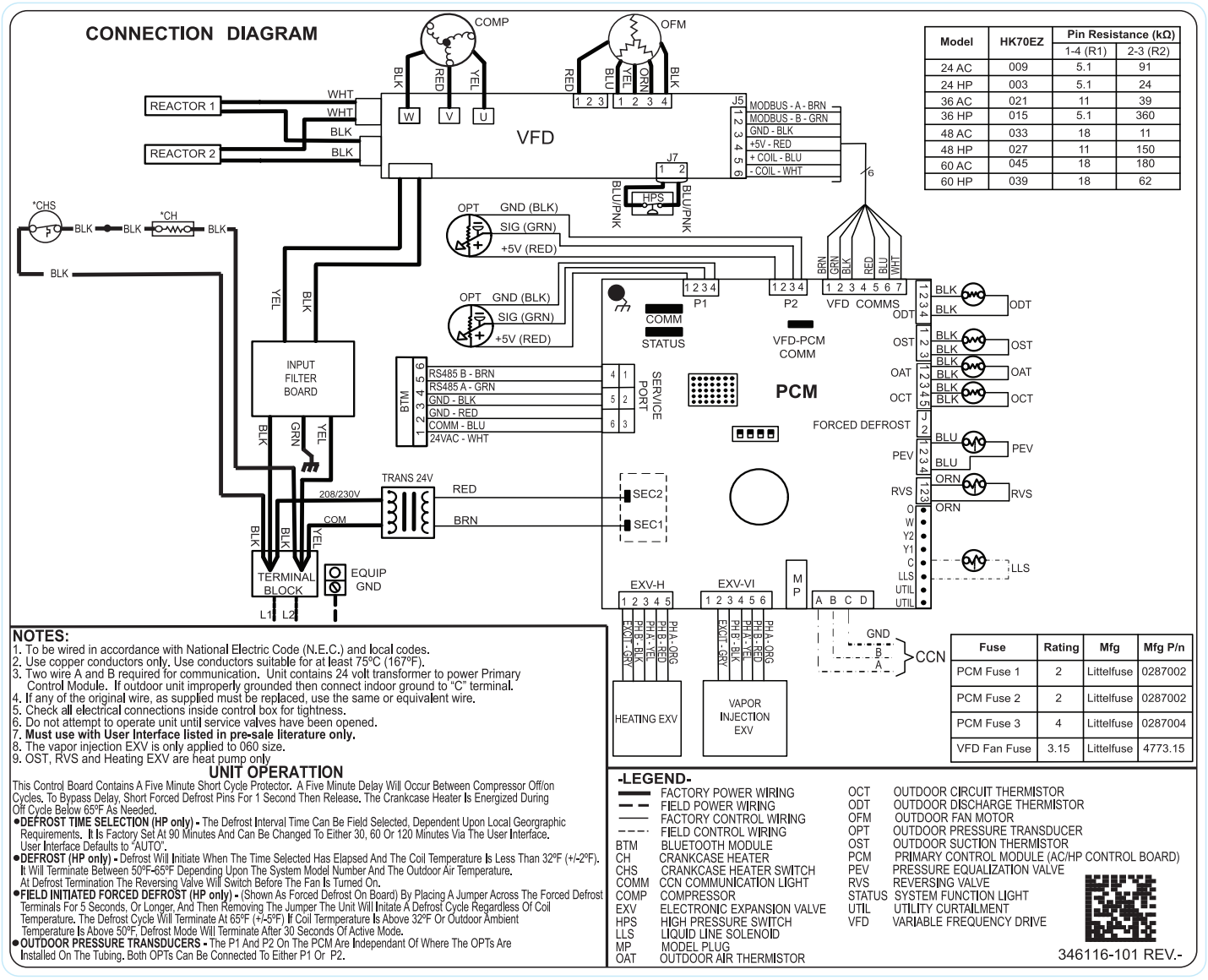
186CNV EVOLUTION™ EXTREME VARIABLE SPEED AIR CONDITIONER WITH PURON® REFRIGERANT 2 TO 5 NOMINAL TONS

bryant®

WIRING DIAGRAM



Model	HK70EZ	Pin Resistance (kΩ)	
		1-4 (R1)	2-3 (R2)
24 AC	009	5.1	91
24 HP	003	5.1	24
36 AC	021	11	39
36 HP	015	5.1	360
48 AC	033	18	11
48 HP	027	11	150
60 AC	045	18	180
60 HP	039	18	62

