

# Universal Single Stage Furnace Controls for PSC and ECMx Blower Motors

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50M56U-843, 50X57-843 Product Launch 2018





**THE ANSWER  
TO ALMOST ANY CALL  
CAN BE AS CLOSE AS  
YOUR TRUCK.**

Universal controls that work in a variety of systems and applications.

Stock your truck with White-Rodgers.

## Single Stage Furnace Market Facts

Furnace Type	Installed Base	2017 OEM Market	White-Rodgers Cross References	Universal Control
Single Stage	32M units	2.4M units	445	
PSC Blower	30M units 20+ year installed base	2M units	410	50M56U-843
ECMx Blower	2M Units 10+ year installed base	400K units	35	50X57-843

**DOE 2014 “Furnace fan efficiency ruling”**

No PSC blowers in new furnaces by July 3rd, 2019

**White-Rodgers offers a comprehensive solution for universal single stage furnace control replacement**

# 50M56U-843 Upgrade

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Universal Single Stage IFC for PSC Blowers



# Current Universal Integrated Furnace Control

## 50M56U-843

### What does the kit include?

- Integrated universal single stage furnace control for PSC blower motors and hot surface ignition
- HotRod™ 120V ignitor
- Adapter harnesses, accessories, and instructions



*The Industry's BEST!*

### Why is it necessary?

- Universal controls reduce inventory and save time by eliminating extra trips

### Why is it better?

- Replaces more controls than any other kit
- Complete upgrade with new ignitor included
- Covered control with fault and service information on the label
- Adds push button fault recall and dedicated FAN only speed to many units

**Replaces most single stage residential applications with PSC fan motors and hot surface ignition produced in last 20+ years**

# 50M56U-843 Upgrade

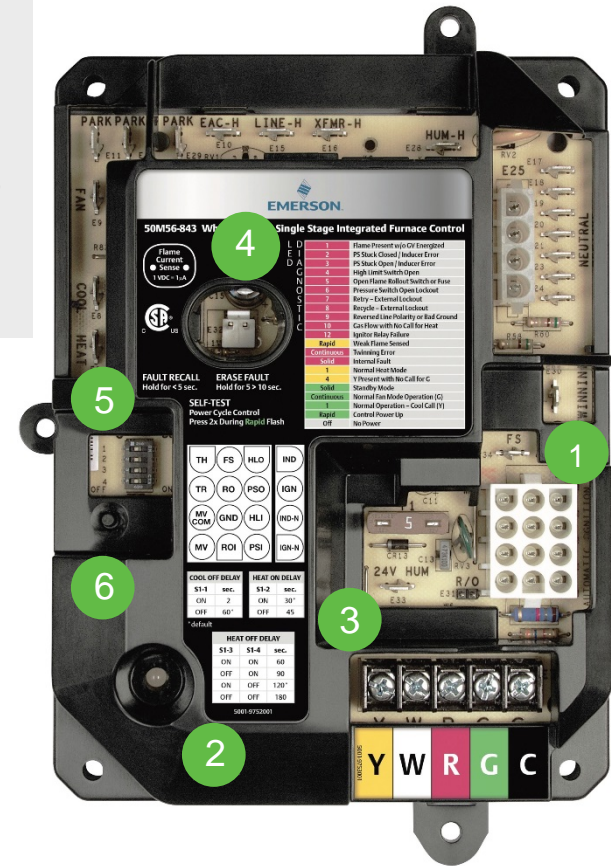
## The Best Single Stage Kit Just Got Better

### New design provides easier installation

- New cover fits all OEM models
  - Easy Carrier/ICP mounting
- Top use “F” harness no longer needed
  - 75% of all applications install without adapter harnesses
- Improved rollout jumper
- Clear, simple color instructions

### New features

1. Twinning
2. Tri-color LED & status codes (was red only)
3. 24V humidifier option (still have 120V too)
4. Flame current test pins
5. More dipswitch setup options
6. Field “self-test” checkout mode by pushbutton



