

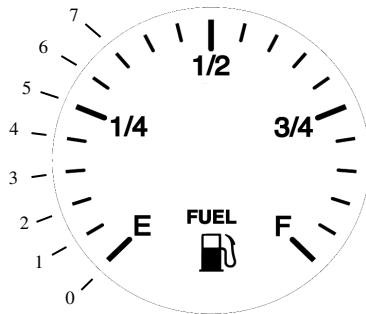
SPA Stepper Motor Analogue Fuel Level Gauge

Switch on the ignition to power on the gauge and watch the needle drive forward and then quickly back to the LED lamp, the needle will now move to show fuel level. Press the button to recall maximum stored fuel level. If you press and hold the button for more than 5 seconds, the stored maximum will be reset to the current fuel level. This feature can be used to see how much fuel has been used during a period (EG race or trip)

When the vehicle lights are switched on, the gauge will use the night time brightness instead of the normal daytime brightness. Night time brightness can be set* from 0 to 100% brightness as desired. When the fuel level falls below 25%, then the Yellow alarm LED will flash slowly and softly. This is also configurable* to any desired fuel level. When the ignition is switched off, the gauge will park the needle back to zero and switch itself off.

*using the menu system:-

The menu system uses the minor divisions of the dial scale to indicate menu item numbers.



To access the menu system, switch the ignition off and wait for the gauge to switch off. Hold down the red button, and keep it down while you turn the ignition on. When the yellow LED lights up, you are in the menu system and you can release the button. The needle is now pointing to menu item number 1. The LED lamp will light while pointing to a menu item number, and will go out when that menu item is accessed.

Menu items:-

- 1 - Demo mode: 0 = demo mode off, 1 = demo mode on
- 2 - Backlight brightness Night: 0 = off, full-scale = 100%
- 3 - Alarm set point: set to any fuel level desired
- 4 - Tank setup.
- 5 - Test sensor: shows the sensors voltage as 0-5v over the full scale.
- 6 - Averaging filter: Set higher to average out fluctuation fuel level.
- 7 - Exit menu: Return to normal gauge operation

Click the switch until the needle points the menu item number desired. Now press and hold down the button, and after 2 seconds the LED lamp will go out. The needle now shows the current setting for that menu item. Click or press and hold the button to change the setting, to return to the menu system wait for 4 seconds and the LED lamp will light and the needle will move to show the menu item number again. When you access menu item 7, the gauge will return to normal operation reading pressure.

Averaging filter: If a slower response is required, set this to a higher value (EG half scale).

Tank setup: This is used to setup a 5 point calibration so that any shaped tank will read accurately. Start with the tank empty:-

Tank empty: Enter the tank setup menu item. The now needle points to zero. It can be clicked to point to

calibration points 0 (empty), 1, 2, 3, 4 and 5 (full) but we are going to start with 0.

Press and hold the button to store the tank empty reading and the gauge returns to Tank setup item (menu 4).
Now fill the tank to 20% of its capacity.

Tank 20%: Hold down the button to access tank setup again this time click the needle to point to 1, press and hold to store. Now fill the tank to 40% of its capacity.

Tank 40%: Hold down the button to access tank setup again this time click the needle to point to 2, press and hold to store. Now fill the tank to 60% of its capacity.

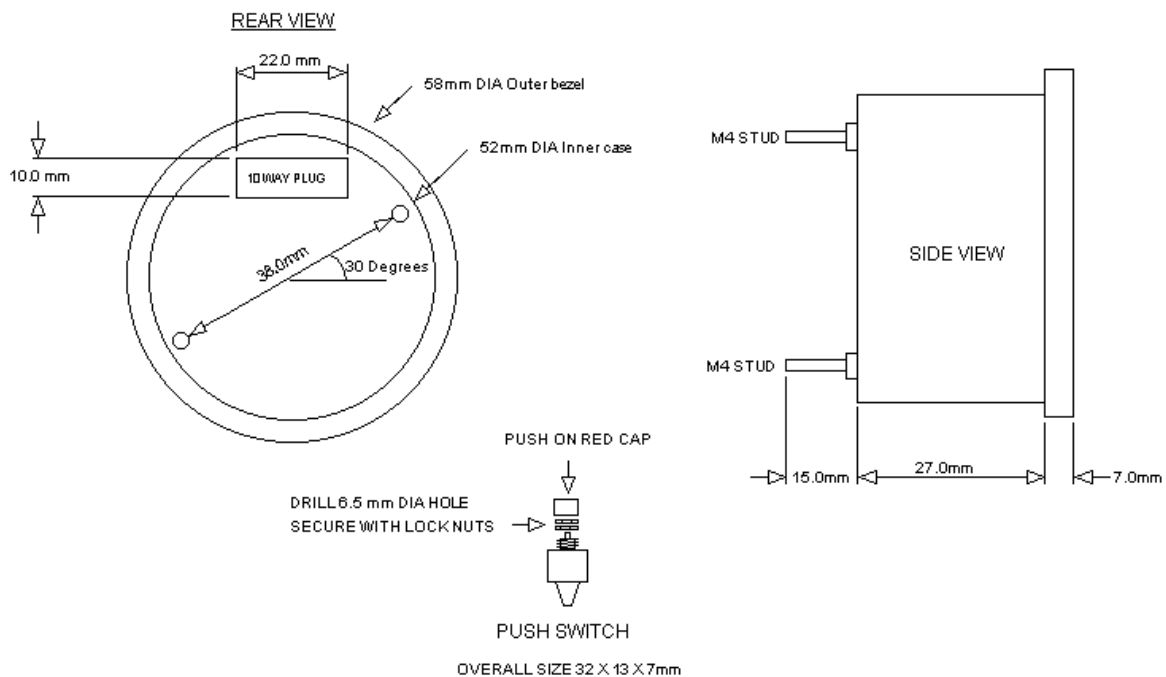
Tank 60%: Hold down the button to access tank setup again this time click the needle to point to 3, press and hold to store. Now fill the tank to 80% of its capacity.