Fuse	Rating	Mfg	Mfg P/n
PCM Fuse 1	2	Littelfuse	0287002
PCM Fuse 2	2	Littelfuse	0287002
PCM Fuse 3	4	Littelfuse	0287004
VFD Fan Fuse	3.15	Littelfuse	4773.15

NOTES:

1. To be wired in accordance with National Electric Code (N.E.C.) and local codes.
2. Use copper conductors only. Use conductors suitable for at least 75°C (167°F).
3. Two wire A and B required for communication. Unit contains 24 volt transformer to power Primary Control Module. If outdoor unit improperly grounded then connect indoor ground to "C" terminal.
4. If any of the original wire, as supplied must be replaced, use the same or equivalent wire.
5. Check all electrical connections inside control box for tightness.
6. Do not attempt to operate unit until service valves have been opened.
7. **Must use with User Interface listed in pre-sale literature only.**
8. The vapor injection EXV is only applied to 060 size.
9. OST, RVS and Heating EXV are heat pump only

UNIT OPERATTION

This Control Board Contains A Five Minute Short Cycle Protector. A Five Minute Delay Will Occur Between Compressor Off/on Cycles. To Bypass Delay, Short Forced Defrost Pins For 1 Second Then Release. The Crankcase Heater Is Energized During Off Cycle Below 65°F As Needed.

- **DEFROST TIME SELECTION (HP only) -** The Defrost Interval Time Can Be Field Selected, Dependent Upon Local Georgraphic Requirements. It Is Factory Sel At 90 Minutes And Can Be Changed To Either 30, 60 Or 120 Minutes Via The User Interface. User Interface Defaults to 'AUTO'.
- **DEFROST (HP only) -** Defrost Will Initiate When The Time Selected Has Elapsed And The Coil Temperature Is Less Than 32ºF (+/-2ºF). It Will Terminate Between 50ºF-65ºF Depending Upon The System Model Number And The Outdoor Air Temperature. At Defrost Termination The Reversing Valve Will Switch Before The Fan Is Turned On.
- **FIELD INITIATED FORCED DEFROST (HP only) -** (Shown As Forced Defrost On Board) By Placing A Jumper Across The Forced Defrost Terminals For 5 Seconds, Or Longer, And Then Removing The Jumper The Unit Will Initate A Defrost Cycle Regardless Of Coil Temperature. The Defrost Cycle Will Terminate At 65ºF (+/-5ºF) If Coil Termperature Is Above 32ºF Or Outdoor Ambient Temperature Is Above 50ºF, Defrost Mode Will Terminate After 30 Seconds Of Active Mode.
- **OUTDOOR PRESSURE TRANSDUCERS -** The P1 And P2 On The PCM Are Independant Of Where The OPTs Are Installed On The Tubing. Both OPTs Can Be Connected To Either P1 Or P2.

-LEGEND-

	FACTORY POWER WIRING	OCT	OUTDOOR CIRCUIT THERMISTOR
	FIELD POWER WIRING	ODT	OUTDOOR DISCHARGE THERMISTOR
	FACTORY CONTROL WIRING	OFM	OUTDOOR FAN MOTOR
	FIELD CONTROL WIRING	OPT	OUTDOOR PRESSURE TRANSDUCER
BTM	BLUETOOTH MODULE	OST	OUTDOOR SUCTION THERMISTOR
CH	CRANKCASE HEATER	PCM	PRIMARY CONTROL MODULE (AC/HP CONTROL BOARD)
CHS	CRANKCASE HEATER SWITCH	PEV	PRESSURE EQUALIZATION VALVE
COMM	CCN COMMUNICATION LIGHT	RVS	REVERSING VALVE
COMP	COMPRESSOR	STATUS	SYSTEM FUNCTION LIGHT
EXV	ELECTRONIC EXPANSION VALVE	UTIL	UTILITY CURTAILMENT
HPS	HIGH PRESSURE SWITCH	VFD	VARIABLE FREQUENCY DRIVE
LLS	LIQUID LINE SOLENOID		
MP	MODEL PLUG		
OAT	OUTDOOR AIR THERMISTOR		

346116-101 REV.-

Fig. 1 – 186CNV024-60 Wiring Diagram

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Replaces:New

Manufacturer reserves the right to change, at any time, specifications and designs without notice and without obligations.