



# **DSE8620 MKII**

## SYNCHRONISING AUTO MAINS (UTILITY) **FAILURE LOAD SHARE CONTROL MODULE**



Module can be configured to function as a DSE8610 MKII Synchronising and Load Sharing Control

**Module** Refer to DSE8610 MKII Data Sheet for product features.

#### **KEY FEATURES**

- Comprehensive synchronising & loadsharing capabilities
- · Built in governor and AVR control
- Base load (kW export) control
- Positive & negative kVAr export
- Mains (Utility) decoupling protection
- Mains (Utility) failure detection
- Mains (Utility) power (kW, kV Ar, kV A & pf) monitoring
- Mains (Utility) de-coupling protection
- Mains (Utility) kW export protection
- Peak lopping & shaving functionality
- 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
- 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
- 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)
- 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**

- Can be configured for use as a DSE8610 MKII
- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Ethernet communication, provides builit 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
- Extended 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

#### 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 '

CHARGE FAIL/EXCITATION RANGE

#### **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

# VOLTAGE RANGE +/- 0.5 V to 70 V

FREQUENCY RANGE 10,000 Hz (max)

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 O to 480 O sensor

OUTPUTS OUTPUT A & B (FUEL & START) 15 A DC at supply voltage

0  $\Omega$  to 480  $\Omega$  sensor

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

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

### **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

DSE8620 MKII Installation Instructions DSE8620 MKII Operator Manual DSE8620 MKII PC Configuration Suite Manual DSE8610 MKII Data Sheet

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# DSE**8620 MKII**

# SYNCHRONISING AUTO MAINS (UTILITY) **FAILURE LOAD SHARE CONTROL MODULE**

The DSE8620 MKII is an easy to use Synchronising Auto Mains (Utility) Failure Control Module suitable for paralleling single gensets (diesel or gas) with the mains (utility) supply. The controller can be configured for use as a DSE8610 MKII Auto Start Control Module. When converted for use as a DSE8610 MKII the unit provides generator to generator load share.

Designed to synchronise a single genset with a single mains (utility) supply the DSE8620 MKII 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 RS232, 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 DSE8620 MKII 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
- · R.O.C.O.F. 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

BS EN 60068-2-78

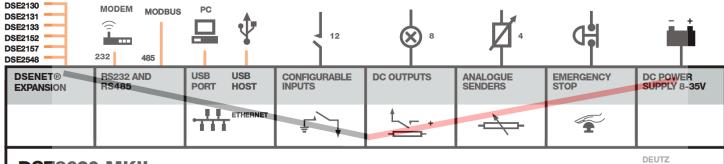
Cab Damp Heat Static 40 °C at 93% RH

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

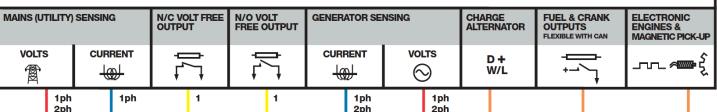


## DSE8620 MKII





DEUTZ ISUZU PERKINS CATERPILLAR MTU VOLVO CUMMINS SCANIA



3ph

3ph





3ph









