

Sensor Interface Box ESIB

ESIB is a special device for measuring the signals of multiple sensors. The flexible use of microboards allows the adaptation to a great variety of measuring tasks.

For data recording the integrated CAN-bus can be linked to a Bosch Motronic or CardMemory.



Mechanical data	
Dust and water proof aluminium housing	
Filtered connectors of military design with high pin density (MIL-38999)	
Vibration damped printed circuit boards	
Flexible housing fixation points	
Size	120 x 114 x 38 mm
Weight	550 g

Electronic data	
1 microcontroller with 16 bit organisation, calculation power 16 MIPS	
0,5 MB RAM and up to 9 MB non-volatile flash RAM	

Conditions for use	
ECU temperature	-40 ... 85°C
Max. power consumption	7 W at 14 V
Max. vibration	15 g/20 Hz ... 2 kHz for t < 5 h

Variations	
ESIB Basic	Flexible use of microboards
ESIB-Lam 8	Lambda measurement with 8 channels
ESIB-Lam 8S	Lambda measurement with 8 channels and further signals
ESIB-Thermo 8S	Exhaust-gas temperature measurement with 8 channels and further signals
ESIB-Ana 16S	Measuring of 16 analog signals and 6 wheelspeed signals
ESIB-Ana 24	Measuring of 24 analog signals

ESIB Basic

Flexible use of microboards

Functionality

28 multifunctional input/output connector pins configured with insertion of function specific microboards

Max. 6 microboards

Data transfer via CAN for data logging or via K-Line for online measuring

Outputs

Serial CAN protocol to main ECU with 1 Mbps serial K-Line or RS232 up to 500 Kbps

8 PWM power stages with 2,0 A output current

Precise and independent 10 V and 5 V sensor supply available

Inputs

Depending on microboards used

Alternative microboards

I8L: 8 ch analog input

I8H: 8 ch analog input (high resolution)

I6W: 6 ch wheel speed detection

L4M: 4 ch lambda measurement (LSM-type)

O4B: 4 ch universal output

I2D: 2 ch differential input

I4D: 4 ch differential input

I2T: 2 ch LVDT

E4T: 4 ch exhaust-gas temp.measurement

ESIB-Lam 8

Lambda measurement with 8 channels

Functionality

Lambda measuring with 8 wide range lambda sensors

Data transfer via CAN for data logging or via K-Line for online measuring

Outputs

Serial CAN protocol to main ECU with 1 Mbps serial K-Line or RS232 up to 500 Kbps

8 PWM power stages with 2,0 A output current

Precise and independent 10 V and 5 V sensor supply available

Inputs

8 channels wide band lambda measuring from λ 0,8 to 1,3

Integrated microboards

2 x L4M

Order number

B 261 208 228

ESIB-Lam 8S

Lambda measurement with 8 channels and further signals

Functionality

Lambda measuring with 8 wide range lambda sensors

Vehicle speed and track distance with inductive or hall effect speed sensor

Engine revolutions

Throttle position

Lap trigger signal

Lateral acceleration

5 analog inputs

Data transfer via CAN for data logging or via K-Line for online measuring

Outputs

Serial CAN protocol to main ECU with 1 Mbps serial K-Line or RS232 up to 500 Kbps

