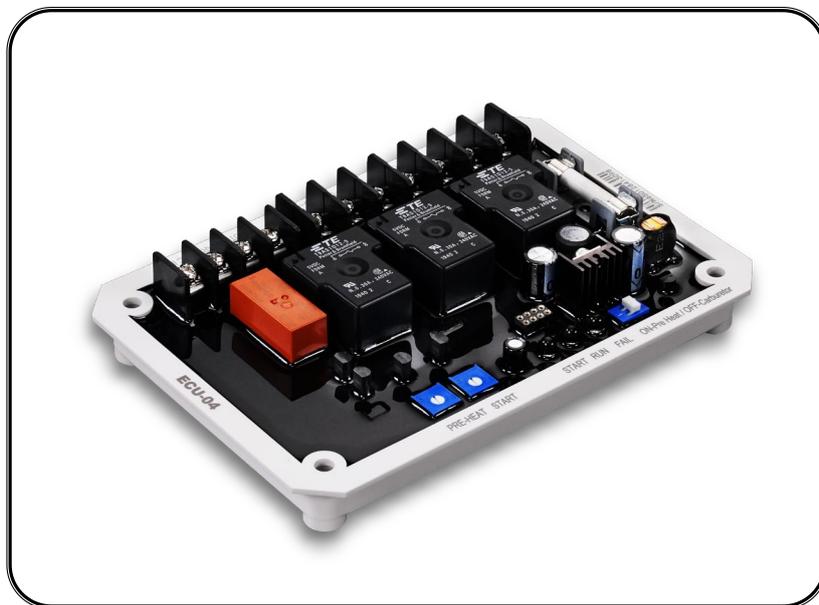


# ECU-04 *Ver1.0*

## **Control Unit for Key Switch Type Generator**



**KUTAI ELECTRONICS INDUSTRY CO., LTD.**

TEL : +886-7-8121771

FAX : +886-7-8121775

Website : [www.kutai.com.tw](http://www.kutai.com.tw)

Headquarters : No.3, Ln. 201, Qianfu St., Qianzhen Dist., Kaohsiung City 806037, Taiwan

ISO 9001  
**ETC**

## SECTION 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 20 seconds interval.

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

## SECTION 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.)

### NOTE

**Don't release the battery when engine is running. Never feed charge motor voltage directly into controller, to prevent damage to the controller caused by high charge voltage.**

## SECTION 3 : SPECIFICATIONS

ITEM	DESCRIPTION
DC Power Supply	9 Vdc - 36 Vdc
Alternator Input Voltage Range	100 – 240 Vac (+/- 10%)
Alternator Input Frequency Range	50 – 60 Hz
Static Power Consumption	Less than 0.03 watts
Starter switch Signal Output	30Amp @ 12/24 Vdc
Start Signal Output	30Amp @ 12/24 Vdc
Pre-heat or Engine choke Signal Output	30Amp @ 12/24 Vdc
Auxiliary Dry contact Output	20Amp @ 12/24 Vdc
Operating Temperature	-20 to +60 °C
Relative Humidity	Max. 95%
Dimensions	162.0 (L) x 112.0 (W) x 31.0 (H) mm 6.38 (L) x 4.41 (W) x 1.30 (H) inch
Weight	465 g +/- 2% 1.025 lb +/-2%

## SECTION 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 or Engine choke 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.

## SECTION 5 : TIME DELAY SETTING AND ALARM INDICATORS

- VR1 : The engine pre-heat time adjustment knob with 1 – 20 seconds range. 5 seconds are recommended. ( Please refer to Figure 1 below )
- VR2 : The start-up time adjustment knob with 1 – 20 seconds range. Please refer to the generator user's guide. 4 – 8 seconds are recommended. ( Please refer to Figure 1 below )
- L1 : Remote start activated indicator LED. ( Please

refer to Figure 1 below )

- L2 : Engine running normal indicator LED. ( Please refer to Figure 1 below )
- L3 : Start fail indicator LED. ( Please refer to Figure 1 below )
- SW : ON for use on Diesel Engine with Pre-Heat OFF for use on Gasoline Engine with Carburetor

