

# DSE7520

## AUTO MAINS FAILURE & INSTRUMENTATION CONTROL MODULE

### FEATURES



The DSE7520 is an Auto Mains Failure Control Module suitable for paralleling single gen-sets (diesel or gas) with the mains (utility) supply. The module will automatically start the generator on detection of a mains failure, and will control the switchover from and back to the mains (utility) supply, offering an uninterrupted return.

The modules synchronising 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 DSE7520 will annunciate warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LED, remote PC, audible alarm and via SMS text alerts. The module includes RS232 and RS485 ports as well as dedicated terminals for system expansion.

The DSE7520 is compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offers a comprehensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry paralleling requirements.

The modules can be easily configured using the DSE7500 PC software. Selected front panel editing is also available.

### 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

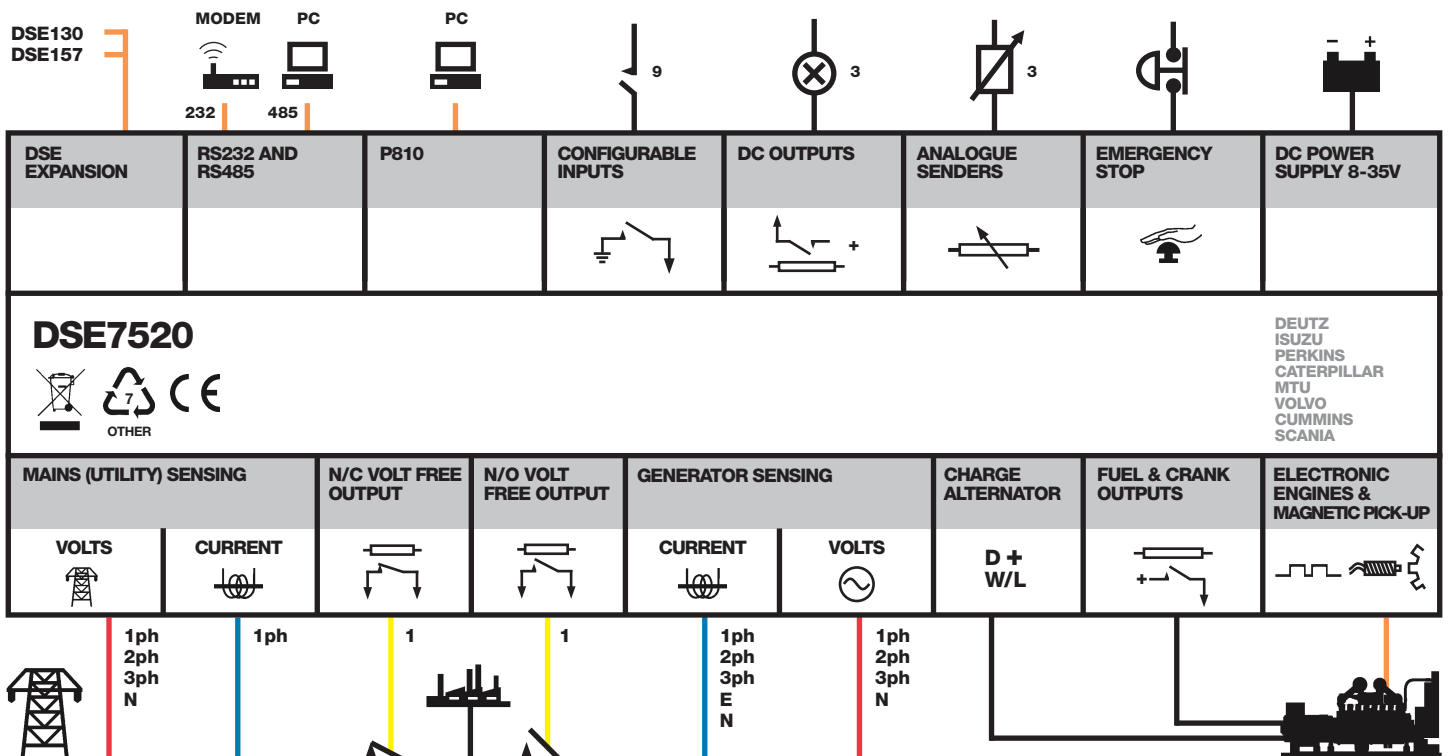
#### SHOCK

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 FOR SINGLE GEN-SET PARALLELING WITH MAINS (UTILITY)



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### FEATURES



### KEY LOAD SHARE FEATURES

- No-break return
- Peak shaving/peak lopping
- kW on mains (utility) level
- Mains (utility) decoupling test mode
- Manual speed/frequency adjust
- ROCOF & vector shift
- Dead bus sensing
- Direct governor & AVR control
- Volts & frequency matching
- kW and kV Ar load sharing
- Manual voltage adjust

### KEY FEATURES

- Compatible with CAN and magnetic pick-up
- RS232 or RS485 remote communications
- Modbus RTU
- PIN protected front panel editing
- Exercise engine scheduler
- Back-lit LCD 4-line text display
- Multiple language options

- Voltage measurement
- 9 Configurable inputs
- 5 Configurable outputs
- Automatic start/Manual start
- Audible alarm
- LED indicators
- Built-in governor and AVR control for easy operation and panel engineering
- Event log (25)
- Fault condition notification to a designated PC
- PC configuration
- Mains (utility) failure detection
- Configurable alarms and start/stop timers
- Automatic load transfer with no-break return
- SMS alert messaging (GSM modem required)
- Remote control and monitoring
- Dedicated load test button
- kW overload protection
- Engine temperature protection
- MV-LV synchronising

### KEY BENEFITS

- Sends SMS messages to engineers to notify specific engine problems (GSM Modem and SIM card required)
- On-site and remote module configuration (Modem required)
- In-built engine diagnostics removes the requirement for service equipment
- Full engine protection & instrumentation without the need for additional senders (Electronic engines only)
- Remote monitoring of the module using comprehensive DSE7500 PC software
- License-free PC software

### RELATED MATERIALS

#### TITLE

DSE7520 Installation Instructions  
 DSE7500 Quick Start Guide  
 DSE7520 Operator Manual  
 Load Share Design and Commissioning  
 Guide to Synchronising and Load Sharing  
 DSE7500 Configuration Suite PC Manual  
 CAN and DSE Wiring Guide

#### PART NO'S

053-053  
 057-100  
 057-089  
 057-047  
 057-045/6  
 057-078  
 057-004

### 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

#### 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  
 Fixed power source 2.5 W

#### 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

#### MAINS (UTILITY)

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

**FREQUENCY RANGE**  
 3.5 Hz to 75 Hz

#### ALTERNATOR

**VOLTAGE RANGE**  
 15 V - 333 V (L-N) 50 Hz - 60 Hz  
 (Minimum 15 V AC Ph-N)

**FREQUENCY RANGE**  
 Up to 75 Hz

#### MAGNETIC PICK UP

**VOLTAGE RANGE**  
 +/- 0.5 V to 70 V

**FREQUENCY RANGE**  
 10,000 Hz (max)

#### BUILT-IN GOVERNOR AND 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"

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