

# TECHNICAL INFORMATION COMMUNICATION



**United  
Technologies**

Building & Industrial Systems

Quality and Continuous Improvement

**Number:** TIC2014-0008

**Date:** 6/17/2014

**Title:** Variable Speed Heat Pump Fault Code 86 change to 62

**Product Category:** Air Conditioners/Heat Pumps

## Products Affected

25VNA024, 036, 048, 060

280ANV024, 036, 048, 060

## Situation

In order to better differentiate nuisance/informational codes from critical codes and avoid unnecessary unit lock-outs, fault code 86 has been changed to 62

## Technical Information

Depending on the version of circuit board and inverter software, there will be different meanings of fault code 86.

19, 27 and 29 are the three released inverter software versions. The software version is shown on the inverter bar code label next to DSP MAIN. It's the value before the first decimal. For instance in the photo below, 19.6.0 would be version 19.



Version 19 - production between 2411E and 1712E.

Version 27 - production between 1812E and 4213E.

Version 29 - current production with serial number greater than 4213E (48 & 60 sizes) and 4413E (24 & 36 sizes).

Version 19; *fault code 86 is for a "compressor temp sensor fault". This means that either the motor or scroll thermistor embedded in the compressor is defective, such as open or shorted. Troubleshoot the thermistor resistances at the inverter plug shown below.*

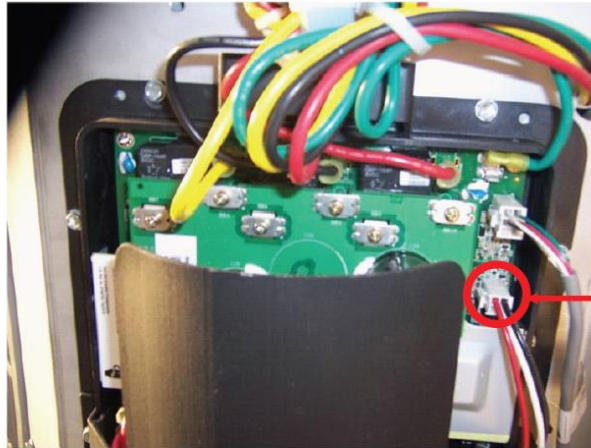
Only trained and qualified personnel should design, install, repair and service HVAC systems and equipment. All national standards and safety codes must be followed when designing, installing, repairing and servicing HVAC systems and equipment. It is the responsibility of the Dealer to ensure local codes, standards, and ordinances are met.

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Remove This Plug

4-Pin Scroll & Motor NTC Thermistor Plug

Also, check the resistances at the compressor terminals shown below.



Measuring Scroll NTC Resistance



Measuring Motor NTC Resistance

*If the readings show either an open or shorted, the compressor needs to be replaced.*

*Version 27 and 29; fault code 86 is due to the compressor failing to start. This is referred to as a "lost rotor", which means the expected torque is greater than the allowable torque.*

*HK38EA014, HK38EA017 and HK38EA028 circuit board software version V01 thru V05; fault code displayed will be 86 which is a "system malfunction".*

*HK38EA028, V06 and later; fault code displayed will be 62. This will be just a fault and will not be shown as a "system malfunction" or sending e-mail notifications. The description for the code 62 is "compressor no-start". When the fault 62 occurs, there will be a 15 minute lockout. During this*

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*time period the contactor will be open. When the lockout period expires, the compressor will attempt to restart, if there is a cooling or heating demand.*

HK38EA028, V06 software was implemented into production week 2214E.

## References

None