

DSE7310 MKII Auto Start & DSE7320 MKII Auto Mains (Utility) Failure Control Modules

Part Number: 7310-03 / 7320-03



DSE7310 MKII

DSE7320 MKII

Overview

The DSE7310 MKII is an auto start control module and the DSE7320 MKII is an auto mains (utility) failure control module suitable for a wide variety of single, diesel or gas, gen-set applications. Monitoring an extensive number of engine parameters, the modules will display warnings, shutdown and engine status information on the back-lit LCD screen, illuminated LEDs and remote PC.

The DSE7320 MKII will also monitor the mains (utility) supply. The modules include USB, RS232 and RS485 ports as well as dedicated DSENet® terminals for system expansion. Both modules are compatible with electronic (CAN) and non-electronic (magnetic pick-up/alternator sensing) engines and offer an extensive number of flexible inputs, outputs and extensive engine protections so the system can be easily adapted to meet the most demanding industry requirements. The extensive list of features includes enhanced event and performance monitoring, remote communications & PLC functionality.

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

Common Key Features

- Advanced PLC functionality including multi-purpose PIDs
- Flexible inputs and outputs
- DSENet® expansion support
- PC configuration using DSE Configuration Suite
- Multiple language support
- Enhanced 4-line text display
- Integrated RS232 and RS485 ports providing Modbus RTU support
- Data logging of up to 10 parameters
- Multi-level PIN protected front panel editor
- Manual front panel and automatic control modes
- Latest ECU / ECM support for a wide range of engine manufacturers
- Multiple selectable configurations
- Customisable module power up and screensaver options
- IP65 rating (with supplied gasket) offers increased resistance to water ingress

Product Documentation

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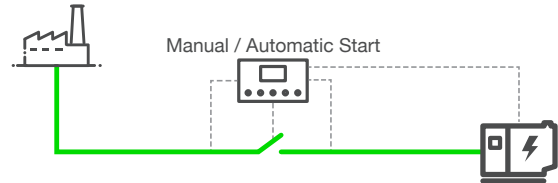
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DSE7310 MKII Manual / Automatic Start Controller Key Features

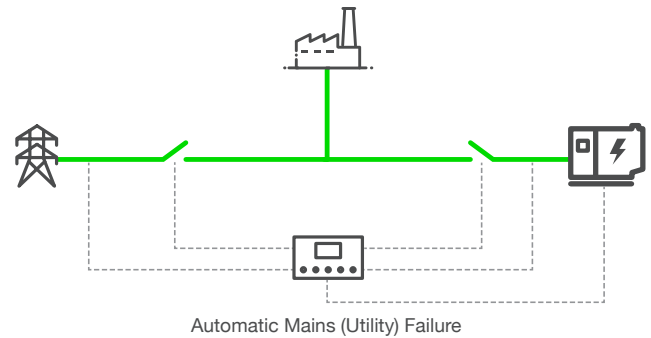
- 3 phase generator sensing with protection
- Manual starting / control by fascia button and automatic starting / control by inputs and other functions

Typical Applications



DSE7320 MKII Automatic Mains (Utility) Failure (AMF) Controller Key Features

- 3 phase generator and mains (utility) sensing with protection
- Manual starting / control by fascia button and automatic starting / control by inputs and other functions
- Automatic start and stopping of generator and transfer of load based on mains (utility) availability



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Specifications	
DC Supply	
Continuous Voltage Rating	8 V to 35 V DC continuous
Cranking Dropouts	Able to survive 0 V for 100 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. Backlight will not be maintained during cranking.
Maximum Operating Current	340 mA at 12 V, 160 mA at 24 V
Maximum Standby Current	160 mA at 12 V, 80 mA at 24 V
Charge Alternator Excitation / Fail Range	0 V to 35 V
Voltage Measurement	
Number	DSE7310 MKII: 1 DSE7320 MKII: 2
Measurement Inputs	3 Phase + Neutral DSE7310 MKII: Generator DSE7320 MKII: Generator and Mains
Voltage Range	15 V to 415 V Phase to Neutral 25 V to 720 V Phase to Phase
Frequency Range	3.5 Hz to 75 Hz
Resolution	1 V
Accuracy	±1 %
Current Measurement	
Number	4
Measurement Inputs	3 Phase with Earth Fault DSE7310 MKII: Generator DSE7320 MKII: Generator or Load
Current Range	0 A to 1 A 0 A to 5 A
Resolution	25 mA
Accuracy	±1 % of Nominal (excluding CT error)

