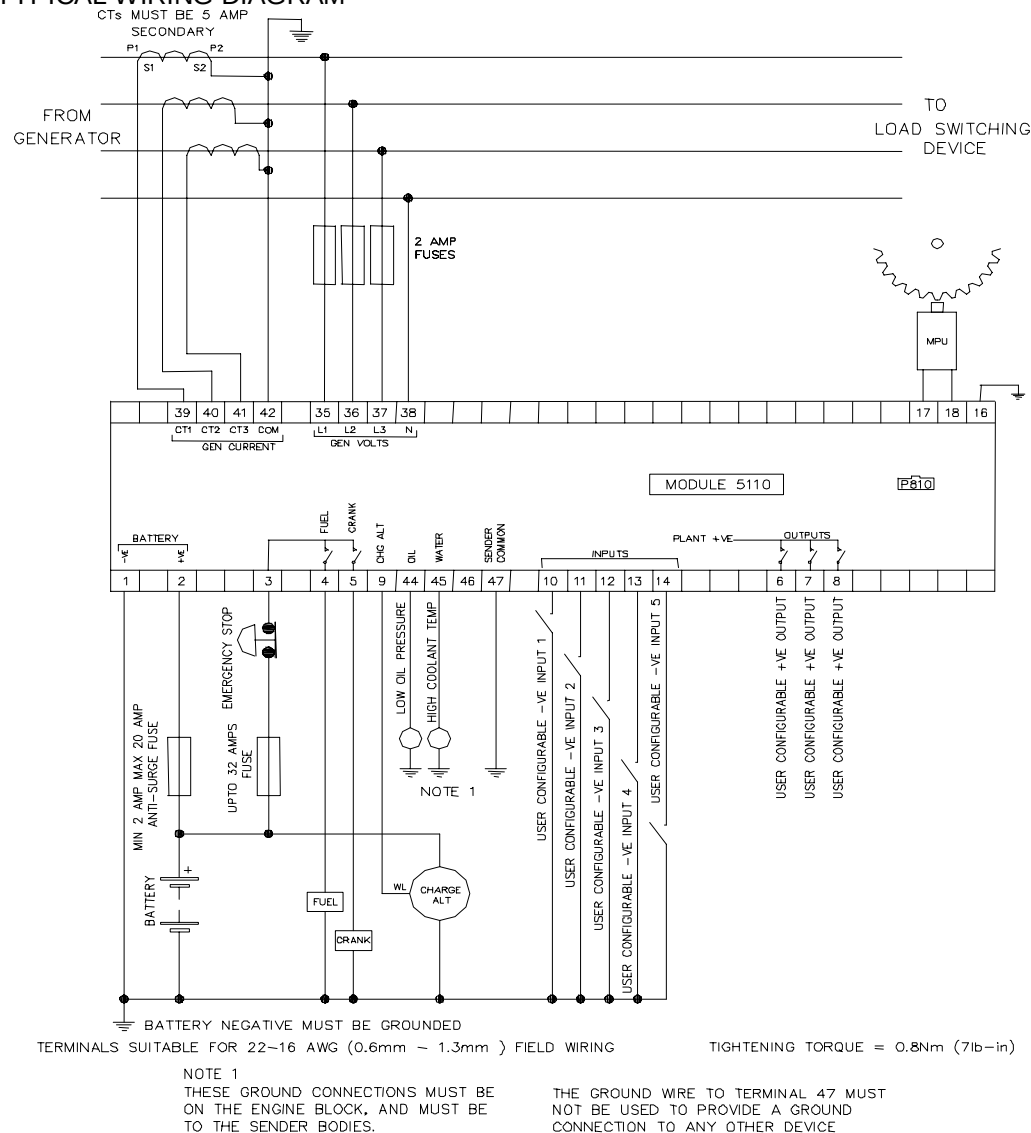


## TYPICAL WIRING DIAGRAM



### DIMENSIONS

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

### PANEL CUTOUT

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

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DEEP SEA ELECTRONICS

051-178  
ISSUE 2

## Model 5110 Configuration and installation instructions

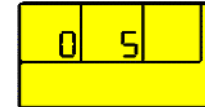
### ACCESSING THE CONFIGURATION EDITOR

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:

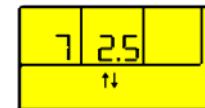


From the configuration table, this example is displaying **Start Delay** (parameter 0). It is currently set to **5 seconds**.

