

DSECONTROL[®] MONITORING WITH INTELLIGENCE.



DSE7210 & DSE7220

AUTO START & AUTO MAINS FAILURE CONTROL MODULES



The DSE7210 and DSE7220 are new control modules for single gen-set applications. The modules have been developed from the successful DSE5210 and DSE5220 Series and 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. Both modules have been designed to start and stop diesel and gas generating sets that include electronic and non-electronic engines. The DSE7220 includes the additional capability of being able to monitor a mains (utility) supply.

Both modules are simple to operate and feature a newly designed 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

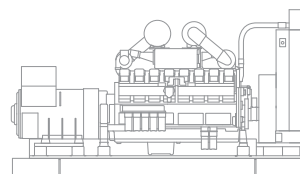
- Backed up real time clock
- Multiple date and time maintenance scheduler*
- 132 x 64 pixel LCD display
- Configurable display languages
- Programmable event logging (30), showing reason, date and time
- Customer logo display capability*
- USB connectivity
- Robust module enclosure
- Five key menu navigation
- Durable soft touch membrane buttons
- 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
- Configurable inputs
- Configurable outputs
- Configurable timers and alarms
- Magnetic pick-up
- Power save mode
- PIN protected programming
- PDA compatible PC software*

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

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.



ELECTRONIC ENGINE CAPABILITY

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 - 277V (ph-N) (+20%) 50Hz - 60Hz
(Minimum 15V AC Ph-N)

ACCURACY
1% of full scale true RMS sensing

SUPPORTED TOPOLOGIES

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 - 277V (ph-N) (+20%) 50Hz - 60Hz
(Minimum 15V AC Ph-N)

ACCURACY
1% of full scale true RMS sensing

SUPPORTED TOPOLOGIES

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

*Future enhancements

SPECIFICATION

MAGNETIC PICKUP

VOLTAGE RANGE

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

FREQUENCY RANGE

10,000 Hz (max)

RELAY 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")

TESTING STANDARDS

ELECTRICAL SAFETY/ ELECTROMAGNETIC COMPATIBILITY

BS EN 60950

Safety of Information Technology Equipment, including Electrical Business Equipment

BS EN 61000-6-2

EMC Generic Immunity Standard (Industrial)

BS EN 61000-6-4

EMC Generic Emission Standard (Industrial)

ENVIRONMENTAL

BS EN 60068-2-1

Cold Temperature -30°C

BS EN 60068-2-2

Hot Temperature +70°C

BS2011-2-1 HUMIDITY

93% RH@40°C for 48 Hours

BS EN 60068-2-6 VIBRATION

10 sweeps at 1 octave/minute in each of 3 major axes
5Hz to 8Hz @ +/-7.5mm constant displacement
8Hz to 500Hz @ 2gn constant acceleration

BS EN 60068-2-27 SHOCK

3 half sine shocks in each of 3 major axes
15gn amplitude, 11mS duration

BS EN 60529 DEGREES OF PROTECTION PROVIDED BY ENCLOSURES

- **IP65** (Front of module when installed into the control panel with the optional sealing gasket)
- **IP42** (Front of module when installed into the control panel WITHOUT being sealed to the panel)

NEMA RATING (APPROXIMATE)

- **12** (Front of module when installed into the control panel with the optional sealing gasket)
- **2** (Front of module when installed into the control panel WITHOUT being sealed to the panel)

CONFIGURATION

The modules can be configured using the front panel buttons or by using the 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 sender 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.

High Powered FET's are provided for fuel solenoid output, start output and four 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 widescreen 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-N, L2-N, L3-N
Generator Volts L1-L2, L2-L3, L3-L1	Generator Volts L1-L2, L2-L3, L3-L1
Generator Amps L1,L2,L3	Generator Amps L1,L2,L3
Generator Frequency Hz	Generator Frequency Hz
Engine Speed RPM	Engine Speed RPM
Engine Oil Pressure	Engine Oil Pressure
Fuel Level %	Fuel Level %
Engine Temperature	Engine Temperature
Plant Battery Volts	Plant Battery Volts
Engine Hours Run	Engine Hours Run
Generator kVA	Generator kVA
Generator kW	Generator kW
Generator Cos	Generator Cos
	Mains Volts L1-N, L2-N, L3-N
	Mains Volts L1-L2, L2-L3, L3-L1
	Mains Frequency Hz

EVENT LOG

The modules include a comprehensive event log that shows the 30 most recent 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 display's the fault condition, time and date all on one page.