**Added 99 cross references. Improved design replaces over 400 models**

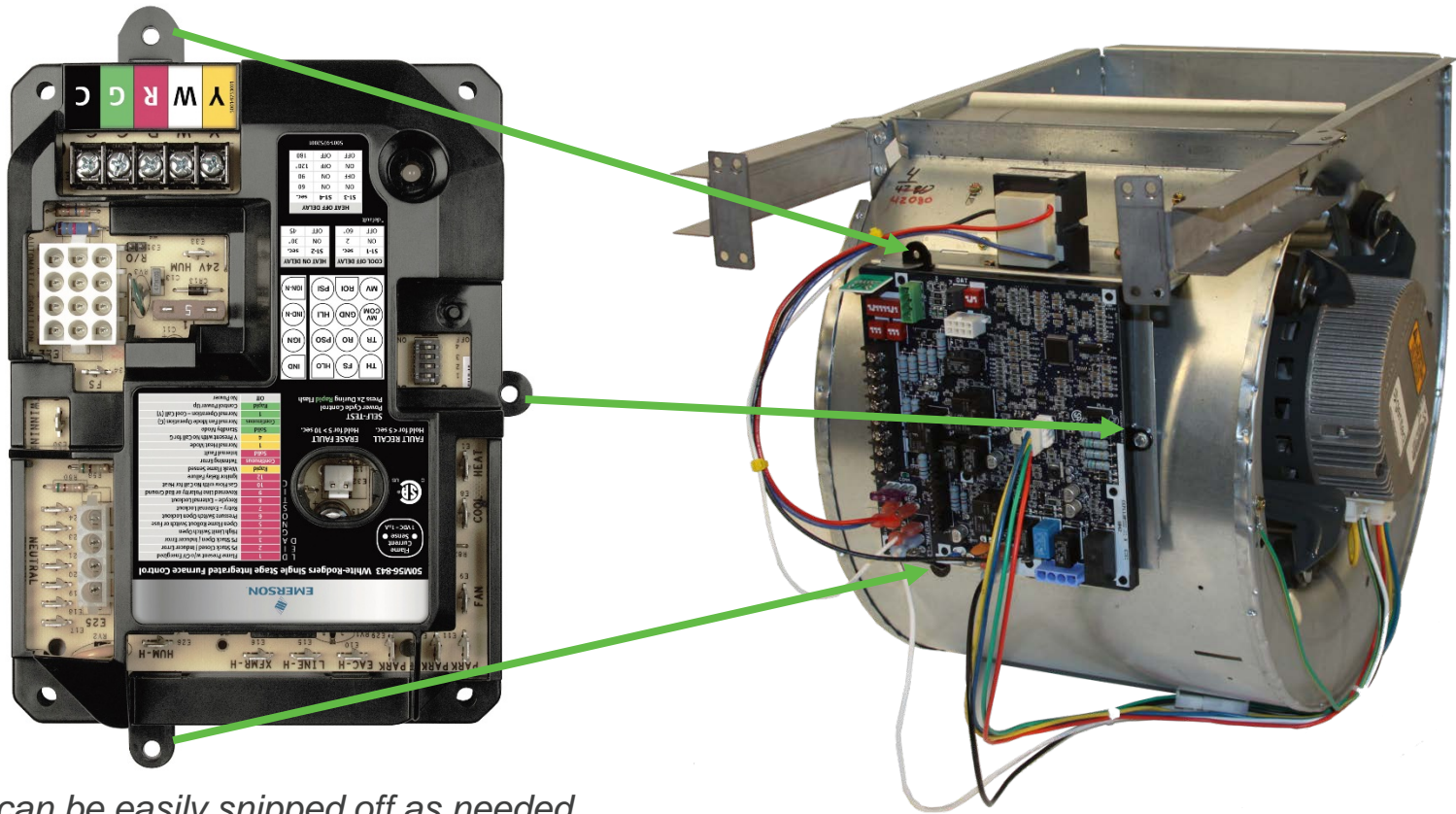
# 50M56U-843

## Competitive Comparison

FEATURE	BRAND X	WR 50M56U-843
For single stage & PSC blower	✓	✓
Cross references	200	400
Ignitor voltage serviced	120V	80V & 120V
Blower delay dipswitches	4	4
Tri-color LED displays	✓	✓
Rollout accessory	wire	easy jumper
Flame test pins/pads	X	✓
Full cover	X	✓
Fault code label	X	✓
