

DSEULTRA[®] STARTING WITH QUALITY.



DSE4410 & DSE4420

AUTO START & AUTO MAINS (UTILITY) FAILURE CONTROL MODULES



The DSE4410 is an Auto Start Control Module and the DSE4420 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 are available in magnetic pick-up and Canbus versions.

The modules include a back-lit LCD display which clearly show the status of the engine at all times. They monitor 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. Four outputs are configurable on the magnetic pick-up version and 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.

FEATURES

- PC and front panel configurable CAN and magnetic pick-up versions
- Six digital inputs
- Six outputs (all six configurable on CANbus version, four configurable on magnetic pick-up version)
- Automatic mains (utility) supply monitoring (DSE4420 only)
- Event log
- 50/60 Hz calibration setting
- Configurable timers
- Automatic shutdown or warning when fault conditions are detected
- Manual and remote start
- Engine pre-heat
- Protected Solid State Outputs (PSS)
- Advanced metering capability
- Front panel mounting
- Front panel programming
- Engine hours counter
- LED indicators
- Back-lit LCD display

BENEFITS

- Transfers between mains (utility) and generator power (DSE4420 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
- IP65/NEMA 12 rating offers advanced resistance to water ingress
- License free PC software

OPERATION

The module is operated using the front STOP/RESET, MANUAL, AUTO and START push buttons.

Two additional push buttons next to the LCD screen are provided to scroll through the modules' metering displays and to access the event log.

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.

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.

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

TBC

MAXIMUM STANDBY CURRENT

TBC

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

180mm x 116mm x 42mm
7.1" x 4.6" x 1.7"

PANEL CUT-OUT

154mm x 98mm
6" x 3.9"

MAXIMUM PANEL THICKNESS

8mm (0.3")

DEEP SEA ELECTRONICS PLC

Highfield House
Hunmanby Industrial Estate
Hunmanby, North Yorkshire
YO14 0PH England

TELEPHONE

+44 (0)1723 890099

FACSIMILE

+44 (0)1723 893303

EMAIL

sales@deepseapl.com

WEBSITE

www.deepseapl.com

Registered in England & Wales No.01319649

VAT No.316923457

DEEP SEA ELECTRONICS INC

3230 Williams Avenue
Rockford
IL 61101-2668 USA

TELEPHONE

+1 (815) 316 8706

FACSIMILE

+1 (815) 316 8708

EMAIL

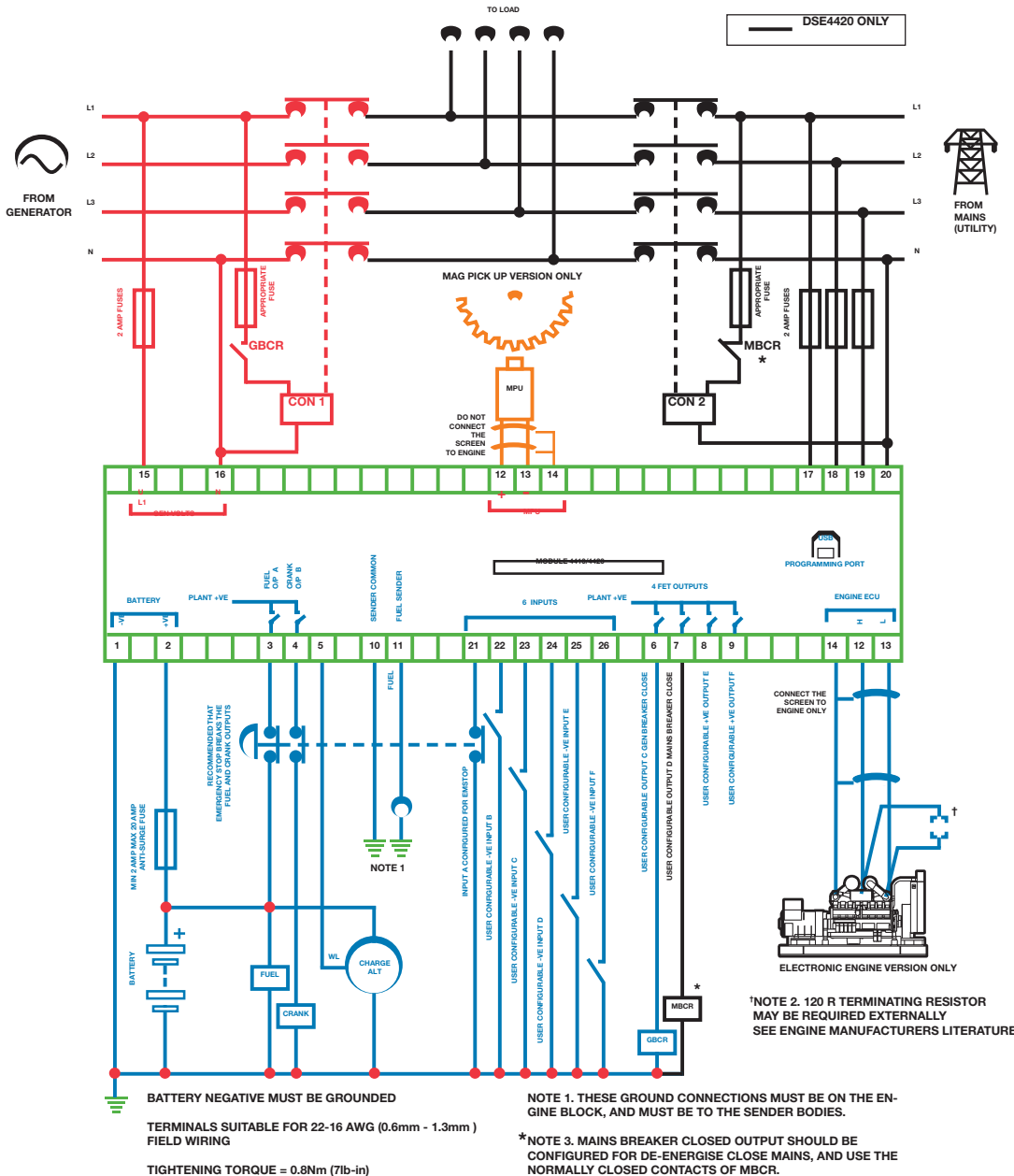
sales@deepseausa.com

WEBSITE

www.deepseausa.com



DSE4410 & DSE4420



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

TESTING STANDARDS

ENVIRONMENTAL

BS EN 61000-6-2

EMC Generic Emission Standard for the Industrial Environment

BS EN 61000-6-4

EMC Generic Immunity Standard for the Industrial Environment

INSTRUMENTATION AND ALARMS

The DSE4410 and DSE4420 both provide comprehensive metering and alarm indications:

- Generator frequency
- Under/over speed
- Generator volts (L-L, L-N)
- 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
- Low DC voltage
- CAN diagnostics
- Mains volts 3 phase (DSE4420 only)
- AMF indications (DSE4420 only)

RELATED MATERIALS

TITLE	PART NO'S
DSE4410 Manual	057-092
DSE4420 Manual	057-093
DSE Configuration Suite PC Software Manual	057-101
DSE4410 Installation Instructions	053-056
DSE4420 Installation Instructions	053-057

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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