

Overview

The DECS-100 Digital Excitation Control System is a high powered, low-cost, and environmentally rugged solution for controlling the output of rotary excited synchronous generators. The DECS-100 is perfect for machines that are paralleled to other generators and/or the utility system. It is ideal for distributed generation, cogeneration, and peak shaving applications.

Features

- Microprocessor based
- 0.25% Voltage Regulation Accuracy
- 0.5% accuracy up to 40% Total Harmonic Distortion (THD) (harmonics associated with six-thyristor load)
- 63 Vdc @ 7 Adc pulse-width-modulated (PWM) output
- 0-3X V/Hz limiting
- Soft Start capability
- Twenty standard stability selections and one customizable selection
- VAR/PF control
- Overexcitation limiting
- Underexcitation limiting
- Voltage Matching
- Manual Mode (Field current regulation)
- Paralleling input from 1-amp or 5-amp CT secondaries
- Nominal sensing inputs of 120, 240, 480, and 600 Vac
- Power Input from 50/60 Hz shunt connection or permanent magnet generator (PMG) operating at 50 to 400 Hz
- Integrated protection functions including Loss of Sensing transfer to manual
- LED annunciation of operating conditions
- Setup via PC using BESTCOMS™ software (included)
- Models capable of 10 Adc continuous field current output are available upon request. See reverse for details.

Benefits

- Microprocessor-based design provides high functionality and performance.
- Powerful 7-amp, PWM power stage provides high field forcing for increased system response.
- THD-tolerant design offers reliable operation with nonlinear loads.
- Integrated generator and exciter protection ensure proper system operation.
- Rugged, potted design for exceptional reliability in the harshest environments.

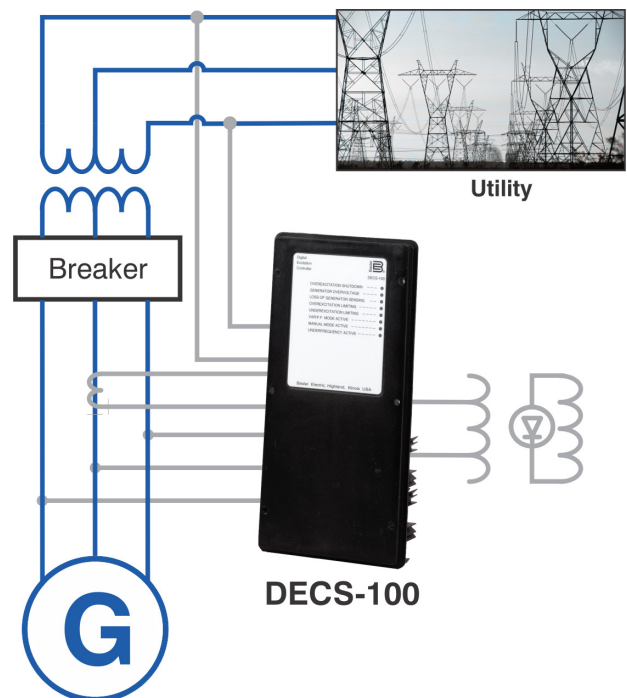


Figure 1 - DECS-100 Connection Diagram for a Typical Application

Specifications

Input Power

Voltage: 88 to 250 Vac
 Phase: 1-phase or 3-phase
 Burden: 650 VA
 Frequency: 50 to 400 Hz
 Minimum Build-up Voltage: 6.0 Vac

Voltage Sensing

Nominal Voltage Input: 100/120, 200/240, 400/480, 600 Vac, 1-phase or 3-phase
 Burden: <1 VA per phase
 Frequency: 50/60 Hz

Current Sensing

Max Continuous: 1 or 5 Amp (two models)
 Burden: <1 VA

Accessory Input

Voltage Range: 0Vdc to +3 Vdc
 Setpoint Range: 0% to +30% shift
 Burden: 1 kW

Field Output

Continuous Rating: 63 Vdc, 7 Adc
 10-Second Forcing
 200 Vac Input: 135 Vdc, 15 Adc
 110 Vac Input (9 field): 90 Vdc, 10 Adc
 110 Vac Input (5 field): 75 Vdc, 15 Adc
 Minimum Field Resistance: 9 Ω

Common Alarm Output

Type: Form A
 Rated Load: 7 Aac/Adc continuous
 Make: 30 Aac/Adc, carry for 0.2 seconds
 Break: 7 Aac/0.1 Adc
 Operating Voltage: 240 Vac/250 Vdc max

Regulation Accuracy

Regulation Accuracy: ±0.25% no-load to full-load
 Temperature Drift: ±0.5% for a 40°C change
 Response Time: Within 1 cycle
 THD: ±0.25% for 20% THD and ±0.5% for 40% THD (distortion as seen with a six-thyristor load)

Agency/Certifications

UL recognized (evaluated to UL6200), CSA certified, CE EMC and LVD compliant, China RoHS compliant, Type approved with Bureau Veritas (BV)*, Det Norske Veritas-Germanischer Lloyd (DNV·GL)* and RMRS*
 * Does not apply to models with 10 Adc field current output.

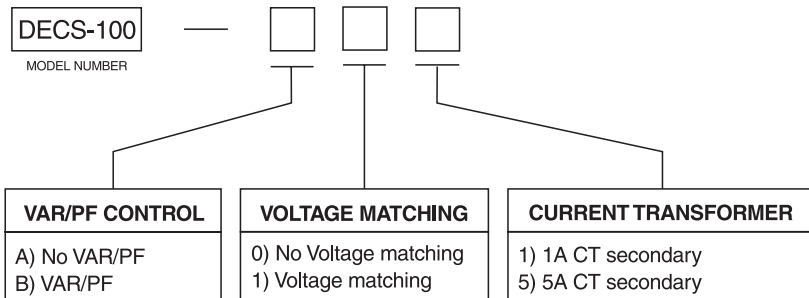
Environmental

Operating Temperature: 0°C to 70°C (32°F to 158°F)
 Storage Temperature: 0°C to 85°C (32°F to 185°F)
 Shock: 20 G in three perpendicular planes
 Vibration
 5 to 26 Hz: 1.2 G
 27 to 52 Hz: 0.036" double amplitude
 53 to 500 Hz: 5.0 G
 Salt Fog: Per MIL-STD-810E

Physical

Weight: 2.42 lb (1.10 kg)
 Shipping Weight: 2.88 lb (1.31 kg)
 Dimensions (WxHxD): 5.34 x 10.82 x 2.84 inches (135.6 x 274.8 x 72.1 mm)

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



ORDERING INFORMATION FOR 10 Adc FIELD CURRENT OUTPUT MODELS

Part Number	DECS-100 Style	Special Requirements		
		Input Power	Minimum Field Resistance	Maximum Operating and Storage Temperature
9287500147	DECS-100-B11	3-phase only	6.3 Ω	55°C (131°F)
9287500148	DECS-100-B15			

Related Products

BE1-11g Generator Protection System

Combines with the DECS-100 to offer a complete generator control and protection system.

ES Series Protection Relays

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

DECS-250 Digital Excitation Control System

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

DECS-250N Digital Excitation Control System with Negative Forcing

A high-powered digital excitation control system featuring negative field forcing that provides exceptional system response, precise voltage regulation, and integrated generator protection.

DGC-2020ES Digital Genset Controller

The total system solution for emergency and stand alone generator set applications.

DGC-2020HD Digital Genset Controller

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

Accessories

MVC Manual Voltage Controllers

Provides backup manual source for excitation in the event of AVR failure.