

# DSE8610

## SYNCHRONISING AUTO START LOAD SHARE CONTROL MODULE

### FEATURES



The DSE8610 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 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 annunciated on the LCD screen (multiple language options available), illuminated LED and audible sounder.

The event log will record 250 events to facilitate easy maintenance. An extensive number of fixed and flexible monitoring, metering and protection features are included as well as comprehensive communication and system expansion options.

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 is ideal for a wide variety of demanding load share applications.

### KEY LOAD SHARE FEATURES:

- Peak lopping/sharing (with DSExx60)
- 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) de-coupling
- Mains (Utility) de-coupling test mode
- Dead bus sensing
- Bus failure detection
- Direct governor and AVR control
- Volts and frequency matching
- kW and kV Ar 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  
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  
5Hz to 8Hz @ +/-7.5mm, 8Hz to 500Hz @ 2gn

#### HUMIDITY

BS EN 60068-2-30  
Db Damp Heat Cyclic 20/55°C @ 95% RH  
48 Hours  
BS EN 60068-2-78  
Cab Damp Heat Static 40°C @ 93% RH  
48 Hours

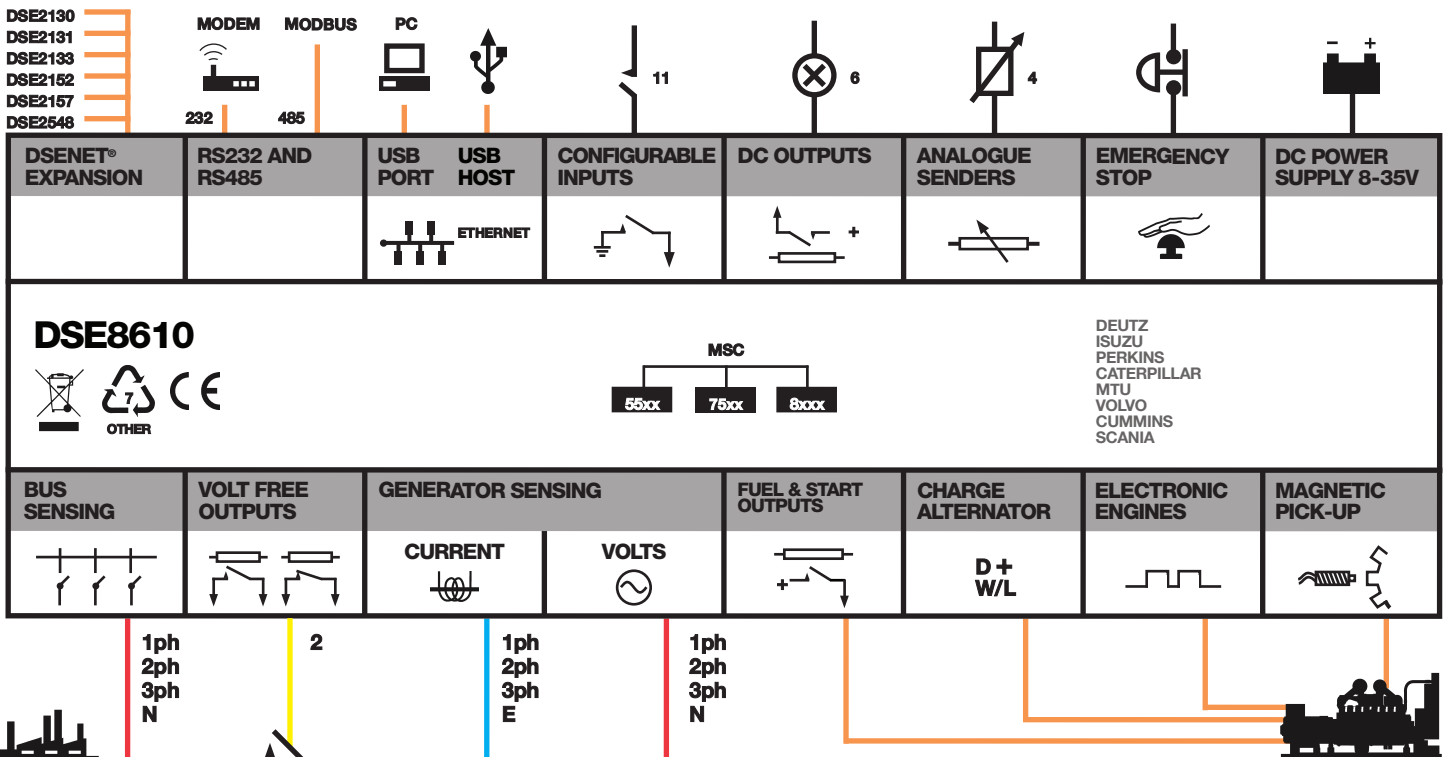
#### SHOCK

BS EN 60068-2-27  
Three shocks in each of three major axes  
15gn in 11mS

#### 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



# DSE8610

## SYNCHRONISING AUTO START LOAD SHARE CONTROL MODULE

### FEATURES



### KEY FEATURES

- Comprehensive synchronising & loadsharing capabilities
- Built-in governor and AVR control
- Base load (kW export) functionality
- Mains (utility) de-coupling protection
- Generator power (kW, kV Ar, kV A & pf) monitoring
- Overload (kW & kV Ar) protection
- Reverse power (kW & kV Ar) protection
- Unbalanced load protection
- Independent earth fault protection
- Advanced integral PLC editor
- 11 Configurable inputs
- 8 Configurable outputs
- Configurable flexible sensor inputs
- DSENet® expansion compatibility
- User configurable RS232, RS485 and Ethernet communications
- Remote SCADA monitoring via various DSE software applications
- MODBUS RTU & TCP support
- User configurable MODBUS pages
- Advanced SMS control and fault messaging (additional GSM modem required)
- Easy access diagnostic pages including modem diagnostic pages
- Data logging and trending
- CAN, MPU and Frequency speed sensing
