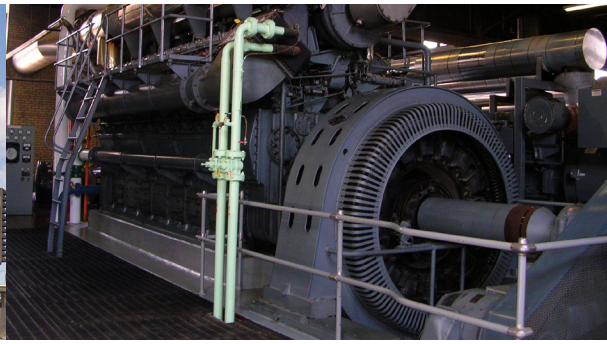
BE1-87B High Impedance Bus Differential Relay



Overview

The BE1-87B provides economical, high-speed protection in a conventional package for high impedance differential applications.

Features

- Proven performance of High Impedance Differential for optimum speed and selectivity.
- Available in single-phase S1 case, three-phase M1 case, and three-phase 19-inch rack mount case.
- Fully drawout, testable-in-case design compatible with existing panel mount configurations.
- Current Transformer (CT) Circuit Diagnostic function and Steady-State Unbalance alarm to verify external wiring and prevent misoperation.
- Two timing options available. Each includes a jumper-selectable instantaneous or intentional time delay.
  - Timing Option A1: The instantaneous jumper position provides fastest tripping. The 20 millisecond intentional delay jumper position prevents tripping for short duration faults within the zone of protection that is protected by a high speed fuse.
  - Timing Option A2: The instantaneous jumper position provides fastest tripping. The 2 millisecond intentional delay jumper position prevents nuisance tripping for very short duration faults such as nearby lightning strikes.
- **Available as a plug-n-play retrofit for GE PVD21B or PVD21D differential voltage relays. Fits into an existing M1 GE PVD case. Request Basler part number 9282300111.**

Benefits

- Proven high impedance differential provides optimum speed and selectivity.
- Space- and cost-saving configurations available, including a singlephase S1 case, a three-phase M1 case, and a three-phase 19” rack-mount case.
- Easily verify external wiring and prevent misoperation with the CT Circuit Diagnostic function and Steady-State Unbalance alarm.
- Low burden of silicon-controlled rectifiers (SCRs) reduced installation costs by allowing the use of class C100 CTs.
- Reduced battery load with low burden power supply.
- Easily perform in-case system and device tests using test plugs.

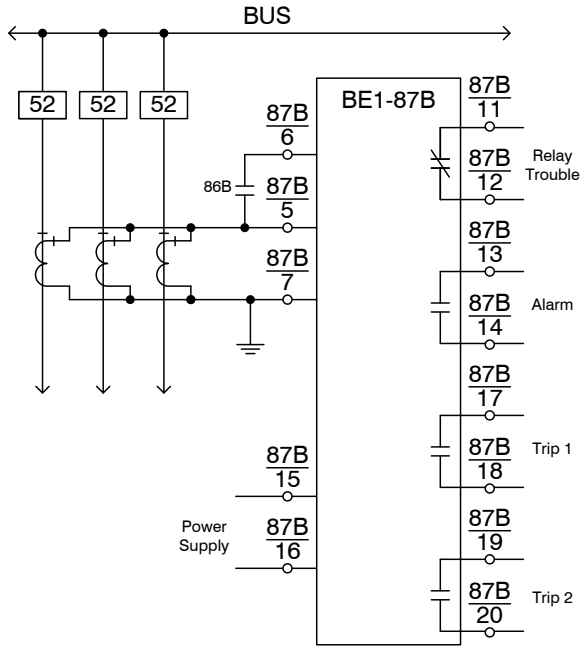


Figure 1 - BE1-87B Connection Diagram for a Typical Single-Phase Application

BE1-87B High Impedance Bus Differential Relay

Specifications

Power Supply (Nominal)

X5XXXYN0N0X:	48/125 Vdc (7.5 W) 110 Vac (15.0 VA)
X5XXXZN0N0X:	125/250 Vdc (7.5 W) 110/230 Vac (20.0 VA)

Current and Voltage Settings

Current Pickup:	0.25 to 2.5 A
Increment:	0.25 A
Voltage Pickup:	50 to 400 V
Increment:	50 V
Voltage Alarm Pickup:	10 to 80%
Increment:	10%

Frequency

50/60 Hz nominal, ±5 Hz

Pickup Accuracy

±5% of the setting over the operating ranges for both current and voltage.