(Factory default settings are shown in the configuration table in **bold italic** text)

### 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 parameter to the desired value.
- 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.



| Parameter               | Range                          |
|-------------------------|--------------------------------|
| 0 - Start delay         | 0-60m ( <b>5s</b> )            |
| 1 - Preheat             | 0-60s ( <b>0s</b> )            |
| 2 - Crank attempt       | 3-60s ( <b>10s</b> )           |
| 3 - Crank rest          | 3-60s ( <b>10s</b> )           |
| 4 - Safety delay        | 8-60s ( <b>8s</b> )            |
| 5 - Warming up          | 0-60s ( <b>0s</b> )            |
| 6 - Return delay        | 0-60m ( <b>30s</b> )           |
| 7 - Cooling run         | 0-60m ( <b>60s</b> )           |
| 8 - E.T.S. hold         | 0-60s ( <b>0s</b> )            |
| 9 - Sensor fail         | 1-5s ( <b>2s</b> )             |
| 10 - Fail to Stop       | 10-60s ( <b>60s</b> )          |
| 11 - Low Oil Press.     | 5-150PSI ( <b>15PSI</b> )      |
| 12 - High Temp          | 90-150°C ( <b>95°C</b> )       |
| 13 - Under Speed        | 0-3600RPM ( <b>1250RPM</b> )   |
| 14 - Over Speed         | 300-5000RPM ( <b>1750RPM</b> ) |
| 15 - Under freq'        | 0-60Hz ( <b>40Hz</b> )         |
| 16 - Over freq'         | 50-72Hz ( <b>57Hz</b> )        |
| 17 - Charge Alt Failure | 0-25V ( <b>8V DC</b> )         |
| 18 - Flywheel teeth     | 46-300 ( <b>0</b> )            |
| 19 - CT Primary         | 10-6000A ( <b>500A</b> )       |

|  |                                                                                                                                                                       |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 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. |

| Parameter               | Selections                                                                                                                                                                                                                                |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 20 - Alternator poles   | 0,2,4,6,8                                                                                                                                                                                                                                 |
| 21 - Oil pressure input | 0 - Not used<br>1 - Digital, close for low pressure<br>2 - Digital, open for low pressure<br>3 - VDO 0-5bar<br>4 - <b>VDO 0-10bar</b><br>5 - Datcon 5bar<br>6 - Datcon 10bar<br>7 - Datcon 7bar<br>8 - Murphy 7bar<br>9 - User configured |
| 22 - Coolant temp input | 0 - Not used<br>1 - Digital, close for high temperature<br>2 - Digital, open for high temperature<br>3 - <b>VDO 40°C to 120°C</b><br>4 - Datcon High<br>5 - Datcon Low<br>6 - Murphy<br>7 - Cummins<br>8 - PT100<br>9 - User configured   |

**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**

| Parameter                       | Selections                                                                                        |
|---------------------------------|---------------------------------------------------------------------------------------------------|
| 23 - Fast loading enabled       | <b>0 - No</b><br>1 - Yes                                                                          |
| 24 - AC system                  | <b>0 - 3 phases 4 wires</b><br>1 - 1 phase 2 wire<br>2 - 3 phases 3 wires<br>3 - 2 phases 3 wires |
| 25 - Oil pressure display units | <b>0 - Bar/PSI</b><br>1 - kPa                                                                     |

| Parameter     | Selection                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 26 - Output 1 | 0 - Unused<br><b>1 - Preheat mode 0</b><br>2 - Air flap<br>3 - Close Generator<br>4 - Energise to stop<br>5 - Engine running<br>6 - Shutdown alarm<br>7 - System in auto<br>8 - Auxiliary input 1 active<br>9 - Auxiliary input 2 active<br>10 - Auxiliary input 3 active<br>11 - Auxiliary input 4 active<br>12 - Auxiliary input 5 active<br>13 - Preheat mode 1<br>14 - Preheat mode 2<br>15 - Preheat mode 3<br>16 - Warning alarm<br>17 - Common alarm |
| 27 - Output 2 | 0 - Unused<br>1 - Preheat mode 0<br>2 - Air flap<br>3 - Close Generator<br>4 - Energise to stop<br>5 - Engine running<br>6 - Shutdown alarm<br>7 - System in auto<br>8 - Auxiliary input 1 active<br>9 - Auxiliary input 2 active<br>10 - Auxiliary input 3 active<br>11 - Auxiliary input 4 active<br>12 - Auxiliary input 5 active<br>13 - Preheat mode 1<br>14 - Preheat mode 2<br>15 - Preheat mode 3<br>16 - Warning alarm<br><b>17 - Common alarm</b> |