Fault recall & clearing	jumper R & D terminals	simple push button
Electronic air cleaner output	✓	✓
Humidifier output	120V only	24V or 120V
Fuse, twinning, test mode	✓	✓

# Ease of Installation For Any OEM Model

Carrier uses the three tab / tray mount on all furnaces.  
Two tabs simply slide in, one tab & screw holds in place.



*Tabs can be easily snipped off as needed*

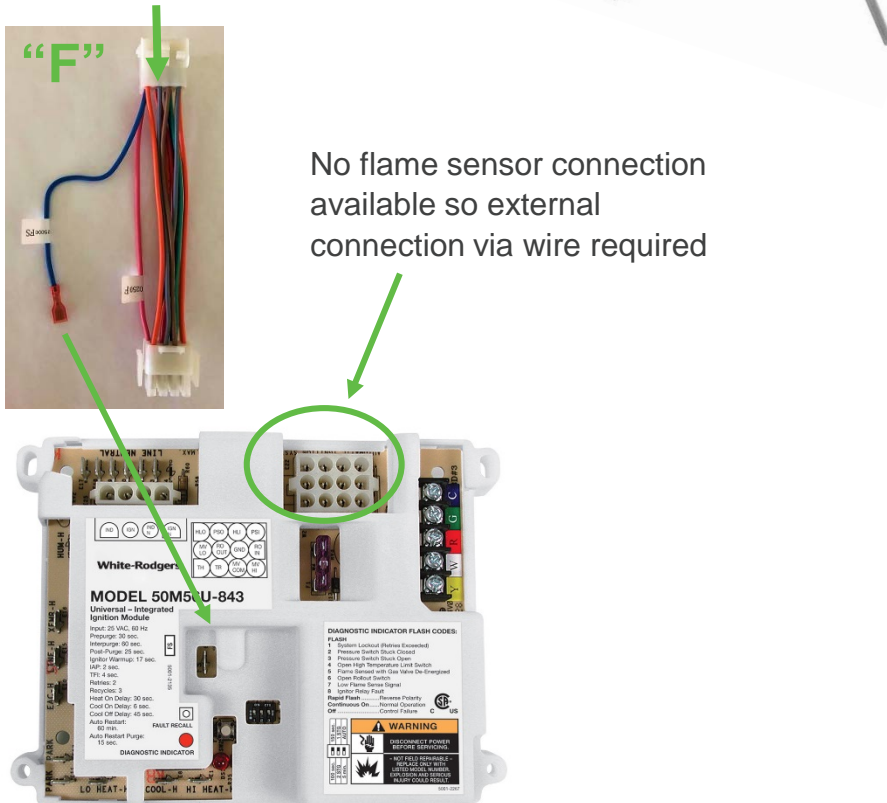
## New cover allows simple Carrier mounting option

