

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

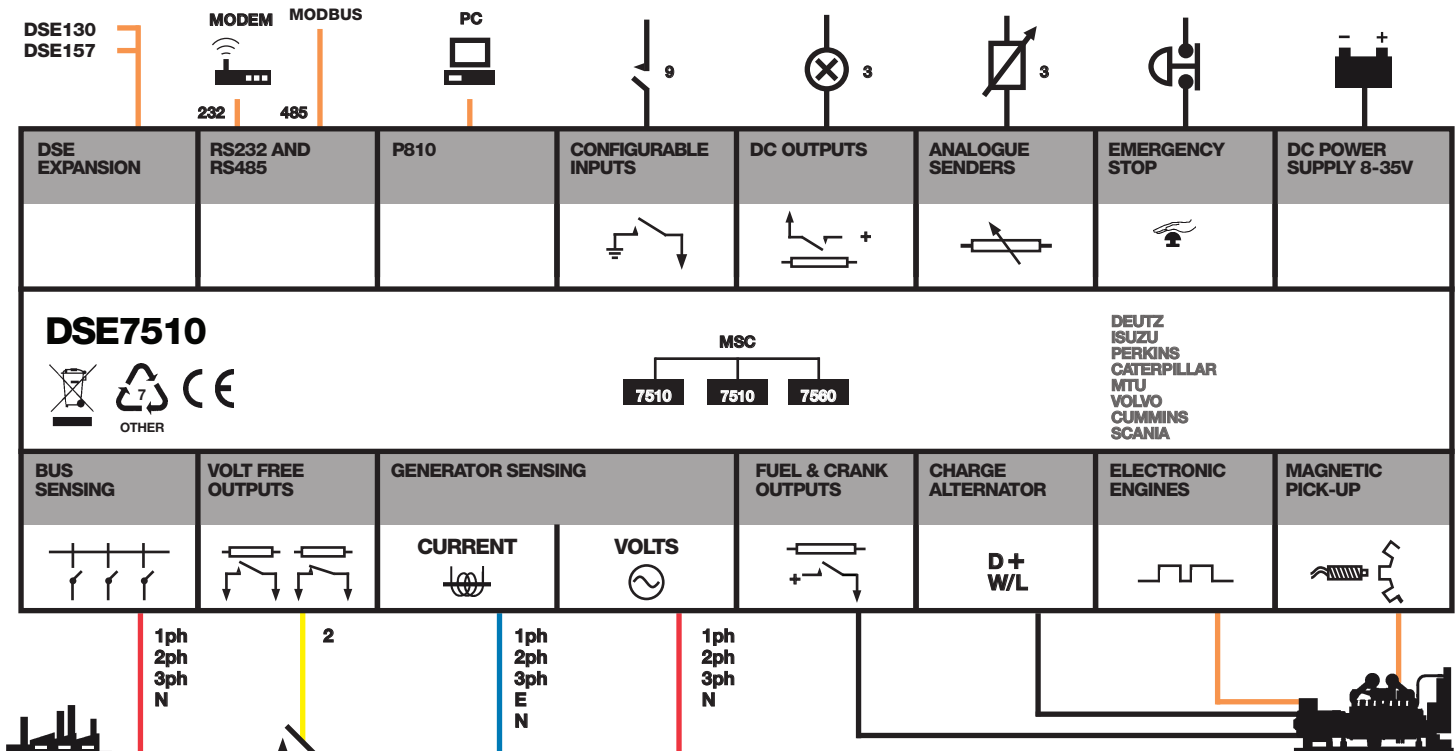
SHOCK

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 FAUL/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 |
|---|-----------|
| DSE7510 Installation Instructions | 053-052 |
| DSE7500 Quick Start Guide | 057-100 |
| DSE7510 Operator Manual | 057-088 |
| DSE7500 PC Software Manual | 057-078 |
| Load Share Design and Commissioning | 057-047 |
| Guide to Synchronising and Load Sharing | 057-045/6 |

OTHER RELATED MATERIALS

| TITLE | PART NO'S |
|--------------------------|-----------|
| DSE7560 Data Sheet | 055-067 |
| DSE124 Data Sheet | 055-082 |
| CAN and DSE Wiring Guide | 057-004 |

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