



## GEN-KEY Key Operated Automatic Start Unit

GEN-KEY presents a microprocessor based automatic engine control unit, providing integrated generator set control and protection.

The unit is used to start and stop the engine and provides indication of operational status and fault conditions. If a fault is detected the unit automatically shuts down the engine. Indication of failures is provided via flashing LEDs and sounding of the alarm horn.

### Operation

The GEN-KEY unit is operated via a two position key switch mounted on the front panel, with ON and OFF positions. To start the engine simply turn the key to the ON position, followed by either the ENGINE START button on the front panel, or the remote fuel and start / stop button for use where a dual engine start position is required. The start sequence can commence with preheating if required, followed by operation of the starter motor, and start of the engine. The unit detects when the engine is running and disengages the starter motor. If the engine fails to start, the GEN-KEY unit will automatically make up to three attempts to start the engine.

If a fault is detected the relevant LED will illuminate, the alarm horn will sound and the engine will automatically shut down. The alarm output can be configured to operate continuously, or for 60 seconds, and silenced by pressing the SILENCE button. When the fault has been rectified, pressing the RESET button will enable a restart.

Starter motor cranking is inhibited if engine running is detected. Running status is detected from battery charging, generator voltage or generator frequency presence.

### LED Indicators and Alarms

The GEN-KEY unit offers a comprehensive range of operational status and fault condition indication.

Failure Indicators	Status Indicators
Engine Start Failure	Engine Running
High Engine Temperature	Generator Volts Available
Low Oil Pressure	Preheat Output Active
Over Speed	
Generator Voltage Failure	
Battery Charge Failure	
Alarm Input	
Shutdown Input	

### DIP Switch Selections

DIP switches designed to control the mode of operation are easily accessible on a side panel. Four operating parameters can be adjusted as follows:

FUNCTION	SWITCH ON	SWITCH OFF
Nominal Generator Voltage	115V AC	230V AC
Nominal Generator Frequency	50 Hz	60 Hz
Horn Duration	Continuous	60 Seconds
Pre Heat Operation	Enabled	Disabled

### Product Codes

GEN-KEY-12V	12 volt DC supply voltage
GEN-KEY-24V	24 volt DC supply Voltage
SPARE-KEY-GK	Spare Keys (Qty 2)

### Features

- Automatic engine start / stop
- Automatic shutdown on fault condition
- Alarm and status information
- Alternator under / over voltage warning and shutdown
- Over speed warning and shutdown
- Remote fuel and remote start / stop inputs
- Alarm and shutdown inputs
- Provides charge alternator excitation current
- Lamp test function
- Straightforward installation

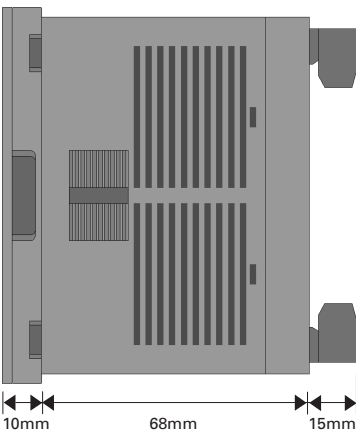
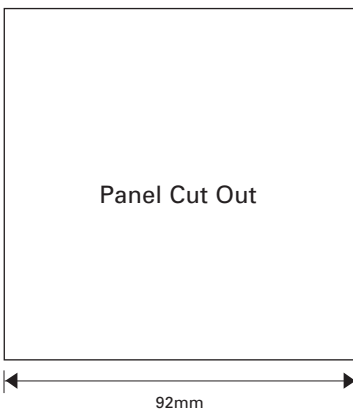
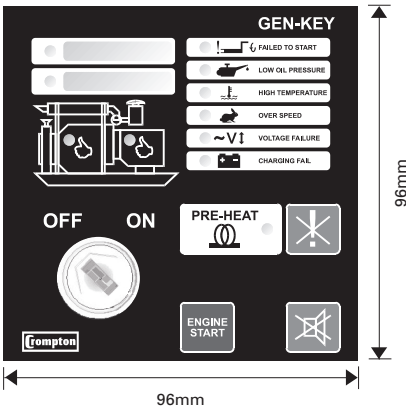
### Monitors

- Low oil pressure
- High engine temperature
- Generator voltage and frequency

### Controls

- Engine fuel supply
- Starter motor
- Preheating
- External alarm horn

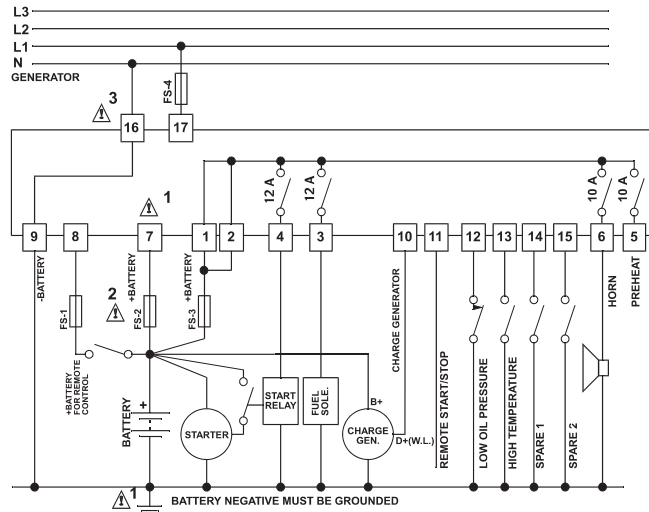
## Dimensions



## Specification

DC Supply Range:	12V (8 to 16V) or 24V (16 to 32V) (specified on ordering)
Cranking Dropouts:	DC supply can be 0V for 100ms
Generator Voltage Input:	115V or 230V L-N AC (selectable)
Measurement Accuracy of FSD:	Volts: 2% Frequency: 0.5%
Generator Speed Measurement:	From generator output
Generator Frequency Input:	50 or 60Hz (selectable)
Start Relay Output:	12 Amp DC at supply voltage
Fuel Relay Output:	12 Amp DC at supply voltage
Alarm Relay Output:	10 Amp DC at supply voltage
Preheat Relay Output:	10 Amp DC at supply voltage
Alarm Duration:	60 seconds or continuous (selectable)
Preheat Duration:	10 seconds or disabled (selectable)
Protection Delay:	10 seconds
Oil Bypass Delay:	30 seconds
Generator Voltage Fault Delay:	5 seconds
Generator Speed Fault Delay:	5 seconds
Number of Starting Attempts:	3 attempts
Generator Voltage Shutdown Setting:	Nominal -25 / +15%
Generator Over Speed Shutdown Setting:	Nominal frequency +3Hz
Indicator Display:	Annunciators
Operating Temperature:	-25 to +70°C
Storage Temperature:	-40 to +85°C
Mounting Installation:	Front panel mounted with 2 screw fixings
Wiring Connections:	Two part removable connectors
Dimensions:	96mm high x 96mm wide x 78mm deep (excl. 15mm clips)
Panel Cut Out:	92mm high x 92mm wide
Compliant With:	Low Voltage Directive and Electromagnetic Compatibility Directive
Weight:	0.5Kg approx
IP Protection:	IP30 at front IP20 at rear

## Connections



All rear connectors are two-part removable, and can be unplugged to facilitate fast and convenient connection. If remote start operation is required, the installer should ensure sufficient visual and audible warning takes place before commanding the start sequence.

Fuse FS3 should meet the current required to power the external relays. All other fuses should be 1 Amp.