



Overview

The BE1-11g Generator Protection System is designed to address issues with reliability arising from the complexity of programming. With BESTspace™ files, multiple BESTlogic™Plus preprogrammed logic schemes, and associated application notes, you can be confident that you have the complete generator system protection you need.

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.
- One proven, stable firmware package for all BE1-11 series relays.
- Differential protection with dual slope for quick and selective protection against internal faults.
- Advanced differential protection with saturation detection algorithm.
- Choice of built-in sync-check or auto synchronizer provides flexible synchronizing solutions.
- 100% stator ground protection prevents expensive generator rewinds.
- Loss of Excitation protection prevents generator overheating due to underexcitation.
- Out of Step protection detects pole slip to prevent expensive generator damage.
- Distance element provides backup for faults on transmission line.
- Frequency tracking for backup and cogeneration applications.
- Three Communication Ports:
- Front USB, rear RS-485 and Ethernet RJ45 or fiber optic are available for BESTCOMSPPlus®, BESTnet™Plus, Modbus®, DNP, and IEC 61850 protocols, also featuring user configurable email notifications.
- Enhanced I/O options available with the J-style case: 10 inputs with 5 outputs or 7 inputs with 8 outputs.

Benefits

- The Offline Simulator, in BESTlogic™Plus, reduces commissioning errors by providing the ability to test and troubleshoot logic without the need for expensive physical hardware.
- Complete generator protection system for applications including large power generation, distributed generation, local backup generation, and intertie protection applications.
- BESTCOMSPPlus® 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 preprogrammed schemes, drag-and-drop logic, user labels, and notes provided by BESTlogic™Plus.
- Quick and reliable fault clearing with minimal false operations.
- Flexible package options provided by half rack case with drawout or J case (S1 sized) with plug out and additional CTs and I/O.
- Easily navigate settings and metering with the intuitive HMI menu and large LCD display.
- Customize displayed information to meet different application needs with user-defined indicators and labels.
- Select and Operate buttons on the front panel provide direct control of internal logic.
- Optional remote RTD module provides RTDs and analog input and output channels for expanded protection and control possibilities.

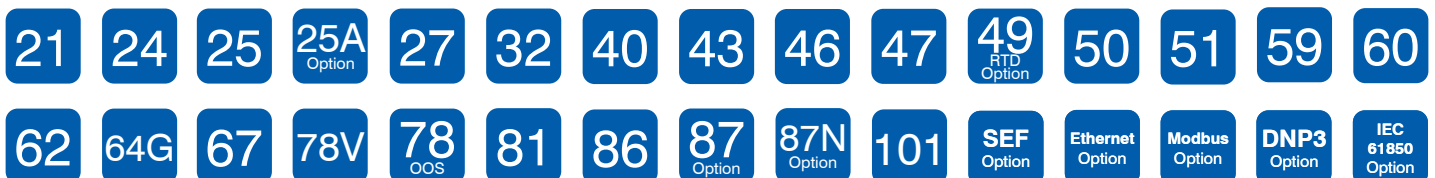


Figure 1 - BE1-11g Device Functions

Specifications

Power Supply

Option 1:	48/125 Vac/dc	dc range 35 to 150 V ac range 55 to 135 V
Option 2:	125/250 Vac/dc	dc range 90 to 300 V ac range 90 to 270 V
Option 3:	24 Vdc	dc range 17 to 32 V*
		*(as low as 8 V for momentary dips)
Burden:	10 W continuous, 12 W max	(all options)

Voltage Sensing (10 to 125 Hz)

Phase:	Metering:	50 to 250 Vac
	Continuous:	300 V, Line to Line
	One-second rating:	600 V, Line to Neutral
Vx:	Metering:	25 to 125 Vac
	Continuous:	150 V, Line to Line
	One-second rating:	600 V, Line to Neutral

Current Sensing (10 to 125 Hz)

5 A Nom:	Metering:	0.5 to 15 Aac
	Continuous:	20 Aac
	One-second rating:	400 Aac
1 A Nom:	Metering:	0.1 to 3 Aac
	Continuous:	4 Aac
	One-second rating:	80 Aac

