

TERMINALS SUITABLE FOR 22-16 AWG (0.6mm - 1.3mm) FIELD WIRING TIGHTENING TORQUE = 0.8Nm (7lb-in)

NOTE 1

THESE GROUND CONNECTIONS MUST BE ON THE ENGINE BLOCK, AND MUST BE TO THE SENDER BODIES.

THE GROUND WIRE TO TERMINAL 47 MUST NOT BE USED TO PROVIDE A GROUND CONNECTION TO ANY OTHER DEVICE

DIMENSIONS

240mm x 172mm x 57mm (9.5" x 6.8" x 2.25")

PANEL CUTOUT

220mm x 160mm (8.7" x 6.3")



Model 5120 Configuration and installation instructions

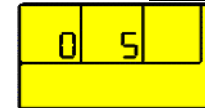
ACCESSING THE CONFIGURATION EDITOR

Press the Stop/Reset and Info buttons simultaneously.

- The LED beside the AUTO button will flash continuously to indicate that configuration mode has been entered.



- The first configuration setting is displayed:

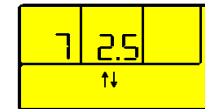


From the configuration table, this example is displaying **Start Delay** (parameter 0). It is currently set to **5 seconds**.

EDITING A PARAMETER

- Enter the editor as described above.
- Press + / - to scroll through the parameters to the one you want to change.

- Press to enter edit mode. The symbol will flash on the display to indicate that edit mode has been entered.



- Press + / - to change the value to the desired parameter.
- Press to save the value and exit edit mode for this parameter.
- The symbol will be removed from the display to indicate that edit mode has been exited.
- To select another value to edit, press the + / - buttons. Continuing to press the + and - buttons will cycle through the adjustable parameters as shown in the following lists.

TIMERS & ANALOGUE SETTINGS

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

Parameter	Type	Range
0 - Start delay	Timer	0-60m (<i>5s</i>)
1 - Preheat	Timer	0-60s (<i>0s</i>)
2 - Crank attempt	Timer	3-60s (<i>10s</i>)
3 - Crank rest	Timer	3-60s (<i>10s</i>)
4 - Safety delay	Timer	8-60s (<i>8s</i>)
5 - Warming up	Timer	0-60m (<i>0s</i>)
6 - Return delay	Timer	0-60m (<i>30s</i>)
7 - Cooling run	Timer	0-60m (<i>60s</i>)
8 - E.T.S. hold	Timer	0-60s (<i>0s</i>)
9 - Sensor fail	Timer	1-5s (<i>2s</i>)
10 - Fail to Stop	Timer	10-60s (<i>60s</i>)
11 - Low Oil Press.	Trip	5-150PSI (<i>15PSI</i>)
12 - High Temp	Trip	90-150°C (<i>95°C</i>)
13 - Under Speed	Trip	0-3600RPM (<i>1250RPM</i>)
14 - Over Speed	Trip	300-5000RPM (<i>1750RPM</i>)
15 - Under freq'	Trip	0-60Hz (<i>40Hz</i>)
16 - Over freq'	Trip	0-72Hz (<i>57Hz</i>)
17 - Charge Alt	Warning	0-25V (<i>8V DC</i>)
18 - Flywheel teeth	Value	46-300 (<i>0</i>)
19 - CT Primary	Value	10-6000A (<i>500A</i>)

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

LIST ITEM SETTINGS

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

Parameter	Selections
20 - Alternator poles	0,2,4,6,8
21 - Fast loading enabled	<i>0 - No</i> 1 - Yes
22 - AC system	<i>0 - 3 phases 4 wires</i> 1 - 1 phase 2 wire 2 - 3 phases 3 wires 3 - 2 phases 3 wires
23 - Oil pressure display units	<i>0 - Bar/PSI</i> 1 - kPa

NOTE: To exit the front panel configuration editor at any time, press the Stop/Reset button. Ensure you have saved any changes you have made by pressing the button first

Deep Sea Electronics Plc.
Highfield House, Hunmanby Industrial Estate,
North Yorkshire. YO14 0PH. ENGLAND
Tel: +44 (0)1723 890099.
Fax: +44 (0)1723 893303.
Email: sales@deepseapl.com
Web: www.deepseapl.com

Deep Sea Electronics inc.
3230 Williams Avenue
Rockford, IL 61101-2668. U.S.A.
Phone: +1 (815) 316-8706
Fax: +1 (815) 316-8708
Email: dsesales@deepseausa.com
Web: www.deepseausa.com

