

Universal Two-Stage HSI Integrated **3-Speed (PSC)** Circulator Furnace Control Kit

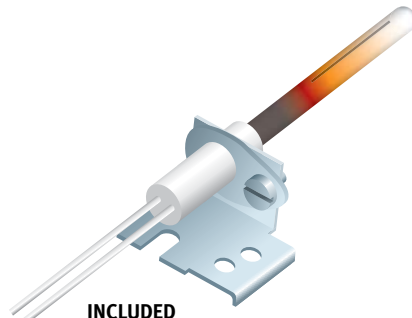
Universal

21M51U-843



Replaces:

White-Rodgers 50M51-242
and All 50M61-XXX's Two-Stage HSI Systems
with 80V or 120V Ignitor.



INCLUDED
Universal 120V Nitride
Ignitor Kit – 21D64-2



Universal Integrated Furnace Module
50M51-843



Replace the Original with the Original.

21M51U-843 simplifies stocking, installation and ensures peak system performance.

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

- Ignition Control Module
- Universal 120V Nitride Ignitor Kit – 21D64-2
- Installation Instructions and OEM Cross-Reference

White
Rodgers™

21M51U-843

Universal Two-Stage HSI Integrated 3-Speed (PSC) Circulator Furnace Control Kit

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Features

- 120 VAC Ignitor Output
- 120 VAC Two-Speed Inducer Output
- 120 VAC Humidifier Output
- 120 VAC Electronic Air Cleaner Output
- 120 VAC 3-Speed PSC Circulator Output
- 2-Stage Gas Valve Output
- Fuse Protection – 3 Amp
- Furnace Status LED – Tri-Color (Green, Red and Amber)
- 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, W1, W2, R, G, C, TWIN 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: 530 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
Circulator Relays: 14.5 FLA – 25.0 LRA @ 120 VAC
Humidifier Load: 1.0 amp max. @ 120 VAC
Electronic Air Cleaner Load: 1.0 amp max. @ 120 VAC
Ignitor Relay: 4.0 amps max. @ 132 VAC, 60 Hz

Flame Current Requirements

Minimum current to insure flame detection: 0.3 µA DC*
Maximum current for non-detection: 0.1 µA 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-rodders.com

Timing Specifications

(All times are in seconds unless noted otherwise)

50M51-843	
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
Automatic reset time:	60 minutes
Electronic air cleaner:	yes
Humidifier:	yes
Twin:	yes

* These times will vary depending on option switch position.

21M51U-843 Cross-Reference Application Data

Module Model #	Furnace Model	Ignitor	Furnace OEM
18M3401	G60DF(X) or G60UH(X)	21D64-2*	Lennox
20300001	N/A		Goodman
20300003	N/A		
46M9901	G61MP		Lennox
50M51-242	FC9T	Use existing or 21D64-2	Coleman/Evcon/ Luxaire/York
50M51-242	FL9T		
50M51-242	PT9A		
50M51-242	PT9B		
50M51-242	PT9C		
50M51-242	PT9D		
50M51-242	GM9T		
50M51-242	FC8T		
50M51-242	FL8T		
50M51-242	LC8T		
50M51-242	LL8T		
50M51-242	PT8A		

Module Model #	Furnace Model	Ignitor	Furnace OEM
50M61-120	G60DF(X), G60UH(X) or G61MP	21D64-2*	Lennox
50M61-288	N/A		Amana/Goodman
50M61-289	N/A		
50M61-495	XL80		American Standard/ Trane
50M61-843	N/A		White-Rodgers Standard
83L9301	N/A		Lennox
CNT03077	XL80		Trane
X13650839010	XL80		

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.