

DSE8660

AUTO TRANSFER SWITCH & MAINS CONTROL MODULE

FEATURES



The DSE8660 is an easy-to-use single or multi-mains controller with automatic transfer switch capability. Designed to synchronise single or multiple DSE8610s and DSE8680s with single or multiple mains (utility) supplies, the DSE8660 will automatically control the change over from mains (utility) to generator supply or run generators 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 (WITH DSE8x10) :

- Peak lopping/shaving
- 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
- Bus failure detection
- 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
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

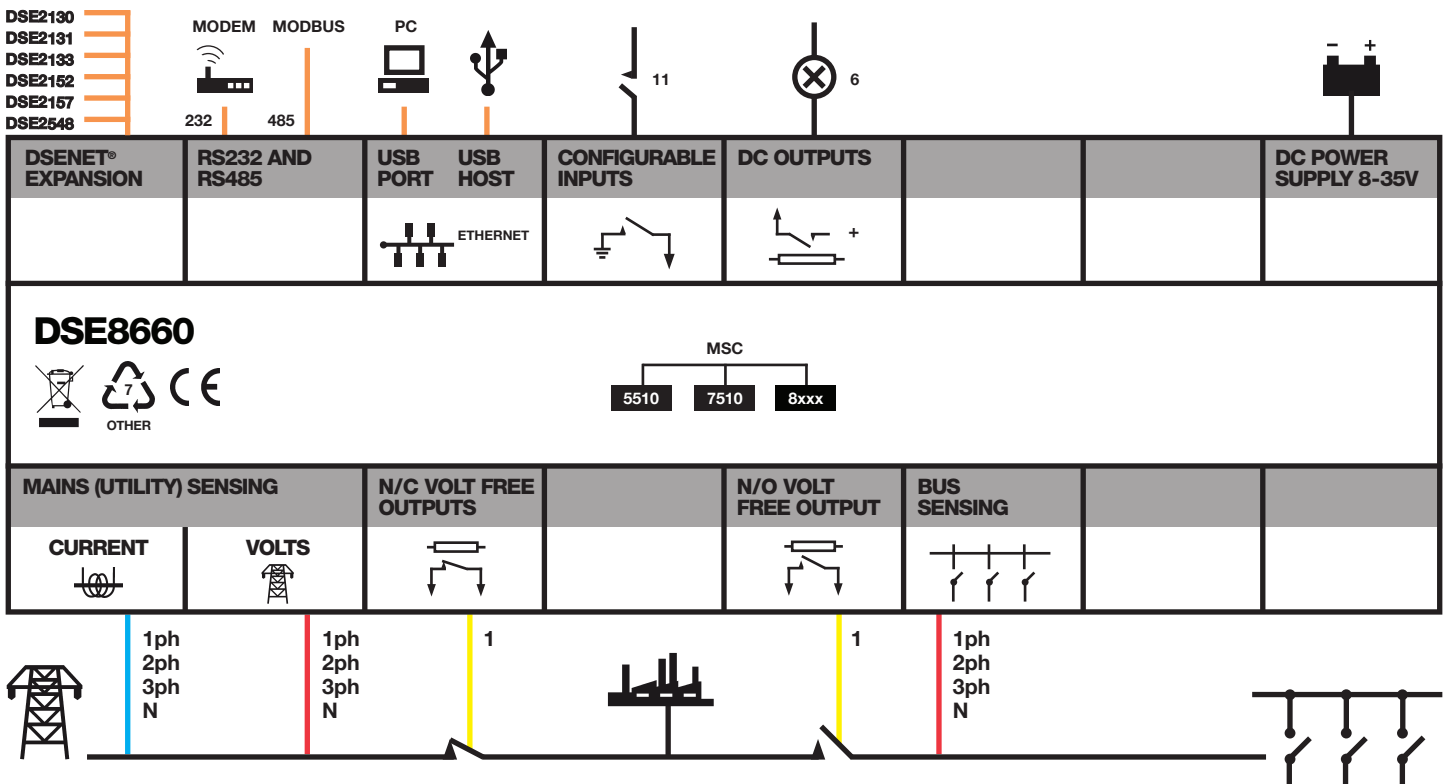
SHOCK

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



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FEATURES



KEY FEATURES

- Mains (utility) failure detection
- Mains (utility) power monitoring (kW, kV Ar, kV A and pf)
- Comprehensive synchronising and loadsharing capabilities
- Base load (kW export) functionality
- Positive & negative kVAr export control
- Peak lopping & shaving functionality
- Mains (utility) kW export protection
- Mains (utility) de-coupling protection
- Advanced integral PLC editor
- User configurable RS232, RS485 & Ethernet communications
- MODBUS RTU & TCP support
- User configurable MODBUS pages
- Advanced SMS control and fault messaging (additional GSM modem required)
- DSENet expansion compatible
- Data logging and trending
- 4-Line back-lit LCD text display
- Multiple display languages

