

# DSE8620

## SYNCHRONISING AUTO MAINS FAILURE CONTROL MODULE

### FEATURES



The DSE8620 is an Auto Mains (Utility) Failure Control Module suitable for paralleling single gensets (diesel or gas) with the mains (utility) supply. Designed to synchronise a single genset with a single mains (utility) supply, the DSE8620 will automatically control the change over from mains (utility) to generator supply or run the generator in synchronisation with the mains (utility) to provide no-break, peak lopping and peak shaving power solutions.

The module can indicate operational status and fault conditions on the LCD screen (multiple languages available), by illuminated LED, audible sounder and SMS messaging.

Comprehensive communications are also available via RS232, RS485 & Ethernet for remote PC control and monitoring, and integration into building management systems. The comprehensive event log will record up to 250 events to facilitate maintenance.

An extensive number of fixed and flexible monitoring and protection features are included. Easy alteration of the sequences, timers and alarms can be made using the DSE PC Configuration Suite Software. Selected configuration is also available via the module's front panel.

With all communication ports capable of being active at the same time, the DSE8xxx Series is ideal for a wide variety of demanding load share applications.

### KEY LOAD SHARE FEATURES:

- Peak lopping/sharing
- Manual voltage/frequency adjustment
- R.O.C.O.F. and vector shift protection
- Generator load demand
- Mains (Utility) de-coupling
- Mains (Utility) de-coupling test mode
- Direct governor & AVR control.
- Volts and frequency matching.
- kW & kV Ar load sharing

### 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 @ +/-7.5 mm, 8 Hz to 500 Hz @ 2 gn

#### 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

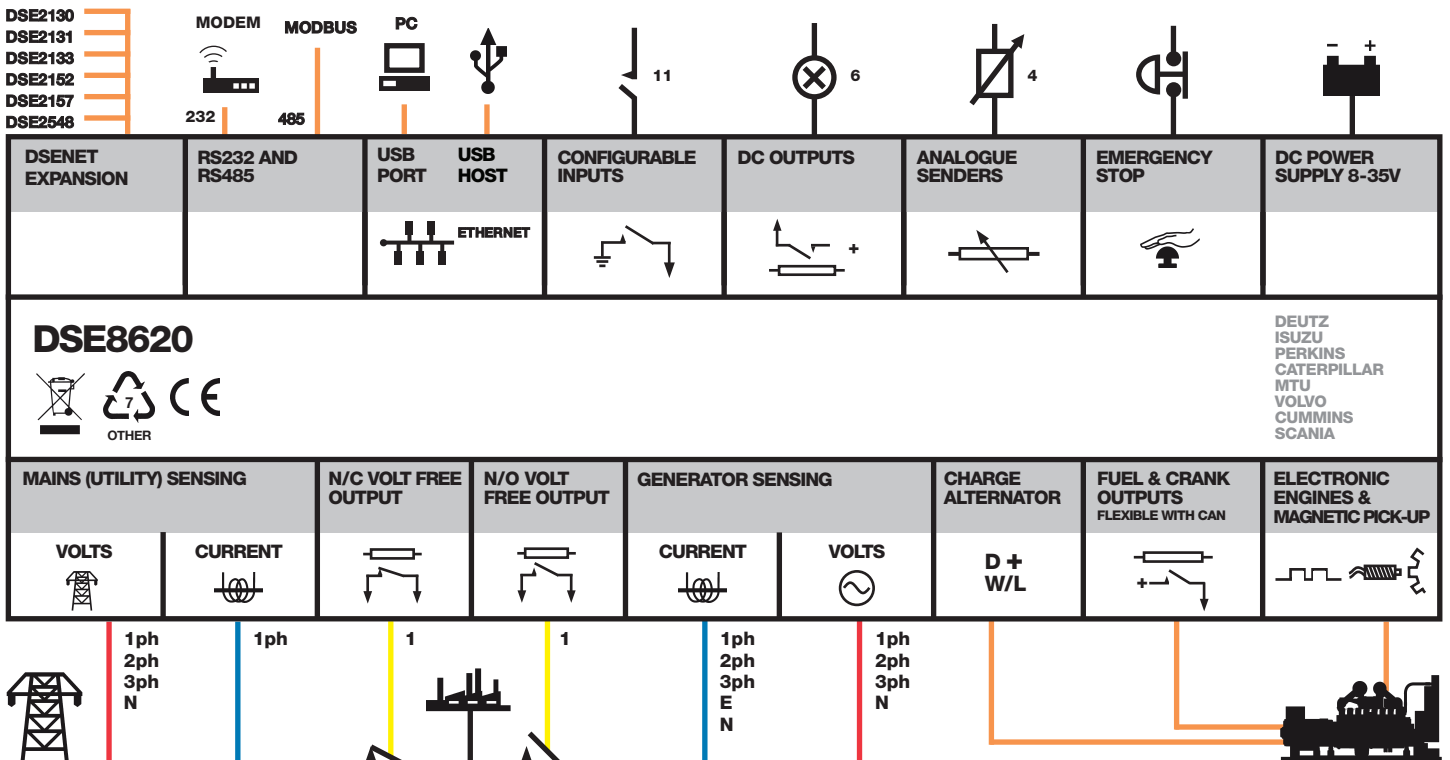
#### SHOCK

BS EN 60068-2-27  
Three shocks in each of three major axes 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 FOR SINGLE GEN-SET PARALLELING WITH MAINS (UTILITY)



# DSE8620

## SYNCHRONISING AUTO MAINS FAILURE CONTROL MODULE

### FEATURES



### KEY FEATURES

- Mains (utility) failure detection
- Comprehensive synchronising & loadsharing capabilities
- Built-in governor and AVR control
- Base load (kW export) functionality
- Peak lopping & shaving functionality
- Mains (utility) power (kW, kV Ar, kV A & pf) monitoring
- 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
- Mains (utility) kW export 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 with DSE8003
- 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

### RELATED MATERIALS

#### TITLE

DSE8620 Installation Instructions  
DSE8620 Operator Manual  
DSE8600 PC Configuration Suite Manual

#### PART NO'S

053-129  
057-142  
057-119

### 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

### 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 & MAINS

**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 181 mm x 42 mm  
9.4" x 6.8" x 1.6"

#### 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