

## Using This Retrofit Guide

This document is best viewed with Adobe Reader 6.0. To obtain the latest version of Adobe Reader, visit <http://www.adobe.com>

Specification sheets on Watlow product may be obtained at <http://www.watlow.com/literature/specsheets/>  
User Manuals on Watlow product may be obtained at <http://www.watlow.com/literature/prodtechinfo/>  
Additional information on other Watlow products may be obtained by visiting <http://www.watlow.com/>

To locate a controller, search on the part number such as 965A-1CD0-00RG. Use the Help feature in Adobe Reader on how to search documents.

If there are multiple listings, then the retrofit is conditional upon field use. Select the appropriate selection. The User's Manual is included at the bottom of this document when available.

Before selecting a replacement controller:

1. Know the application.
  - Temperature range
  - Sensor type
    - Is the sensor upgradable if required?
  - Additional input requirements – remote set points, secondary sensor or events
  - Output required – control, alarm, event
    - Is the power-switching device upgradable?
  - Operating voltage of controller
  - Mounting requirements – panel space
  - Is a safety limit device required?
2. Know the product.
  - Inputs – type and number of
  - Control function – direct (cool) or reverse (heat)
  - Outputs – switched DC, SSR, or mechanical relay
  - Communication requirements
  - Which control features are required? (cascade, slidewire, differential, remote control, other)
3. Use your best judgment for selecting a replacement controller. All applications require close examination of input, output and the control mode needs to have the controller function properly.
4. Safety: Remember to make sure all redundant safety equipment is in place and working when retrofitting equipment. If a system has been retrofitted without the proper safety equipment, you could be liable if an accident occurs.

**This is only a guide to replacement controllers. If you have doubts, please call (507) 454-5300 and ask for technical support or email [wintechsupport@watlow.com](mailto:wintechsupport@watlow.com). We're here to help. The suggested replacement will differ in fit and form. Please review the replacement controller specifications for suitability. Carefully check the notes for additional information that may apply.**

Your comments or suggestions on the Retrofit Guide are welcome. Please send comments or corrections to: Technical Writer, Watlow Controls, 1241 Bundy Boulevard, P.O. Box 5580, Winona, MN 55987-5580; phone (507) 454-5300; fax (507) 452-4507. This Retrofit Guide is copyrighted by Watlow Winona, Inc., © February 2004 with all rights reserved. (1455)

## **Abbreviation & Terminology**

**(as used in this document)**

**0.5** – 0.5 amperes of current switching capability

**2A** – 2 amperes of current switching capability

**5A** - 5 amperes of current switching capability

**10A** – 10 amperes of current switching capability

**15A** – 15 amperes of current switching capability

**12-24** – Supply voltage can be between 12 to 24 Volts

**100-240** – Supply voltage can be between 100 to 240 Volts

**100 ohm DIN** – refers to 100-ohm platinum RTD that has a DIN curve.

**100 ohm JIS** – refers to 100-ohm platinum RTD that has a JIS curve.

**1/32 DIN** – Deutsche Industrial Norm standard for panel mounted controller, hole size is cut to 1.78”w x 0.88”h.

**1/16 DIN** – Deutsche Industrial Norm standard for panel mounted controller, hole size is cut to 1.78”w x 1.77”h.

**1/8V DIN** – Deutsche Industrial Norm standard for panel mounted controller, hole size is cut to 1.78”w x 3.63”h.

**1/8H DIN** – Deutsche Industrial Norm standard for panel mounted controller, hole size is cut to 3.63”w x 1.77”h”

**1/8S DIN** – Deutsche Industrial Norm standard for panel mounted controller, hole size is cut to 2.68”w x 2.68”h.

**¼ DIN** – Deutsche Industrial Norm standard for panel mounted controller, hole size is cut to 3.63”w x 3.63”h.

**Action** – determines the direction of control. Heat (reverse acting) or Cool (direct acting).

**Auto Reset** – the limit will automatically reset on a power cycle but requires manual reset on limit trip.

**Cascade** – a control algorithm in which the output of one control loop provides a set point for another loop. The second loop, in turn, determines the control action.

**Ch** – Channel refers to an analog input. There are single and dual channel controllers.

**Control Mode** – the method that a controller uses to switch the outputs such as PID, ON/OFF, and Manual.

**Differential** - control algorithm in which the output is based on the difference of the inputs plus set point.

**DIN** – Deutsche Industrial Norm, a set of technical, scientific and dimensional standards developed in Germany. RTD sensors with the DIN curve change resistance at a rate of 0.00385 ohms/ohms/C.

