

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

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

PART NO.

053-182
057-254
057-238
055-204
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