# Ease of Installation

## Eliminated the “F” or Flame Sense Harness

### Current Design

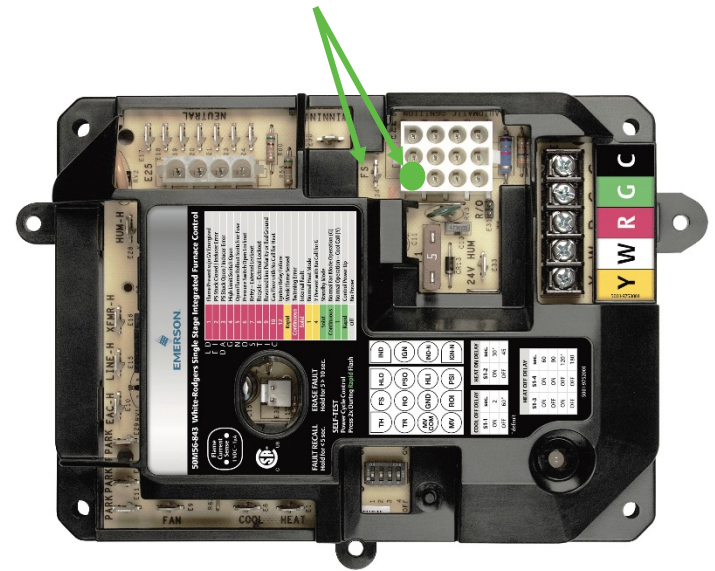
Control being replaced  
connected flame sensor  
through 12-pin main harness



### New Design

Most factory wiring  
plugs directly into control

New design accommodates  
flame sensor connected  
either externally or through  
the main harness...no more  
“F” harness needed!



75% of all applications now install without any adapter harnesses!



# Ease of Installation

## Improved Rollout Jumper

### Current Design

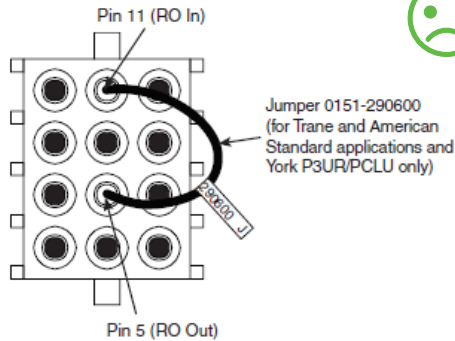
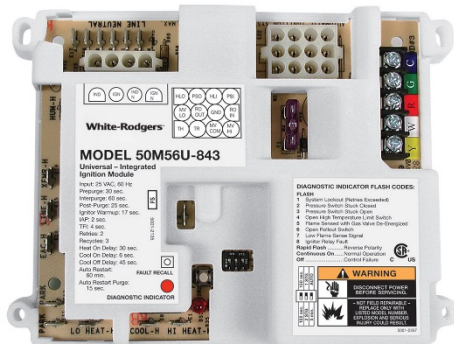


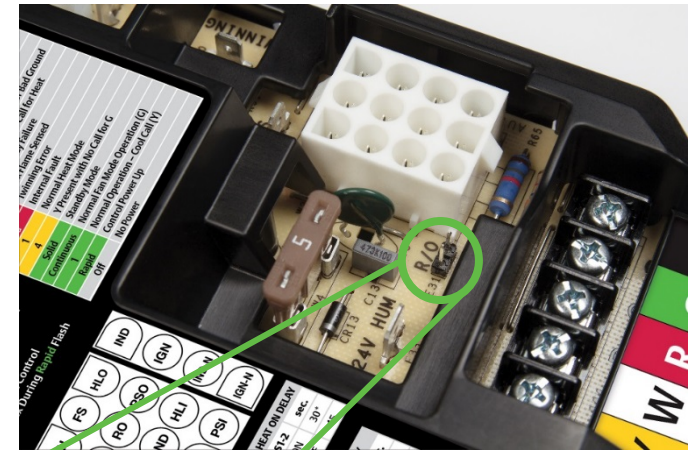
Figure 2. 12 Pin Connector (back view) on existing Wire Harness in Furnace



Jumper wire manually inserted into factory wiring



### New Design



Rollout Shunt Jumper

Required on all TRANE/AMERICAN STANDARD furnaces and YORK P3UR/PCLU models

0092-1040



Shunt jumper easily placed onto 2-pin header

Part will be taped to control cover

Some furnaces are mfg. without a separate rollout switch. The jumper “closes” the I/O in the 12-pin connector to avoid false errors.

