

DECS-150 DIGITAL EXCITATION CONTROL SYSTEM

DECS-150 Digital Excitation Control Systems offer precise excitation control and machine protection in a compact package. DECS-150 adaptability to many applications is assured through configurable contact inputs and outputs, flexible communication capabilities, and programmable logic implemented with the provided software.

The high flexibility and powerful functionalities make this device particularly useful in those projects where machines are paralleled to other generators and/or the utility system, since the requirements from the grid codes are very demanding. The DECS-150 is suitable for all Mecc Alte brushless alternators, including the medium and high voltage series EC046 and EC049. In fact, the DECS-150 can be fed indifferently by the PMG3, MAUX or even shunt-excited.

Excitation power is supplied from the DECS-150 by means of a filtered, switching power module that uses pulse-width modulation. It is capable of supplying 7 Amps at 70°C ambient temperature and has a forcing capability of 11 Amps for 10 seconds.



MAIN FEATURES

- Voltage regulation accuracy ±0.25%
- THD-tolerant design offers reliable operation with non-linear loads
- True RMS three-phase generator voltage sensing/regulation
- Four excitation control modes:
 - Automatic Voltage Regulation (AVR)
 - Field Current Regulation (FCR)
 - Power Factor Regulation (PF)
 - Var Regulation (var)
- Auto tuning feature
- Soft start and voltage build-up control

- Integrated droop and cross current compensation
- Diodes failure detection
- Remote setpoint control input accepts analog voltage or current control signal
- Real-time metering
- Wide range of limiting and protection functions:
 - Overexcitation
 - Underexcitation
 - Stator current limiting
 - Up to eight programmable functions

- Eight programmable contactsensing inputs
- Three contact outputs
- Flexible communication: serial communication through USB port and Ethernet communication
- Data logging and sequence of events
- USB-powered for programming via BESTCOMSPlus[®] software



SPECIFICATIONS

DC Operating Power Full Load Continuous Current:

AC Operating Power Power Input Configuration:

Power Input Frequency: Nominal Input Voltage:

Generator and Bus Voltage Sensing

Configuration:

50 Hz Voltage Ranges:

60 Hz Voltage Ranges

Frequency: Burden:

Generator Current Sensing

Configuration:

Nominal Current: Frequency: Burden:

Inputs and Outputs

Contact Inputs: Type: Interrogation Voltage Auxiliary Inputs: 10 A at 55°C 7 A at 70°C

1-phase 3-phase dc, 50 to 500 Hz 120 ÷ 240 Vac 250 Vdc

1-phase 3-phase-3-wire 100 Vac ±10% 200 Vac ±10% 400 Vac ±10% 120 Vac ±10% 480 Vac ±10% 600 Vac ±10% 50/60 Hz nominal <1 VA per phase

1-phase or 3-phase with separate input for cross-current compensation 1 Aac 50/60 Hz <0,1 VA

8 programmable Dry contact 12 Vdc 1 Current Input: Voltage Input: Output Contacts:

Rating:

Communication

USB: Ethernet:

Environmental

Operating Temperature 10 A Continuous: 7 A Continuous: Storage Temperature: Humidity:

Salt Fog: Shock:

Vibration:

Transients: Static Discharge:

Physical

Weight: Dimensions (WxHxD):

Agency/Certification

UL recognised (evaluated to UL 6200), CSA certified, EAC certified, CE EMC and LVD compliant, maritime recognitions by BV, DNV•GL, and ABS.







4 to 20 mAdc -10 to +10 Vdc 2 programmable 1 watchdog 1 breaker shunt trip 7 A 24 Vdc/240 Vac

USB type B port RJ45 jack 10BASE-T 100BASE-TX

-40°C to 55°C -40°C to 70°C -40°C to 85°C MIL-STD-705B, Method 711-1C IEC 60068-2-11 Withstands 30g in 3 perpendicular planes 5 G for 3 hours from 18 to 2,000 Hz EN61000-4-4 EN61000-4-2

1.79 kg 163 x 302 x 82 mm

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ISO 9001 Certified Quality System