AC Current Rating

Continuous:	10 A rms
One-Second, Symmetrical:	160 A rms
5 Cycles, Symmetrical:	480 A rms
2 Cycles, Fully Offset:	215 A

Output Contacts

Resistive:

120/240 Vac:	Make and carry 30 Adc for 0.2 s, carry 7 Adc continuously, break 7 Adc.
125/250 Vdc:	Make and carry 30 Adc for 0.2 s, carry 7 Adc continuously, break 0.3 Adc.

Inductive:

120/240 Vac, 125/250 Vdc: Break 0.1 A (L/R=0.04)

Environmental

Operating Temp:	-40°C to 70°C (-40°F to 158°F)
Storage Temp:	-40°C to 85°C (-40°F to 185°F)
Isolation:	In accordance w/ IEC 255-5 and IEEE C37.90
Surge Withstand:	Qualified to IEEE C37.90.1
Impulse Testing:	Qualified to IEC 255-5
RFI:	In accordance w/ IEEE C37.90.2
ESD:	In accordance w/ IEEE C37.90.3
Shock:	Qualified to IEC 255-21-2, Class 1
Vibration:	Qualified to IEC 255-21-1, Class 1
Humidity:	Qualified to IEC 68-2-38

Agency/Certifications

UL recognized

Physical

Weight:	14.3 lb (6.48 kg) Single-Phase 19.2 lb (8.70 kg) Three-Phase

Case Dimensions (WxHxD):

S1, Double Ended, Semi-Flush Mount:
5.56 x 8.68 x 6.94 inches
(141.2 x 220.5 x 176.3 mm)

S1, Double Ended, Projection Mount:
5.56 x 8.68 x 8.14 inches
(141.2 x 220.5 x 206.8 mm)

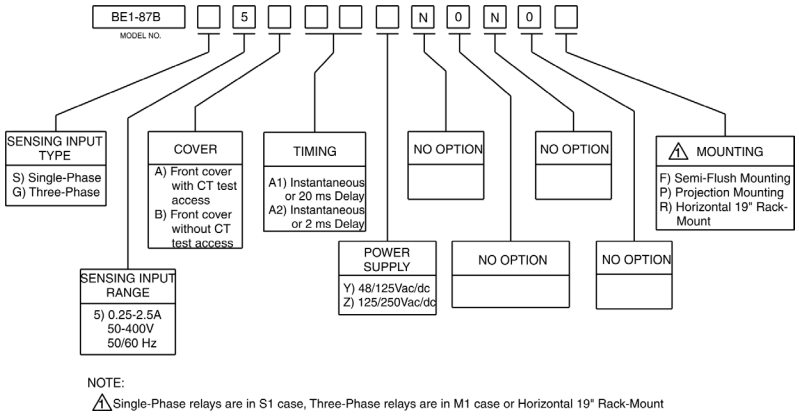
M1, Double Ended, Semi-Flush Mount:
5.56 x 14.69 x 6.94 inches
(141.2 x 373.1 x 176.3 mm)

M1, Double Ended, Projection Mount:
5.56 x 14.69 x 8.14 inches
(141.2 x 373.1 x 206.8 mm)

19-Inch Horizontal Rack Mount:
19.00 x 6.97 x 6.87 inches
(482.6 x 177.0 x 174.5 mm)

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

Style Chart



NOTE:
⚠ Single-Phase relays are in S1 case, Three-Phase relays are in M1 case or Horizontal 19" Rack-Mount

Related Products

BE1-FLEX Protection, Automation and Control System

Designed to be configurable for nearly any Power System Application.

Accessories

Cases, Covers, Connectors, Mounting, Misc.

Designed for adaptive customization with your protective device.

Test Plugs

To allow testing of the relay without removing system wiring. Basler ElectricP/N 10095 (order 2 plugs).

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