



### FEATURES:

- Microprocessor based design
- Manual Engine start and stop
- 128x64 graphics LCD Display with key pad
- Solid state fuel stop & crank output signals max for 1A
- Solid state digital outputs for Grid Heater and Compressor Load Valve for max 150mA
- Integral Starter Protection
- Safety Protection against various faults
- Communication Port – RS485
- IP 66 plastic enclosure
- Fault history (upto 100 events)

- **Overall Dimensions : 304mm x 137mm X 75mm**

### SPECIFICATIONS:

Power supply:

- 24V Battery Driven

Environmental Specifications:

- Operating Temperature: 0 - 70°C

Cutout dimensions: (for controller)

- 247mm x 137mm x 75mm

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### Indications and Messages on LCD display:

- Battery voltage (V)
- LOP (Bar)
- WT (°C)
- Run Hours (Hr:Min)
- Engine Speed (RPM)
- LOT (°C)
- Oil change monitor
- Fuel Level (%)
- Fuel Pressure ( Bar)
- Comp Temp1 (°C)
- Comp Temp 2 (°C)
- Comp Pressure 1 ( Bar)
- Comp Pressure 2 ( Bar)
- Load / Unload Hr(Hr:Min)
- Regulating Pressure ( Bar)
- Active sequence – Load /Unload message
- Ready to Start message
- Common Warning message

### LED Indication:

- Engine Running
- Warning
- Shut down
- Load / Unload Indication
- Charging Fail
- Start
- Stop

### HMI Switches:

- Start
- Stop
- Load / Unload
- Enter
- Increment
- Decrement
- Scroll Stop
- Acknowledge
- Menu

### Sensor / switches required:

- LOT Sensor
- LOP Sensor
- WT Sensor
- Fuel Level Sensor
- Fuel Pressure Sensor
- MPU
- LCL switch
- Comp pr 4-20mA - 3 Nos
- Comp Temp 4-20mA – 2 Nos
- Emergency Stop
- Air Restriction switch

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**Output:**

- Start (Programmed cranking cycle)
- Stop (Programmable for Energize to start or energize to stop)
- Grid Heater ( Relay) ( Settable On time)
- Load Valve (Relay)

**Programmable Parameters:**

- Compressor temp & Pr. Range
- Comp temp & pr warning & trip ORH
- Engine model number of teeth
- HWT Warning & Trip ORH
- LOT warning ORH
- LOP Warning & trip ORH
- Over speed warning and trip
- Start prevention: based on vessel pressure
- Load prevention: based on vessel pressure

Sr.no.	Parameter	Range	Standard if not set
1	Grid Heater Time	0-120 sec	0 sec
2	Crank Time	1-20sec	6 sec
3	Rest time	1-59 sec	15 sec
4	Crank attempt	3 & 6 attempt	3 attempt
5	LLOP bypass time	6-59 sec	6sec
6	Stop Time	0-250 sec	180 sec
7	CV air Pressure for Start prevention	0-50 bar	50 bar
8	Vessel Pressure for Load prevention	0-50 bar	50 bar
9	Ring gear teeth	111-999	158
10	Over speed percentage	5-20%	10%

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**Terminal Details:**

**Connector CN1 19pin MS Conn. (M)**

PIN A: BATT -VE  
PIN B: MPU -VE  
PIN C: BATT -VE  
PIN D: FUEL SHUT OFF (STOP)  
PIN E: STARTER  
PIN F: GRID HEATER RELAY  
PIN G: NOT CONNECTED  
PIN H: AIR RISTRATION SW  
PIN J: LOP SENSOR  
PIN K: LOP SENSOR  
PIN L: BATT +VE  
PIN M: MPU SHIELD  
PIN N: WT SENSOR  
PIN P: WT SENSOR  
PIN R: LCL SWITCH  
PIN S: LOT Sensor ( Not Required)  
PIN T: MPU +VE  
PIN U: LOT Sensor ( Not Required)  
PIN V: W - POINT

**Connector CN3 – 9 Pin D type**

PIN 1: RS485 A  
PIN 2: RS485 B  
PIN 5: RS485 GND

**Connector CN2 10 Pin MS conn. (M)**

PIN A: Interstage PR SENSOR  
PIN B: CV Air PR SENSOR  
PIN C: Interstage TEMP SENSOR  
PIN D: CV Air TEMP SENSOR  
PIN E: SENSOR SUPPLY 5V DC  
PIN F: GND  
PIN G: COMPRESSOR LOAD VALVE  
PIN H: EMERGENCY STOP  
PIN I: GND  
PIN J: Regulating PR SENSOR

**Connector CN3 7 Pin MS conn. (F)**

PIN A: FUEL LEVEL SENSOR  
PIN B: FUEL LEVEL SENSOR  
PIN C: FPS SUPPLY  
PIN D: FPS GND  
PIN E: FPS SIGNAL  
PIN F: -  
PIN G: -