# Clear, Simplified Color Instructions

## Every Item Included and Its Use Described

### MAIN HARNESS ADAPTERS A, B, & M

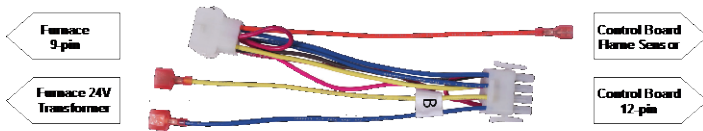
**A**

Goodman/Amana Brands, ICM (50 T35 variants)



**B**

Nordyne Brands, Rheem/Ruud Brands



**M**

Carrier/CP Brands



### CARRIER/CP BRANDS BLOWER MOTOR NEUTRAL ADAPTER

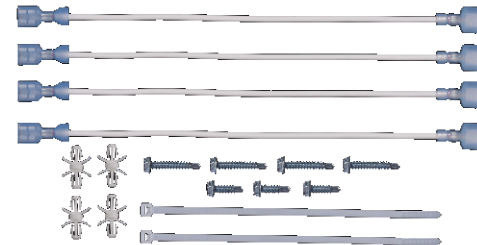
**L**



#### INSTALLATION ACCESSORIES

- Wiring Extensions can be used if any existing wires do not reach the new control board, for example blower motor leads or transformer wiring
- Plastic Standoffs can be used if mounting the control without plastic cover
- Mounting Screws can be used with the plastic cover CORNER HOLES or MOUNTING TABS
- Wire Ties can be used to secure any wiring as needed

1/4" x 1/4" Spade Wire Extensions 8.5" Length



#### INSTALLATION

##### MOUNTING AND WIRING

NOTE: All wiring should be installed according to local and national electrical codes and ordinances

1. Disconnect electrical power and gas supply to unit, then remove unit access panels.
2. Mark and disconnect all wires from the existing control, then remove existing control.
3. 50M56U-843 can be mounted in any orientation. Select a location that will not damage, obstruct or place any stress on the terminations or harnesses.
4. Mount 50M56U-843 in the unit using one of the three mounting options noted on page 7. Be certain not to damage any components such as transformers, wire harness or blower wheels when drilling or installing screws.
5. Refer to **Harness Selection Table** and select the proper wire adapter(s) needed to replace the board (if applicable).
6. Connect all the wires back onto 50M56U-843 control board referencing **Harness Descriptions** and **Wiring Diagram** as needed.
7. **Replace existing ignitor with the new 120V HotRod ignitor furnished in the kit.**
8. Ensure all wires are secure to the control board and unused blower speed wires are attached to the PARK terminals. Apply wire ties as needed to secure wiring.
9. Verify Cool Off Delay, Heat On Delay, and Heat Off Delay Dipswitch settings.
10. Reinstall unit access panels and reconnect electric power and gas supply to the unit.
11. Verify unit operation in heating, cooling, and fan only modes.

