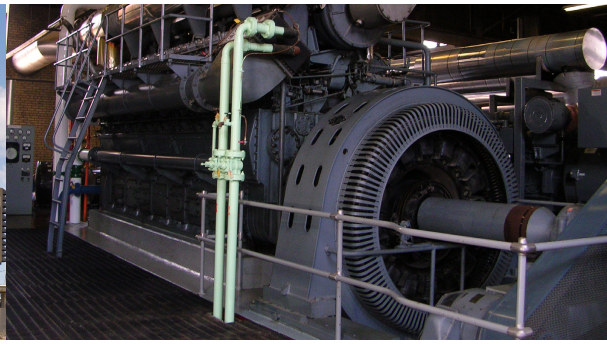
BE1-47N Negative Sequence Voltage Relay







Overview

The BE1-47N protects rotating equipment from the damaging effects of excessive negative-sequence voltage resulting from phase failure, phase unbalance and reversed-phase sequence.

Features

- Responds to true negative sequence voltage component.
- Unaffected by frequency variations of ±5 Hz.
- Negative Sequence Voltage adjustment range of 2 - 32 percent.
- Optional Over and Undervoltage measuring elements.
- Low sensing and supply burdens.
- Instantaneous, Definite and Inverse time delay characteristics available for each measuring element.

Benefits

- Responds to true negative sequence voltage for greater accuracy.
- Increased flexibility with wide settings range.
- Minimized potential transformer (PT) costs as a result of low sensing burden.
- Reduced battery load with low burden power supply.
- Accurate, repeatable, and reliable operation.
- Simple HMI provides clear and intuitive settings for easy configuration.
- LED targets provide clear annunciation of status.
- Easily perform in-case system and device tests using test paddles.

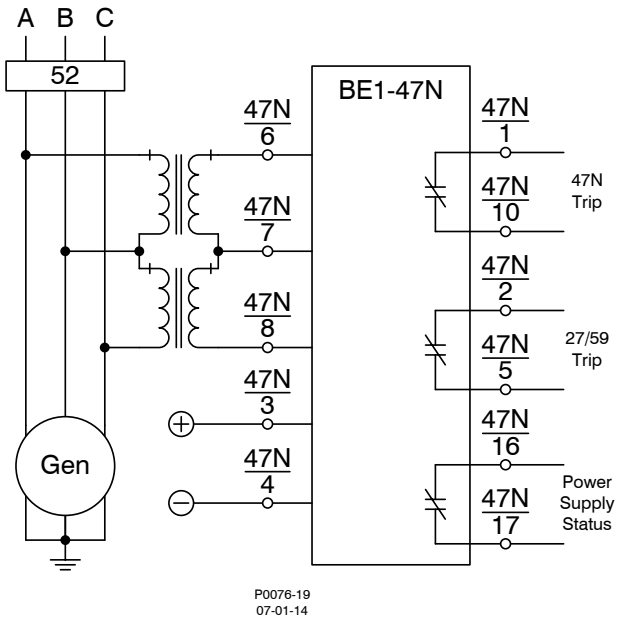


Figure 1 - BE1-47N Connection Diagram for a Typical Application

BE1-47N Negative Sequence Voltage Relay

Specifications

Power Supply (Nominal)

EXX-XXO-XXXXX: 48 Vdc (4.6 W)
EXX-XXP-XXXXX: 125 Vdc/120 Vac (4.6 W/17.5 VA)
EXX-XXR-XXXXX: 24 Vdc (4.6 W)
EXX-XXS-XXXXX: 48/125 Vdc (4.6 W/ 4.6 W)
EXX-XXT-XXXXX: 250 Vdc/240 Vac (4.6 W/24.4 VA)

Voltage Sensing

50 Hz Sensing: 100 or 173 Vac nominal
60 Hz Sensing: 120 or 208 Vac nominal
Max Continuous: 160% of nominal
Frequency: 50/60 Hz Nominal
45 to 55 Hz (50 Hz sensing)
55 to 65 Hz (60 Hz sensing)
Burden: ≤2 VA per phase

Pickup

Negative Sequence: 2 to 32% of nominal voltage
Undervoltage: 2 to 32% below nominal
Overvoltage: 2 to 32% above nominal
Increment: 2%
Accuracy: ±1% of nominal voltage
Dropout (% of pickup): 98% over, 102% under
Definite Time Delay: 0.1 to 9.9 seconds
Accuracy: ±5% or ±50 ms of time setting