CONFIGURABLE OUTPUTS

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

Parameter	Selection
24 - Output 1	0 - Unused
	1 - Preheat mode 0
	2 - Air flap
	3 - Close Generator
	4 - Energise to stop
	5 - Engine running
	6 - Shutdown alarm
	7 - System in auto
	8 - Auxiliary input 1 active
	9 - Auxiliary input 2 active
	10 - Auxiliary input 3 active
	11 - Auxiliary input 4 active
	12 - Auxiliary input 5 active
	13 - Preheat mode 1
	14 - Preheat mode 2
	15 - Preheat mode 3
	16 - Warning alarm
17 - Common alarm	
25 - Output 2	0 - Unused
	1 - Preheat mode 0
	2 - Air flap
	3 - Close Generator
	4 - Energise to stop
	5 - Engine running
	6 - Shutdown alarm
	7 - System in auto
	8 - Auxiliary input 1 active
	9 - Auxiliary input 2 active
	10 - Auxiliary input 3 active
	11 - Auxiliary input 4 active
	12 - Auxiliary input 5 active
	13 - Preheat mode 1
	14 - Preheat mode 2
	15 - Preheat mode 3
	16 - Warning alarm
17 - Common alarm	
26 - Output 3	0 - Unused
	1 - Preheat mode 0
	2 - Air flap
	3 - Close Generator
	4 - Energise to stop
	5 - Engine running
	6 - Shutdown alarm
	7 - System in auto
	8 - Auxiliary input 1 active
	9 - Auxiliary input 2 active
	10 - Auxiliary input 3 active
	11 - Auxiliary input 4 active
	12 - Auxiliary input 5 active
	13 - Preheat mode 1
	14 - Preheat mode 2
	15 - Preheat mode 3
	16 - Warning alarm
17 - Common alarm	

LCD INDICATORS

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

Parameter	Selection
27 - LCD 1	0 - Unused
	1 - Preheat mode 0
	2 - Air flap
	3 - Close Generator
	4 - Energise to stop
	5 - Engine running
	6 - Shutdown alarm
	7 - System in auto
	8 - Auxiliary input 1 active
	9 - Auxiliary input 2 active
	10 - Auxiliary input 3 active
	11 - Auxiliary input 4 active
	12 - Auxiliary input 5 active
	13 - Preheat mode 1
	14 - Preheat mode 2
	15 - Preheat mode 3
	16 - Warning alarm
17 - Common alarm	
28 - LCD 2	0 - Unused
	1 - Preheat mode 0
	2 - Air flap
	3 - Close Generator
	4 - Energise to stop
	5 - Engine running
	6 - Shutdown alarm
	7 - System in auto
	8 - Auxiliary input 1 active
	9 - Auxiliary input 2 active
	10 - Auxiliary input 3 active
	11 - Auxiliary input 4 active
	12 - Auxiliary input 5 active
	13 - Preheat mode 1
	14 - Preheat mode 2
	15 - Preheat mode 3
	16 - Warning alarm
17 - Common alarm	

LCD INDICATORS (CONTINUED)

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

Parameter	Selection
29 - LCD 3	0 - Unused
	1 - Preheat mode 0
	2 - Air flap
	3 - Close Generator
	4 - Energise to stop
	5 - Engine running
	6 - Shutdown alarm
	7 - System in auto
	8 - Auxiliary input 1 active
	9 - Auxiliary input 2 active
	10 - Auxiliary input 3 active
	11 - Auxiliary input 4 active
	12 - Auxiliary input 5 active
	13 - Preheat mode 1
	14 - Preheat mode 2
	15 - Preheat mode 3
	16 - Warning alarm
17 - Common alarm	
30 - LCD 4	0 - Unused
	1 - Preheat mode 0
	2 - Air flap
	3 - Close Generator
	4 - Energise to stop
	5 - Engine running
	6 - Shutdown alarm
	7 - System in auto
	8 - Auxiliary input 1 active
	9 - Auxiliary input 2 active
	10 - Auxiliary input 3 active
	11 - Auxiliary input 4 active
	12 - Auxiliary input 5 active
	13 - Preheat mode 1
	14 - Preheat mode 2
	15 - Preheat mode 3
	16 - Warning alarm
17 - Common alarm	

CONFIGURABLE INPUTS

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

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 - 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 - 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
	8 - Simulate mains available, close to activate
9 - Simulate mains available, 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
	7 - Immediate, Shutdown, open to activate
	8 - Low oil pressure, close to activate
9 - Low oil pressure, open to activate	



NOTE:- The 'preheat modes' selectable for configurable outputs and LCD indicators perform the following actions :

- Preheat mode 0 - Preheat during preheat timer, ceasing at end of preheat timer.
- Preheat mode 1 - Preheat during preheat timer and continue until engine stops cranking.
- Preheat mode 2 - Preheat during preheat timer and continue until the safety delay timer has expired.
- Preheat mode 3 - Preheat during preheat timer and continue until the warming timer has expired.

In addition, in all preheat modes, preheat takes place during the crank rest timer between crank cycles.

MAINS SETTINGS

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

Parameter	Selections
36 - Immediate mains dropout	0 - disabled 1 - enabled
37 - Under voltage Trip	(50-333v) 184V
38 - Under voltage Return	(50-333v) 207V
39 - Over voltage Return	(50-333v) 253V
40 - Over voltage trip	(50-333v) 276V