



- ▶ **Up to 5000 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 sensor has received E1 certification from the ECE, allowing its use as an approved part for the European automotive industry.

The excellent EMC-properties of SMO3100 transmitters allow their use in demanding applications in the automotive environment; the ratiometric version of the SMO3100 has been tested successfully up to 300V/m.

Due to the proven, robust mechanical construction of the whole 3100-range, the SMO3100 series is predestined to be used in harsh environments - for example off-road, construction and agricultural vehicles.

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 5000 bar and are backed by a one-year warranty.

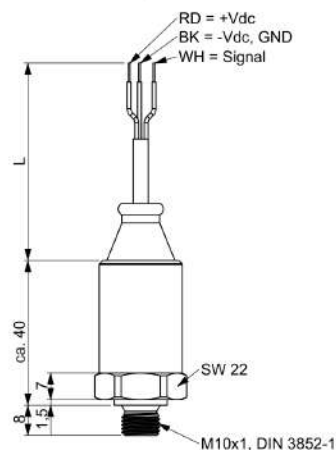


Performance		
Accuracy @ RT	% of the range (gauge and vacuum sensors) < 0.5 BFSL ≤ 0.125 % of the range (absolute sensors) < 1.0	(incl. nonlinearity, hysteresis, repeatability, zero-offset and final offset acc. to IEC 61298-2)
Non-linearity	% of the range ≤ 0.15	
Repeatability	% of the range ≤ 0.10	
Stability/year	% of the range ≤ 0.10	
For pressure ranges above 2000 bar:		
Accuracy @ RT	% of the range (gauge and vacuum sensors) < 1.0 BFSL ≤ 0.5 % of the range (absolute sensors) < 1.0	(incl. nonlinearity, hysteresis, repeatability, zero-offset and final offset acc. to IEC 61298-2)
Non-linearity	% of the range ≤ 0.30	
Repeatability	% of the range ≤ 0.20	
Stability/year	% of the range ≤ 0.20	
Response time	(10..90%) t(ms)1	
Overrange pressure	up to 2x rated pressure	
Burst pressure	up to 5x rated pressure	
Pressure cycles	> 10 million	
MTTFd	> 100 years	
Environment		
Temperature [°C]: Measuring medium Ambience Storage Compensated range	-40...125 -40...125 -40...125 -20...85	
Temperature coefficient within the compensated range:		
Mean TC offset	% of the range ≤ 0,15 / 10K	
Mean TC range	% of the range ≤ 0,15 / 10K	
Shock	1000 G, 11 msec., 1/2 Sine	
Vibration	25 G peak, 20 to 2000 Hz	
Sealing	IP 66, optional IP69K	
Electronics		
Output -> Supply	0.5 - 4.5 V --> 5 V DC ratiometric	
Output impedance	< 100 Ω	
Current consumption	< 10 mA	
Reverse voltage protection	Yes	
Mechanics		
Housing	304 stainless steel	
Wetted parts	17-4PH stainless steel	
Pressure port	see select table	
Electrical connection	see select table	
Weight	ca. 60 g	

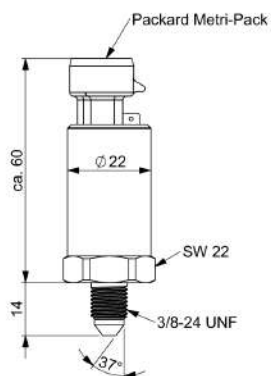


Gauge pressure dimensions

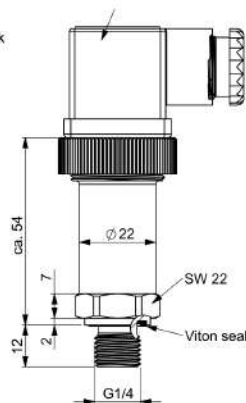
Cable assembly



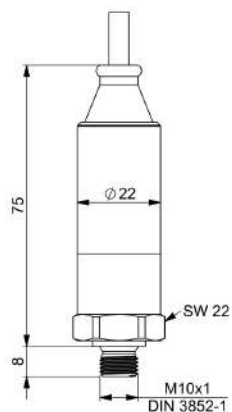
Packard Metripac Connector



DIN EN 175301-803 Connector



Absolute pressure dimensions



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 +	-



Ordering information

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

Sample Code SMO3100 - A - 01000 - B - 5 - A

Port Configuration		
A	G 1/4" E male	
B	1/4" NPT Male	
C	1/8" NPT Male	
D	7/16" 20 UNF Male	
E	9/16" 18 UNF Male	
F	M14x1.5 Male	
G	1/4" SAE Female	
H	3/8x24 UNF Male (Dash Size 3)	
M10	M10 x 1	
Pressure Range		
See table below*		
Pressure Unit		
A	Absolute Pressure	
B	Gauge Pressure	
V	Vacuum Pressure	
Output Signal		
5	0.5...4.5V	
Electrical Interface		
A	600m cable	
B	Miniature EN175301 - 803 - C Connector	
C	Packard Metripack Connector	
D	Standard EN175301 - 803 - A Connector	
F	M12x1 Round Connector	
K**	Moulded Cable	

** 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
Order Code	00060	00100	00160	00250	00400	00600	01000	01600	02500	04000	05000	06000	10000	16000	25000	40000	60000	100000	160000	200000

If you require a customized solution for your program contact our sales team.

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.