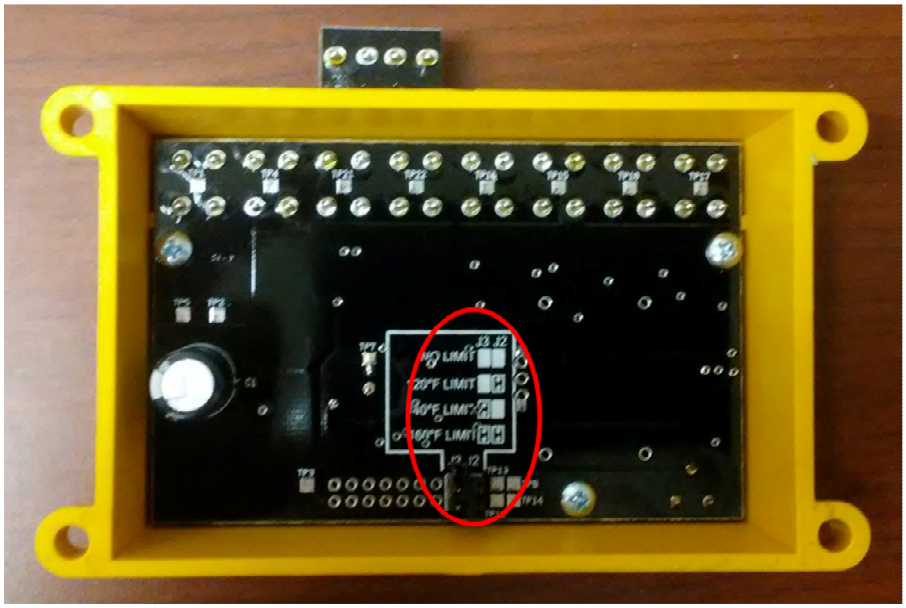
AbsolutAire, Inc.

RTC PWM-10V Installation

And Output Calibration Instructions

The RTC PWM-10V module should be installed during the panel build process, and is installed on the RTC SC-1 Signal Conditioner terminals 5 & 6 as shown in the below image. The “GND” terminal on the PWM-10V wire should be connected to wiring terminal #2 on the terminal strip as the black wire (-) on the valve actuator also needs to be connected to terminal #2 as a shared common for proper operation. This is clearly noted on the electrical diagrams. It is also recommended that the “10V” terminal on the PWM-10V module be connected to a numbered terminal on the terminal strip so the electrical personnel wiring the unit doesn’t need to make any connections to the signal conditioner when wiring the valve actuator installed on the gas manifold. The PWM-10V is a delicate module and should be handled carefully.

