

# HGM1790N Controller Configuration Guide.

Notes:

Wire positions are clearly marked on rear of controller.

Before starting to configure HGM1790N controller, you must connect battery to terminals 1 & 2 as shown on the back of the controller. Link between terminal 2 (battery +) and terminal 3 (E Stop) This shuts off the E stop alarm to allow programming. The E stop terminal needs constant battery + supply for generator to run, break this supply and the E stop is engaged.

Press and hold the down arrow to the right of the digital display for four seconds to bring you into password input. Press the down arrow again to move to the next password digit.

The Password is 0318.

To increase number in each field - press Auto, to decrease number in each field - press start, to move across press downward facing arrow beside digital display.

First number displayed is 0, move across to second password field and press auto 3 times to increase this number to 3, then move to the next field and press auto once to select number 1 , then move across again and press start twice to select number 8.

You are now in programme setting mode showing P00. Press auto to move to next programme and start to move back to previous programme. Press Stop to exit programme mode at any time and save changes made therein

Set programmes as shown or suggested below.

**Digital output options: 01 = Not Used, 02 = Energise to stop, 03 = Idle Control, 04 = Pre heat Control,**

**Further information is shown on the leaflet which comes with the controller. The parameters below are my suggestions only, and other parameters may be chosen according to customer preferences.**

P00	Start Delay (time before starter is engaged)	Suggest 2 secs
P01	Stop Delay (time from when remote start signal is deactivated to generator stop)	Suggest 2 secs
P02	Starting attempts made automatically	Suggest 3. If engine does not start, fail to start alarm will show after 3 starting attempts.
P03	Preheat time. Set at 0 if no glow plugs are used or time in seconds if they are used. Suggest 8 seconds.	
P4	Cranking time – time in seconds that starter motor will run or until engine starts.	Suggest 8 seconds
P05	Crank rest time – Time in seconds between starting attempts	Suggest 10 seconds
P06	Safety Delay On – time elapsed before shutdown to allow oil pressure to rise and engine to run normally under protection.	Suggest 10 seconds
P07	Start Idle Time – Idle running time of generator after starting engine	Suggest 1 second

P08	Warming up time -	Suggest to set at 0
P09	Cool down time – amount of time generator runs after stop button is pressed or auto start is disconnected	If in auto mode, suggest 180 seconds, press stop button twice to stop manually.
P10	Stop Idle Time	Set at 0
P11	ETS solenoid hold – used when fuel solenoid is energised to stop	Suggest 15 seconds if ETS is used, otherwise set at 0
P12	Fail to stop delay	Suggest set at 0
P13	Flywheel teeth. Count teeth on flywheel if MPU is used	Leve as is if MPU is not used
P14	Generator Poles	Set at 4 for 1500 rpm generator and 2 for 3000 rpm
P15	Generator abnormal time	Suggest set at 3 seconds. Alarm active delay for gen over and under voltage
P16	Generator over volts	Suggest set at 250 volts
P17	Generator under volts	Suggest set at 190 volt
P18	Engine under speed.	Suggest set at 1350
P19	Engine over speed	Suggest set at 1600
P20	Generator under frequency	Suggest set at 45 HZ
P21	Generator over frequency	Suggest set at 55 HZ
P22	High Temp	Suggest set at 98
P23	Low oil pressure	Suggest set at 120
P24	Low liquid level	Suggest set at 10
P25	Battery over volts	Suggest set at 15 V for 12 Volt & 30V for 24 Volt system
P26	Battery under volts	Suggest 10 V for 12 Volt system and 20V for 24 Volt
P27	CT Ratio (CT Value)	Set as required, 5 amp recommended
P28	Full Load Current	Suggest set according to generators rating plate
P29	Over Currant	Suggest set according to generator rating plate
P30	Over Current Delay Time	Suggest 30 seconds
P31	Action	0: Warn 1: shutdown 2: cooling and shutdown
P32	Relay Output for common fault alarm	Suggest set at 1
P33	Digital Input	Auxiliary Shutdown
P34	Digital shutdown delay	Set as required if used
P35	Power Mode	Set at 0
P36	Password Set	Pre-set at 0318
P37	Crank disconnect - 0:MPU,1:Gen HZ, 2:MPU+GenHZ, 3:MPU+OP, 4:Gen HZ+OP, 5:Gen HZ +MPU+OP	Suggest Set 1 unless MPU is used
P38	Disconnect engine speed	Suggest 250 if MPU is used
P39	Disconnect Generator HZ	Suggest set at 10HZ
P40	Disconnect Oil Pressure	Suggest set at 180kPa if using OP disconnect
P41	AC System – 0:3Phase 4 wire – 1:2P 3 wire – 2:1P 2 wire – 3:3P 3 wire	Suggest set at 2 for single phase sensing, input terminals 11 & 12 on controller

P42	Temp sensor type. 1:digital closed(switch) 4:VDO	Set as required, usually option 1 for temp switch close to stop
P43	Oil Pressure Sensor type. 1:digital closed, 4:VDO	Set as required, usually option 1: for standard oil light switch
P44	Fuel level sensor	Suggest 0:not used
P45	Disconnect oil pressure delay	
P46	Aux output 1	Set at option 4 to enable engine pre heating (glow plugs). Preheat time set at parameter P03
P47	Aux output 2	