SEF:	Metering:	0.01 to 3 Aac
	Continuous:	4 Aac
	One-second rating:	80 Aac

Communications

USB:	2.0, Type-B
RS-485:	
Baud:	Up to 115,200
Protocols:	DNP, Modbus®, RTD Module
Ethernet:	
Speed:	10/100 Mbit Copper, 100 Mbit Fiber
Protocols:	BESTnet™ Plus, BESTCOMSPlus®, DNP, Modbus, IEC 61850™, RTD Module

Agency/Certifications

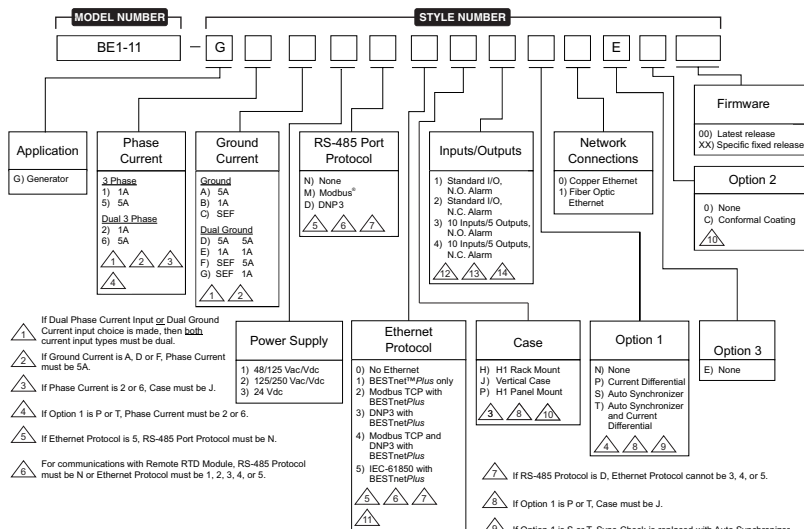
UL recognized
 CSA certified per Standard C22.2 No. 14
 DNP3-2009, V2.6 compliant
 KEMA certified per IEC 61850 Certificate Level A
 CE and UKCA compliant
 China RoHS compliant

Physical

Weight	
H1 Rack Mount (H case):	5.9 lb (2.6 kg)
H1 Panel Mount (P case):	6.2 lb (2.8 kg)
Vertical Case (J case):	5.1 lb (2.3 kg)
IP class:	IP50
Dimensions (WxHxD)	
H case and P case:	10.50 x 3.49 x 9.17 inches, with mounting flanges (266.7 x 88.65 x 232.92 mm)
	8.64 x 3.49 x 7.92 inches, behind panel (219.46 x 88.65 x 201.17 mm)
J case:	7.00 x 9.12 x 7.91 inches, with mounting flanges (177.8 x 231.65 x 200.91 mm)
	5.33 x 8.41 x 7.29 inches, behind panel (135.38 x 213.61 x 185.17 mm)

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

Style Chart



Visit the Basler website!

Scan the QR code for more information on the BE1-11g Generator Protection System.



Related Products

BE1-FLEX Protection, Automation and Control System

Designed to be configurable for nearly any Power System Application.

BE1-64F Ground Fault Relay

Designed to detect unintentional grounding in field windings of a generator or motor.

DECS-250 Digital Excitation Control System

Provides precise voltage, var and Power Factor regulation, and exceptional system response, plus generator protection.

DGC-2020HD Digital Genset Controller

Provides genset and transfer switch control, metering, protection and programmable logic in a simple, easy-to-use, reliable, rugged, and cost effective package.

RTD Module

Provides up to 12 remote RTD inputs, four remote analog inputs, and four remote analog outputs.

(p/n 9444100100 - Ethernet, Copper)

(p/n 9444100101 - Dual Ethernet, Fiber & Copper)

Accessories

Escutcheon plate to panel mount two dovetailed H1 systems (p/n 9289900016)

Adapter bracket to mount single H1 case in 19-inch rack (p/n 9289924100)

Adapter bracket with cutout for ABB FT test switch, to mount a single H1 case in a 19-inch rack (p/n 9289929100)

Test terminal block assembly kit for J case systems (p/n 9424226100)