



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.

### 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.
- **BESTCOMSPlus® 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.

### 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 BESTCOMSPlus®, 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.

21	24	25	25A Option
27	32	40	43
46	47	49 RTD Option	50
51	59	60	62
64G	67	78V	78 OOS
81	86	87 Option	87N Option
101	BF	Ethernet Option	Modbus Option
DNP3 Option	SEF Option	IEC 61850 Option	

VISIT [WWW.BASLER.COM](http://WWW.BASLER.COM)  
FOR ADDITIONAL INFORMATION.

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

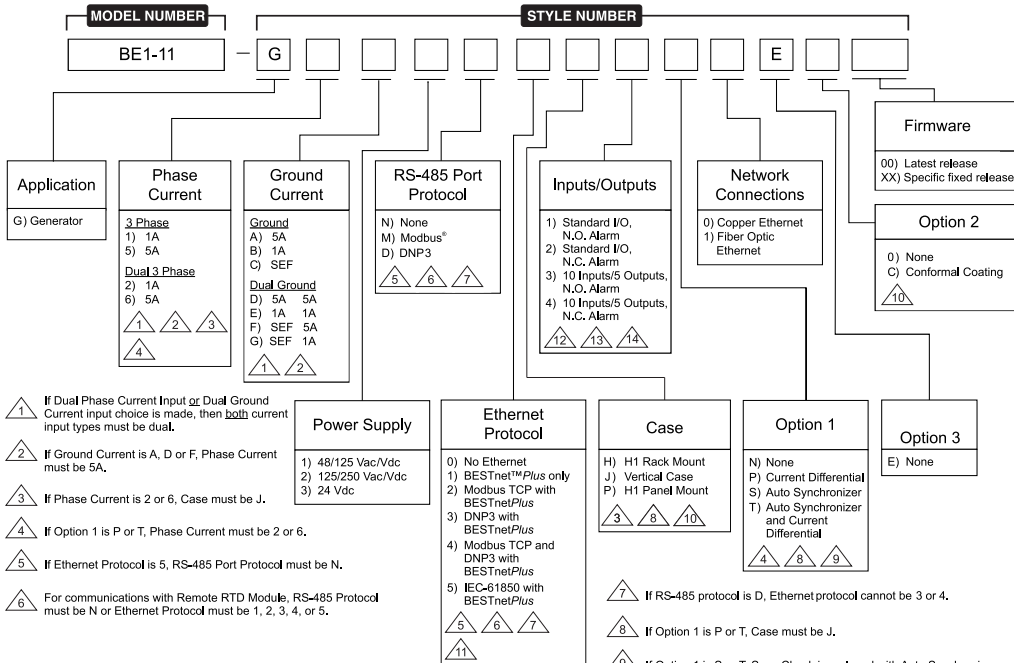
- SEF: Metering: 0.01 to 3 Aac  
Continuous: 4 Aac  
One-second rating: 80 Aac
- Communications**
- USB: 2.0, Type-B
- RS-485: Baud: Up to 115,200  
Protocols: DNP, Modbus®, RTD Module
- Ethernet: Speed: 10/100 Mbit Copper  
100 Mbit Fiber  
Protocols: BESTnet™ Plus, BESTCOMSPUs®, DNP, Modbus, IEC 61850™, 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
- EAC certified, CE compliant - meets or exceeds standards for distribution in the European Community

**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](http://www.basler.com).

**STYLE CHART**



**RELATED PRODUCTS**

- BE1-11 Protection System**
  - Designed to address issues with reliability arising from the complexity of programming.
- 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-2020 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" rack (p/n 9289924100)
- Adapter bracket with cutout for ABB FT test switch, to mount a single H1 case in a 19" rack (p/n 9289929100)
- Test terminal block assembly kit for J case systems (p/n 9424226100)

**Visit the BE1-11g mobile site!**

Use your smartphone and scan the QR code to gain quick access to our mobile-enabled site featuring the field support information you need.

[m.basler.com/qrs/BE1-11g](http://m.basler.com/qrs/BE1-11g)



12570 State Route 143, Highland, Illinois 62249-1074 USA  
Tel +1 618.654.2341 Fax +1 618.654.2351  
email: info@basler.com www.basler.com

No. 59 Heshun Road Loufeng District (N), Suzhou Industrial Park, 215122, Suzhou, P.R.China  
Tel +86(0)512 8227 2888 Fax +86(0)512 8227 2887  
e-mail: chinainfo@basler.com

111 North Bridge Road #15-06 Peninsula Plaza Singapore 179098  
Tel +65 68.44.6445 Fax +65 68.44.8902  
e-mail: singaporeinfo@basler.com