## INSTALLATION

Model JH1020 plugs into any standard 11-pin circular ("octal") relay socket. JH Technology offers part #DS011 for DIN-rail or surface mounting.

## CONNECTIONS

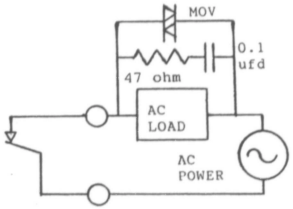
Connections to the 11 socket terminals are:

**Pin 1:** Power (AC or, if DC power option, DC plus).
**Pin 2:** No connection.
**Pin 3:** Power (AC or, if DC power option, DC minus).
**Pin 4:** Input plus.
**Pin 5:** Input minus.
**Pin 6:** Setpoint 1 relay NO contact.*
**Pin 7:** Setpoint 1 relay moving contact.*
**Pin 8:** Setpoint 1 relay NC contact.*
**Pin 9:** Setpoint 2 relay NO contact.*
**Pin 10:** Setpoint 2 relay moving contact.*
**Pin 11:** Setpoint 2 relay NC contact.*

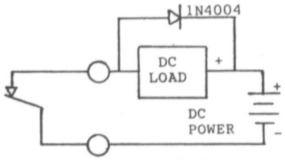
* Notes: NO (normally open) and NC (normally closed) refer to the relay state when no power is applied. For Failsafe operation the NO contacts are closed under nonalarm conditions. The NC contacts close upon alarm and upon loss of power.

## CONTACT PROTECTION - INDUCTIVE LOADS

Contact protection (arc suppression) must be used when switching inductive loads. Refer to the figures below for recommended suppression circuits. The voltage ratings of the diode, MOV and capacitor must be higher than the voltage being switched (DC or *peak* AC).




PROTECTION - AC LOAD




PROTECTION - DC LOAD

## CHANGING ALARM FUNCTION

To change the alarm function to HI/HI, HI/LO or LO/LO trip, use a small screwdriver to slide the recessed switch (on top of the module) to the desired setting.

## RECALIBRATION

Connect a precision DC calibration source to the input. Turn the DB (deadband) trimpots fully counterclockwise (minimum deadband). To calibrate alarm 1, set the input to the desired setpoint and turn the AL1 SP (setpoint) trimpot until the LED just switches color. For HI alarm turn the trimpot counterclockwise to switch from green to red. For LO alarm turn it clockwise for red.

If the alarm relay chatters or buzzes or if your system otherwise requires increased deadband, turn the AL1 DB trimpot clockwise. Vary the input up and down to check the amount of deadband. The setpoint will remain centered in the middle of the deadband. Full clockwise (25 turns) produces approximately 100% deadband (i.e., trip and reset 50% above and below the setpoint).

Repeat this procedure for alarm 2.

## AVAILABLE OPTIONS

**Power:**
AC Power: Model JH1020-AC. 115 or 230Vac options available.
DC Power: Model JH1020-DC. 12 or 24Vdc options available.

**Relay Action:**
*Failsafe:* Standard. Provided unless otherwise specified. The relays are energized under normal conditions and deenergize upon alarm or upon loss of power. Thus, loss of power is seen as an alarm condition.
*Option R* (Reverse Acting): Relays are normally not energized and energize (pull in) upon alarm trip.

**Factory Settings:**
Model JH1020 is normally shipped tested but uncalibrated. We will calibrate the setpoint and deadband at no extra charge if specified on the order.

**Urethane Coating:** Option U.

## SPECIFICATIONS

**Voltage Input Capabilities:**
4mV minimum span, +/-250V maximum input. Offset ranges are allowed. (Input Impedance: 200Kohms or greater.)

**Current Input Capabilities:**
1mA minimum span, +/-5 Amps maximum input. Offset ranges are allowed. (Input Resistance: Varies with input range. Contact factory for details. 62 ohms for 4/20mA input.)

**Relay Contacts:**
SPDT relays. Contacts rated 5 Amps resistive, 115/230Vac or 30Vdc. 1/8 HP max inductive load at 115/230Vac. Contact protection required with inductive loads.

**Setpoint Adjustment:** 0% to 100% of range.

**Deadband Adjustment:**
0.25% to 100% of range. Setpoint remains centered in the middle of the deadband.

**Response Time:** Under 100 milliseconds.

**Isolation:**
Input is isolated from power and from relay contacts. 1,500Vac rms (2,100V peak) breakdown.

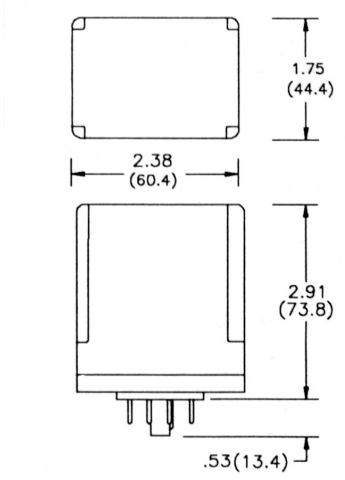
(continued on back)

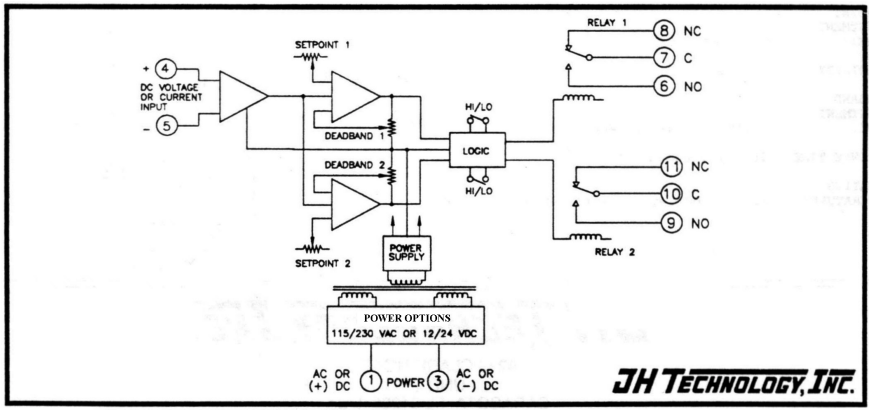
**Specifications** (continued):

**Operating Temperature:** -10 to +60ºC (14 to 140ºF).

**Temperature Stability:**
+/-(0.02% of span plus 1.3 microvolts) per ºC, or better.

**Power Requirements:**
AC, 115 or 230Vrms, 50/60 Hz., 2.5V-A. DC, 12 or 24Vdc, 2.5W.




## SEVEN-YEAR WARRANTY

The JH1020 will be replaced free if it fails due to defects in materials or workmanship within seven years of the date shipped. Alarms whose contacts fail due to arcing or overload are not covered by this warranty.



# JH1020

## DC INPUT DUAL ALARM

The Model JH1020 DC Input Dual Alarm monitors a DC voltage or current and provides two independent SPDT relay contact outputs. Input capabilities range from millivolt/milliamp sensor signals to power-level voltages and currents. The range is factory-set per order.

The alarm trip points are adjustable anywhere within the input range. Each trip point's deadband is indepedently adjustable from 0.25% to 100% of span. A slide switch, accessible through the top of the enclosure, selects HI/HI, HI/LO or LO/LO trip operation. Red/green LEDs indicate alarm status.

The SPDT alarm contacts are rated at 5 amps, 230Vac or 30Vdc. Model JH1020 now includes as standard a low-drift input amplifier for millivolt-level signals (formerly an extra-cost option). AC and DC power options are available.

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