

49M11-843 SureSwitch™ Multi-Volt Contactor

Business and Product Overview

49M11-843 SureSwitch™
Multi-Volt Contactor

Introduction

The 49M11-843 SureSwitch™ Multi-Volt Contactor is the next generation single-phase contactor with a microprocessor brain that replaces 24v, 120v, 208v, or 240v coil contactors.

- Microprocessor control nearly eliminates contact welding and pitting
- Sealed to keep out insects and debris
- Protects condensers from brownouts and short cycling
- Compatible with single stage residential AC/Heat pumps with PSC fan motors.
- Also compatible with refrigeration equipment such as walk-in coolers, refrigeration cases, ice machines, and carbonated beverage machines.

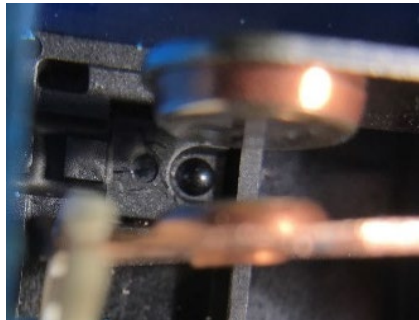


Additional Features and Benefits

- Microprocessor operates a short cycle and random startup timer
- Latching relay eliminates contactor chatter and hum
- Vibrant tri-color LED for operations check and troubleshooting
- Lifetime cycle counter for a fuller view into system life
- Compatible up to a 40 FLA rating / 5 Tons
- Coil terminals are separated with taller walls to prevent electrical shorts



Open design allows for damage from fire ants, other insects.



Optical sensor monitors the arc and adjusts timing.



Sealed to reduce damage from insects and debris.

Why is It Better?

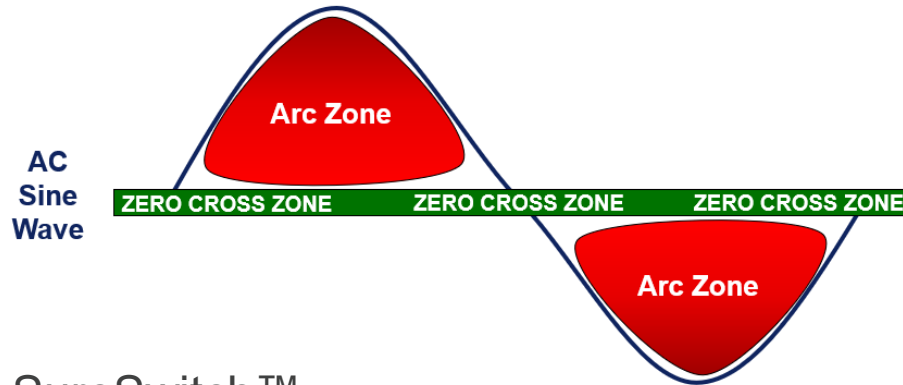
Increases system reliability and homeowner peace of mind.

- 5x Contactor life
- 5 Year warranty
- Universal replacement
- Replaces 287+ parts
- Multi-Volt Contactor applicable to wider range of applications including AC, heat pump, refrigeration products with 24v, 120v, 208v, & 240v coils.

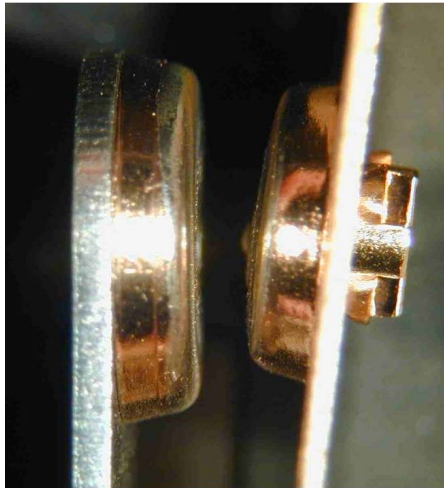


Microprocessor Extends Contactor Life

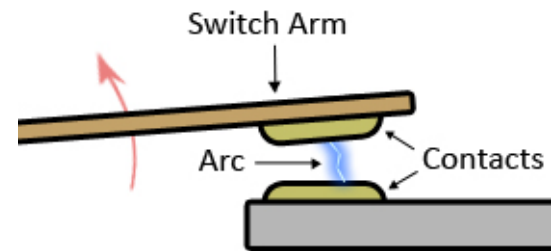
“Zero Cross” contact control switches without damaging current present.



SureSwitch™



SureSwitch™ Sealed Relay with Optical Sensor plus unique opening and closing algorithms achieve consistent Zero Cross Switching. Contact shows no damage after 1M cycles.



Traditional Contactors



Traditional contactors do not have microprocessor intelligence. They open and close at random, often in the “Arc Zone” where damage occurs. Damage shown after 300K cycles.

Competitive Comparison

Other “sealed contactors” do not offer protection against insect intrusion. “Arc Cover,” “Dust Cover,” or “Plastic Noise Shields” do not offer the same level of protection as the fully sealed SureSwitch™.

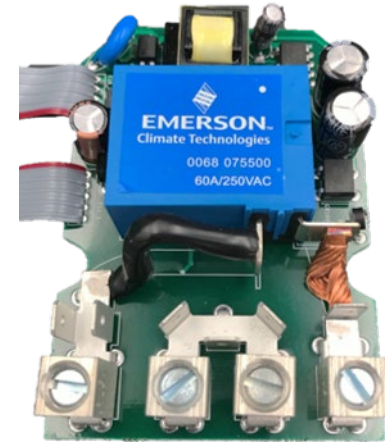
Our contactor housing design limits dust and other contaminants from the magnet structure, reducing noise, eliminating insects, and reducing contactor failure.



No protection.



Some protection but some ants still get in.



Completely sealed from insects and debris.

Testimonials

“The SureSwitch, which I installed myself, has actually made my old system run smoother and quieter, it starts up more gentle, and it keeps the bugs from frying it since it's sealed (an issue I've had more than once).”

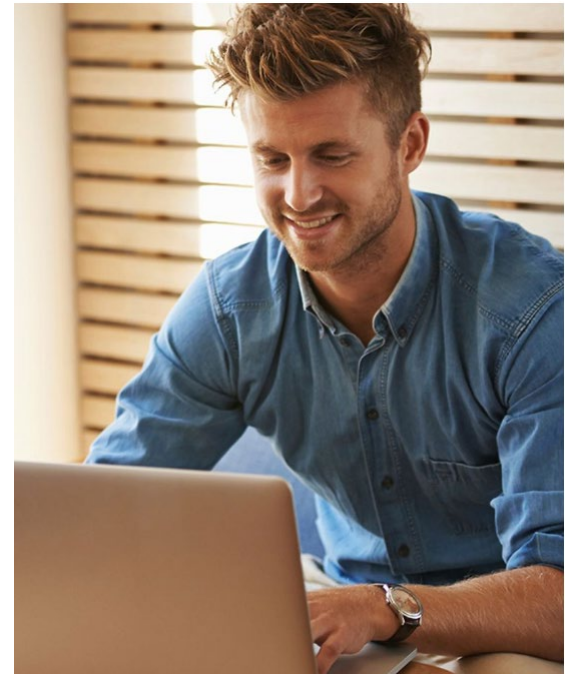
-Peter

“They seem to me they are superior than a traditional contactor...I was a skeptic at first but I have them on several 10seer 5ton units that would burn up these crappy contactors we have. So far they have held up 2.5 years on my test units.”

-Joe Schearer

“Before I bought this I was replacing my contactor relay at least once a year. It's been 2 years since I installed this and so far so good. It really does start a/c quieter overall.”

-J Shea



WR Mobile App

Always up-to-date and easy to use:

- Mobile App
- White-Rodgers Website



Your resource for:

- Product information and spec sheets
- Complete Cross Reference
- OEM compatibility
- Installation information and videos
- Wiring diagrams

Download:



- Go to your app store
- Type in **WR Mobile**
- Install the app

OR

- Open your camera
- Hold it over the QR code
- Tap “Open” on the pop-down
- Install the app



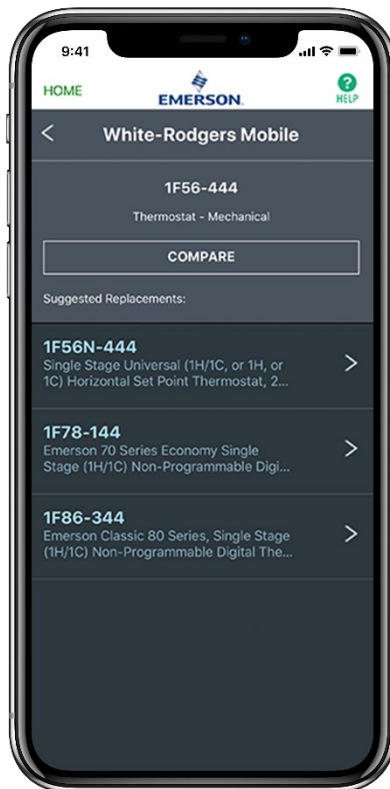
WR Mobile App

Easy to use!

