

# DCP7310 Controller



The DCP7310 is an Auto Start Control Module suitable for a wide variety of single, diesel or gas, gen-set applications. The 7310 provides gen-set control, transfer switch control, metering, monitoring & protection.

## Key Benefits

- ▶ Real-time clock provides accurate event logging
- ▶ Multiple date and time scheduler
- ▶ Set maintenance periods can be configured to maintain engine performance
- ▶ Can be integrated into building management systems (BMS) using MODBUS
- ▶ Increased input and output expansion capability via DSENet®
- ▶ Licence-free PC software
- ▶ IP65 rating (with supplied gasket) offers increased resistance to water ingress
- ▶ PLC functionality
- ▶ Data logging to assist with fault finding and diagnosis
- ▶ cULus Listed



## Advanced Features

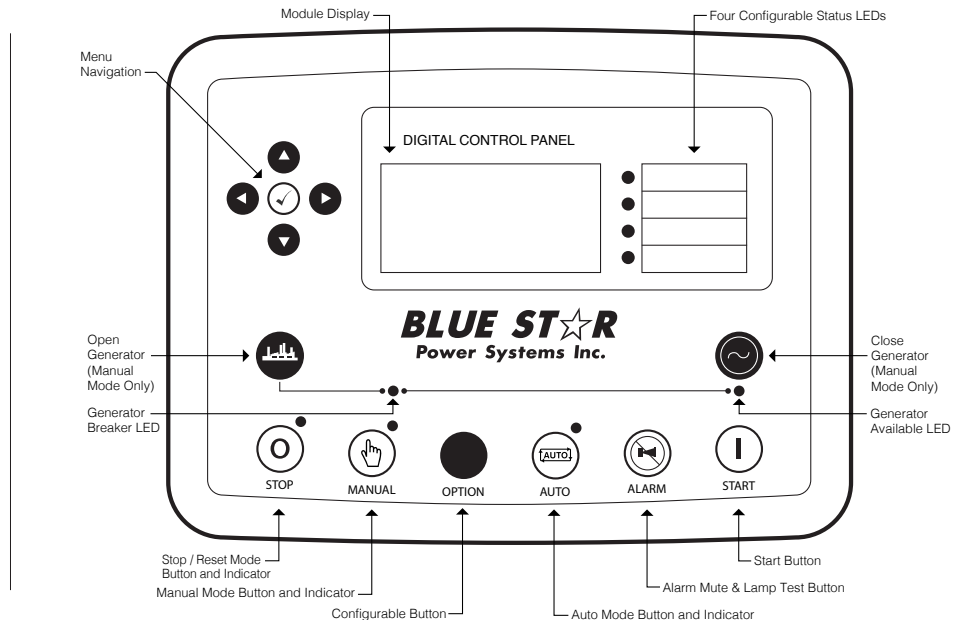
- ▶ 4-Line back-lit LCD text display
- ▶ Five key menu navigation
- ▶ Front panel editing with PIN protection
- ▶ Customizable status screens
- ▶ Power save mode
- ▶ 8 Configurable inputs
- ▶ 6 Configurable DC outputs
- ▶ 2 configurable volt-free relay outputs
- ▶ Flexible sensor inputs
- ▶ Configurable timers and alarms
- ▶ 3 configurable maintenance alarms
- ▶ Multiple date and time scheduler
- ▶ Configurable event log (250 events)
- ▶ CAN engine support through FT4
- ▶ Integral PLC editor
- ▶ Easy access diagnostic page
- ▶ CAN and Magnetic Pick-up/Alt. inputs
- ▶ Fuel usage monitor and low fuel alarms
- ▶ Charge alternator failure alarm
- ▶ Load monitoring (kW, frequency, voltage)
- ▶ Support for 0V to 10V & 4mA to 20mA sensors
- ▶ LED and LCD alarm indication
- ▶ Power monitoring (kWh, kVAR, kVAh, kVArh)
- ▶ Load switching (load shedding and dummy load outputs)
- ▶ Unbalanced load protection
- ▶ USB connectivity
- ▶ Backed up real time clock
- ▶ Fully configurable via DSE Configuration Suite PC software
- ▶ Remote SCADA monitoring via DSE Configuration Suite PC software
- ▶ User selectable simultaneous RS232, RS485
- ▶ Configurable MODBUS pages
- ▶ MODBUS RTU & TCP support
- ▶ Advanced SMS messaging (additional external modem required)
- ▶ Additional display screens to enhance with modem diagnostics
- ▶ Idle control for starting
- ▶ DSENet® expansion compatible

## Specifications

DC Supply	
Continuous Voltage Rating	8V to 35V Continuous
Cranking Dropouts: Able to survive 0V for 100mS, providing supply was at least 10V before dropout and supply recovers to 5V. This is achieved without the need for internal batteries.	
Maximum Operating Current	510mA at 12V, 240mA at 24V
Maximum Standby Current	330mA at 12V, 160mA at 24V
Charge Fail/Excitation Range	0V to 35V
Outputs	
Output A (Fuel)	15ADC at Supply Voltage
Output B (Start)	15ADC at Supply Voltage
Outputs C & D (Volt free)	8A at 250VAC
Aux Outputs E to J	2ADC at Supply Voltage
Generator	
Voltage Range (L-L)	26V to 719VAC
Voltage Range (L-N)	15V to 415VAC
Frequency Range	3.5 Hz to 75 Hz
Bus	
Voltage Range	15V to 415VAC (L-N)
Frequency Range	3.5 Hz to 75 Hz
Magnetic Pickup	
Voltage Range	+/- 0.5V to 70V
Frequency Range	10,000 Hz (max)
Display	
LCD Heated Display	-40°F to 158°F