- Five key menu navigation
- Front panel editing with PIN protection
- Customisable status screens
- Configurable inputs (11)
- Configurable outputs (8)
- Configurable timers and alarms
- Multiple entry scheduler
- Configurable event log (250)
- Easy access diagnostic pages
- LED and LCD alarm indication
- USB connectivity
- Backed up real time clock
- Fully configurable via DSE Configuration Suite PC Software

KEY BENEFITS

- A single flexible solution for multiple applications
- Compatible with DSE5510, DSE7510 & DSE8x10 series of modules
- 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/MSD Extender
- DSE2130 Input Expansion Module
- DSE2131 Ratiometric Input Expansion Module
- DSE2133 RTD & Thermocouple Expansion Module
- DSE2152 Analogue 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. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT

340 mA at 12 V, 160 mA at 24 V

MAXIMUM STANDBY CURRENT

160 mA at 12 V, 80 mA at 24 V

MAINS (UTILITY)

VOLTAGE RANGE
15 V to 333 V AC (L-N)

FREQUENCY RANGE
3.5 Hz to 75 Hz

BUS

VOLTAGE RANGE
15 V to 333 V AC (L-N)

FREQUENCY RANGE
3.5 Hz to 75 Hz

OUTPUTS

OUTPUTS C & D
8 A at 250 V AC (Volt free)

AUXILIARY OUTPUTS E,F,G,H, I & J
2 A DC at supply voltage

DIMENSIONS

OVERALL
240 mm x 181 mm x 42 mm
9.4" x 7.1" x 1.6"

PANEL CUT-OUT
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

DSE8660 Installation Instructions
DSE8660 Operator Manual
DSE8600 PC Configuration Suite Manual
DSE8610 Data Sheet
DSE8680 Data Sheet
DSE8700 Data Sheet
DSE8810 Data Sheet
DSE8860 Data Sheet

