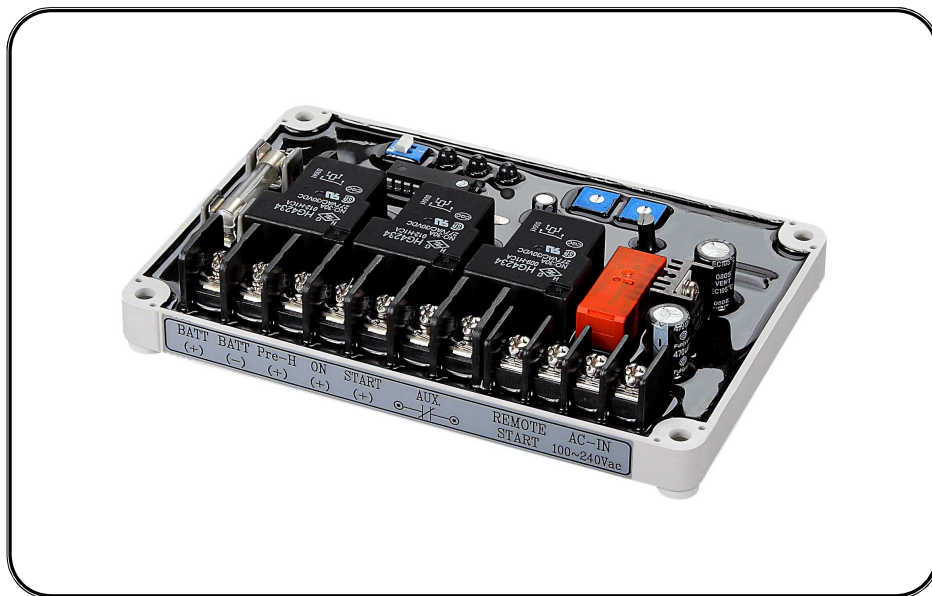


ECU-04 Ver1.0

Control Unit for Key Switch Type Generator



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1. INTRODUCTION

The ECU-04 Generator Auto Start Control, simply changes any manual key start generator to auto-start by automatically mimicking the action taken by someone turning the panel key and starting the generator manually.

The ECU-04 automatic initiation of the generators starting cycle by using the standard two-wire signals from any Automatic Transfer Switch or any standard remote mounted ON / OFF switch.

In case of generator starting failures, this device has maximum of 3 attempts of preheat and start with adjustable time form1 to 25 seconds interval.

This module is composed of microprocessors to minimized dimension. Encapsulated in factory designed chassis to protect them from vibration and moisture.

2. STANDARD FEATURES

- Small size, low cost, low power consumption and easy to install.
- Connected by the terminal block. Easy for installation and repairing.
- A single chip microprocessor is utilized.
- Epoxy encapsulation makes the ECU-04 dependable and reliability.
- Multi-start function. (The factory setting is 3 times. The different Value from customer's request is acceptable.)

