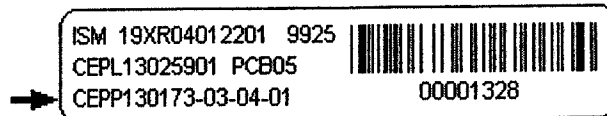
The bulletin is to inform the field regarding newly-released Integrated Starter Module (ISM) Version 04.

## INFORMATION:

Version 04 is required for any PIC-II 19XR centrifugal chiller using a VFD drive (unit-mounted or free-standing) and for certain smaller chillers (23XL screw chillers and XR2 centrifugal chillers). It is *not* a necessary upgrade to other PIC-II chiller control systems. Also, this does not apply to units with Benshaw solid-state starters, which do not use ISM's.

Version 04 of the ISM has replaced Version 03 in production shipments beginning in October, 1999. The only differences are in ISM internal software (not downloadable).

The version of an ISM installed in a starter may be determined from its white adhesive label. In many units currently in the field, this label is located on the bottom side of the ISM's green printed circuit board, underneath the words "INTEGRATED STARTER MODULE" which appear near the edge of the top side of the board. (In Cutler-Hammer unit-mounted starters, this edge is toward you when you open the left side door.) The label normally can be viewed by placing a small mirror underneath this edge, and it looks like the following:



The version of the ISM is seen in the "CEPP" number: The prior version was CEPP-130173-03-04-01; the new version is CEPP-130173-04-04-01. (In the future this label will be placed on the ISM cover.)

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## CHANGES IN THE NEW SOFTWARE:

- The “Motor Amps Not Sensed” fault threshold has been reduced from 15% to 5% of RLA. For VFDs and some compressor motors, particularly for 23XL screw compressors, current measured at the ISM during startup may normally go below 15% RLA.
- The algorithm which measures motor current in the ISM has been changed to be closer to a “true RMS” calculation. This will improve current-measuring accuracy for VFD applications.
- Calculation of current and voltage imbalance has been modified to be based on deviation in any phase from the average. An imbalance determined in this manner will usually be smaller than that determined in earlier versions.
- A change has been made to require a 4-second persistence for a “Current While Stopped” fault to allow for charging of VFD capacitor banks immediately after closing the main disconnect or breaker. In a VFD this charging current may exceed 15% RLA. Without the delay this transient current may cause a “Current While Stopped” alarm, shunt tripping the main breaker.

## ACTION:

If required, the Integrated Starter Module (ISM) with Version 04 software may be ordered from the Replacement Components Division under part number CESO130037.