

The DECS-250E Digital Excitation Control System provides accurate and reliable regulation, control, and protection for synchronous motors or generators. Three DECS-250E models can supply a maximum of 50 Adc, 100 Adc, or 200 Adc of excitation current in a static or rotary exciter application. All DECS-250E components are housed in a compact enclosure which makes for a simple and cost-effective installation for a wide variety of applications.

FEATURES

- Precise excitation control for synchronous generator or synchronous motor applications
- True RMS sensing, single-phase or three-phase voltage and current
- Full generator or motor metering capabilities
- Automatic Voltage Regulation / Field Current Regulation / Field Voltage Regulation, Power Factor and var modes of operation
- Integrated generator protection (27/59, 810/U, 32R, 40Q), 59F, 51F, Field Short Circuit, and 25 Sync Check
- Load sharing over Ethernet
- Auto tuning feature with two PID stability groups
- Configurable protection
- Overexcitation limiting (with temperature compensation)
- Underexcitation limiting
- Stator current limiting (with temperature compensation)
- Var limiting
- Underfrequency limiting or V/Hz limiting
- Trending, oscillography, and sequence of events recording
- Ten programmable contact inputs
- Nine programmable contact outputs
- I/O expansion module compatibility
 - AEM-2020 Analog Expansion Module
 - CEM-2020 Contact Expansion Module
- Single- or three-phase power input
- Automatic synchronizer option
- Compact enclosure

BENEFITS

- Reduce your setup time with Basler's intuitive BESTCOMSPi[®] software that simplifies complex setup with simple drag-and-drop programmable logic, visual real-time strip chart capabilities, and cutting edge auto PID selection capabilities.
- The auto tuning function automatically establishes optimum PID and gain settings, taking the guesswork out of system setup, reducing commissioning time and cost while maximizing overall system performance.
- The Offline Simulator in BESTlogic™ Plus helps test and troubleshoot logic without expensive hardware.
- A 50, 100, 200 ampere positive forcing rectifier bridge can be selected to provide optimum response to the generator main field or exciter field.

Visit www.basler.com
FOR ADDITIONAL INFORMATION.

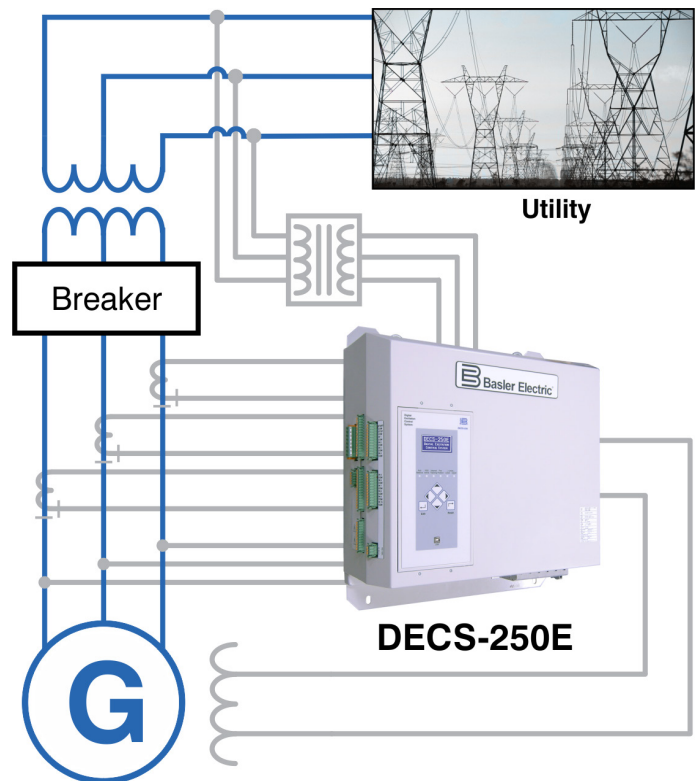


Figure 1 - DECS-250E Connection Diagram for a Typical Application

Control Power Supply Input

Style LXXXXXX

Voltage Range: 18 to 30 Vdc
Burden: 30 W*, 110 W

Style CXXXXXX

DC Voltage Range: 90 to 150 Vdc
DC Burden: 30 W*, 100 W
AC Voltage Range: 90 to 132 Vac
AC Burden: 40 VA*, 150 VA

* With 50 Adc excitation current (style XXXXXXA)

AC Operating Voltage and DC Output Power

120 Vac, 1-phase input: 63 Vdc output
80 Vac, 3-phase input: 63 Vdc output
240 Vac, 1-phase input: 125 Vdc output
160 Vac, 3-phase input: 125 Vdc output
320 Vac, 3-phase input: 250 Vdc output
Full Load Continuous
Current with Positive Forcing: 50, 100, or 200 Adc† (style selectable)

† With 1-phase operating power input, 200 Adc styles are de-rated to 133 Adc output.

