

# DSE8610 MKII

## SYNCHRONISING & LOAD SHARING

## AUTO START 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
- Advanced 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
- Power modes for when in parallel with the mains

### EXPANSION DEVICES

- DSE124 CAN/MSB 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

- Redundant MSC communication wired to CAN ports
- True manual breaker control when in CAN mode
- Water in fuel digital input
- Fuel tank bund alarm digital input
- Separate ramp up and ramp down rates configurable via PLC
- Configurable CAN message time-outs
- In-built SNMP
- Configurable CAN transmit & receive
- Battery chargers on DSENet®
- Persistent governor & AVR outputs
- Filter generator voltage display
- Filter bus voltage display
- Inhibit remote start
- Power & reactive power control
- Remote start on load demand
- Configurable engine icons
- Alternative load demand schemes
- Variable speed generator support
- CAN AVR support

### 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

### RELATED MATERIALS

TITLE	PART NO.
DSE8610 MKII Installation Instructions	053-182
DSE8610 MKII Operator Manual	057-254
DSE8610 MKII PC Configuration Suite Manual	057-238
DSE8610 MKII Data Sheet	055-204
DSE8610 Data Sheet	055-083

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# DSE8610 MKII

## SYNCHRONISING & LOAD SHARING

### AUTO START CONTROL MODULE

The DSE8610 MKII is a market-leading 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 conditions.

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

The event log records 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.

The Advanced PLC tool within Configuration Suite provides users with an extremely powerful configuration tool for the most demanding 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 oC  
BS EN 60068-2-2  
Bb/Be Dry Heat +70 oC

**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 oC at 95% RH  
48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40 oC 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

