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DSECONTROL[®] MONITORING WITH INTELLIGENCE.



DSE7210 & DSE7220

AUTO START & AUTO MAINS FAILURE CONTROL MODULES



The DSE7210 and DSE7220 are control modules for single gen-set applications. The modules incorporate a number of advanced features to meet the most demanding on-site applications.

The DSE7210 is an Automatic Start Control Module and the DSE7220 is an Auto Mains (Utility) Failure Control Module. The DSE7220 includes the additional capability of being able to monitor a mains (utility) supply. Both modules have been designed to start and stop diesel and gas generating sets that include electronic and non-electronic engines.

Both modules are simple to operate and feature a user friendly menu layout for improved clarity. Enhanced features include a real time clock for improved event and performance monitoring, the ability to display any language on screen and a 132 x 64 pixel LCD display.

FEATURES

- Backed up real time clock
- 132 x 64 pixel LCD display
- Configurable display languages
- USB connectivity
- Five key menu navigation
- Fully configurable via PC software
- Front panel editor
- LED and LCD alarm indication
- Engine exercise mode
- Configurable start & fuel outputs
- kWh monitoring
- Automatic load transfer
- Nine configurable inputs
- Six configurable outputs
- Configurable timers and alarms
- Magnetic pick-up
- Power save mode
- PIN protected programming
- Improved programmable event log (100) showing date and time
- Manual fuel pump control
- Manual speed control
- Alternative configuration
- Multiple date and time scheduler
- 3 Programmable Maintenance alarms
- Customisable status screens
- Low fuel level alarm delay
- Charge alternator fail warning and shutdown alarms with user programmable delay
- Sleep mode
- Load switching (Load shedding and dummy load outputs)
- Manual speed trim (on CAN engines that support this feature)
- Configurable SCADA output page

- Security levels – PC software has password system to control access to PC software features
- Fan control for additional cooling
- 'Protections Disabled' facility
- Fuel usage monitoring and low fuel alarm
- Support for up to three remote display units
- Easy access, configurable diagnostics page shows summary of output states

NEW FEATURES

- Additional programmable logic
- Additional electrical trip options
- Additional start delay functions
- Oil pressure values from additional engines
- Front panel editing of scheduler
- Displays kW as % of rated kW setting

BENEFITS

- 132 x 64 pixel ratio makes information easy to read
- Real time clock provides accurate event logging
- PC software is license free
- Set maintenance periods can be configured to maintain optimum engine performance
- Advanced PCB layout ensures high module reliability

SPECIFICATION

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8V to 35V Continuous

CRANKING DIP PROTECTION

Able to survive 0V for 50mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries

CHARGE FAIL/ EXCITATION

0V to 35V fixed power source 2.5W

MAXIMUM STANDBY CURRENT

160mA at 12V 80mA at 24V

MAXIMUM OPERATING CURRENT

340mA at 12V 160mA at 24V

ALTERNATOR INPUT

RANGE

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

ACCURACY

1% of full scale true RMS sensing

SUPPORTED TOPOLOGIES

3 phase 4 wire Delta
3 phase 4 wire
3 phase 3 wire
Single phase 2 wire
2 phase 3 wire L1 & L2
2 phase 3 wire L1 & L3

MAINS/UTILITY INPUT (DSE7220 ONLY)

RANGE

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

ACCURACY

1% of full scale true RMS sensing

SUPPORTED TOPOLOGIES

3 phase 4 wire Delta
3 phase 4 wire
3 phase 3 wire
Single phase 2 wire
2 phase 3 wire L1 & L2
2 phase 3 wire L1 & L3

CT'S

BURDEN

0.5VA

PRIMARY RATING

1A - 8000A (user selectable)

SECONDARY RATING

1A or 5A secondary (user selectable)

ACCURACY OF MEASUREMENT

1% of full load rating

RECOMMENDATIONS

Class 1 required for instrumentation
Protection class required if using for protection

SPECIFICATION

MAGNETIC PICKUP

VOLTAGE RANGE

+/- 0.5V minimum (during cranking) to 70V peak

FREQUENCY RANGE

10,000 Hz (max)

OUTPUTS

OUTPUT A (FUEL)

