Overview

Pressure Sensor Air PS-AA

- Application: 0.1 to 1.15 bar or 0.2 to 2.5 bar
- Response time: 1 ms
- Pressure reference type: Absolute
- Power supply: 5 V
- Weight: 20 g

Pressure Sensor Air PS-AS

- Application: 0.2 to 3.0 bar
- Response time: 1 ms
- Pressure reference type: Absolute
- Power supply: 5 V
- Weight: 21 g

Pressure Sensor Air PSA-N

- Application: 0.1 to 1.15 bar
- Response time: 0.1 ms
- Pressure reference type: Absolute
- Power supply: 11 to 16 V
- Weight: 21 g

Pressure Sensor Air PS-AA

Features

- Application: 0.1 to 1.15 bar or 0.2 to 2.5 bar
- Response time: 1 ms
- Pressure reference type: Absolute
- Power supply: 5 V
- Weight: 20 g

This sensor is designed to measure absolute air pressure, especially the air box pressure of gasoline or Diesel engines.
An integrated circuit combines a piezo-resistive sensor element and electronic systems for signal-amplification and temperature-compensation. The output of the sensor is an analog, ratio metric signal. Two different pressure ranges are available (0.1 to 1.15 bar or 0.2 to 2.5 bar).

Application

Application	Please see variations
Pressure reference type	absolute
Max. pressure	5 bar
Operating temp. range	-40 to 130°C
Media temp. range	-40 to 130°C
Storage temp. range	0 to 40°C
Max. vibration	According to ISO 16750-3

Technical Specifications

Variations

	PS-AA (0.1 to 1.15 bar)	**PS-AA** (0.2 to 2.50 bar)
Tolerance (FS) at U_S = 5 V	± 0.016 bar	± 0.034 bar
Tolerance (FS)	± 1.52 %	± 1.48 %
Sensitivity	4,048 mV/bar	1,848 mV/bar
Offset	-4.8 mV	30.4 mV

Mechanical Data

Mounting	M6
Fitting	12.05 ± 0.8 mm
Weight w/o wire	20 g
Sealing	O-ring 7.59 x 2.62 mm

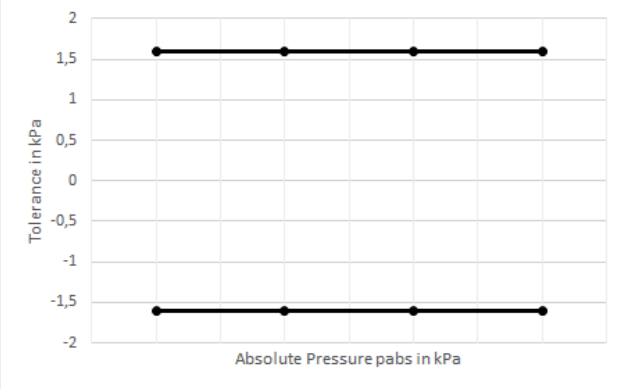
Electrical Dat

Power supply U_S	4.75 to 5.25 V
Max. power supply	16 V
Full scale output U_A at 5 V	0.4 to 4.65 V
Current I_S	9 mA

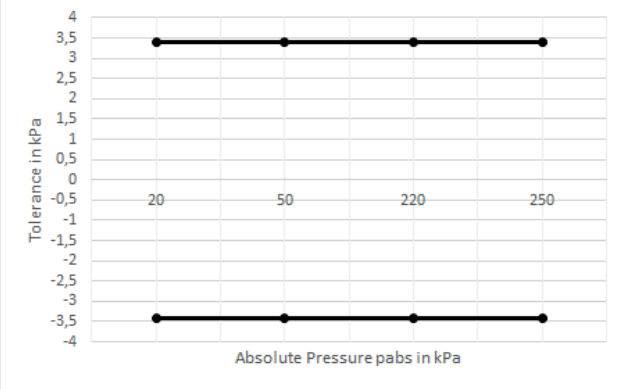
Characteristic

Response time T10/90	1 ms
Compensated range	10 to 85°C
Tolerance (FS) at U_S = 5 V	Please see variations
Tolerance (FS)	Please see variations
Sensitivity	Please see variations
Offset	Please see variations

Tolerance 0.1 to 1.15 bar



Tolerance 0.2 to 2.5 bar



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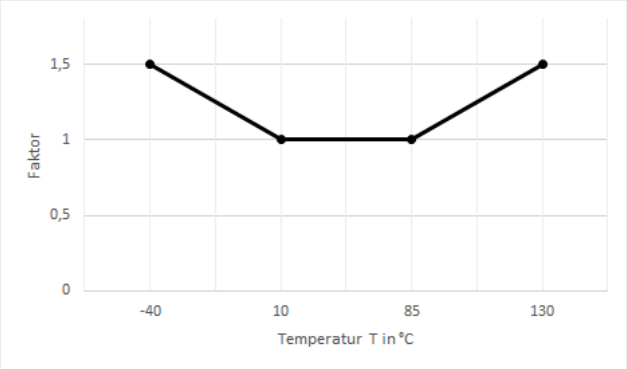
Expansion of Tolerance



Connectors and Wires

Connector	RB-COMP 1.1a/3P/Kod.1
Mating connector	D261.205.366-01
Pin 1	U_S
Pin 2	Gnd
Pin 3	Sig

Various motorsport and automotive connectors are available on request.

Installation Notes

The PS-AA is designed for engines using ROZ95, ROZ98, M15, E22 and Diesel.

The sensor can be connected directly to most control units.

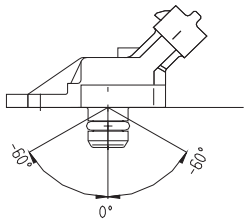
To avoid noise, an ECU-input circuit with a RC-low pass filter (tau = 2 ms) is recommended.

Use engine oil (5W40) as O-Ring grease (no silicone based grease).

Avoid miss-pinning (max. 5 minutes at I = 0.3 A).

Please find further application hints in the offer drawing and free download of the sensor configuration file (*.sdf) for the Bosch Data Logging System at our homepage.

To avoid damage caused by condensate the maximum mounting position from vertical is +-60°.



Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Legal Restrictions

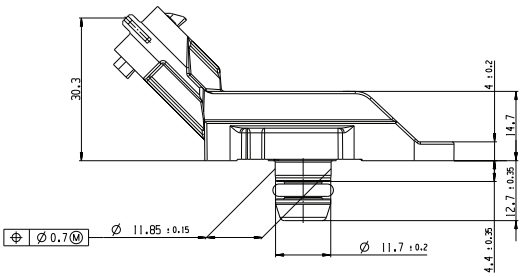
Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

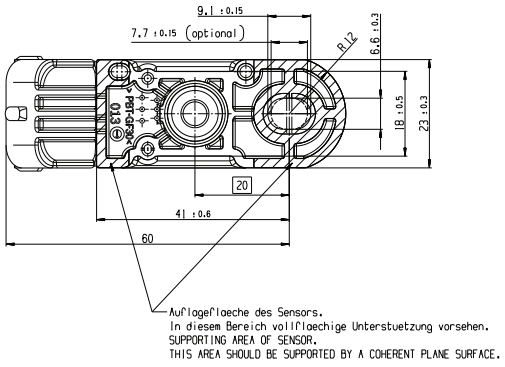
Ordering Information

Pressure Sensor Air PS-AA
0.1 to 1.15 bar
Order number **0261.230.216**

Pressure Sensor Air PS-AA
0.2 to 2.5 bar
Order number **0261.230.284**

Dimensions





Pressure Sensor Air PS-AS

Features

- Application: 0.2 to 3.0 bar
- Response time: 1 ms
- Pressure reference type: Absolute
- Power supply: 5 V
- Weight: 21 g

This sensor is designed to measure absolute air-pressure, especially the air box pressure of gasoline or Diesel engines.
An integrated circuit combines a piezo-resistive sensor element and an electronic for signal-amplification and temperature compensation. The output of the sensor is an analog, ratio metric signal.

Application

Application	0.2 to 3 bar (a)
Pressure reference type	absolute
Max. pressure	5 bar
Operating temp. range	-40 to 130°C
Media temp. range	-40 to 130°C
Storage temp. range	0 to 40°C
Max. vibration	According to ISO 16750-3

Technical Specifications

Mechanical Data

Mounting	M6
Fitting	12.05 ± 0.8 mm
Weight w/o wire	21 g
Sealing	O-ring 7.59 x 2.62 mm

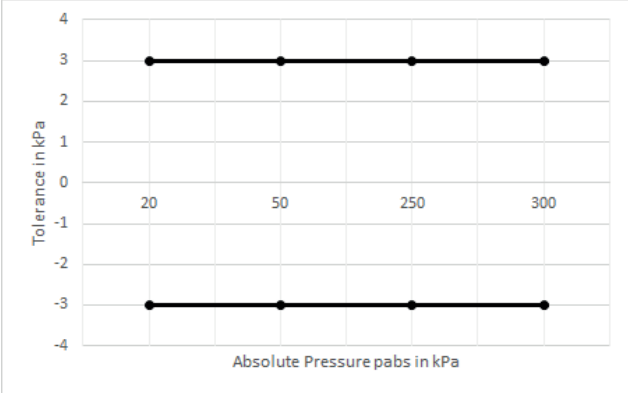
Electrical Data

Power supply U_S	4.75 to 5.25 V
Max power supply U_S max	16 V
Full scale output U_A at 5 V	0.4 to 4.65 V
Current I_S	9 mA

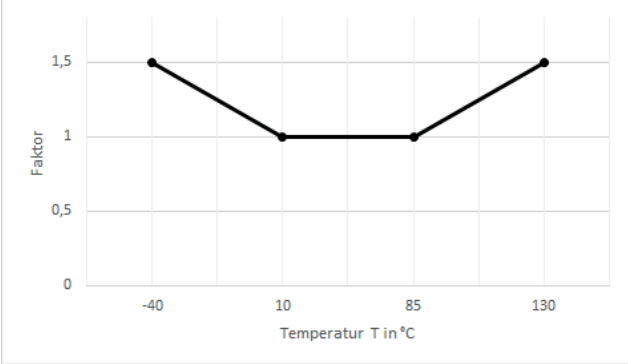
Characteristic

Response time T10/90	1 ms
Compensated range	10 to 85°C
Tolerance (FS) at U_S = 5 V	± 0.030 bar
Tolerance (FS)	± 1.07 %
Sensitivity	1,518 mV/bar
Offset	96 mV

Tolerance



Expansion of Tolerance



Connectors and Wires

Connector	RB-COMP 1.1a/3P/Kod.1
Mating connector	D261.205.366-01
Pin 1	U_S
Pin 2	Gnd
Pin 3	Sig

Various motorsport and automotive connectors are available on request.

Installation Notes

The PS-AS is designed for engines using ROZ95, ROZ98, M15, E22 and Diesel.

The sensor can be connected directly to most control units.

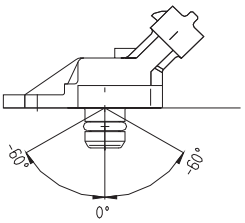
To avoid noise, an ECU-input circuit with a RC-low pass filter (tau = 2 ms) is recommended.

Use engine oil (5W40) as O-Ring grease (no silicone based grease).

Avoid miss-pinning (max. 5 minutes at I = 0.3 A).