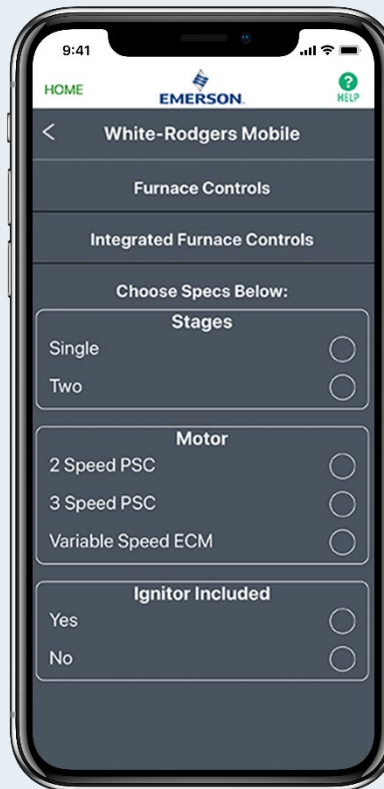
Search by OEM, Competitive, or White-Rodgers Model Number



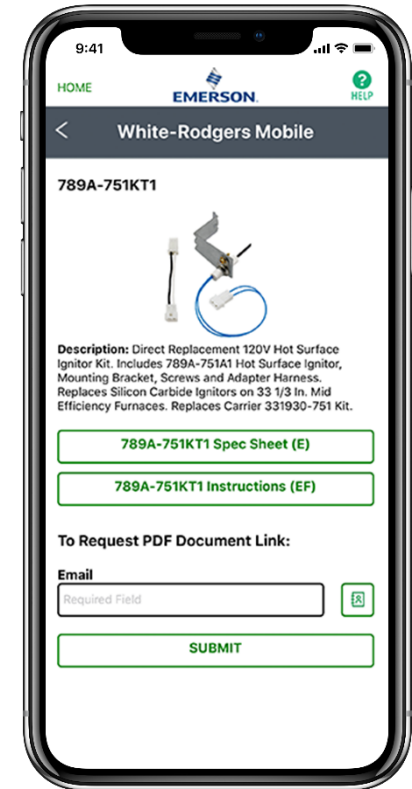
Product Number



Scrollable Product List



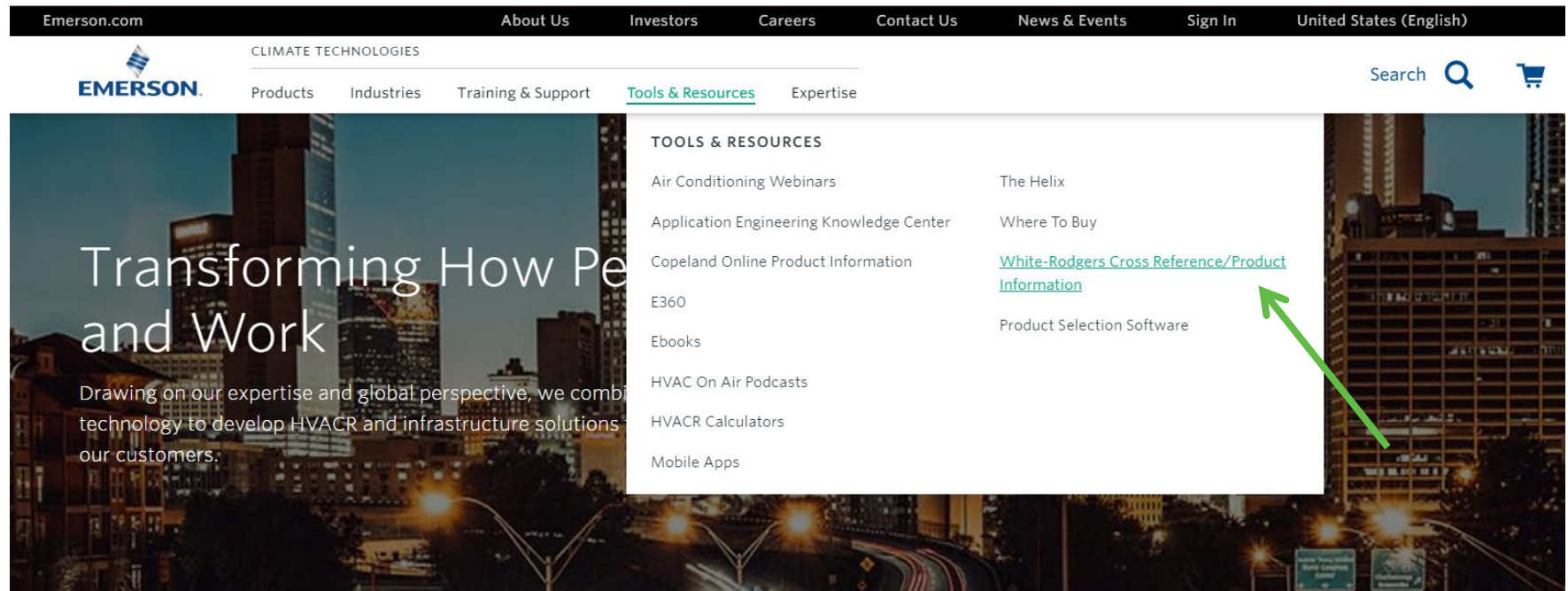
WR Replacement



White-Rodgers Cross Reference

Go to: www.whiterodgers.com

- Hover over Tools & Resources
- Click on: White-Rodgers Cross Reference/Product Information
- Enter the Model Number or click on: Search Replacement Heating Controls by Major OEM Brand



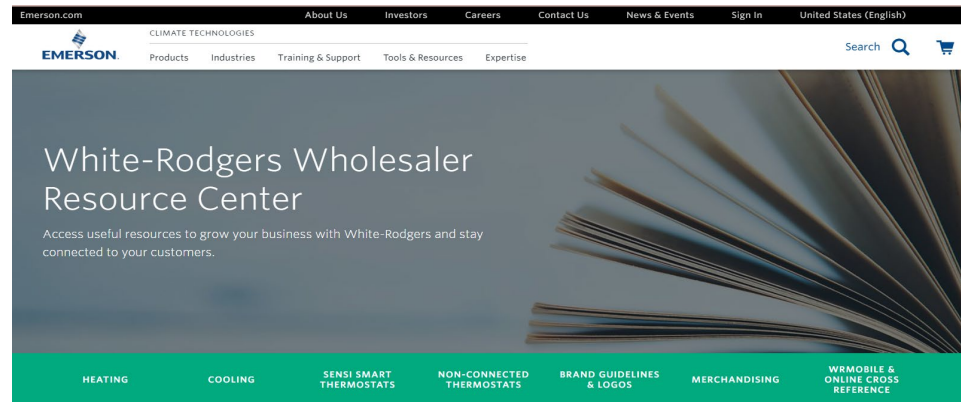
Wholesale Resource Site

Access useful resources to grow your business.

Visit: <https://climate.emerson.com/en-us/brands/white-rodgers/white-rodgers-wholesaler-resource-center>

You'll find videos, stocking lists and product launch information for the following product families:

- Heating Controls
- Cooling Controls
- Sensi Smart™ Thermostats
- Traditional Thermostats
- Contractor Rewards
- Product Merchandising



The comfort in knowing Emerson is there.

Confidence comes from knowing your reputation is in good hands; that you have the stability of an industry leader by your side; that they've been in the game for 125 years and they'll be around for a whole lot longer. That's the comfort you feel when you recommend Emerson, because you know you're working with the best for your customers and your business.

