

Lambdatronic LT4 ADV

www.bosch-motorsport.com



- ▶ Supply of up to 4 Bosch lambda sensors, type LSU ADV
- ▶ Integrated voltage compensation for sensor heater

The Lambdatronic LT4 ADV is a control module which function is to supply and control up to four Bosch LSU ADV. The new lambda sensor LSU ADV offers extended features as an improved robustness, a shorter heating time and less influence from the ambient pressure.

The LSU ADV contains a Nernst cell and a pump cell. The lambda value between the Nernst cell and an internal oxygen reference chamber is controlled to lambda 1.013, independent of the oxygen concentration on the emission side. This happens thanks to the pump current through the pump cell, responsible for the transmission of oxygen atoms in the sensor ceramic. The current proportional output voltage of the IC gets translated in a lambda value. The LT4 ADV provides the sensors temperature and other diagnostics parameters over CAN. The 4 lambda signals can be read by using the CAN or analog output.

The main feature and benefit of this unit is its compact design, its light weight construction, as well as the possibility to control up to 4 Lambda Sensors LSU ADV with multiple user-configurable parameters.

Functions

| | |
|------------------------------|------------------|
| Application | Lambda 0.75 to 5 |
| Compatible Bosch sensor type | LSU ADV |

| | |
|----------|----------|
| Channels | 4 |
| Heater | Internal |

Technical Specifications

Mechanical Data

| | |
|---------------------------------|---|
| Weight with wire | 98 g |
| Sealing | 100 % humidity |
| Mounting | Velcro |
| Size w/o wire (w*l*h) | 54 x 59 x 13 mm |
| Operating temp. range (housing) | -20 to 85°C |
| Storage temp. range | -20 to 85°C |
| Max. vibration | Vibration Profile 1 (see Appendix or www.bosch-motorsport.com) |

Electrical Data

| | |
|--------------------------------|------------------|
| Power supply U_s | (6.5) 10 to 14 V |
| Max power supply (1 min) U_s | Max. 26 V |
| Thermal dissipation loss | 3 W at 14 V |

| Current Is | 5 A |
|--------------------------------|-------------------------------|
| Current Is (Heating up) | 26 A |
| Software | |
| Configuration with Modas Sport | Included |
| Characteristic | |
| Signal output 1 | CAN |
| Signal output 2 | 4 x 0 to 5 V “analog” |
| CAN- baud rate | 500 kbaud or 1 Mbaud |
| Signal resolution | 2,5 * 10 ⁻⁴ lambda |
| Signal sampling rate | 100 Hz |
| CAN refresh rate | 100 Hz |
| Connectors and Wires | |
| Connector | AS 6-14-35PN |
| Connector loom AS 1-14-35SN | F 02U 000 365-01 |
| Sleeve | Viton |
| Wire size | 26 |
| Wire length L | 20 cm |
| Pin Assignment | |
| Pin | Function |
| 1 | + 12 V (Battery +) |
| 2 | + 12 V (Battery +) |
| 3 | Ground (Battery -) |
| 4 | Ground (Battery -) |
| 5 | K-Line diagnostic connection |
| 6 | CAN1 + (high) |
| 7 | CAN1 – (low) |
| 8 | Analog out 1 |
| 9 | Analog out 2 |
| 10 | Analog out 3 |
| 11 | Analog out 4 |
| 12 | Reference GND for analog out |
| 13 | Shield |
| 14 | Pump current LSU 1 IP1 |
| 15 | Virtual GND LSU 1 VM1 |
| 16 | Heater PWM LSU 1 Uh-1 |

| | |
|----|-----------------------------|
| 17 | Heater (Batt. +) LSU 1 Uh+1 |
| 18 | Not connected |
| 19 | Nernst voltage LSU 1 UN1 |
| 20 | Pump current LSU 2 IP2 |
| 21 | Virtual GND LSU 2 VM2 |
| 22 | Heater PWM LSU 2 Uh-2 |
| 23 | Heater (Batt. +) LSU 2 Uh+2 |
| 24 | Not connected |
| 25 | Nernst voltage LSU 2 UN2 |
| 26 | Pump current LSU 3 IP3 |
| 27 | Virtual GND LSU 3 VM3 |
| 28 | Heater PWM LSU 3 Uh-3 |
| 29 | Heater (Batt. +) LSU 3 Uh+3 |
| 30 | Not connected |
| 31 | Nernst voltage LSU 3 UN3 |
| 32 | Pump current LSU 4 IP4 |
| 33 | Virtual GND LSU 4 VM4 |
| 34 | Heater PWM LSU 4 Uh-4 |
| 35 | Heater (Batt. +) LSU 4 Uh+4 |
| 36 | Not connected |
| 37 | Nernst voltage LSU 4 UN4 |

Installation Notes

The LT4 ADV is designed to supply 4 Bosch lambda sensors, type LSU ADV

The LT4 ADV is featured with voltage compensation for the heating profile.

The unit can be connected to any CAN system (500 kbaud or 1 Mbaud) and analog measuring device.

To avoid signal errors, a cable length of maximum 1.5 m between sensor and box is recommended.

The unit is secure from miss-pinning.

The reference ground (GND_REF) has to be connected either to the measuring device or to the system ground.

A ground offset of 2 V (max.) between GND and GND_REF has not to be exceeded.

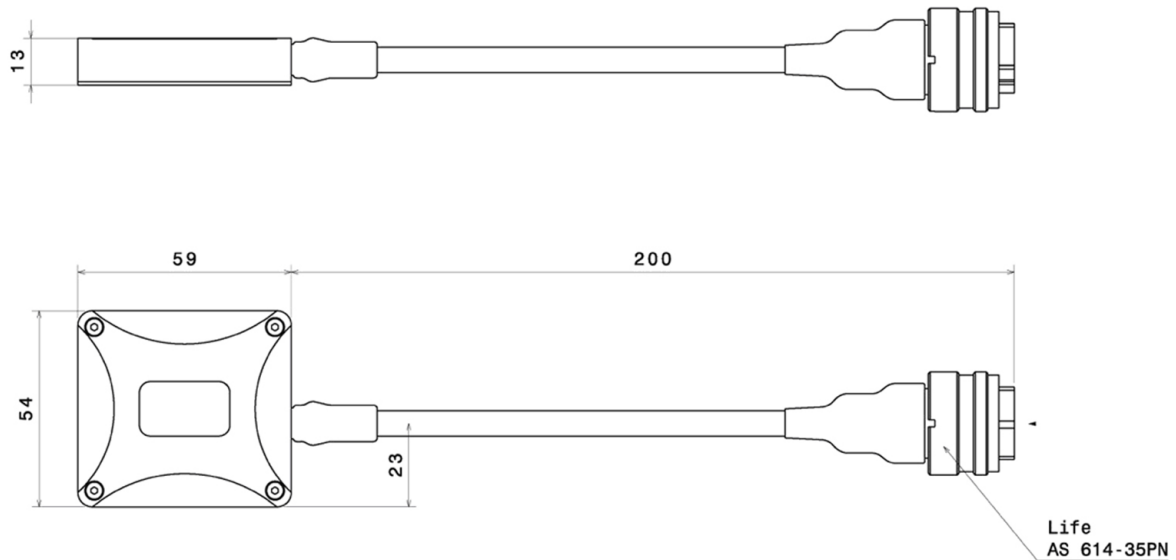
See the LT4 ADV function sheet for software documentation (e.g. CAN protocol).

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

Ordering Information

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Order number **F 02U V01 111-04**

Dimensions



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