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Specifications	
Analogue Inputs	
Number	6
Type	Negative Switching Digital Input (6), Resistive Analogue Input (6), Current Analogue Input (4) and Voltage Analogue Input (4)
Digital Input Closed Voltage Threshold	Less than 2.1 V
Digital Input Open Voltage Threshold	Greater than 6.6 V
Resistive Analogue Measurement Range	Input A: 0 Ω to 240 Ω Input B, E & F: 0 Ω to 3 kΩ Input C & D: 0 Ω to 480 Ω
Current Analogue Measurement Range	Input A & F: 0 mA to 20 mA
Voltage Analogue Measurement Range	Input A & F: 0 V to 10 V
Analogue Resolution	1 %
Analogue Accuracy	±2 %
Digital Inputs	
Number	8
Type	Negative Switching Digital Input
Closed Voltage Threshold	Less than 2.1 V
Open Voltage Threshold	Greater than 6.6 V
Emergency Stop Input	
Number	1
Type	Positive Switching Digital Input
Closed Voltage Threshold	Greater than 5.0 V
Open Voltage Threshold	Less than 3.0 V
Magnetic Pick-up Input	
Voltage Input Range	0.5 V _{Peak} to 70 V _{Peak}
Frequency Input Range	5 Hz to 10 kHz
Resolution	1 Hz
Accuracy	±1 %
Flywheel Teeth	10 to 500

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Specifications	
Digital Outputs	
Number	10
Type	1 Normally Open Volt-Free Contacts 1 Normally Closed Volt-Free Contacts 8 Positive Switching DC Output
Volt-Free Contact Output Rating	5 A _{DC} resistive at 30 V _{DC} 8 A _{AC} resistive at 250 V _{AC}
Positive DC Output Rating	Output A to B (Fuel and Start): 15 A _{DC} at Emergency Stop input supply voltage Output E, F, G, H, I & J: 2 A _{DC} at module supply voltage
Communications	
USB B	1 Programming Port
DSENet®	1 Expansion Port
RS232	1 Modbus RTU Port
RS485	1 Modbus RTU Port
CAN	1 Non-Isolated Ports ECU - Engine ECU / ECM
Temperature	
Operating Temperature	-30 °C to +70 °C / -22 °F to +158 °F
Storage Temperature	-40 °C to +80 °C / -40 °F to +176 °F
Dimensions	
Overall (W x H x D)	245 mm x 184 mm x 51 mm / 9.6" x 7.2" x 2.0"
Mounting	
Type	Panel Fascia Mounting
Panel Cut-Out (W x H)	220 mm x 160 mm / 8.7" x 6.3"
Maximum Panel Thickness	8 mm / 0.3"

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Related Products		
DSENet®		
DSE2548	DSENet® LED Output Expansion Module	2548-01
DSE2520 MKII	DSENet® Remote Display Module for DSE7420 MKII	7320-03
DSE2510 MKII	DSENet® Remote Display Module for DSE7410 MKII	7310-03
DSE2157	DSENet® Output Expansion Module	2157-01
DSE2152	DSENet® Analogue Output Expansion Module	2152-01
DSE2133	DSENet® RTD/Thermocouple Input Expansion Module	2133-01
DSE2131	DSENet® Ratiometric Input Expansion Module	2131-01
DSE2130	DSENet® Input Expansion Module	2130-01
DSEWebNet®		
DSE890 MKII	DSEWebNet® Gateway	0890-04

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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 61010	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 at ±7.5 mm, 8 Hz to 500 Hz at 2 G _n
Humidity	
BS EN 60068-2-30	Db Damp Heat Cyclic 20/55 °C at 95% Relative Humidity 48 Hours
BS EN 60068-2-78	Cab Damp Heat Static 40 °C at 93% Relative Humidity 48 Hours
Shock	
BS EN 60068-2-27	Three shocks in each of three major axes 15 G _n in 11 ms
Degrees of Protection Provided by Enclosures	
BS EN 60529	IP65 - IP65 - From the front of the module when the gasket is installed into a control panel.

