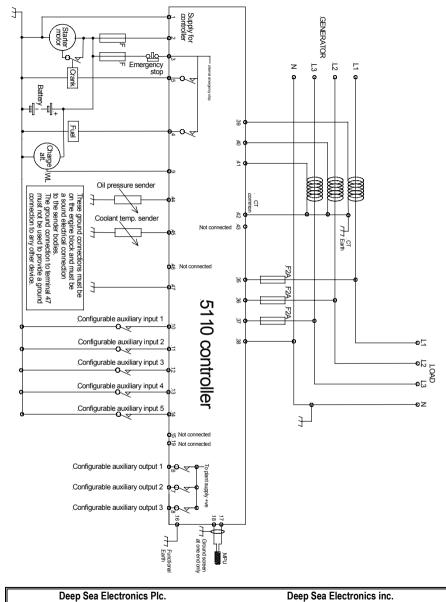
#### DIMENSIONS

Module Dimensions - 240mm x 172mm x 57mm (9. 5" x 6.8" x 2.3") Panel cutout - 220mm x 160mm (8.7" x 6.3")

#### **TYPICAL WIRING DIAGRAM**



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## DEEP SEA ELECTRONICS

### Model 5110 Configuration and installation instructions

switch norma

configure

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19

#### TIMERS & ANALOGUE SETTINGS

Operate the Configuration mode switch into the "configure" position. (This recessed switch is located on the rear of the module in the top right corner when viewing the module from the back.)

The LED indicator beside the  $\checkmark$  button will flash to show that the module is now in configuration mode.

ACCESSING THE CONFIGURATION EDITOR

The first configurable parameter is displayed. In this example, the Start delay timer (parameter 0). Is currently set to 5s.

#### EDITING AN ANALOGUE VALUE

Enter the front panel configuration editor as described above. Press the  $\checkmark$  button to enter adjust mode.

When in adjust mode (indicated by the flashing  $\mathbf{1} \downarrow$  icons in the module display), pressing the  $\mathbf{+}$  or – buttons will change the selected parameter to the desired value. Press the  $\checkmark$  button to

'save' the value. The  $\uparrow \downarrow$  icons will stop flashing to confirm that it has been saved.

To select the next parameter to edit, press the + button.

Continuing to press the + / – buttons will cycle through the adjustable parameters in the order shown in the following lists.

The parameter being displayed in this example is the cooling timer (parameter 7). It's current value is 2.5mins (2mins 30secs)

#### EDITING A 'LIST' VALUE

Some configuration parameters have a list of options to select from. These include input and output settings.

This example shows the setting for oil pressure transducer (parameter 19). It's current setting is 3 ('VDO 0-10bar' from the list shown opposite).

∧NOTE:- When in adjust mode (indicated by the flashing t↓ icons in the module display), pressing the **O** (stop mode) button will cancel any changes made to the current parameter, reverting to the last 'saved' value. This also exits adjust mode.

▲NOTE:- To exit the front panel configuration editor at any time, move the Configuration mode switch back into the "normal" position. Ensure you save any changes you have made by pressing the ✓ button first if necessary.

TIMERS & ANALOGUE SETTINGS				
Parameter	Туре	Default	Max	
0 - Start delay	Timer	5s	60s	
1 - Preheat	Timer	0s	60s	
2 - Crank attempt	Timer	10s	60s	
3 - Crank rest	Timer	10s	60s	
4 - Safety delay	Timer	8s	60s	
5 - Warming up	Timer	0s	60s	
6 - Return delay	Timer	30s	60m	
7 - Cooling run	Timer	60s	60m	
8 - E.T.S. solenoid hold	Timer	0s	60s	
9 - Low Oil Pressure	Trip	15PSI	150PSI	
10 - High Temperature	Trip	95°C	150°C	

3 - E.T.S. solenoid hold	Timer	0s	60s
9 - Low Oil Pressure	Trip	15PSI	150PSI
10 - High Temperature	Trip	95°C	150°C
11 - Under Speed	Trip	1250RPM	
12 - Over Speed	Trip	1750RPM	5000RPM
13 - Underfrequency	Trip	40Hz	60Hz
14 - Overfrequency	Trip	-	72Hz
15 - Charge Alt Failure	Warning	8V DC	25V DC
16 - Flywheel teeth	Value	0	300
17 - CT Primary	Value	500A	6000A

