



Construction and Function :

The ceramic part of the Lambda-Probe (Solid electrolytes) has the design of a one-side-closed pipe. The surface, inside and outside, of the probe-ceramic is covered with a microporous platin layer (electrode). The catalytic effect of the platin influences the characteristic of the probe.

On the gas-measuring-side of the probe, porous ceramic is over the platin layer. This protection layer prevents an erosive influence residue in the measuring gas and on the catalytic effect from the platin layer. The probe receives therefore a high long-time stability.

The ceramic heating element heats up the active probe ceramic (ZrO_2) inside, independent of the process temperature.

The ceramic heating element possesses PTC-characteristic, and serves to rapid heating and mark off the performance consumption.

The heating element connections are easy from the probe signal voltage ($R \geq 30M\text{-}\Omega$).

Main applications :

- **Environmental engineering**
- **Industrial process**
- **Process engineering**
- **Gas analysis**
- **Heat treatment unit**

Lambda-Probe

Technical Data:

Sensor element:
Zirkoniumdioxide pipe

Fitting thread:
M 18

Measuring range:
 $21 \dots 1 \dots 10^{-26} \%O_2$

Reaction time:
approx. 1 sec.

Measuring gas temperature:
 $\leq 200 \text{ }^\circ\text{C}$

Measuring gas quantity:
approx.. 20-50 l/h

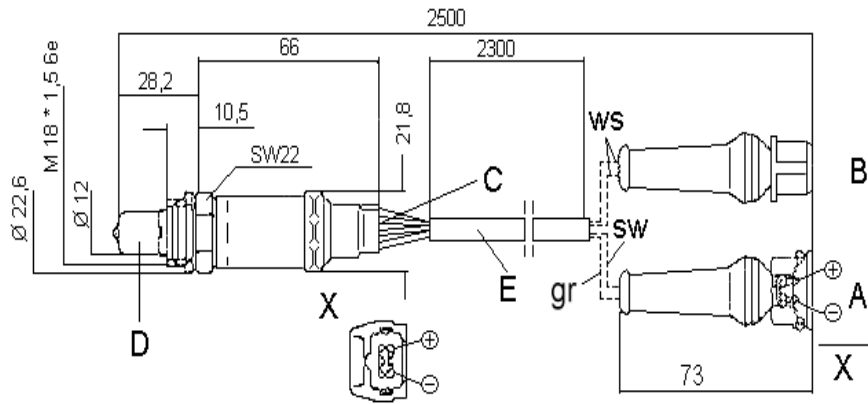
Connection (over a 2,3 m lead):
Heating voltage: plug
Probe signal: socket

Output:
0...1300 mV

Climate:
Storage: $-40 \dots +100 \text{ }^\circ\text{C}$
Operation: $0 \dots +100 \text{ }^\circ\text{C}$
5...95 % relative humidity, non condensing

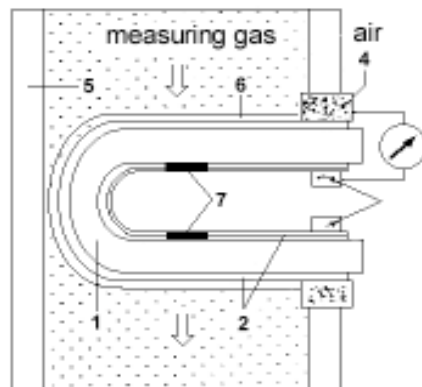
Measure picture (Measures attract with $M = 50 \text{ Nm}$)

- A Signal voltage
- B Heating voltage
- C Cabel socket and seals
- D Protection pipe
- E Protection tube
- ws white, sw black, gr grey



Lambda probe in the exhaust gas pipe (prinzip)

- 1 Probe ceramic
- 2 Electrode
- 3 Contact
- 4 Cabinet connecting
- 5 Exhaust gas pipe
- 6 Ceramic protection layer (porous)
- 7 Platin layer (porous)



Spare part for:

- Gas sampling fitting GE 3.03.1
- MK1, MK2.1, MK2.0