Tank 80%: Hold down the button to access tank setup again this time click the needle to point to 4, press and hold to store. Now fill the tank to 1000% of its capacity.

Tank 100%: Hold down the button to access tank setup again this time click the needle to point to 5, press and hold to store. Tank calibration is now complete, so click to exit (menu item 7).

Hardware Installation

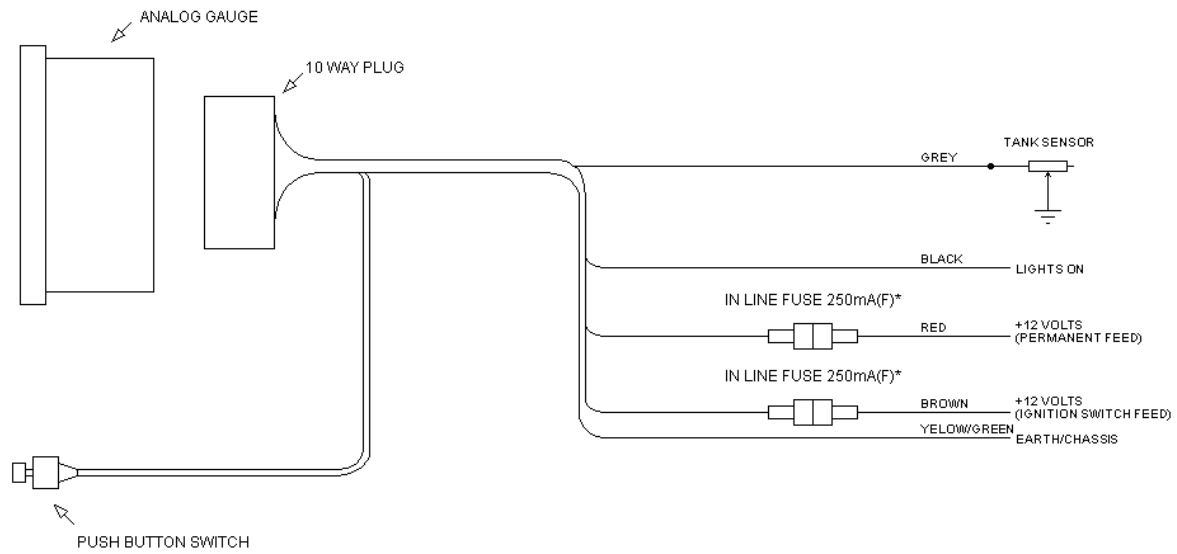
If the gauge is likely to be subject to extreme vibration, it should be mounted either in high density foam, or to a plate that is mounted on rubber bushes.



Electrical Installation

Wire the Red wire to a permanent (not switched) +12v connection.

Wire the Brown wire to +12v ignition feed, so it has +12v when the ignition is switched on.
 Wire the Yellow/Green wire direct to chassis or a chassis spur.
 Wire the black wire to lighting system, so it has +12v when the vehicle lights are switched on.
 Wire the Grey wire to the tank sensor, if the sensor has two wires, ensure on is connected to chassis.



Specification:-

Supply Voltage: 12-16 volts (pulses allowed up to 28v)
 Power consumption: 40mA typical
 Accuracy: ~ 2%
 Weight:
 Size: 52mm DIA x 34mm (Bezel 58mm DIA)
 Compatible tank sensors: 50-1000 Ohm, normal or reversed types.
 Cable length: Temperature 2.7m, switch 60 cm

Absolute maximum ratings:-
 Pressure sensor: 32 Bar / 464 PSI
 Gauge: -20 to +70 degrees C