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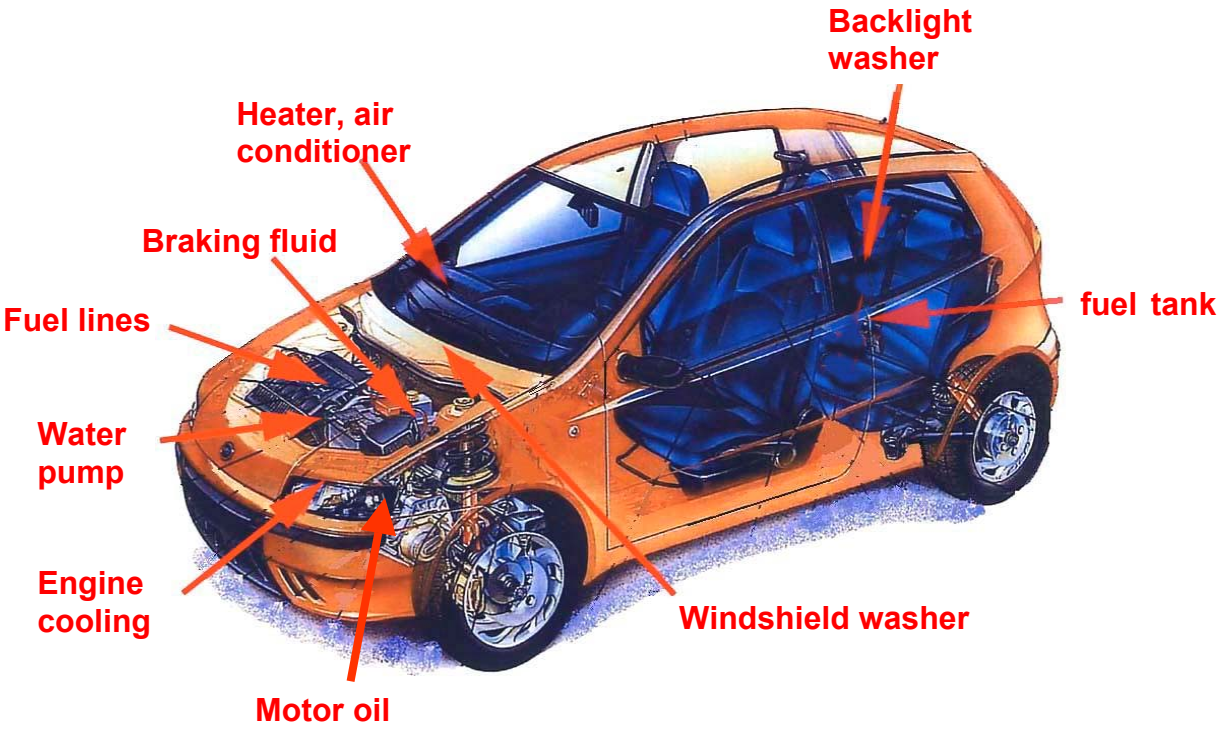
Liquid Level Gauges for Automobiles

Liquid level gauges for automotive applications are many and varied but all are low cost sensing system, typically between 1 to 5 US$ per unit. Until now the quantity of remaining liquid was the objective of measurement, in the future also chemical composition (multi-fuel vehicles) and the quality of the liquid (e.g. oil) will become measurement targets.

Presently roughly 75 % of all liquid level gauges are of the buoyancy type whilst all other technologies make up the remaining 25 %. This implies that the shape of the liquid volume is rather simple of box or cylinder type. Modern car design is always fighting with available space and large reservoirs such as the fuel tank have increasingly complex shapes in order to fit into tight space and then simple buoyancy devices will not give an accurate reading. Furthermore the car industry is preparing for the days when fuel sensors need to detect the octane number, or Diesel exhaust clean up will require a supply of urea for NO_X reduction. In our investigation the shape problem, fuel quality and property measurements as well as accuracy of remaining quantity especially at low levels are the principal demands from the automobile industry. Technologies are available to detect any change in fuel or oil or refrigerant composition or quality, the question remains whether they can mass-produced at extremely low cost.

Overall the market of liquid level sensors will double by the year 2010 according to sources from car makers and companies making such gauges. The major unknown appears to be profitability when introducing new technologies to fulfil the requirements of the automobile industry.



*More information and the Table of Content of this useful 100 page report can be obtained from **sgt Sensor Consulting Dr. Guido Tschulena**, who has written the report together with Felix Trojer from Netlab GmbH in Düsseldorf. Tel: + 49 6081 56 168, Fax: + 49 6081 57 222, Mail:* info@tschulena.de

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