PART NO'S

053-070
057-120
057-119
055-083
055-091
055-090
055-116
055-139

DEEP SEA ELECTRONICS PLC UK

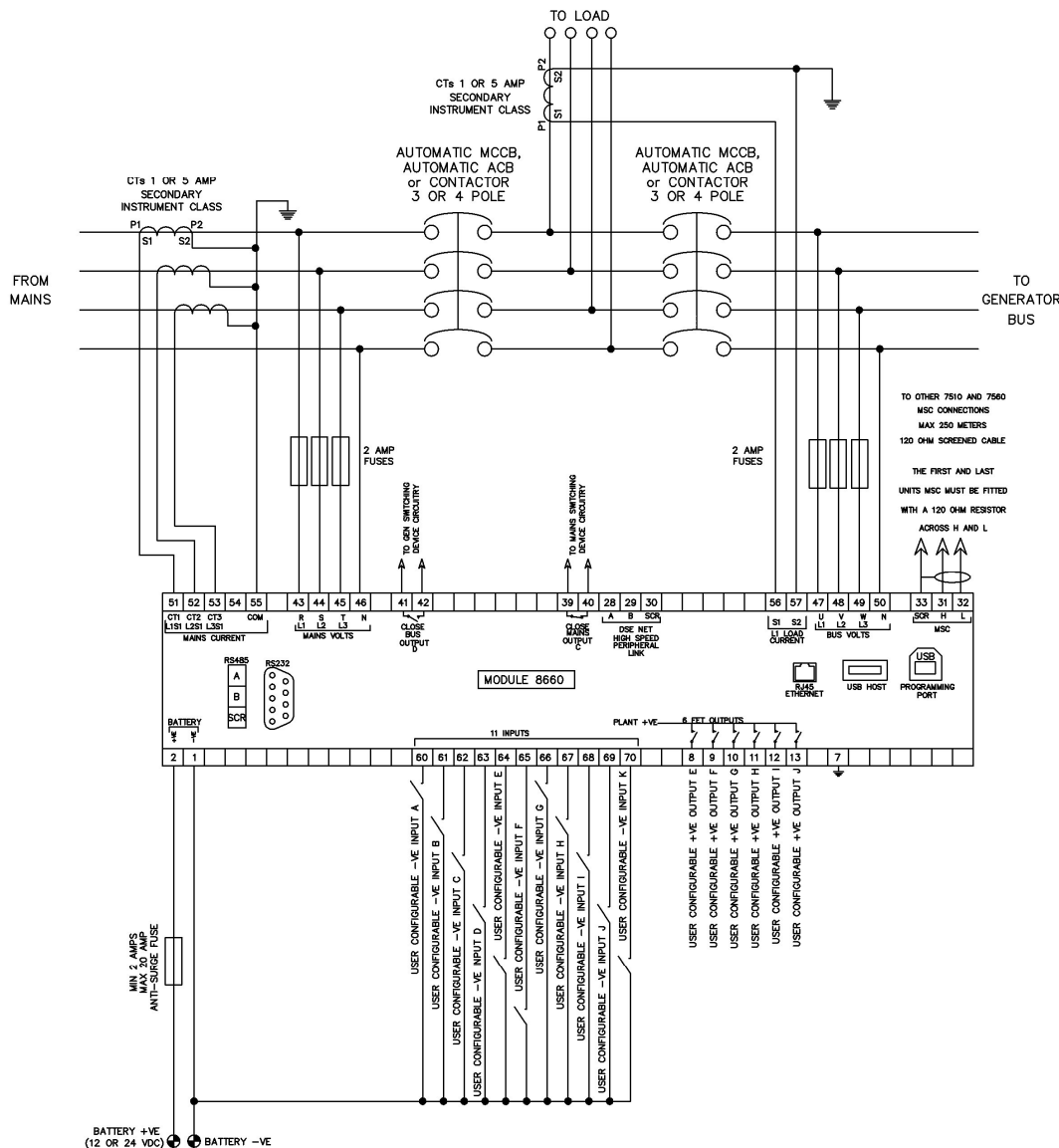
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TYPICAL WIRING DIAGRAM

A larger diagram is available in the operators manual.



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DEEP SEA ELECTRONICS 8660 INSTALLATION INSTRUCTIONS

053-070
ISSUE 1

ACCESSING THE FRONT PANEL CONFIGURATION EDITOR.

- Ensure the engine is at rest and the module is in STOP mode by pressing the Stop/Reset button.
- Press the Stop/Reset and Info buttons simultaneously.
- If a module security PIN has been set, the PIN number request is then shown:



- Press (up) or (down) to adjust it to the correct value.
- Press (right) when the first digit is correctly entered. The digit you have just entered will now show '#' for security.
- Repeat this process for the other digits of the PIN number. You can press (left) if you need to move back to adjust one of the previous digits.
- When is pressed after editing the final PIN digit, the PIN is checked for validity. If the number is not correct, you must re-enter the PIN.
- If the PIN has been successfully entered (or the module PIN has not been enabled), the editor is displayed.



