

Overview

The SGC-150 Synchronous Generator Controller is a prepackaged solution for applications requiring a single or dual DECS-150 Digital Excitation Control System. The system is preconfigured to adapt to a wide variety of installations including existing or new cubicles. With the DECS-150's enhanced capabilities, precise generator voltage control can be obtained. The SGC-150 is designed, built, and completely tested in one location to optimize performance.

Features

- Up to 10-amp pulse-width-modulated (PWM) insulated-gate bipolar transistor (IGBT) power stage
- Single and dual redundant DECS-150 option
- BESTCOMSPPlus® PC software
- Preprogrammed logic
- Autotracking between modes of operation
- Autotracking between DECS-150 units for dual controller systems
- Real time monitoring
- Sequence of events recording
- Automatic tuning
- Extensive communication available
 - USB
 - CAN bus communication
 - Ethernet 100Base-T (Modbus TCP)
- Reactive load sharing over Ethernet
- Optional field flashing provisions
- Optional integrated power system stabilizer (PSS)
- Agency: CE
- Protection
 - ES-74S
 - DECS-150 integrated protection
- ICRM for station-powered applications

Benefits

- The DECS-150, used on the SGC-150, is programmed using BESTlogic™ Plus within BESTCOMSPPlus software. With its intuitive interface, BESTlogicPlus provides the flexibility to create custom logic schemes to meet specific requirements.
- An automatic tuning feature is integrated into the DECS-150 to reduce commissioning time and provide excellent system performance.
- Real time monitoring and event recording capture occurrences within the system for live data analysis.
- Prewired for easy installation into new or existing enclosures.
- Current transformer (CT) shorting provision for added safety.
- Our system approach minimizes the need for system-level design time.
- The Offline Simulator, provided in BESTlogicPlus, helps identify and troubleshoot the logic without the physical hardware.
- Design work done by the experts in excitation technology.

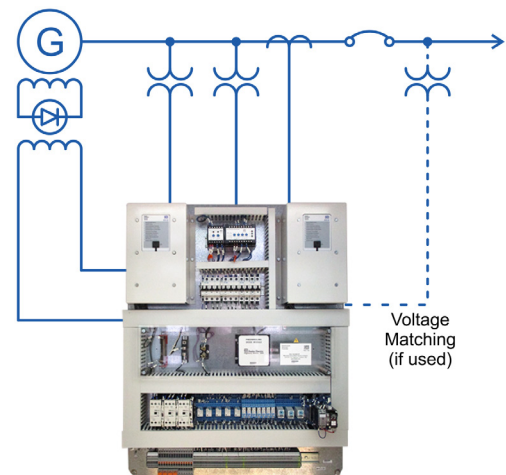


Figure 1 - DECS-150 Connection Diagram for a Typical Application

Specifications

Excitation Current

Up to 10 Adc

Operating Power

Full load continuous field voltage:

63 Vdc: 100 to 139 Vac or 125 Vdc
 125 Vdc: 190 to 277 Vac (1-phase),
 190 to 260 Vac (3-phase), or
 250 Vdc

Frequency range: 50 to 500 Hz

Control Power Input

Nominal: 24 Vdc
 Range: 19.2 to 26.4 Vdc

Voltage Sensing Input

Range: 100 to 600 Vac, 50/60 Hz
 Configuration: 1-phase, 3-phase, 3-wire

Current Sensing Input

Nominal: 1 Aac or 5 Aac
 Configuration: 1-phase, 3-phase, plus cross-current compensation

