

# Diesel Engine Protection Module REV-1

## BE72 REV1

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## BE72 Specifications

D Battery	5V up to 36 Vdc
Static Outputs (short circuit proof)	200 mA dc
Key Switch Rating	30 A (30 secs)/50 A (1 secs)
Dimensions	72X72X55
Weight	300 gr
Operating Temperature Range	-30° C /+70° C
Operating Humidity (non-condensing)	95%

## Description:

The BE72 includes the basic safeguards to protect an engine. The BE72 features 7 LEDs, 3 Static Outputs and a 30A Key Switch. The BE72 monitors an Oil Pressure-switch, Temperature-switch, Fuel Level-switch, Charger Alternator Voltage and an Emergency-switch. The BE72 provides a MANUAL mode of operation via a 30A Key-switch. The 2023 version features normally closed contacts on terminals #30/1 and #15. This makes the Be72 suitable for gasoline engine.

## MANUAL MODE instruction:

- A) - Turn the [KEY-switch] clockwise to [PREHEAT] position until all LEDs illuminate.
- B) - Wait until the only [OIL PRESSURE] and [CHARGER FAILURE] LEDs remain illuminated. If the [PREHEAT] timer is set, the yellow LED [PREHEAT] will illuminate according to the setting of the potentiometer (adjustable on the back from 10 up to 60 seconds).
- C) - As soon as the green [ENGINE RUNNING] LED starts blinking, turn the key switch clockwise up to the spring-loaded momentary position. Hold this position until the engine starts. The [ENGINE RUNNING] LED will blink for a period of about 15 seconds. If the engine does not start within this period, the [STARTING FAILURE ALARM] will take place.
- D) - To stop the engine, turn the key switch fully counter clockwise (Off position).

## NOTE1

In order to stop the engine, we recommend that you use a **FUEL SOLENOID** energized to run connected to the output #9 via a pilot (driver) relay. If you use a **STOP SOLENOID**, energized to stop, turn the potentiometer on the back fully clockwise and connect the **STOP SOLENOID** to output #8 via a pilot (driver) relay as indicated in the wiring diagram. The BE72 will provide a 60-second stop cycle for output #8. When you use the output #8 to drive a **STOP SOLENOID**, the **ALARM** function output will not be longer available.

## NOTE 2

The BE72-2023 version features a normally closed #30/1 and #15 contacts. When the key is placed in the OFF position, you can stop a gasoline engine. When you turn the key to on, the contacts open and you can start the engine. If you have to replace an old Be72 in which the contacts #30/1 and #15 were used, follow the steps. 1) Unplug the white faston on #15-54. 2) Insert an adapter on terminal #15-54. 3) Connect the white faston. 4) Remove the connection from terminal #15 and connect it to the adapter. 5) Remove the connection from terminal #30/1.

## THE15/54 ADAPTER



## Front panel description

### [PREHEAT] yellow LED

This indicator illuminates during the Pre-Glow cycle (10 secs to 60 secs via the potentiometer setting on the back of the Be72).

### [ENGINE RUNNING] green LED

This LED blinks for 15 seconds, indicating that the BE72B is ready to start the engine (you have to turn the key to start). If the engine does not run within 15 seconds, the 'Starting Failure' alarm will take place. This LED illuminates continuously if the engine runs.

### [EMERGENCY] red LED

This LED blinks for 60 seconds, indicating a STOP cycle (if a STOP solenoid mode is used). It illuminates continuously when a shut down has been caused by the Emergency switch (input#3)

### [CHARGER FAILURE] red LED

This indicator illuminates when starting the engine, or if a Belt Break shut down occurs.

### [OIL PRESSURE] red LED

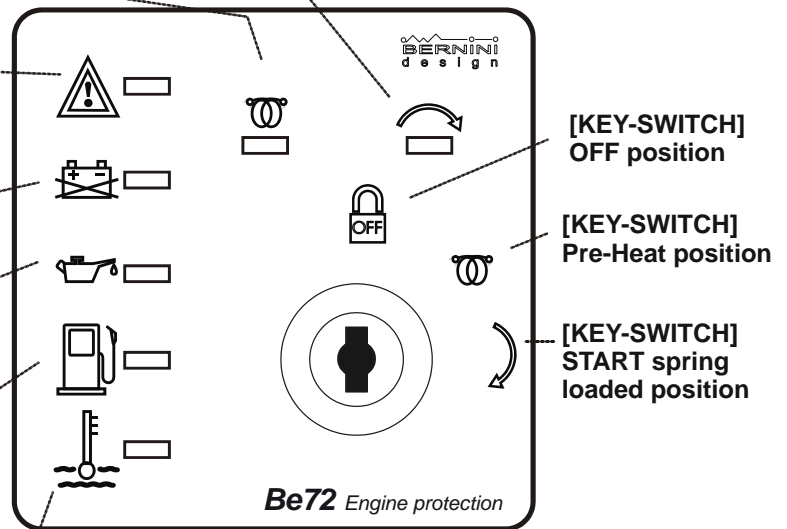
This indicator illuminates when starting the engine, or if an Oil Pressure shut down occurs.