- Tier 4 CAN engine support
- "Protections disabled" feature
- Front panel editing with PIN protection
- Fully configurable using DSE Configuration Suite PC software via USB
- 4 Line back-lit LCD text display
- LED and LCD alarm indication
- Configurable display languages
- USB connectivity
- Customisable status screens
- Five key menu navigation
- 3 Configurable maintenance alarms
- Multiple date and time run scheduler
- Manual fuel pump control
- Fuel usage monitor and low fuel level protection
- Charge alternator failure protection
- Load switching (load shedding and dummy load control)
- Configurable event log (250)
- Backed up real time clock

### KEY BENEFITS

- Compatible in load share systems containing DSE5500, DSE7500 and DSE8600 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/MSC 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 Module

### SPECIFICATION

#### DC SUPPLY

**CONTINUOUS VOLTAGE RATING**  
8 V to 35 V continuous

#### CRANKING DROPOUTS

Able to survive 0 V for 50 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

**MAXIMUM OPERATING CURRENT**  
460 mA at 12 V, 245 mA at 24 V

**MAXIMUM STANDBY CURRENT**  
375 mA at 12 V, 200 mA at 24 V

**CHARGE FAIL/EXCITATION RANGE**  
0 V to 35 V

#### OUTPUTS

**OUTPUT A (FUEL)**  
15 A DC at supply voltage

**OUTPUT B (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

**GENERATOR & BUS VOLTAGE RANGE**  
15 V to 333 V AC (L-N)

**FREQUENCY RANGE**  
3.5 Hz to 75 Hz

**MAGNETIC PICK-UP VOLTAGE RANGE**  
+/- 0.5 V to 70 V

**FREQUENCY RANGE**  
10,000 Hz (max)

**BUILT-IN GOVERNOR CONTROL MINIMUM LOAD IMPEDANCE**  
1000Ω  
Fully isolated

**GAIN VOLTAGE**  
0 V to 10 V DC  
Fully isolated

**OFFSET VOLTAGE**  
+/- 10 V DC  
Fully isolated

**BUILT-IN AVR CONTROL MINIMUM LOAD IMPEDANCE**  
1000Ω  
Fully isolated

**GAIN VOLTAGE**  
0 V to 10 V DC  
Fully isolated

**OFFSET VOLTAGE**  
+/- 10 V DC  
Fully isolated

**DIMENSIONS OVERALL**  
240 mm x 172 mm x 57 mm  
9.4" x 6.8" x 2.2"

**PANEL CUTOUT**  
220 mm x 160 mm  
8.7" x 6.3"

**MAXIMUM PANEL THICKNESS**  
8 mm  
0.3"

**OPERATING TEMPERATURE RANGE**  
-30 °C to +70 °C

**STORAGE TEMPERATURE RANGE**  
-40 °C to +85 °C

### RELATED MATERIALS

#### TITLE

DSE8610 Installation Instructions  
DSE8610 Operator Manual  
DSE8600 PC Configuration Suite Manual  
DSE8660 Date Sheet

#### PART NO'S

053-069  
057-115  
057-119  
055-086

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