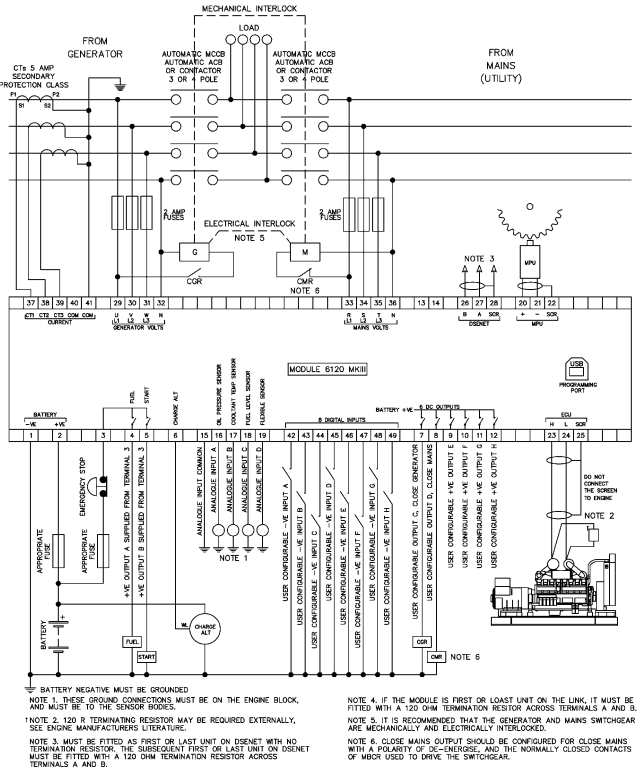
TYPICAL WIRING DIAGRAM

NOTE: A larger version of the typical wiring diagram is included in the product's operator manual. Refer to DSE Publication: *057-289 DSE6110 MKIII & DSE6120 MKIII Operator Manual* available from www.deepseaplc.com.

NOTE: Terminals 33, 34, 35 and 36 are not fitted to the DSE6110 MKIII.



BATTERY NEGATIVE MUST BE GROUNDED

NOTE 1. THESE GROUND CONNECTIONS MUST BE ON THE ENGINE BLOCK, AND MUST BE TO THE SENSOR BOSSES.

NOTE 2. 120 R TERMINATING RESISTOR MAY BE REQUIRED EXTERNALLY, SEE ENGINE MANUFACTURERS LITERATURE.

NOTE 3. MUST BE FITTED AS FIRST OR LAST UNIT ON DSENET WITH NO TERMINATION RESISTOR. THE SUBSEQUENT FIRST OR LAST UNIT ON DSENET MUST BE FITTED WITH A 120 OHM TERMINATION RESISTOR ACROSS TERMINALS A AND B.

NOTE 4. IF THE MODULE IS FIRST OR LOAST UNIT ON THE LINK, IT MUST BE FITTED WITH A 120 OHM TERMINATION RESITOR ACROSS TERMINALS A AND B.

NOTE 5. IT IS RECOMMENDED THAT THE GENERATOR AND MAINS SWITCHGEAR ARE MECHANICALLY AND ELECTRICALLY INTERLOCKED.

NOTE 6. CLOSE MAINS OUTPUT SHOULD BE CONFIGURED FOR CLOSE MAINS WITH A POLARITY OF DE-ENERGISE, AND THE NORMALLY CLOSED CONTACTS OF MBCR USED TO DRIVE THE SWITCHGEAR.

