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Lambda Sensor LSU 4.9D

- **Lambda control for Diesel engines**
- **Wide band**
- **Exhaust gas temperature range (max.) for short time < 1,030°C**
- **Max. Hexagon temperature 600°C**

This sensor is designed to measure the oxygen content and Lambda value of exhaust gases in automotive engines. Due to its protective tube the LSU 4.9D is especially designed for Diesel applications.

The wide band lambda sensor LSU 4.9D is a planar ZrO_2 dual cell limiting current sensor with integrated heater. Its monotonic output signal in the range of Lambda = 0.65 to air makes the LSU capable of being used as an universal sensor for Lambda = 1 measurement as well as for other Lambda ranges. The connector module contains a trimming resistor, which defines the characteristic of the sensor. The LSU operates only in combination with a special LSU-IC, used in most Bosch Motorsport ECUs and Lambda control units like LT4.

The main benefit of the LSU is the robust design combined with the high Bosch production quality standard.

Application

Application	Lambda 0.65 to ∞
Fuel compatibility	Diesel
Exhaust gas pressure	< 4 bar
Exhaust gas temperature range (operating)	< 930°C
Exhaust gas temperature range (max.) for short time	< 1,030°C
Hexagon temperature	< 600°C
Wire and protective sleeve temperature	< 250°C
Connector temperature	< 140°C
Storage temperature range	-40 to 100°C
Max. vibration (stochastic peak level)	< 1,000 m/s^2

Technical Specifications

Mechanical Data

Weight w/o wire	120 g
Length	84 mm
Thread	M18x1.5
Wrench size	22 mm
Tightening torque	40 to 60 Nm

Electrical Data

Power supply H+ nominal	7.5 V
System supply voltage	10.8 V to 16.5 V
Heater power steady state	7.5 W
Heater control frequency	≥ 100 Hz
Nominal resistance of Nernst cell	300 Ω
Max current load for Nernst cell	250 µA

Characteristic

Signal output	Ip meas / Ua (AWS)
Accuracy at lambda = 0.8	0.80 ±0.01
Accuracy at lambda = 1	1.016 ±0.007
Accuracy at lambda = 1.7	1.70 ±0.05

IP	U_A [V]	Lambda
-1.243	0.192	0.750
-0.927	0.525	0.800
-0.800	0.658	0.822
-0.652	0.814	0.850
-0.405	1.074	0.900
-0.183	1.307	0.950
-0.106	1.388	0.970
-0.040	1.458	0.990
0	1.500	1.003
0.015	1.515	1.010
0.097	1.602	1.050
0.193	1.703	1.100
0.250	1.763	1.132
0.329	1.846	1.179
0.671	2.206	1.429
0.938	2.487	1.701
1.150	2.710	1.990
1.385	2.958	2.434
1.700	3.289	3.413
2.000	3.605	5.391
2.150	3.762	7.506
2.250	3.868	10.119

Connectors and Wires

Connector	1 928 404 687
Mating connector	09 4421 01
Pin 1	IP / APE
Pin 2	VM / IPN
Pin 3	Uh- / H-
Pin 4	Uh+ / H
Pin 5	IA / RT
Pin 6	UN / RE
Sleeve	fiber glas / silicone coated
Wire length L	30 to 100 cm

Various motorsport and automotive connectors are available on request.

Please specify the required wire length with your order.

Installation Notes

The LSU 4.9D can be connected to most Bosch Motorsport ECUs and lambda control units like LT4.

The lambda sensor should be installed at a point which permits the measurement of a representative exhaust-gas mixture, which does not exceed the maximum permissible temperature.

Install at a point where the gas is as hot as possible.

Observe the maximum permissible temperature.

As far as possible install the sensor vertically (wire upwards).

The sensor is not to be fitted near to the exhaust pipe outlet, so that the influence of the outside air can be ruled out.

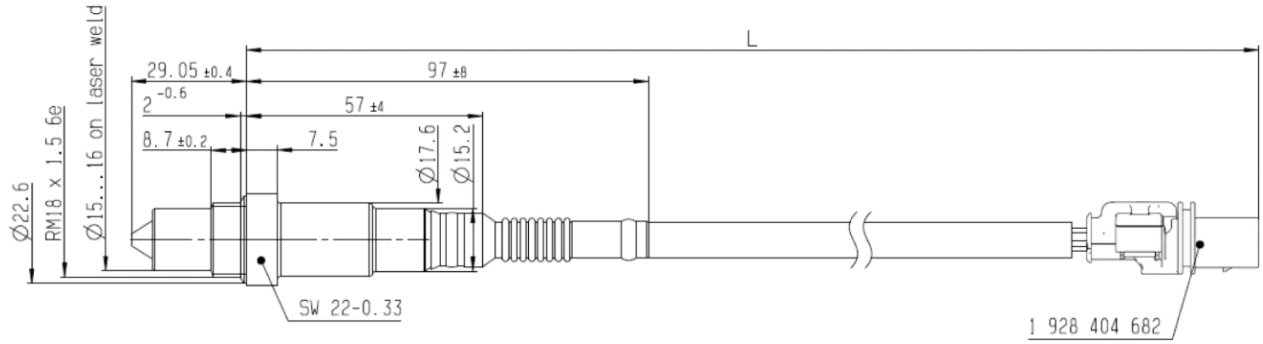
The exhaust-gas passage opposite the sensor must be free of leaks in order to avoid the effects of leak-air.

Protect the sensor against condensation water.

The sensor is not to be painted, nor is wax to be applied or any other forms of treatment. Use only the recommended grease for lubricating the thread.

Please find further application hints in the offer drawing at our homepage.

Dimensions



Ordering Information

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