**DIN Rail** – standard DIN EN50022 mounting method for attaching devices onto a metal rail.

**Fixed** – refers to a set point that is fixed at one value.

**High Limit** - device will deactivate output on a temperature rise above set point.

**Inductive Load** – any device that has a wire winding such as solenoids, electromechanical relays or transformers.

**Input** – refers to the sensor types that may be connected.

**Integral** – the set point in integral (on board) to the controller.

**JIS** – Joint Industrial Standards, a set of technical, scientific and dimensional standards developed in Japan. RTD sensors with the JIS curve change resistance at a rate of 0.00396 ohms/ohms/C.

**Line Voltage** – the voltage required powering the electronics of the controller.

**Low Limit** - device will deactivate output on a temperature drop below set point.

**On/Off** – a method of control that turns the output full on until set point is reached and then off until the process error exceeds the hysteresis.

**Open Brd** – the form factor of this controller is an open circuit board mounted on four standoffs.

**Manual Reset** – the limit must be reset on a power cycle and requires manual reset on limit trip.

**Multi RSP** – multiple remote set potentiometers were supported. Each allowed the set point to be selected and adjusted.

**Relay** – refers to an electromechanical relay.

**Remote** – set point is adjusted using a remote potentiometer.

**Panel** – the form factor of this controller is mounted through a hole cut in the panel.

**PI** – Proportional and Integral, a control mode with two functions: proportional action dampens the systems response, and integral corrects for droop.

**PID** – Proportional, Integral, and Derivative, a control mode with three functions: proportional action dampens the systems response, integral corrects for droop, and derivative prevents overshoot and undershoot.

**Potted** – the circuit board and electronics are encased in epoxy.

**Proc** – Process input may accept 0-5, 1-5, 0-10 volts or 0-20 and 4-20 mA.

**Profiling** – Controller will perform a sequence of programmed steps.

**Programmable** – The feature is changeable in the field through jumpers and/or parameter selection.

**RTD** – Resistance Temperature Detector, a sensor that is 100 ohms at 0 degrees C and made of platinum material.

**SSR** – Solid State Relay, these devices will switch AC voltage only and require a load to latch on.

**Sw DC** – Switched DC, a time proportioning DC output used to drive DC input solid state relays.

**t/c** – Thermocouple sensor device made by joining two dissimilar metals whose standards is identified by a letter.

**Temp Range** – the range over which the controller could have the set point adjustment.

**Thermistor** – a sensor that changes resistance as the temperature changes. Similar but not the same as an RTD.

**Universal** – Input can be a thermocouple, 100 ohm DIN RTD or process (volts or milliamperes)

**VAC** – Volts Alternating Current

**VAC/DC**- Volts Alternating Current or Direct Current

**VDC** – Volts Direct Current

**VTB Sw DC** – Variable Time Base Switched Direct Current, a time proportioning DC output where the cycle time is variable.

*These notes are used to signify areas of concern in changing to a retrofit choice. These notes are also printed at the end of the retrofit listing.*

Note 1: Retrofit controller requires a substitution of a 100 Ohm RTD sensor for the thermistor.

Note 2: Mounting and dimensions of retrofit controller are different. Verify that sufficient panel space and depth is available.

Note 3: Retrofit controller outputs are different. Add external interposing mechanical or solid state relay if applicable.

Note 4: Retrofit controller has a programmable, not fixed set point. Lock set point using controller's lockout parameter.

Note 5: For DIN rail mounting or sub-panel mounting, purchase DIN rail adapter p/n 0822-0586-P001 for 1/32 DIN or p/n 0822-0586-P002 for 1/16 DIN.

Note 6: Add a suppressor, Watlow p/n 0804-0147-0000, for inductive loads.

Note 7: Retrofit does not have equivalent action (as example, no manual reset)

Note 8: Retrofit controller does not have dual dial scale.

Note 9: Hardware lockout is not available on retrofit.

Note 10: Retrofit controller does not have user selectable line voltage.

Note 11: Retrofit does not support remote set point or retransmit. Check if pins 13, 14, 15 or 16 have termination. If wires are on these pins, select a different retrofit.

Note 12: Retrofit controller does not have user selectable control action.

Note 13: Solid state sensor required for humidity. See <http://www.vaisala.com>

Note 14: Retrofit controller does not have user selectable control mode.

Note 15: Use auxiliary event board A007-1732-F4B8

Note 16: Retrofit communications are different, consult specifications.