[BROCHURE](#)

Why Contractors Trust White-Rodgers

Industry Leading Products

- Used by more OEM's
- Offering the widest range of Universal Replacement Controls

Ease of Installation

- Simple, easy to understand instructions

Product Reliability

- Quality Control assures reliable products

Affordable

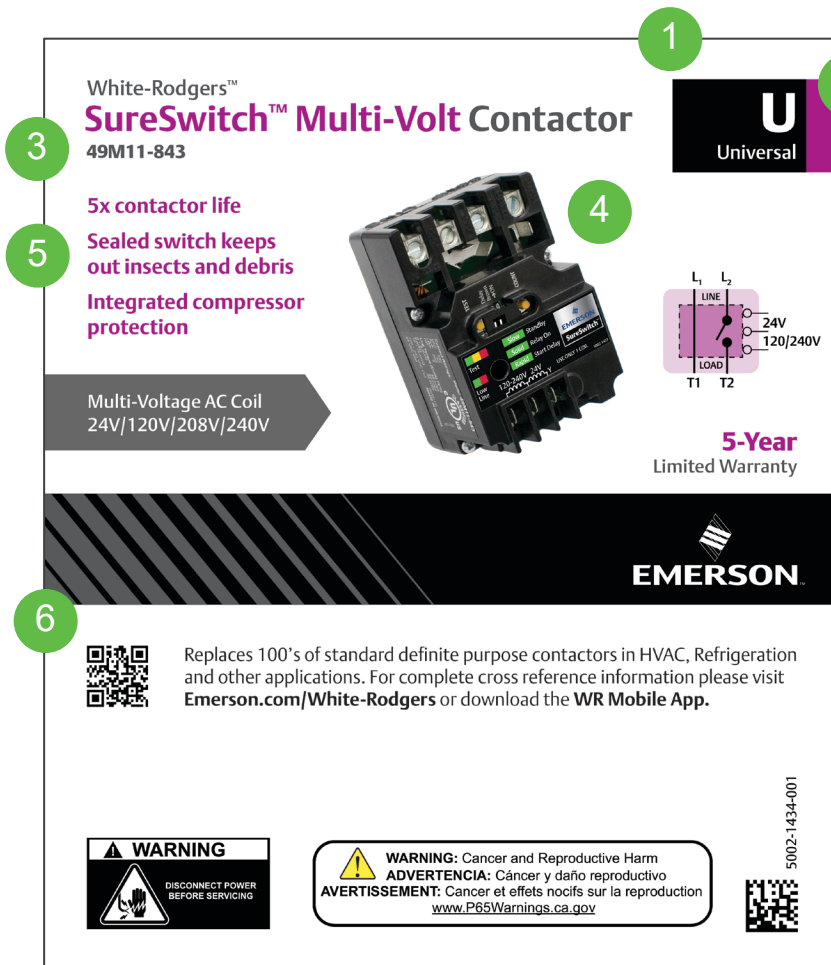
- Competitive pricing

Supported by Knowledgeable Representatives

- Contractor direct phone support



Customer Driven Packaging



1. Universal or Direct OEM
2. Product Type & Color Code
 - a) Red = Indoor Units
 - b) Purple = Outdoor Units
 - c) Gold = Commercial
3. Model Number
4. Large Product Image(s)
5. Key Attributes
 - a) Stages
 - b) Blower Motor Type
 - c) Ignitor Voltage
 - d) Other
6. Cross Reference on box

Technical

49M11-843 SureSwitch™
Multi-Volt Contactor

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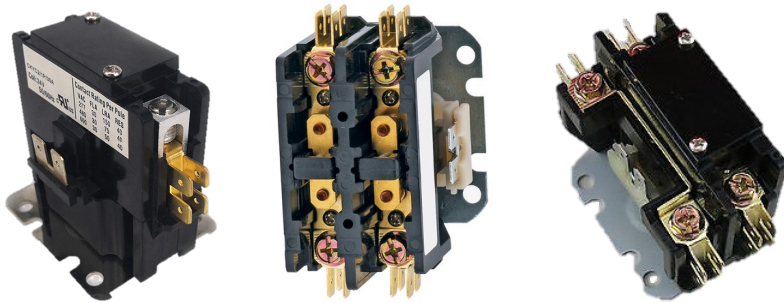


Features:

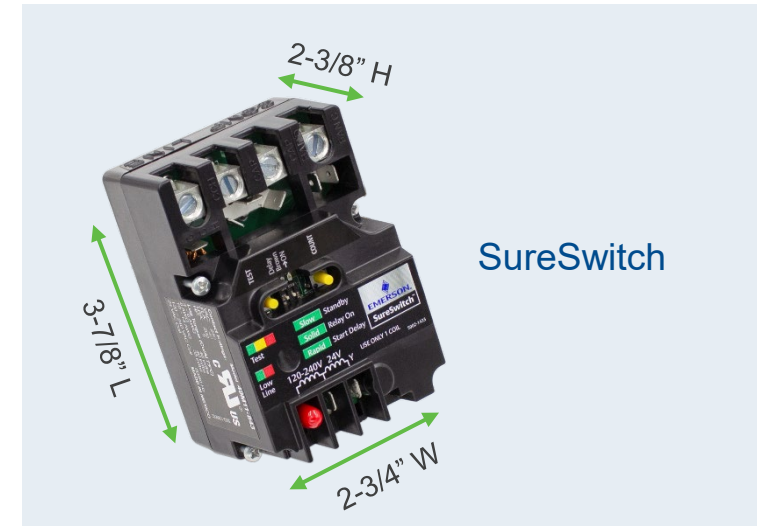
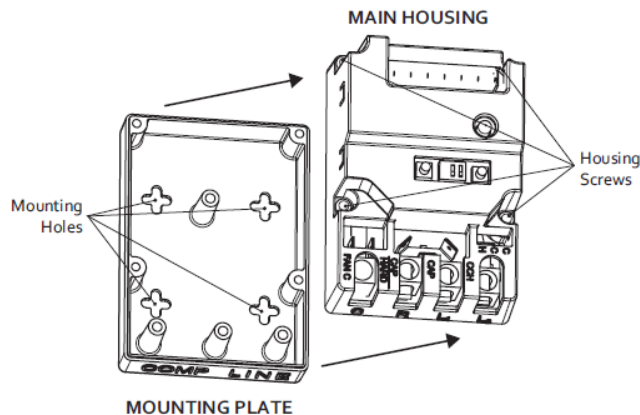
-
1. Terminal block with labels CCH, CAP, CAP, CAP, FAN C.
2. TEST button.
3. Delay Brown → ON indicator.
4. COUNT indicator.
5. Standby indicator.
6. Solid indicator.
7. Relay On indicator.
8. Start Delay indicator.
- EMERSON SureSwitch™
- 20-240V 24V ONLY 1 COIL
- 49M11-843

Easy Replacement

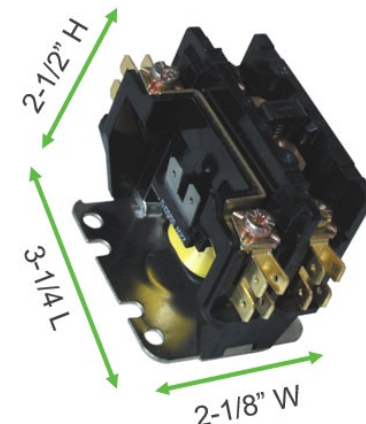
SureSwitch replaces 1, 1.5, or 2 pole contactors with the identical mounting footprint.



Four-hole mounting pattern matches industry standard contactors.



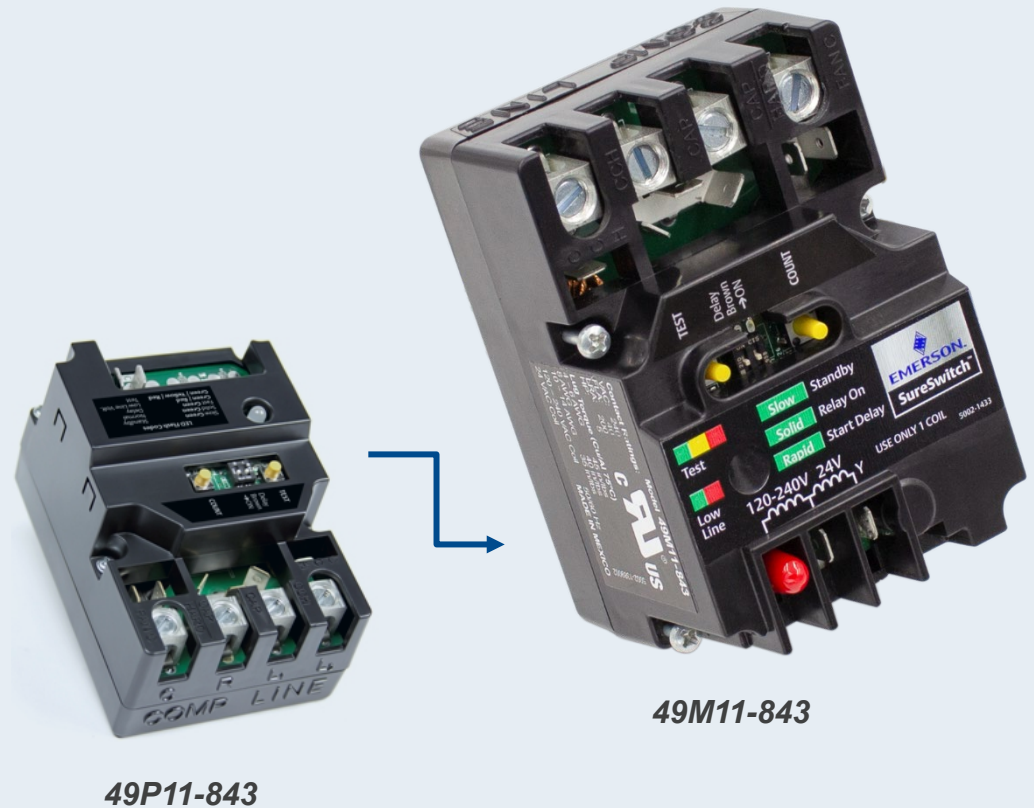
SureSwitch



Typical
Contactor

Product Improvements of the 49M11-843 SureSwitch™ Multi-Volt Contactor

- Coil voltage options of 24v, 120v, 208v, & 240v
 - Refrigeration Compatible
 - Red cap on 120/240v coil terminal
- Removable Label to identify Switched and Non-Switched legs.
- Brighter LED
 - Higher visibility reading
- Taller Dividers between Coil Spades