8 PWM power stages with 2,0 A output current

Precise and independent 10 V and 5 V sensor supply available

Inputs

8 channels wide band lambda measuring from λ 0,8 to 1,3

8 channels ADC 0 ... 5 V

4 wheelspeed interfaces inductive or hall effect, free programmable

Integrated microboards

2 x L4M

1 x I8L

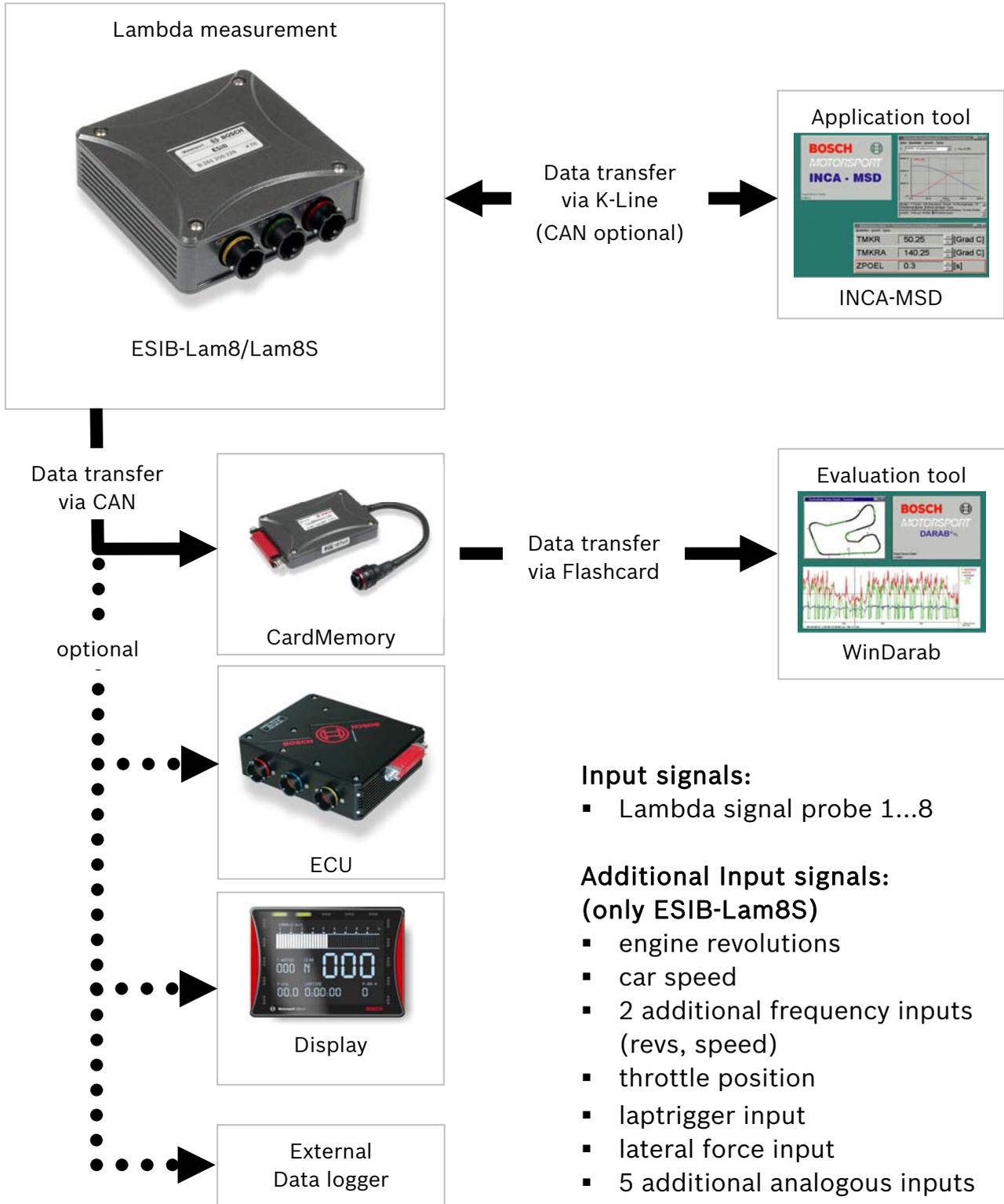
1 x 6W

Order number

B 261 208 229

ESIB-Lam8/Lam8S

System Overview



ESIB-Thermo 8S

Exhaust-gas temperature measurement with 8 channels and further signals

Functionality

8 exhaust-gas temperatures
Vehicle speed and track distance with inductive or hall effect speed sensor
Engine revolutions
Throttle position
Lap trigger signal
Lateral acceleration
5 analog inputs
Data transfer via CAN for data logging or via K-Line for online measuring

Outputs

Serial CAN protocol to main ECU with 1 Mbps serial K-Line or RS232 up to 500 Kbps
8 PWM power stages with 2,0 A output current
Precise and independent 10 V and 5 V sensor supply available

Inputs

8 channels thermocouple probe sensor, Type K, DIN IEC 584
8 channels ADC 0 ... 5 V
4 wheelspeed interfaces inductive or hall effect, free programmable

Integrated microboards

2 x E4T
1 x I8L
1 x 6W

Order number

B 261 208 262

ESIB-Ana 16S

Measuring of 16 analog signals and 6 wheelspeed signals

Functionality

16 multifunctional analog inputs
6 wheelspeed inputs
Data transfer via CAN for data logging or via K-Line for online measuring

Outputs

Serial CAN protocol to main ECU with 1 Mbps serial K-Line or RS232 up to 500 Kbps
8 PWM power stages with 2,0 A output current
Precise and independent 10 V and 5 V sensor supply available

Inputs

16 channels ADC 0 ... 5 V
6 wheelspeed interfaces inductive or hall effect, free programmable

Integrated microboards

2 x I8L
1 x 6W

Order number

B 261 208 227

ESIB-Ana 24

Measuring of 24 analog signals

Functionality

24 multifunctional analog inputs

Data transfer via CAN for data logging
or via K-Line for online measuring

Outputs

Serial CAN protocol to main ECU with 1 Mbps serial
K-Line or RS232 up to 500 Kbps

8 PWM power stages with 2,0 A output current

Precise and independent 10 V and 5 V sensor
supply available

Inputs

24 channels ADC 0 ... 5 V

Integrated microboards

3 x I8L

Order number

B 261 208 226