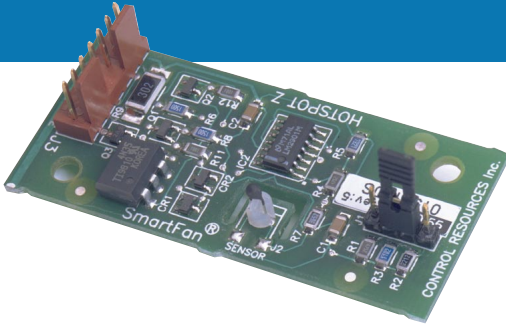


SmartFan[®] HotSpot-Z — Temperature Alarm



SmartFan HotSpot-Z is a compact, multiple-output temperature alarm. Trigger temperature is adjustable by means of a jumper on the circuit board. Normally open or normally closed outputs can drive a logic circuit, LED or piezo alarm. Alarms are referenced to ground. An additional normally closed optically isolated output is provided. HotSpot-Z is compatible with temperature sensors P1 through P9 shown on page 34.

For additional information see:
page 34 Sensors

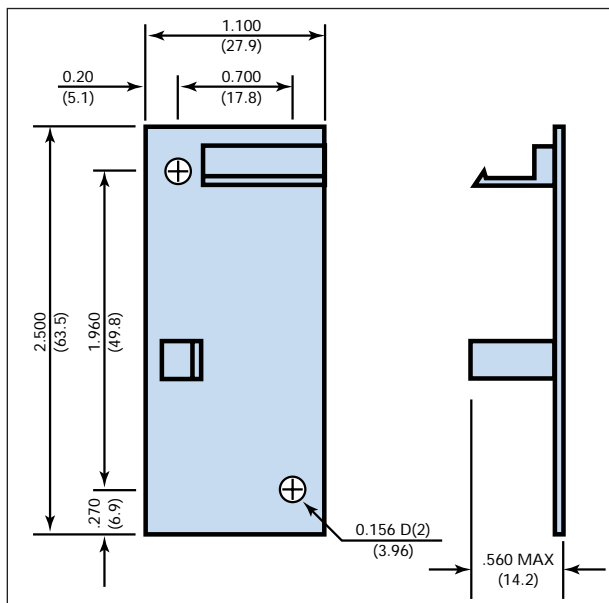
FEATURES

- Wide input voltage range of 5.0 to 25.0 VDC
- Selectable alarm trigger temperature of 45°, 50°, or 55°C (86°, 92° or 98°C when P3 sensor is used)
- Normally open and normally closed outputs provide nominal 8 mA to an LED connected between the output and L. They can sink at least 4 mA at 0.4 VDC to drive a logic circuit. A piezo alarm would be connected between NO and +. Outputs are referenced to ground
- Optically isolated output sinks at least 1 mA at 0.4 volts
- Optional isolated MOS relay alarm output for high current or high voltage applications

Normally Closed (E,C) Alarm Output: Optically isolated to drive logic circuits. Closed and can sink at least 1.0 mA at 0.4 volts below trigger temperature. Open above trigger temperature and will accept up to 30 VDC.

Normally Closed (NC) Alarm Output: Closed below trigger temperature and will sink 4 mA at 0.4 volts or less. Open above trigger temperature and will accept up to 30 VDC. Applies nominal 8 mA to an LED connected from NC to L.

Normally Open (NO) Alarm Output: Open below trigger temperature and will accept up to 30 VDC. Closed above trigger temperature and will sink 4 mA at 0.4 volts or less. Applies nominal 8 mA to an LED connected from NO to L. Applies nominal power supply voltage to a piezo alarm connected from NO to +.



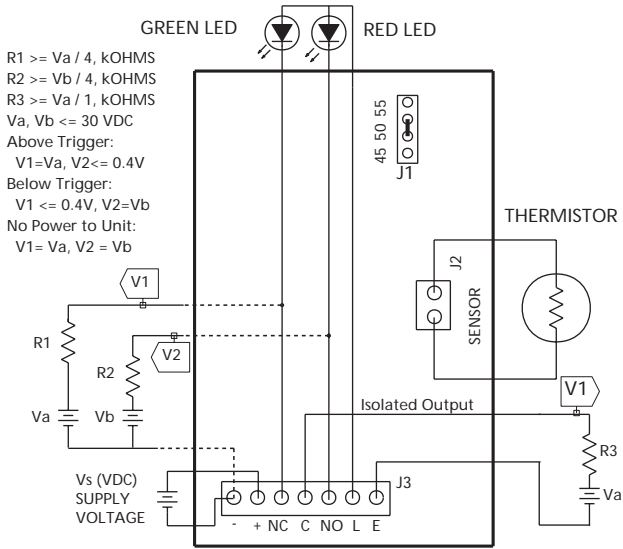
SPECIFICATIONS

Part Number	Sensor Type
015Z150	Header on board for remote sensor
015Z150S	Sensor soldered to board
H109	Hardware Pack

Note: Maximum operating temperature is 65°C

INSTALLATION

Connections/Jumpers



- J1 – Alarm Temperature Setting
- J2 – Sensor
- J3 – Input Power and Alarm Outputs

Figure 1

Wiring Diagram (Dotted lines represent connections to alternative wiring configurations.)

Power-In Connections (J3)

Connect the power supply between pins - and + on header J3 using any voltage between 5 and 25 VDC. Power supply current is 10 mA maximum at 12 VDC plus an additional 8 mA for an LED if used.

Sensor Connection (J2)

Sensors are shown on page 34. There is no polarity consideration when connecting the sensor.

OPERATION

Setting

Trigger Temperature (J1): Use this jumper to set the trigger temperature to 45°, 50°, or 55°C. Factory setting is 50°C. If the P3 sensor is used, trigger temperature settings are 86°, 92°, and 98°C.

Alarm Outputs (J3)

Normally Closed, Isolated Output: This output is intended for connection to a logic circuit. An optically isolated NPN transistor is connected to pins J3:E (emitter) and J3:C (collector). The output is closed and can sink at least 1.0 mA at 0.4 VDC for temperatures below the trigger temperature. Above the trigger temperature, the transistor is open and up to 30 VDC can be applied.

Non-isolated Outputs: The NO and NC outputs can be used to provide a logic gate or LED alarm indication.

For logic circuit alarm indication, each alarm output can sink up to 4 mA at $\leq 0.4 \text{ VDC}$. When open, a maximum of 30 VDC can be applied to each output. Power for an LED alarm indication is provided by Pin J3:L via an internal 12 mA DC constant current source. An LED connected between NO (normally open) and L will light above trigger temperature. An LED connected between NC (normally closed) and L will light below trigger temperature. A piezo alarm would normally be connected between NO and +. Above trigger temperature, the supply voltage is applied to the piezo alarm.

Note: L is positive (+); NC and NO are negative (-).

Alarm Circuit Logic

Alarm Output	Above Temperature Trigger	Below Temperature Trigger	Power Removed from Unit
NC	Open Circuit	Short to Ground	Open Circuit
NO	Short to Ground	Open Circuit	Open Circuit
C-E	Open Circuit	Short to Ground	Open Circuit

Suggested Connecting Hardware

Ref. Desc.	Header on Board ¹	Qty	H109 Hardware Pack Desc.	Mfg. ¹	Part No. ¹
J2	22-29-2021	1	Housing	Molex	22-01-2027
		2	Terminal (gold)	Molex	08-55-0102
J3	22-29-2071	1	Housing	Molex	22-01-3077
		7	Terminal (gold)	Molex	08-55-0102
		2	PCB Support	Richco	CBS-4-19

¹or equivalent