

Lambdatronic LT4

The Lambdatronic LT4 provides controlled pumping current to supply up to 4 Bosch (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 motorsports specification. Furthermore the analog signal output can be configured freely.



Application	
Application	0.75 ... 10.12 λ
Compatible Sensor Type	Bosch (Mini-)LSU 4.9
Nr. of Channels	4
Heater	internal
Operating Temp Range (housing)	-20 ... 85 °C
Storage Temperature Range	-20 ... 85 °C
Communication Link	K-Line / CAN
Max. Vibration	<i>Vibration Profile 1</i> (see Appendix or www.bosch-motorsport.com)

Electrical Data	
Power Supply U_s	(6.5) 10 ... 17 V
Max Power Supply (1 min) U_s max	26 V
Thermal Dissipation Loss	3 W @ 14 V
Current I_s	5 A
Current I_s (Heating up)	26 A

Mechanical Data	
Weight with Cable	98 g
Sealing	100 % humidity
Mounting	Velcro
Size w/o Cable (w*l*h)	54 x 59 x 13 mm

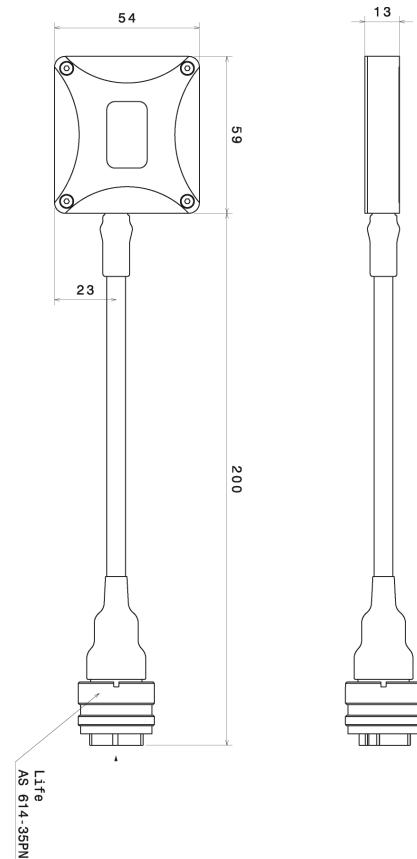
Characteristic	
Signal Output 1	CAN
Signal Output 2	4 x 0 ... 5 V
CAN- Baudrate	1 Mbaud
Signal Resolution	$2,5 * 10^{-4}$ lambda
Signal Sampling Rate	100 Hz
CAN Refresh Rate	100 Hz

Software	
Configuration with Modas	included

Connectors and Cables	
Connector	AS 6-14-35PN
Connector Loom	AS 1-14-35SN
Sleeve	Viton
Cable Size	26
Cable Length L	20 cm

Application Hint	
The LT4 is designed to supply 4 Bosch (Mini)-LSU 4.9.	
The unit can be connected to any CAN system (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 (CAN protocol e.g.).	
Please find further application hints in the offer drawing (http://www.bosch-motorsport.com).	

Part Number	
Lambdatronic LT4	F 01T A20 070-04



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 anal. out
13	Shield
14	Pump Current LSU1 IP1
15	Virtual GND LSU1 VM1
16	Heater PWM LSU1 Uh-1
17	Heater (Batt +) LSU1 Uh+1
18	Setup Current LSU1 IA1
19	Nernst Voltage LSU1 UN1

Pin	Function
20	Pump Current LSU2 IP2
21	Virtual GND LSU2 VM2
22	Heater PWM LSU2 Uh-2
23	Heater (Batt +) LSU2 Uh+2
24	Setup Current LSU2 IA2
25	Nernst Voltage LSU2 UN2
26	UN1Pump Current LSU3 IP3
27	Virtual GND LSU3 VM3
28	Heater PWM LSU3 Uh-3
29	Heater (Batt +) LSU3 Uh+3
30	Setup Current LSU3 IA3
31	Nernst Voltage LSU3 UN3
32	Pump Current LSU4 IP4
33	Virtual GND LSU4 VM4
34	Heater PWM LSU4 Uh-4
35	Heater (Batt +) LSU4 Uh+4
36	Setup Current LSU4 IA4
37	Nernst Voltage LSU4 UN4