

Model 101B-a19D

Low Profile Differential Pressure Sensors



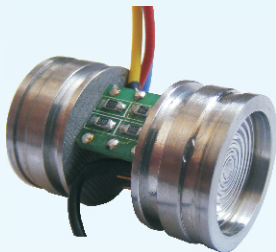
101B-a19D low profile differential pressure sensors are manufactured from BCM piezoresistive silicon die SE103. The sensors are designed with CAD, the performance is simulated and the sensor prototype is fully tested before batch production. Serious quality control and dedicated calibration processes guarantee the specifications of these pressure sensors in mass production and the higher production eligible rate.

101B-a19D pressure sensors possess two flush diaphragms facing the pressure media, able to measure differential pressure of viscous liquids, the diaphragm form a chamber, in which oil is filled to isolate the sensing element and transfer pressure. This isolation enables the sensor to measure the pressures of corrosive fluids as well as electro conductive liquids.

The model of 101B-a19D has a wide pressure range of 0~0.35 to 0~35 bar, and a high accuracy up to 0.15%fso, although the compensation temperature range is 0~70°C, the sensor can still work in the temperature range of -45°C ~ +125°C. Another advantage is constant current or constant voltage are both available as excitation power supply, this making 101B-a19D has a wide application areas.

Model 101B-a19D pressure sensors are designed for easy installation with O-rings as sealing method. The sensor has a diameter of 19 mm, the suffix D stands for differential pressure applications.

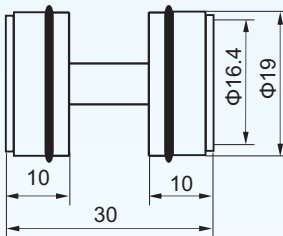
All OEM pressure sensors are delivered with an individual certificate to aid their further application.



Features:

- Diff. measuring ranges: 0~0.35 to 0~35 bar
- Isolated construction, suitable for various fluid medium
- Temperature compensation by laser trimming
- O-ring sealing method
- Mass production, cost-effective
- Constant current or voltage excitation

Dimensions:



Physical properties:

Diaphragm:	316L
Housing:	316L
O-rings:	Viton
Fill Fluid:	Silicon oil < 0.5CC
Laser trim board:	Ceramic
Weight:	46 g

Applications:

Process control systems
Hydraulic systems and valves
Biomedical instruments

Reference specifications:

Media Temperature:	25 ± 1 °C
Ambient Temperature:	25 ± 1 °C
Vibration:	0.1 g (1m/s/s) max
Humidity:	50% ± 10%
Ambient Pressure:	86 ~ 106 kPa
Excitation Source:	1.5 ± 0.0015 mAdc

Environmental conditions:

Position Effect:	<0.1% of Zero shift for 90° tilt in any direction
Vibration Effect:	No change at 10gs' RMS, 20 ~ 2000Hz
Shock:	100g, for 10 millisecond
Life:	100 million cycles

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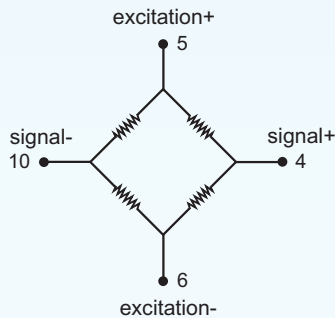
Specifications:

parameters	units	specifications
pressure medium		viscous fluid or fluid with grains, compatible to wetted parts
differential pressure ranges	bar	0~0.35, 0~0.7, 0~1, 0~2, 0~3.5, 0~7, 0~10, 0~20, 0~35
system pressure (or diff. overload)	%FS	300
output sensitivity		> 67 mV/mA (or > 15 mV/V) *
zero offset	mVdc	± 1(standard), ± 2 (max.)
accuracy	%FS	± 0.15 (typical), 0.3 (max.)
long-term stability	%FSO/year	0.2 (typical), 0.3 (max.)
life time	cycles	10 ⁸
response time	ms	≤1 (10% ~ 90% of leading edge)
input resistance	KΩ	4.5 ± 1.5
output resistance	KΩ	4.2 ± 1.8
insulation resistance	MΩ	≥ 500 @ 500 V dc
excitation	mA (recommended)	0.5, ..., 2.0
	Vdc	5, ..., 10
storage temperature range	°C	-40 ~ +125
operating temperature range	°C	-20 ~ +80
compensated temperature range	°C	0 ~ 70
temp. coefficient of ZERO	%FSO/°C	± 0.05 (standard), ± 0.1 (max.)
temp. coefficient of SPAN	%FSO/°C	± 0.05 (standard), ± 0.1 (max.)
sealing method		O-ring
electrical interface		4F (4 colored flexible wires, 100 mm length)
diaphragm material		316L
pressure sensor housing material		316L
net weight	gram	46

The listed specifications and dimensions are subject to change without prior notice.

*: For product with the range of 0~0.35 bar, the output sensitivity is > 33 mV/mA (or > 7.5 mV/V),

Wheatstone-bridge Circuit:



Electrical connections:

(4-colored flexible wires)

	connection	color
4:	signal +	red
5:	excitaiton +	black
6:	excitation -	yellow
10:	signal -	blue

How to Order: model - range - accuracy - excitation - customized requests (if any)

ordering code example: 101B-a19D - 0/1 barD - 0.15%fso - 0.5/1.5 mA



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