EDITING A PARAMETER

- Enter the editor as described above.
- Press the or to cycle to the section you wish to view/change. Then press OR to cycle to the parameter within the section you have chosen.
- To edit the parameter, press to enter edit mode. The parameter begins to flash to indicate that you are editing the value.
- Press the up or down buttons to change the parameter to the required value.
- Press to save the value. The parameter ceases flashing to indicate that it has been saved.
- To exit the editor at any time, press and hold the or button.

NOTE: When the editor is visible, it is automatically exited after 5 minutes of inactivity to ensure security.

NOTE: The PIN number is automatically reset when the editor is exited (manually or automatically) to ensure security.

NOTE: More comprehensive module configuration is possible using the 86xx series PC configuration software. Please contact us for further details

NOTE: The contents of the tables overleaf may differ depending on the actual module configuration.

ADJUSTABLE PARAMETERS

Front Panel Configuration Editor

Section	Parameter as shown on display	Factory Settings
Display	Contrast	53%
	Language	English, others.
	Current Date and Time	hh:mm
Timers	LCD Page Timer	5m
	Scroll Delay	2s
	Battery Under Voltage Warning Delay	1m
	Battery Over Voltage Warning Delay	1m
	Start Delay Off Load	5s
	Start Delay On Load	5s
	Start Delay Telemetry	5s
	Start Delay Mains Fail	5s
	Mains Transient Delay	2s
	Return Delay	30s
	Mains Transient Time	0.7s
Mains	Under voltage Trip	184V
	Over voltage Trip	276V
	Under Frequency Trip	45Hz
	Over Frequency Trip	55Hz
	CT Primary	600A
	CT Secondary	5A
	Mains KW Rating	345kw
	Mains KVar Rating	258kw
	AC System	3 Phase 4 wire
Bus	Start Delay On Load	5s
	Insufficient Capacity Delay	1s
	Battery Under Volts warning	Active
	Battery Under Volts warning Delay	1m
	Battery Under Volts warning	10V
	Battery Over Volts warning	Active
	Battery Over Volts warning Delay	1m
	Battery Over Volts warning	30V
	Load Level For More Sets	80%
	Load Level For Less Sets	70%
	Load Ramp Rate	3%/s
Schedule	Scheduler	Inactive
	Schedule Loading On Load	Inactive (Only Available when Scheduler Is Active)
	Schedule Period	weekly (Only Available when Scheduler Is Active)
	Schedule Time & Date Selection (1-16)	Press to begin editing then or when selecting the different parameters in the scheduler.

ACCESSING THE 'RUNNING' CONFIGURATION EDITOR

- The 'running' editor can be entered while the engine is running. All protections remain active if the engine is running while the running editor is entered.
- Press and hold the button to enter the running editor.

ADJUSTABLE PARAMETERS (Running editor)

- Enter the editor as described above.

- Press the up or down buttons to cycle to the section you wish to view/change.

- To Edit the parameter press the button to enter edit mode. The parameter begins to flash to indicate that you are editing the value.

- Press the up or down buttons to change the parameter to the required value.

- Press the button to save the value. The parameter ceases flashing to indicate that it has been saved.

- To exit the editor at any time , press and hold the button.

Running Editor

Section	Parameter as shown on display	Factory Settings
Display	Contrast	53%
	Language	English
	Load parallel power	30%
	Load Power factor	63%
	Commissioning screens	Inactive
	Mains decoupling test mode (Stop mode only)	Inactive
	Voltage adjust (manual mode only engine running breaker open)	0v L-N
	Frequency adjust (manual mode only engine running breaker open)	0 Hz

DIMENSIONS

240.0mm x 181.1mm x 41.7mm (9.4" x 7.1" x 1.6")

PANEL CUTOUT:

220mm x 160mm (8.7" x 6.3")