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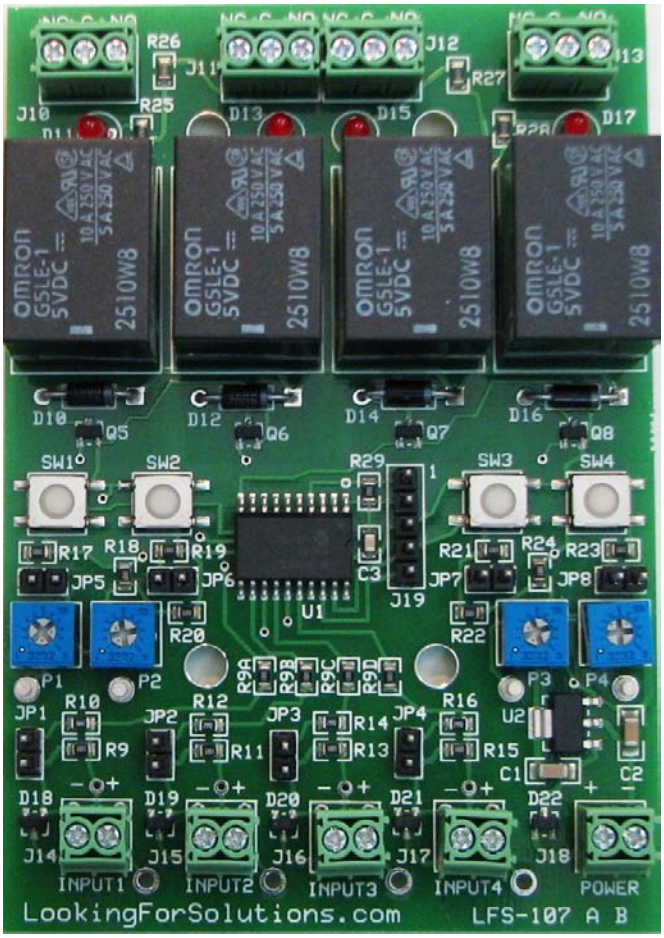

4 Channel Analog Input Relay Controller Board

Model LFS107A

Table of Contents

1- Introduction 3

2- Specifications 4

3- Troubleshooting 5

1- Introduction

LFS107A is a 4 channel relay controller board. Each relay is controlled by either a voltage or current input signal. There is a single turn potentiometer for each relay channel. It can be set anywhere from 0 to 5V (0 to 100%) of the input range to set an alarm set point.

Example - Set the Channel 1 alarm set point at 50%. You need to set the potentiometer P1 (Which is for Channel 1 alarm) at 2.5V. This voltage is measured at TP1 referenced to common ground. 2.5V is 50% of the input range (0 to 5V or 0 to 20 mA). Once the channel 1 input exceeds 2.5V, Relay1 will energize and the corresponding red LED will turn on. If the input goes below 2.45V, Relay1 will de-energize and the LED will turn off.

You can change the input signal for each channel from voltage input (0 to 5V) to current input (0 to 20 mA) by shorting JP1 (Chan1), JP2 (Chan2), JP3 (Chan3), or JP4 (Chan4) jumpers.

There are 4 test points TP1 (Chan1), TP2 (Chan2), TP3 (Chan3), TP4 (Chan4) to measure the alarm set point voltages for each channel input.

You can set each relay channel to operate as a latched relay when energized by shorting JP5 (Chan1), JP6 (Chan2), JP7 (Chan3), or JP8 (Chan4). You can reset a latched relay by pressing momentary switch SW1 (Chan1), SW2 (Chan2), SW3 (Chan3), or SW4 (Chan4).

Powering the Relay controller board

Powering the board: Apply 5 Vdc across J18 Terminal Block. Note the polarities and voltage level. Applying a larger voltage could damage the board.

Input Terminal Blocks: Apply either 0 to 5 VDC or 0 to 20 mA current input across J14 (Chan1), J15 (Chan2), J16(Chan3), or J17 (Chan4) terminal blocks. Note the polarities and signal level.

Power and input signals all share the same common ground.

Operating the Relay controller board

For voltage inputs, leave JP1, JP2, JP3, JP4 jumpers open

For current inputs, short JP1 (Chan1), JP2 (Chan2), JP3 (Chan3), JP4 (Chan4) jumpers.

Alarm points are set using potentiometers P1 (Chan1), P2 (Chan2), P3 (Chan3), P4 (Chan4).

To activate latched relay when energized, short JP5 (Chan1), JP6 (Chan2), JP7 (Chan3), or JP8 (Chan4) jumpers.

To reset a latched relay, press momentary switch SW1 (Chan1), SW2 (Chan2), SW3 (Chan3), or SW4 (Chan4).

2- Specifications

Relay	Four SPDT, Form C – 5 Volts
Relay Contact Rating	3A @ 120 VAC, 3A @ 30 VDC
Latched Relay	Set via Jumper selection
Reset Latched Relay	Set via momentary switches
Power Supply	5 Vdc @ 320 mA
Analog Input type	
Voltage	0 to 5 VDC @ 50 uA
Current	0 to 20 mA (250 ohms load)
Analog Input resolution	10-Bit
Alarm set point	0 to 100%
Alarm Dead band	50 mV
Alarm indication	Red LED
Power & Input connections	Terminal Block
Output contact closure connections	Terminal Block
Mounting Holes	0.167” diameter, 4 PLCS, DIN Rail mountable
Operating Ambient Temperature	-40 to 85 °C (-40 to 185 °F)
Operating Relative Humidity	25 to 85%RH
PC Board size	2.80 x 4.05 inches (71.1 x 102.8mm)

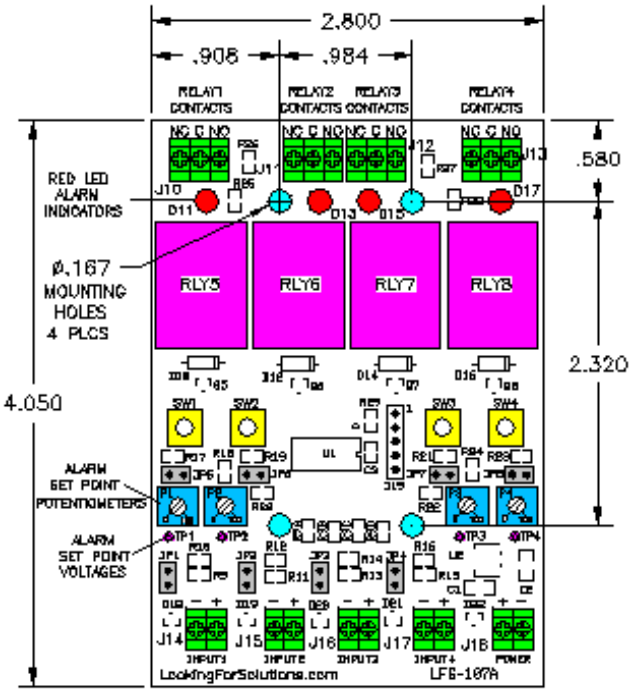

Figure 1 – General Dimensions - LFS107A

3- Troubleshooting

Here is a list of items to check for any troubleshooting:

- Make sure the Board is powered not exceeding 5 Volts and at the correct polarity.
- Make sure the input signals do not exceed 5 Volts or 20 mA and at the correct polarities.
- Place the proper jumpers for current input and latched relay outputs.