

# INSTRUCTIONS

FOR

## PHASE SEQUENCE RELAYS BE3-47

**Basler Electric**  
Phone 618 654-2341  
Route 143 Box 269  
Highland IL 62249 USA

**Power Systems Group**  
Fax 618 654-2351  
<http://www.basler.com>  
[info@basler.com](mailto:info@basler.com)

### INTRODUCTION

BE3-47 phase sequence relays detect reverse phase connection of lines, transformers, motors, and generators. An incorrect phase sequence will cause the BE3-47 to de-energize, preventing the starting of incorrectly connected equipment.

### ELECTRICAL SPECIFICATIONS

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

### INPUT

All units are self powered. Nominal voltage - 120 Vac, 240 Vac, 380 Vac, 480 Vac. For other nominal voltages, contact Basler Electric.

### Frequency

50 Hz, 60 Hz or 400 Hz

### Burden

Less than 3 VA

### Overload

1.5 times nominal continuously. 2 times nominal for 3 seconds.

### OUTPUT

Relay Type	D.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 +70° C (+158° F)
Temperature Coefficient	0.03% per °C (200 ppm/°C)
Relative Humidity	95% noncondensing
Mounting	DIN rail 1.38" by 0.29" (35 mm by 7.5 mm)
Case	Complies with IEC 529, DIN 40050, BS 5490
Weight	0.88 lbs. (0.4 kg)
Size	2.17" wide (55 mm)
Case Material	Complies with UL 94VO

### OPERATION

The output relay of the BE3-47 will energize when the relay senses a nominal three-phase input with the correct phase sequence. The output relay will de-energize when an input with an incorrect phase sequence is detected. Two LED indicators are provided. The green 123 LED lights to indicate correct phase sequence. The red 321 LED lights to indicate incorrect phase sequence.

### STYLE CHART

Figure 1 shows the BE3 phase sequence relay style numbers.

### INSTALLATION

BE3 phase sequence 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 2 shows the terminal connections for the BE3-47 relay.

### CALIBRATION

The BE3-47 has no external adjustments and no calibration is necessary. The following procedure may be used to verify proper operation.

1. Apply a nominal, three-phase input with the correct phase sequence. The output relay should energize and the green 123 LED should light.
2. Apply a nominal, three-phase input with an incorrect phase sequence. The output relay should de-energize and the red 321 LED should light.

### 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.

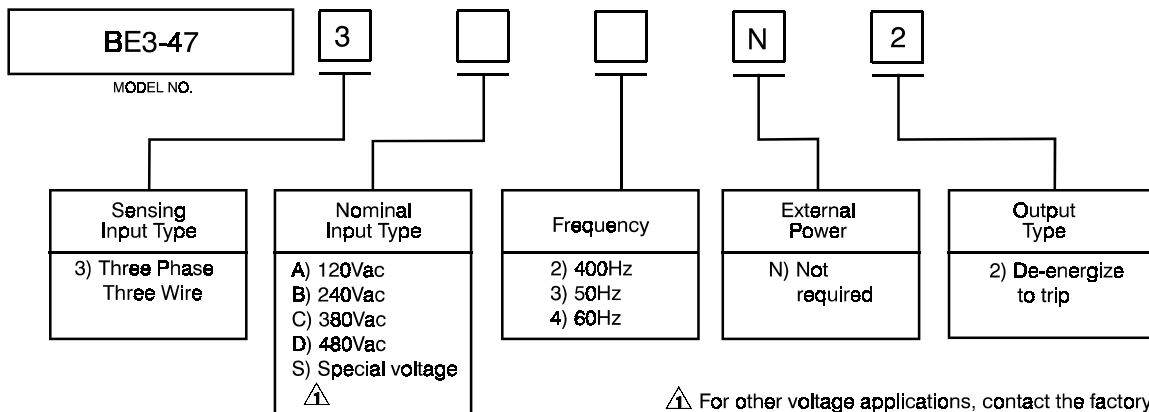


Figure 1. BE3-47 Style Number Identification Chart

<b>Publication:</b> 9 3202 00 990	<b>Rev</b> A	<b>Basler Electric</b>	<b>First Printing</b> 02/98 <b>Revised</b> 04/98	<b>Copyright</b> 1998
--------------------------------------	-----------------	------------------------	---	--------------------------

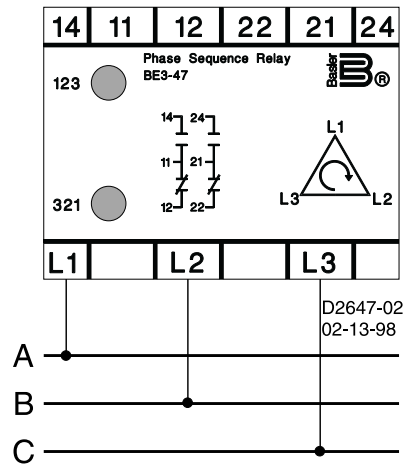


Figure 2. BE3-47 Phase Sequence Relay Connections