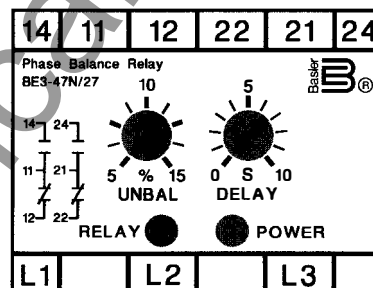


BE3-47N, BE3-47N/27 PHASE BALANCE RELAYS

APPLICATION:

BE3-47N phase balance relays can detect the following conditions in 3 phase three or four wire systems: Phase unbalance, phase loss, phase reversal, and phase sequence. The phase balance relays are used to detect phase loss and unbalance in systems using motors, generators, heater elements, and transformers. A phase unbalance as small as 10% in a 3 phase motor can cause the temperature in the motor winding to increase by more than 120%. Correct setting of the BE3-47N or BE3-47N/27 will ensure this does not occur. Protection against open phase regenerated voltage, created if a single phase should fail, is also provided. User adjustment of unbalanced voltage between 5 and 15% is provided along with time delay adjustment of 200ms to 10 seconds. If system being monitored is healthy, the relay is energized and the red LED is illuminated. If there is phase unbalance greater than the preset level, or phase loss/reversal occurs, the relay de-energizes after time delay period. The BE3-47N/27 provides all the protection features of the BE3-47N with the additional benefit of having symmetrical undervoltage protection. This means that if all 3 phase voltages remain balanced but drop below a preset voltage, the relay will de-energize. The undervoltage is internally set at 85% below the nominal voltage.

CASE CONNECTIONS:



GENERAL SPECIFICATIONS:

Input

Nominal voltage: 120V, 240V, 380V, 480V
 Other nominal voltage: Contact the factory
 Frequency: 50Hz, 60Hz, or 400Hz
 Burden: Less than 2VA
 Overload: 1.5 times nominal continuous,
 2 times nominal for 3 sec

Unit is self powered.

Setpoint

Range: Adjustment 5 to 15% of nominal
 Repeatability: Better than 0.5% of full span
 Undervoltage: BE3-47N/27 only, preset 85% of nominal
 Time Delay: Adjustable 0 to 10 sec
 Operating time: 200 ms, typical

Weight and Case Size

0.88 lbs. (0.4kg), 2.17 in. wide (55mm)

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ULG-1
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PERFORMANCE SPECIFICATIONS:**Environmental**

Operating temperature: 0°C to +60°C (32°F to 140°F)
 Functional temperature: -25°C to +70°C (-13°F to 158°F)
 Storage temperature: -40°C to +70°C (-40°F to 158°F)
 Temperature coefficient: 0.03% per °C (200ppm/°C)
 Relative humidity: 95% noncondensing

Agency Approvals

UL recognized, CSA certified, C.E. compliant

Insulation

Test voltage: 4kV RMS 50Hz 1min between Input, Case, and Auxiliary
 Impulse test: EMC 5kV transient, complies with IEC 801, EN 55020
 HF interference test: EHF 2.5kV 1MHz, complies with IEC 255-4
 Protection class: II, complies with IEC 348

Applied Standards

General: IEC 144, BS 5420,
 VDE/VDI 0435, IEC 947,
 EN 60947

Safety:

BS EN 61010, DIN 57411,
 VDE 0411, ANSI C37
 IEC 801, EN 55020,
 ANSI C37-90a
 RFI degree N, complies with
 VDE 0875

Surge withstand:**RFI:****Relay Output**

Relay type: D.P.D.T.
 AC Rating: 250V, 5A, nonresistive, 1200VA
 DC Rating: 125V, 1A, resistive, 120 watts
 Mechanical Life: 5 million operations

Enclosure

Mounting: Snap onto DIN rail 1.38in. x .29in. (35mmx7.5mm),
 complies with DIN-EN 50022,
 BS 5584
 Any position
 Enclosure code: Case IP 50, terminals IP 30
 Material: Complies with UL 94 VO

HOW TO ORDER:

Designate the Model Number followed by the complete Style Number.

Complete the Style Number by selecting one feature from each column of the Style Identification Chart and entering its designation, letter or number, in the appropriate square. Note: The description of a complete relay must include both Model Number and Style Number.

STYLE IDENTIFICATION CHART:

| | | | | | | |
|-------------------------------------|---|--------------------------------|-----------------------|------------------------|---|---|
| BE3-47N, BE3-47N/27 MODEL NO. | | 3 | | | N | 2 |
| Sensing Input Type | Nominal Input Type | Frequency | External Power | Output Type | | |
| 3) Three Phase Three Wire | A) 120Vac B) 240Vac C) 380Vac D) 480Vac S) Special voltage ⚠ | 2) 400Hz 3) 50Hz 4) 60Hz | N) Not required | 2) De-energize to trip | | |

⚠ For other voltage applications, contact the factory.

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