

Lambda Sensor LSU 4.2

The wide-band lambda sensor LSU 4.2 is a planar ZrO₂ dual cell limiting current sensor with integrated heater. It is used to measure the oxygen content and the lambda value of engine exhaust gases. Its output signal in the range of lambda = 0,7 to air makes the LSU capable to be used as an universal sensor for lambda = 1 measurement as well as for other lambda ranges.

The connector module carries a trimming resistor, which defines the characteristics of the sensor and is necessary for the sensor function. The wide band sensor LSU operates only in conjunction with a special control unit.



Mechanical data

Length incl. cable	460 mm/600 mm
Thread	M18 x 1,5
Tightening torque	60 Nm
Wrench size	22 mm
Weight	120 g
Vibration	30 g/5 Hz ... 2 kHz

Fuel additives

In accordance with DIN EN 228 for commercially available unleaded fuel.

Temperature ranges

Exhaust gas at sensor element	850°C
Hexagon of the sensor housing	< 570°C
Cable grommet (PTFE formed house)	
-Sensor side	< 250°C
-Cable side	< 200°C
Cable and protection sleeve	< 250°C
Connector	< 120°C

Electronic data

Heater supply voltage	9 V
Heater power	10 W
Sensor element	ZrO ₂ (Zirconium-Oxide-Ceramic)
Lambda measuring range	0,70 ... ∞



Installation instructions

The Lambda sensor should be installed at a point which permits the measurement of a representative exhaust-gas mixture, and which does not exceed the maximum permissible temperature. The sensor is screwed into a mating thread and tightened with 50 ... 60 Nm.

- Install at a point where the gas is as hot as possible.
- Observe the maximum permissible temperatures.
- As far as possible install the sensor vertically, whereby the electrical connections should point upwards.
- The sensor is not to be fitted near to the exhaust 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 body must be ventilated from the outside in order to avoid overheating.
- The sensor is not to be painted, nor is wax to be applied or any other forms of treatment. Only the recommended grease is to be used for lubricating the threads.
- The sensor receives the reference air through the connection cable. This means that the connector must be clean and dry. Contact spray, and anti-corrosion agents etc. are forbidden.

The connection cable must not be soldered. It must only be crimped, clamped, or secured by screws.

