

## INTRODUCTION

The BE3-59V ac voltage relay provides voltage monitoring and protection in three-phase systems. The BE3-59V operates when the adjustable voltage trip point is reached. A reset control is provided with an adjustment of 1 to 15% of the nominal voltage. Reset ensures that the parameter being measured returns to the percent set below the trip point before the relay returns to the original state. The output relay energizes when the input signal exceeds the trip point. A red LED indicates the state of the output relay. A green LED indicates the condition of the power supply.

## SPECIFICATIONS

### Inputs

All units obtain operating power from the voltage sensing input.

Nominal Voltage.....	120 Vac
Overload Withstand.....	1.25 times nominal continuously 2 times nominal for 3 s
Frequency .....	50/60 Hz
Burden.....	<2.5 VA per phase on single units

### Setpoints

Overvoltage Range .....	Adjustable 0 to 110 Vac
Repeatability .....	Better than 0.5% of full span
Reset.....	Adjustable 1 to 15% of nominal
Operating Time .....	200 ms typical

### Outputs

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

### Temperature

Operating Temperature.....	0°C (32°F) to 60°C (140°F)
Storage Temperature .....	-40°C (-40°F) to 70°C (158°F)
Temperature Coefficient.....	0.03% per °C (300 ppm/°C)

### Humidity

Relative Humidity .....	95% non-condensing
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### Physical

Mounting .....	DIN rail 1.38" by 0.29" (35 mm by 7.5 mm)
Case.....	Complies with IEC 529, DIN 40050, BS 5490
Case Material .....	Complies with UL 94V0
Weight.....	14 oz (400 g)
Size .....	2.17" wide (55 mm)

## AGENCY COMPLIANCE

The BE3-59V complies with the following:

- cULus Listed to UL 508 and CSA C22.2 No. 14
- CE compliant
- GOST-R certified per the relevant standards of Gosstandart of Russia

## OPERATION

BE3-59V ac voltage relays have two user-adjustable controls labeled SET and RESET. The SET control adjusts the relay trip point. When the monitored voltage exceeds the SET control setting (adjustable from 0 to 110 Vac) the output relay operates. The RESET control adjusts the difference between the trip voltage and the reset voltage. Reset occurs when voltage decreases below the RESET setting (adjustable from 1 to 15% of the nominal voltage). The RESET setting is set as the percentage below the trip voltage where the relay will reset.

Setting Example: a BE3-59V relay with a nominal input rating of 120 Vac has the following settings:

- SET - 80 Vac
- RESET - 5%

A trip occurs when the sensing voltage rises above 80 Vac. Reset occurs when the voltage decreases below 74 Vac (80 Vac – 6 Vac or 5% of the nominal voltage).

## INSTALLATION

BE3 ac voltage 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 shows the connection terminals for the BE3-59V relay.

## CALIBRATION

The calibration marks on the faceplate have a maximum error of 10% and are provided only as guides. Proper calibration requires using an accurate voltmeter in parallel with the input signal. Use the following procedure to calibrate your relay.

### Overvoltage

1. Adjust the SET and RESET controls fully clockwise (CW).
2. Apply the desired trip voltage to the relay.
3. Slowly (allow for the 200 ms operating time) adjust the SET control CCW until the relay trips.
4. Reduce the applied voltage to the desired reset level.
5. Slowly adjust the RESET control CCW until the relay resets.

**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.

**FIGURES**

**ORDERING INFORMATION**

Figure 2 shows the BE3 style number identification chart.

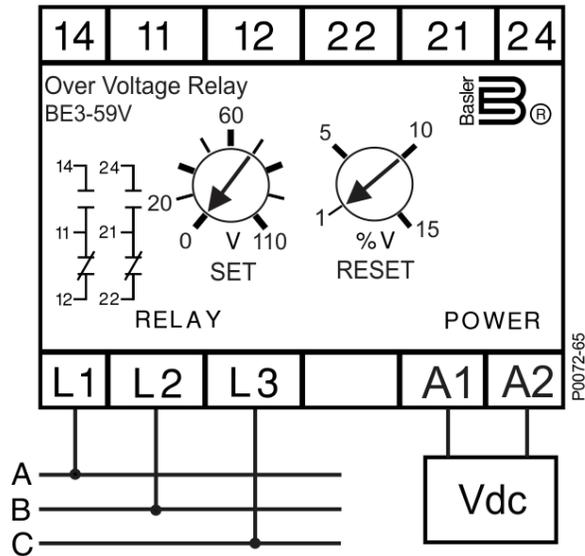


Figure 1. BE3-59V Connection Terminals (3-Phase/3-Wire)

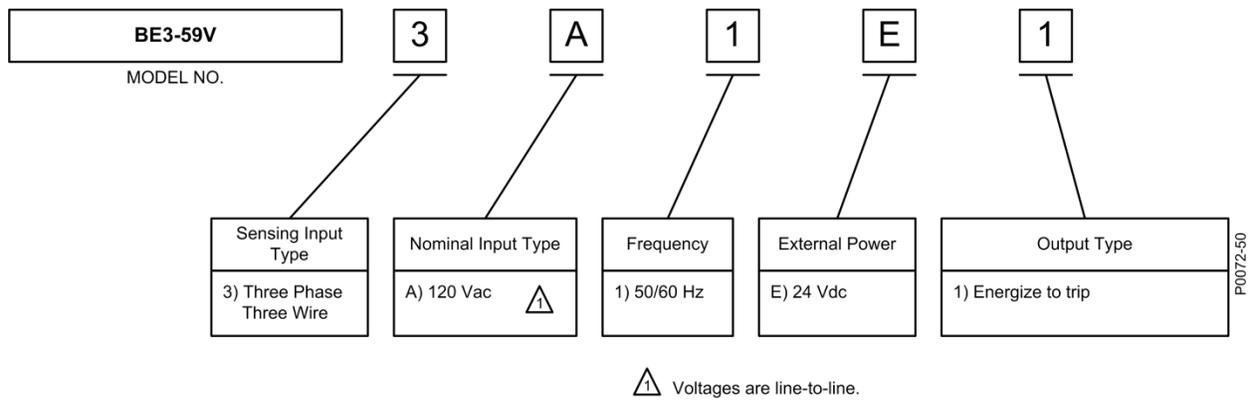


Figure 2. BE3-59V Style Number Identification Chart