

# DSE7510

## AUTO START & LOAD SHARE CONTROL MODULE

### FEATURES



The DSE7510 is an Automatic Engine Control Module, designed to provide advanced load share functionality for diesel and gas generating sets that include electronic and non-electronic engines.

The module's load share functions include automatic synchronising with built-in synchroscope and closing onto dead bus. Direct and flexible outputs from the module are provided to allow connection to the most commonly used speed governors and automatic voltage regulators (AVRs).

A sophisticated module monitoring an extensive number of engine parameters, the DSE7510 will annunciate engine shutdowns, warnings, and engine status information on the back-lit LCD screen, by illuminated LED, on a remote PC, by audible alarm and via SMS text alerts (GSM modem required). The module includes RS232 and RS485 ports as well as dedicated terminals for system expansion.

### MODULE CAPABILITIES

- Fixed export with mains (utility) supply
- Synchronising up to 16 gen-sets

The module has sophisticated engine and power monitoring, high level instrumentation and flexible timers and alarms, making the system suitable for a wide range of synchronising applications.

DSE7560 is required to synchronise with the mains (utility).

### 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

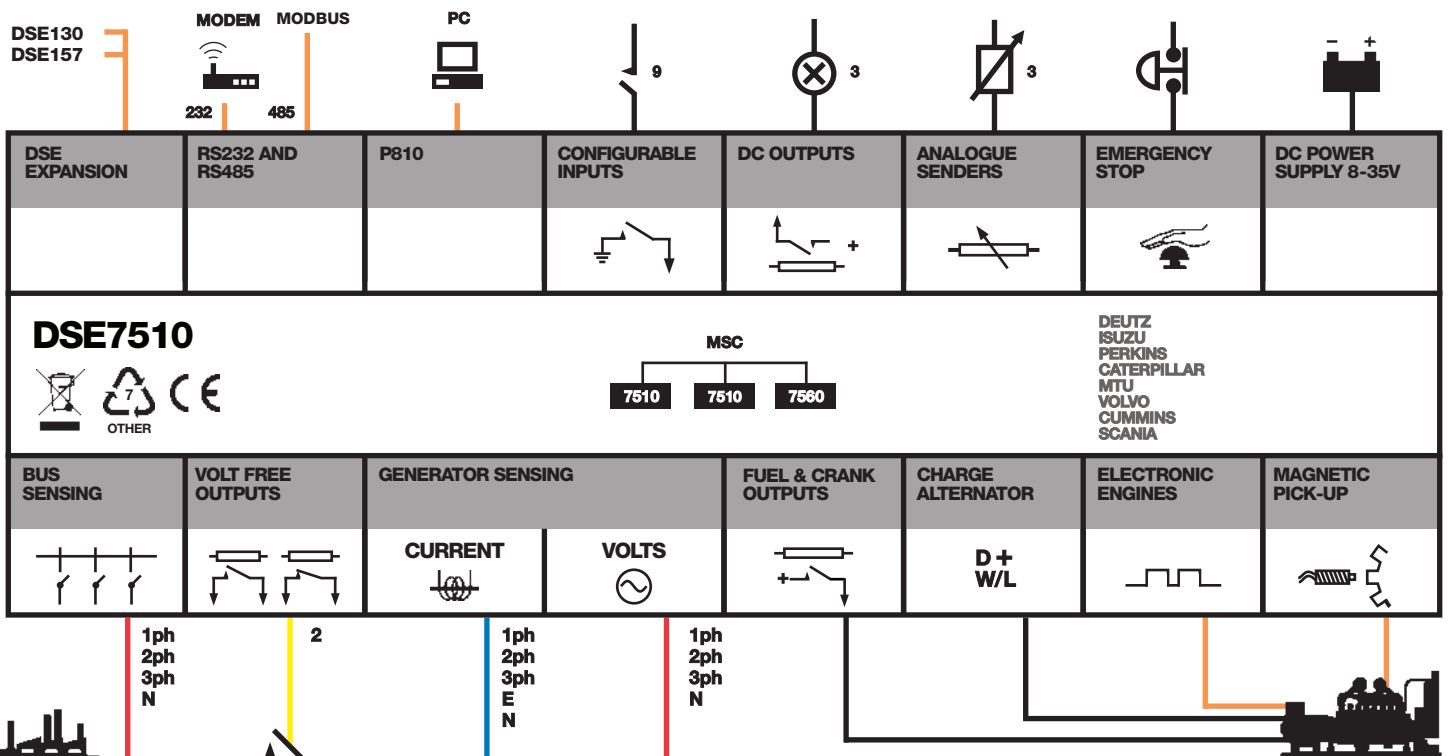
#### SHOCK

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 TO SUIT A WIDE VARIETY OF GEN-SET APPLICATIONS



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### KEY LOAD SHARE FEATURES

- Fixed export with mains (utility)
- Synchronising up to 16 generators
- Sequential start
- Auto ID negotiation
- Direct governor and AVR communication and control
- Manual voltage, frequency and speed adjustment
- Volts and frequency matching
- Dead bus sensing
- Generator load demand
- kW and kV Ar load sharing
- kW on mains (utility) level
- Automatic hours run balancing
- R.O.C.O.F & Vector Shift
- Mains (utility) decoupling test facility

### KEY FEATURES

- 4-Line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- Multiple display languages
- LED and LCD alarm indication
- Customisable status screens
- 9 configurable inputs
- 5 configurable outputs

- Configurable timers and alarms
- Multiple date and time scheduler
- Event log (25)
- CAN and Magnetic Pick-up/Alt. sensing
