

Universal Two-Stage HSI Integrated Variable-Speed (ECM) Circulator Furnace Control Kit

More Models
Covered!

21V51U-843

Replaces:

All White-Rodgers 50V51-XXX's
and 50V61-XXX's Two-Stage HSI
Systems with 80V or 120V Ignitor

Now Includes
Special Ignitor Bracket to
Replace Trane KIT15815



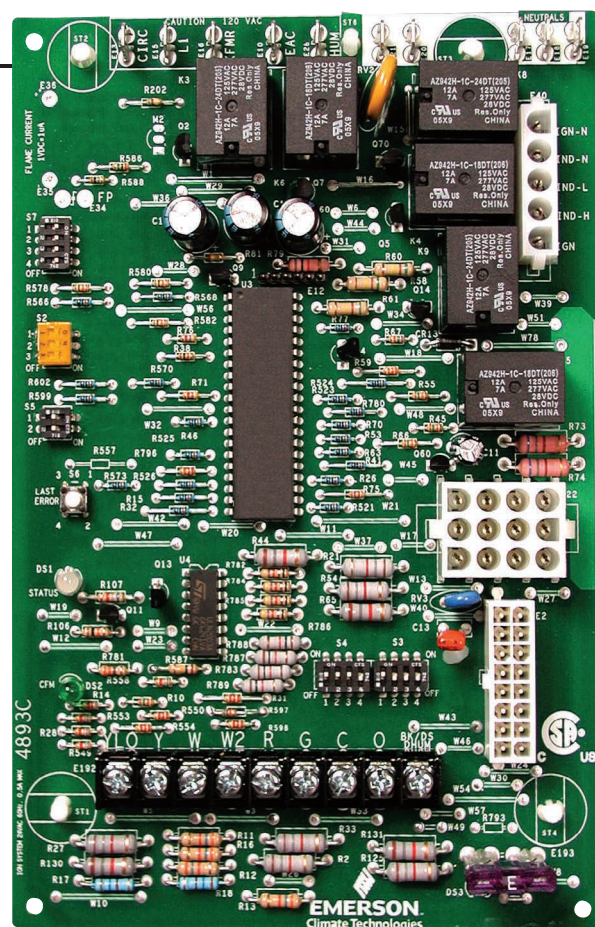
INCLUDED
HotRod™ Universal
Ignitor Kit – 21D64-2

Replace the Original with the Original.

21V51U-843 simplifies stocking,
installation and ensures peak
system performance.

Easy-Install Kit includes everything you need
for quick and accurate replacement:

- Ignition Control Module – 50V51-843
- Wiring Harnesses for Amana/Goodman
- HotRod™ Universal Ignitor Kit – 21D64-2
- Installation Instructions and OEM Cross-Reference



Universal Integrated Furnace Module 50V51-843



White-Rodgers™

EMERSON™

Universal Two-Stage HSI Integrated Variable-Speed (ECM) Circulator Furnace Control Kit

Replaces:

All White-Rodgers 50V51-XXX's and 50V61-XXX's Two-Stage HSI Systems with 80V or 120V Ignitor

21V51U-843

Features

- 120 VAC Ignitor Output
- 120 VAC Two-Speed Inducer Output
- 120 VAC Humidifier Output
- 120 VAC Electronic Air Cleaner Output
- 2-Stage Gas Valve Output
- 16-Pin Variable Speed Circulator Output
- OEM Application – Dipswitch Selectable
- Fuse Protection – 3 Amp
- Furnace Status LED – Tri-Color (Green, Red and Amber)
- CFM LED – (Green)
- Heat Fan OFF Delay (Dipswitch Selectable)
- Fan ON Delay for Cooling
- Auto Second Stage Delay (Dipswitch Selectable Mode)
- Historical Fault Retrieval by Pushbutton
- YLO, Y, W, W2, R, G, C, O, BK/DS/ Dehum Terminals
- Pressure Switch Inputs and Monitoring
- Flash Microprocessor with Non-Volatile Memory
- Flame Current Measurement Points

Specifications

Electrical Ratings [@ 77°F (25°C)]

