

BE1-27, BE1-59, BE1-27/59 Voltage Relay



Overview

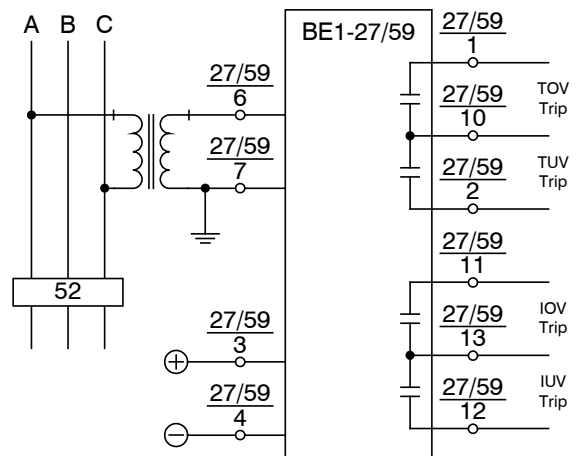
The BE1-27 Undervoltage, BE1-59 Overvoltage, and BE1-27/59 Under/Overvoltage Relays' design provides a reliable response to protect power system equipment from adverse voltage conditions.

Features

- Pickup continuously adjustable over a wide range.
- Instantaneous functions offer immediate response to extreme voltage conditions.
- Individually adjustable definite, short inverse, medium inverse, or long inverse timing for each time-delayed under/overvoltage function.
- Low sensing and supply burdens.

Benefits

- Immediate protection response to extreme voltage conditions with instantaneous functions.
- Timings can be tailored to the application with individually adjustable definite, short inverse, medium inverse, or long inverse timing for each time-delayed under/overvoltage function.
- Minimized 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 plugs.



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Figure 1 - BE1-27/59 Connection Diagram for a Typical Application (Auxiliary Contact Outputs not Shown)

Specifications

Power Supply (Nominal)

AXX-XXJ-XXXXX:	125 Vdc/120 Vac (4 W/17.1 VA)
AXX-XXK-XXXXX:	48 Vdc (3.8 W)
AXX-XXL-XXXXX:	24 Vdc (3.9 W)
AXX-XXY-XXXXX:	48/125 Vdc (3.8 W/ 4 W)
AXX-XXZ-XXXXX:	250 Vdc/240 Vac (4.1 W/28.4 VA)

Voltage Sensing (Single-Phase)

Maximum Continuous Voltage:

A2X-XXX-XXXXX: 360 V

A3X-XXX-XXXXX: 360 V

A4X-XXX-XXXXX: 480 V

Burden: <1 VA per phase

Frequency: 40 to 70 Hz (50/60 Hz nominal)

Undervoltage and Overvoltage

Pickup Range:

A2X-XXX-XXXXX: 1 to 40 Vac

A3X-XXX-XXXXX: 55 to 160 Vac

A4X-XXX-XXXXX: 110 to 320 Vac

Pickup Accuracy: ±2% or ±0.5 V of pickup

Dropout: ±2% of pickup

Timing Characteristics

Instantaneous: 50 ms

Definite: 0.1 to 9.9 s, ±2% accuracy

Inverse: 99 curve settings for each style

Output Contacts

Resistive:

120/240 Vac: Make, break, and carry 7 Aac continuously.

250 Vdc: Make and carry 30 Adc for 0.2 s, carry 7 Adc continuously, break 0.1 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)

Environmental

Dielectric Strength: IEC 255-5, IEEE C37.90: 2,000 Vac applied for one minute

Radio Frequency Interference: Qualified to IEEE C37.90.2, Standard for Withstand Capability of Relay Systems to Radiated Electromagnetic Interference from Transceivers.

Surge Withstand: Qualified to IEEE C37.90.1, Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems.

Operating Temp: -40°C to 70°C (-40°F to 158°F)

Storage Temp: -65°C to 100°C (-85°F to 212°F)

Impulse Test: 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

Agency/Certifications

UL recognized

Physical

Weight: 14 lb (6.35 kg)

S1 Case Dimensions (WxHxD):

Double Ended, Semi-Flush Mount: 5.56" x 8.68" x 6.94" (141.2 mm x 220.5 mm x 176.3 mm)

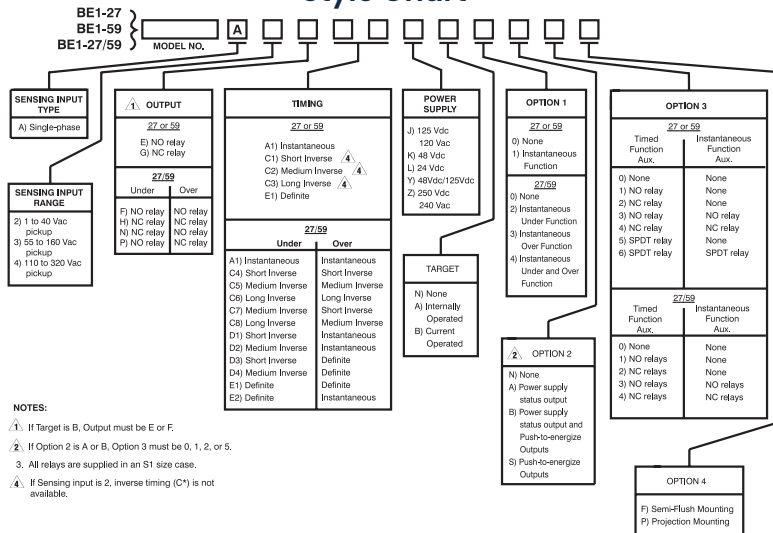
Single Ended, Semi-Flush Mount: 5.56" x 8.38" x 6.94" (141.2 mm x 212.9 mm x 176.3 mm)

Double Ended, Projection Mount: 5.56" x 8.68" x 8.14" (141.2 mm x 220.5 mm x 206.8 mm)

Single Ended, Projection Mount: 5.56" x 8.38" x 8.14" (141.2 mm x 212.9 mm x 206.8 mm)

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

Style Chart



Related Products

BE1-11 Protection System

Designed to address issues with reliability arising from the complexity of programming.

BE1-700 Digital Protective Relay

A compact, economical multifunction protective relay available in currentonly or voltage-only styles for multiple applications including bus, feeder, generator/motor, and cogeneration applications.

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.