Note 17: Verify retrofit input range matches application.

## Series 920

<u>Series 920</u>	<b>Line Voltage</b>	<b>Input</b>	<b>Temp Range</b>	<b>Control Mode</b>	<b>Action</b>	<b>Output</b>	<b>Set Point</b>	<b>Mounting</b>	<b>Retrofit</b>	<b>See Notes Below</b>
920A-2BA0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	
920A-2BA0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	16
920A-2BB0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	
920A-2BB0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	16
920A-2BC0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	
920A-2BC0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	16
920A-2BD0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-2BD0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-2CA0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	
920A-2CA0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	16
920A-2CB0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	
920A-2CB0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	16
920A-2CC0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	
920A-2CC0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	16
920A-2CD0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 6A Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-2CD0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 6A Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-2DA0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	3
920A-2DA0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	3, 16
920A-2DB0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-2DB0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-2DC0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	3
920A-2DC0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	3, 16
920A-2DD0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-2DD0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-2EA0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	3
920A-2EA0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	3, 16
920A-2EB0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-2EB0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-2EC0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	3
920A-2EC0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	3, 16
920A-2ED0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-2ED0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-2FA0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, no output 2	Profiling	1/4 DIN	F4SH-FAA0-01RG	
920A-2FA0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, no output 2	Profiling	1/4 DIN	F4SH-FAA0-01RG	16
920A-2FB0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, 0.5A SSR	Profiling	1/4 DIN	F4SH-FKA0-01RG	
920A-2FB0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, 0.5A SSR	Profiling	1/4 DIN	F4SH-FKA0-01RG	16
920A-2FC0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Sw DC	Profiling	1/4 DIN	F4SH-FCA0-01RG	
920A-2FC0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Sw DC	Profiling	1/4 DIN	F4SH-FCA0-01RG	16
920A-2FD0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Relay	Profiling	1/4 DIN	F4SH-FKA0-01RG	3
920A-2FD0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Relay	Profiling	1/4 DIN	F4SH-FKA0-01RG	3, 16
920A-3BA0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	
920A-3BA0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	16
920A-3BB0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	
920A-3BB0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	16
920A-3BC0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	
920A-3BC0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	16
920A-3BD0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3

## Series 920

<u>Series 920</u>	<u>Line Voltage</u>	<u>Input</u>	<u>Temp Range</u>	<u>Control Mode</u>	<u>Action</u>	<u>Output</u>	<u>Set Point</u>	<u>Mounting</u>	<u>Retrofit</u>	<u>See Notes Below</u>
920A-3BD0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-3CA0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	
920A-3CA0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	16
920A-3CB0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	
920A-3CB0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	16
920A-3CC0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	
920A-3CC0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	16
920A-3CD0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 6A Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-3CD0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 6A Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-3DA0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	3
920A-3DA0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	3, 16
920A-3DB0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-3DB0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-3DC0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	3
920A-3DC0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	3, 16
920A-3DD0-A000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-3DD0-B000	115/230 VAC	Universal		Progammable	Progammable	6A Relay, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-3EA0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	3
920A-3EA0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	3, 16
920A-3EB0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-3EB0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-3EC0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	3
920A-3EC0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	3, 16
920A-3ED0-A000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-3ED0-B000	115/230 VAC	Universal		Progammable	Progammable	15A Triac, Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-3FA0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, no output 2	Profiling	1/4 DIN	F4SH-FAA0-01RG	
920A-3FA0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, no output 2	Profiling	1/4 DIN	F4SH-FAA0-01RG	16
920A-3FB0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, 0.5A SSR	Profiling	1/4 DIN	F4SH-FKA0-01RG	
920A-3FB0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, 0.5A SSR	Profiling	1/4 DIN	F4SH-FKA0-01RG	16
920A-3FC0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Sw DC	Profiling	1/4 DIN	F4SH-FCA0-01RG	
920A-3FC0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Sw DC	Profiling	1/4 DIN	F4SH-FCA0-01RG	16
920A-3FD0-A000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Relay	Profiling	1/4 DIN	F4SH-FKA0-01RG	3
920A-3FD0-B000	115/230 VAC	Universal		Progammable	Progammable	4-20MA, Relay	Profiling	1/4 DIN	F4SH-FKA0-01RG	3, 16
920A-4BA0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	
920A-4BA0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	16
920A-4BB0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	
920A-4BB0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	16
920A-4BC0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	
920A-4BC0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	16
920A-4BD0-A000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-4BD0-B000	115/230 VAC	Universal		Progammable	Progammable	0.5A SSR, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-4CA0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	
920A-4CA0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	16
920A-4CB0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	
920A-4CB0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	16
920A-4CC0-A000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	
920A-4CC0-B000	115/230 VAC	Universal		Progammable	Progammable	Sw DC, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	16