# Packaging and Cross Reference Improvements

White-Rodgers™

## Integrated Furnace Control

50M56U-843

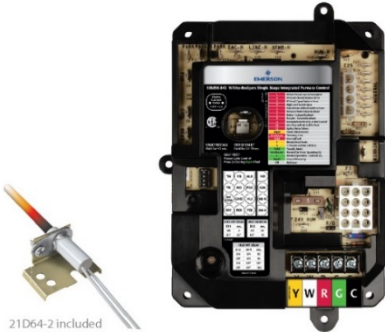
Single Stage Applications

PSC Blower Motor

120V HSI Ignition

Includes HotRod™  
Universal Ignitor Kit

Improved Design for  
Easier Installation in  
the Most Applications



21D64-2 included



Trusted by PRO's

1-Year Limited Warranty



### Cross Reference Replacement / Tableau de renvoi des remplacements

Trane/American Standard Brands	CHT02182	CHT1283	D341396P04	50A50-296	031-01266-000, *700	50A50-209	51-03101267001
50A50-143	CHT02183	CHT2789	D341396P05	50A50-407	031-01267-000, -000, -001, -001A	50A50-229	51-03101268000
50A50-405	CHT02789	CHT2891	D345780P01	50A50-408	031-01284-000	50A50-230	51-03101313000
50A50-406	CHT2891	CHT3076	D345780P02	50A50-438	031-01973-000	50A50-240	51-03101972000
50A50-471	CHT03076	CHT3206	D345780P03	50A50-475	031-01972-000	50A50-241	51-03101973000
50A50-472	CHT03242	CHT3782	X1132066610	50A55-245	031-09166-000	50A56-241	51-03109167000
50A50-473	CHT03740	CHT3798	X13130436-01, -02, -04	50A55-285	031-09167-000	50A56-242	51-33102950000
50A50-474	CHT03742	CHT3799	X1313043610	50A55-286	031-09167-000	50A56-243	51-33102950000
50A50-571	CHT03737	CHT5164	X1313043640	50A55-438	1012-43-96518	50A56-956	
50A55-3739	CHT03798	CHT5165	X1364007840	50A55-843	1162-251_362	S2537074000	
50A55-474	CHT03799	D130927701	X13650697010	50A56-843	1162-43-302	S2537073000	
50A55-476	CHT05165	D130930P01	X1365069830	50A66-843	26901	S253739900	
50A55-480	CHT07541	D130934P01	Whitpool	50A56-843	26902	S253770000	
50A55-486	CHT07549	D140334P01	8068142	50A56-843	26902	G951ACB1401, C	
50A55-671	CHT1209	D140774P01	8068551	Yanac/IC Brands	31011140002	G951ACB-1403C	
50A55-674	CHT1616	D140790P01	8068553	879598	3101250000	-1402, -1403	
50A55-676	CHT1684	D141123P01	99958174	031-00662	3101973000	G951ACB-1403	
50A55-676	CHT1686	D341213P01	99958175	031-00662-000, *700	331-01973-000	R0310127001	
50A55-686	CHT1867	D341213P01	White-Rodgers	031-01140-000, -001, -002, *701, *702	331-01972-000	P031-01267-001	
50M56-486	CHT1868	D341215P01	50A56-113	031-01234-700	331-01972-200	PTF031011400-00	
50M56-495	CHT1869	D341215P01	50A56-245	031-01235-000, *700	331-01973-000	51-03103060000	
CHT01309	CHT2181	D341396P01	50A56-286	03101235000	431-01972-100	Application 80 V qui requiert une mise à niveau de l'alimentation 120 V	
CHT02181	CHT2182	D341396P03	50A56-295	031-01250-000, *700	50A50-238	51-031031267000	

For complete Cross Reference listing, please refer to WR mobile app or website. Pour la liste complète des renvois de remplacement, veuillez consulter l'application mobile ou le site web WR.

80V application where ignitor upgrade Application 80 V qui requiert une mise à niveau de l'alimentation 120 V

## Cross Reference

- Orange shading indicates 80V application where ignitor must be changed
- Added 99 cross references

## Removed 7 Cross References

PCB00109	PCBBF122S
PCBBF109	PCBBF132
PCBBF109S	PCBBF132S
PCBBF122	

50M56U-843 upgrade design doesn't support 2-stage gas valve

Use 50M56-743 for Goodman Hybrid or multi-speed furnaces

# Update your cross reference databases

# 50X57-843 First Launch

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Universal Single Stage IFC for ECMx Blowers



