Technical Data Lambda Probe LS1



Fig. 1 Lambda Probe LS1

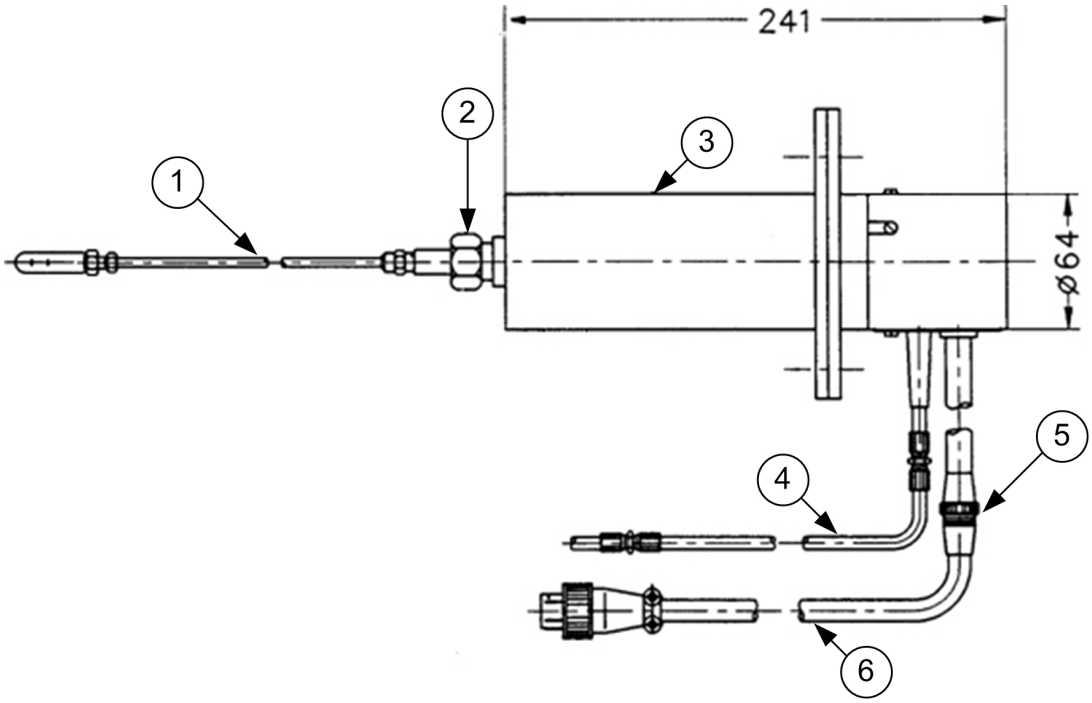


Fig. 2 Dimensional drawing Lambda Probe LS1

1 Gas Extraction Device (GED)
2 Max. ambient temperature of screw nut 400 °C (short-term 450 °C)
3 Lambda probe LS1 type 650R0034
4 Measuring gas tube
5 Probe extension 2,5 and 10 m
6 7-pole probe plug

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Characteristics	
Measurement principle	Zirconium dioxide
Measuring system	Current probe (current-mode) Probe current = lin. f (O_2-contents)
Range of measuring	O_2: 0 ... 21 Vol. % during calibration with ambient air
Measurement accuracy	O_2: ± 0,2 Vol. % after calibration
Probe current for 21 Vol. % O_2	300 ... 600 mA
Operating temperature of measuring cell (sensor)	750 °C ... 850 °C | 1382 °F ... 1562 °F
Heating-up time	30 min up to full current at 21 % O_2 120 min to thermal equilibrium
Flue gas temperature	max. 950 °C | 1742 °F with standard Gas Extraction Device max. 1700 °C | 3092 °F with ceramic Gas Extraction Device
Cross sensitivity	None, with H_2O, CO_2, SO_2, HCl, CO as well as other combustibles will be burnt catalytically afterwards. Direct measurement in combustion gas is not possible
Temperature influence	1 % of measured value corresponse to 10 K housing temperature
Pressure sensitivity	1 % of measured value corresponse to 10 mbar
Zero drift	None
Response time t_{90}	< 15 s using standard measuring-gas extraction, length 450 mm
Measuring gas flow	0,3 ... 0,6 l/h constant by critical nozzle
Life cycle	2 - 4 years (depending on fuel)
Material	Standard Gas Extraction Device: 2.4851 (Alloy 601) Ceramic Gas Extraction Device: Al_2O_3
Housing	Pressure die casting Al Si 12 resp. Al 99,5 (cap)
Low pressure hose	Teflon 4/6 mm (PTFE), length 300 mm

Operating conditions	
Mounting position	optional
Required auxiliary power	Heating 26/29 V_{eff} 3 A_{eff} Measuring voltage: 0.4 ... 1 V, sliding Measuring current: < 1 A Negative pressure: ≥ 0.5 bar absolute at < 1 l/h
Electrical connection	Nickel line shielded 5 x 0,75 + 2 x 1,5 mm², fiber glass insulation, 7 pole locking plug, length 300 mm
Required data interpretating device	Lambda Transmitter LT1

Environmental conditions		
Operation	Ambient temperature	5 °C ... 100 °C | 41 °F ... 212 °F
Transport	Ambient temperature	-25 °C ... 60 °C | -13 °F ... 140 °F
Storage	Ambient temperature	-25 °C ... 60 °C | -13 °F ... 140 °F
Degree of protection	IP42	

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Order Information

Description / Type	Order no.
Lambda Probe LS1 for aggressive measuring gases, 300 mm connection cable, without Gas Extraction Device GED	650R0004
Lambda Probe LS1 for aggressive measuring gases, with 300 mm connecting cable, without Gas Extraction Device GED	650R0034

The information in this publication is subject to technical changes.

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