

# DSE8610 MKII

## SYNCHRONISING AUTO START LOAD SHARE CONTROL MODULE



### KEY FEATURES

- Comprehensive synchronising & loadsharing capabilities
- Built in governor and AVR control
- Base load (kW export) control
- Positive & negative kVAr export control
- Mains (Utility) decoupling protection
- 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 & trending facility
- Internal PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS232, RS485 & Ethernet communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase generator sensing and protection
- Generator current and power monitoring (kW, kvar, kVA, pf)
- kW and kvar overload alarms
- 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
- 8 configurable DC outputs
- 2 configurable volt-free relay outputs
- 4 configurable analogue/digital inputs
- Built in sensors to support 0 V to 10 V & 4 mA to 20 mA
- 12 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 run-time scheduler
- Fuel usage monitor and low fuel level alarms
- Simultaneous use of all communication ports
- Remote SCADA monitoring via various DSE software applications
- MODBUS RTU & TCP support with configurable MODBUS pages for integration into building management systems (BMS)
- 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
- Uses DSE Configuration Suite PC Software for simplified configuration

### KEY BENEFITS

- Compatible in load share systems containing DSE5500, DSE7500, DSE8000 and DSE8600 MKII series. Contact DSE for further details
- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Ethernet communication, provides built in advanced remote monitoring.
- Can be integrated into building management systems (BMS) and programmable logic control (PLC)
- Increased input and output expansion capability via DSENet®
- Licence-free PC software
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Advanced Internal PLC editor allows user configurable functions to meet specific application requirements.

### EXPANSION DEVICES

- DSE124 CAN/MSX Extender
- DSE2130 Input Expansion Module
- DSE2131 Ratio-metric Input Expansion Module
- DSE2133 RTD & Thermo-couple Expansion Module
- DSE2152 Ratio-metric Output Expansion Module
- DSE2157 Output Expansion Module
- DSE2548 LED Expansion

### RELATED MATERIALS

#### TITLE

DSE8610 MKII Installation Instructions  
DSE8610 MKII Operator Manual  
DSE8610 MKII PC Configuration Suite Manual

#### PART NO.

053-182  
057-254  
057-238

### DEEP SEA ELECTRONICS PLC UK

Highfield House, Hunmanby Industrial Estate, Hunmanby YO14 0PH  
**TELEPHONE** +44 (0) 1723 890099 **FACSIMILE** +44 (0) 1723 893303  
**EMAIL** sales@deepseapl.com **WEBSITE** www.deepseapl.com

### DEEP SEA ELECTRONICS INC USA

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

### SPECIFICATIONS

#### DC SUPPLY

**CONTINUOUS VOLTAGE RATING**  
5 V to 35 V Continuous

#### 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

530 mA at 12 V, 280 mA at 24 V

#### MAXIMUM STANDBY CURRENT

320 mA at 12 V, 160 mA at 24 V

#### CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

#### GENERATOR & BUS

##### 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 L

Negative switching

##### ANALOGUE INPUTS A TO D

Configurable as:  
Negative switching digital input  
0 V to 10 V sensor  
4 mA to 20 mA sensor  
0 Ω to 480 Ω sensor

##### OUTPUTS

##### 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 to L

2 A DC at supply voltage

##### BUILT IN AVR GOVERNOR CONTROL

##### MINIMUM LOAD IMPEDANCE

500 Ω  
Fully isolated

##### GAIN VOLTAGE

0 V to 10 V DC  
Fully isolated

##### OFFSET VOLTAGE

0 V to 10 V DC  
Fully isolated

##### 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

-30 °C to +70 °C  
-40 °F to +185 °F

##### HEATED DISPLAY VARIANT

-40 °C to +70 °C  
-40 °F to +158 °F

# DSE8610 MKII

## SYNCHRONISING AUTO START LOAD SHARE CONTROL MODULE

The DSE8610 MKII is an easy to use Synchronising Auto Start Control Module suitable for use in a multi-generator loadshare system, designed to synchronise up to 32 generators including electronic and non-electronic engines.

The DSE8610 MKII monitors the generator and indicates operational status and fault conditions, automatically starting or stopping the engine on load demand or fault condition.

System alarms are announced on the LCD screen (multiple language options available), illuminated LED and audible sounder.

The event log will record 250 events to facilitate easy maintenance, and an extensive number of fixed and flexible monitoring, metering and protection features are included.

Designed to offer increased built in support for active sensors for 0 V to 10 V & 4 mA to 20 mA. Comprehensive communication and system expansion options are available.