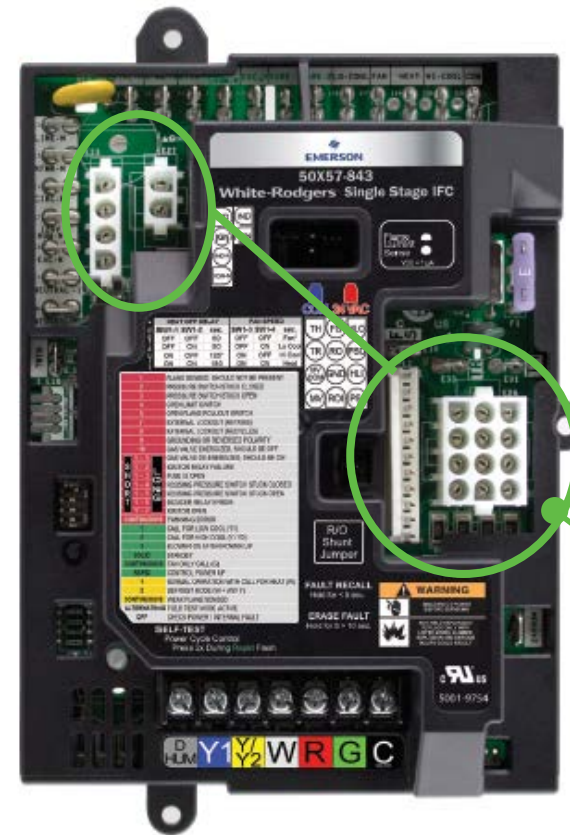
# The Industry's First Universal Solution for the Expanding ECMx (X13) Single Stage Market

## Easy installation

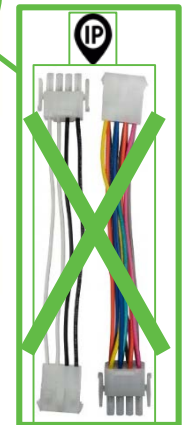
- Cover fits all OEM models
  - Easy Carrier/ICP mounting
- Minimal harnesses
  - Patented parallel connectors
- Clear, simple color instructions

## Best features from PSC Blower Model

- Twinning
- Tri-color LED & status codes
- 24V & 120V humidifier options
- Flame current test pins
- Easy rollout jumper installation
- More dipswitch setup options
- Field “self-test” mode for checkout