### [FUEL LEVEL] red LED

This indicator blinks when a low fuel condition occurs (a level switch should be connected to terminal #4). This LED illuminates continuously to indicate a shut down, if the switch has been closed for more than 5 minutes.

### [TEMPERATURE] red LED

This indicator illuminates when a High Temperature shut down occurs (a temperature-switch should be connected to terminal #2).



[KEY-SWITCH] OFF position

[KEY-SWITCH] Pre-Heat position

[KEY-SWITCH] START spring loaded position

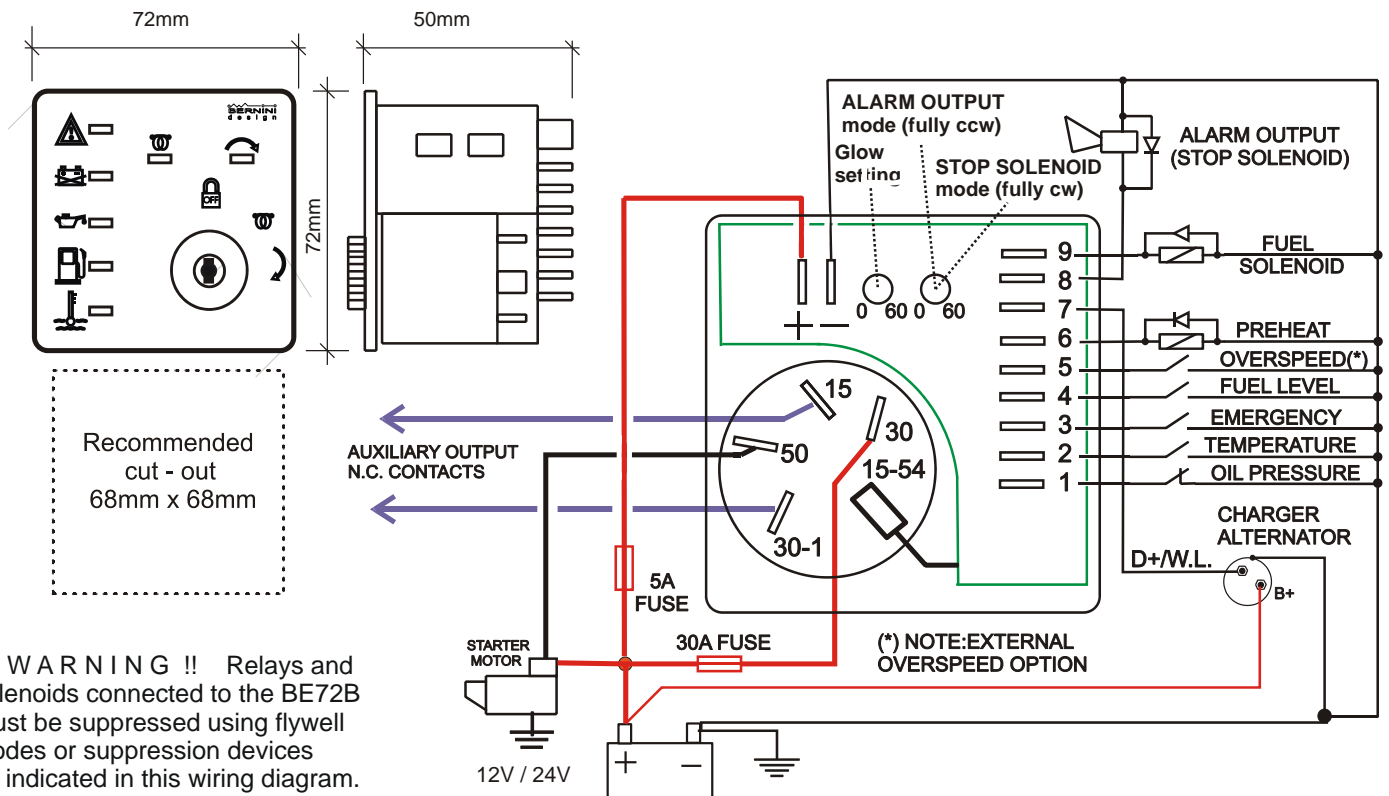


[STARTING FAILURE ALARM] indication  
These LEDs blink alternatively (slowly) to indicate a starting failure alarm.



[OVERSPEED] indication  
These two LEDs blink alternatively (fast) to indicate an OVERSPEED alarm.

## Typical Wiring Diagram and dimensions



!! WARNING !! Relays and solenoids connected to the BE72B must be suppressed using flywell diodes or suppression devices as indicated in this wiring diagram.