Inverse Time Delay: 01 to 99
Accuracy: ±5% or ±50 ms of selected time dial curve
Instantaneous Time Delay: <50 ms

Outputs

Resistive:
120 Vac: Make, break, and carry 7 Aac continuously.
250 Vdc: Make and carry 30 Adc for 0.2 s, carry 7 Aac continuously, break 0.3 Adc.
500 Vdc: Make and carry 15 Adc for 0.2 s, carry 7 Adc continuously, break 0.3 Adc.
Inductive:
120 Vac, 125 Vdc, 250 Vdc: Break 0.3 A (L/R=0.04)

Agency/Certifications

UL recognized

Environmental

Operating Temp: -40°C to 70°C (-40°F to 158°F)
Storage Temp: -65°C to 100°C (-85°F to 212°F)
Dielectric Strength: IEC 255-5 and IEEE C37.90
RFI: Qualified to IEEE C37.90.2
Surge Withstand: Qualified to IEEE C37.90.1
Fast Transient: Qualified to IEEE C37.90.1

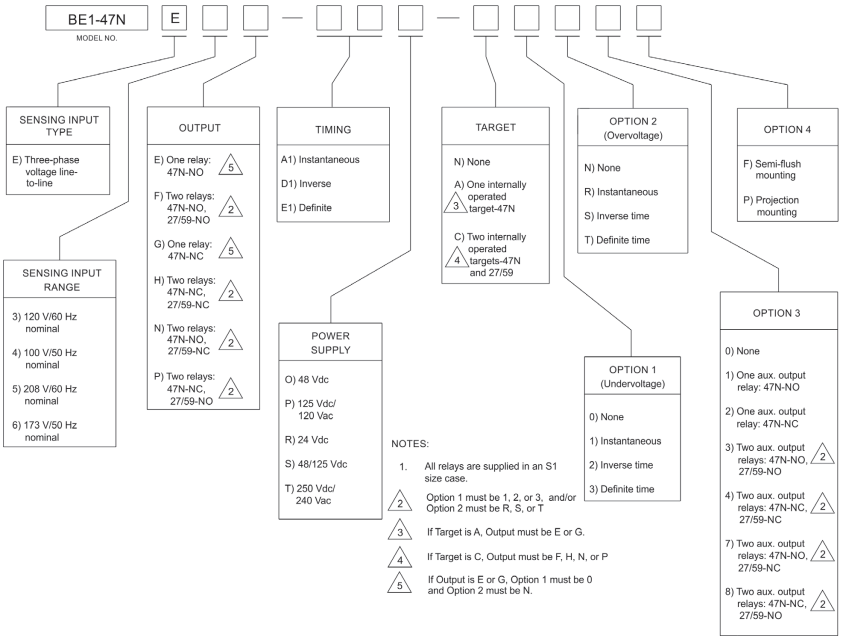
Impulse: Qualified to IEC 255-5
Shock: 15 G in three perpendicular planes
Vibration: 2 G in each of three perpendicular planes, 10 to 500 Hz for six sweeps, 15 minutes each sweep

Physical

Weight: 14 lb (6.35 kg)
S1 Case Dimensions (WxHxD):
Double Ended, Semi-Flush Mount:
5.56 x 8.68 x 6.94 inches
(141.2 x 220.5 x 176.3 mm)
Double Ended, Projection Mount:
5.56 x 8.68 x 8.14 inches
(141.2 x 220.5 x 206.8 mm)

For complete specifications, download the instruction manual at www.basler.com.

Style Chart



Related Products

BE1-FLEX Protection, Automation and Control System
Designed to be configurable for nearly any Power System Application.

DECS-250 Digital Excitation Control System
Provides precise voltage, var and Power Factor regulation, exceptional system response, and generator protection.

DECS-450 Digital Excitation Control System
A versatile digital excitation control system for synchronous generators and motors.

DECS-2100 Digital Excitation Control System
An extremely powerful and flexible excitation system that precisely controls, protects, and monitors synchronous generators and motors.

Accessories

Cases, Covers, Connectors, Mounting, Batteries, and Miscellaneous
Designed for adaptive customization with your protective device.

Test Plugs
To allow testing of the relay without removing system wiring, order two test plugs. Basler part number 10095.

Basler Electric®

Highland, Illinois USA
Tel +1 618.654.2341
Fax +1 618.654.2351
email: info@basler.com

Suzhou, P.R.China
Tel +86.512.8227.2888
Fax +86.512.8227.2887
e-mail: chinainfo@basler.com