

TECHNICAL MANUAL

5120

Generator Control Module

<https://gensetpart.com/generator-controller/>

COMPATIBLE REPLACEMENT PART

POPULACE has manufactured generator electronic parts in Xiamen, China since 2006. 1000+ SKUs in stock, 1-5 day dispatch, every unit burn-in tested before shipment.

Document contents

- Specification and technical characteristics
- Terminal assignment and wiring diagram
- Installation, adjustment and settings
- Troubleshooting table

This document is supplied by POPULACE Electronic Co., Ltd. as an installation and operating guide for a POPULACE compatible replacement part. It is not an original equipment manufacturer (OEM) document. Any brand names or part numbers mentioned are for cross-reference and identification purposes only and do not indicate affiliation with, or endorsement by, the respective manufacturers.

Why source this part from POPULACE

- Factory in Xiamen, China - operating since 2006 (20 years)
- Over 1000 SKUs held in stock; dispatch within 1-5 days
- Every unit burn-in tested at 65 C before shipment
- CE and ISO 9001 production system; full batch traceability
- Free technical support for wiring, settings and fault diagnosis

Get a quote / technical support

Web: <https://gensetpart.com>

Email: grace@genpart.cn

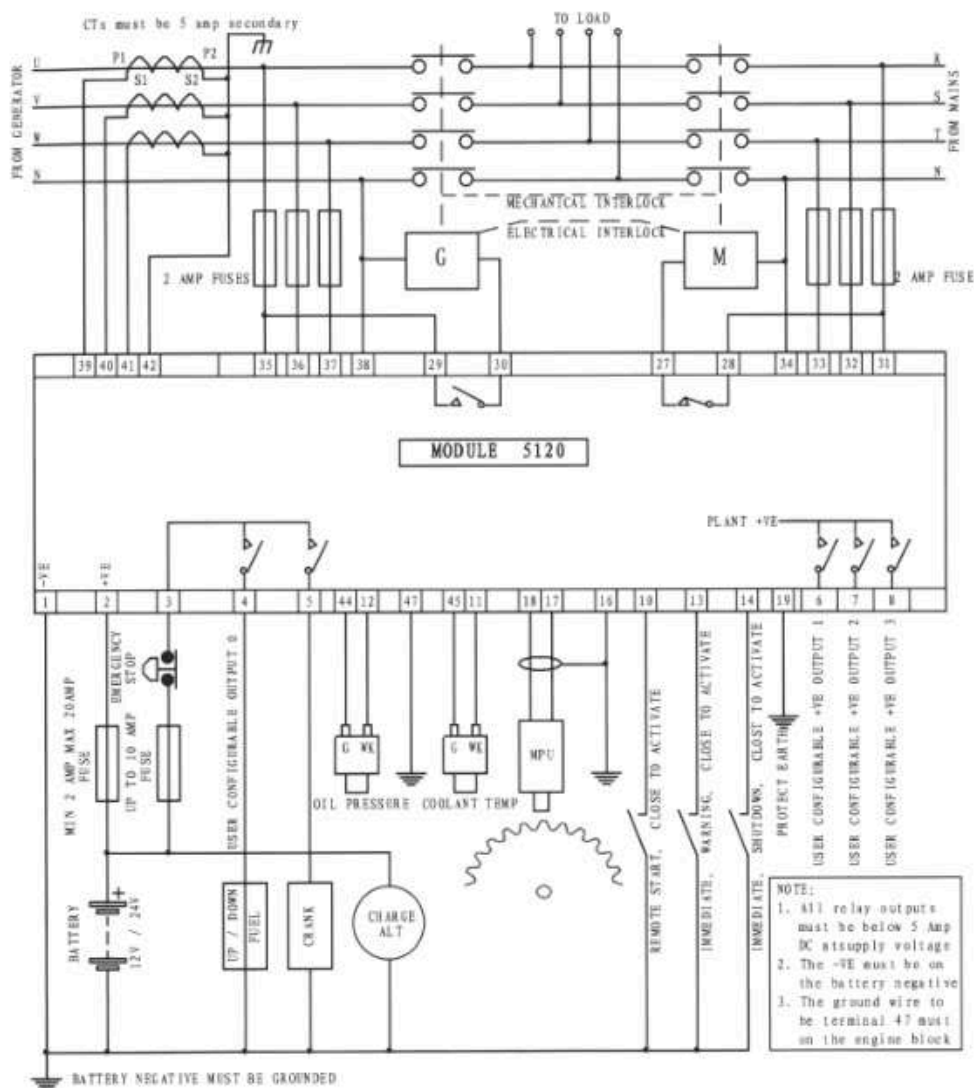
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No.702 Xiniya Building, No.90 Anling Second Road, XIAMEN, FUJIAN, China

207*282mm

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8. 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")

5120 Autostart Control Module

Configuration and installation instructions

Ver: 1.0-1.0.1

1. PUSH BUTTONS

Display	Description	Display	Description	Display	Description
	Stop/Reset		Auto mode		Manual mode
	Start (when in Manual&Test mode)		Test mode		Scroll

2. STATUS / MEASUREMENT UNITS

Display	Description	Display	Description	Display	Description
L1	Phase	L2	Phase	L3	Phase
L1- N	Phase - Neutral	L2- N	Phase - Neutral	L3- N	Phase - Neutral
L1-L2	Phase - Phase	L2-L3	Phase - Phase	L3-L1	Phase - Phase
BAR	Pressure	HPa	KPa Oil Pressure Units	PSI	Pressure
V	Voltage	°F	Temperature	Hz	Frequency
A	Amperes	°C	Temperature	RPM	Speed
	Hours Run	~	AC		Parameter being adjusted
		...	DC		

3. ALARM INDICATIONS

Display	Description	Display	Description	Display	Description
	Warning Alarm		Shutdown Alarm		Electrical Trip
	Fault to stop		Low Oil Pressure		Over-speed
	Charge Fail		High Coolant Temperature		Under-speed
	Emergency Stop		Fail to start (Over-crank)		Auxiliary Indication
	Over voltage		Under voltage		Over current

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4. OPERATION

4.1. MANUAL MODE

Press  → press  → press  → bringing the generator to a start; press  → bringing the generator to a stop.