### Front Panel LED Indicators:

- ▶ Manual: Indicates controller is in the MANUAL mode
- ▶ Stop: Indicates controller is in the STOP mode
- ▶ Auto: Indicates unit is in the AUTO mode
- ▶ Generator Available: Indicates when the generator is available to take load
- ▶ Generator Breaker: Indicates system is supplying current to a connected load
- ▶ Four Configurable Status LEDs: Configurable via DSE Configuration Suite PC software



## Standard Engine Protection Functions

### Pre-Alarms (Warnings)

- ▶ Low Oil Pressure
- ▶ High Coolant Temperature
- ▶ Low Coolant Temperature
- ▶ Battery Overcharge (High Voltage)
- ▶ Weak Battery (Low Voltage)
- ▶ Low Load

- ▶ Def Level
- ▶ Battery Charger Failure
- ▶ Engine Sender Unit Failure
- ▶ Engine kWe Overload
- ▶ Maintenance Interval Timer
- ▶ Low Fuel Level
- ▶ Fuel Leak Detect

### Alarms (Shutdowns)

- ▶ Low Oil Pressure
- ▶ High Coolant Temperature
- ▶ Overspeed
- ▶ Overcrank
- ▶ Fuel Sender Failure
- ▶ Def Level

All alarms and pre-alarms can be configured via the DSE Configuration Suite PC software or the front panel.

## Optional Features

- ▶ Generator Protection - 27(2), 32, 40Q, 51(2), 59(2), 81O, 81U
- ▶ Enhanced Generator Protection - 51 and 47
- ▶ Selection of Integrating Reset or Instantaneous Reset Characteristics for Overcurrent Protection
- ▶ Ethernet and 4G (GSM) remote monitoring and communications via DSE WebNet Software
- ▶ Automatic Transfer Switch Control
- ▶ Remote Emergency Stop
- ▶ Multilingual Capability
- ▶ High Fuel Level Pre-Alarm
- ▶ Critical Low Fuel Level Alarm
- ▶ Analog Meters

## Generator Protection

- ▶ Undervoltage (27)
- ▶ Overvoltage (59)
- ▶ Underfrequency (81U)
- ▶ Overfrequency (81O)
- ▶ Overcurrent (51)
- ▶ Reverse Power (32)
- ▶ Loss of Excitation (400)
- ▶ Phase Imbalance (47)

All generator protection features are programmable as alarms or pre-alarms.

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## **DRP2510 Remote Display Panel**

The DRP2510 is a display module designed to work with the DCP7310 Auto Start. Up to three display modules can be connected to one host control module, and can be positioned up to a maximum distance of 3,280 (1km) away. All remote displays connected to the same system, will show the same information at any one time, while the host controller is able to display different information. The modules are simple to operate, and feature the same user-friendly, menu layout as the host module. All communications and configuration are done via the host module only. The remote devices simply mirror the configuration of the host module, making the system quick and easy to install.

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## **DSE2548 DSENET® Output Expansion Module**

The DSE2548 is an LED expansion module that can be used with all DSENet® compatible control modules. The module has been designed to display a maximum of height individual LED indications up to a maximum distance of 3,280 (1km). The DSE2548 is presented in a vertical enclosure. It includes an alarm sounder that is triggered when the host controller detects an alarm condition. The alarm can be muted directly from the DSE2548 using the front push button. The DSE2548 includes individual LEDs for each channel and a 'Power On' LED that flashes when the link with the host controller is lost.

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## **DSE890 MKII DSEWebNet® Gateway 4G (GSM/Ethernet) Remote Communications Interface**

The DSE890 MKII 4G gateway is used in conjunction with supported DSE controllers to provide remote monitoring and communications data via the DSEWebNet® software. The DSE890 MKII gateway communicates with a maximum of five connected DSE controllers, monitoring their instrumentation and operating states. The DSEWebNet® software is accessed using an internet browser or mobile app connection. Users are able to perform multiple tasks including: monitoring equipment, clearing alarm conditions and starting/stopping equipment at the click of a button.

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## **DSE2548 DSENET® Output Expansion Module**

The DSE2157 is an output relay expansion module for use with DSENet® compatible control modules. The DSE2157 has been designed to extend a host module's output capabilities. A maximum of 10 DSE2157's can be connected to an individual module at any one time. All outputs are configurable via the host controller. The additional output capabilities of the DSE2157 give OEMs the flexibility to meet increasingly complex industry specifications.

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## **DSE2130 DSENET® Input Expansion Module**

The DSE2130 is an input expansion module for use with DSENet® compatible control modules. The additional input capabilities of the DSE2130 give OEMs the flexibility to meet increasingly complex industry specifications. The DSE2130 provides an additional eight digital inputs, with four of these configurable for use as analog inputs. All inputs are configured within the host controller.

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## **DSE2133 DSENET® RTD / Thermocouple Input Expansion Module**

The DSE2133 Input Expansion Module is used in conjunction with supported DSENet controllers to provide 8 additional configurable inputs. Up to four modules can be linked together to provide up to 32 additional inputs. The inputs can be configured as RTD or Thermocouple inputs in the 'host controller'.

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## **DSE2131 Ratiometric Input Expansion Module**

The DSE2131 Ratiometric Input Expansion module is used in conjunction with supported DSENet controllers to provide additional, flexible, input functionality. The ratiometric inputs can be configured in a number of ways to connect to digital switches, resistive sensors, 0 to 10VDC signals or 4 to 20 mA signals.

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## **DSE2152 Analog Output Expansion Module**

The DSE2152 Analog Output Expansion Module is used in conjunction with supported DSENet controllers to provide 6 additional outputs. The outputs can be individually configured as 0 to 10V or 4 to 20mA, via the "host controller". Up to four DSE2152 modules can be linked together to provide up to 24 additional outputs. An ID switch is provided on the module for identification.