DIMENSIONS AND MOUNTING

Parameter	Specification
Dimensions	245 mm X 184 mm X 51 mm (9.6" X 7.2" X 2.0")
Panel Cutout	220 mm X 160 mm (8.7" X 6.3")
Weight	0.98 kg (2.16 lb)
Operating Temperature	-40 ºC to +70 ºC (-40 ºF to +158 ºF)
Storage Temperature	-40 ºC to +80 ºC (-40 ºF to +176 ºF)

OUTPUT SOURCES CONTINUED

Output Sources Continued					
63	DPF Forced Regen Requested	140	Lamp Test	217	System In Auto Mode
64	DPF Non Mission	141	Load Freq Not Reached	218	System In Man Mode
65	DPF Regen Active	142	Load Volts Not Reached	219	System In Stop Mode
66	DPF Regen Interlock	143	Loss Of MPU Signal	220	System In Test Mode
67	DPTC Filter	144	Louvre Control	221	Telemetry Active
68	Droop Enable	145	Low Coolant Temp	222	Telemetry Data Active
69	ECU (ECM) Data Fail	146	Low Load	223	Temp Sensor OC
70	ECU (ECM) Power	147	Low Oil Pressure Sdn	224	Low Freq Alarm
71	ECU (ECM) Shutdown	148	Low Oil Pressure Wng	225	Low Freq Warning
72	ECU (ECM) Stop	149	Main Config Selected	226	Low Speed Alarm
73	ECU (ECM) Warning	150	Mains Closed Aux	227	Low Speed Warning
74	ECU Pre-Heat	151	Mains Failure	228	Wait For Man Restore
75	EJP 1	152	Mains High Freq	229	Water in Fuel
76	EJP 2	153	Mains High Volts		