## Series 920

<u>Series 920</u>	Line Voltage	Input	Temp Range	Control Mode	Action	Output	Set Point	Mounting	Retrofit	See Notes Below
920A-4CD0-A000	115/230 VAC	Universal		Programmable	Programmable	Sw DC, 6A Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-4CD0-B000	115/230 VAC	Universal		Programmable	Programmable	Sw DC, 6A Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-4DA0-A000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	3
920A-4DA0-B000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, no output 2	Profiling	1/4 DIN	F4SH-KAA0-01RG	3, 16
920A-4DB0-A000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-4DB0-B000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, 0.5A SSR	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-4DC0-A000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	3
920A-4DC0-B000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, Sw DC	Profiling	1/4 DIN	F4SH-KCA0-01RG	3, 16
920A-4DD0-A000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3
920A-4DD0-B000	115/230 VAC	Universal		Programmable	Programmable	6A Relay, 6A Relay	Profiling	1/4 DIN	F4SH-KKA0-01RG	3, 16
920A-4EA0-A000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	3
920A-4EA0-B000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, no output 2	Profiling	1/4 DIN	F4SH-CAA0-01RG	3, 16
920A-4EB0-A000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-4EB0-B000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, 0.5A SSR	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-4EC0-A000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	3
920A-4EC0-B000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, Sw DC	Profiling	1/4 DIN	F4SH-CCA0-01RG	3, 16
920A-4ED0-A000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3
920A-4ED0-B000	115/230 VAC	Universal		Programmable	Programmable	15A Triac, Relay	Profiling	1/4 DIN	F4SH-CKA0-01RG	3, 16
920A-4FA0-A000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, no output 2	Profiling	1/4 DIN	F4SH-FAA0-01RG	16
920A-4FA0-B000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, no output 2	Profiling	1/4 DIN	F4SH-FAA0-01RG	16
920A-4FB0-A000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, 0.5A SSR	Profiling	1/4 DIN	F4SH-FKA0-01RG	16
920A-4FB0-B000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, 0.5A SSR	Profiling	1/4 DIN	F4SH-FKA0-01RG	16
920A-4FC0-A000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, Sw DC	Profiling	1/4 DIN	F4SH-FCA0-01RG	16
920A-4FC0-B000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, Sw DC	Profiling	1/4 DIN	F4SH-FCA0-01RG	16
920A-4FD0-A000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, Relay	Profiling	1/4 DIN	F4SH-FKA0-01RG	3
920A-4FD0-B000	115/230 VAC	Universal		Programmable	Programmable	4-20MA, Relay	Profiling	1/4 DIN	F4SH-FKA0-01RG	3, 16

**Note 1:** Retrofit controller requires a substitution of a 100 Ohm DIN RTD sensor.

**Note 2:** Mounting and dimensions of retrofit controller are different. Verify that sufficient panel space and depth is available.

**Note 3:** Retrofit controller outputs are different. Add external interposing mechanical or solid state relay if applicable.

**Note 4:** Retrofit controller has a programmable, not fixed set point. Lock set point using controller's lockout parameter.

**Note 5:** For DIN rail mounting or sub-panel mounting, purchase DIN rail adapter p/n 0822-0586-P001 for 1/32 DIN or p/n 0822-0586-P002 for 1/16 DIN.

**Note 6:** Add a quencharc suppressor, Watlow p/n 0804-0147-0000, for inductive loads.

**Note 7:** Retrofit does not have equivalent action (as example, no manual reset)

**Note 8:** Retrofit controller does not have dual dial scale.

**Note 9:** Hardware lockout is not available on retrofit.

**Note 10:** Retrofit controller does not have user selectable line voltage.

**Note 11:** Retrofit does not support remote set point or retransmit. If wires are on these pins, select a different retrofit.

**Note 12:** Retrofit controller does not have user selectable control action.

**Note 13:** Solid state sensor required for humidity. See <http://www.vaisala.com>

**Note 14:** Retrofit controller does not have user selectable control mode.

**Note 15:** Use auxiliary event board A007-1732-F4B8

**Note 16:** Retrofit communications are different, consult specifications.

**Note 17:** Verify retrofit input range matches application.