# NOTE:- Setting a timer to zero (0) will disable it. Timer settings increment from 0 to 60s in steps of 1s and from 1 minute to the maximum value in steps of 30 seconds (0.5 minutes) (where

applicable) NOTE:- Setting Flywheel teeth to zero (0) will disable magnetic

ANOTE:- Setting Flywheel teeth to zero (0) will disable magnetic pickup speed sensing. In this instance, engine speed is derived from the alternator output frequency.

NOTE:- CT values increment from 10-100 in steps of 10A, and from 100 to 6000A in steps of 50A. CT secondary must be 5A.

#### LIST ITEM SETTINGS

Factory default settings are in **bold italicised** text

	Parameter	Selections
	18 - Alternator poles	0,2, <b>4</b> ,6,8
_	19 - Oil Pressure	0 - Switch close to
t	transducer	1 - Switch open to activate
ι		2 - VDO 0-5bar
٦		3 - VDO 0-10bar
		4 - Datcon 0-5bar
		5 - Datcon 0-10bar
	20 - Coolant temp	0 - Switch close to
	transducer	1 - Switch open to activate
		2 - VDO 0-120 °C
١ţ		3 - Datcon High
on	21 - Fast loading	0 - No
	enabled	1 - Yes
	22 - AC system	1 - 1 phase 2 wire
,		3 - 3 phases 4 wires
	23 - Oil pressure	0 - Bar/PSI
	display units	1 - kPa