Abbreviation Table Overleaf

Output Sources Continued Overleaf

OUTPUT SOURCES

Output Sources					
0	Not Used	77	Emergency Stop	154	Mains Load Inhibit
1	Air Flap Relay	78	Energise To Stop	155	Mains Low Freq
2	Alarm Mute	79	External Panel Lock	156	Mains Low Volts
3	Alarm Reset	80	Fail To Start	157	RESERVED
4	Alt Config 1 Selected	81	Fail To Stop	158	Maintenance Alarm 1 Due
5	RESERVED	82	Fan Control	159	Maintenance Alarm 2 Due
6	RESERVED	83	Flex Sensor A High Alarm	160	Maintenance Alarm 3 Due
7	RESERVED	84	Flex Sensor A High Pre-Alm	161	Manual Restore Contact
8	RESERVED	85	Flex Sensor A Low Alarm	162	MPU Open Circuit
9	Analogue Input A	86	Flex Sensor A Low Pre-Alm	163	RESERVED
10	Analogue Input B	87	Flex Sensor A OC	164	Oil Pressure Sensor OC
11	Analogue Input C	88	Flex Sensor B High Alarm	165	Oil Pressure Switch
12	Analogue Input D	89	Flex Sensor B High Pre-Alm	166	Open Gen Output
13	Arm Safety On Alarms	90	Flex Sensor B Low Alarm	167	Open Gen Pulse
14	Audible Alarm	91	Flex Sensor B Low Pre-Alm	168	Open Mains Output
15	Auto Restore Inhibit	92	Flex Sensor B OC	169	Open Mains Pulse
16	Auto Start Inhibit	93	Flex Sensor C High Alarm	170	Over Current IDMT Alarm
17	Auxiliary Mains Failure	94	Flex Sensor C High Pre-Alm	171	Over Current Imm Warning
18	Battery High Volts	95	Flex Sensor C Low Alarm	172	Over Freq Runaway
19	Batter Low Volts	96	Flex Sensor C Low Pre-Alm	173	Over Freq Warning
20	Call For Scheduled Run	97	Flex Sensor C OC	174	Over Speed Runaway
21	Charge Alt Fail Shutdown	98	Flex Sensor D High Alarm	175	Over Speed Shutdown
22	Charge Alt Fail Warning	99	Flex Sensor D High Pre-Alm	176	Over Speed Warning
23	Close Gen Output	100	Flex Sensor D Low Alarm	177	Overspeed Delayed Alarm
24	Close Gen Pulse	101	Flex Sensor D Low Pre-Alm	178	Overspeed Delayed Wng
25	Close Mains Output	102	Flex Sensor D OC	179	Overspeed Overshoot Alarm
26	Close Mains Pulse	103	Fuel Level High Alarm	180	Overspeed Overshoot Wng
27	Combined Mains Failure	104	Fuel Level High Pre-Alarm	181	Preheat During Preheat Timer
28	Maintenance Alm 1,2,3	105	Fuel Level Low Alarm	182	Preheat Until Crank End
29	Common Lo/Hi Freq Alm	106	Fuel Level Low Pre-Alarm	183	Preheat Until End Of Safety
30	Combined Lo/Hi Freq Warning	107	Fuel Pump Control	184	Preheat Until End Of Warming
31	Combined Lo/Hi Volt Alm	108	Fuel Relay	185	Protections Disabled
32	Combined Lo/Hi Volt Wng	109	Fuel Sensor OC	186	Remote Control 1
33	Common Alarm	110	Fuel Tank Bund Level High	187	Remote Control 10
34	Common E Trip	111	RESERVED	188	Remote Control 2
35	Common Shutdown	112	Gas Choke On	189	Remote Control 3
36	Common Warning	113	Gas Ignition	190	Remote Control 4
37	Config CAN 1 Active	114	Gen Loading Freq Not Reached	191	Remote Control 5
38	Config CAN 10 Active	115	Gen Loading Volts Not Reached	192	Remote Control 6
39	Config CAN 2 Active	116	Gen Hi Freq Overshoot Alm	193	Remote Control 7
40	Config CAN 3 Active	117	Gen Hi Freq Overshoot Wng	194	Remote Control 8
41	Config CAN 4 Active	118	Gen Available	195	Remote Control 9
42	Config CAN 5 Active	119	Gen Closed Aux	196	Remote Start Off Load
43	Config CAN 6 Active	120	Gen Excite	197	Remote Start On Load
44	Config CAN 7 Active	121	Gen High Volts Alarm	198	Reset Maintenance 1
45	Config CAN 8 Active	122	Gen High Volts Warning	199	Reset Maintenance 2
46	Config CAN 9 Active	123	Gen High Volts Shutdown	200	Reset Maintenance 3
47	Coolant Cooler Control	124	Gen Load Inhibit	201	Scheduled Auto Start Inhibit
48	Coolant Heater Control	125	Gen Low Volts Alarm	202	SCR Inducement
49	Coolant Temp Switch	126	Gen Low Volts Warning	203	Screensaver Active
50	Cooling Down	127	Gen High Freq Alarm	204	Shutdown Blocked
51	Data Logging Active	128	Gen High Freq Delayed Alm	205	Simulate Auto Button
52	DEF Level Low	129	Gen High Freq Delayed Warning	206	Simulate Close Gen
53	DEF Level Low Alarm	130	RESERVED	207	Simulate Lamp Test
54	Digital Input A	131	RESERVED	208	Simulate Mains Available
55	Digital Input B	132	HEST Active	209	Simulate Manual
56	Digital Input C	133	High Coolant Temp E Trip	210	Simulate Open Gen
57	Digital Input D	134	High Coolant Temp Sdn	211	Simulate Start
58	Digital Input E	135	High Coolant Temp Warning	212	Simulate Stop
59	Digital Input F	136	High Inlet Temp Shutdown	213	Simulate Test On Load
60	Digital Input G	137	High Inlet Temp Warning	214	Smoke Limiting
61	Digital Input H	138	Inhibit Scheduled Run	215	Start Relay
62	HTR Fitted and ON	139	kW Overload Alarm	216	Stop And Panel Lock

Abbreviation Table Overleaf

Output Sources Continued Overleaf

DEEP SEA ELECTRONICS LTD.

