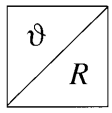
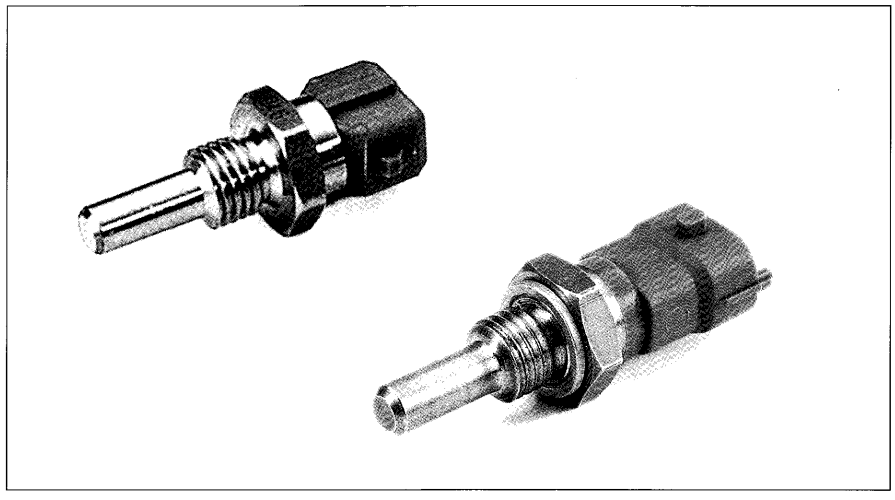
NTC temperature sensors (contd.)
Measurement of liquid-temperatures from –40 °C to +130 °C



● For a wide variety of liquid-temperature measurements using temperature-dependent resistors



Range

NTC temperature sensor
Plastic-sheathed NTC resistor in a brass housing

	0 280 130 026
	0 280 130 093

Accessories

For 0 280 130 026

Connector	**1 237 000 036**

For 0 280 130 093

Designation	For cable cross-section	Part number
Plug housing	–	**1 928 403 137**
Contact pins	0.5...1.0 mm²	**1 987 280 103**
	1.5...2.5 mm²	**1 987 280 105**
Individual gaskets	0.5...1.0 mm²	**1 987 280 106**
	1.5...2.5 mm²	**1 987 280 107**

Technical data

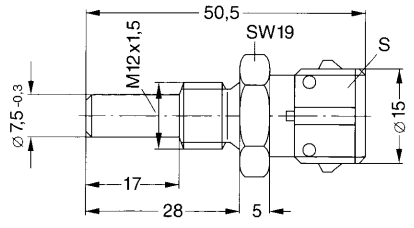
Part number			0 280 130 026	0 280 130 093
Measuring range		°C	–30...+130	–40...+130
Tolerance at	+20 °C	°C	1.2	1.2
	+100 °C	°C	3.4	3.4
Nominal resistance at 20 °C		kΩ	2.5 ±5 %	2.5 ±5 %
Electrical resistance at	–10 °C	kΩ	8.26...10.56	8.727...10.067
	+20 °C	kΩ	2.28...2.72	2.375...2.625
	+80 °C	kΩ	0.290...0.364	–
Nominal voltage		V	≤ 5	≤ 5
Measured current, max.		mA	5	1
Max. power loss at ΔT ≈ 1K and stationary air 23 °C		mW	15	–
Thermal time constant		s	–	44
Guide value for permissible vibration acceleration (sinusoidal vibration)		$m \cdot s^{-2}$	600	≤ 300
Degree of protection			IP 54A	–
Corrosion-tested as per			DIN 50 018	–

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.

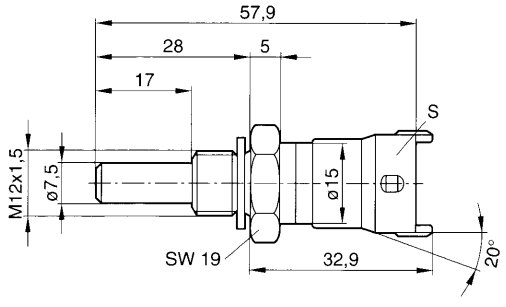
Design and function
NTC sensor:
The sensing element of the NTC temperature sensor (NTC = **N**egative **T**emperature **C**oefficient) is a resistor comprised of metal oxides and oxidized mixed crystals. This mixture is produced by sintering and pressing with the addition of binding agents.
For automotive 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. NTC resistors are suitable for use in the most varied ambient conditions, and with them it is possible to measure a wide range of liquid temperatures.

Dimension drawing
S Plug
SW A/F size

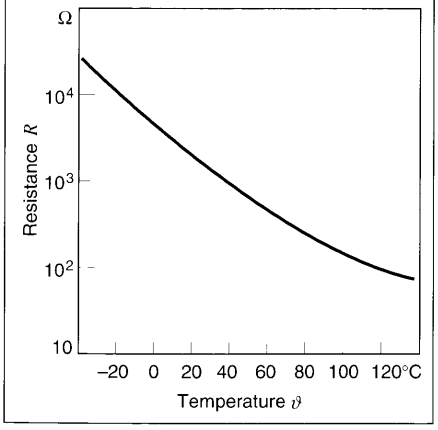
0 280 130 026



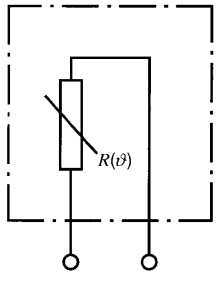
0 280 130 093



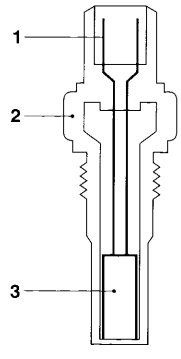
Characteristic curve



Diagram



Temperature sensor (principle)
1 Electrical connection
2 Housing
3 NTC resistor



Explanation of symbols

R	Resistance
ϑ	Temperature