15 Amp DC at supply voltage

OUTPUT B (START)

15 Amp DC at supply voltage

OUTPUTS C & D

8 Amp 250V (Volt free)

AUXILIARY OUTPUTS E,F,G,H

2 Amp DC at supply voltage

DIMENSIONS

OVERALL

240mm x 181.1mm x 41.7mm
9.4" x 7.1" x 1.6"

PANEL CUT-OUT

220mm x 160mm
8.7" x 6.3"
Max panel thickness 8mm (0.3")

ENVIRONMENTAL TESTING STANDARDS

ELECTRICAL SAFETY

BS EN 60950
Safety of Information Technology Equipment, including Electrical Business Equipment

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

TEMPERATURE (OPERATING)

BS EN 60068
Test Ab to +70°C 60068-2-2 Hot
Test Ab to -30°C 60068-2-1 Cold

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 2011 part 2.1 60068-2-30
Test Cb Ob Cyclic
93% RH @ 40°C for 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.

OPERATION

The modules are operated via the START, STOP, AUTO and MANUAL soft touch membrane buttons on the front panel. The DSE7220 also has a TEST button. Both modules include load switch buttons. The main menu system is accessed using the five navigation buttons to the left of the LCD display.

CONFIGURATION

The modules can be configured using the front panel buttons and by using the DSE Configuration Suite PC software and a USB lead.

INPUTS & OUTPUTS

Analogue inputs are provided for oil pressure, coolant temperature and fuel level. These connect to conventional engine mounted resistive sensor units to provide accurate monitoring and protection facilities. They can also be configured to interface with digital switch type inputs for low oil pressure and high coolant temperature shutdowns. Six user configurable digital inputs are also included.

Outputs are provided for fuel solenoid, start solenoid and six additional configurable outputs. On these configurable outputs a range of different functions, conditions or alarms can be selected.

INSTRUMENTATION

The modules provide advanced metering facilities, displaying the information on the LCD display. The information can be accessed using five menu navigation buttons to the left of the display.

DSE7210	DSE7220
Generator Volts L1-N, L2-N, L3-N Generator Volts L1-L2, L2-L3, L3-L1 Generator Amps L1,L2,L3 Generator Frequency Hz Engine Speed RPM Engine Oil Pressure Fuel Level % Engine Temperature Plant Battery Volts Engine Hours Run Generator kVA Generator kW Generator Power Factor Charge Alternator Voltage Generator kVAh Generator kWh, kVAh, kVAh Number of engine starts	Generator Volts L1-N, L2-N, L3-N Generator Volts L1-L2, L2-L3, L3-L1 Generator Amps L1,L2,L3 Generator Frequency Hz Engine Speed RPM Engine Oil Pressure Fuel Level % Engine Temperature Plant Battery Volts Engine Hours Run Generator kVA Generator kW Generator Power Factor Mains Volts L1-N, L2-N, L3-N Mains Volts L1-L2, L2-L3, L3-L1 Mains Frequency Hz Generator Power Factor Charge Alternator Voltage Generator kVAh Generator kWh, kVAh, kVAh Number of engine starts
EXTENDED INSTRUMENTATION FROM ELECTRONIC ENGINES (WHERE AVAILABLE)	
Oil temperature Coolant pressure Turbo pressure Inlet manifold temperature Exhaust temperature Fuel Consumption Atmospheric pressure Fuel temperature Fuel used	Oil temperature Coolant pressure Turbo pressure Inlet manifold temperature Exhaust temperature Fuel Consumption Atmospheric pressure Fuel temperature Fuel used

EVENT LOG

The modules include a comprehensive event log that shows the most recent 100 alarm conditions. This feature is enhanced by the real time clock, as it allows each alarm condition to be stamped with the date and time. The event log displays the fault condition, time and date all on one page.

RELATED MATERIALS

TITLE

DSE7xxx Manual
DSE72xx/73xx PC Software Manual

PART NO'S

057-074
057-077

ELECTRONIC ENGINE COMPATABILITY

- CAT
- Cummins
- Deutz
- John Deere
- MTU
- Perkins
- Scania
- Volvo
- IVECO
- Generic
- Plus additional manufacturers

DSE7210 & DSE7220