DSE6110 MKIII & DSE6120 MKIII
Installation Instructions

ACCESSING THE MAIN CONFIGURATION EDITOR

- Ensure the engine is at rest and the module is in STOP mode by pressing the (Stop/Reset) button.
- Press the (Stop/Reset) and (Tick) buttons simultaneously.
- If a module security PIN has been set, the PIN number request is then shown:
- The first '#' changes to '0'. Press the (Up) or (Down) button to adjust it to the correct value.
- Press the (Right) button when the first digit is correctly entered. The digit previously entered now shows '#' for security.
- Repeat this process for the other digits of the PIN number. If required press the (Left) button to move back to adjust one of the previous digits.
- PIN is checked for validity when the (Tick) button is pressed. If the number is not correct, the PIN must be re-entered.
- If the PIN has been successfully entered (or the module PIN has not been enabled), the editor is displayed:

EDITING A PARAMETER

Enter the editor as described above.

- Press the (Right) or (Left) buttons to cycle to the section to view/change.
- Press the (Up) or (Down) buttons to select the parameter to view/change within the currently selected section.
- To edit the parameter, press the (Tick) button to enter edit mode. The parameter begins to flash to indicate editing.
- Press the (Up) or (Down) buttons to change the parameter to the required value.
- Press the (Tick) button to save the value. The parameter ceases flashing to indicate that it has been saved.
- To exit the editor and save the changes, press and hold the (Tick) button.
- To exit the editor without saving the changes, press and hold the (Stop/Reset) button.

ACCESSING THE 'RUNNING' CONFIGURATION EDITOR

- The 'running' editor can be entered while the engine is running. All protections remain active if the engine is running while the running editor is entered.
- Press and hold the (Tick) button to enter the running editor.

RUNNING CONFIGURATION EDITOR PARAMETERS

Section	Parameter As Shown On Display	Section	Parameter As Shown On Display
Module	Contrast	Engine Continued	Frequency Adjust
	Language		DPF Auto Regen Inhibit
Engine	Manual Freq Trim		DPF Man Regen Request
	Speed Bias		ECU Service Mode
	Governor Gain		

NOTE: If the editor is inactive for the duration of the *LCD Page Timer,* it is automatically exited to ensure security.

NOTE: The PIN number is automatically reset when exiting the editor (manually or automatically) to ensure security.

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MAIN CONFIGURATION EDITOR PARAMETERS

NOTE: Comprehensive module configuration is possible using the DSE Configuration Suite PC Software, refer to DSE publication *057-290 DSE61xx MKIII Configuraiton Suite PC Software Manual* available from www.deepseaplc.com.