Please find further application hints in the offer drawing and free download of the sensor configuration file (*.sdf) for the Bosch Data Logging System at our homepage.

To avoid damage caused by condensate the maximum mounting position from vertical is +-60°.



Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

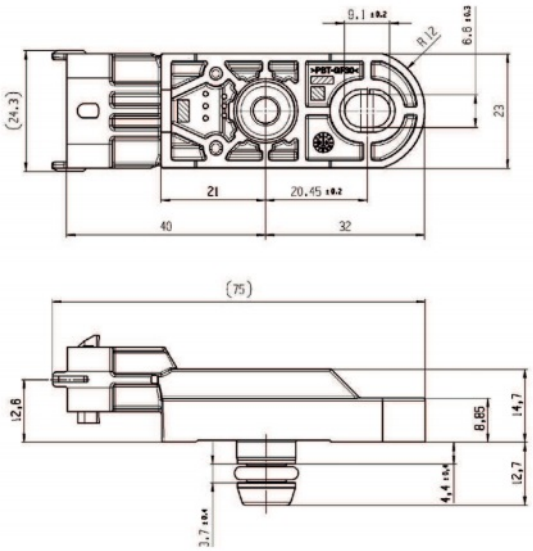
Legal Restrictions

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

Ordering Information

Pressure Sensor Air PS-AS
Order number **0281.002.996**

Dimensions



Pressure Sensor Air PSA-N

Features

- Application: 0.1 to 1.15 bar
- Response time: 0.1 ms
- Pressure reference type: Absolute
- Power supply: 11 to 16 V
- Weight: 21 g

This sensor is designed to measure absolute air-pressure, especially the air box pressure of gasoline or Diesel engines.
An integrated circuit combines a piezo-resistive sensor element and electronics for signal-amplification and temperature compensation. The output of the sensor is analog.

Application

Application	0.1 to 1.15 bar
Pressure reference type	absolute
Max. pressure	5 bar
Operating temp. range	-40 to 125°C
Media temp. range	-40 to 125°C
Storage temp. range	-40 to 130°C
Max. vibration	0.19 mm at 100 to 200 Hz 250 m/s^2 at 200 to 500 Hz

Technical Specifications

Mechanical Data

Mounting	2 x #4-40 screws
Fitting	Flat O-ring boss
Weight w/o wire	21 g
Sealing	O-ring 4.5 x 1.5 mm

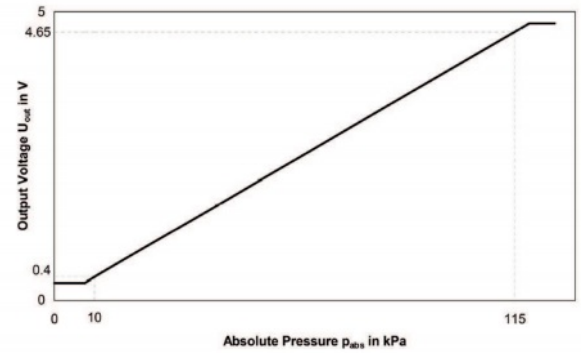
Electrical Data

Power supply U_S	11 to 16 V
Full scale output U_A	0.5 to 4.7 V
Typical current I_S	9 mA

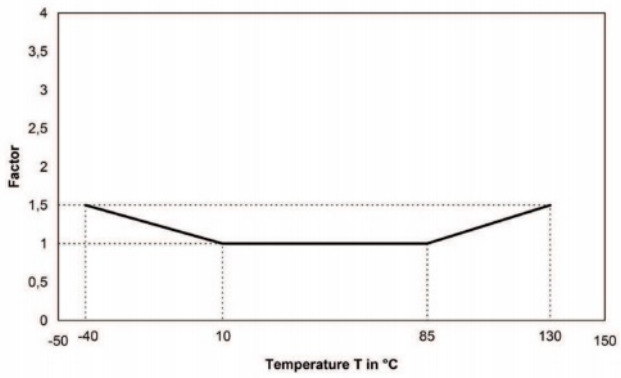
Characteristic

Response time T10/90	1.0 ms
Compensated range	10 to 85°C
Tolerance (FS)	± 0.016 bar
Tolerance (FS)	± 1.52 %
Sensitivity	4,041.62 mV/bar
Offset	-4.16 mV

Tolerance



Expansion of Tolerance



Connectors and Wires

Connector	ASL606-05PC-HE	
Mating connector ASL006-05SC-HE	F02U.000.228-01	
Pin	Function	Wire color
1	U_S	WHT/ORG
2	Gnd	WHT/BLU
3	Sig	WHT
4	-	
5	-	

Various motorsport and automotive connectors are available on request.

Sleeve	DR-25
Wire size	AWG 24
Wire length L	64.5 cm

Installation Notes

The PSA-N is designed for engines using ROZ95, ROZ98, M15, E22 and Diesel.

The sensor can be connected directly to most control units.

To avoid noise, an ECU-input circuit with a RC-low pass filter (tau 0 2 ms) is recommended.

Use engine oil (5W40) as O-Ring grease (no silicone based grease).

Avoid miss-pinning (max. 5 minutes at I = 0.3 A).

Surface finish of the mounting surface should not exceed 0.8 micro meters RMS.

Surface flatness tolerance at sensor mount interface must not exceed +/- 0.025 mm after sensor is torqued in place.

Please find further application hints in the offer drawing and free download of the sensor configuration file (*.sdf) for the Bosch Data Logging System at our homepage.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Fullfilled Legal Standards/Legal Requirements

EMC Requirement	UNECE10

Legal Restrictions

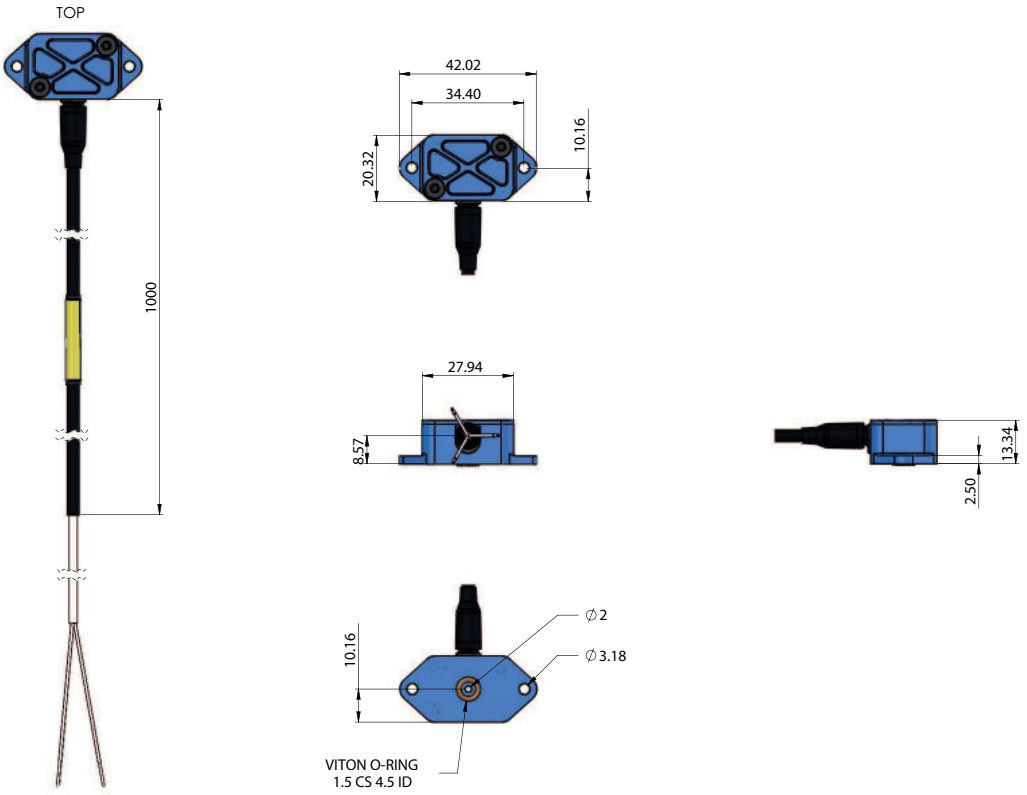
Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

Ordering Information

Pressure Sensor Air PSA-N
AS terminated
Order number **F02U.V0U.197-03**

Pressure Sensor Air PSA-N
Flying Lead
Order number **F02U.V0U.197-91**

Dimensions



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Overview

Pressure Sensor Fluid PSC-260

- Application: 0 to 260 bar
- Response time: 2 ms
- Pressure reference type: Absolut
- Power supply: 5 V
- Weight: 35 g

Pressure Sensor Fluid PSS-10

- Application: 1 to 11 bar
- Response time: 1.5 ms
- Pressure reference type: Absolut
- Power supply: 5 V
- Weight: 45 g

Pressure Sensor Fluid PSS-250R

- Application: 0 to 250 bar
- Response time: 1.5 ms
- Pressure reference type: Relative
- Power supply: 5 V
- Weight: 45 g

Pressure Sensor Fluid PSS-140/260/420/600

- Application: 0 to 140, 260, 420, 600 bar
- Response time: 2 ms
- Pressure reference type: Absolut
- Power supply: 5 V
- Weight: 35 g

Pressure Sensor Fluid PSC-260

Features

- Application: 0 to 260 bar
- Response time: 2 ms
- Pressure reference type: Absolut
- Power supply: 5 V
- Weight: 35 g

The PSC-260 is specially designed to measure absolute pressure in gasoline direct injection applications. This sensor is also compatible with other kind of fluids e.g. Diesel, engine oil, transmission oil or brake fluid.
The sensor uses a thin layer technique to achieve high accuracy pressure measurements. The stainless steel measuring cells with piezoresistive bridges are hermetically welded with stainless steel pressure ports. The internal reference ensures ambient pressure independent measurements.
The main benefits of this sensor are its high accuracy, its wide measurement range and its robust and compact design.

Application

Application	0 to 260 bar (a)
Pressure reference type	absolute
Max. pressure	320 bar
Operating temp. range	-40 to 130°C (140°C)
Media temp. range	-40 to 130°C (140°C)
Storage temp. range	-30 to 60°C
Max. vibration	560 m/s^2 at 800 to 900 Hz 350 m/s^2 at 1.000 to 2.500 Hz

Technical Specifications

Mechanical Data

Male thread	M10 x 1
Wrench size	27 mm
Installation torque	22 ± 2 Nm in aluminum 32.5 ± 2.5 Nm in steel
Weight w/o wire	35.2 g
Sealing	sealed cone

Electrical Data

Power supply U_S	4.75 to 5.25 V
Max power supply U_S max	16 V
Full scale output U_A	10 to 90 % U_S ratio metric
Current I_S	12 mA

Characteristic

Load capacity	10 nF
Output resistance	10 Ohm
Tolerance (FS)	+ 1 % (0 to 100°C) + 1.5 % (-40 to 0°C and 100 to 130°C)
Sensitivity	15.38 mV/bar at U_S = 5 V
Offset	500 mV at U_S = 5 V

Connectors and Wires

Connector	ASL606-05PC-HE
Mating connector ASL006-05SC-HE	F02U.000.228-01
Pin 1	-
Pin 2	Gnd
Pin 3	Sig
Pin 4	U_S
Pin 5	-
Various motorsport and automotive connectors are available on request.	
Please specify the required wire length with your order.	
Sleeve	DR-25
Wire length L	13 to 95 cm

Installation Notes

The PSC-260 can be connected directly to most control units. Please consider the TCI for the electrical connection of the sensor.