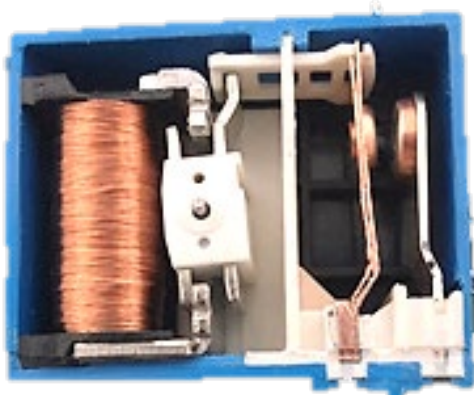
Feature and Design

SureSwitch™ inside view two panel design

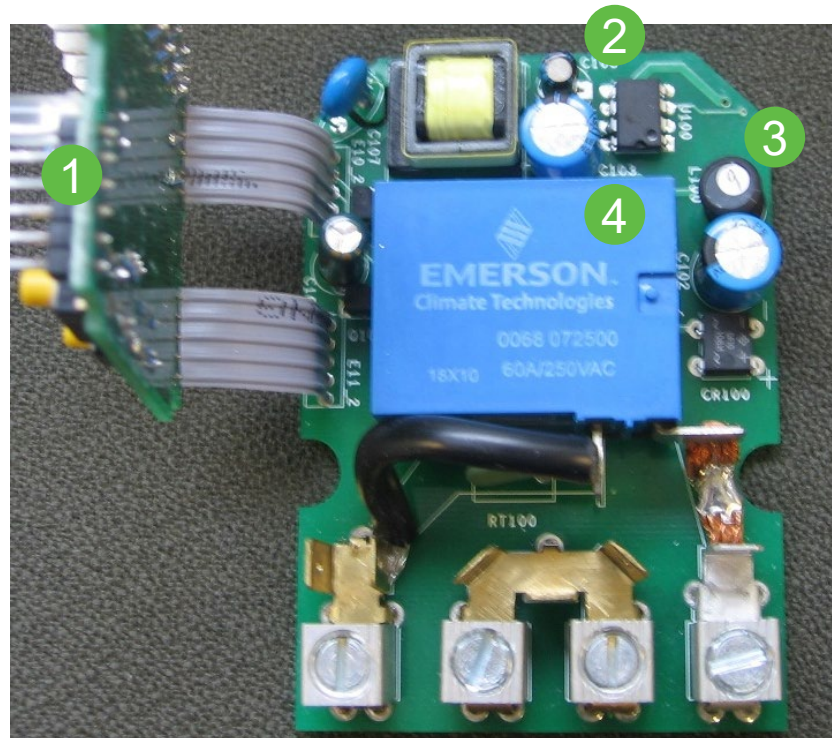
- Stacked circuit board design helps keep product dimensions as compact as possible



1. User interface/coil board
2. Power supply
3. High voltage bottom PCB
4. Sealed relay switches compressor & fan loads



Inside the sealed relay box.



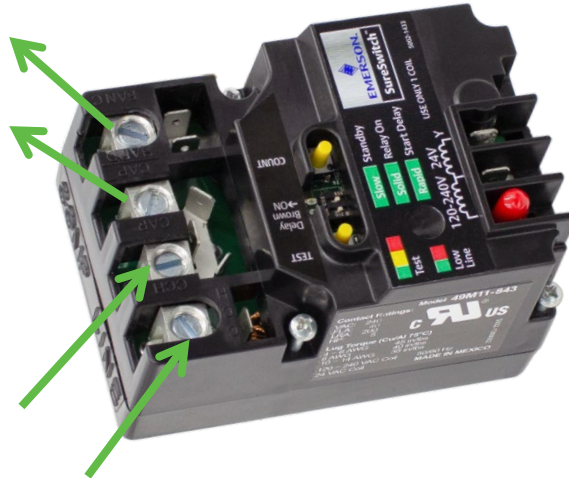
FAQ

SureSwitch™ wiring flexibility ensures fit in greatest number of applications.

- Replaces 1, 1.5, or 2 pole contactors up to 40 FLA
- Covers a Majority of OEM use on new units



Flexibility to mount sideways as needed to avoid over manipulating wiring.



Design functions the same as a contactor with shunt on one leg.



Fan
SWITCHED

Comp
Common
SWITCHED

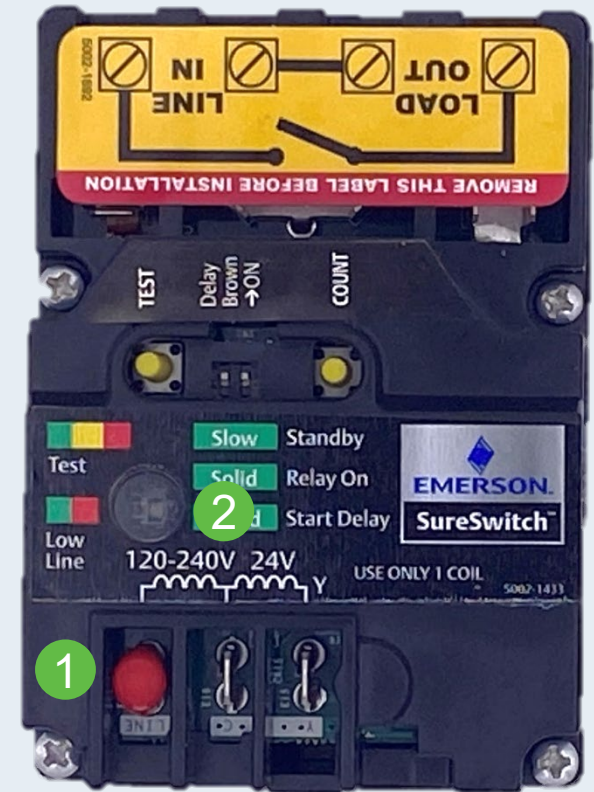
Run
UNSWITCHED

L1
SWITCHED
L2
SWITCHED

Coil Voltage Options

Applicable to 24v, 120v, 208v, or 240v coils, the SureSwitch is a reliable option for replacing refrigeration contactors. Determine the correct coil voltage by looking at the contactor being replaced.

1. SureSwitch comes with a red cap on one of the line voltage coil spade terminals. On line voltage applications, it can be moved to the 24V Y terminal.
2. The coil diagram shows how to connect line voltage or 24V coil wires. Only one coil should be connected

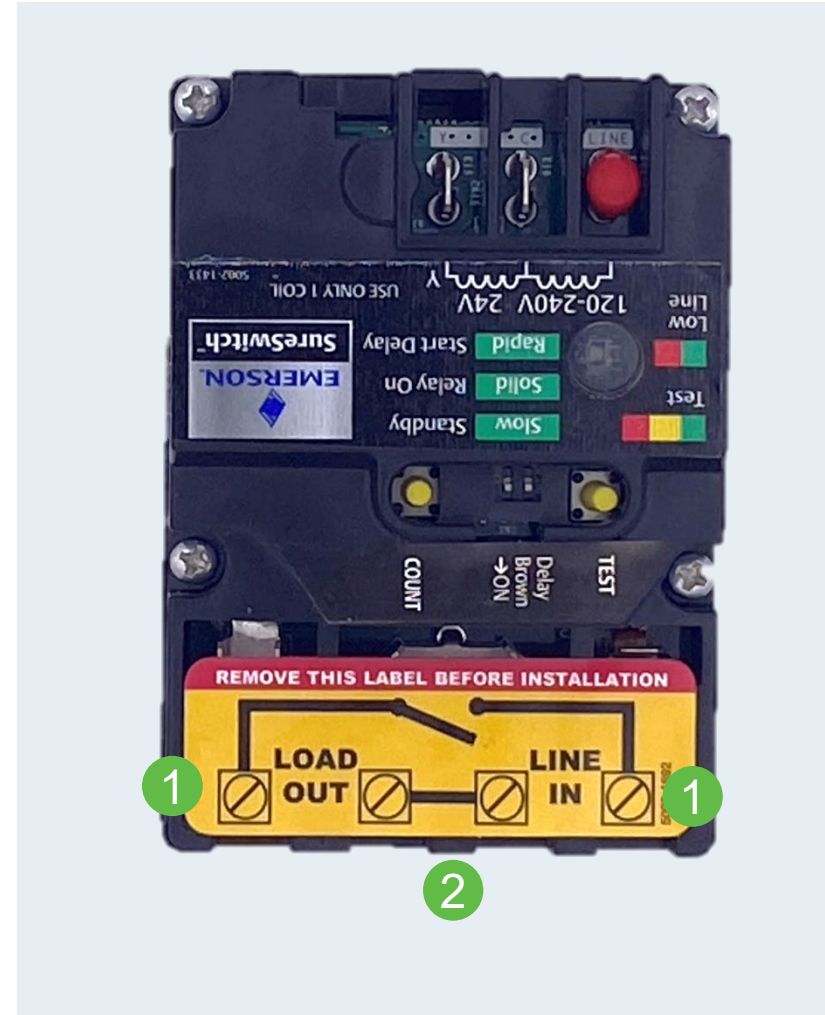


Refrigeration Wiring Considerations

In refrigeration equipment, it's best to review the schematic and determine the switched and common lines. Typically, the switched line is labeled "L1" or "Line" and the common line is labeled "L2" or "Neutral".

