

INSTRUCTIONS

FOR

TEMPERATURE RELAYS BE3-49R – 6 INPUTS

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INTRODUCTION

Six-input BE3 temperature relays use resistance temperature detectors (RTDs) to monitor remote temperatures. When any of six monitored temperatures exceeds the preset limit, the corresponding LED indicator lights, the TRIP LED lights, and the relay output operates. BE3 temperature relays are available for use with 10 ohm copper RTDs or 100 ohm platinum RTDs.

ELECTRICAL SPECIFICATIONS

U.L. Listed, CSA Certified, C.E. Compliant

RTD INPUTS

The RTD inputs accommodate two or three wire RTDs. Depending on the style number of the relay, the RTD inputs accept either 10 ohm copper or 100 ohm platinum RTDs.

Style	RTD
5J5X1	10 Ω copper
5K5X1	100 Ω platinum

The temperature measurement range of each input is 0 to 200°C.

EXTERNAL OPERATING POWER

All units require external operating power.

AC Operating Power

Nominal voltages	120 Vac or 240 Vac
Frequency	45 to 65 hertz
Burden	2 VA, maximum

SETPOINTS

Adjustment Range	50% to 100% of input temperature range
Repeatability	Better than 0.5% of full span
Differential	Fixed at 2%

OUTPUTS

Relay Type	S.P.D.T.
AC Rating	250 V, 5 A, non-resistive, 1200 VA
DC Rating	125 V, 1 A, resistive, 120 watts
Mechanical Life	5 million operations

PHYSICAL SPECIFICATIONS

Operating Temperature	0° C (+32° F) to +60° C (+140° F)
Functional Temperature	-25° C (-13° F) to +70° C (158° F)
Storage Temperature	-40° C (-40° F) to +85° C (+185° F)
Temperature Coefficient	0.03% per °C (200 ppm/°C)
Relative Humidity	95% non-condensing
Mounting	DIN rail 1.38" by 0.29" (35 mm by 7.5 mm)
Case	Complies with IEC 529, DIN 40050, BS 5490
Weight	1.32 lbs. (0.6 kg)
Size	3.94" wide (100 mm)
Case Material	Complies with UL 94V0

OPERATION

Six temperatures are monitored through RTDs connected to the BE3 temperature relay. RTD connections are labeled A, B, C, D, E, and F. One front panel control labeled SET is used to adjust the trip level for all six RTDs. The set-point is adjustable from 50 to 100 percent of the RTD temperature range. When any RTD temperature exceeds the set-point, the TRIP LED lights and the relay output energizes. Each RTD has a corresponding LED to identify which RTD has exceeded the temperature set-point. For example, if the temperature of RTDs B and C exceeds the trip level, the B, C, and TRIP LEDs will light and the relay output will energize. A green LED labeled AUX indicates the power supply status.

INSTALLATION

BE3 temperature relays are designed for mounting on standard DIN rails that comply to DIN-EN 50022.

Mounting involves hooking the top edge of the cutout on the base of the case over one edge of the DIN rail. The opposite side of the cutout

containing the release clip is then pushed over the opposite side of the DIN rail. To remove or reposition the relay, lever the release clip and move the relay as required. BE3 relays should be installed in a dry, vibration free location where the ambient temperature does not exceed the operating temperature range. Connections to the relay should be made using wire that meets applicable codes and is properly sized for the application. Figure 1 illustrates the terminal connections for the BE3-49R temperature relay.

CALIBRATION

Proper calibration requires a precision decade resistance box with one percent accuracy or better. A temperature and resistance cross-reference table for your RTDs is also needed. Use the following procedure to calibrate your relay.

1. Adjust the SET control fully counter-clockwise.
2. Connect the decade resistance box to RTD input A and short circuit the remaining five RTD inputs. Apply nominal external operating power to the relay.
3. Set the decade resistance box at the value that corresponds to the desired temperature setpoint.
4. Slowly adjust the SET control clockwise until the A and TRIP LED lights and the output relay energizes.

MAINTENANCE

BE3 relays are solid-state devices that require no maintenance. In the event that your relay requires repair, contact Basler Electric, Highland, IL, USA for return authorization.

BE3-49R RELAYS

Figure 3 shows the BE3 temperature relay style identification chart.

BE3-49R Temperature (6 Inputs)

Publication:
9 3205 00 991

Rev
None

 **Basler Electric**

First Printing 03/99
Revised

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1999

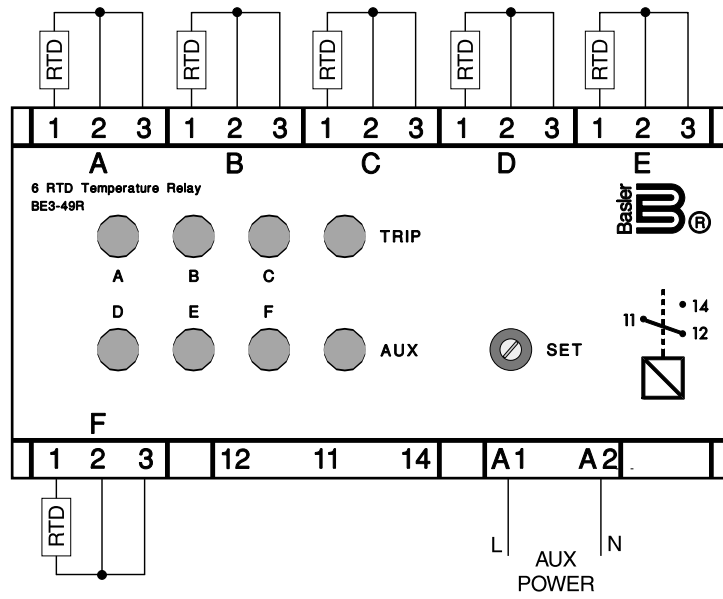


Figure 1. BE3-49R Connections

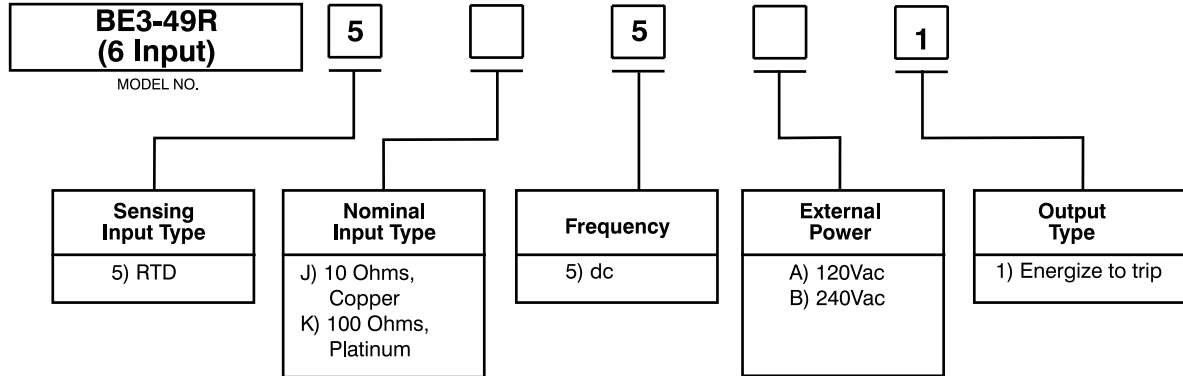


Figure 2. BE3-49R Style Number Identification Chart