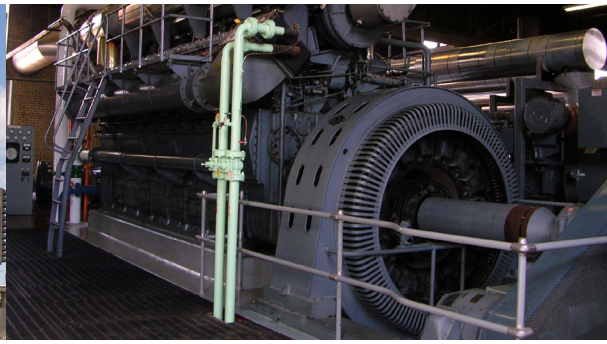
BE1-40Q Loss of Excitation Relay







BE1-40Q relays provide protection for synchronous generators from extensive damage by detecting loss-of-field excitation.

Features

- Relay characteristics are defined on the complex power plane for ease of application.
- Provides economical protection for small, medium, and large machines.
- Features solid state reliability, repeatability, sensitivity, and accuracy.
- Convenient, readily testable.

Benefits

- Accurate protection provided by true var measurement.
- Minimized CT and 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.

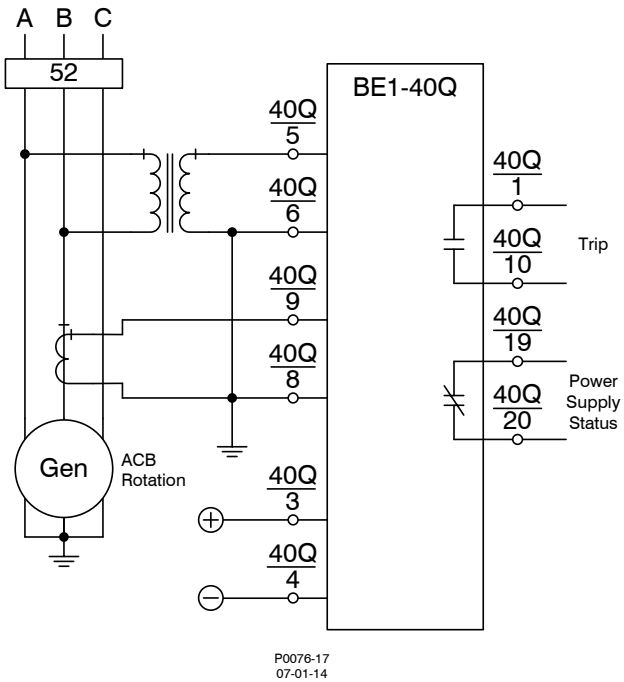


Figure 1 - BE1-40Q Connection Diagram for a Typical Application

BE1-40Q Loss of Excitation Relay

Specifications

Power Supply (Nominal)

XXX-E1O-XXXXX: 48 Vdc (1.9 W)
XXX-E1P-XXXXX: 125 Vdc/120 Vac (2.2 W/18.4 VA)
XXX-E1R-XXXXX: 24 Vdc (1.9 W)
XXX-E1S-XXXXX: 48/125 Vdc (1.9 W/ 2.2 W)
XXX-E1T-XXXXX: 250 Vdc/240 Vac (2.3 W/32.1 VA)

Current Sensing (Single-Phase)

System CT: 5 A (secondary)
Internal CT: 10 A
One-Minute: 15 A
One-Second: 00 A
Frequency: 45 to 65 Hz
Burden: < 0.1 Ω

Voltage Sensing (Single-Phase)

Maximum Continuous Voltage:
X2X-E1X-XXXXX: 120 V, 5 to 200 var
X3X-E1X-XXXXX: 120 V, 25 to 1,000 var
X5X-E1X-XXXXX: 208 V, 10 to 400 var
X6X-E1X-XXXXX: 208 V, 50 to 2,000 var
X8X-E1X-XXXXX: 240 V, 10 to 400 var
X9X-E1X-XXXXX: 240 V, 50 to 2,000 var
Burden: <1 VA
Frequency: 45-65 Hz

Pickup

X2X-E1X-XXXXX: HI: 20 to 200, LOW: 5 to 50
X3X-E1X-XXXXX: HI: 100 to 1,000, LOW: 25 to 250
X5X-E1X-XXXXX: HI: 40 to 400, LOW: 10 to 100
X6X-E1X-XXXXX: HI: 200 to 2,000, LOW: 50 to 500
X8X-E1X-XXXXX: HI: 40 to 400, LOW: 10 to 100
X9X-E1X-XXXXX: HI: 200 to 2,000, LOW: 50 to 500
Pickup Accuracy: ±2% or ±0.1 var
Dropout: ≥95% of pickup

Timing Characteristics

Definite: 0.1 to 9.9 s
Accuracy: ±5% or 50 ms

Output Contacts

Resistive:
120 Vac: Make, break, and carry 7 Aac continuously.
250 Vdc: Make and carry 30 Adc for 0.2 s, carry 7 Adc continuously, break 0.3 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)

Environmental

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

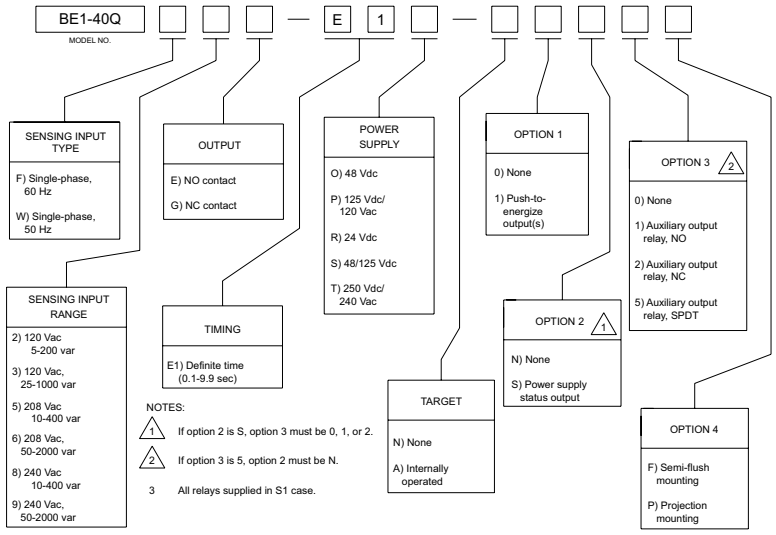
UL recognized

Physical

Weight: 13.5 lb (6.12 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-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.

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