

# DSE7410/20 MKII AUTO START & AUTO MAINS FAILUP **CONTROL MODULES**

DSE7420 MKII

outputs

## DSE7410 MKII





## **KEY FEATURES**

- 4-Line back-lit LCD text display
- Multiple Display Languages
- Five key menu navigation
- LCD alarm indication
- Heated display option available Customisable power-up text and images
- DSENet expansion compatibility Data logging facility upto 20
  - parameters
  - . Internal PLC editor
  - Protections disable feature Fully configurable via PC using
  - USB, RS232, RS485 and ethernet communication
  - Front panel configuration with multi-level PIN protection
  - Power save mode
  - 3 phase generator sensing and protection
  - 3 phase mains (utility) sensing and protection (DSE7420 MKII only)
  - Automatic load transfer control (DSE7420 MKII only)
  - Generator current and power monitoring (kW, kvar, kVA, pf)
  - Mains current and power monitoring (kW, kvar, kVA, pf) (DSE7420 MKII only)
  - kW and kvar overload and reverse power alarms
  - Over current protection
  - Unbalanced load protection
  - Independent earth fault protection
  - Breaker control via fascia buttons
  - Fuel and start outputs configurable when using CAN
  - 6 configurable DC outputs

## **RELATED MATERIALS**

## TITLE

DSE7410 MKII & DSE7420 MKII Installation Instructions DSE7410 MKII & DSE7420 MKII Operator Manual DSE7410 MKII & DSE7420 MKII Configuration Suite PC Manual

## DEEP SEA ELECTRONICS PLC UK

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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.

- 2 configurable volt-free relay
- 6 configurable analogue/digital inputs
- Support for 0 V to 10 V & 4 mA to 20 mA sensors
- Support for 3 k $\Omega$  resistive sensors 8 configurable digital inputs
- Configurable 5 stage dummy load
- and load shedding outputs CAN, MPU and alternator
- frequency speed sensing in one variant
- Real time clock Manual and automatic fuel pump control
- Engine pre-heat and post-heat functions
- Engine run-time scheduler
- Engine idle control for starting & stopping
- Fuel usage monitor and low fuel level alarms
- Simultaneous use of RS232, RS485 & ethernet communication ports
- True dual mutual standby using RS232 or RS485 for accurate hours balancing.
- MODBUS RTU & TCP support with configurable MODBUS pages.
- SNMP GET, SET and TRAP support built in.
- Advanced SMS messaging (additional external modem required)
- Start & stop capability via SMS messaging
- 3 configurable maintenance alarms

## Compatible with a wide range of CAN engines, including tier 4 engine support J1939-75 support & CAN alarm

- ignore function Uses DSE Configuration Suite PC Software for simplified configuration
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water inaress
- Modules can be integrated into building management systems (BMS) using MODBUS RTU & TCP
- Configurable CAN parameters to read and display CAN information from external CAN devices.

## **KEY BENEFITS**

- Automatically transfers between mains (utility) and generator (DSE7420 MKII only) for convenience.
- Hours counter provides accurate information for monitoring and maintenance periods User-friendly set-up and button
- layout for ease of use
- Multiple parameters are monitored & displayed simultaneously for full visibility
- The module can be configured to suit a wide range of applications for user flexibility
- PLC editor allows user configurable functions to meet user specific application requirements.

PART NO. 053-191 057-263 057-262

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## SPECIFICATIONS

DC SUPPLY CONTINUOUS VOLTAGE RATING 8 V to 35 V Continuous 5 V for up to 1 minute

### CRANKING DROPOUTS

Able to survive 0 V for 100 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

### MAXIMUM OPERATING CURRENT 510 mA at 12 V. 240 mA at 24 V

MAXIMUM STANDBY CURRENT 330 mA at 12 V, 160 mA at 24 V

CHARGE FAIL/EXCITATION RANGE 0 V to 35 V

## **GENERATOR & MAINS (UTILITY)**

**VOLTAGE RANGE** 15 V to 415 V AC (Ph to N) 26 V to 719 V AC (Ph to Ph)

FREQUENCY RANGE 3.5 Hz to 75 Hz

## MAGNETIC PICKUP VOLTAGE RANGE +/- 0.5 V to 70 V

## FREQUENCY RANGE 10,000 Hz (max)

INPUTS DIGITAL INPUTS A TO H

ANALOGUE INPUTS A, B, E & F Configurable as: Negative switching digital input 0 V to 10 V sensor 4 mA to 20 mA sensor Resistive sensor

ANALOGUE INPUTS C & D Configurable as: Negative switching digital input Resistive sensor

OUTPUT A & B (FUEL & START) 15 A DC at supply voltage

### OUTPUTS C & D 8 A AC at 250 V AC (Volt-free)

AUXILIARY OUTPUTS E, F, G, H, I & J 2 A DC at supply voltage

### DIMENSIONS OVERALL

245 mm x 184 mm x 51 mm 9.6" x 7.2" x 2.0"

PANEL CUT-OUT 220 mm x 160 mm 8.7" x 6.3"

MAXIMUM PANEL THICKNESS 8 mm 0.3"

STORAGE TEMPERATURE RANGE -40°C to +85 °C -40 °F to +185 °F

**OPERATING TEMPERATURE RANGE** NON-HEATED DISPLAY VARIANT -30°C to +70 °C -22 °F to +158 °F

HEATED DISPLAY VARIANT -40 °C to +70 °C -40 °F to +158 °F



# DSE**7410/20 MKII AUTO START & AUTO MAINS FAILURE CONTROL MODULES**

The DSE7410 MKII is an Auto Start Control Module and the DSE7420 MKII is an Auto Mains (Utility) Failure Control Module suitable for a wide variety of single, diesel or gas, gen-set applications.

Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs, remote PC and via SMS text alerts (with external modem).

The DSE7420 MKII will also monitor the mains (utility) supply. The modules include USB, RS232, RS485 and Ethernet ports as well as dedicated DSENet® terminals for system expansion.

Both modules are compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements.

The extensive list of features includes enhanced event and performance monitoring, remote communications & PLC functionality.

Dual mutual standby is now available on both the DSE7410 MKII & DSE7420 MKII using RS232 or RS485 communications. This provides for a simpler and more convenient installation with more advanced features such as true hours balancing.

The modules also feature SNMP functionality for connection to SNMP

systems.

The modules can be easily configured using the DSE Configuration Suite PC

software. Selected front panel editing is also available.

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

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES BS EN 60529 IP65 - Front of module when installed into the control panel with the supplied sealing gasket.

## **COMPREHENSIVE FEATURE LIST TO SUIT A** WIDE VARIETY OF GEN-SET APPLICATIONS

DSE2133 DSE2152 DSE2157 DSE2510/20	MODBUS			× •	<b>卢</b> 。		i i
DSENET®	RS232 AND RS485	USB USB PORT HOST	CONFIGURABLE INPUTS			EMERGENCY	DC POWER SUPPLY 8-35V
DSE7410/20 MKII DSE7410/20 MKII DEUTZ ISUZU PERKINS CATERPILLA MTU VOLVO CUMMINS SCANIA AND MORE							
MAINS (UTILITY) SENSING DSE7420 MKII ONLY VOLTS		GENERATOR/ LOAD CURRENT		GENERATOR SENSING VOLTS	CHARGE ALTERNATOR D+ W/L	FUEL & CRANK OUTPUTS (Flexible with CAN)	ELECTRONIC ENGINES & MAGNETIC PICK-UP
1ph 2ph 3ph N		1ph 2ph 3ph E/N		1ph 2ph 3ph N		*	