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DSE7310 MKII	
Pin	Description
1 to 2	DC Supply
3	Emergency Stop
4	Fuel
5	Start
6	Charge Alternator
7	Not Applicable
8 to 13	Digital Outputs
14 to 20	Analogue Inputs
21 to 23	Magnetic Pick-Up
24 to 26	Engine ECU/ECM
27 to 29	DSENet®
30-31	Normally Closed Volt Free Output
32-33	Normally Open Volt Free Output
34-37	Generator Voltage Sensing
38-41	Not applicable
42-47	Generator Current Sensing
48-55	Digital Inputs
56-58	RS485

DSE7320 MKII	
Pin	Description
1 to 2	DC Supply
3	Emergency Stop
4	Fuel
5	Start
6	Charger Alternator
7	Not Applicable
8 to 13	Digital Outputs
14 to 20	Analogue Inputs
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30-31	Normally Closed Volt Free Output
32-33	Normally Open Volt Free Output
34-37	Generator Voltage Sensing
38-41	Mains (Utility) Voltage Sensing
42-47	Generator Current Sensing
48-55	Digital Inputs
56-58	RS485

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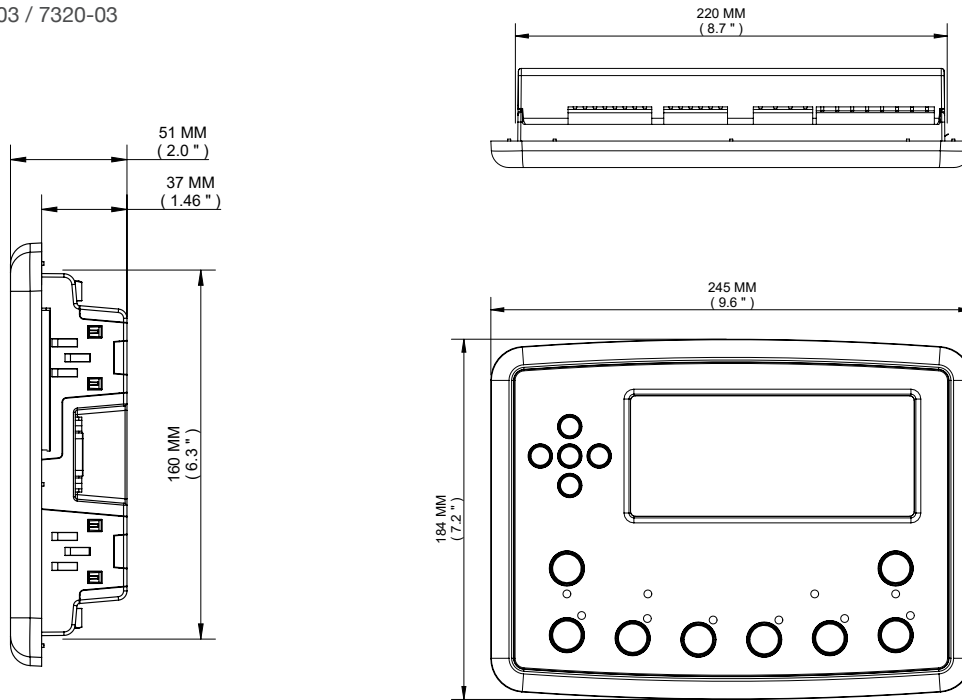
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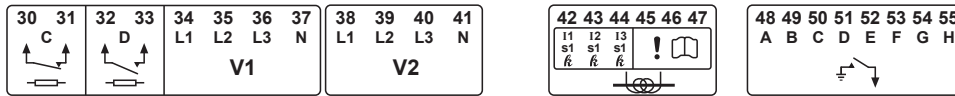
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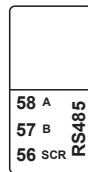
Technical Drawing



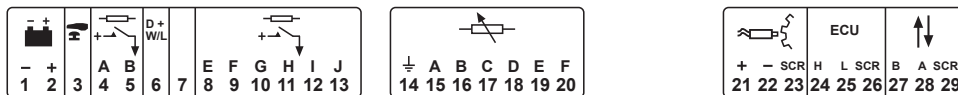
Connection Label



RS232



DC Supply : 8-35V, 0.5A max
 DC Outputs : 24V, 15A(4-5) 2A(8-13)
 DC Inputs : 30V max
 Volts-free Outputs : 250Vac, 8A
 AC Voltage Inputs : 600Vac, 50/60Hz 1-3PH
 AC Current Inputs : 5A, 50/60Hz 1-3PH
 Charge Alternator : 30V, 2.5W max
 Magnetic Pickup : 70V, 10kHz max
 Analog Inputs : 10V max
 Comms Port : 5V max



Refer to PIN out description charts for connection information on the operating mode controller is configured for.

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