

Lambda Sensor LSM 11

This sensor is designed to measure the oxygen content and Lambda value of exhaust gases in automotive engines (gasoline or Diesel).

The sensor's exhaust-gas produces a step-type sensor voltage profile in the area around $\lambda = 1$. Measurements are taken of the residual oxygen content in the exhaust gas. The active sensor ceramic (ZrO_2) is heated from inside by means of ceramic Wolfram heater so that the temperature of the sensor ceramic remains above the functional limit of 350 °C regardless of the exhaust-gas temperature.

The main benefit of the LSM is the high resolution signal in the area around $\lambda = 1$.



| Application | |
|---|-------------------------|
| Application | 1.025 ... 1.5 λ |
| Fuel | Gasoline/Diesel |
| Exhaust gas temperature range (operating) | 250 ... 800 °C |
| Exhaust gas temperature range (max.) | 930 °C |
| Hexagon temperature | < 570 °C |
| Cable and protective sleeve temperature | < 250 °C |
| Connector temperature | < 120 °C |
| Storage temperature range | -40 ... 100 °C |
| Max. vibration (stochastic peak level) | 800 m/s ² |

| Electrical Data | |
|---------------------------|-------------|
| Power supply H+ nominal | 12 ... 14 V |
| Heater power steady state | 18 W |

| Mechanical Data | |
|-------------------|--------------|
| Weight w/o cable | 160 g |
| Length | 86 mm |
| Thread | M18x1.5 |
| Wrench size | 22 mm |
| Tightening torque | 50 ... 60 Nm |

| Characteristic | | |
|----------------------------|------------------------------|------------------------------|
| Signal output | Ip meas / Ua (AWS) | |
| Accuracy @ $\lambda = 1.7$ | 1.70 ±0.05 % | |
| Ua [mV] | Lambda [λ @ 400 °C] | Lambda [λ @ 650 °C] |
| 60 | 1.030 | 1.035 |
| 50 | 1.050 | 1.055 |
| 40 | 1.090 | 1.097 |
| 30 | 1.150 | 1.160 |
| 20 | 1.260 | 1.270 |
| 15 | 1.380 | 1.380 |
| 13 | 1.495 | 1.495 |

Connectors and Cables

| | |
|--|-----------------------------|
| Connector | 1 284 485 110-black |
| Connector II | 1 284 485 018 |
| Sleeve | fiber glas / silicon coated |
| Cable size | AWG 24 |
| Cable length L | 250 cm |
| Various motorsport and automotive connectors on request. | |
| Other cable lengths are on request. | |

Application Hint

The LSM 11 can be connected to most Bosch Motorsport ECUs.

The lambda sensor should be installed at point which permits the measurement of a representative exhaust-gas mixture and 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.

Sensors should be installed as close to vertical as possible (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 system upstand and surrounding the sensor must be sealed in order to avoid the effects of leakage air.

Protect the sensor against condensation water.

The sensor is supplied with reference air via the connecting cables. The connectors must therefore be clean and dry. The use of contact spray anti-corrosion agents or the like is not permitted.

Please find further application hints in the offer drawing (<http://www.bosch-motorsport.com>).

Part Number

LSM 11

0 258 104 002