10-Second Forcing: 1.44 x rated Adc
Power Input Frequency: 50/60 Hz

Generator Current Sensing

Configuration: 1-phase or 3-phase with separate input for cross current compensation

Current Ranges: 1 Aac or 5 Aac nominal
Frequency: 50/60 Hz Nominal
Burden: 1 Aac sensing: < 5 VA
5 Aac sensing: < 10 VA

SPECIFICATIONS

- **Generator and Bus Voltage Sensing**
 - Configuration: 1-phase or 3-phase
 - Voltage Ranges: 100/120 Vac ± 10%
200/240 Vac ± 10%
400/480 Vac ± 10%
600 Vac ± 10%
 - Frequency: 50/60 Hz Nominal
 - Burden: < 1 VA per phase
- **Inputs and Outputs**
 - Contact Inputs: 10 programmable inputs (dry contacts)
 - Auxiliary Input: Connection available in 4 to 20 mA or ± 10 Vdc input
 - Output Contacts: 9 programmable form A contacts and one form C for watchdog function
 - Rating: Make, break, and carry 7 A resistive @ 24/48/125 Vdc (120/240 Vac).
- **Communication**
 - USB: USB type B
 - RS-232: RS-232, 9 pin, sub D for optional external autotracking
 - RS-485: Modbus® RTU protocol
 - CAN bus: One port for ECU communications
 - Ethernet: One port for expansion modules 100base-T Modbus TCP protocol for unit-to-unit communication
 - Expansion Port: Optional PROFIBUS protocol

- **Agency/Certifications**
 - CE EMC, LVD, and RoHS II compliant
 - EAC certified
- **Environmental**
 - Operating Temp: -20°C to 60°C (-4°F to 140°F)
 - Storage Temp: -20°C to 75°C (-4°F to 167°F)
 - Humidity: IEC 60068-2-38
 - Ingress Protection: IP20 (NEMA1 cabinets available)
 - Shock: 15 G in three perpendicular planes
 - Vibration: IEC 60255-21-1, 3 hours per plane, 3-25 Hz, 1.5 mm displacement, 25-2,000 Hz, 5 G acceleration, sweep rate 0.45 octaves per min.
- **Physical**
 - Weight: 55.5 lb (25.2 kg)
 - Dimensions (WxHxD): 22.2 x 24.8 x 9.0 inches (565 x 629 x 228 mm)

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

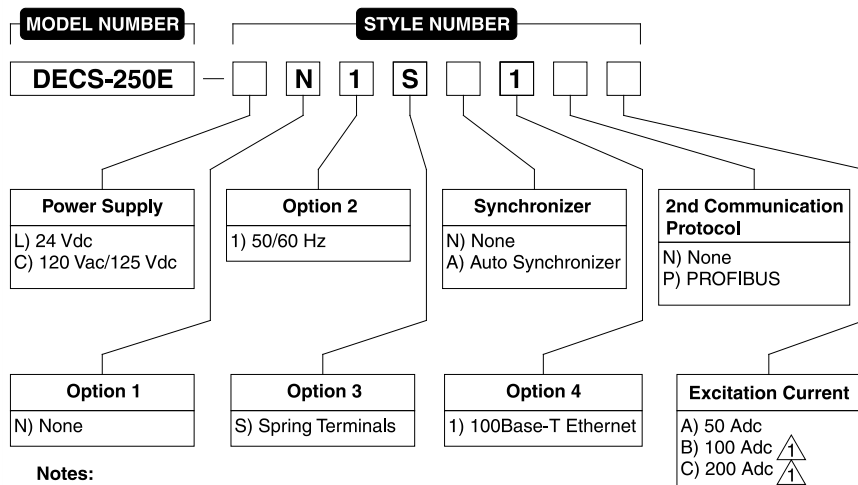
RELATED PRODUCTS

- [BE1-11g Generator Protection System](#)
 - Combines with the DECS-250E to offer a complete generator control and protection system.
- [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.

ACCESSORIES

- [IDP-801 Interactive Display Panel](#)
 - A 7.5" (190.5 mm) Human Machine Interface to view generator system parameters locally or remotely.
- [CEM-2020 and CEM-2020H Contact Expansion Module](#)
 - Provides additional contact I/O for large or complex logic schemes.
- [AEM-2020 Analog Expansion Module](#)
 - Provides additional metering and control with external peripherals through analog I/O.
- [Field Flashing Module](#)
 - Provides flashing power to the field for voltage buildup. p/n 9504018100 - 125 Vdc field flashing voltage p/n 9504018101 - 24 Vdc field flashing voltage
- [Shaft Suppression Module](#)
 - Reduces risk of damage to generator bearings. p/n 9199800100 - up to 250 Vdc field voltage p/n 9199800101 - up to 375 Vdc field voltage
- [AC Line Filter](#)
 - Reduces amount of EMI (electromagnetic interference) on the system. p/n 9504012100 - 50/100 Adc excitation current p/n 9504012101 - 200 Adc excitation current

STYLE CHART



Notes:

⚠ Excitation Current options B and C are forced air cooled with redundant fans.

CUSTOM SOLUTIONS

Basler Electric offers a wide range of custom solutions for use with the DECS-250E. Contact us for more details.



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