4.2. AUTOMATIC MODE

Press  → press  → when the input of remote start signal activated, then bring the generator to a start. once the remote start signal remove, cooling timer is then initiated, allowing the engine a cooling down period off load before shutting down. once the cooling timer expires, bringing the generator to a stop.

4.3. MANUAL MODE TRANSFER AUTOMATIC MODE

Press  → press  → press  → bringing the generator to a start; when the generator is running, press  bringing the generator to the automatic mode.

4.4. CLEAR THE FAULT

Press  clear the fault, then the controller reset and comes into stop.

4.5. TEST MODE

Press  → press  → press  → bringing the generator to a start. When the generator is running, press  bringing the generator to a stop.

4.6. CORRECTION OF VOLTAGE DISPLAY

The output line voltage shall be adjusted according to the limit of generator sets. for example, if the voltage is 400v, please set the 20th item as 400V, start generator set and operate without load, adjust AVR so that the

voltage display of testing platform will be showed as 400V. press 

and  simultaneously, the module will correct the parameter of line voltage; at this time the line voltage is 400V; the parameter of line voltage shall be changed according to the voltage display of testing platform.

STOP MODE: No matter what's the condition of Mains supply, change into mains supply.

MANUAL MODE: Electric power generation shall be operated if there is something wrong with the mains supply.

TEST MODE: No matter what's the condition of Mains supply, change into electric power generation till power off.

AUTO MODE: Electric power generation shall be operated if there is something wrong with the mains supply till the mains supply is restored.

5. ACCESSING THE CONFIGURATION EDITOR

Press  and  simultaneously, the LED beside the will flash continuously to indicate that configuration mode has been entered. then the first configurable setting is displayed.

6. EDITING THE PARAMETER

Press  or  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

 or  to change the parameter to the desired value. press  to enter change 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  or

 to exit the configuration editor and save all value at any time

press . NOTE: Continuing to press buttons is not supported. the value shall be changed according to the valid range of parameter.

7. PARAMETER DESCRIPTOR LIST

Parameter	Range (Default)
0—Start delay	0—240s(5s)
1—Over current percent	50—200%(200%)
2—Crank attempt	3—60s(10s)
3—Crank rest	3—60s(10s)
4—Safety delay	8—60s(8s)
5—Warning up/Speed up(down)	0—60m(10s)
6—Return delay	0—60m(30s)
7—Cooling run	0—60m(60s)
8—E.T.S. solenoid hold	0—240s(5s)
9—Sensor fail delay	1—5s(4s)
10—Fail to stop delay	10—60s(60s)
11—Low oil pressure	5—150PSI(15PSI)
12—High temperature	50—150℃(95℃)
13—Generator under voltage	50—380V(100V)
14—Generator over voltage	200—500V(450V)
15—Under Frequency	0—60Hz(40Hz)
16—Over Frequency	50—72Hz(57Hz)
17—Low battery voltage	0.0—24.0VDC(8.0VDC)
18—Flywheel teeth	0—240(0)
19—CT Primary	10—6000A/5A(500A/5A)

20—Generator rated voltage	100—700V(400V)
	0—Not used
	1—VDO 0-5bar
	2—VDO 0-10bar
	3—Datcon 5bar
21—Oil pressure input	4—Datcon 10bar
	5—Datcon 7bar
	6—Murphy 7bar
	7—User configured
	8—User configured
	0—Not used
	1—VDO 40℃-120℃
	2—Datcon High
22—Coolant temp input	3—Datcon Low
	4—Murphy
	5—Cummins
	6—User configured
23—Oil pressure display units	0—Bar/PSI
	1—kPa
24—Output 0	0—Fuel solenoid
	1—Speed up(down)
25—Oil pressure switching type	0—Close to activate
	1—Open to activate
26—Output 1	0—Not used
[3—Preheat]	1—Idle /Running
27—Output 2	2—Common alarm
[2—Common alarm]	3—Preheat
28—Output 3	4—Engine to stop
[5—Load transfer]	5—Load transfer
	6—Pre-Supply Oil
29—Preheat	0—240s(2s)
30—Idle time	0—240s(5s)
31—Mains under voltage trip	50—333V (184V)
32—Mains under voltage return	50—333V (207V)
33—Mains over voltage trip	50—333V (276V)
34—Mains over voltage return	50—333V (253V)

NOTE:

- Actual over current protection value = [19—CT Primary] * [1—Over current percent]. Sample: Value = 500*200% = 1000 (A)
- "Warning up" shall be referred to "Fuel solenoid" in the item of [24—Output 0], "speed up(down)" shall be referred to "Speed up(down)" in the item of [24—Output 0].
- Setting Flywheel teeth to zero (0) will disable magnetic pickup speed sensing. In this instance, engine speed is derived from the alternator output frequency.
- The fuel relays operates before crank relays do, once the idle timer expires, the up/down relays work.
- Once the idle timer expires, the idle/run relays work, to indicate engine is in running.
- When start success, the preheat relays will be close.
- The Pre-Supply Oil and crank relays will be open simultaneously. the Pre-Supply Oil will be close if the safety delay timer expires.