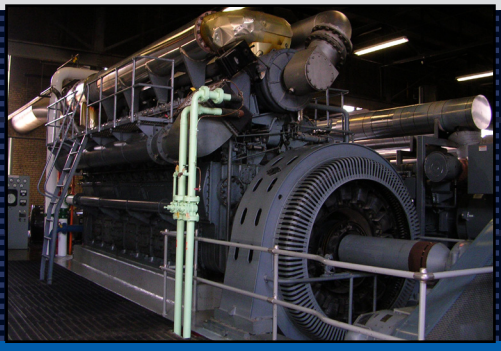
BE1-700V Digital Voltage/Frequency Protective Relay



The BE1-700V is a compact, economical, multifunction protective relay for multiple applications including bus, feeder, generator/motor, and cogeneration applications.

Benefits

- **Cost effective, high performance** voltage-only multifunction relay.
- **BESTCOMS™ software, provided free of charge**, makes it easy to enter protection settings with confidence with its intuitive settings, built-in error checking, and summary screens.
- **Complex protection is easy to configure** and understand with BESTlogic™. User programmable variable and switch names make these relays completely self-documenting.
- **Easily navigate settings** and metering with the intuitive HMI menu and large LCD display.
- **Programmable LCD** eliminates the need for additional meters and control switches.
- **Compact design** requires minimal panel space.

Visit www.basler.com for additional information and style configuration tool.

Features

- **Proven algorithms** based on more than 50 years of relaying experience and more than 30 years of reliable digital relaying design.
- **One relay for most applications.**
- **All of the advantages of a fully numeric product** in an economical "voltage only" protection package.
- **Oscillography, Sequence of Events, and Metering** are added when single function voltage relays are replaced with the BE1-700V.
- **Zero-sequence voltage (3V0)** used to detect single-phase ground faults on high resistance or ungrounded systems can be calculated based on the applied three-phase four-wire sensing voltage, or applied from a separate zero sequence source (optional VX input).
- **Optional four-shot recloser**, including a pilot initiate path and auxiliary voltage input, replaces existing network (transmission, subtransmission) automatic reclosing schemes.
- **Optional BESTnet™ Ethernet package** provides metering and status web pages, settings and configuration via Ethernet, and email notification of user-defined events.
- **Communications ports:** one front RS-232, one rear RS-485, one rear IRIG port, and one rear Ethernet port.
- **Communications protocols:** Modbus™/TCP and ASCII.

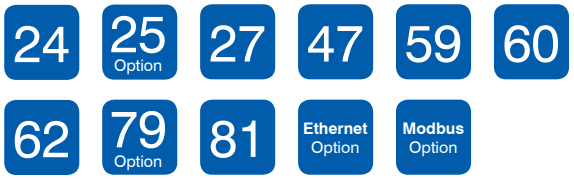


Figure 1 - BE1-700V Device Functions

Specifications

Power Supply

Option 1:	48 Vdc	35 to 150 Vdc range
Option 2:	125 Vac	90 to 270 Vac range
	125 Vdc	90 to 300 Vdc range
Option 3:	24 Vdc	17 to 32 Vdc range*
Option 4:	250 Vac	90 to 270 Vac range
	250 Vdc	90 to 300 Vdc range
Option 5†:	125 Vac	55 to 135 Vac range
	125 Vdc	35 to 150 Vdc range

* (as low as 8 Vdc for momentary dips)
† (extended holdup option)

Burden: 8 W continuous, 11 W max with all outputs energized

Phase AC Voltage Inputs

Continuous:	300 V, L-L
One Second:	600 V, L-L (3-wire)
	600 V, L-N (4-wire)
Burden:	<1 VA at 300 Vac

Auxiliary AC Voltage Inputs

Continuous:	150 V, L-L
Fault:	360 V, L-L
One Second:	600 V, L-N
Burden:	< 1 VA at 150 Vac

Analog to Digital Converters

Type:	16-bit
Sampling Rate:	12 samples per cycle

Output Contacts

Make and Carry:	30 A (0.2 s)
Continuous:	7 A
Break:	0.3 Adc (L/R=0.04) at 125/250 Vdc

Communication

RS-232: 9-pin, sub D connector
300 - 19200 baud rate
ASCII protocol

RS-485: Terminals A, B, C
300 - 19200 baud rate
ASCII protocol standard, Modbus™ optional

Ethernet: 10/100BaseT, RJ-45 connector
BESTnet™ or Modbus TCP protocol

Isolation

Meets IEC 255-5 and exceeds IEEE C37-90

Surge Withstand Capability (SWC)

Oscillatory and fast transient qualified to IEEE C37.90.1, Standard Surge Withstand Capability (SWC) Tests for Protective Relays and Relay Systems

Electrostatic Discharge (ESD)

IEEE C37.90.3, Standard Electrostatic Discharge Test for Protective Relays

Radio Frequency Interference (RFI)

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

Environmental

Operating Temp:	-40°C to 70°C (-40°F to 158°F)
Storage Temp:	-40°C to 70°C (-40°F to 158°F)
Shock:	IEC 255-21-2, Class 1
Vibration:	IEC 255-21-1, Class 1
Humidity:	IEC 68-2-38

Agency/Certifications

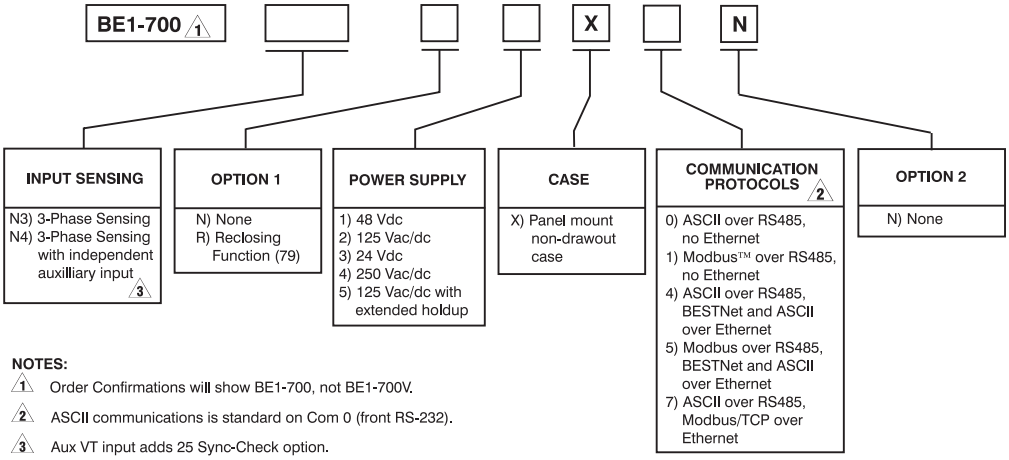
UL recognized, CE compliant

Physical

Weight: 4.33 lb (1.96 kg)
Dimensions (WxHxD):
10.5 x 4.46 x 7.81 inches (behind panel)
(266.7 x 113.3 x 198.4 mm)

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

Style Chart



NOTES:

1. Order Confirmations will show BE1-700, not BE1-700V.
2. ASCII communications is standard on Com 0 (front RS-232).
3. Aux VT input adds 25 Sync-Check option.

Related Products

- BE1-11 Protection System
  - Designed with many features to address issues with reliability arising from the complexity of programming.
- BE1-851 Digital Overcurrent Protection System with Drawout Construction
  - Provides three-phase, ground, and negative sequence overcurrent protection intended for use in nondirectional overcurrent applications including feeder, generator, cogeneration, and transformer backup applications.

Accessories

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

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