1. The "L1" or "Line" input wire should be connected to the switched "LINE IN" lug, and the corresponding wire for the compressor should be connected to the switched "LOAD OUT" lug.
2. The "L2" or "Neutral" input wire should be connected to the common "LINE IN" lug, and the corresponding wire for the compressor should be connected to the common "LOAD OUT" lug.

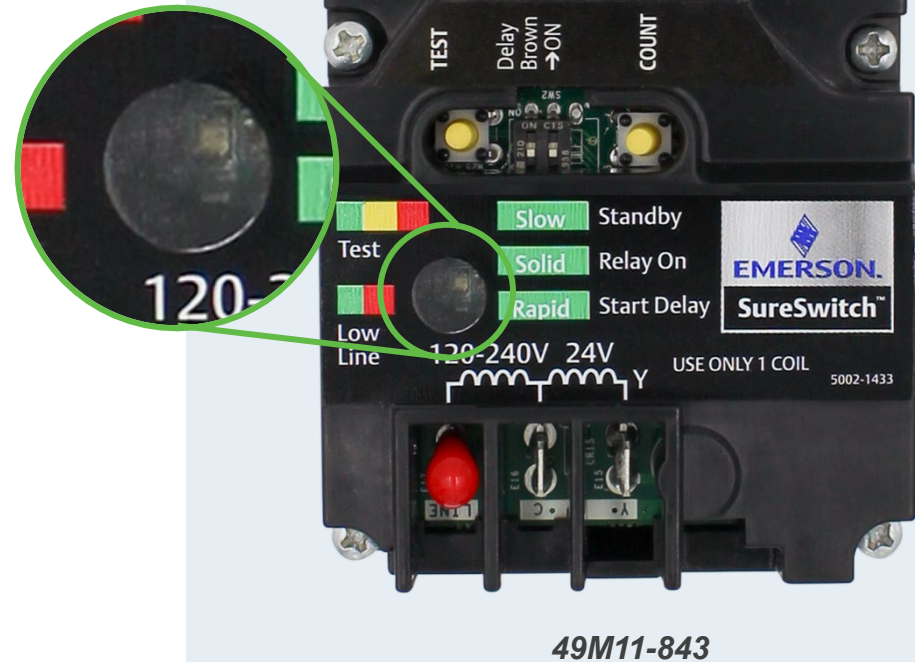
For refrigeration applications, brownout and short cycle delay switches should be set to "OFF".



Tri-Color LED

Using the LED

- The New LED indicator light has higher visibility to be seen easier in tighter installations
- Press the “TEST” button for one second to energize the compressor and fan for five seconds to simulate a call for cooling.
- The “TEST” button will also allow the short cycle time delay to be bypassed if a call for cooling is present, by pressing the “TEST” button for one second as well.



Comparison to Older / Competitive Products

1 Brownout Protection

- Shuts off the compressor and fan if line voltage is below 180VAC for more than 4 seconds
 - Fast-flashing Green/Red LED lets you know if voltage is low
- Operation resumes if line voltage returns to a minimum of 190VAC
- SureSwitch will not attempt to start the compressor and fan if line voltage is less than 187 VAC
 - Fast-flashing Green/Red LED lets you know if voltage is low
- SureSwitch ships with this feature turned on, but can be switched off by dipswitch

Reduces chance for compressor and condenser fan motor damage; motor winding temps rise 10-15% for each 10% of voltage drop.



49M11-843

Comparison to Older / Competitive Products

2 Short Cycle Delay

- SureSwitch starts a three-minute delay at power-up, and any time the compressor is shut down
 - Fast-flashing green LED indicates a delay is present
- SureSwitch ships with this feature turned on, but can be switched off by dipswitch

Rapid cycling can pump out oil and do damage to compressors.

If system pressures aren't allowed enough time to equalize, motor windings can be stressed.



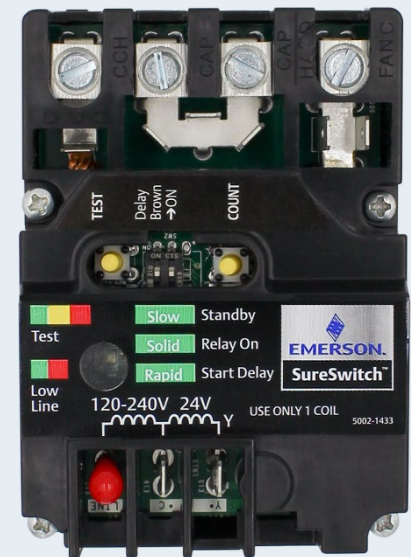
Brownout
Protection



Short
Cycle Delay



Short
Cycle Delay



49M11-843

Comparison to Older / Competitive Products

3 Random Start Delay

- SureSwitch starts a 5-90 second delay, at power-up and recovery from a brownout.
 - Fast-flashing Green LED indicates a delay is present
- Normal compressor cycling will not activate a Random Start Delay

Perfect for multi-unit installs like apartments to help reduce blackouts/brownouts from multiple loads restarting simultaneously.



49M11-843

Specs

ELECTRICAL RATINGS

Line voltage input: 120/208/240 VAC, 1-phase, 50/60 Hz

Full load amperes: (FLA) 40A

Locked rotor amperes: (LRA) 200A

24 VAC Control (Coil) Voltage (Y,C): 24 VAC, 50/60 Hz

120/240 VAC Control (Coil) Voltage:

120/208/240 VAC, 1-phase, 50/60 Hz

For 2 Pole applications if local electrical codes are met

Operating Temperature Range

-40° to 158° F (-40° to 70°C)

Humidity Range

5 to 95% relative humidity (non-condensing)

Dimensions

2-3/4" W x 2-3/8" H x 3-7/8" L

Timings

Short-cycle delay: 0s or 180s (selectable) at 60 Hz 0s or 216s (selectable) at 50Hz

Compressor test: 5s at 60 Hz 6s at 60 Hz

49M11-843 SureSwitch™ Multi-Volt Contactor

Recommended Terminal

Torque – L1, L2, T2(R) and T1(C)

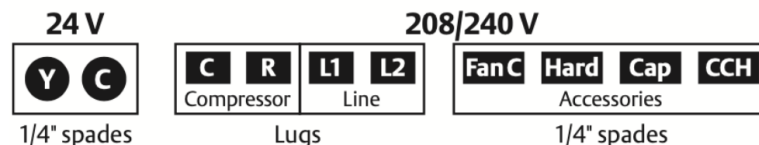
#4–6AWG: 45in-lbs

#8AWG: 40in-lbs

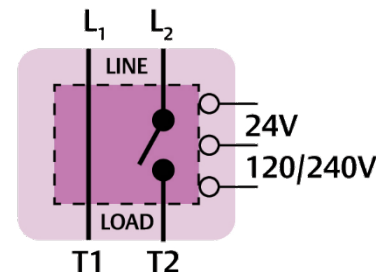
#10–14AWG: 35in-lbs

24 VAC (Y,C) terminals are 1/4" male QC's accepting #12-24AWG wire

Terminal Designations



SureSwitch requires line voltage for operation and testing.



Install

49M11-843 SureSwitch™
Multi-Volt Contactor

Installing the SureSwitch Multi-Volt Contactor

The 49M11-843 SureSwitch™ Multi-Volt Contactor replaces 24v, 120v, 208v, or 240v coil contactors. And has wide compatibility with single stage residential AC/Heat pumps with PSC fan motors as well as refrigeration equipment such as walk-in coolers, refrigeration cases, ice machines, and carbonated beverage machines.

Today, we'll walk through install steps for residential A/C or a heat pump.