The sensor has a protection for overvoltage, reverse polarity and short-circuit.

Please do not fix the sensor directly to the engine block to avoid undesired strong vibrations.

Each mounting orientation is possible.

Please consider using the adapter F02U.002.711-01.

The sensor meets all EMV, EMC and ESD automotive standards.

Please find further application hints in the offer drawing and free download of the sensor configuration file (*.sdf) for the Bosch Data Logging System at our homepage.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Legal Restrictions

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

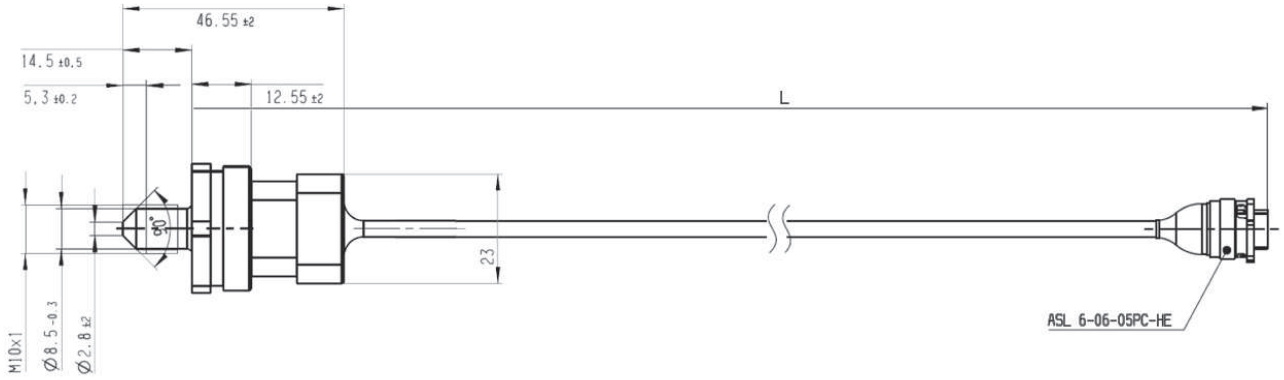
Ordering Information

Pressure Sensor Fluid PSC-260
Order number **F02U.V00.990-03**

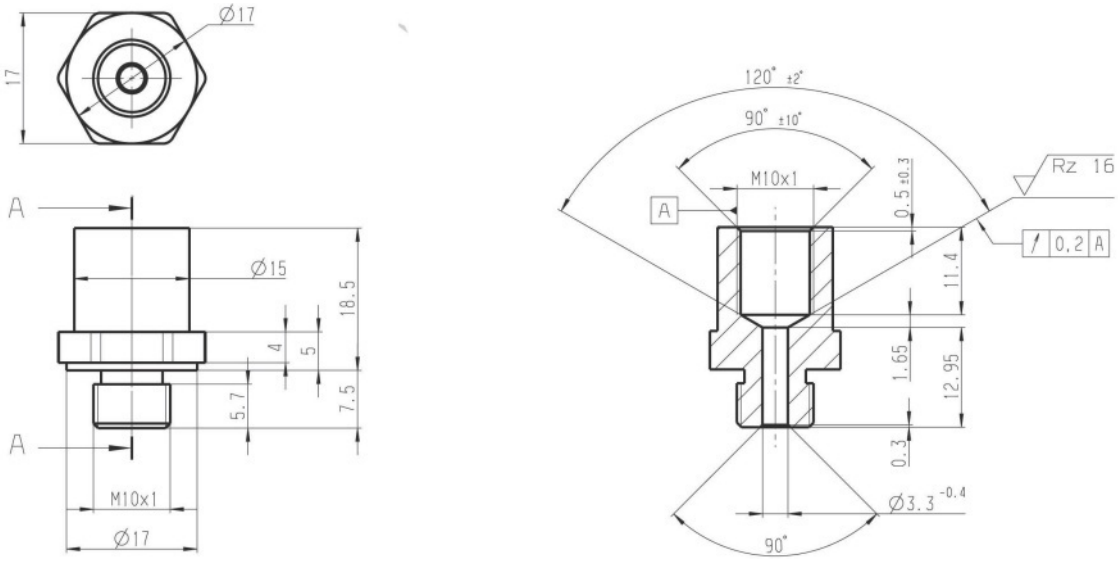
Accessories

Adapter
Order number **F02U.002.711-01**

Dimensions



Sensor



Adapter

Pressure Sensor Fluid PSS-10

Features

- Application: 1 to 11 bar
- Response time: 1.5 ms
- Pressure reference type: Absolut
- Power supply: 5 V
- Weight: 45 g

This sensor is designed to measure absolute pressure of various kinds of media e.g. Diesel, gasoline, water, engine oil, transmission oil or air.
The sensor uses stainless steel measuring cells with piezo-resistive measuring bridges in thin layer technique. These are hermetically welded together with stainless steel pressure ports. This guarantees a complete media compatibility.
The main benefit of this sensor is the high quality of a production part at a low price.

Application

Application	1 to 11 bar (a)
Pressure reference type	absolute
Max. pressure	20 bar
Operating temp. range	-40 to 125°C (140°C)
Media temp. range	-40 to 125°C (140°C)
Storage temp. range	-20 to 50°C
Bio fuel compatibility	E 85 / M 100
Max. vibration	100 m/s^2 rms at 10 to 2,000 Hz

Technical Specifications

Mechanical Data

Male thread	M10x1
Wrench size	17 mm
Installation torque	15 Nm
Weight w/o wire	45 g
Sealing	O-ring 7.65 x 1.63 mm

Electrical Data

Power supply U_S	4.75 to 5.25 V
Max power supply U_S max	± 30 V
Full scale output U_A	10 to 90 % U_S ratiometric
Current I_S	8 mA

Characteristic

Response time T10/90	1.5 ms
Compensated range	0 to 90°C
Tolerance (FS) at U_S = 5 V	± 0.1 bar
Tolerance (FS)	± 1 %
Sensitivity	400 mV/bar at U_S=5 V
Offset	100 mV at U_S=5 V

Connectors and Wires

Connector	Bosch Compact
Mating connector	3-pole Compact D261.205.339-01
Pin 1	Gnd
Pin 2	Sig
Pin 3	U_S
Pin 4	-
Pin 5	-

Installation Notes

The PSS-10 can be connected directly to most control units.

The sensor has a protection for over voltage, reverse polarity and short-circuit.

Please do not fix the sensor directly to the engine block to avoid undesired strong vibrations.

Each mounting orientation is possible.

The sensor meets all EMV, EMC and ESD automotive standards.

Please find further application hints in the offer drawing and free download of the sensor configuration file (*.sdf) for the Bosch Data Logging System at our homepage.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

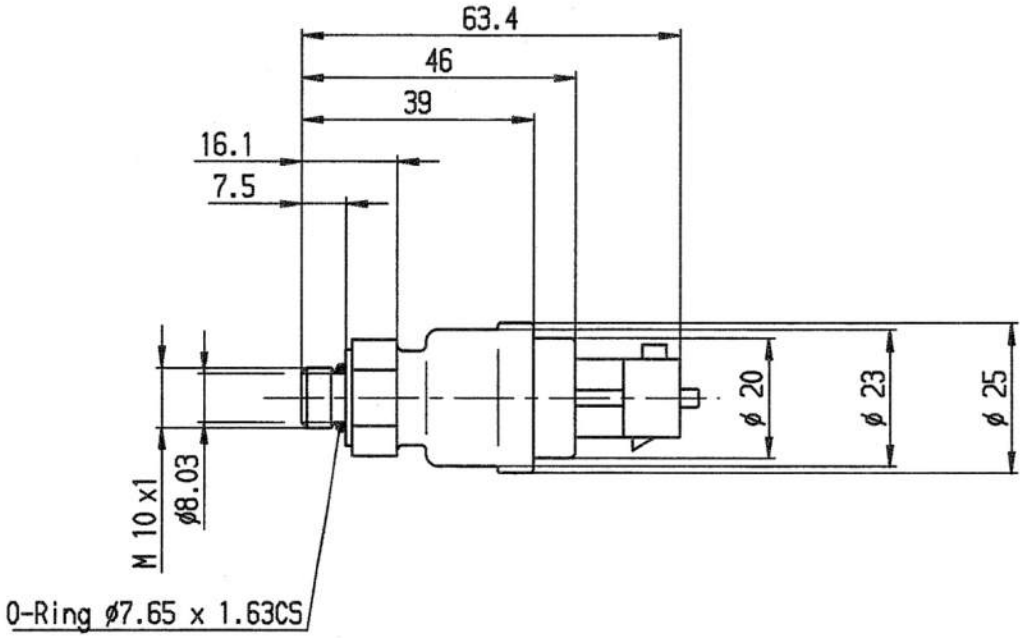
Legal Restrictions

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

Ordering Information

Pressure Sensor Fluid PSS-10
Order number **B261.209.341-01**

Dimensions



Pressure Sensor Fluid PSS-250R

Features

- Application: 0 to 250 bar
- Response time: 1.5 ms
- Pressure reference type: Relative
- Power supply: 5 V
- Weight: 45 g

This sensor is designed to measure the pressure of media in relation to the ambient pressure (e.g. Diesel, gasoline, water, engine oil, transmission oil or air). The sensor is available for two different supply voltage ranges.
The sensor uses stainless steel measuring cells with piezo-resistive measuring bridges in thin layer technique, which are hermetically welded together with stainless steel pressure ports. This guarantees a complete media compatibility.
The main benefit of this sensor is the high quality of a production part at a low price

Application

Application	0 to 250 bar (r)
Pressure reference type	relative
Max. pressure	500 bar
Operating temp. range	-40 to 125°C (140°C)
Media temp. range	-40 to 125°C (140°C)
Storage temp. range	-20 to 50°C
Bio fuel compatibility	E 85 / M 100
Max. vibration	100 m/s^2 rms at 10 to 2,000 Hz

Technical Specifications

Mechanical Data

Male thread	M10x1
Wrench size	17 mm
Installation torque	15 Nm
Weight w/o wire	45 g
Sealing	O-ring 7.65 x 1.63 mm

Electrical Data

Power supply U_S	4.75 to 5.25 V
Max power supply U_S max	± 30 V
Full scale output U_A	10 to 90 % U_S ratiometric
Current I_S	8 mA

Characteristic

Response time T10/90	1.5 ms
Compensated range	0 to 90°C
Tolerance (FS)	± 2.5 bar
Tolerance (FS)	± 1 %
Sensitivity	16 mV/bar at U_S = 5 V
Offset	500 mV at U_S = 5 V

Connectors and Wires

Connector	Bosch Compact
Mating connector	3-pole Compact D261.205.339-01
Pin 1	Gnd
Pin 2	Sig
Pin 3	U_S
Pin 4	-
Pin 5	-

Installation Notes

The PSS-250R can be connected directly to most control units.

The sensor has a protection for over voltage, reverse polarity and short-circuit.

Please do not fix the sensor directly to the engine block to avoid undesired strong vibrations.

