

# DSE8920

## 7" Colour Load Share & Synchronising Control Module



Module can be configured to function as a DSE8910 Auto Start Synchronising and Load Sharing Control Module.

### KEY FEATURES

- 7" optically bonded, sunlight readable colour TFT display (800 x 480)
- Comprehensive synchronising & load sharing capabilities
- Built in governor, AVR & CAN control
- Base load (kW export) control
- Positive & negative kVAR export control
- Mains (Utility) decoupling protection
- Mains (Utility) failure detection
- Mains (Utility) power (kW, kV Ar, kV A & pf) monitoring
- RoCoF and vector shift protection
- Mains (utility) kW export protection
- Peak lopping & shaving functionality
- Multiple display languages
- Five key menu navigation
- LCD alarm indication
- DSENet® expansion compatibility
- Data logging & trending facility
- Drag & drop advanced PLC editor
- Protections disable feature
- Fully configurable via PC using USB, RS485 & Ethernet communication
- Front panel configuration with PIN protection
- Power save mode
- 3 phase mains (utility) & 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 IP support with configurable MODBUS pages
- 3 configurable maintenance alarms
- Compatible with a wide range of CAN engines, including tier 4F, stage 5 engine support
- Uses DSE Configuration Suite PC Software for simplified configuration

### KEY BENEFITS

- Can be configured for use as a DSE8910 Auto Start Module
- Real-time clock provides accurate event logging
- Ethernet communication, provides built in advanced remote monitoring.
- 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 complex application requirements.

### EXPANSION DEVICES

- DSE124 CAN/MSD 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

### 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

1.2 A at 12 V, 0.6 A at 24 V

#### MAXIMUM STANDBY CURRENT

0.7 A at 12 V, 0.35 A 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 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

310 mm x 162 mm x 51 mm  
12.2" x 6.4" x 2.0"

##### PANEL CUT-OUT

282 mm x 136 mm  
11.1" x 5.4"

##### 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

### RELATED MATERIALS

#### TITLE

DSE8920 Installation Instructions  
DSE8920 Operator Manual  
DSE8920 PC Configuration Suite Manual  
DSE8910 Data Sheet

#### PART NO.

053-248  
057-311  
057-303  
055-264

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# DSE8920

## 7" Colour Load Share & Synchronising Control Module

The DSE8920 is a 7" full colour, optically bonded synchronising Auto Mains (Utility) Failure Control Module suitable for paralleling single gensets (diesel or gas) with a mains (utility) supply. The controller can be configured for use as a DSE8910 Auto Start Control Module. When converted for use as a DSE8910 the unit provides generator to generator load share functionality.

Designed to synchronise a single genset with a single mains (utility) supply the DSE8920 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.

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

Comprehensive communications are also available via RS485 and Ethernet for remote PC control and monitoring and integration into building management systems

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 DSE8920 is ideal for a wide variety of demanding load share applications.

### KEY LOAD SHARE FEATURES:

- Peak lopping/sharing (with appropriate DSE mains (utility) controller)
- Manual voltage/frequency adjustment
- RoCoF and vector shift protection
- Mains (Utility) decoupling
- Mains (Utility) decoupling test mode
- Direct governor and AVR control
- Volts and frequency matching
- kW and kvar 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 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