#### **CONFIGURABLE OUTPUTS**

#### LCD INDICATORS

Parameter	ngs are in <i>bold italicised</i> text. Selection	Parameter	tings are in <i>bold italicised</i> text. Selection	Parameter	ettings are in <i>bold italicised</i> text. Selection	
24 - Output 1	0 - Unused	27 - LCD 1	0 - Unused	29 - LCD 3	0 - Unused	
24 - Output 1	1 - Preheat mode 0	27 - 200 1	1 - Preheat mode 0		1 - Preheat mode 0	
	2 - Air flap		2 - Air flap		2 - Air flap	
	3 - Load transfer				3 - Load transfer	
	4 - Energise to stop		3 - Load transfer		4 - Energise to stop	
	5 - Engine running		4 - Energise to stop			
	6 - Shutdown alarm		5 - Engine running		5 - Engine running	
	7 - System in auto		6 - Shutdown alarm		6 - Shutdown alarm	
	8 - Auxiliary input 1 active		7 - System in auto		7 - System in auto	
	9 - Auxiliary input 2 active		8 - Auxiliary input 1 active		8 - Auxiliary input 1 active	
	10 - Auxiliary input 3 active		9 - Auxiliary input 2 active		9 - Auxiliary input 2 active	
	11 - Auxiliary input 4 active		10 - Auxiliary input 3 active		10 - Auxiliary input 3 active	
	12 - Auxiliary input 5 active		11 - Auxiliary input 4 active		11 - Auxiliary input 4 activ	
	13 - Preheat mode 1		12 - Auxiliary input 5 active		12 - Auxiliary input 5 active	
	14 - Preheat mode 2		13 - Preheat mode 1		13 - Preheat mode 1	
	15 - Preheat mode 3	4	14 - Preheat mode 2		14 - Preheat mode 2	
	16 - Warning alarm		15 - Preheat mode 3		15 - Preheat mode 3	
	17 - Common alarm		16 - Warning alarm		16 - Warning alarm	
25 - Output 2	0 - Unused				17 - Common alarm	
	1 - Preheat mode 0		17 - Common alarm	30 - LCD 4	0 - Unused	
	2 - Air flap	28 - LCD 2	0 - Unused	30 - LCD 4		
	3 - Load transfer		1 - Preheat mode 0		1 - Preheat mode 0	
	4 - Energise to stop		2 - Air flap		2 - Air flap	
	5 - Engine running		3 - Load transfer		3 - Load transfer	
	6 - Shutdown alarm 7 - System in auto		4 - Energise to stop		4 - Energise to stop	
	8 - Auxiliary input 1 active		5 - Engine running		5 - Engine running	
	9 - Auxiliary input 1 active		6 - Shutdown alarm		6 - Shutdown alarm	
	10 - Auxiliary input 3 active		7 - System in auto		7 - System in auto	
	11 - Auxiliary input 4 active		8 - Auxiliary input 1 active		8 - Auxiliary input 1 active	
	12 - Auxiliary input 5 active		9 - Auxiliary input 2 active		9 - Auxiliary input 2 active	
	13 - Preheat mode 1		10 - Auxiliary input 3 active		10 - Auxiliary input 3 active	
	14 - Preheat mode 2		11 - Auxiliary input 4 active		11 - Auxiliary input 4 active	
	15 - Preheat mode 3		12 - Auxiliary input 5 active		12 - Auxiliary input 5 active	
	16 - Warning alarm		13 - Preheat mode 1		13 - Preheat mode 1	
	17 - Common alarm		14 - Preheat mode 2		14 - Preheat mode 2	
6 - Output 3	0 - Unused		15 - Preheat mode 3		15 - Preheat mode 3	
•	1 - Preheat mode 0				16 - Warning alarm	
	2 - Air flap		16 - Warning alarm		17 - Common alarm	
	3 - Load transfer		17 - Common alarm			
	4 - Energise to stop					
	5 - Engine running		<b>T</b> I ( ) ( ) ( ) ( ) ( ) ( )	с. I.I. I. I.		
	6 - Shutdown alarm	ANOTE:-	The 'preheat modes' selectable for c	onfigurable outputs	and LCD indicators perform tr	
	7 - System in auto	following act	ions :			
	8 - Auxiliary input 1 active				e	
	<ul> <li><u>9 - Auxiliary input 2 active</u></li> <li>Preheat mode 0 - Preheat during preheat timer, ceasing at end of preheat timer.</li> </ul>					
	10 - Auxiliary input 3 active					
	11 - Auxiliary input 4 active		t mode 2 - Preheat during preheat tim	her and continue unt	I the safety delay timer has	
	12 - Auxiliary input 5 active	expired				
	13 - Preheat mode 1	<ul> <li>Prehea</li> </ul>	t mode 3 - Preheat during preheat tim	ner and continue unt	il the warming timer has expire	
	14 - Preheat mode 2					
	15 - Preheat mode 3	In addition, i	n all preheat modes, preheat takes pl	ace during the crank	rest timer between crank cyc	
	16 - Warning alarm	'				
	11 ( Common olorm					

