

DSEULTRA[®] STARTING WITH QUALITY.



DSE6110 & DSE6120

AUTO START & AUTO MAINS (UTILITY) FAILURE CONTROL MODULES



The DSE6110 is an Auto Start Control Module and the DSE6120 is an Auto Mains (Utility) Failure Control Module for single gen-set applications. Both modules have been designed to work with electronic and non electronic engines providing advanced engine monitoring and protection features.

The modules include a backlit LCD display which clearly shows the status of the engine at all times. They monitor, speed, frequency, voltage, current, oil pressure, coolant temperature and fuel level. The modules have also been designed to display the warning and shutdown status of the engine.

Both modules include six digital inputs and six outputs. Two of the outputs are configurable on the magnetic pick-up version and all six are configurable on the Canbus version. The modules can either be programmed using the front panel or by using the DSE Configuration Suite PC software.

CONFIGURATION

The modules can be configured using the front panel or by remote PC using a USB connection lead and the DSE Configuration Suite PC software.

FEATURES

- CAN and magnetic pick-up versions
- PC and front panel configurable
- 6 digital inputs/ 3 analogue inputs
- 6 outputs (2 configurable on Magnetic Pick-Up, 6 configurable on Canbus version)

- 3 Phase generator and mains (utility) voltage monitoring (mains on DSE6120 only)
- Event log (10)
- Configurable timers
- Automatic shutdown or warning when fault conditions are detected
- Remote start on or off load
- Engine pre-heat
- Advanced metering capability
- Engine hours counter
- Red LED indicators for warning or shutdown
- Text LCD Display
- Protected Solid State Outputs (PSS)
- Test button

BENEFITS

- Transfer between mains (utility) and generator power (DSE6120 only)
- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout
- Multiple engine parameters are monitored simultaneously
- Module can be configured to suit individual applications
- Wide range of engines can be specified
- Uses the DSE Configuration Suite PC Software for simplified programming
- IP65/NEMA 12 rating offers advanced resistance to water ingress when gasket is fitted
- License free PC software

OPERATION

Manual Mode

- The engine is started using the Start button on the front of the module.

- Once pressed the module instructs the engine to initiate its pre-heat sequence and then start the engine.
- To stop the engine the Stop button on the front of the module should be pressed.

Automatic Mode

- The Auto button needs to be pressed to put the unit in Auto Mode.
- The module start sequence is initiated by the activation of the remote start input.
- The pre-heat sequence is then initiated and the engine is started.
- To stop the engine the remote start signal needs to be removed or the Stop button on the module needs to be pressed.

OVERSPEED PROTECTION

The engine over speed trip setting can be calibrated for 50Hz or 60Hz nominal operation. During engine cranking and for a user configurable time after the engine starts running, all alarm conditions are suspended to allow the engine to reach its optimum running speed.

ELECTRONIC ENGINE COMPATIBILITY

- CAT
- Cummins
- Deutz
- John Deere
- MTU
- Perkins
- Scania
- Volvo
- Generic
- Plus additional manufacturers

SPECIFICATION

DC SUPPLY

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. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT

178mA at 12V 95mA at 24V

MAXIMUM STANDBY CURRENT

88mA at 12V 50mA at 24V

GENERATOR INPUT RANGE

15V to 333V AC (L-N) absolute maximum
50Hz - 60Hz (min 15V AC)

CHARGE FAIL/EXCITATION RANGE

0V to 35V

MAGNETIC PICKUP

VOLTAGE RANGE

0.5V RMS minimum

FREQUENCY RANGE

10,000 Hz (max)

OUTPUTS

OUTPUT A (FUEL)

2 Amp DC at supply voltage

OUTPUT B (START)

2 Amp DC at supply voltage

AUXILIARY OUTPUTS C,D

2 Amp DC at supply voltage

MAINS (UTILITY) SENSING INPUT RANGE (DSE4420 ONLY)

15V to 333V AC (L-N) absolute maximum
25V to 576V AC (L-L) absolute maximum
50Hz - 60Hz (min 15V AC)

DIMENSIONS

OVERALL

216mm x 158mm x 42mm
8.5" x 6.2" x 1.6"

PANEL CUT-OUT

182mm x 137mm
7.2" x 5.4"

MAXIMUM PANEL THICKNESS

8mm. 0.3"

