Lambdatronic LT4 ADV

- 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 designed to supply and control up to four Bosch LSU ADV. The 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 throw the pump cell, responsible for the transmission of oxygen atoms in the sensor ceramic. The current proportional output voltage of the IC is 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 lightweight construction, as well as the possibility to control up to 4 Lambda Sensors LSU ADV with multiple user-configurable parameters.

Application

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 Tool (free download)

System Configuration tool RaceCon 2.7.0.9 or later

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	AS614-35PN
Connector loom AS114-35SN	F02U.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

Communication

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 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.

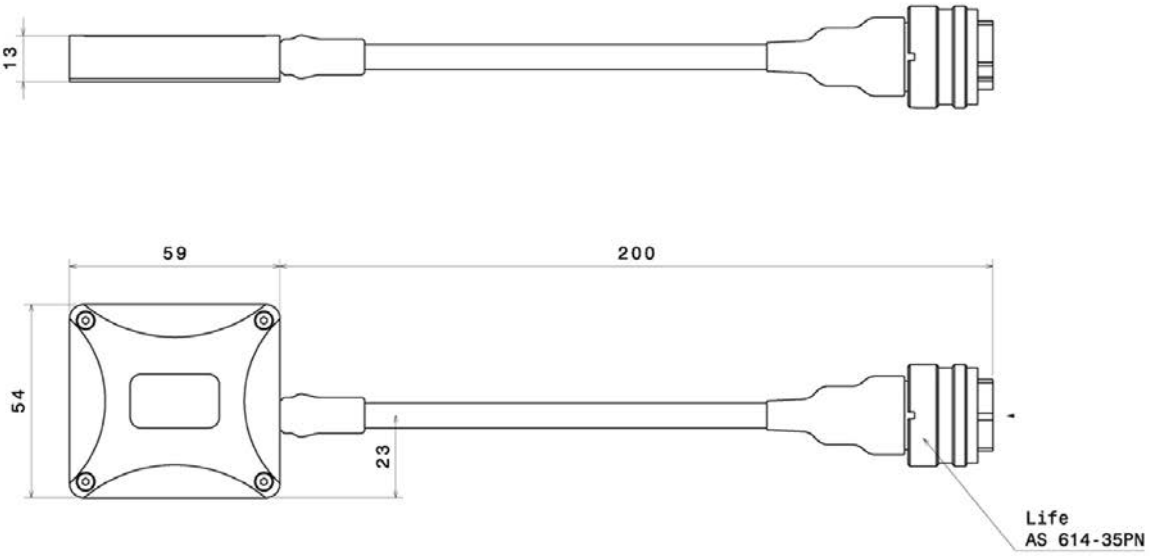
Legal Restrictions

The sale of this product in Mexico is prohibited.

Ordering Information

Lambdatronic LT4 ADV
Order number **F02U.V01.111-04**

Dimensions



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