17 - Common alarm

#### LCD INDICATORS (CONTINUED)

Parameter	ettings are in <i>bold italicised</i> text. Selection			tings are in <i>bold italicised</i> text. Selection
29 - LCD 3	0 - Unused		Parameter	
29 - LCD 3	1 - Preheat mode 0		31 - Input 1	0 - Delayed, Warning, o
	2 - Air flap	-		1 - Delayed, Warning, o
	3 - Load transfer			2 - Immediate, Warning
	4 - Energise to stop			3 - Immediate, Warning
	5 - Engine running	-		4 - Delayed, Shutdown
	· · ·	-		5 - Delayed, Shutdown
	6 - Shutdown alarm	-		6 -Immediate, Shutdow
	7 - System in auto	-		7 - Immediate, Shutdov
	8 - Auxiliary input 1 active	-		8 - Remote Start, clos
	9 - Auxiliary input 2 active	-		9 - Remote Start, open
	10 - Auxiliary input 3 active	-	32 - Input 2	0 - Delayed, Warning,
	11 - Auxiliary input 4 active	-	-	1 - Delayed, Warning, o
	12 - Auxiliary input 5 active	-		2 - Immediate, Warning
	13 - Preheat mode 1	_		3 - Immediate, Warning
	14 - Preheat mode 2			4 - Delayed, Shutdown
	15 - Preheat mode 3			5 - Delayed, Shutdown
	16 - Warning alarm			6 - Immediate, Shutdov
	17 - Common alarm			7 - Immediate, Shutdov
0 - LCD 4	0 - Unused			8 - Electrical trip, close
	1 - Preheat mode 0			9 - Electrical trip, open
	2 - Air flap	_	33 - Input 3	0 - Warning, Delayed,
	3 - Load transfer		55 - Input 5	1 - Warning, Delayed,
	4 - Energise to stop			2 - Warning, Immedia
	5 - Engine running			3 - Warning, Immediate
	6 - Shutdown alarm			
	7 - System in auto			4 - Shutdown, Delayed
	8 - Auxiliary input 1 active			5 - Shutdown, Delayed
	9 - Auxiliary input 2 active			6 - Shutdown, Immedia
	10 - Auxiliary input 3 active			7 - Immediate, Shutdov
	11 - Auxiliary input 4 active			8 - Lamp test, close to
	12 - Auxiliary input 5 active			9 - Lamp test, open to a
	13 - Preheat mode 1		34 - Input 4	0 - Delayed, Warning, o
	14 - Preheat mode 2			1 - Delayed, Warning, o
	15 - Preheat mode 3			2 - Immediate, Warning
	16 - Warning alarm	1		3 - Immediate, Warning
	17 - Common alarm	1		4 - Delayed, Shutdow
	·	=		5 - Delayed, Shutdown
				6 - Immediate, Shutdov
ole outputs	and LCD indicators perform the			7 - Immediate, Shutdov
	•		35 - Input 5	0 - Delayed, Warning, o
				1 - Delayed, Warning, d
			1	,,,

#### **CONFIGURABLE INPUTS**

Parameter	Selection				
31 - Input 1	0 - Delayed, Warning, close to activate				
	1 - Delayed, Warning, open to activate				
	2 - Immediate, Warning, close to activate				
	3 - Immediate, Warning, open to activate				
	4 - Delayed, Shutdown, close to activate				
	5 - Delayed, Shutdown, open to activate				
	6 -Immediate, Shutdown, close to activate				
	7 - Immediate, Shutdown, open to activate				
	8 - Remote Start, close to activate				
	9 - Remote Start, open to activate				
32 - Input 2	0 - Delayed, Warning, close to activate				
	1 - Delayed, Warning, open to activate				
	2 - Immediate, Warning, close to activate				
	3 - Immediate, Warning, open to activate				
	4 - Delayed, Shutdown, close to activate				
	5 - Delayed, Shutdown, open to activate				
	6 - Immediate, Shutdown, close to activate				
	7 - Immediate, Shutdown, open to activate				
	8 - Electrical trip, close to activate				
	9 - Electrical trip, open to activate				
33 - Input 3	0 - Warning, Delayed, close to activate				
	1 - Warning, Delayed, open to activate				
	2 - Warning, Immediate, close to activate				
	3 - Warning, Immediate, open to activate				
	4 - Shutdown, Delayed, close to activate				
	5 - Shutdown, Delayed, open to activate				
	6 - Shutdown, Immediate, close to activate				
	7 - Immediate, Shutdown, open to activate				
	8 - Lamp test, close to activate				
	9 - Lamp test, open to activate				
34 - Input 4	0 - Delayed, Warning, close to activate				
	1 - Delayed, Warning, open to activate				
	2 - Immediate, Warning, close to activate				
	3 - Immediate, Warning, open to activate				
	4 - Delayed, Shutdown, close to activate				
	5 - Delayed, Shutdown, open to activate				
	6 - Immediate, Shutdown, close to activate				
	7 - Immediate, Shutdown, open to activate				
35 - Input 5	0 - Delayed, Warning, close to activate				
	1 - Delayed, Warning, open to activate				
	2 - Immediate, Warning, close to activate				
	3 - Immediate, Warning, open to activate				
	4 - Delayed, Shutdown, close to activate				
	5 - Delayed, Shutdown, open to activate				
	6 - Immediate, Shutdown, close to activate				
1	7 Immediate Chutdown anon to activate				

7 - Immediate, Shutdown, open to activate