Each mounting orientation is possible.

The sensor meets all EMV, EMC and ESD automotive standards.

Please find further application hints in the offer drawing and free download of the sensor configuration file (*.sdf) for the Bosch Data Logging System at our homepage.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

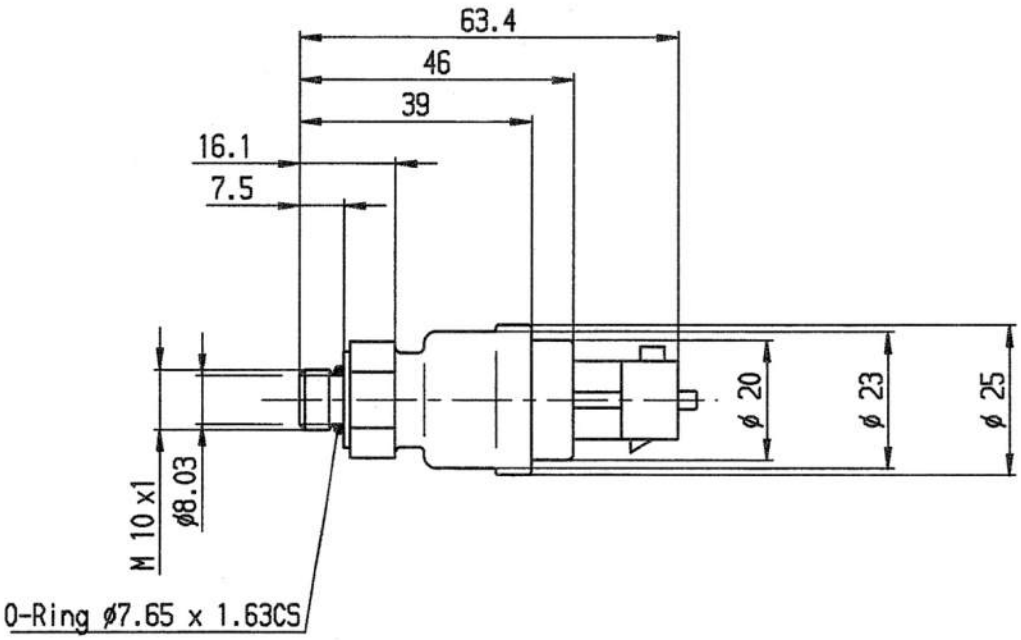
Legal Restrictions

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

Ordering Information

Pressure Sensor Fluid PSS-250R
4.75 to 5.25 V
Order number **B261.209.965-01**

Dimensions



Pressure Sensor Fluid PSS-140/260/420/600

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Features

- Application: 0 to 140, 260, 420, 600 bar
- Response time: 2 ms
- Pressure reference type: Absolut
- Power supply: 5 V
- Weight: 35 g

The PSS is specially designed to measure absolute pressure in gasoline direct injection applications. This sensor is also compatible with other kind of fluids e.g. Diesel, engine oil, transmission oil or brake fluid.
The sensor uses a thin layer technique to achieve high accuracy pressure measurements. The stainless steel measuring cells with piezoresistive bridges are hermetically welded with stainless steel pressure ports. The internal reference ensures ambient pressure independent measurements.
The main benefits of this sensor are its high accuracy, its wide measurement range and its robust and compact design.

Application

Application and max. pressure	Please see Variations
Pressure reference type	absolute
Operating and media temp. range	-40 to 130°C (140°C)
Storage temp. range	-30 to 60°C
Max. vibration	210 m/s^2 at 147 to 1,350 Hz 175 m/s^2 at 1,350 to 2,000 Hz

Technical Specifications

Variations

PSS	-140	-260	-420	-600
Application (bar) 0 to	140	260	420	600
Max. pressure (bar)	180	320	560	660
Sensitivity at U_S = 5 V (mV/bar)	28.57	15.38	9.52	6.67

Mechanical Data

Male thread	M10 x 1
Wrench size	27 mm
Installation torque	22 ± 2 Nm in aluminum 32.5 ± 2.5 Nm in steel
Weight w/o wire	35.2 g
Sealing	sealed cone

Electrical Data

Power supply U_S	4.75 to 5.25 V
Max power supply U_S max	16 V
Full scale output U_A	10 to 90 % U_S ratiometric
Current I_S	12 mA

Characteristic

Load capacity	10 nF
Output resistance	10 Ohm
Tolerance (FS)	+ 1 % (0 to 100°C) + 1.5 % (-40 to 0°C and 100 to 130°C)
Sensitivity	Please see Variations
Offset	500 mV at U_S = 5 V

Connectors and Wires

Connector	Bosch Compact
Mating connector	3-pole Compact D261.205.366-01
Pin 1	Gnd
Pin 2	Sig
Pin 3	U_S

Installation Notes

The PSS- can be connected directly to most control units. Please consider the TCI for the electrical connection of the sensor.

The sensor has a protection for overvoltage, reverse polarity and short-circuit.

Please do not fix the sensor directly to the engine block to avoid undesired strong vibrations.

Each mounting orientation is possible.

Please consider using the adapter F02U.002.711-01.

The sensor meets all EMV, EMC and ESD automotive standards.

Please find further application hints in the offer drawing and free download of the sensor configuration file (*.sdf) for the Bosch Data Logging System at our homepage.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Legal Restrictions

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

Ordering Information

Pressure Sensor Fluid PSS-140
Order number **0261.545.053**

Pressure Sensor Fluid PSS-260
Order number **0261.545.040**

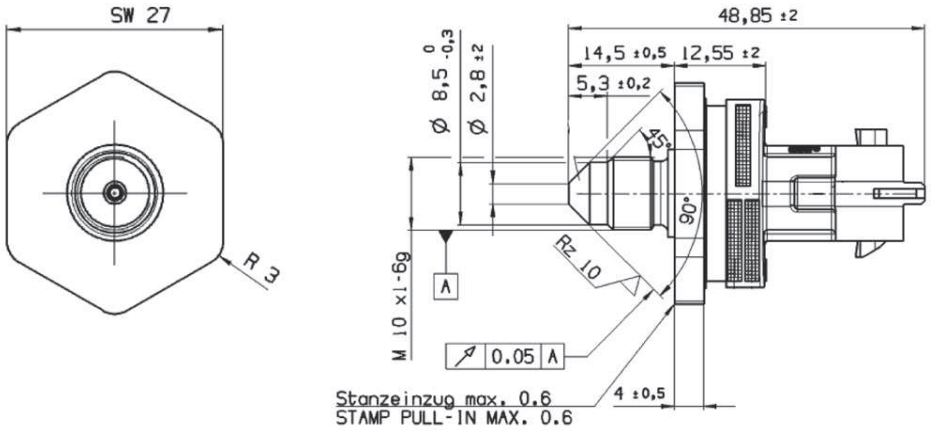
Pressure Sensor Fluid PSS-420
Order number **0261.545.136**

Pressure Sensor Fluid PSS-600
Order number **0261.B23.789-07**

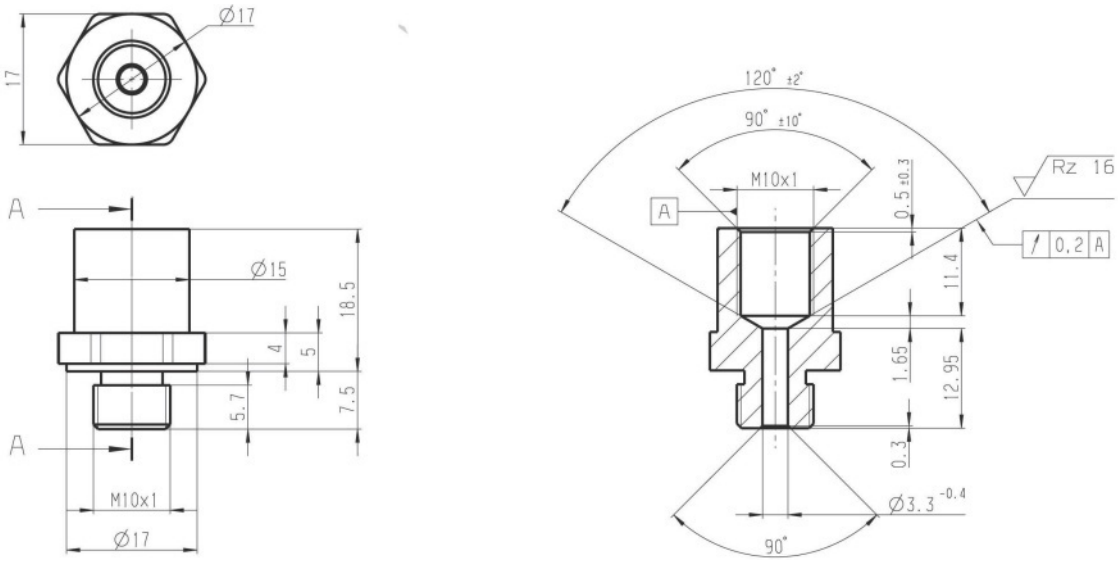
Accessories

Adapter
Order number **F02U.002.711-01**

Dimensions



Sensor



Adapter

Overview

Knock Sensor KS4-P

- Frequency: 3 to 25 kHz
- Weight: 48 g
- Height sensor head: 18 mm

Knock Sensor KS4-R

- Frequency: 3 to 25 kHz
- Weight: 82 g
- Height sensor head: 18 mm

Knock Sensor KS4-R2

- Frequency: 3 to 30 kHz
- Weight: 60 g
- Height sensor head: 14 mm

Knock Sensor KS4-P

Features

- Frequency: 3 to 25 kHz
- Weight: 48 g
- Height sensor head: 18 mm

This sensor is used for detecting structural born vibrations in spark ignition engines due to uncontrolled combustion. This sensor is suitable for operation in extreme conditions.
Due to the inertia of the seismic mass, the sensor moves in correlation to the engine block vibration; this motion results in a compressive force which is converted into a voltage signal via a piezoceramic sensor element. As a result, upper and lower voltage thresholds can be defined directly correlating to an acceleration magnitude.
The main benefits of this sensor are its robust mechanical design, compact housing and precise determination of structure-related noise. The small packaging is accomplished by integrating the connector directly to the sensor.

Application

Application	3 to 25 kHz
Operating temperature range	-40 to 150°C
Storage temperature range	-30 to 60°C
Max. vibration	≤ 800 m/s^2

Technical Specifications

Mechanical Data

Male thread (for cast)	M8x25
Male thread (for Al)	M8x30
Installation torque	20±5 Nm
Weight w/o wire	48 g
Protection	IP X9K

Electrical Data

Range of frequency	3 to 25 kHz
Sensitivity at 5 kHz	26 ± 8 mV/g
Max. sensitivity changing (life-time)	-17 %
Linearity between 5 to 15 kHz (from 5 kHz value)	-10 to 10 %
Linearity between 15 to 20 kHz (linear increasing with freq)	20 to 50 %
Main resonance frequency	30 kHz
Impedance	> 1 MOhm
Temperature dependence of sensitivity	0.04 mV/g°C
Capacity field	1,150 ± 200 pF

Connectors and Wires

Mating connector 2-pole	2-Pin RB-Kp.1 (F02U.B00.966-01) or 2-Pin Jetronic (D261.205.288-01)
Pin 1	Sig+
Pin 2	Sig-

Installation Notes

The KS4-P can be connected to all Bosch Motorsport ECUs featuring knock control

The sensor must rest directly on the brass compression sleeve during operation.

