

# DSEULTRA<sup>®</sup> STARTING WITH QUALITY.

## DSE703 & DSE4110 AUTO START CONTROL MODULES



### SPECIFICATION

#### DC SUPPLY

8V to 35V continuous

#### CRANKING DROPOUTS

Able to survive 0V for 50mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries.

#### MAXIMUM OPERATING CURRENT

150mA(12V), 250mA(24V) (DSE4110 only)  
50mA (DSE703 only)

#### TYPICAL CURRENT

20mA(12V and 24V) (DSE4110 only)  
12mA (DSE703 only)

#### ALTERNATOR INPUT RANGE

75V(L-N) to 333V AC (L-N) absolute maximum

#### ALTERNATOR INPUT FREQUENCY

50Hz – 60Hz at rated engine speed  
(minimum:75V AC L-N) (Crank disconnect from 15V L-N @ 20Hz)  
Over speed +14% (+24% overshoot)  
Under speed -20%

#### START & FUEL OUTPUTS

1.2 Amp DC at supply voltage. Switches to battery negative when active

#### AUXILIARY OUTPUTS

1.2 Amp DC at supply voltage. Switches to battery negative when active

#### DSE703 DIMENSIONS

165mm x 125mm x 29mm  
6.5" x 4.9" x 1.2"

#### DSE703 CUT OUT

149mm X 109mm  
5.9" x 4.3"

#### DSE4110 DIMENSIONS

171mm x 115mm x 49mm  
6.7" x 4.5" x 1.9"

#### DSE4110 CUT OUT

154mm x 98mm  
6.1" x 3.9"

#### CHARGE FAIL

8 Volt Charge Fail at 12 Volts, 16 Volt Charge Fail at 24 Volts

### ENVIRONMENTAL TESTING STANDARDS

#### ELECTRO MAGNETIC CAPABILITY

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

#### TEMPERATURE

BS EN 60068-2-2  
Test Ab to +70°C 60067-2-2 Hot  
Test Ab to -30°C 60068-2-1 Cold

#### VIBRATION

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

#### HUMIDITY

BS 2011 part 2.1 60068-2-30  
Test Cb Cb Cyclic  
93% RH @ 40°C for 48 hours

#### SHOCK

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

DSE703



DSE4110



The DSE703 is an Automatic Start Control Module that offers an excellent range of engine monitoring and protection features. The module has been designed to monitor over speed, under speed, high engine temperature, low oil pressure, battery charge fail and fail to start.

The module also has two configurable auxiliary inputs and a configurable engine pre-heat timer. When the module detects a fault condition it automatically shuts down the engine, indicating the exact fault via LED.

The DSE4110 module includes all the features of the DSE703 plus a tamper proof engine hours counter, engine exercise mode function and the enclosure has a closed back. Both modules have been designed to automatically start the engine within three attempts and crank disconnect.

### FEATURES

- Manual start
- Automatic start
- Engine pre-heat
- Engine monitoring and protection features
- Protected Solid State (PSS) outputs
- Front panel mounting
- Front panel programming
- Tamper proof engine hours counter
- Remote start
- LED indicators
- Configurable inputs
- Configurable timers
- Configurable outputs
- Engine exercise mode

### BENEFITS

- On-site module configuration to match user requirements
- Hours counter provides accurate information for monitoring warranty periods
- Multiple engine parameters are monitored simultaneously

### OPERATION

The modules are operated using the three push buttons on the front:



**MANUAL** – This mode is used to manually start the engine.



**AUTO** – This mode is used to automatically start the engine. The module will be started by the remote start signal.



**STOP** – This button is used to stop the engine when it is running in either manual or automatic mode.

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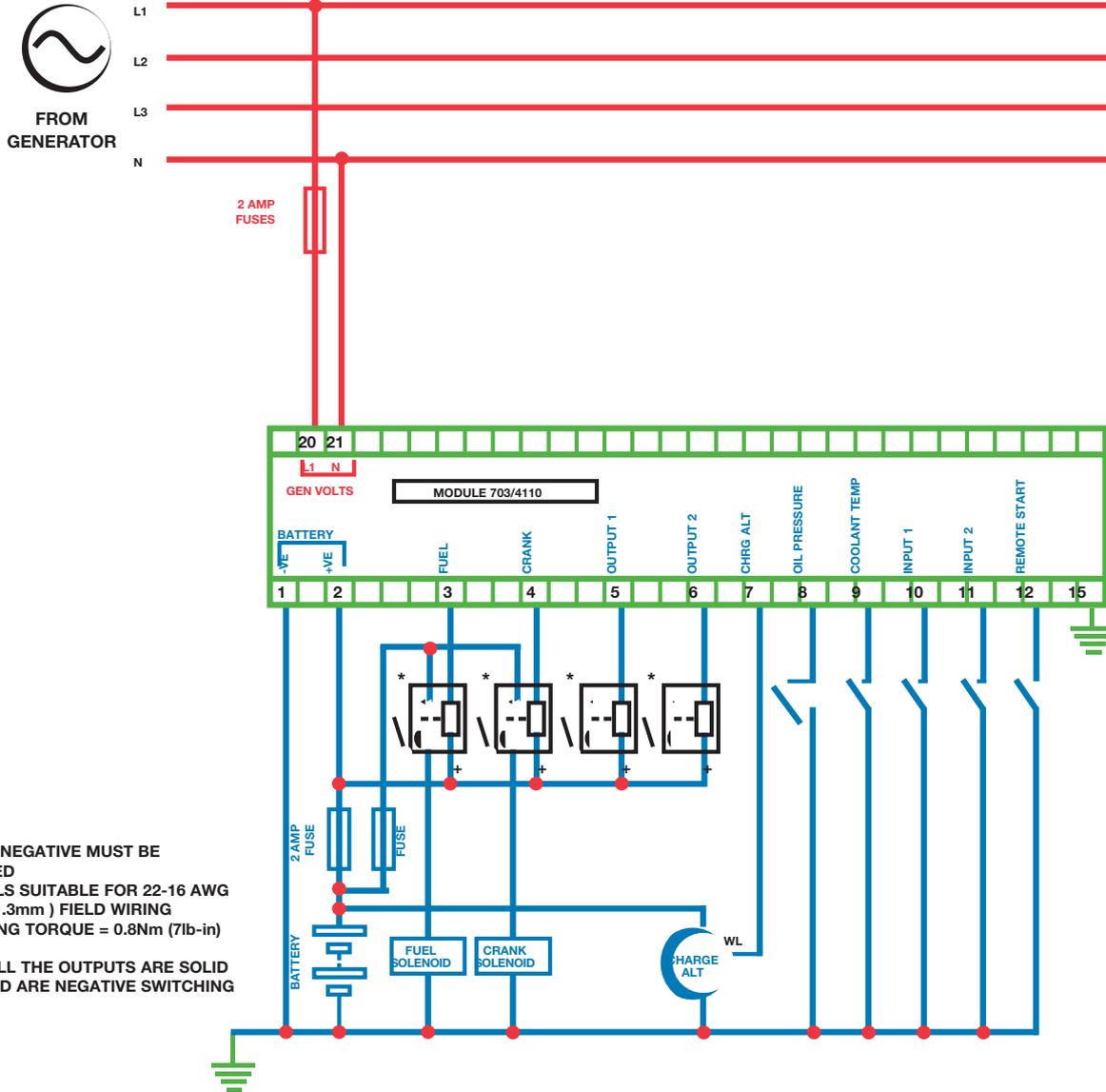
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# DSE703 & DSE4110

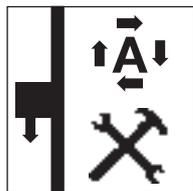


**BATTERY NEGATIVE MUST BE GROUNDED**  
 TERMINALS SUITABLE FOR 22-16 AWG (0.6mm - 1.3mm ) FIELD WIRING  
 TIGHTENING TORQUE = 0.8Nm (7lb-in)

\* NOTE. ALL THE OUTPUTS ARE SOLID STATE AND ARE NEGATIVE SWITCHING

**CONFIGURATION**

The modules can be configured to match user's individual parameter settings. Configuration mode is accessed via the switch at the rear of the module. Once in configuration mode the **AUTO-LED**  flashes rapidly.

**RELATED MATERIALS**

**TITLE**  
 DSE703 Installation Instructions  
 DSE703 Operators Manual  
 DSE4110 Installation Instructions  
 DSE4110 Operators Manual

**PART NO'S**  
 053-035  
 057-044  
 053-019  
 057-022

Please refer to the installation instructions for the parameter settings and configuration details.

**DEEP SEA ELECTRONICS PLC** maintains a policy of continuous development and reserves the right to change the details shown on this data sheet without prior notice. The contents are intended for guidance only.

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