

The SC-1 signal conditioner provides signal conversion from a high impedance 2-10VDC signal source to drive a 24VDC solenoid. The control should be powered by an isolated 24VAC transformer to drive up to a .5A dc solenoid.

## Modes of Operation

### Valve output control mode(Default mode)

In this mode the SC-1 simply outputs a 0-24 VDC signal to drive a solenoid valve directly proportional to the 2-10VDC input signal. The output can be scaled from 0-100% by adjusting the span potentiometer on the front of the control. Output with span adjustment works as follows:

- 2V input = 0V output
- 10V input = ~24V output when span = 100%
- 10V input = ~12V output when span = 50%

The span pot can be overridden in this mode by shorting terminals 3 and 4. This effectively provides two output scales for two speed applications. When terminals 3 and 4 are shorted the control operates as if the span pot were set to 100%. For example

- 2V input = 0V output
- 10V input = ~12V output when span = 50%
- 10V input = ~24V output when span = 50% but 3 and 4 are shorted

### Discharge limit control mode

In this mode the SC-1 acts as a temperature control when used with a DFTS temperature sensor. The input signal provides a reference temperature, and the internal PID algorithm will automatically drive the valve to achieve the desired discharge temperature. The maximum discharge temperature can be limited to 120, 140, or 160°F by setting the jumpers on the back of the control according to the following chart.

SC-1 SW REV 3.0
NO LIMIT
120°F LIMIT
140°F LIMIT
160°F LIMIT

The scale for voltage to temperature conversion in this mode is

- 2 VDC = 40°F
- 10 VDC = 160°F
- or °F = (V<sub>signal</sub> - 2V)/8V \*120°F + 40°F

## Standard Features

### Start up delay

The unit will pause for 10 seconds after power is applied before beginning to drive the output.

### Power/Status LED

A solid green LED indicates power and normal operation. A slow blinking green LED indicates power but the 10 second start up delay has not completed. A fast blinking green LED indicates that the input signal is out of range or may be reversed.