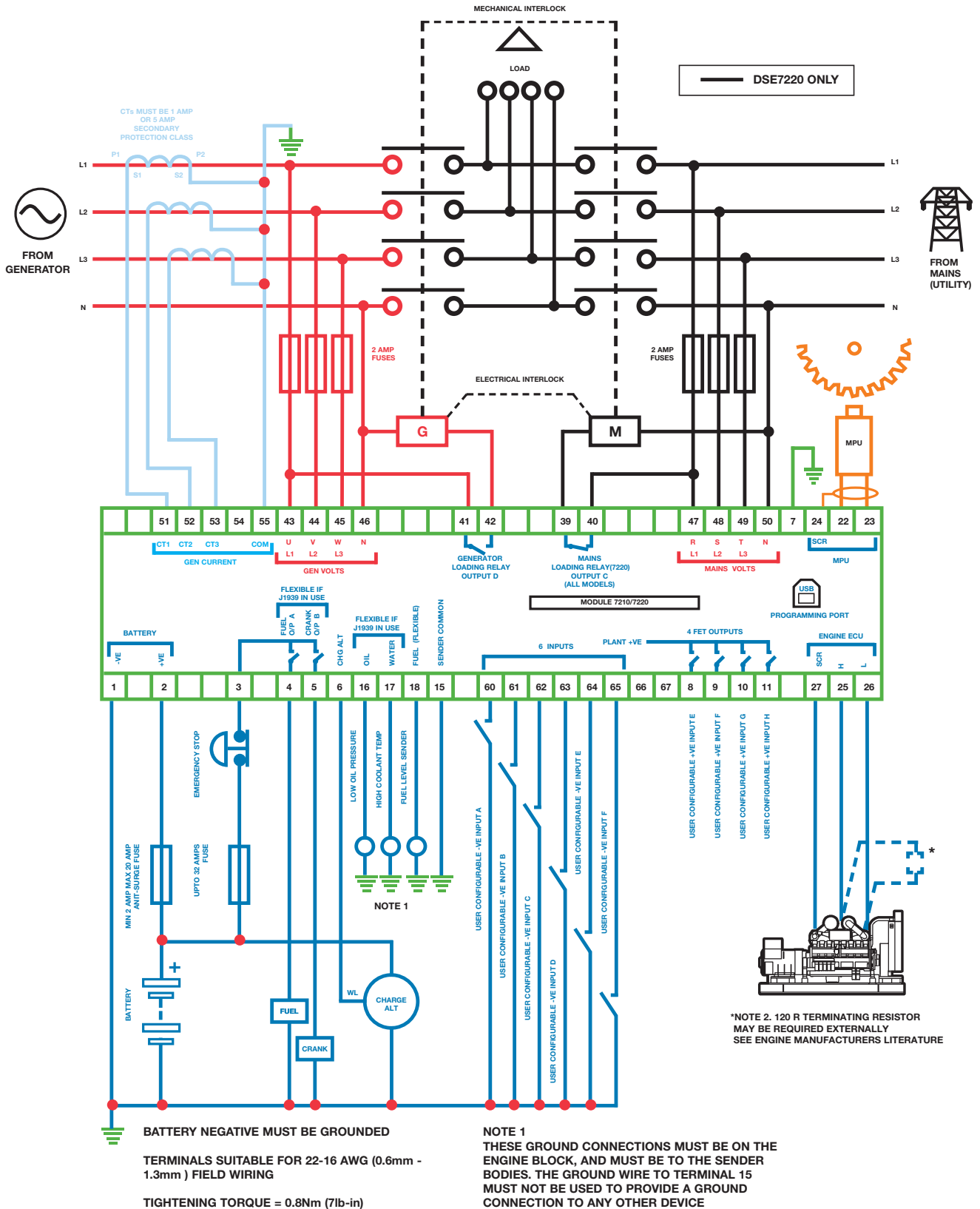
RELATED MATERIALS

TITLE	PART NO'S
DSE7xxx Manual	057-074
DSE72xx/73xx PC Software Manual	057-077
DSE2130 Data Sheet	053-060
DSE2157 Data Sheet	053-061
DSE2548 Data Sheet	053-062

ELECTRONIC ENGINE COMPATABILITY

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

DSE7210/7220 WIRING DIAGRAM



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