| Parameter     | Selection                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 28 - Output 3 | 0 - Unused<br>1 - Preheat mode 0<br>2 - Air flap<br><b>3 - Close Generator</b><br>4 - Energise to stop<br>5 - Engine running<br>6 - Shutdown alarm<br>7 - System in auto<br>8 - Auxiliary input 1 active<br>9 - Auxiliary input 2 active<br>10 - Auxiliary input 3 active<br>11 - Auxiliary input 4 active<br>12 - Auxiliary input 5 active<br>13 - Preheat mode 1<br>14 - Preheat mode 2<br>15 - Preheat mode 3<br>16 - Warning alarm<br>17 - Common alarm |
| 29 - LCD 1    | 0 - Unused<br>1 - Preheat mode 0<br>2 - Air flap<br>3 - Close Generator<br>4 - Energise to stop<br>5 - Engine running<br>6 - Shutdown alarm<br>7 - System in auto<br><b>8 - Auxiliary input 1 active</b><br>9 - Auxiliary input 2 active<br>10 - Auxiliary input 3 active<br>11 - Auxiliary input 4 active<br>12 - Auxiliary input 5 active<br>13 - Preheat mode 1<br>14 - Preheat mode 2<br>15 - Preheat mode 3<br>16 - Warning alarm<br>17 - Common alarm |
| 30 - LCD 2    | 0 - Unused<br>1 - Preheat mode 0<br>2 - Air flap<br>3 - Close Generator<br>4 - Energise to stop<br>5 - Engine running<br>6 - Shutdown alarm<br>7 - System in auto<br>8 - Auxiliary input 1 active<br><b>9 - Auxiliary input 2 active</b><br>10 - Auxiliary input 3 active<br>11 - Auxiliary input 4 active<br>12 - Auxiliary input 5 active<br>13 - Preheat mode 1<br>14 - Preheat mode 2<br>15 - Preheat mode 3<br>16 - Warning alarm<br>17 - Common alarm |

| Parameter  | Selection                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 31 - LCD 3 | 0 - Unused<br>1 - Preheat mode 0<br>2 - Air flap<br>3 - Close Generator<br>4 - Energise to stop<br>5 - Engine running<br>6 - Shutdown alarm<br>7 - System in auto<br>8 - Auxiliary input 1 active<br>9 - Auxiliary input 2 active<br>10 - Auxiliary input 3 active<br><b>11 - Auxiliary input 4 active</b><br>12 - Auxiliary input 5 active<br>13 - Preheat mode 1<br>14 - Preheat mode 2<br>15 - Preheat mode 3<br>16 - Warning alarm<br>17 - Common alarm |
| 32 - LCD 4 | 0 - Unused<br>1 - Preheat mode 0<br>2 - Air flap<br>3 - Close Generator<br>4 - Energise to stop<br>5 - Engine running<br>6 - Shutdown alarm<br>7 - System in auto<br>8 - Auxiliary input 1 active<br>9 - Auxiliary input 2 active<br>10 - Auxiliary input 3 active<br>11 - Auxiliary input 4 active<br><b>12 - Auxiliary input 5 active</b><br>13 - Preheat mode 1<br>14 - Preheat mode 2<br>15 - Preheat mode 3<br>16 - Warning alarm<br>17 - Common alarm |

| Parameter    | Selection                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 33 - Input 1 | 0 - Delayed, Warning, close to activate<br>1 - Delayed, Warning, open to activate<br>2 - Immediate, Warning, close to activate<br>3 - Immediate, Warning, open to activate<br>4 - Delayed, Shutdown, close to activate<br>5 - Delayed, Shutdown, open to activate<br>6 - Immediate, Shutdown, close to activate<br>7 - Immediate, Shutdown, open to activate<br><b>8 - Remote Start, close to activate</b><br>9 - Remote Start, open to activate                     |
| 34 - Input 2 | <b>0 - Delayed, Warning, close to activate</b><br>1 - Delayed, Warning, open to activate<br>2 - Immediate, Warning, close to activate<br>3 - Immediate, Warning, open to activate<br>4 - Delayed, Shutdown, close to activate<br>5 - Delayed, Shutdown, open to activate<br>6 - Immediate, Shutdown, close to activate<br>7 - Immediate, Shutdown, open to activate<br>8 - Electrical trip, close to activate<br>9 - Electrical trip, open to activate               |
| 35 - Input 3 | 0 - Delayed, Warning, close to activate<br>1 - Delayed, Warning, open to activate<br>2 - Immediate, Warning, close to activate<br>3 - Immediate, Warning, open to activate<br>4 - Delayed, Shutdown, close to activate<br>5 - Delayed, Shutdown, open to activate<br>6 - Immediate, Shutdown, close to activate<br>7 - Immediate, Shutdown, open to activate<br><b>8 - Lamp test, close to activate</b><br>9 - Lamp test, open to activate                           |
| 36 - Input 4 | 0 - Delayed, Warning, close to activate<br>1 - Delayed, Warning, open to activate<br>2 - Immediate, Warning, close to activate<br>3 - Immediate, Warning, open to activate<br><b>4 - Delayed, Shutdown, close to activate</b><br>5 - Delayed, Shutdown, open to activate<br>6 - Immediate, Shutdown, close to activate<br>7 - Immediate, Shutdown, open to activate                                                                                                  |
| 37 - Input 5 | 0 - Delayed, Warning, close to activate<br>1 - Delayed, Warning, open to activate<br>2 - Immediate, Warning, close to activate<br>3 - Immediate, Warning, open to activate<br>4 - Delayed, Shutdown, close to activate<br>5 - Delayed, Shutdown, open to activate<br><b>6 - Immediate, Shutdown, close to activate</b><br>7 - Immediate, Shutdown, open to activate<br>8 - Oil pressure, Shutdown, close to activate<br>9 - Oil pressure, Shutdown, 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 warning timer has expired.

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