- Engine protection alarms
- Low fuel alarms
- Charge Alternator failure warning
- Manual speed control (on compatible CAN engines)
- Engine exercise scheduler
- Automatic load transfer
- kW overload protection
- Unbalanced load protection
- Independent Earth Fault trip
- Audible alarm
- Backed-up real-time clock
- Fully configurable via by DSE7500 PC software
- Configurable display languages
- Remote SCADA monitoring via DSE7500 PC software
- User selectable RS232 and RS485 communications
- SMS Messaging (additional external modem required)
- Built-in governor and AVR control

### KEY BENEFITS

- 132 x 64 pixel ratio display for clarity
- Real-time clock provides accurate event logging
- Remote monitoring of module using comprehensive DSE7500 PC software
- Sends SMS messages to notify engineers of specific generator problems (GSM modem and SIM card required)
- Ethernet communications (via DSE860/865 modules), provides advanced remote monitoring at low cost
- Modules can be integrated into building management systems (BMS)
- Surplus energy / power can be sold back to the grid (subject to local mains/utility supplier)
- Licence-free PC software
- IP65 rating (with supplied gasket) offers advanced resistance to water ingress

### SPECIFICATION

#### DC SUPPLY

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 250 V (Volt free)

##### AUXILIARY OUTPUTS E,F,G

2 A DC at supply voltage

#### GENERATOR

##### VOLTAGE RANGE

15 V - 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

Fully Isolated  
Minimum Load Impedance:  
1000Ω  
Gain Volts 0 V - 10 V DC  
Offset Volts + / - 10 V DC

##### BUILT-IN AVR CONTROL

Fully Isolated  
Minimum Load Impedance: 1000Ω  
Gain Volts 0 V - 10 V DC  
Offset Volts + / - 10 V DC

#### DIMENSIONS

##### OVERALL

240 mm x 172 mm x 57 mm  
9.4" x 6.8" x 2.2"

##### PANEL CUTOUT

220 mm x 160 mm  
8.7" x 6.3"

##### MAXIMUM PANEL THICKNESS

8 mm  
0.3"

### RELATED MATERIALS

TITLE	PART NO'S	TITLE	PART NO'S
DSE7510 Installation Instructions	053-052	DSE7560 Data Sheet	055-067
DSE7500 Quick Start Guide	057-100	DSE124 Data Sheet	055-082
DSE7510 Operator Manual	057-088	DSE850 Comms Software Data Sheet	055-072
DSE7500 PC Software Manual	057-078	CAN and DSE Wiring Guide	057-004
Load Share Design and Commissioning Guide to Synchronising and Load Sharing	057-047 057-045/6		

### 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