

# MSU2.0

# MANUAL START UNIT

## DESCRIPTION

MSU 2.0 manual genset control unit provides the functions, required in manual control applications of gensets. MSU 2.0 runs and stops generator manually, protect it against failures and displays necessary datas on front panel. It also provide generator contactor function. The module offers a very cost effective and space saving solutions as it is able to display all the parametres which are essential for the basic gen-set control.The module has 2 operation modes.Stop,Start operation modes can be chosen via the push-buttons mounted on the front panel.While the module is in Stop mode,if the menu button is pressed ,the 29 parameter settings, which are used for controlling the generator,can be adjusted.So the module can be adapted to all the generator without the need of any other unit or module.

## OPERATION PRINCIPLES

### Monitoring and Indicators:

- L1-N generator voltage
- Generator frequency
- By pressing the menu button in start mode,parameters can be displayed on the unit.
- 8 failure indicators on the front panel

### Operation modes:



#### *Reset*

The reset button is used to cancel the alarm and reset the failures.



#### *Start*

The Start button is used for operating the generator by using the parameters settings which are adjusted before.When the generator operates within the limits adjusted before ,the load is transferred to the generator.By pressing stop button, the generator is stopped automatically by using the parameter settings.In case of a failure while operating, the unit will stop the generator automatically.



#### *Stop*

By pressing stop button, the generator is stopped automatically by using the parameter settings.If the load output is energised, the generator is operated off load until the cooling time expires.

### FEATURES

- Micro-processor based design
- Automatic engine starting and stopping
- Automatic load transfer
- Configurable via front panel
- Automatic shut down on fault condition
- Operate with cranking dropouts
- Preheat,auto ready and engine start outputs
- Stop/fuel solenoid selection
- Generator phase true RMS voltage measuring and monitoring
- Generator frequency measuring and monitoring
- Digitally adjustable low&high generator voltage limits
- Digitally adjustable generator start timings
- Digitally adjustable generator overspeed /underspeed limits
- Digitally adjustable generator stop timings
- Digitally adjustable generator failure control timings
- Digitally adjustable auxiliary inputs specifications
- Digitally adjustable auxiliary outputs specifications
- Digitally adjustable preheat,cooling and load transfer timings
- Failure control and indicators
- Digitally adjustable sleep-mode selection
- Digitally adjustable measurement calibrations
- Digital display
- Low cost,small dimensions

### FAILURES

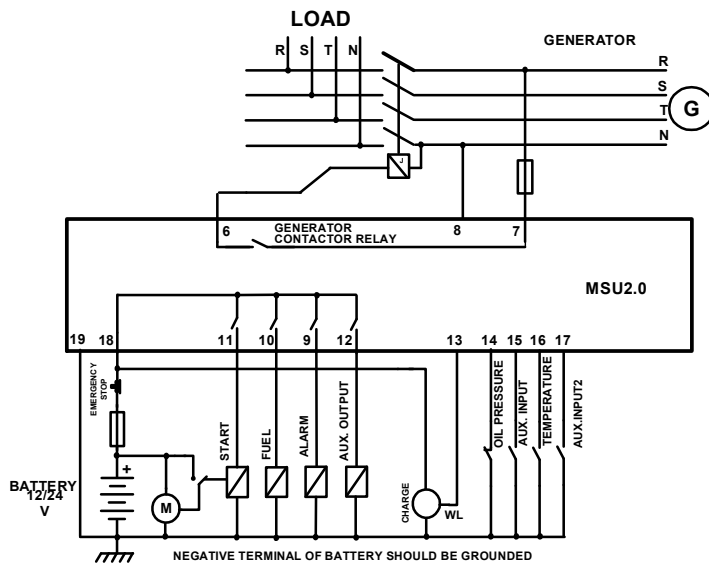
- Start/stop failure
- Low oil pressure failure
- High engine temperature failure
- Overspeed/underspeed failure

- Auxiliary failure 1
- Over/under voltage failure
- Auxiliary failure 2
- Charge fail warning

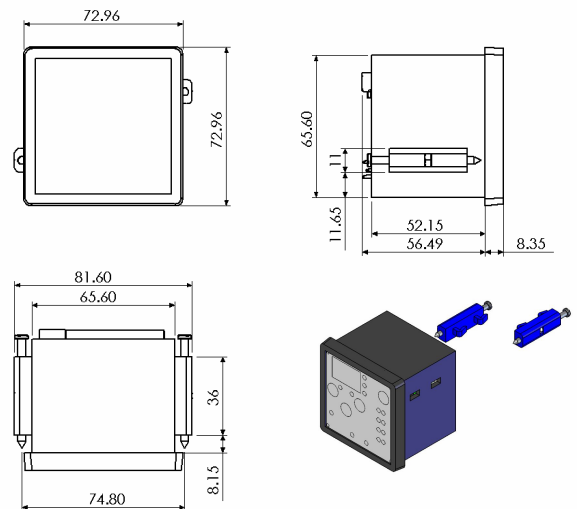
### SPECIFICATIONS

<b>DC Supply</b>	9-35VDC 30mA (stop mode) 90mA (auto mode) 130mA(maximum current)
<b>Operating</b>	-10°C / +70°C
<b>Relative Humidity</b>	%10-%95 non-condensing
<b>Relay Outputs</b>	Alarm,fuel,start and auxiliary outputs 6A/12-24VDC Generator contactor outputs 10A / 250VAC
<b>Frequency Measurement</b>	1-99Hz
<b>Voltage Measurement</b>	50-300VAC
<b>Measurement Accuracy</b>	Phase Voltages : + / - %1 Generator Frequency: + / - 0.2Hz
<b>Cranking Dropouts</b>	0 V for 50ms.
<b>Connection</b>	Screw socket
<b>Housing</b>	High temperature proof PPO GF %20
<b>Protection Class</b>	IP 52 (Front side)
<b>Weight</b>	600 gr. (aprox.)
<b>Dimensions (WxHxD)</b>	192x144x62 mm
<b>Panel Cut Out</b>	186x138 mm
<b>Mounting Installation</b>	Front panel mounted with rear metal screw fixings Max. allowable mounting panel thickness 3mm

### CONNECTIONS



### DIMENSIONS AND MOUNTING



Dimensions in mm