Input Voltage: 24 VAC, 60 Hz (Class II transformer required)
Nom. Input Current @ 24 VAC: 595 mA + MV

Relay Load Ratings

Gas Valve Relays: 1.5 amps @ 24 VAC, 60 Hz
Inducer Relays: 2.2 FLA – 3.5 LRA @ 120 VAC, 60 Hz
Humidifier Load: 1.0 amp max. @ 120 VAC, 60 Hz
Electronic Air Cleaner Load: 1.0 amp max. @ 120 VAC, 60 Hz
Ignitor Relay: 4.0 amps max. @ 132 VAC, 60 Hz

Flame Current Requirements

Minimum current to insure flame detection: 0.3 μ A DC*
Maximum current for non-detection: 0.1 μ A DC*

Maximum allowable leakage resistance: 100 M ohms

*Measured with a DC microammeter in the flame probe lead

Operating Temperature Range

-40° to 175°F (-40° to 80°C)

Humidity Range

5% to 93% relative humidity (non-condensing)

Timing Specifications (@ 60 Hz)

Flame Failure Response Time: 2.0 sec. max.

Gases Approved: Natural, Manufactured, Mixed, Liquefied Petroleum and LP Gas/Air Mixtures are all approved for use.

Dimensions

5.25" W x 8" H x 1.25" D

For Additional Information

Visit www.white-rodgers.com

Timing Specifications

(All times are in seconds unless noted otherwise)

21V51U-843	
Pre-purge	15
Ignitor warm-up	17
Trial for ignition period	4
Ignition activation period	3
Retries	2 times
Valve sequence period	12
Interpurge	60
Post-purge	15
Lockout time	300
Heat delay to fan ON	45
Heat delay to fan OFF*	90/120/150/180
Cool delay to fan ON	5
Cool delay to fan OFF	60
Delay to fan ON	0
Auto reset	60 minutes
Electronic air cleaner	Yes
Humidifier	Yes

* These times will vary depending on option switch position. See OPERATION section for further information.

21V51U-843 Cross Reference Application Data:

Part Number	Harness	Ignitor	OEM
100870-01	none	21D64-2	Lennox
100870-03			
18M9901			
19W60			
20300002			
20300004			
20300006			
20300007			
21V51U-843			
265904	none	Use Existing or 21D64-2	White-Rodgers York International (with included hole template)
449572			
49M5901			
50V51-288	A,B	21D64-2	Lennox
50V51-289			
50V51-290			
50V61-288			
50V61-289	none	21D64-2	White-Rodgers/ Goodman
50V61-120			
50V61-121			
50V61-143			
50V51-243			
		Use Existing or 21D64-2	White-Rodgers, York International

Part Number	Harness	Ignitor	OEM
50V51-507	none	21D64-2	White-Rodgers, Trane/American Standard
50V61-480			
50V61-486			
50V61-507			
63W27			
642768	A,B	Use Existing or 21D64-2	York International (with included hole template) Goodman
B1809925			
B1809927			
B1809927S			
CNT03078			
CNT04018	none	21D64-2	Trane/American Standard
CNT04352			
CNT05120			
D156245P01			
D341420P01			
D341420P02	A,B	Use Existing or 21D64-2	Goodman
KIT15815			
PCB00106			
PCB00106S			
PCBBF106			
PCBBF106S	none	21D64-2	
PCBBF107S			
PCBBF121			

Part Number	Harness	Ignitor	OEM
PCBBF121S	none	Use Existing or 21D64-2	Goodman
PCBBF124	A,B		
PCBBF124S			
S1-03102955000	none		York International (with included hole template)
S1-03102977000			
S1-03109169000			
S1-33102955000			
S1-33102977000			
S1-33109169000		21D64-2	Trane/American Standard
X13650840010			
Y4152			Lennox

Note: The installer may have to modify existing ignitor hole to accommodate the new 21D64-2, with ceramic diameter (0.394").

***21D64-2 Ignitor Note:** In these applications, the existing 80V ignitor must be replaced by the 120V 21D64-2 ignitor.

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www.white-rodgers.com
www.emersonclimate.com

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