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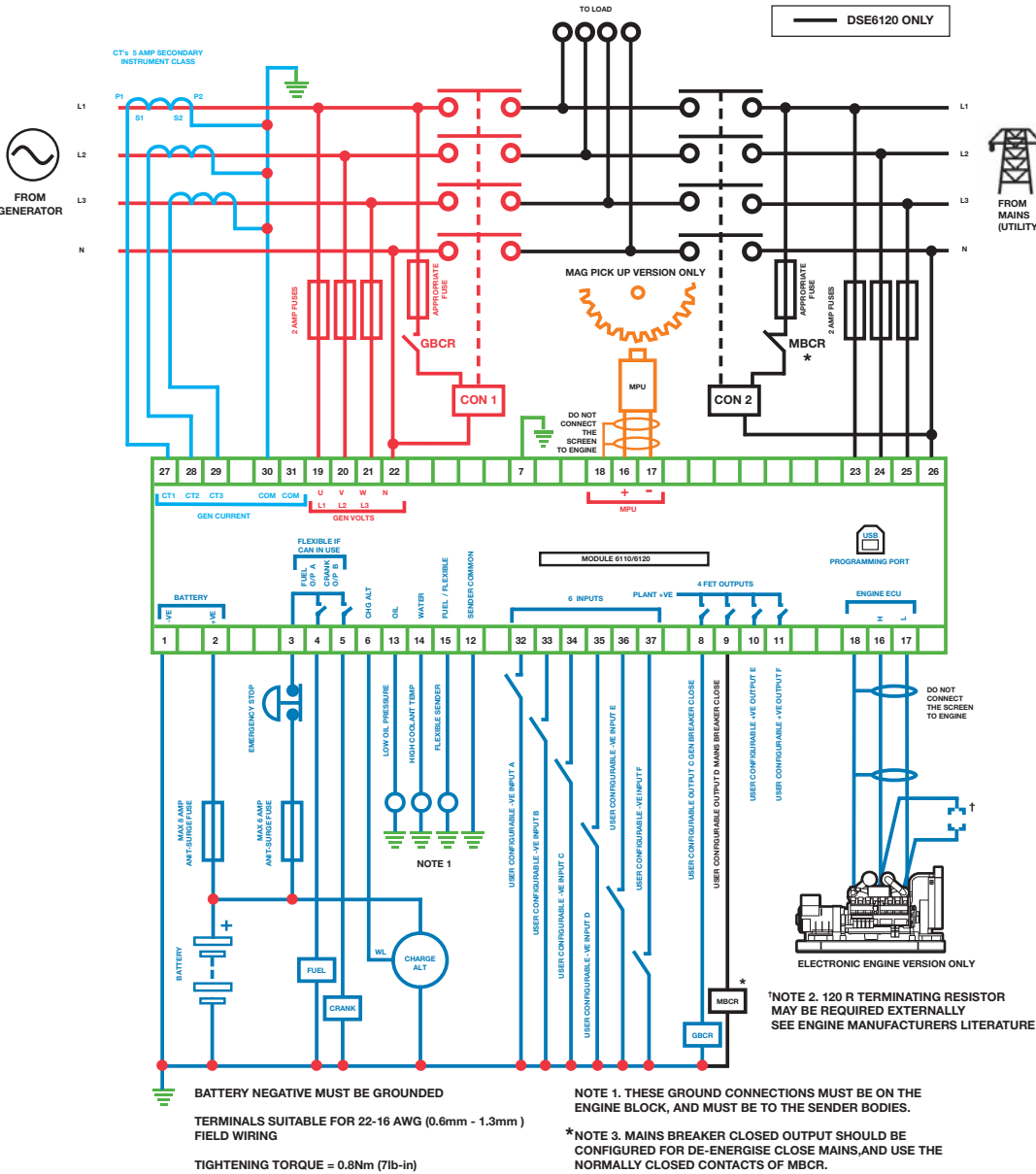
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DSE6110 & DSE6120



TESTING STANDARDS

ELECTRICAL SAFETY/ ELECTROMAGNETIC COMPATIBILITY

ELECTRICAL SAFETY

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

TEMPERATURE (OPERATING)

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 Ob 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

ENVIRONMENTAL

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

INSTRUMENTATION AND ALARMS

The DSE6110 and DSE6120 both provide comprehensive metering and alarm indications:

- Generator frequency
- Under/over speed
- Generator volts (L-L, L-N)
- Generator current
- Engine oil pressure
- Engine coolant temperature
- Fuel level (warning or shutdown)
- Hours run counter
- Battery volts
- Fail to start/stop
- Emergency Stop
- Failed to reach loading voltage/frequency
- Charge fail
- Loss of magnetic pick-up signal
- Low DC voltage
- CAN diagnostics and CAN fail/error
- Mains volts 3 phase (DSE6120 only)
- Mains frequency (DSE6120)
- AMF indications (DSE6120 only)

RELATED MATERIALS

| TITLE | PART NO'S |
|--|-----------|
| DSE6110 Manual | 057-095 |
| DSE6120 Manual | 057-096 |
| DSE Configuration Suite PC Software Manual | 057-100 |

DEEP SEA ELECTRONICS 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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