Section	Parameter As Shown On Display
Module	Contrast
	Language
	Current Date and Time
	Fast Loading
	Warnings Latched
	Lamp Test At Start Up
	Power Save Mode
	Backlight Power Saving
	Event Log Display Format
	Maintenance Pin Protect
	Cool Down In Stop Mode
	Hold Start Button To Crank
	Power Up In Mode
	Audible Alarm Timer
	Suppress Instrument Generator Voltage
	Suppress Instrument Generator Frequency
	Suppress Instrument Mains Voltage
	Suppress Instrument Mains Frequency
	Suppress Instrument Current
	Suppress Instrument kW
	Suppress Instrument kvar
	Suppress Instrument kVA
	Suppress Instrument Power Factor
	Suppress Instrument kWh
	Suppress Instrument kvarh
	Suppress Instrument kVAh
	Suppress Instrument Charge Alternator
Alt Config	Alternate Configuration
Engine	Start Attempts
	Gas Engine Choke (Gas Engine Only)
	Gas Engine Delay (Gas Engine Only)
	Ignition off Delay (Gas Engine Only)
	Crank Disconnect Oil Pressure
	Oil Pressure Check Prior to Starting
	Crank Disconnect Frequency
	Crank Disconnect Engine Speed
	Crank Disconnect Oil Pressure
	Oil Pressure Low Shutdown
	Oil Pressure Low Pre-Alarm
	Coolant Temp Low Warning
	Coolant Temp High Pre-Alarm
	Coolant Temp High Electrical Trip
	Coolant Temp High Shutdown
	Fuel Usage Running Rate
	Fuel Usage Stopped Rate
	Specific Gravity
	Pre-Heat Temp
	Pre-Heat Timer
	Post-Heat Temp
	Post-Heat Timer
	Droop [Enable]
	Droop [Control]
	Under Speed Shutdown [Enable]
	Under Speed Shutdown [Trip]
	Under Speed Warning [Enable]
	Under Speed Warning
	Under Speed Delay
	Over Speed Warning [Enable]
	Over Speed Warning
	Over Speed Shutdown [Trip]
	Over Speed Delay
	Overspeed Overshoot
	Overspeed Overshoot [Delay]
	Battery Under Voltage Warning [Enable]
	Battery Under Voltage Warning
	Battery Under Voltage Warning Return
Engine Continued	Battery Under Voltage Warning Delay
	Battery Over Voltage Warning [Enable]
	Battery Over Voltage Warning Return
	Battery Over Voltage Warning
	Charge Alternator Failure Warning [Enable]
	Charge Alternator Failure Warning
	Charge Alternator Failure Warning Delay
	Charge Alternator Failure Shutdown [Enable]
	Charge Alternator Failure Shutdown
	Charge Alternator Failure Shutdown Delay
	Low Battery Start [Enable]
	Low Battery Run On Load [Enable]
	Low Battery Start Threshold
	Low Battery Start Delay
	Low Battery Run Time
	Magnetic Pickup [Enable]
	Flywheel Teeth
Generator	AC System
	Alternator Fitted
	Alternator Poles
	Under Voltage Alarm [Enable]
	Under Voltage Alarm [Trip]
	Under Voltage Pre-Alarm [Enable]
	Under Voltage Pre-Alarm [Trip]
	Under Voltage Delay
	Loading Voltage
	Nominal Voltage
	Over Voltage Pre-Alarm [Enable]
	Over Voltage Pre-Alarm Return
	Over Voltage Pre-Alarm [Trip]
	Over Voltage Shutdown [Trip]
	Over Voltage Delay
	Under Frequency Alarm [Enable]
	Under Frequency Alarm [Trip]
	Under Frequency Pre-Alarm [Enable]
	Under Frequency Pre-Alarm [Trip]
	Under Frequency Delay
	Loading Frequency
	Nominal Frequency
	Over Frequency Pre-Alarm [Enable]
	Over Frequency Pre-Alarm Return
	Over Frequency Pre-Alarm [Trip]
	Over Frequency Shutdown [Trip]
	Over Frequency Delay
	Frequency Overshoot Shutdown
	Frequency Overshoot Delay
	CT Location
	CT Primary
	Full Load Rating
	Immediate Over Current [Enable]
	Delayed Over Current [Enable]
	Delayed Over Current
	Full Load kW Rating
	kW Overload Alarm [Enable]
	kW Overload Alarm Action
	kW Overload Alarm Return
	kW Overload Alarm Trip
	kW Overload Alarm Delay
Mains DSE6120 MKII Only	Mains Failure Detection
	Immediate Mains Dropout
	Under Voltage [Enable]
	Under Voltage Trip
	Under Voltage Return
	Over Voltage [Enable]
	Over Voltage Return
	Over Voltage Trip
	Under Frequency [Enable]
	Under Frequency Trip
	Under Frequency Return
	Over Frequency [Enable]
	Over Frequency Return
	Over Frequency Trip
Timers	Start Delay Off Load
	Start Delay On Load
Timers Continued	Start Delay Mains Fail
	Start Delay Telemetry
	Mains Transient Delay
	Cranking
	Cranking Rest
	Smoke Limiting
	Smoke Limiting Off
	DPF Ramp
	Safety On Delay
	Warming
	ECU Override
	Mains Transfer Time
	Breaker Close Pulse
	Breaker Trip Pulse
	Return Delay
	Cooling
	Cooling At Idle
	ETS Solenoid Hold
	Fail To Stop Delay
	LCD Page Delay
	LCD Scroll Delay
	Backlight Timer
	Sleep Timer
	Audible Alarm
CAN ECU	Alternate Engine Speed
	ECU Data Fail
	ECU Data Fail Action
	ECU Data Fail Delay
	Use Module Oil Pressure
	Use Module Coolant Temp
	Use Module Engine Hours
	Use Module RPM
	Use Module Charge Alt
Maintenance Alarms	Maintenance Alarm 1 [Enable]
	Maintenance Alarm 1 Action
	Maintenance Alarm 1 Engine Hours
	Maintenance Alarm 1 On Due Date
	Maintenance Alarm 1 Interval
	Maintenance Alarm 2 [Enable]
	Maintenance Alarm 2 Action
	Maintenance Alarm 2 Engine Hours
	Maintenance Alarm 2 On Due Date [Enable]
	Maintenance Alarm 2 Interval
	Maintenance Alarm 3 [Enable]
	Maintenance Alarm 3 Action
	Maintenance Alarm 3 Engine Hours
	Maintenance Alarm 3 On Due Date [Enable]
	Maintenance Alarm 3 Interval
Outputs	Digital Output A Source
	Digital Output A Polarity
	Digital Output B Source
	Digital Output B Polarity
	Digital Output C Source
	Digital Output C Polarity
	Digital Output D Source
	Digital Output D Polarity
	Digital Output E Source
	Digital Output E Polarity
	Digital Output F Source
	Digital Output F Polarity
	Digital Output G Source
	Digital Output G Polarity
	Digital Output H Source
	Digital Output H Polarity
	Digital Output I Source
	Digital Output I Polarity
	LCD Indicator 1 Source
	LCD Indicator 1 Polarity
	LCD Indicator 2 Source
	LCD Indicator 2 Polarity
	LCD Indicator 3 Source
	LCD Indicator 3 Polarity
Schedule	Schedule Enable
	Schedule Period Bank 1
Schedule Continued	Bank 1 Schedule 1 to 8
	Schedule Period Bank 2
	Bank 2 Schedule 1 to 8

