Caerbont Automotive Instruments

Bi-Metal Gauges & BR Voltage Regulators

Bi-Metal gauges work on resistance.

Each gauge has 2 Lucar terminals on the rear, it does not matter which way round you connect the power and sender input wires.

If your gauge function is Fuel level, Water temperature or Oil temperature it **must** be run at 10 volts, not ignition voltage. You need to have a 10-volt regulator installed running between 9.6 to 10.3 Volts. Failure to do so will make the gauges massively over read and may damage them internally. Our "BR" range of voltage regulators can support a maximum of 2 gauges.

The connections are as follows, regulator metal tab to Ground, terminal "B" is connected to switched ignition or battery and terminal "I" goes to the instrument.

With single terminal temperature senders do not use any PTFE tape or sealant on the threads as it compromises the earth connection.

Designed and manufactured under ISO9001:2015 quality standard

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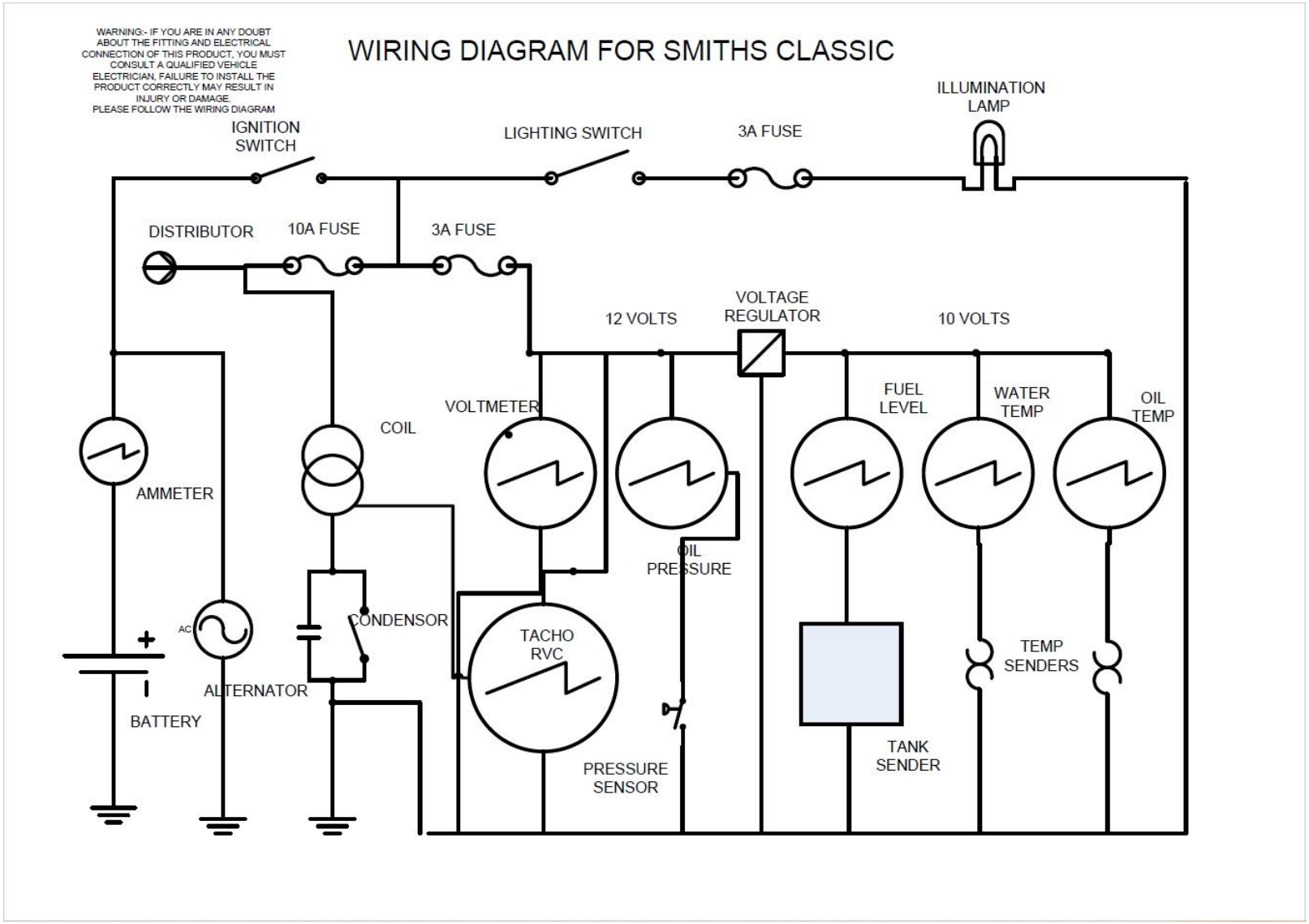

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Voltage Stabiliser/Regulator

Some Smiths' Classic bimetal gauges operate on a stabilised 10-volt supply. A healthy car battery will supply somewhere in the region of 13.5volts. A 'voltage stabiliser' must be fitted to the gauge supply line. Only Bi Metal Fuel or any form of Bi Metal Temperature gauge require a stabiliser.

There are many variants of the Smiths voltage stabiliser, but the connections are common.

Connection 'I' - Depending on the variant, this connector might be a single male or female or it might be a dual male or female. The 'I' terminal(s) should be connected to the Instrument (gauge).

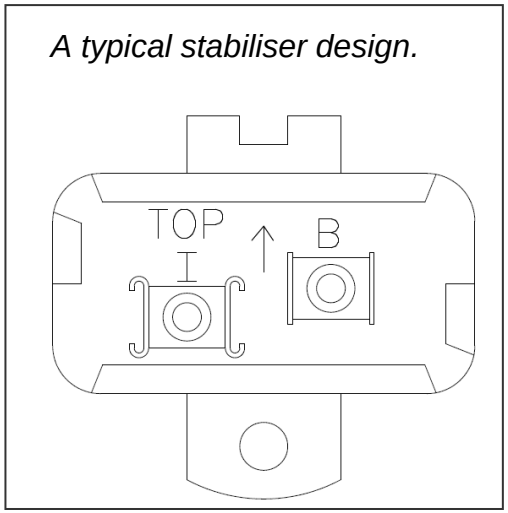
Connection 'B' - The connector can vary in the same way as connection 'I'. The 'B' terminal(s) should be connected to the switched Battery supply via the ignition switch.

Mounting Bracket - Depending on the part number, the mounting bracket appear on the sides, top or bottom of the case. The case must be connected to ground - this is generally achieved fixing the bracket firmly to the chassis or other earth.

Unlike the original electromechanical stabilisers our modern electronic versions can be mounted in any orientation.

The above is for Negative earth applications. If you have a Positive earth vehicle then Positive earth regulators are also available.

A typical stabiliser design.



If using a Positive earth version, the mounting bracket goes to battery positive (12V ground), and the "B" terminal goes to the switched Battery Negative terminal, via the ignition switch.

Whether Negative or Positive earth, the working voltage should be between 9.6 – 10.3 Volts.

Each regulator can supply a maximum of 2 gauges.

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