TECHNICAL INFORMATION COMMUNICATION

Quality and Continuous Improvement

Number: TIC2021-0007 **Date:** 3/12/2021

Title: 26/24 Condensing Unit PCM Software v7.0 Release

Product Category: Infinity®/Evolution Extreme® 26 & 24 Condensing Unit

Products Affected

Carrier	Bryant
24VNA6	186CNV
25VNA4	284ANV

Situation:

A new PCM software update is available for OTA (Over the Air) update.

Version 7.0

Updates:

- Improve defrost cycle operation 41-13 Faults – Defrost Timeout / Overrun condition
- Fixed 61-13 and 61-53 Fault/Malfunction – Reversing Valve Timeout

TECHNICAL INFORMATION COMMUNICATION

Primary Control Board (PCM) Outdoor Unit	VFD Software Outdoor Unit	Blue Tooth Module (BTM) Outdoor Unit	System Control Indoor Wall Control
V2.0 - V4.0	Any	Any	Any
V5.0	A029	2.0	3.40
			3.60
	A036	2.0	3.40
		3.0	3.60
V6.0	A029	2.0	3.40
			3.60
	A036	2.0	3.40
		3.0	3.60
V7.0	A029	2.0	3.40
			3.60
	A036	2.0	3.40
		3.0	3.60

Red	Not Allowed
Yellow	Will Work
Green	Recommended

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.

TECHNICAL INFORMATION COMMUNICATION

Version 6.0 (January 2021)

Updates:

- Implemented sump heat using VFD stator heat.
- Implemented Indoor Coil Freeze Protection.
- Improved coordination with the system control for outdoor unit heating immediately after defrost cycle to reduce cold blow.
- Implemented ALT/OST sensor for an AC unit as well as (53-01) “OST Open” and (53-02) “OST Shorted” diagnostics.
- Improved compressor envelope management in regard to changes in maximum discharge. pressure. Made it less sensitive to 35-11 “Compressor High Compression Limiting” diagnostic.
- Adjusted compressor speed and indoor airflow which caused diagnostic codes (31-11) and (31-58) “Compressor High Pressure Limit” to activate for some equipment combinations.
- Resolved an issue where the reversing valve did not switch on entrance to defrost because of startup control in low suction pressure mode, or because compressor envelope management was holding the compressor speed below 2700 RPM.
- Resolved an issue where defrost did not properly terminate when
    - Outdoor fan failed to turn off after a reversing valve switch.
    - A malfunction occurs during heat pump defrost.
    - A 50 PSI differential (DP-SP) is not achieved to support reversing valve transition within a 10-minute (61-13) timeout diagnostic.
- Resolved an issue where compressor restart was delayed awaiting a proper coil / ambient temperature difference (after defrost).
- Resolved an issue where a 3T VFD with a 4/5T PCM model plug did not properly flag (25-63) “VFD System Lockout - Model Mismatch”.
- Resolved an issue where status code recall would sometimes show currently active diagnostic codes instead of previous active codes.
- Resolved an issue where an abrupt power down could corrupt the diagnostic record.
- Resolved an issue where diagnostic code (17-06) “Lost BTM Communication” was incorrectly activated.
- Resolved an issue where diagnostic code (32-59) “Low Pressure Lockout” was incorrectly activated.
- Resolved an issue where diagnostic code (39-15) “Unexpected Fan Shutdown” was incorrectly activated.
- Resolved an issue where diagnostic codes (66-41) “VFD Control Relay Open Lockout”, (66-42) “VFD Control Relay Shorted Lockout”, (82-13) “VFD Reset with Power Dropout” and (88-15) “VFD Internal Fault – Unexpected Reset” were incorrectly activated.
- Resolved an issue where diagnostic code (81-58) “VFD System Lockout – Wiring Error” was incorrectly activated.

- Resolved an issue where diagnostic codes (86-06) “VFD System Fault - Communication”, or (82-13) “VFD Reset with Power Dropout” were incorrectly activated.

Version 5.0 (November 2020)

Removed the Heat Pump bug when in defrost. If an Outdoor fault occurs during the defrost cycle the 25VNA4/284ANV heat pump units can become locked in Defrost mode. This can lead to auxiliary heat remaining engaged during the four-hour lockout causing an over conditioning of the space.

Version 4.0 (August 2020)

- Implemented (Silencer System II™).
- Enhanced matrix display and STATUS LED display.
- Implemented compressor reverse wiring diagnostic and modified various diagnostic messages for consistency with service manual.
- Enhanced logic for model plug discrimination.
- Enhanced cooling capacity and indoor airflow to improve dehumidification control.
- Enhanced VFD temperature control and diagnostic.
- Modified 5 EXV diagnostics to be local.
- Allow reprogramming of the VFD in presence of various VFD active diagnostics
- Reduced opportunity for high pressure during furnace transition to heating.
- Enhanced performance of shutdown on 3T HP before or after defrost on code 85-xx or 82-xx
- Enhanced performance related to loss of suction superheat at subzero ambient temperature
- Enhanced performance where (83-57) “VFD Compressor Lockout - Current 1” was erroneously set

Version 3.0 (May 2020)

- Enhanced communication stability with system control.
- Enhanced the reporting of diagnostic codes to system control and service technician mobile application.
- Enhanced reliability of EXV positioning.

- Reduced false diagnostic codes and adjusted recovery time for several diagnostics.
- Enhanced performance for compressor speed control with low suction pressure during startup
- Enhanced performance for outdoor fan slow ramp during startup/shutdown, as well as the fan starting after the compressor
- Enhanced performance for stuck in startup compressor speed, and stuck in suction pressure control after defrost
- Enhanced performance preventing VFD reprogramming in fault conditions.
- Enhanced performance regarding reprogramming "serial flash erase error"
- Enhanced performance for charging pump down, evacuation, and sub-cooling
- Enhanced performance in incorrect fan speed control when outside temperature is above 115°F

Version 2.0 (April 2020)

Released software with launch of product.

Updates are released for Over the Air updates first, then posted to HVACPartners and the consumer websites later.