To ensure low-resonance coupling of the sensor to the measurement location, the contact surface must be clean and properly machined to provide a secure flush mounting.

Please route the sensor wire in a way that prevents resonance vibration.

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

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Legal Restrictions

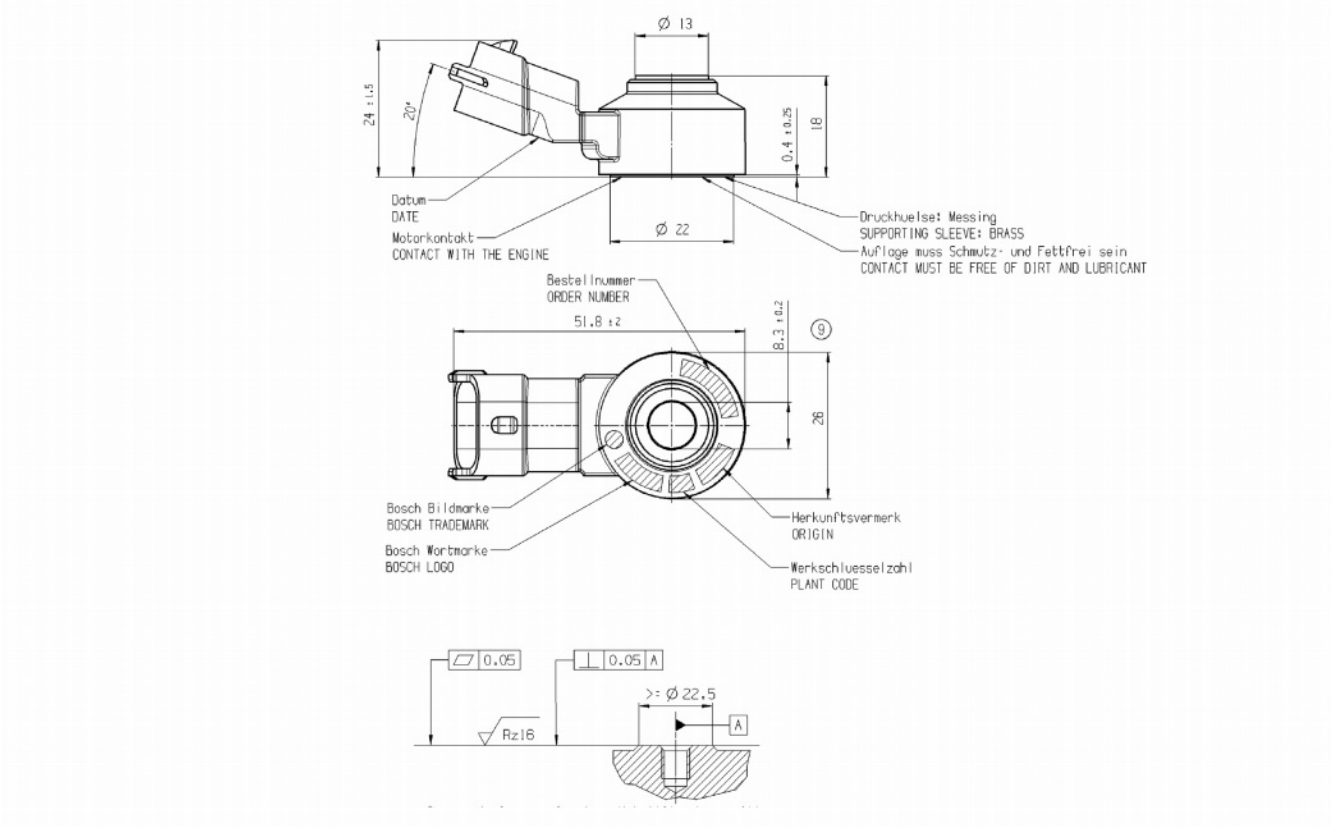
Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

Ordering Information

Knock Sensor KS4-P
Mating Connector: 2-Pin RB-Kp.1
Order number **0261.231.173**

Knock Sensor KS4-P
Mating Connector: 2-Pin Jetronic
Order number **0261.231.188**

Dimensions


Ø 13
24 ±1.5
20°
0.4 ±0.25
18
Datum
DATE
Motorkontakt
CONTACT WITH THE ENGINE
Ø 22
Druckhuelse: Messing
SUPPORTING SLEEVE: BRASS
Auflage muss Schmutz- und Fettfrei sein
CONTACT MUST BE FREE OF DIRT AND LUBRICANT
Bestellnummer
ORDER NUMBER
51.8 ±2
8.3 ±0.2
9
26
Bosch Bildmarke
BOSCH TRADEMARK
Bosch Wortmarke
BOSCH LOGO
Herkunftsvermerk
ORIGIN
Werkschluesselzahl
PLANT CODE
0.05
0.05 A
>= Ø 22.5
A
Rz16

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Knock Sensor KS4-R

Features

- Frequency: 3 to 25 kHz
- Weight: 82 g
- Height sensor head: 18 mm

This sensor is used for detecting structural born vibrations in spark ignition engines due to uncontrolled combustion. This sensor is suitable for operation in extreme conditions.
Due to the inertia of the seismic mass, the sensor moves in correlation to the engine block vibration; this motion results in a compressive force which is converted into a voltage signal via a piezoceramic sensor element. As a result, upper and lower voltage thresholds can be defined directly correlating to an acceleration magnitude.
The main benefits of this sensor are its robust mechanical design, compact housing and precise determination of structure-related noise. Connection to this sensor can be tailored to customer requirements through specified wire lengths and various connector options.

Application

Application	3 to 25 kHz
Operating temperature range	-40 to 130°C
Storage temperature range	-30 to 60°C
Max. vibration	≤ 800 m/s²

Technical Specifications

Mechanical Data

Male thread (for cast)	M8x25
Male thread (for Al)	M8x30
Installation torque	20 ± 5 Nm
Weight w/o wire	82 g
Protection	IP 54

Electrical Data

Range of frequency	3 to 25 kHz
Sensitivity at 5 kHz	28.8 mV/g
Max. sensitivity changing (life-time)	-17 %
Linearity between 5 to 15 kHz (from 5 kHz value)	-10 to 10 %
Linearity between 15 to 20 kHz (linear increasing with freq)	20 to 50 %
Main resonance frequency	> 30 kHz
Impedance	> 1 MOhm
Temperature dependence of sensitivity	0.04 mV/g°C
Capacity field	1,150 ± 200 pF

Connectors and Wires

Connector	A261.230.252
Mating connector 2-pole	2-Pin RB-Kp.1 (D261.205.337-01)
Pin 1	Sig +
Pin 2	Sig -
Sleeve	PUR
Wire size	0.5 mm²
Wire length L	530 mm

Various motorsport and automotive connectors on request.

Installation Notes

The KS4-R can be connected to all Bosch Motorsport ECUs featuring knock control

The sensor must rest directly on the brass compression sleeve during operation.

To ensure low-resonance coupling of the sensor to the measurement location, the contact surface must be clean and properly machined to provide a secure flush mounting.

Please route the sensor wire in a way that prevents resonance vibration.

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

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

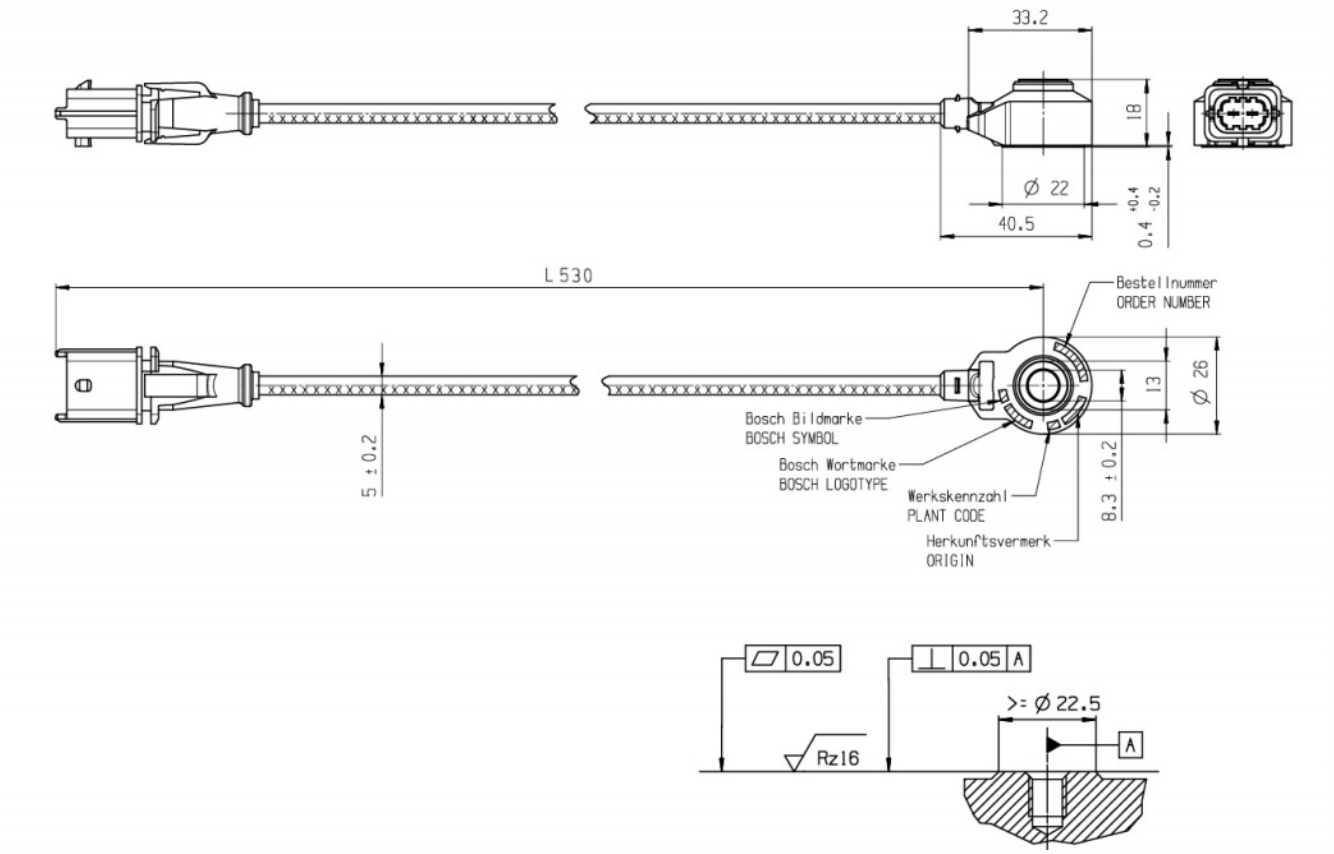
Legal Restrictions

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

Ordering Information

Knock Sensor KS4-R
Order number **0261.231.218**

Dimensions



Knock Sensor KS4-R2

Features

- Frequency: 3 to 30 kHz
- Weight: 60 g
- Height sensor head: 14 mm

This sensor is used for detecting structural born vibrations in spark ignition engines due to uncontrolled combustion. This sensor is suitable for operation in extreme conditions.
Due to the inertia of the seismic mass, the sensor moves in correlation to the engine block vibration; this motion results in a compressive force which is converted into a voltage signal via a piezoceramic sensor element. As a result, upper and lower voltage thresholds can be defined directly correlating to an acceleration magnitude.
The main benefits of this sensor are its robust mechanical design, compact housing and precise determination of structure-related noise. This version is an optimized part for Motorsport applications based on a series application development. Compared to the previous version, the advantage of this new modification is that this product has an extended frequency and higher operating temperature rating.