ABBREVIATION KEY TABLE

Abbreviation	Meaning
Alm	Alarm
Wng	Warning
Sdn	Shutdown
E Trip	Electrical Trip
OC	Open Circuit
Lo	Low/Under
Hi	High/Over
Alt	Alternative
Freq	Frequency
Gen	Generator
Ph	Phase
Grey Coloured Item	DSE6120 MKIII Only

REQUIREMENTS FOR UL CERTIFICATION

Specification	Description
Screw Terminal Tightening Torque	4.5 lb-in (0.5 Nm)
Conductors	Terminals suitable for connection of conductor size 13 AWG to 20 AWG (0.5 mm² to 2.5 mm²). Conductor protection must be provided in accordance with NFPA 70, Article 240. Low voltage circuits (35 V or less) must be supplied from the engine starting battery or an isolated secondary circuit. The communication, sensor, and/or battery derived circuit conductors shall be separated and secured to maintain at least ¼" (6 mm) separation from the generator and mains connected circuit conductors unless all conductors are rated 600 V or greater.
Current Inputs	Must be connected through UL Listed or Recognized isolating current transformers with the secondary rating of 5 A max.
Communication Circuits	Must be connected to communication circuits of UL Listed equipment.
DC Output Pilot Duty	0.5 A
Mounting	Suitable for flat surface mounting in Type 1 Enclosure Type rating with surrounding air temperature -22 ºF to +122 ºF (-30 ºC to +50 ºC). Suitable for pollution degree 3 environments when voltage sensing inputs do not exceed 300 V. When used to monitor voltages over 300 V device to be installed in an unventilated or filtered ventilation enclosure to maintain a pollution degree 2 environment.
Operating Temperature	-22 ºF to +122 ºF (-30 ºC to +50 ºC)