

## Oil / Water Temperature Sensor



### Description

High quality, plastic-sheathed "NTC" type oil and water temperature sensor. In a brass housing with 2 thread options: M12 x 1.5mm pitch or 1/8" NPT (which is a tapered American standard). The sensors are about 50mm overall length. Temperature range of -40°C to 130°C. The resistance of the sensor changes with temperature. For direct connection to the DL1 a "pull up resistor" is required. If the sensor is ordered with a cable, this resistor is already included and will be ready for immediate use with the DL1 or DL2 etc.

### Technical Data

Measuring Range °C	-40 to +130
Nominal Resistance at 20°C kohm	2.5±5%
Electrical Resistance at -10°C kohm	8.26 to 10.56
+20°C kohm	2.28 to 2.72
+80°C kohm	0.290 to 0.364
Nominal Voltage V	≤5
Measured current, max. mA	1
Thermal time constant s	44
Max. power loss at $\Delta T \approx 1K$ and stationery air 23°C . m*s-2	100
Degree of protection (with single conductor sealing)	IP64K
Corrosion tested as per	DIN 50 018
Plugs	Jetronic, tin plated pins
Tightening torque (Nm)	25

## **Design and function**

The sensing element of the NTC temperature sensor (NTC = Negative Temperature Coefficient) is a resistor comprised of metal oxides and oxidised mixed crystals. This mixture is produced by sintering and pressing with the addition of binding agents. For automotive applications, NTC resistors are enclosed in a protective housing. If NTC resistors are exposed to external heat, their resistance drops drastically and, provided the supply voltage remains constant, their input current climbs rapidly. This property can be utilised for temperature measurement.

## **Note**

Each 2-pole plug requires 1 plug housing, 2 contact pins and 2 individual gaskets. For automotive applications, original AMP crimping tools must be used.

The main product is the M12 x 1.5mm pitch sensor, the 1/8" NPT is the available variation.