Application

Application	3 to 30 kHz
Operating temperature range	-40 to 150°C
Storage temperature range	-30 to 60°C
Max. vibration	≤ 800 m/s² at 0 to 24 kHz ≤ 4,000 m/s² at 5 to 24 kHz (short-term)

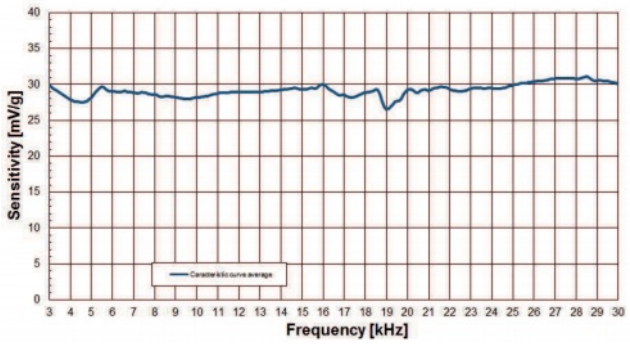
Technical Specifications

Mechanical Data

Fixing screw for cast iron	M8x25
Fixing screw for aluminum	M8x30
Installation torque	20 + 5 Nm
Weight w/o Connector	60 g
Protection	IP 54

Electrical Data

Range of frequency	3 to 30 kHz
Max. sensitivity changing (life-time)	-17 %
Linearity between 5 to 15 kHz (from 5 kHz value)	-10 to 10 %
Linearity between 15 to 20 kHz (linear increasing with freq)	20 to 50 %
Main resonance frequency	> 30 kHz



Ratio of frequency and sensitivity

Impedance	> 1 MOhm
Temperature dependence of sensitivity	0.04 mV/g°C
Capacity field	1,150 ± 200 pF

Connectors and Wires

Connector	ASX602-03PC-HE
Mating connector ASX002-03SC-HE	F02U.002.840-01
Pin 1	Sig
Pin 2	Gnd
Pin 3	Scr
Sleeve	Elastomer
Wire size	0.5 mm²
Wire length L	150 to 450 mm

Various motorsport and automotive connectors on request.

Installation Notes

The KS4-R2 can be connected to all Bosch Motorsport ECUs featuring knock control.

The sensor must rest directly on the brass compression sleeve during operation.

To ensure low-resonance coupling of the sensor to the measurement location, the contact surface must be clean and properly machined to provide a secure flush mounting.

Please route the sensor wire in a way that prevents resonance vibration.

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

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

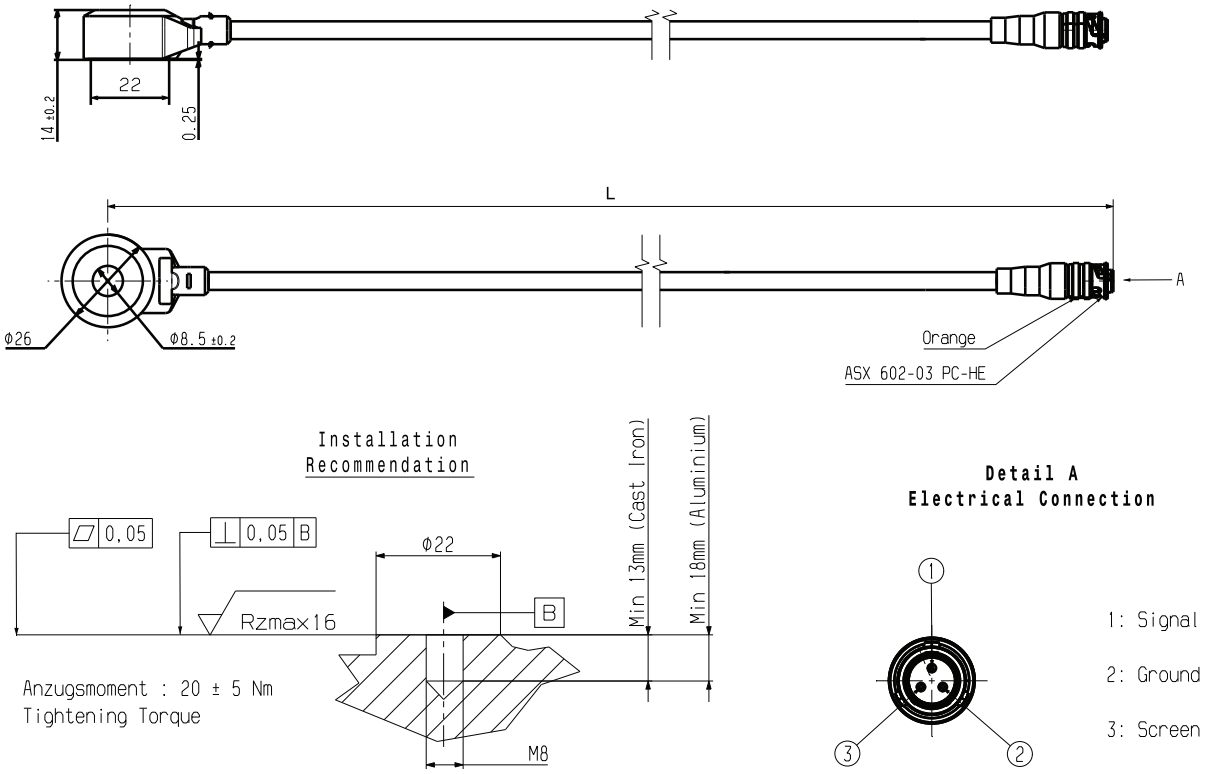
Legal Restrictions

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

Ordering Information

Knock Sensor KS4-R2
Order number **F02U.V01.884-01**

Dimensions



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Overview

Lambda Sensor LSU 4.9

- Application: lambda 0.65 to ∞
- Exhaust gas temperature: 930°C (1,030 for a short time)
- Hexagon temperature: 600°C
- Thread: M18x1.5
- Weight w/o wire: 75 g

Lambda Sensor LSU ADV/ ADV pre Turbo

- Application: lambda 0.65 to ∞
- Exhaust gas temperature: 930°C (1,030 for a short time)
- Hexagon temperature: 820°C
- Thread: M18x1.5
- Weight w/o wire: 75 g

Lambda Sensor Mini-LSU 4.9

- Application: lambda 0.65 to ∞
- Exhaust gas temperature: 930°C (1,030 for a short time)
- Hexagon temperature: 700°C
- Thread: M16x1.5
- Weight w/o wire: 34 g

Lambda Sensor LSU 4.9

Features

- Application: lambda 0.65 to ∞
- Exhaust gas temperature: 930°C (1,030 for a short time)
- Hexagon temperature: 600°C
- Thread: M18x1.5
- Weight w/o wire: 75 g

This sensor is designed to measure the proportion of oxygen in exhaust gases of automotive engines (gasoline or Diesel).
The wide band lambda sensor LSU 4.9 is a planar ZrO_2 dual cell limiting current sensor with integrated heater. Its monotonic output signal in the range of lambda 0.65 to air makes the LSU 4.9 capable of being used as a universal sensor for lambda 1 measurement as well as for other lambda ranges. The connector module contains a trimming resistor, which defines the characteristic of the sensor.
The main benefit of the LSU 4.9 is the robust design combined with the high Bosch production quality standard.
This lambda sensor operates only in combination with a special LSU-IC, used in most Bosch Motorsport ECUs and lambda control units like LT4. You'll find this unit and more on our homepage at Electronics/Sensor Interfaces.

Application

Application	lambda 0.65 to ∞
Fuel compatibility	gasoline/Diesel/E85
Exhaust gas pressure	≤ 2.5 bar (higher with decrease accuracy)
Exhaust gas temperature range (operating)	< 930°C
Exhaust gas temperature range (max.) for short time	< 1,030°C
Hexagon temperature	< 600°C
Wire and protective sleeve temperature	< 250°C
Connector temperature	< 140°C
Storage temperature range	-40 to 100°C
Max. vibration (stochastic peak level)	300 m/s^2

Technical Specifications

Variations

LSU 4.9 with automotive connector

Connector	1928.404.687 (Series production type, not available from Bosch Motorsport)
Mating connector	D261.205.356-01
Wire length L	95.0 cm

LSU 4.9 with motorsport connector

Connector	AS607-35PN
Mating connector	AS007-35SN
Wire length L	20.0 to 90.0 cm

Mechanical Data

Weight w/o wire	75 g
Thread	M18x1.5
Wrench size	22 mm
Tightening torque	40 to 60 Nm

Electrical Data

Power supply H+ nominal	7.5 V
System supply voltage	10.8 V to 16.5 V
Heater power steady state	7.5 W
Heater control frequency	≥ 100 Hz
Nominal resistance of Nernst cell	300 Ohm
Max current load for Nernst cell	250 µA

Characteristic

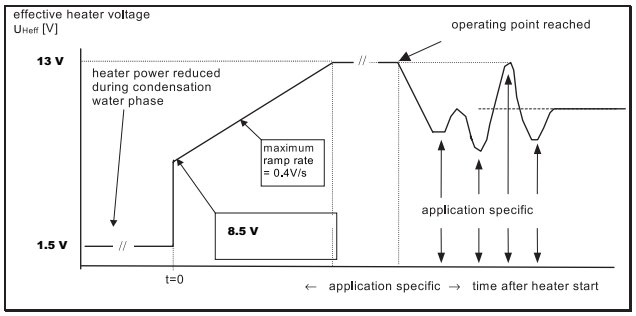
Signal output	I_P meas
Accuracy at lambda 0.8	0.80 ± 0.01
Accuracy at lambda 1	1.016 ± 0.007
Accuracy at lambda 1.7	1.70 ± 0.05

I_P [mA]	lambda	U_A [V], v=17	U_A [V], v=8
-2.000	0.650	-	0.510
-1.602	0.700	-	0.707
-1.243	0.750	0.192	0.884
-0.927	0.800	0.525	1.041
-0.800	0.822	0.658	1.104

-0.652	0.850	0.814	1.177
-0.405	0.900	1.074	1.299
-0.183	0.950	1.307	1.409
-0.106	0.970	1.388	1.448
-0.040	0.990	1.458	1.480
0	1.003	1.500	1.500
0.015	1.010	1.515	1.507
0.097	1.050	1.602	1.548
0.193	1.100	1.703	1.596
0.250	1.132	1.763	1.624
0.329	1.179	1.846	1.663
0.671	1.429	2.206	1.832
0.938	1.701	2.487	1.964
1.150	1.990	2.710	2.069
1.385	2.434	2.958	2.186
1.700	3.413	3.289	2.342
2.000	5.391	3.605	2.490
2.150	7.506	3.762	2.565
2.250	10.119	3.868	2.614

Please note: U_A is not an output signal of the lambda sensor, but the output of the evaluation circuit. Only I_P correlates with the oxygen content of the exhaust gas. Amplification factor v=17 is typically used for lean applications (lambda>1), amplification factor v=8 is typically used for rich applications (lambda<1).