What's in the Box

List of Contents:

- SureSwitch™ Contactor
- Instruction Sheet
- Control Box Label
- 2x Mounting Screws
- 1x Dual Spade Splitter

Model 49M11-843	
Contact Ratings:	
VAC: 240	
FLA: 40	
LRA: 200	
HP: 5	
UL 	
5002-1389002	
Lug Torque (Cu/Al 75°C)	
4 - 6 AWG	45 in/lbs
8 AWG	40 in/lbs
10 - 14 AWG	35 in/lbs
120 - 240 VAC Coil	50/60 Hz
24 VAC Coil	MADE IN MEXICO

UL Label

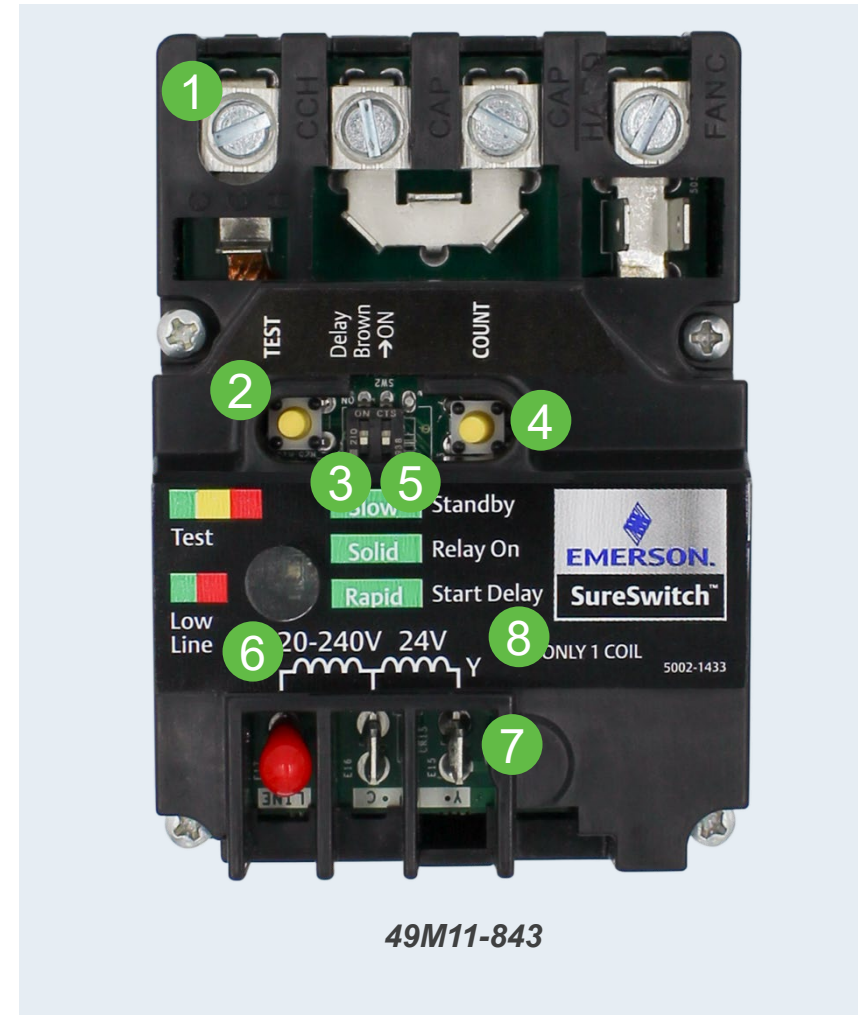
SureSwitch™ Contactor Upgrade



49M11-843 SureSwitch™ Multi-Volt Contactor Features

Features:

- 1) Line voltage Brownout Protection
- 2) Test Button to simulate a 5 sec “Y” call
- 3) Short Cycle Protection Delay Switch
 - Factory set to on (3 minutes)
- 4) Lifetime Cycle count Button
- 5) Brown Out Protection Switch
 - Factory set to on (180v >4sec.)
- 6) Tricolor LED Fault/Status Indicator
- 7) 24v/120v/240v Coils
- 8) Random Start Delay following Brownout (5-90sec.) (Not Pictured)
- 9) Sealed Contacts (Not Pictured)

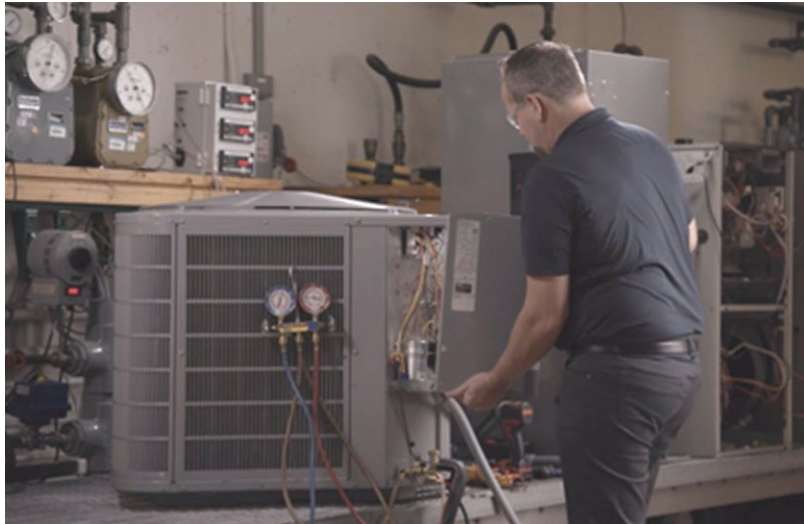


49M11-843

Installation – Step 1

1

- Turn off the power to the condensing unit
- Disconnect the power coming from the indoor unit
- Remove the access panels



Installation – Step 2

2

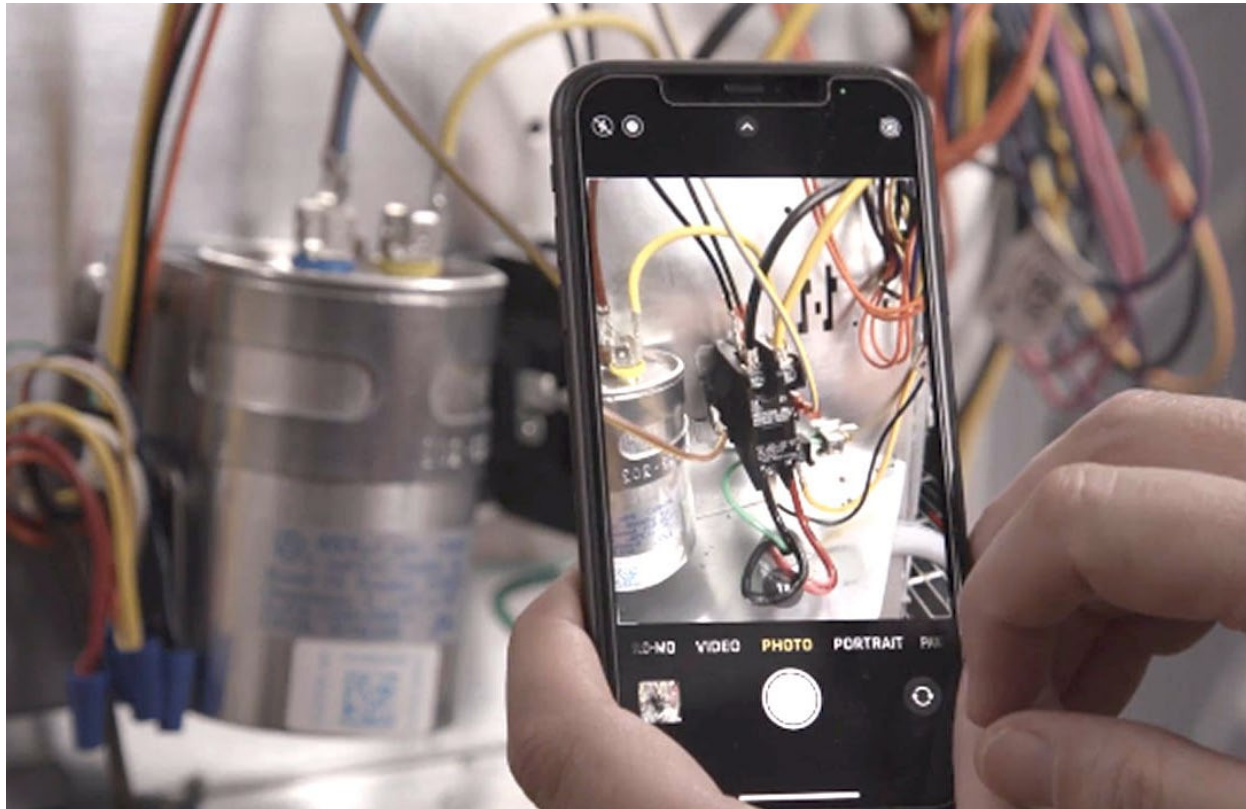
Scan the QR on the package to download WR Mobile and check for the appropriate cross reference on the existing install.