Output Contacts

Make, Break, and Carry (Resistive):
 Rating: 7.0 Adc at 24 Vdc/240 Vac

Environmental

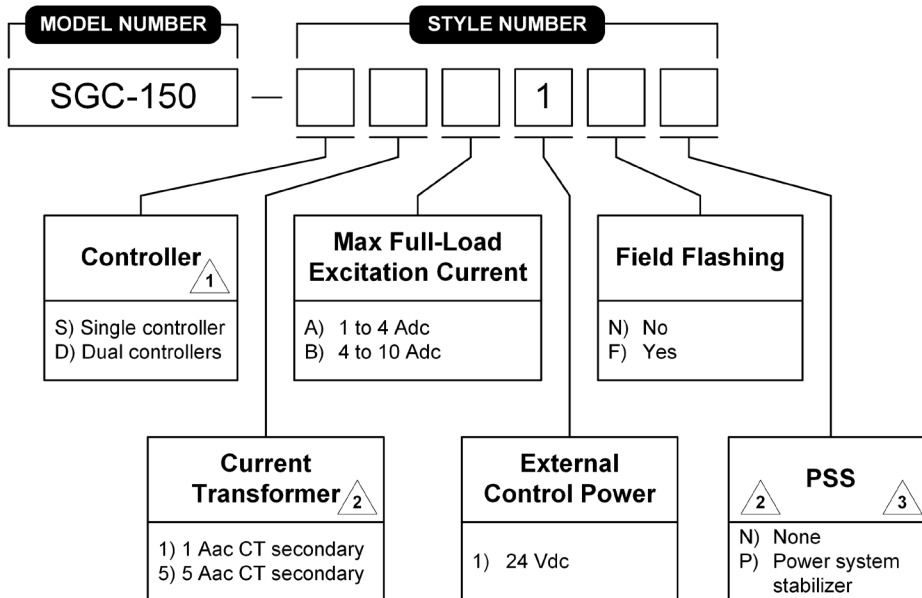
Operating Temp:
 Up to 7 Adc output: 0°C to 60°C (32°F to 140°F)
 Up to 10 Adc output: 0°C to 55°C (32°F to 131°F)
 Storage Temp: -20°C to 60°C (-4°F to 140°F)

Physical

Single Controller
 Dimensions (WxHxD): 21.65 x 29.53 x 5.12 inches
 (550 x 750 x 130 mm)
 Dual Controller
 Dimensions (WxHxD): 29.53 x 37.40 x 5.12 inches
 (750 x 950 x 130 mm)

Style Chart

Please read and utilize the notes below the chart to ensure the appropriate features are specified in the main SGC-150 style chart.



- 1** Selecting dual controllers enables automatic setpoint tracking between the DECS-150 controllers.
- 2** The DECS-150 controller will be automatically configured with the SGC-150 style selections made here.
- 3** Coordinating agency guidelines (Western Electricity Coordinating Council (WECC) or other grid codes) may require "negative field forcing" to be included with the voltage regulator system where a power system stabilizer is required. Negative forcing improves the effective response at the generator output due to dynamic load changes, particularly for plants that have rotating exciters. For these applications, consider using the SGC-250N Synchronous Generator Controller instead.

Related Products

BE1-11g Generator Protection System

Offers a complete generator protection system.

DECS-2100 Digital Excitation Control System

An extremely powerful, flexible excitation system that precisely controls, protects, and monitors synchronous generators and motors.

DECS-250 Digital Excitation Control System

Provides precise voltage, var, and power factor regulation, exceptional system response, and generator protection.

DECS-250E Digital Excitation Control System

The DECS-250E Digital Excitation Control System provides accurate and reliable regulation, control, and protection for synchronous motors or generators.

DECS-450 Digital Excitation Control System

A versatile digital excitation control system for synchronous generators and motors.

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.

DGC-2020HD Digital Genset Controller

An advanced, but rugged genset control system designed for paralleling and complex load sharing schemes.

ES Series Protection Relays

A wide range of cost-saving options to simplify industrial application protection.

SGC-250N Synchronous Generator Controller

A prepackaged solution for applications requiring single or dual DECS-250N Digital Excitation Control Systems.

SMC-250 Synchronous Motor Controller

Combines the DECS-250 and BE1-11 in a complete unit for easy installation for motor control and protection applications.