Heater Strategy



Connectors and Wires

Connector	Please see variations
Mating connector	Please see variations
Sleeve	fiber glass / silicone coated
Pin 1	Pump current APE / IP
Pin 2	Virtual ground IPN / VM
Pin 3	Heater voltage H- / Uh-
Pin 4	Heater voltage H+ / Uh+
Pin 5	Trim resistor RT / IA
Pin 6	Nernst voltage UN / RE
Wire length	Please see variations

Various motorsport and automotive connectors are available on request.

Installation Notes

This lambda sensor operates only in combination with a special LSU-IC, used in most Bosch Motorsport ECUs and lambda control units like LT4. You'll find this unit and more on our homepage at Accessories/Expansion Modules.

The lambda sensor should be installed at point which permits the measurement of a representative exhaust-gas mixture, which does not exceed the maximum permissible temperature.

Install at a point where the gas is as hot as possible.

Observe the maximum permissible temperature.

As far as possible install the sensor vertically (wire upwards).

The sensor is not to be fitted near to the exhaust pipe outlet, so that the influence of the outside air can be ruled out.

The exhaust-gas passage opposite the sensor must be free of leaks in order to avoid the effects of leak-air.

Protect the sensor against condensation water.

The sensor is not to be painted, nor is wax to be applied or any other forms of treatment. Use only the recommended grease for lubricating the thread.

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

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Legal Restrictions

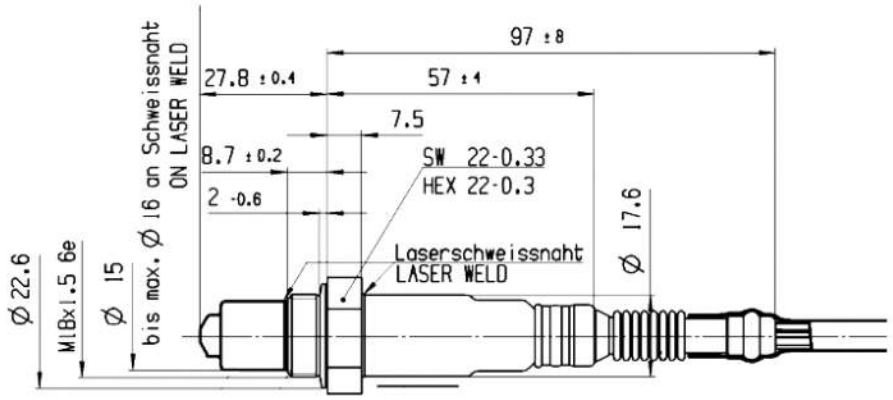
Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

Ordering Information

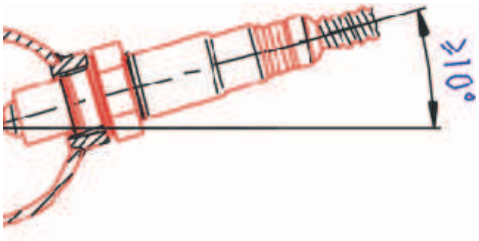
Lambda Sensor LSU 4.9
With automotive connector
Order number **0258.017.025**

Lambda Sensor LSU 4.9
With motorsport connector
Order number **B261.209.358-03**

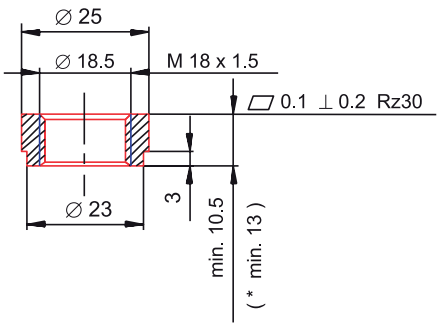
Dimensions



Mounting recommendation



Recommended design of the mating thread in the exhaust pipe:
THexagon > 600°C
or TGas > 930°C



Lambda Sensor LSU ADV/ADV pre Turbo

Features

- Application: lambda 0.65 to ∞
- Exhaust gas temperature: 930°C (1,030 for a short time)
- Hexagon temperature: 820°C
- Thread: M18x1.5
- Weight w/o wire: 75 g

This sensor is designed to measure the proportion of oxygen in exhaust gases of automotive engines (gasoline or Diesel). A version with a protection tube of Inconel for pre-turbo-(supercharger) mounting is available.
The wide band lambda sensor LSU ADV is a planar ZrO_2 dual cell limiting current sensor with integrated heater. Its monotonic output signal in the range of lambda 0.65 to air makes the LSU ADV capable of being used as a universal sensor for lambda 1 measurement as well as for other lambda ranges.
The LSU ADV has no trimming resistor inside the connector what results in just 5 connector pins. Compared to LSU 4.9, the LSU ADV has a wider working temperature range.
LSU ADV operates only in combination with a special evaluation unit used in lambda control unit LT4 ADV. You'll find this unit and more on our homepage at Electronics/Sensor Interfaces.

Application

Application	lambda 0.65 to ∞
Fuel compatibility	gasoline/Diesel/E85
Exhaust gas pressure	≤ 2.5 bar (higher with decrease accuracy)
Exhaust gas temperature (operating)	≤ 930°C (≤ 980°C pre Turbo Version)
Max. exhaust gas temperature for short time	≤ 1,030°C
Hexagon temperature (operating)	≤ 650°C
Max. hexagon temperature for short time	≤ 700°C
Max. temperature at welding seam	≤ 820°C (pre Turbo Version)
Max. temperature difference between hexagon and welding seam	≤ 330°C
Wire and protective sleeve temperature	≤ 250°C
Connector temperature	≤ 140°C
Storage temperature range	-40 to 100°C
Max. vibration (stochastic peak level)	300 m/s^2

Technical Specifications

Mechanical Data

Weight w/o wire	75 g
Thread	M18x1.5
Wrench size	22 mm
Tightening torque	40 to 60 Nm

Electrical Data

Power supply H+ nominal	7.5 V
System supply voltage	10.8 V to 16.5 V
Heater power steady state	8.7 W
Heater control frequency	≥ 100 Hz
Nominal resistance of Nernst cell	300 Ohm
Max current load for Nernst cell	≤ 80 µA
Switch-on time	≤ 5 s

Characteristic

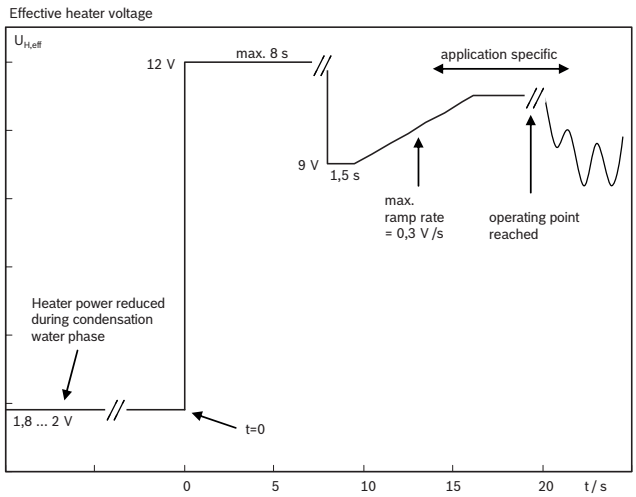
Signal output	I_P meas
Accuracy at lambda 0.8	-0.652 ± 0.032 mA
Accuracy at lambda 1	-0.018 ± 0.008 mA
Accuracy at lambda 1.7	0.515 ± 0.022 mA

I_P [mA]	lambda	U_A [V], v=17	U_A [V], v=8
-1,38000	0,650	0,048	0,817
-1.11000	0.700	0.332	0.950
-0.88000	0.750	0.574	1.064
-0.65000	0.800	0.816	1.178
-0.47500	0.850	1.000	1.265
-0.37000	0.880	1.111	1.317

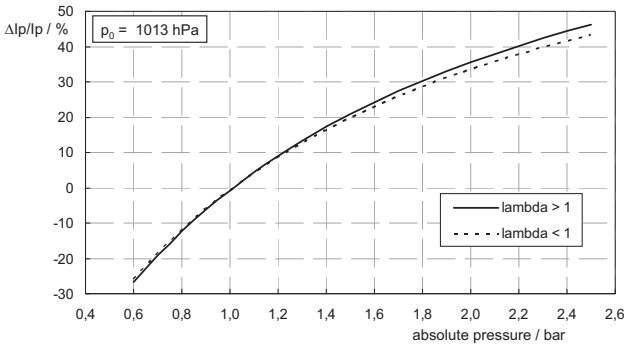
-0.30000	0.900	1.184	1.351
-0.16000	0.950	1.332	1.421
-0.07600	0.980	1.420	1.462
-0.04800	0.990	1.449	1.476
-0.02000	1.000	1.479	1.490
0.01167	1.030	1.512	1.506
0.03278	1.050	1.534	1.516
0.06444	1.080	1.568	1.532
0.08556	1.100	1.590	1.542
0.17000	1.180	1.679	1.584
0.23080	1.260	1.743	1.614
0.36000	1.430	1.879	1.678
0.40148	1.500	1.922	1.699
0.52000	1.700	2.047	1.758
0.54740	1.780	2.076	1.771
0.77000	2.430	2.310	1.881
1.40000	5.000	2.973	2.193

Please note: UA is not an output signal of the lambda sensor, but the output of the evaluation circuit. Only IP correlates with the oxygen content of the exhaust gas. Amplification factor v=17 is typically used for lean applications (lambda>1), amplification factor v=8 is typically used for rich applications (lambda<1).

Heater Strategy



Pressure Compensation



Connectors and Wires

LSU ADV with automotive connector

Connector	1 928 404 669 (Series production type, not available from Bosch Motorsport)
Mating connector	F02U.B00.725-01
Pin 1	IP/APE
Pin 2	VM/IPN
Pin 3	Uh-/H-
Pin 4	Uh+ / H+
Pin 5	nc
Pin 6	UN/RE
Wire length L	95.0 cm

LSU ADV pre Turbo with automotive connector

Connector	1254.488.136 (Series production type, not available from Bosch Motorsport)
Mating connector	F02U.B00.937-01
Pin 1	IP/APE
Pin 2	VM/IPN
Pin 3	Uh- / H-
Pin 4	Uh+ / H+
Pin 5	UN / RE

LSU ADV pre Turbo with motorsport connector

Connector	AS607-35PA
Mating connector	AS007-35SA
Pin 1	Uh+ / H
Pin 2	Uh- / H-
Pin 3	IP / APE
Pin 4	VM / IPN
Pin 5	UN / RE
Pin 6	nc
Please specify the required wire length with your order.	
Sleeve	fiber glass / silicone coated

Various motorsport and automotive connectors are available on request.

Installation Notes

This lambda sensor operates only in combination with a special evaluation unit used in lambda control unit LT4 ADV. You'll find this unit and more on our homepage at Accessories/Expansion Modules.

The lambda sensor should be installed at point which permits the measurement of a representative exhaust-gas mixture, which does not exceed the maximum permissible temperature.

Install at a point where the gas is as hot as possible.

Observe the maximum permissible temperature.