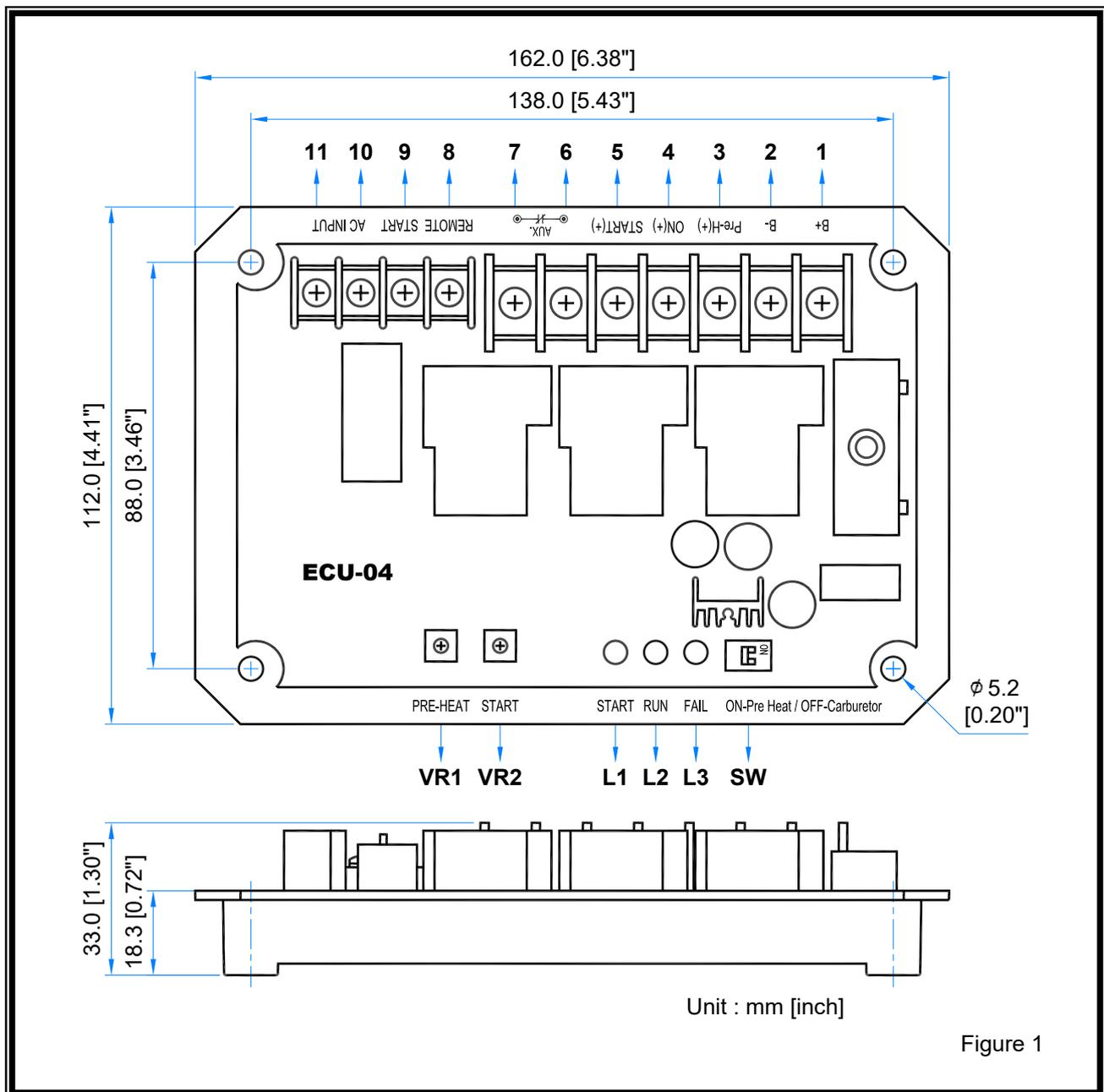


Figure 1

## SECTION 6 : CONNECTION DETAILS AND TYPICAL WIRING DIAGRAM