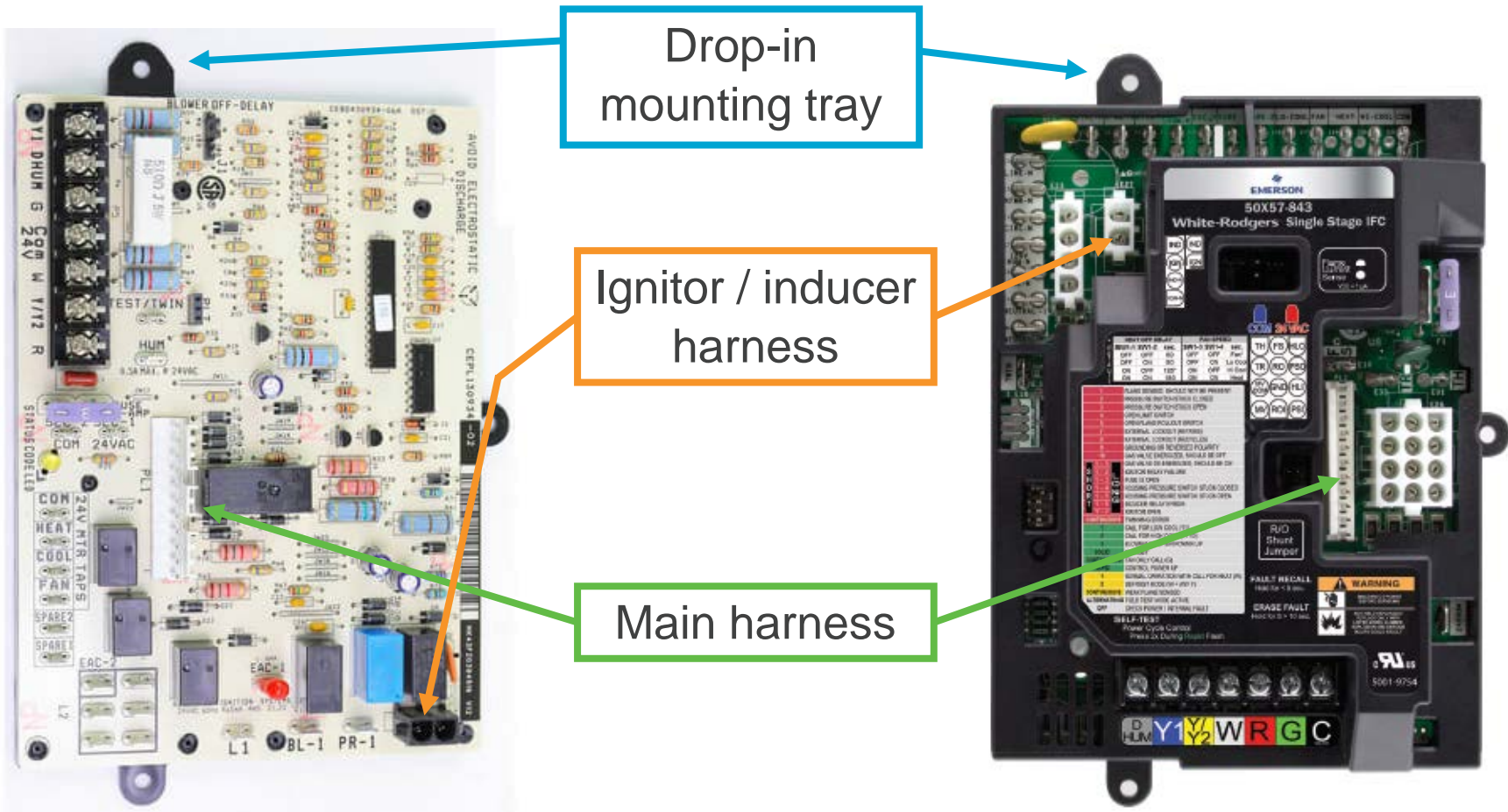


*Does not include an ignitor because most units are built with 120V*



**50X57-843 for ECMx provides the same great features as 50M56U**

# Simple Replacement for Carrier / ICP Brands OEM Style Mounting and Wiring Connectors



**Carrier brands factory wiring plugs  
directly into 50X57 without adapters**



# EXTRA TRIPS STOP HERE

The widest range of universal and direct OEM replacement heating controls.

**STOCK YOUR TRUCK WITH  
WHITE-RODGERS CONTROLS.**

## 50X57-843 – 35 Cross References

### Carrier / ICP Brands

1183386  
1184412  
CEPL130934-01  
CEPL130934-02  
CEPL131011-01  
CEPL131011-02  
HK42FZ027  
HK42FZ033  
HK42FZ039  
HK42FZ047

### Grainger

115Z36  
115Z39  
116J02

### Johnstone

L45-086

### Lennox Brands

103217-01  
103217-02

607436-01  
607436-02  
79W84  
85W79

### Trane / American Standard Brands

CNT04711  
CNT06664  
CNT07737  
CNT07738

D342359P01  
D342359P02  
D342359P03  
D342359P04

### White-Rodgers

50A67-476-01  
50A67-476-02  
50A67-507-01  
50A67-507-02  
50X57-843

### York / JCI Brands

542760  
S1 03102951001

80V application  
which requires  
120V Ignitor  
upgrade

## Services Carrier, Lennox, Trane, & York

- Goodman doesn't manufacture a single stage ECMx furnace yet
- Rheem is SPARK ignition, can't replace with this platform
- Nordyne has very small volume to date, no adapter harness at this time

**The only universal single stage control for ECMx on the market**