



# DEEP SEA ELECTRONICS DSEA106 INSTALLATION INSTRUCTIONS

053-177  
ISSUE 3

The DSEA106 is an Automatic Voltage Regulator (A.V.R.) designed to control alternator excitation voltage to produce the desired alternator output. Adjustment is made using potentiometers.

Alternatively more comprehensive configuration is available using DSE Configuration Suite PC Software. Additionally this provides live diagnostic facilities.

**NOTE:** For the full specifications and mounting details, refer to DSE Publication: 057-241 DSEA106 Operator Manual, available from [www.deepseapl.com](http://www.deepseapl.com).

**DANGER OF DEATH: LIVE PARTS** exist within the AVR. To avoid damage to persons and/or property, only qualified personnel, having full understanding of the application must install the product.

## POTENTIOMETER ADJUSTMENT

It is possible to disable the potentiometer using the DSE Configuration Suite PC Software and DSE814 Configuration Interface. This allows the system designer to restrict end user adjustment should this be required.

## REQUIREMENTS FOR UL CERTIFICATION

Specification	Description
Conductors	Conductor protection must be provided in accordance with NFPA 70, Article 240
Current Inputs	Must be connected through UL Listed or Recognized isolating current transformers with the secondary rating of 5 A max.
Communication Circuits	Must be connected to communication circuits of UL Listed equipment
Mounting	Suitable for use in Open Type Device rating with surrounding air temperature -22 °F to +104 °F (-30 °C to +40 °C) Suitable for pollution degree 3 environments.
Operating Temperature	-22 °F to +104 °F (-30 °C to +40 °C)
Storage Temperature	-40 °F to +176 °F (-40 °C to +80 °C)

## DIP SWITCH ADJUSTMENT

DIP switches are used to select the operating range of the A.V.R.

Switch	Function	Off	On
1	Voltage Sensing Range	90 V to 300 V	180 V to 600 V
2	Frequency Range	50 Hz	60 Hz
3	Stability Range 1	10 kVA to 100 kVA	100 kVA to 1000 kVA
4	Stability Range 2	As Selected by Stability Range 1	1 MVA to 4 MVA

## LED STATUS

An LED shows operating status of the A.V.R.

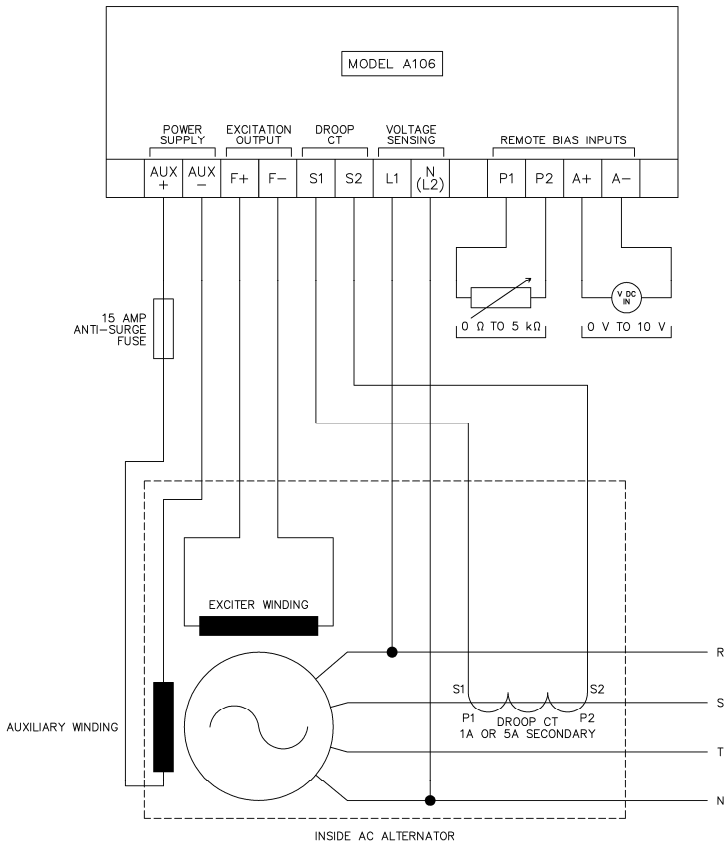
LED State	Description
Off	Running, or stationary but powered by U.S.B.
Rapid Continuous Flashing	Configuration file lost.
Single Flash	Start-up fail tripped.
Two Flashes	Over excite tripped.
Three Flashes	Loss of feedback tripped.
Four Flashes	Under frequency trip.
Steady	Running but Under Frequency Roll Off active.

## DIMENSIONS

Parameter	Description
Overall Size	167 mm x 109 mm x 65 mm (6.6 " x 4.3 " x 0.8 ")
Mounting Type	Screw Mounting to Chassis.
Mounting Holes	Suitable for M5 bolts/screws. Outside diameter 5.5 mm (Outside diameter 0.2 ")
Mounting Hole Centres	156 mm x 70 mm (6.1 " x 2.7 ")
Mounting Orientation	Mount with potentiometers at the top.
Maximum Ambient Operating Temperature	-40 °C to 70 °C (-40 °F to 150 °F)

## TYPICAL WIRING DIAGRAM

**⚠ DANGER OF DEATH: LIVE PARTS exist within the AVR. All connections must be made to the AVR with the power off and the alternator in a stationary position.**



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