3. SPECIFICATIONS

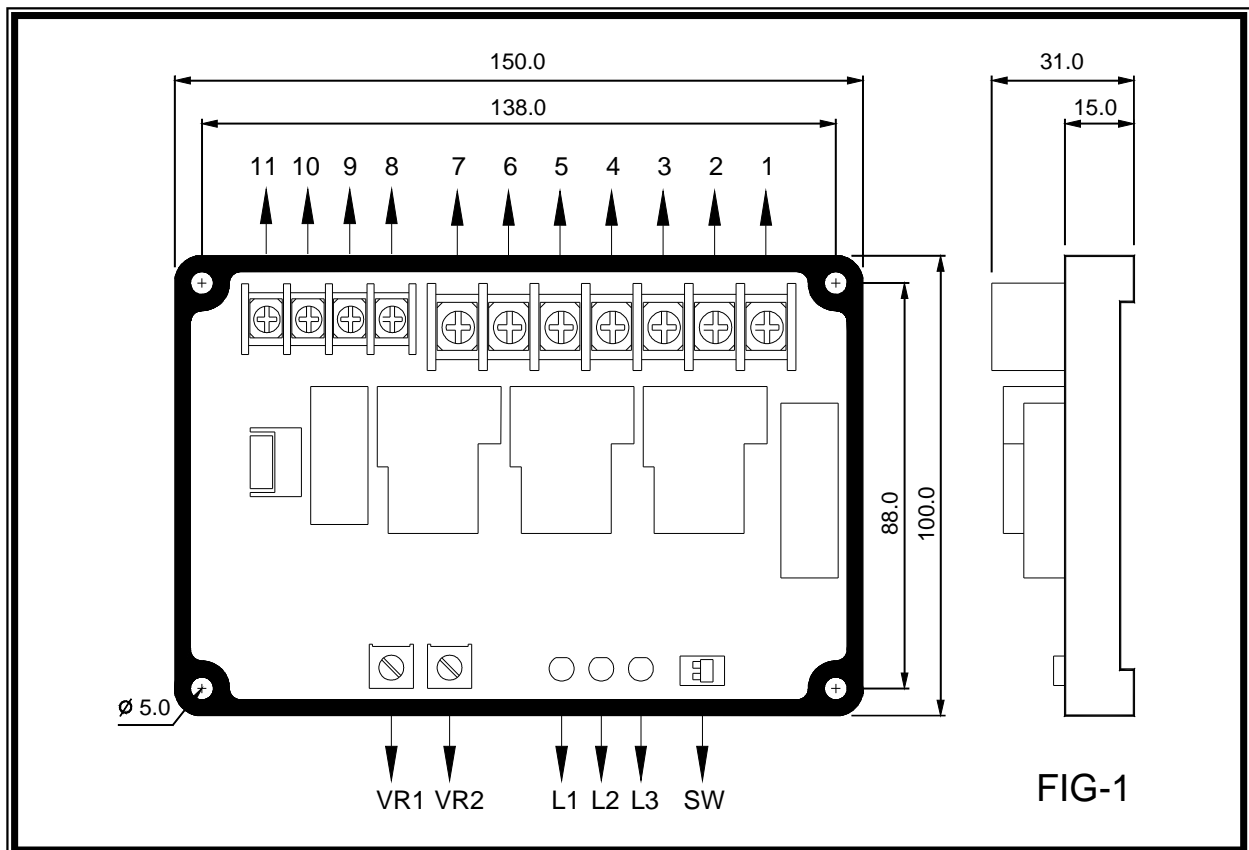
ITEM	DESCRIPTION
DC Supply	12VDC (ECU-04-12V)
	24VDC (ECU-04-24V)
Alternator Input Range	100V ~ 240VAC ; 50/60Hz
Ignition & Accessories Signal Output	30Amp @ 12/24VDC
Start Signal Output	30Amp @ 12/24VDC
Pre-Heat or Carburetor Signal Output	30Amp @ 12/24VDC
Auxiliary Signal Output	20Amp @ 12/24VDC
Operating Temperature	-20 to 80 °C
Relative Humidity	< 95%
Weight	380 g
Dimensions	150 (L) x 100 (W) x 31 (H)mm

4. ELECTRICAL CONNECTIONS

PIN No.	DESCRIPTION	NOTES
1	DC Plant Supply Input (+v)	System DC positive input. (Battery Positive).
2	DC Plant Supply Input (-v)	System DC negative input. (Battery Negative).
3	Pre-heat signal Output	Used to control the internal Heater Supply (+v). 30 Amp rated
4	Accessories "ON" Output	Connect to Key switch accessories ON position.
5	Start signal Output	Used to control the Starter Motor. Supply (+v). 30 Amp rated
6&7	Auxiliary Dry contact Output	OPEN when engine running CLOSE when engine failure or stop 20 Amp rated
8&9	Remote start Signal input	Connect to A.T.S device or Remote Switch
10&11	Generator AC sensing input.	Connect to alternator AC output.

5. TIME DELAY SETTING AND ALARM INDICATORS

- VR1 : The engine pre-heat time adjustment knob with 1~25 seconds range. 5 seconds are recommended. (Please refer to FIG-1 below)
- VR2 : The start-up time adjustment knob with 1~25 seconds range. Please refer to the generator user's guide. 4~8 seconds are recommended. (Please refer to FIG-1 below)
- L1 : Remote start activated indicator LED. (Please refer to FIG-1 below)
- L2 : Engine running normal indicator LED. (Please refer to FIG-1 below)
- L3 : Start fail indicator LED. (Please refer to FIG-1 below)
- SW : ON for use on Diesel Engine with Pre-Heat
OFF for use on Gasline Engine with Carburetor



6. CONNECTION DETAILS AND TYPICAL WIRING DIAGRAM