Using the DSE PC Configuration Suite Software allows easy alteration of the operational sequences, timers and alarms. With all communication ports capable of being active at the same time, the DSE8610 MKII is ideal for a wide variety of demanding load share applications.

### KEY LOAD SHARE FEATURES:

- Peak lopping/sharing (with appropriate DSE mains controller)
- Sequential set start
- Manual voltage/frequency adjustment
- R.O.C.O.F. and vector shift protection
- Generator load demand
- Automatic hours run balancing
- Mains (Utility) decoupling
- Mains (Utility) decoupling test mode
- Dead bus sensing
- Bus failure detection
- Direct governor and AVR control
- Volts and frequency matching
- kW and kvar load sharing
- Dead bus synchronising

### 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

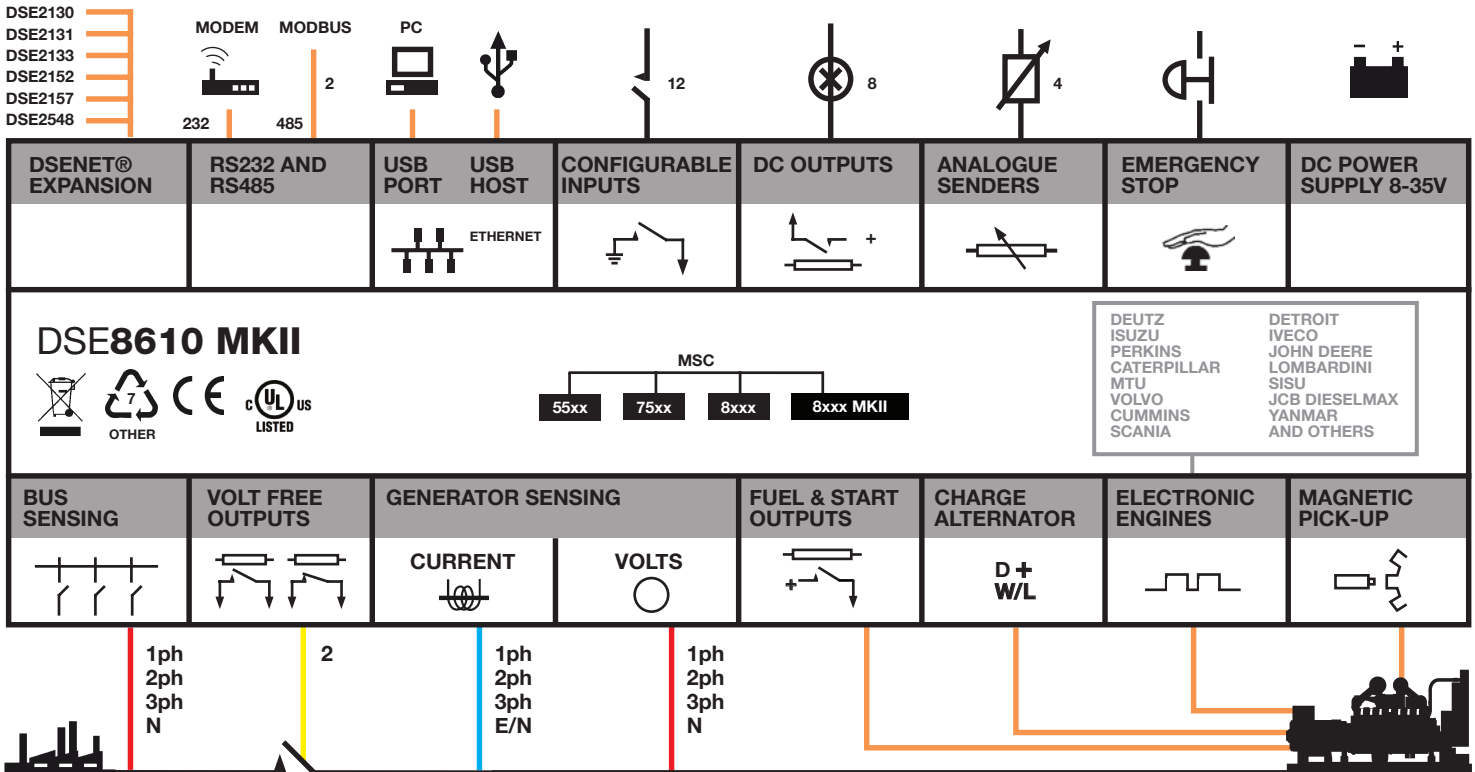
#### SHOCK

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 LOAD SHARE APPLICATIONS



ISSUE 3