

Hoffman Controls

Checkout Procedure

900 / 901 / 906 / 902 / 903

SCR / Sequencing Control System

The following instructions allow the installer and technician to verify factory standard calibration for five (5) input signals. (For factory calibration standards and field calibration see the 900 Series Calibration Instructions.)

Caution

If 24V AC input line must be grounded, ground only the terminal marked "LO 1".

Step 1

1. Remove power at supply disconnect.
2. Check continuity of all fuses.
3. Check terminal cutouts and heat limiters.
4. Check backup contactors resistance continuity.

Step 2

906 Series Thermostat Input Signal Checkout

906-13W, 13AW, 13ADRW, 13DRW, 23AW, 23ADRW – 10K, 906-19DDRW – Temperature Sensing IC

1. Verify 24V AC at input terminals 1 and 2 of Logic board.
2. Factory standard preset thermostat span is 2°F for:
906-13 & 906-23 Series (65° – 85°F range)
Factory standard preset thermostat span is 7°F for:
906-19DDRW (30° – 160°F range)
3. Turn set point below the sensed temperature. Verify there is no AC voltage at output terminals 3 and 4 of Logic board. L.E.D. indicator should be Off (no heat output).
4. Turn set point 5°F above sensed temperature. Measure constant 24V AC at output terminals 3 and 4 of Logic board. L.E.D. indicator should be On (full heat output).
5. Turn set point to slightly above (1°F) thermistor ambient and observe 24V AC output. L.E.D. indicator should turn On and Off within the time base. (i.e., 1 sec. On / 4 secs. Off or 2 secs. On / 3 secs. Off)

6. Ambient = Set point (no heat output). Ambient
–2°F = full span (full heat) 906-13 & 23 Series Ambient
–7°F = full span (full heat) 906-19 Series

Step 3

135 Ohm Input Checkout

Follow Steps 1 and 2, substitute ohms for temperature value. The factory calibrated preset input signal is 10 – 130 ohms (120 ohm span).

Step 4

Volts Input Checkout

Important

The circuit common "LO" of the "V" terminal is common with one side of the 24V AC (terminal #1).

Follow Steps 1 and 2, substitute VDC for temperature value. The factory calibrated preset input signal is (2 – 10V) with a 20V DC power supply from the 901-D if required.

1. 2 VDC = set point (no heat).
2. 10 VDC = full span (full heat).

Verify polarity – Positive (V), Negative (LO).

Step 5

mA Input Checkout

Important

The circuit common "LO" of the "MA" terminal is common with one side of the 24V AC (terminal #1).

Follow Steps 1 and 2, substitute mA value for temperature. The factory calibrated preset input signal is (2 – 10 mA) with a 500 ohm input impedance.

1. 2 mA = set point (no heat).
2. 10 mA = full span (full heat).

Verify polarity – Positive (MA), Negative (LO).

Step 6

901-DP Pneumatic Input Checkout

1. Verify 24V AC at input terminals 1 and 2 of Logic board.
2. Set pressure below 9 psi. Verify there is no AC voltage at output terminals 3 and 4 of Logic board. L.E.D. indicator should be Off.
3. Set pressure above 13 psi. Measure constant 24V AC at output terminals 3 and 4 of Logic board. L.E.D. indicator should be On.
4. Set pressure at 11 psi and observe 24V AC output. L.E.D. should turn On and Off within the time base. (i.e., 1 sec. On / 4 secs. Off, 2 secs. On / 3 secs. Off)
5. Span is factory programmed between (9 – 13 psi).
9 psi = set point (no heat).
13 psi = full span (full heat).

Step 7

900 Series Power Switch & 902 and 903 Series SCR Controller Checkout

1. Set specific thermostat input signal inside the factory calibrated throttling range.
2. Observe the load current pulsing On/Off in each switch of resistive load. Follows Logic board L.E.D.

Step 8

901-HR Sequencer Checkout

1. Impose input signal above Max. span value (call for heat) and observe continuous 24V AC at output terminals 3 and 4 on Logic board and L.E.D. indicator On. Observe 24V AC contactors, they should energize in sequence at the selected time interval (30 seconds std.) until all stages are On.
2. Select input signal below set point. Observe zero output on 24V AC at output terminals 3 and 4 on Logic board. Contactor should de-energize in sequence at selected time interval (30 seconds std.).
3. Blinking L.E.D. (\cong 1 second interval) on Sequencer indicates properly working clock circuit.

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