Installation – Step 3

3

Always a good idea to take a quick picture of the existing installation before disconnecting.



Installation – Step 4

4

Remove the Wiring:

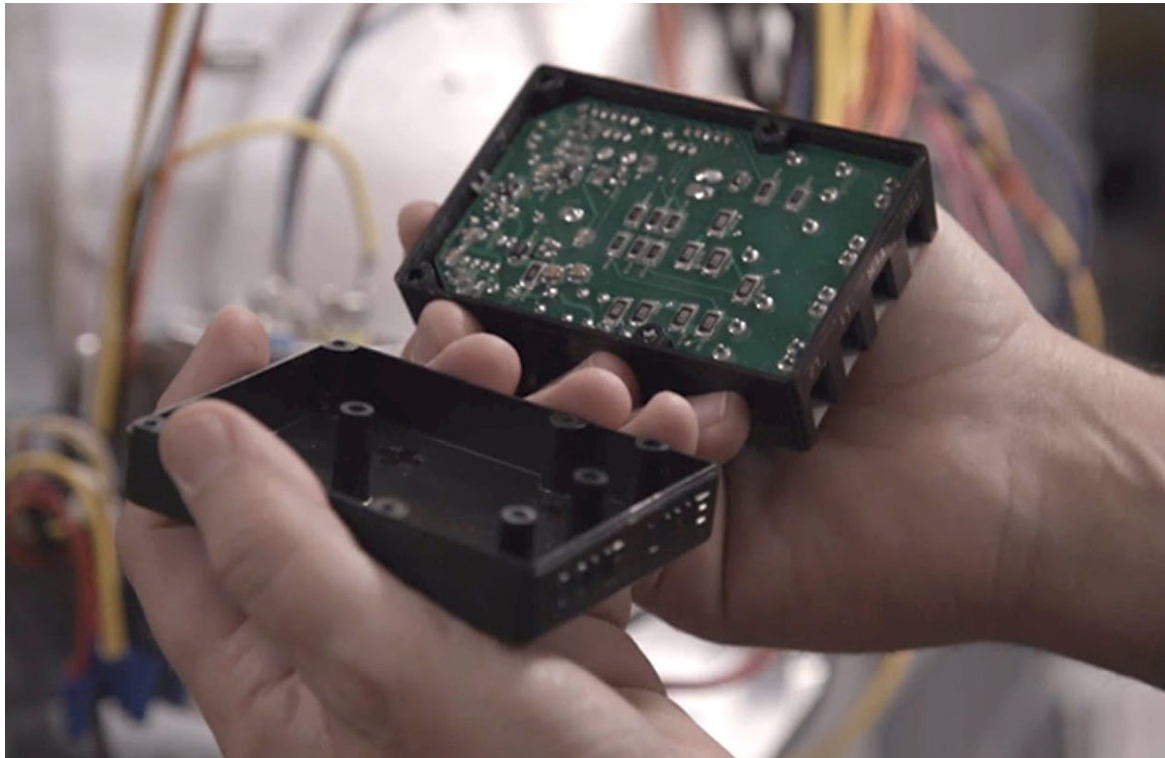
- Remove 24v coil wires
- Disconnect line voltage
- Verify circuit on shunt leg
- Remove yellow and black wires from shunt and switch sides
- Note the locations of the wires as you remove them, particularly the black wire with red tape connected to the line in switched side.
- Remove the contactor



Installation – Step 5

5

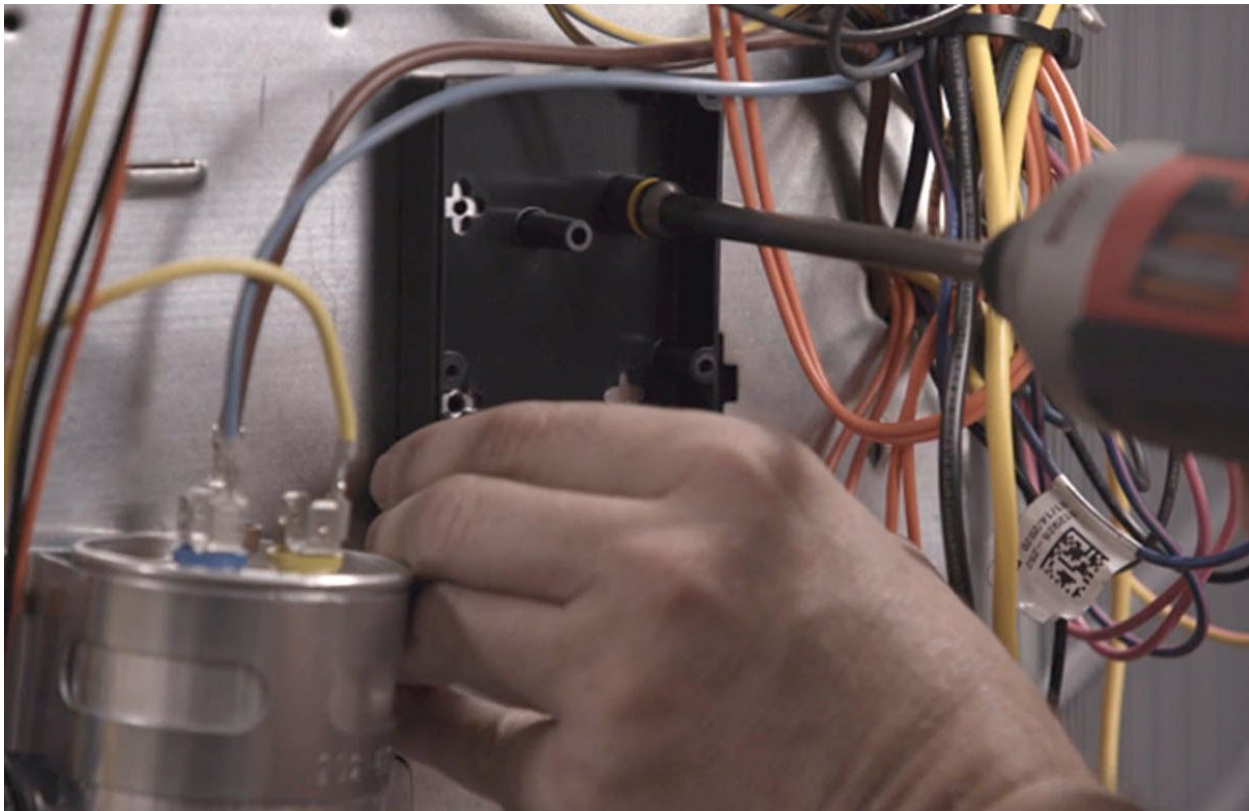
Select flat mounting location and then separate the housing, noting the base orientation before separating. You'll note that three screws are loose, and one is tightened when it comes from the factory.



Installation – Step 6

6

Attach mounting base to the control panel and then reattach the SureSwitch™ to the base with 4 included screws.

