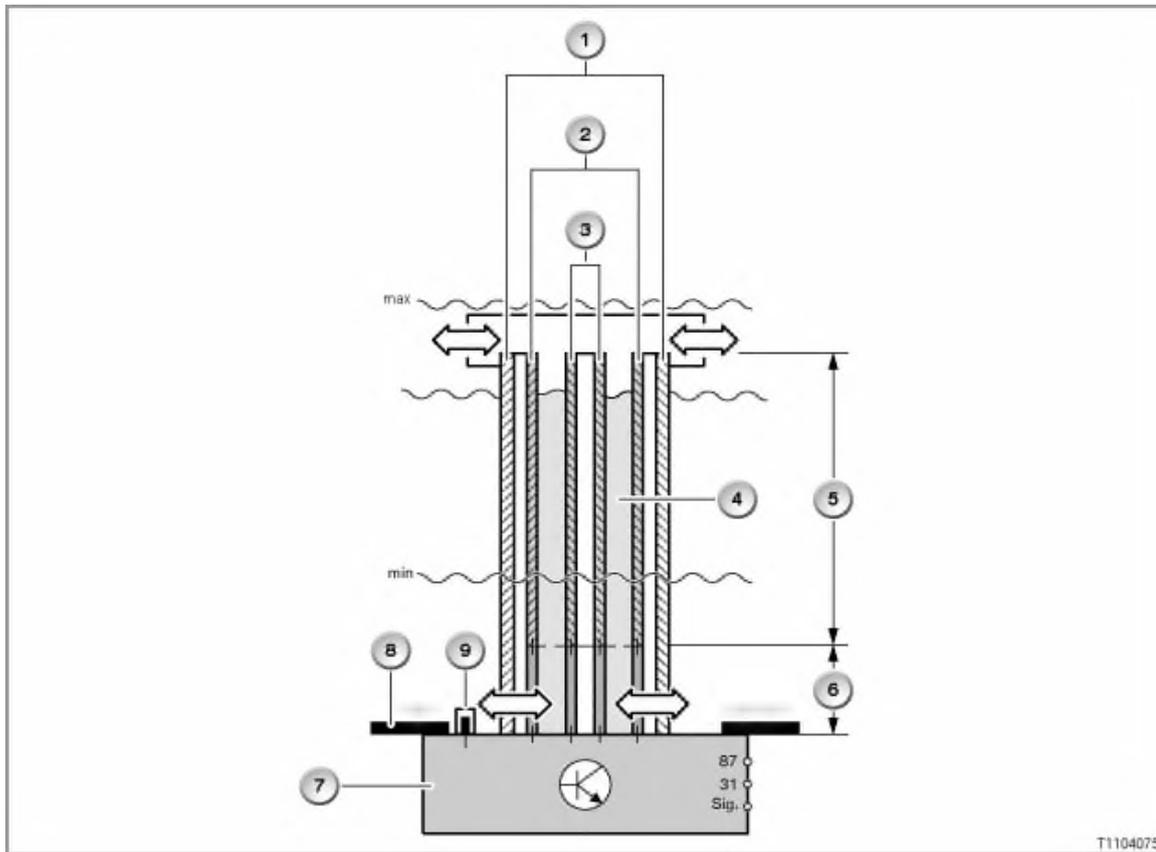


Construction



The illustration shows the construction of the oil condition sensor

Key	Explanation	Key	Explanation
1	Housing	2	Outer tube
3	Inner tube	4	Engine oil
5	Oil level measuring range	6	Engine oil condition measuring range.
7	Evaluation electronics	8	Oil pan
9	Temperature sensor		

How it works

The oil condition sensor consists of two cylinder capacitors arranged one above the other. The engine oil quality is measured by the lower, smaller capacitor.

Two metal tubes are arranged one inside the other as capacitor electrodes. The engine oil is located between the electrodes as an electrical non-conductor (insulator). The electrical material property of the engine oil changes with increasing wear and dissipation of the fuel additive. The changed electrical material properties of the engine oil change the capacitance of the capacitor. This capacitance value is processed in the integrated electronic evaluation unit into a digital signal. The digital sensor signal is passed on as an indication of the engine oil quality to the digital engine electronics (DME). This actual value is processed in the DME to calculate the next engine oil service.

The oil level is determined in the top of the sensor. This part of the sensor is located at the height of the oil level in the oil pan. As the oil level falls, the capacitance of the capacitor falls accordingly. This capacitance value is processed by the electronic evaluation unit into a digital signal and also sent to the DME.

A temperature sensor has been fitted to the electronic evaluation unit to measure the engine oil temperature.

The oil level, engine oil temperature and engine oil quality are measured continuously from ignition ON.