

The DECS-250N digital excitation control system offers high performance, high flexibility, and extreme reliability for brushless excited AC synchronous generators. The DECS-250N utilizes a 20-amp six-thyristor negative forcing output, providing exceptional system transient response. Multiple communication options and an optional integrated power system stabilizer make the DECS-250N a complete system solution in a reliable and cost effective package.

FEATURES

- True RMS sensing, single-phase or three-phase voltage and current
- Full generator metering capabilities
- Auto tuning feature with two PID stability groups
- Reactive load sharing over communication
- AVR, FCR, FVR, power factor and var modes of operation
- Integrated generator protection 25, 27, 32R, 40Q, 51F, 59, 59F, 810/U, EDM, Loss of PMG, and field short circuit
- Configurable protection
- Overexcitation limiting (with temperature compensation)
- Underexcitation limiting
- Stator current limiting (with temperature compensation)
- Var limiting
- Underfrequency limiting or V/Hz limiting
- Exciter diode monitoring
- Trending, oscillography, and sequence of events recording
- Fourteen programmable contact inputs
- Eleven programmable contact outputs
- Rated for up to 420 Hz on the power input with derating capability (Contact Basler Electric for more information)
- I/O Expansion module compatibility
 - AEM-2020 Analog Expansion Module
 - CEM-2020 Contact Expansion Module

BENEFITS

- The Offline Simulator, provided in BESTlogic™ Plus, helps test and troubleshoot logic without the need for expensive hardware.
- Reduce setup time with Basler's intuitive BESTCOMSPiUS® 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 revolutionary 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.
- A powerful 20-amp rectifier bridge provides high positive and negative field forcing for exceptional system response. The negative field-forcing capabilities make it well suited to be paired with the optional Power System Stabilizer.

Visit WWW.BASLER.COM
FOR ADDITIONAL INFORMATION AND
STYLE CONFIGURATION TOOL.

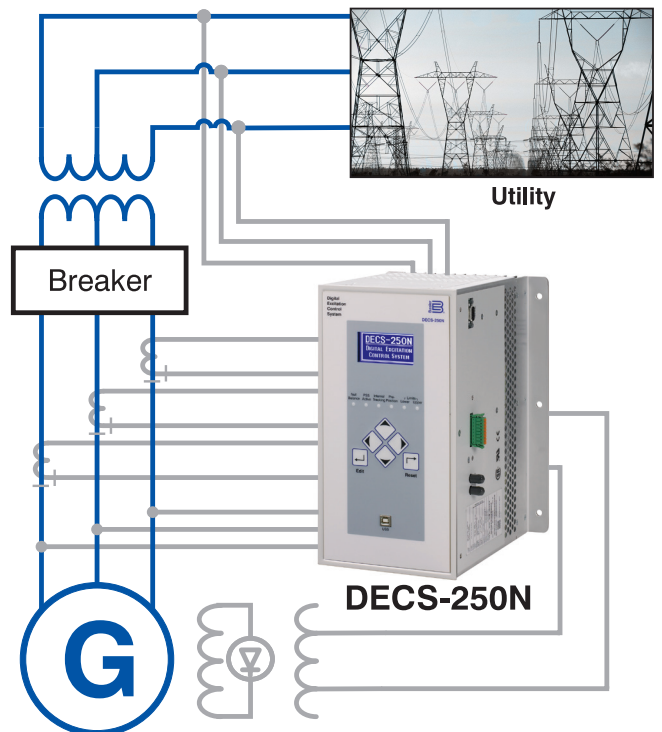


Figure 1 - DECS-250N Connection Diagram for a Typical Application

SPECIFICATIONS

Power Supply

Nominal: Style LXXXXX: 16 to 60 Vdc
 Style CXXXXX: 90 to 150 Vdc,
 82 to 132 Vac
 Burden: 50 VA or 30 W

AC Operating Power and DC Output Power

63 Vdc:
 Power Input Configuration: 1-phase or 3-phase
 Nominal Input Voltage: 208 Vac for 1-phase
 120 Vac for 3-phase
 Full Load Continuous Voltage: 63 Vdc
 Power Input Frequency: 50/60 Hz or 61-420 Hz
 Minimum Field Resistance: 3.15 Ω

125 Vdc:
 Power Input Configuration: 3-phase
 Nominal Input Voltage: 240 Vac
 Full Load Continuous Voltage: 125 Vdc
 Power Input Frequency: 50/60 Hz or 61-420 Hz
 Minimum Field Resistance: 6.25 Ω