As far as possible install the sensor vertically (wire upwards).

The sensor is not to be fitted near to the exhaust pipe outlet, so that the influence of the outside air can be ruled out.

The exhaust-gas passage opposite the sensor must be free of leaks in order to avoid the effects of leak-air.

Protect the sensor against condensation water.

The sensor is not to be painted, nor is wax to be applied or any other forms of treatment. Use only the recommended grease for lubricating the thread.

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

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Legal Restrictions

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

Ordering Information

Lambda Sensor LSU ADV
Automotive connector, wire length 95 cm
Order number **0258.027.010**

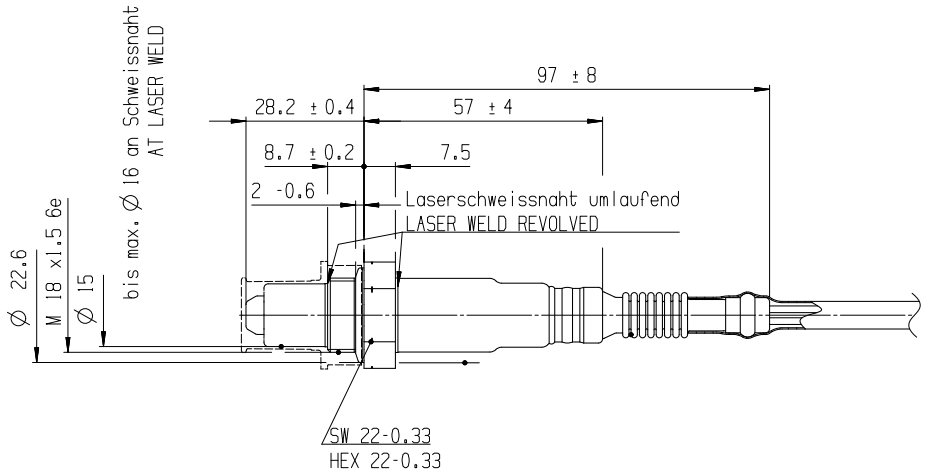
Lambda Sensor LSU ADV
Motorsport connector, wire length customer specific (max. 90 cm)
Order number **F02U.V01.861-01**

Lambda Sensor LSU ADV pre Turbo
Automotive connector, wire length 65 cm
Order number **0258.027.00F**

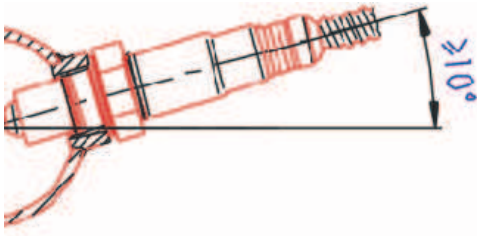
Lambda Sensor LSU ADV pre Turbo
Motorsport connector, wire length 33 cm
Order number **F02U.V02.908-02**

6

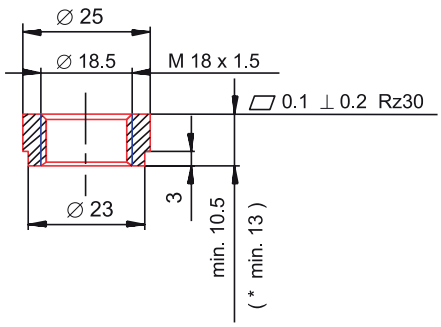
Dimensions



Mounting recommendation



Recommended design of the mating thread in the exhaust pipe
*: THexagon > 600°C or
TGas > 930°C



Lambda Sensor Mini-LSU 4.9

Features

- Application: lambda 0.65 to ∞
- Exhaust gas temperature: 930°C (1,030 for a short time)
- Hexagon temperature: 700°C
- Thread: M16x1.5
- Weight w/o wire: 34 g

This sensor is designed to measure the proportion of oxygen in exhaust gases of automotive engines (gasoline or Diesel).
The wide band lambda sensor Mini-LSU 4.9 is a planar ZrO_2 dual cell limiting current sensor with integrated heater. Its monotonic output signal in the range of lambda = 0.65 to air makes the LSU capable of being used as a universal sensor for lambda = 1 measurement as well as for lean and rich ranges.
The connector housing contains a trimming resistor, which defines the characteristic of the sensor. The main benefit of the Mini-LSU 4.9 is its very compact design in combination with the high Bosch production quality standard. The Mini-LSU is produced and tested in a handmade process.
The complete light weight housing is made of Inconel which makes it resistant against high temperatures. The sensor element is more than 50 % smaller than it is in the production lambda sensor. It is connected over silver coated steel cables to make it more reliable against vibrations.
This lambda sensor operates only in combination with a special LSU-IC, used in most Bosch Motorsport ECUs and lambda control units like LT4. You'll find this unit and more on our homepage at Electronics/Sensor Interfaces.

Application

Application	lambda 0.65 to ∞
Fuel compatibility	gasoline/Diesel/E85
Exhaust gas pressure	≤ 2.5 bar (higher with decrease accuracy)
Exhaust gas temperature range (operating)	< 930°C
Exhaust gas temperature range (max.) for short time	< 1,030°C
Hexagon temperature	≤ 700°C
Wire and protective sleeve temperature	< 250°C
Connector temperature	< 150°C
Storage temperature range	-40 to 100°C
Max. vibration (stochastic peak level)	300 m/s^2 (see Installation Notes)

Technical Specifications

Variations

Mini-LSU 4.9 with automotive connector	
Connector	1928.404.682 (Series production type, not available from Bosch Motorsport)
Mating connector	D261.205.356-01
Wire length L	950 mm
Mini-LSU 4.9 with motorsport connector	
Connector	AS607-35PN
Mating connector	AS007-35SN
Wire length L	200 to 1,400 mm

Mechanical Data

Weight w/o wire	34 g
Thread	M16x1.5
Wrench size	17 mm
Tightening torque	60 Nm

Electrical Data

Power supply H+ nominal	7.5 V
System supply voltage H+ (min)	10.8 V
Heater power steady state	7.5 W
Heater control frequency	100 Hz
Nominal resistance of Nernst cell	300 Ohm
Max. current load for Nernst cell	250 µA

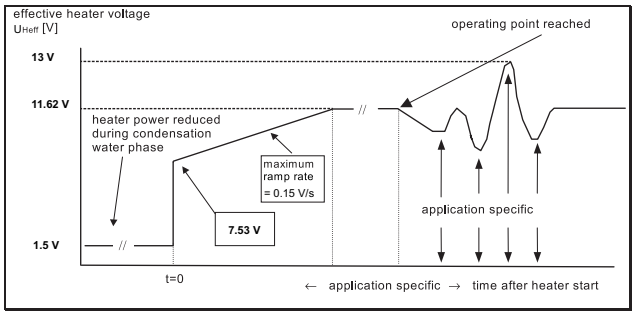
Characteristic

Signal output	I_P meas
Accuracy at lambda 0.8	0.80 ± 0.01
Accuracy at lambda 1	1.016 ± 0.007
Accuracy at lambda 1.7	1.70 ± 0.05

I_P [mA]	lambda	U_A [V], v=17	U_A [V], v=8
-2.000	0.650	-	0.510
-1.602	0.700	-	0.707
-1.243	0.750	0.192	0.884
-0.927	0.800	0.525	1.041
-0.800	0.822	0.658	1.104
-0.652	0.850	0.814	1.177
-0.405	0.900	1.074	1.299
-0.183	0.950	1.307	1.409
-0.106	0.970	1.388	1.448
-0.040	0.990	1.458	1.480
0	1.003	1.500	1.500
0.015	1.010	1.515	1.507
0.097	1.050	1.602	1.548
0.193	1.100	1.703	1.596
0.250	1.132	1.763	1.624
0.329	1.179	1.846	1.663
0.671	1.429	2.206	1.832
0.938	1.701	2.487	1.964
1.150	1.990	2.710	2.069
1.385	2.434	2.958	2.186
1.700	3.413	3.289	2.342
2.000	5.391	3.605	2.490
2.150	7.506	3.762	2.565
2.250	10.119	3.868	2.614

Please note: U_A is not an output signal of the lambda sensor, but the output of the evaluation circuit. Only I_P correlates with the oxygen content of the exhaust gas. Amplification factor v=17 is typically used for lean applications (lambda>1), amplification factor v=8 is typically used for rich applications (lambda<1).

Heater Strategy



Resistance/LSU Temperature

R (Ohm)	Temp (°C)
80	1030
150	888
200	840
250	806
300 [operating point]	780
350	761
400	744
450	729
550	703
650	686
800	665
1000	642
1200	628
2500	567

Connectors and Wires

Connector	Please see variations
Mating connector	Please see variations
Sleeve	fiber glass / silicone coated
Pin 1	Pump current APE / IP
Pin 2	Virtual ground IPN / VM
Pin 3	Heater voltage H- / Uh-
Pin 4	Heater voltage H+ / Uh+
Pin 5	Trim resistor RT / IA
Pin 6	Nernst voltage UN / RE
Wire length	Please see variations

Various motorsport and automotive connectors are available on request.

Installation Notes

This lambda sensor operates only in combination with a special LSU-IC, used in most Bosch Motorsport ECUs and lambda control units like LT4. You'll find this unit and more on our homepage at Accessories/Expansion Modules.

The lambda sensor should be installed at point which permits the measurement of a representative exhaust-gas mixture and which does not exceed the maximum permissible temperature.

Install at a point where the gas is as hot as possible.

Observe the maximum permissible temperature.

Sensors should be installed as close to vertical as possible (wire upwards).

The sensor is not to be fitted near to the exhaust pipe outlet, so that the influence of the outside air can be ruled out.

The exhaust system up stand and surrounding the sensor must be sealed in order to avoid the effects of leakage air.

Protect the sensor against condensation water. The sensor is not to be painted, nor is wax to be applied or any other forms of treatment. Use only the recommended grease for lubricating the thread.

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

A higher maximum vibration profile is possible and should be determined by the customer's individual application.

Safety Note

The sensor is not intended to be used for safety related applications without appropriate measures for signal validation in the application system.

Legal Restrictions

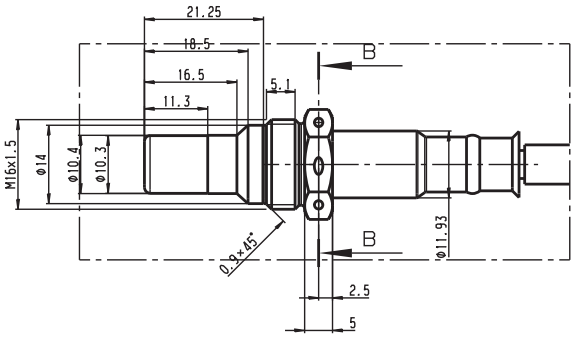
Due to embargo restrictions, sale of this product in Russia, Belarus, Iran, Syria, and North Korea is prohibited.

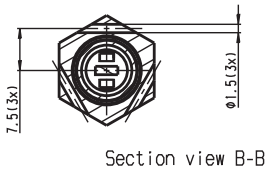
Ordering Information

Lambda Sensor Mini-LSU 4.9
With automotive connector
Order number **B258.490.103-30**

Lambda Sensor Mini-LSU 4.9
With motorsport connector
Order number **F02U.V02.227-02**

Dimensions





Mounting recommendation