

# High-pressure sensors

Measurement up to 200 MPa

- Ratiometric signal evaluation (relative to supply voltage)
- Self-monitoring offset and sensitivity.
- Excellent media resistance as the medium only comes into contact with stainless steel.
- Resistant to brake fluids, mineral oils, fuel, water and air.
- Protection against reverse polarity, overvoltage and short circuit at the output to the supply voltage or ground.



## Application

Pressure sensors of this type are used in motor vehicles to measure the pressure in a braking system or in the fuel rail of engines with direct gasoline injection or the diesel common rail system.

For 0 265 005 303:  
 $C_0$  0,75  
 $C_1$   $0,12 \cdot p / P_N$

## Design and operation

Polysilicon thin-film metal strain gauge elements are used. These are connected to form a Wheatstone bridge. This permits good signal utilization and temperature compensation. Only for 0 265 005 303

The following additional diagnostic function distinguishes this sensor from conventional sensors:

Comparison of two signal paths in the sensor enables

- Offset error
- Amplification error to be detected.

## Storage conditions

Temperature range: -30...+60 °C

Rel. humidity: 0...80 % rF

Maximum storage time: 5 years

The specified storage conditions do not cause any change in function.

The sensors are no longer to be used once the maximum storage time has expired.

## Explanation of characteristic quantities

$U_A$	Output voltage
$U_V$	Supply voltage
bar	Pressure
$U_S$	Feed voltage
p	Pressure [MPa]
C	0.1
$C_1$	$0.8/P_N$ MPa!
$P_N$	Rated pressure [MPa]

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## Part number

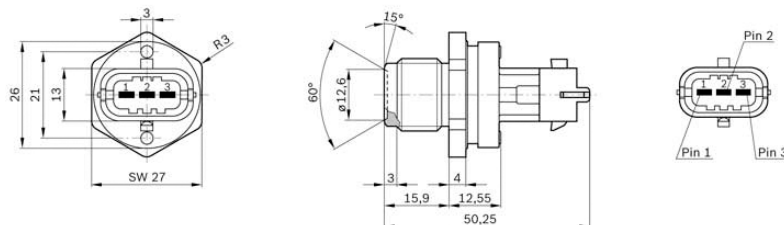
**0 281 002 755**

### Technical data

Pressure range 2000 ( 200 )	$P_N$	bar (MPa)
Pressure-sensor type		RDS4.1
Thread		M 18 x 1,5
Connectors		Compact 1.1
Pin		Gold-plated
Application/medium		Diesel fuel or biodiesel <sup>2)</sup>
Max. feed voltage 16	$U_s$	V
Supply voltage $5 \pm 0,25$	$U_V$	V
Supply current 9...15	$I_V$	mA
Load capacitance to ground 10		nF
Temperature range 40 ...+ 130		°C-
Max. overpressure 230	$p_{\max}$	bar
Rupture pressure 400	$p_{\text{berst}}$	bar
Response time 2	$\tau_{10/90}$	ms

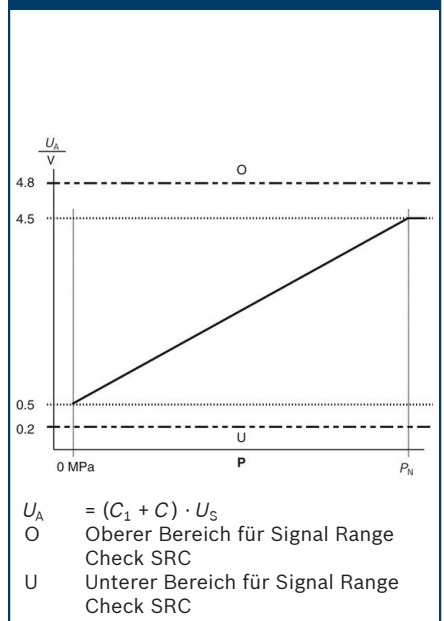
Accessories are not included in the scope of delivery of the sensor and are therefore to be ordered separately as required.

### Dimensional drawing

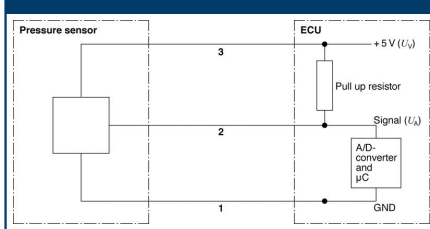


Pin 1 Ground  
Pin 2 Output  
Pin 3 Supply

### Characteristic curve



### Measurement circuit



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Accessories		Part number
Connector housing		1 928 403 968
Contact pins	Contents: 100 x	1 928 498 054
Single-wire seal	Contents: 10 x	1 928 300 599

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