

Lambdatronic LT4



- ▶ Supply of up to 4 Bosch lambda sensors, type LSU 4.2, LSU 4.9 or Mini-LSU 4.9
- ▶ Integrated voltage compensation for sensor heater

The Lambdatronic LT4 provides controlled pumping current to supply up to 4 Bosch lambda sensors, type LSU 4.2, LSU 4.9 or Mini-LSU 4.9. The lambda value, the sensor temperature and diagnostics are available via CAN and analog signal.

The LSU contains a Nernst and a pump cell. The lambda in the Nernst cell is controlled to $\lambda = 1.013$ independent of the oxygen contents on the emission side, through a current through the pump cell. The current proportional output voltage of the IC is a measure of the lambda value.

The main feature and benefit of this unit is the combination of the Bosch well known lambda IC and a very compact box size with motorsport specification. Furthermore the analog signal output can be configured freely.

Application

| | |
|------------------------------|--------------------------------|
| Application | Lambda 0.75 to 10.12 |
| Compatible Bosch sensor type | LSU 4.2, LSU 4.9, Mini-LSU 4.9 |
| Channels | 4 |
| Heater | Internal |

Technical Specifications

Mechanical Data

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|---------------------------------|-----------------|
| Weight with wire | 98 g |
| Sealing | 100 % humidity |
| Mounting | Velcro |
| Size w/o wire (w*h) | 54 x 59 x 13 mm |
| Operating temp. range (housing) | -20 to 85°C |

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|---------------------|--|
| Storage temp. range | -20 to 85°C |
| Max. vibration | Vibration Profile 1 (see Downloads or www.bosch-motorsport.com) |

Electrical Data

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|--------------------------------|------------------|
| 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 I_s | 5 A |
| Current I_s (Heating up) | 26 A |

Software Tool (free download)

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| System Configuration tool RaceCon 2.7.0.9 or later |
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Characteristic

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|----------------------|-------------------------------|
| 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

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|----------------|-----------------|
| Connector | AS614-35PN |
| Connector loom | F02U.000.365-01 |
| AS114-35SN | |
| 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 | Setup current LSU 1 IA1 |
| 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 | Setup current LSU 2 IA2 |
| 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 | Setup current LSU 3 IA3 |
| 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 |

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|----|-----------------------------|
| 35 | Heater (Batt. +) LSU 4 Uh+4 |
| 36 | Setup current LSU 4 IA4 |
| 37 | Nernst voltage LSU 4 UN4 |

Communication

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|--------------------|--------------|
| Communication link | K-Line / CAN |
|--------------------|--------------|

Installation Notes

Typical lifetime: max. 220 h / 2 years

For application with severe conditions and/or high volume, please contact your Bosch Motorsport counterpart in order to define the most appropriate validation program

The LT4 is designed to supply 4 Bosch lambda sensors, type LSU 4.2, LSU 4.9 or Mini-LSU 4.9

The LT4 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 function sheet for software documentation (e.g. CAN protocol).

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

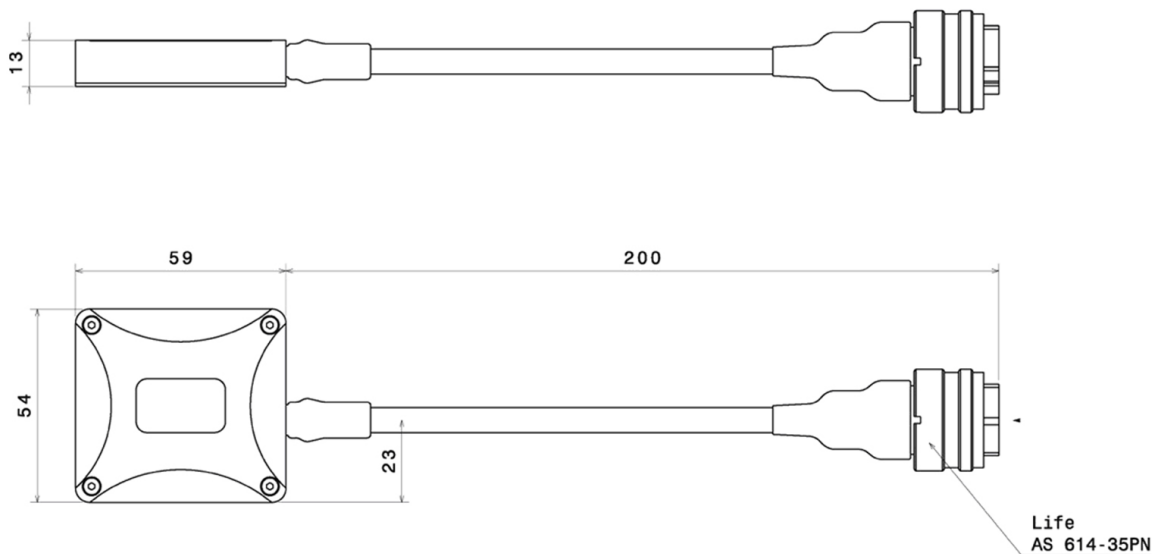
Legal Restrictions

The sale of this product in Mexico is prohibited. Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

Ordering Information**Lambdatronic LT4**

Order number **F01T.A20.070-09**

Dimensions



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