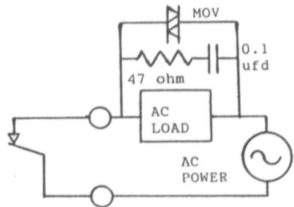


INSTALLATION AND CONNECTIONS

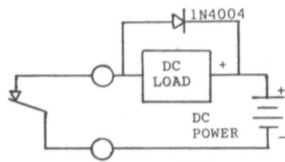
Model JH1720 plugs into any standard 11-pin circular relay socket. Refer to the block diagram for pin connections. JH Technology offers Part #DS011 suitable for DIN-rail or surface mounting.

CONTACT PROTECTION - INDUCTIVE LOADS

Inductive loads require external surge suppression to avoid arcing, pitting and early failure of relay contacts. 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

SENSITIVITY ADJUSTMENT

The *SENS* (sensitivity) adjustment sets the threshold below which the unit will not respond. At maximum sensitivity (full clockwise) the threshold is 20mV or higher, depending on the frequency. Minimum sensitivity (max. threshold - full ccw) is 10V. The JH1720 accepts inputs to 250Vac rms even at maximum sensitivity; however, decreasing sensitivity reduces susceptibility to interference.

To adjust sensitivity in an operating system, run the system at a pulse rate higher than the alarm setting. Turn the *SENS* adjustment counterclockwise until the LED color changes (to green if HI alarm, red if LO), then turn it back clockwise two turns.

To adjust using a calibrated input, set the frequency higher than the alarm setting and set the input amplitude to half the minimum operating peak-to-peak voltage. Turn *SENS* ccw until the LED changes as above. Return the input to normal amplitude for further calibration.

CHANGING THE ALARM FUNCTION

Use a small screwdriver to slide the recessed switch on top of the unit to HI/HI, HI/LO or LO/LO. When HI/LO is selected alarm 1 will be HI, alarm 2 LO.

PULL-UP RESISTOR

An internal jumper connects a pull-up resistor for use with open-collector or contact-closure inputs. Unplug the unit and unscrew the four corner screws on the bottom of the unit to remove the cover. **Do not apply power while the cover is removed.**

The pull-up jumper is located on back of the smaller, preamplifier board. To connect the pull-up resistor, move the jumper to the position marked *UP*.

To disconnect, move it to the unmarked position. It is not necessary to recalibrate after moving the jumper.

RECALIBRATION

Connect a precision frequency generator to the input. Turn both *DB* (deadband) trim pots fully CCW (minimum deadband). To calibrate alarm 1, set the frequency to the desired trip point and turn the *AL1 SP* (Alarm 1 Set Point) trim pot until the LED just switches color. For HI alarm turn the *SP* trim pot CCW to switch from green to red. For LO alarm turn CW for red.

If the alarm relay chatters or buzzes or if your system otherwise requires increased deadband, turn the *AL1 DB* trim pot 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 JH1720-AC. 115 or 230Vac options available.

DC Power: Model JH1720-DC. 12 or 24Vdc options available.

Relay Action:

Failsafe or Reverse-Acting. With Failsafe the relay is normally energized, deenergizing upon alarm or upon loss of power. Failsafe action is provided unless otherwise specified on the order.

Option R (Reverse Acting) energizes upon alarm.

Urethane Coating: Option U.

SPECIFICATIONS

Input Capabilities: Any range between 0-10 Hz and 0-100 kHz. Factory set per order.

Input Voltage: From 20mV to 350V peak (40V to 700V peak -to-peak). For sine waves, 14mV to 250V rms.

Threshold: Adjustable from approx. 20mV to 10V.

Pullup Res: 10Kohms to +9Vdc. May be connected using an internal jumper.

Relay Contacts: SPDT, 5A max. resistive or 1/8 HP inductive @ 115/230Vac. 5A max. resistive @ 30Vdc

Setpoint Adjustment: 0 to 100% of range.

(continued on back)

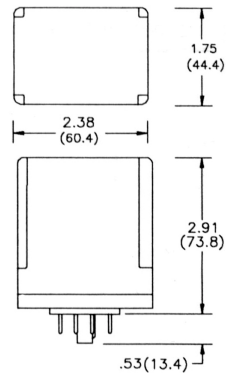
Specifications (continued)

Deadband Adjustment: 0.25% to 100% ($\pm 50\%$) of range.

Operating Temperature: -10 to +60°C (14 to 140°F).

Temperature Stability: $\pm 0.02\%$ of span per °C (0.011% deg F), or better.

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

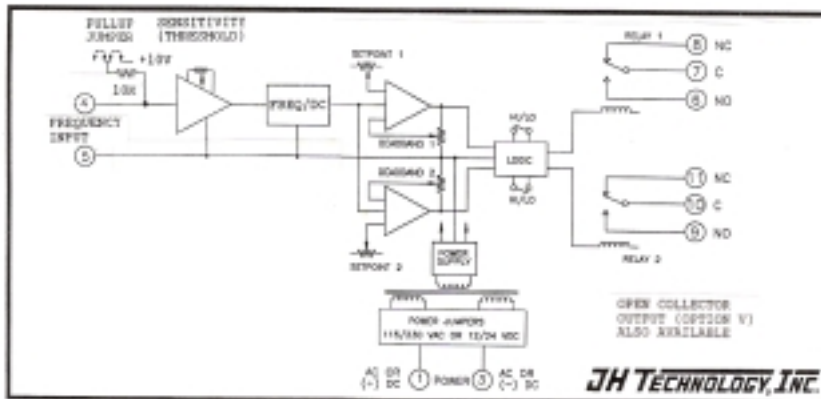


FREQUENCY INPUT DUAL ALARM

The Model JH1720 Frequency Input Dual Alarm provides two independent SPDT relay outputs in response to a frequency input. The input is factory set to the specified range. A sensitivity adjustment allows amplitude threshold optimization for each application.

Each of the two setpoints can be set to any frequency within the input range. Independent deadband adjustments also are provided. Red/green LEDs indicate alarm status. A slide switch selects HI/HI, HI/LO or LO/LO trip operation. An internal jumper allows connection of a pullup resistor for use with open-collector or contact-closure inputs.

AC and DC powered models are available.



SEVEN-YEAR WARRANTY

The JH1720 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.

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