250 Vdc:
 Power Input Configuration: 3-phase
 Nominal Input Voltage: 480 Vac
 Full Load Continuous Voltage: 250 Vdc
 Power Input Frequency: 50/60 Hz
 Minimum Field Resistance: 12.5 Ω

All Styles:
 Full Load Continuous Current: 20 Adc
 10-Second Forcing: 40 Adc
 120-Second Forcing: 30 Adc

Generator and Bus Voltage Sensing
 Configuration: 1-phase or 3-phase (3-wire)
 Voltage Ranges: 100/120 Vac ±10%
 200/240 Vac ±10%
 400/480 Vac ±10%
 600 Vac ±10%
 Frequency Range: 50/60 Hz Nominal
 Burden: < 1 VA per phase

Generator Current Sensing
 Configuration: 1-phase or 3-phase with separate CT input for cross current compensation
 Current Ranges: 1 Aac or 5 Aac nominal
 Frequency Range: 50/60 Hz Nominal
 Burden: 1 Aac sensing: < 5 VA
 5 Aac sensing: < 10 VA

Inputs and Outputs
 Contact Inputs: 14 programmable inputs (dry contacts)
 Auxiliary Input: Connection available in 4 to 20 mA or ±10 Vdc input
 Output Contacts: 11 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)

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

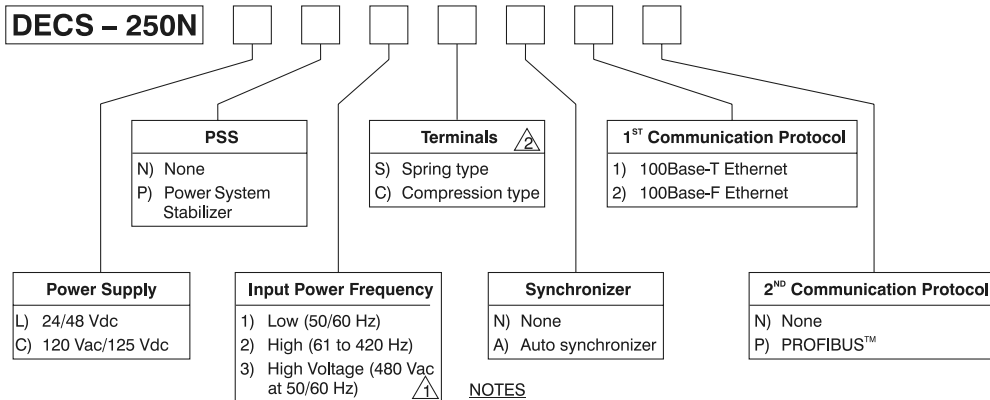
Communication
 USB: USB type B
 RS-232: RS-232, 9 pin, sub D for optional external autotracking
 Modbus™ RTU protocol
 RS-485: One port for ECU communications
 One port for expansion modules
 CAN bus: Standard unit uses 100baseT; optional selection of 100baseFX is available. Modbus TCP protocol or unit-to-unit communication.
 Ethernet: Optional Profibus protocol
 Expansion Port: Optional Profibus protocol

Agency/Certifications
 CSA certified, UL recognized, CE EMC and LVD compliant, GOST-R certified, Bureau Veritas (BV), Germanischer Lloyd (GL), Det Norske Veritas (DNV) recognized, and American Bureau of Shipping (ABS) recognized

Environmental
 Operating Temp: -40°C to 60°C (-40°F to 140°F)
 Storage Temp: -40°C to 85°C (-40°F to 185°F)
 Salt Fog: Per MIL-STD 810E method 509.3
 Shock: 15 G in three perpendicular planes
 Vibration: 5 G in three perpendicular planes, 3 to 2000 Hz

Physical
 Weight: 14.9 lb (6.75 kg)
 Dimensions (WxHxD): 6.26" x 12.00" x 8.62"
 (159.0 mm x 304.8 mm x 219.0 mm)

STYLE CHART



NOTES

- ⚠ A DECS-250N with style XX3XXXX accepts 480 Vac operating power at 50/60 Hz to provide a 250 Vdc nominal power output.
- ⚠ Compression type terminals are available for the current sensing (CT) inputs, registering power input, and power output connections only.

RELATED PRODUCTS

- [BE1-11g Generator Protection System](#)
 - Combines with the DECS-250N 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

- [MVC Manual Voltage Controllers](#)
 - Provides backup manual source for excitation in the event of AVR failure.
- [IDP-800 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.



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