

# DSEA108

## DIGITAL AUTOMATIC VOLTAGE REGULATOR (AVR) WITH CAN COMMUNICATIONS



### KEY FEATURES

- CAN port providing J1939 communications.
- Soft start ramping.
- Under Frequency Roll Off (UFRO) protection with optional instantaneous step.
- Loss of voltage sensing protection.
- Over excitation protection.
- Remote voltage adjustment potentiometer open-circuit protection using -10 V to 10 V signal and 5 k $\Omega$ .
- DIP switch selection for 6 configurations and 2 stability ranges.
- Potentiometer adjustment for voltage set points, droop, UFRO, proportional and integral gain.
- LED indication for fault and operating status.
- Configurable via DSE Configuration Suite PC software connected via the DSE815 configuration interface.
- Chassis mountable potted enclosure.
- Spade terminals for simple connection.

### KEY BENEFITS

- Digital electronics ensures a smooth, stable, regulated AC output voltage from the alternator.
- Configurable to suit a wide range of alternators with auxiliary winding or shunt power supplies.
- Suitable for generator synchronising and load sharing applications with connections for a quadrature droop CT and remote voltage adjustment.
- Compatible with all DSE synchronising and load sharing controllers.
- Licence-free PC software
- Comprehensive PC configuration using the DSE Configuration Suite PC Software and the DSE815 Configuration Interface.
- Simple to use with onboard set up using a combination of DIP switches and potentiometers.
- Communicates with 3rd party equipment using J1939 communications.

### RELATED MATERIALS

TITLE	PART NO.
DSEA108 Installation Instructions	053-233
DSEA108 Operator Manual	057-281
DSEA108 Configuration Suite PC Software Manual	057-283
DSE815 Datasheet	055-225

### SPECIFICATION

#### POWER SUPPLY

**VOLTAGE RANGE**  
100 V AC to 300 V AC (Ph to N/Ph)

**FREQUENCY RANGE**  
40 Hz to 180 Hz

#### ALTERNATOR OUTPUT SENSING

**VOLTAGE RANGE**  
15 V AC to 600 V AC (Ph to N/Ph)

**FREQUENCY RANGE**  
40 Hz to 65 Hz

#### EXCITATION OUTPUT

**EXCITATOR FIELD WINDING**

**IMPEDANCE**  
5  $\Omega$  to 50  $\Omega$

#### CONTINUOUS VOLTAGE RATING

0 V DC to 100 V DC

#### CONTINUOUS CURRENT RATING

0 A DC to 7 A DC

#### MAXIMUM CURRENT RATING

15 A DC for 10 seconds

#### QUADRATURE DROOP CT

**MAXIMUM SECONDARY CURRENT**  
5 A AC

#### BURDEN

0.25 VA

#### ACCURACY

1%

#### REMOTE VOLTAGE ADJUSTMENT

**POTENTIOMETER**

5 k $\Omega$

#### VOLTAGE INPUT

-10 V DC to 10 V DC

#### DIMENSIONS

##### OVERALL

179 mm x 108 mm x 61 mm  
7.1" x 4.3" x 2.4"

#### STORAGE TEMPERATURE RANGE

-40 °C to +85 °C  
-40 °F to +185 °F

#### OPERATING TEMPERATURE RANGE

-40 °C to +70 °C  
-40 °F to +158 °F

#### WEIGHT

0.46 Kg.

### DEEP SEA ELECTRONICS PLC UK

Highfield House, Hunmanby Industrial Estate, Hunmanby YO14 0PH  
**TELEPHONE** +44 (0) 1723 890099 **FACSIMILE** +44 (0) 1723 893303  
**EMAIL** sales@deepseapl.com **WEBSITE** www.deepseapl.com

### DEEP SEA ELECTRONICS INC USA

3230 Williams Avenue, Rockford, IL 61101-2668 USA  
**TELEPHONE** +1 (815) 316 8706 **FACSIMILE** +1 (815) 316 8708  
**EMAIL** sales@deepseausa.com **WEBSITE** www.deepseausa.com

# DSEA108

## DIGITAL AUTOMATIC VOLTAGE REGULATOR (AVR) WITH CAN COMMUNICATIONS

The DSEA108 Digital Automatic Voltage Regulator (AVR) with CAN is designed to regulate the output voltage of an AC alternator. The DSEA108 is supplied by either a stator auxiliary winding or a shunt system taking power from the output windings.

The DSEA108 eliminates the complexities involved with analogue AVR designs. Analogue AVR designs can be over sensitive to changes in temperature which affects stability whereas the DSEA108 AVR maintains a smooth, stable regulated AC output voltage regardless of the electrical load connected.

The DSEA108 is simple to install and set up using either the DSE

Configuration Suite PC Software and the DSE815 configuration interface or five onboard potentiometers and 4 DIP switches, combined with a status LED providing a simple user interface.

The DSEA108 Digital AVR has numerous advanced features such as a CAN port providing J1939 communications, soft start ramping, connection for a quadrature droop CT and the ability to perform remote voltage adjustment, making it perfect for synchronising and load sharing applications.

The DSEA108 Digital AVR is an ideal option for both OEM and retro-fit solutions.

### ENVIRONMENTAL TESTING STANDARDS

#### ELECTRO-MAGNETIC COMPATIBILITY

BS EN 61000-6-2  
EMC Generic Immunity Standard for the Industrial Environment  
BS EN 61000-6-4  
EMC Generic Emission Standard for the Industrial Environment

#### ELECTRICAL SAFETY

BS EN 60950  
Safety of Information Technology Equipment, including Electrical Business Equipment

#### TEMPERATURE

BS EN 60068-2-1  
Ab/Ae Cold Test -30 °C  
BS EN 60068-2-2  
Bb/Be Dry Heat +70 °C

#### VIBRATION

BS EN 60068-2-6  
Ten sweeps in each of three major axes  
5 Hz to 8 Hz at +/-7.5 mm,  
8 Hz to 500 Hz at 2 gn

#### HUMIDITY

BS EN 60068-2-30  
Db Damp Heat Cyclic 20/55 °C at 95% RH 48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40 °C at 93% RH 48 Hours

#### SHOCK

BS EN 60068-2-27  
Three shocks in each of three major axes  
15 gn in 11 ms

## COMPREHENSIVE FEATURE LIST TO SUIT A WIDE VARIETY OF ALTERNATOR MANUFACTURERS