Jumper Settings

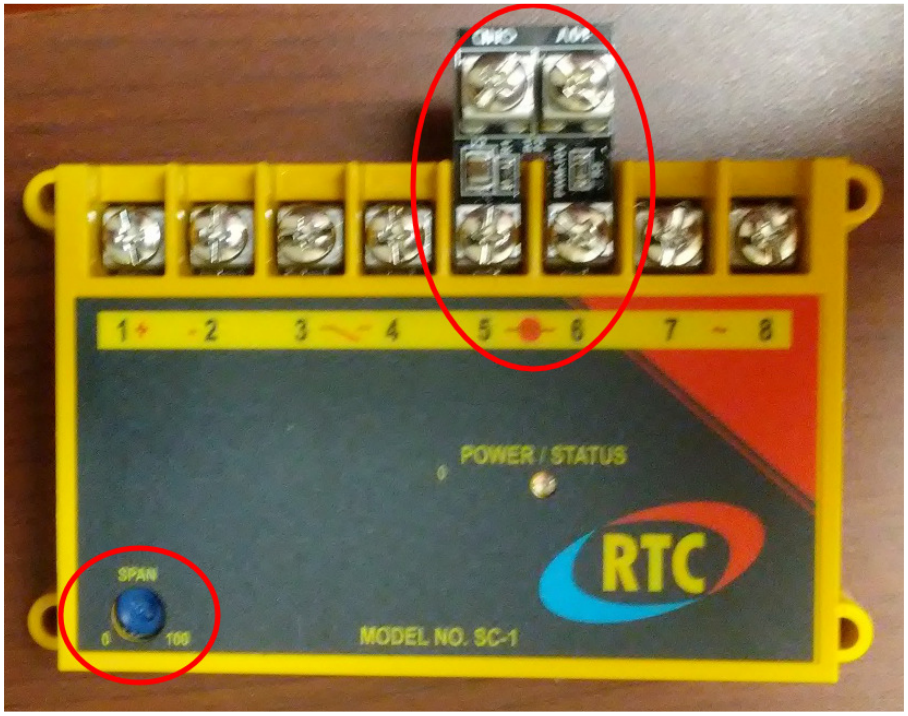


Before attaching the SC-1 Signal Conditioner to the panel, be sure to move jumper “J3” to the “OPEN” position as shown on the back of the signal conditioner. This will ensure the signal conditioner properly limits the discharge temperature to 140°F, preventing the end user from over-firing the unit and potentially causing damage. It is recommended that the panel-build personnel prepare the necessary mounting holes for the SC-1 Signal Conditioner, place the jumper in the proper position, wire the signal conditioner, but NOT actually mount the signal conditioner on the panel. This will allow the test stand personnel to verify the proper jumper setting prior to testing the unit. Once the jumper position is

verified, the test stand personnel can attach the SC-1 Signal Conditioner to the panel using the provided mounting holes.

Test Stand Output Calibration

Prior to testing, the output of the PWM-10V to the valve actuator will need to be calibrated.



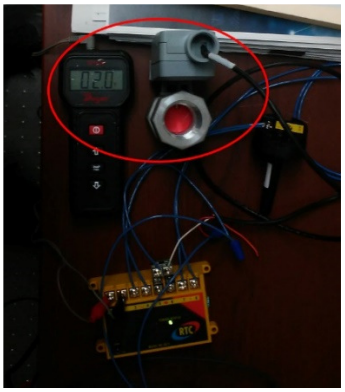
Be sure to use a BATTERY-OPERATED signal generator for this process as a Belimo SGA24 potentiometer connected to 24-VAC will result in an improper neutral reference. This results in a steady 36-volt output on terminals 5 & 6 to the PWM-10V and a steady 12-VDC output to the valve actuator.

With the battery-operated signal generator connected to terminals 1 & 2 on the SC-1 Signal Conditioner, apply a 10-volt signal. Using the “SPAN” potentiometer on the face of the SC-1 Signal Conditioner, adjust the output of the PWM-10V until there is 10-Volt output. When the span has been adjusted to achieve a 10-volt, apply 2-volts to terminals 1 & 2 on the SC-1 Signal Conditioner to verify there is a 0-Volt output from the PWM-10V. No further adjustments will be required.

This calibration process is necessary to ensure proper modulation of the valve actuator when the 2 – 10 VDC signal is applied to the SC-1 Signal Conditioner. When calibration is complete, do not seal the span potentiometer in the event field adjustments are necessary to accommodate the signal that is provided by the end user.

If there are any questions about this process, consult engineering for clarification.

Valve Modulation Images with the SC-1 Signal Conditioner and PWM-10V

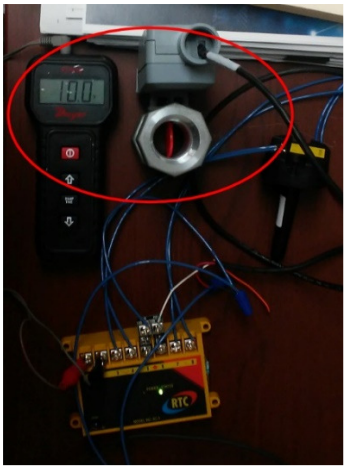


(2-volt Signal)

(4-volt Signal)

(6-volt Signal)

(8-volt Signal)



(10-volt Signal)

The modulation signal to the signal conditioner is a 2 – 10 VDC signal, with 2-Volts being full closed and 10-Volts being full open.