

Pressure Sensor - SMO3100



- Up to 4000 Bar pressure range
- High strength, rugged stainless steel design
- E1 automotive approved

The **SMO3100** is a high quality all stainless steel pressure transducer, intended for use in the measurement of gases and liquids compatible with stainless steel.

The EMC properties of the **SMO3100** series permit its application also in rough automotive environments such as off road, construction and agricultural vehicles. Its ratiometric model has been successfully tested up to 300V/m.

With additional EMI / RFI protection, low static and thermal errors and high resistance to shock and vibration as standard, the **SMO3100** assures trouble free operation at temperatures up to 125°C.

The **SMO3100** piezo resistive sensing element coupled with the latest ASIC circuitry, assures excellent accuracy, choice of high level outputs and long stability, protected within a rugged stainless steel housing.

The **SMO3100** high strength stainless steel construction contains no silicone oil and no internal O- rings. Measurements are available in gauge and absolute pressure, with ranges up to 4,000 bar and are backed by a one-year warranty.



Specification

Performance			Environment	
Accuracy @ RT	% of the range (gauge and vacuum sensors) < 0.5	(incl. nonlinearity, hysteresis, repeatability, zero-offset and final offset acc. to IEC 61298-2)	Temperature [°C]:	
	BFSL ≤ 0.125		Measuring medium	-40...125
	% of the range (absolute sensors) < 1.0		Ambience	-40...125
			Storage	-40...125
			Compensated range	-20...85
Non-linearity	% of the range ≤ 0.15		Temperature coefficient within the compensated range:	
Repeatability	% of the range ≤ 0.10		Mean TC offset	% of the range ≤ 0,15 / 10K
Stability/year	% of the range ≤ 0.10		Mean TC range	% of the range ≤ 0,15 / 10K
For pressure ranges above 2000 bar:			Shock	1000 G, 11 msec., 1/2 Sine
Accuracy @ RT	% of the range (gauge and vacuum sensors) < 1.0	(incl. nonlinearity, hysteresis, repeatability, zero-offset and final offset acc. to IEC 61298-2)	Vibration	25 G peak, 20 to 2000 Hz
	BFSL ≤ 0.5		Sealing	IP 66, optional IP69K
	% of the range (absolute sensors) < 1.0		Electronics	
Non-linearity	% of the range ≤ 0.30		Output → Supply	0.5 - 4.5 V → 5 V DC ratiometric
Repeatability	% of the range ≤ 0.20		Output impedance	< 100 Ω
Stability/year	% of the range ≤ 0.20		Current consumption	< 10 mA
Response time	(10..90%) t(ms)1		Reverse voltage protection	Yes
Overrange pressure	up to 2x rated pressure		Mechanics	
Burst pressure	up to 5x rated pressure		Housing incl. wetted parts	304 stainless steel
Pressure cycles	> 10 million		Pressure port	see select table
MTTFd	> 100 years		Electrical connection	see select table
			Weight	ca. 60 g

Ordering Information

(Please use the characters in the chart below to construct your product code)

Sample Code: **SMO3100 - A - 01000 - B - 4 - A**

Series	Port Configuration	Pressure Range	Pressure Unit	Output Signal	Electrical Interface
SMO3100	A* - G 1/4" Male	Please use code from table below	A - absolute pressure B - gauge pressure V - vacuum pressure	5 = 0.5...4.5 V - (with 5V supply voltage)	A - 600 mm cable
	B* - 1/4" NPT Male				B - Miniature EN175301-803-C connector
	C - 1/8" NPT Male				C - Packard Metripac connector
	D - 7/16" -20 UNF Male				D - Standard EN175301-803-A connector
	E - 9/16" -18 UNF Male				F - M12x1 Round connector
	F - M14x1.5 Male				K** - Moulded cable
	G - 1/4" SAE Female				
	H - 3/8x24 UNF Male (Dash Size 3)				
	M10 - M10 x 1				

Custom options available on request

* Standard option
** Sealing IP69K

Pressure Range																						
Bar		0,6	1,0	1,6	2,5	4	6	10	16	25	40	50	60	100	160	250	400	600	1000	1600	2000	4000
Order Code		00060	00100	00160	00250	00400	00600	01000	01600	02500	04000	05000	06000	10000	16000	25000	40000	60000	100000	160000	200000	400000

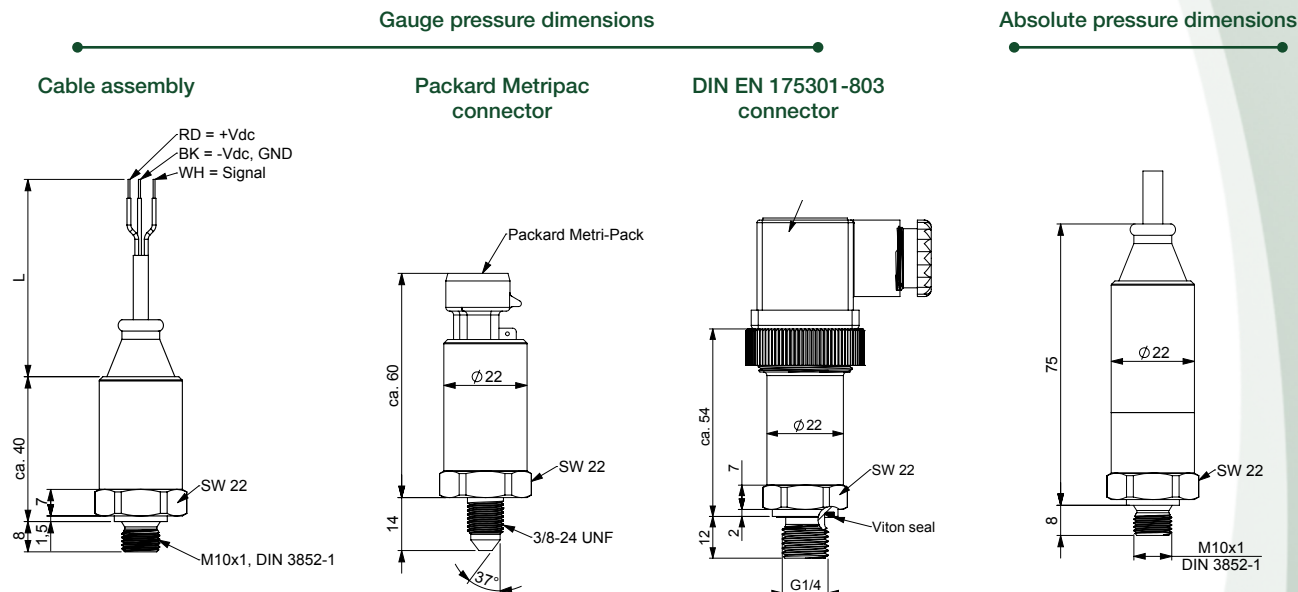
The SMO3100 series is backed by a 1 Year Warranty. The purchaser is responsible for compatibility of the media, functional adequacy and correct installation of the transmitter.






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Dimensions



Wiring

Type	Output	PIN 1	PIN 2	PIN 3	PIN 4
 DIN EN 175301-803-A and C	0.5 - 4.5V	+ Supply	- Supply	Output +	-
 Round connector M12x1 A	0.5 - 4.5V	+ Supply	N/A	- Supply	Output +
 Packard Metripac	Output	PIN A	PIN B	PIN C	-
	0.5 - 4.5V	- Supply	+ Supply	Output +	-
Cable assembly	Output	Red	Black	White	Green
	0.5 - 4.5V	+ Supply	- Supply	Output +	-