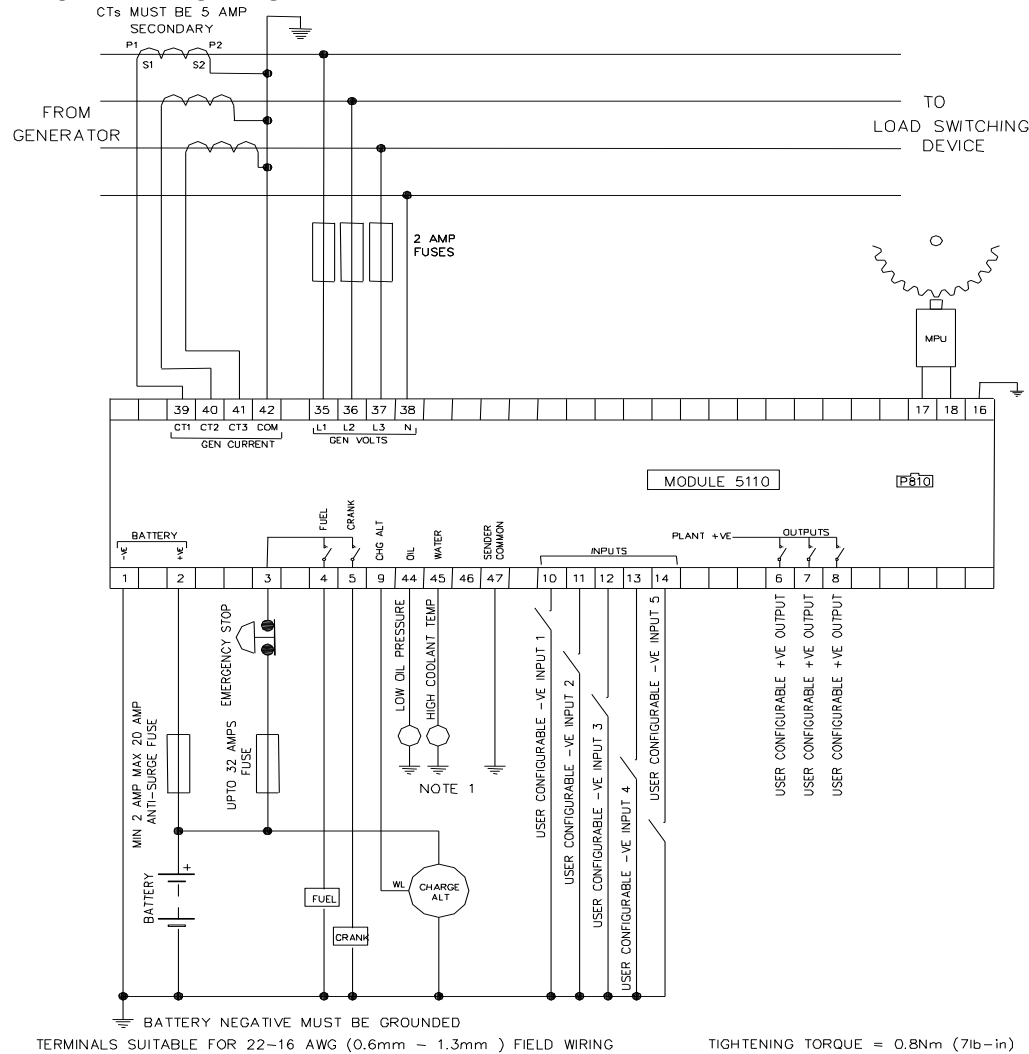


TYPICAL WIRING DIAGRAM



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")

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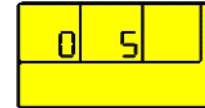
ACCESSING THE CONFIGURATION EDITOR

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:

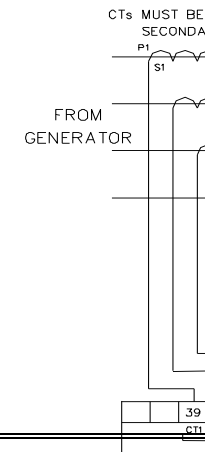


From the configuration table, this example is displaying **Start Delay** (parameter 0). It is currently set to **5 seconds**.

(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 \updownarrow symbol will flash on the display to indicate that edit mode has been entered.



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

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 1 - Digital, close for low pressure 2 - Digital, open for low pressure 3 - VDO 0-5bar 4 - VDO 0-10bar 5 - Datcon 5bar 6 - Datcon 10bar 7 - Datcon 7bar 8 - Murphy 7bar 9 - User configured
22 - Coolant temp input	0 - Not used 1 - Digital, close for high temperature 2 - Digital, open for high temperature 3 - VDO 40°C to 120°C 4 - Datcon High 5 - Datcon Low 6 - Murphy 7 - Cummins 8 - PT100 9 - User configured

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

Parameter	Selection
26 - 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	
27 - 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	

Parameter	Selection
28 - 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	
29 - 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	
30 - 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	

Parameter	Selection
31 - 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	
32 - 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	

Parameter	Selection	
33 - 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	
34 - 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	
35 - 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	
36 - 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	
	37 - 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 - Oil pressure, Shutdown, close to activate		
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 warming timer has expired.

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