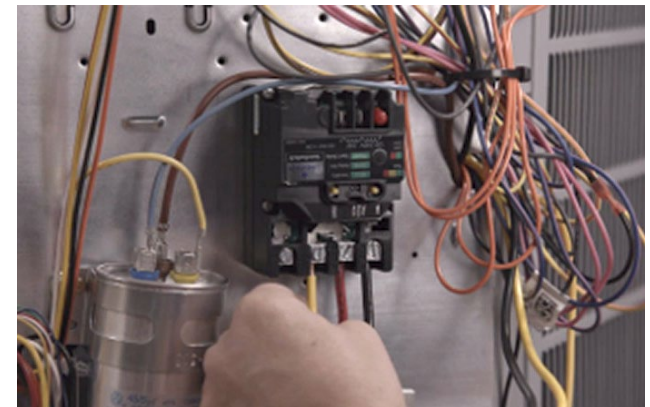


Installation – Step 7

7

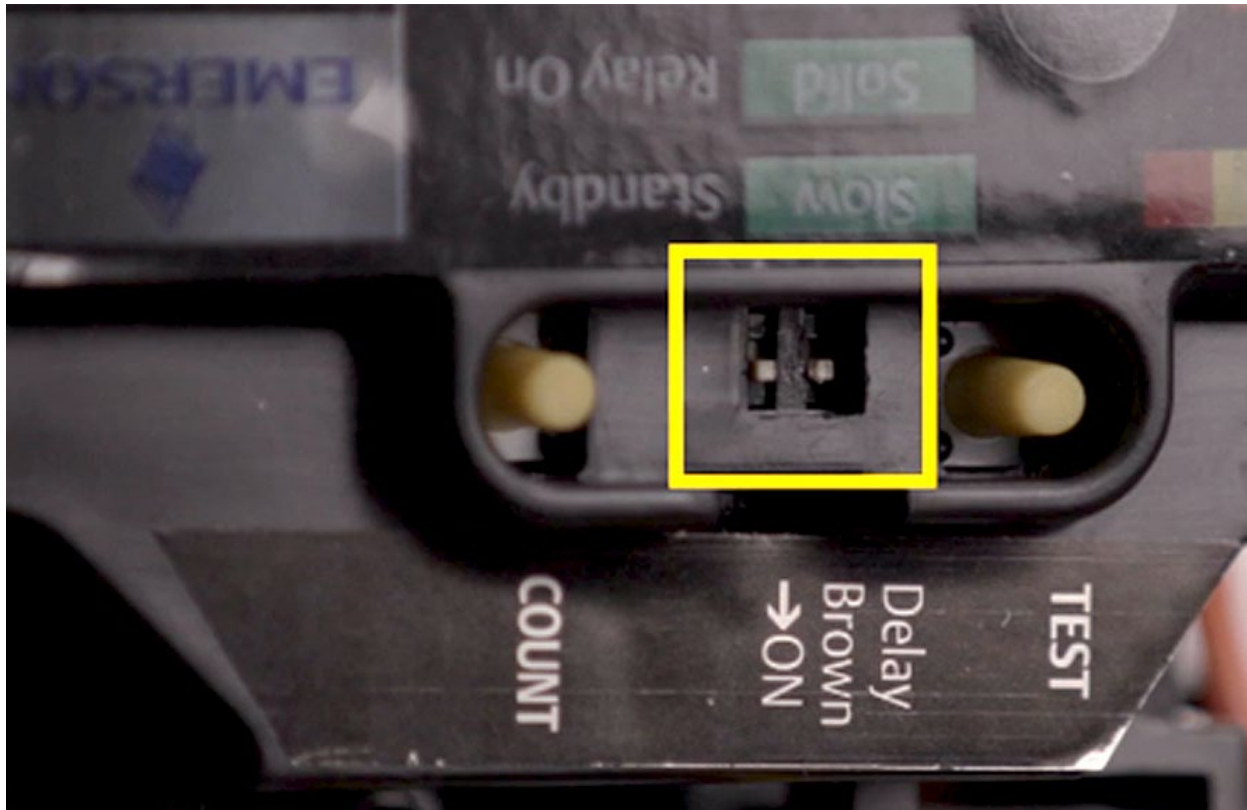
Connect the wiring:

- Remove label over contacts before beginning
- Attach line voltage to L1 and L2, torque to spec
- Install common and run wires, removing connectors if necessary, to T1 and T2, torque to spec
 - Yellow is T1 / Black is T2
 - Install remaining yellow wires to T1 shunt leg
- Attach black wire with red tape to L2
 - Install remaining black wires to T2
- Based on application, utilize spade terminals
 - (Here, 24v wires to Y and C, red cap stays on line spade terminal)



Installation – Step 8

- 8 For short cycle time delay and brownout protection, dipswitches are factory set to “on”. If desired, disable with a small screwdriver.

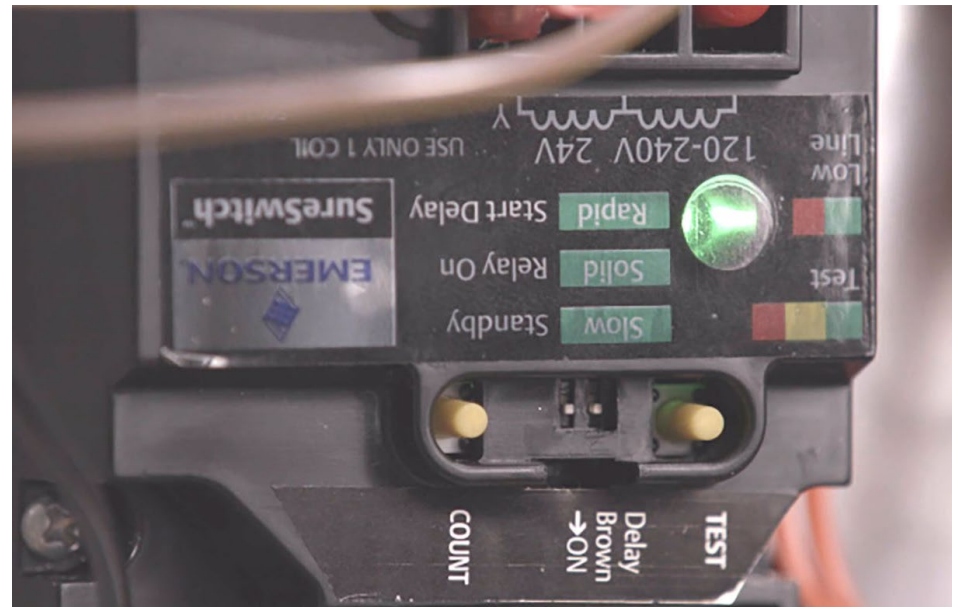


Installation – Step 9

9

Test your work:

- Turn on the power to the condensing unit
- Turn on the low voltage from the indoor unit
 - **Green** LED will flash slow indicating stand-by mode



Installation – Step 10

10

Test your work:

- Press the test button for one second to enter self-test mode.
- Initiate a call for cooling
 - Rapid **Green** LED flash = short cycle delay
- Bypass short cycle delay by pressing Test for 1 second
 - Solid **Green** LED = normal operation
- **Terminate call for cooling**



Installation – Step 11

11

Lifetime Cycle Count

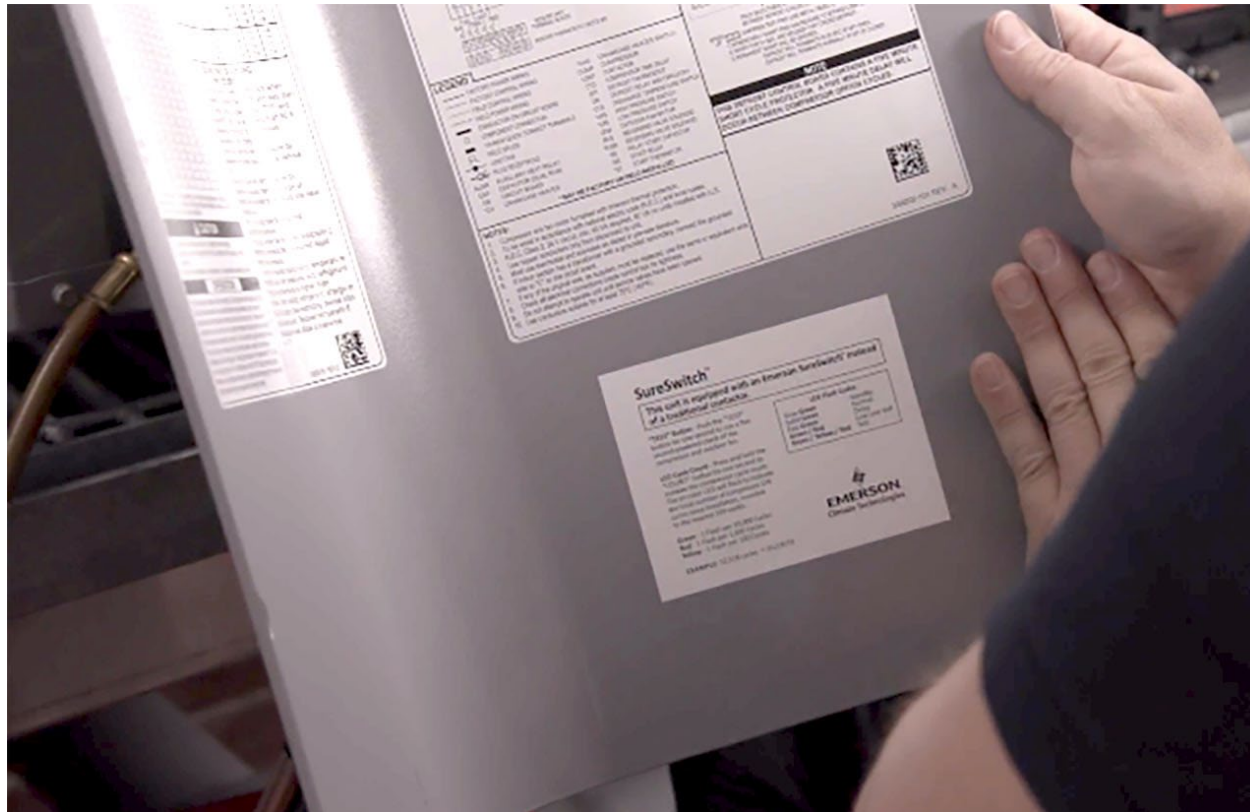
- Press the count button for one second to view the total number of compressor cycles.
- If desired, reset the cycle count by pressing Test and Count for 2 seconds. LED will flash red and yellow.



Installation – Step 12

12

Apply the control label inside the control box, reattach the access panel and you're good to go.



Thank You

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