

SA-PK004M10-000

Pressure sensor -1 to 4 bar absolute measurement

Function

- Measurement of absolute ambient pressure
 e.g. 960mbar@400m (over sea level)
 → output voltage = 0,96V
- The atmospheric pressure becomes smaller with increasing height over sea.

Measurement principle

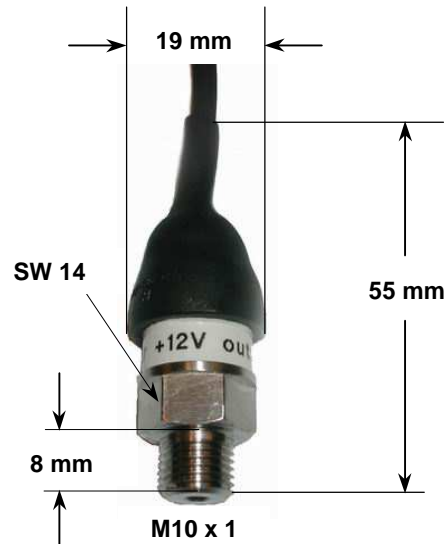
Measuring the absolute pressure in reference to 1000mbar.

Areas of application

- Manifold Air Pressure applications (MAP)
- Boost pressure applications

Overview:

- Build in signal conditioned output 0 to 5V
- Measure -1 to 4 bar absolute ambient pressure



Technical specifications

Electrical characteristics

Measuring range	absolute ambient pressure	-1 up to 4 bar
Supply voltage (range).....		8-16 V
Supply voltage (typical).....		12 V
Supply current (maximum).....		0 to 20 mA
Output.....		0 to 5 V dc, fixed

Accuracy (combined linearity, hysteresis and repeatability)		
0..+50°C		± 1 % / FS
-10..+80°C		± 1.5 % / FS
Error free pressure overload.....	1.5 x related pressure	
Response frequency.....		2 ms

Environmental data

Sealing class.....		IP 65
Long term stability (1 year).....		± 0.3 % FS
Storage temperature range.....		-40..+100 °C
Calibrated operating temp. range		-10..+80 °C

Calibration

 Use the formulas on 2nd page to calculate the physical values

Mechanical characteristics

Dimensions.....	refer figure above
Weight.....	45 g
Pressure port.....	M10 x 1

Connector

Type.....	Binder 719, 5PM
Options.....	on request

Cable

type.....	Raychem, EPD
wire cross section..	3 x AWG 24
length.....	800 mm

Vibration resistance

Shock.....	40 G
	10 ms
Vibration tested at.....	12 G
Measured with.....	1000 Hz

Ordering information

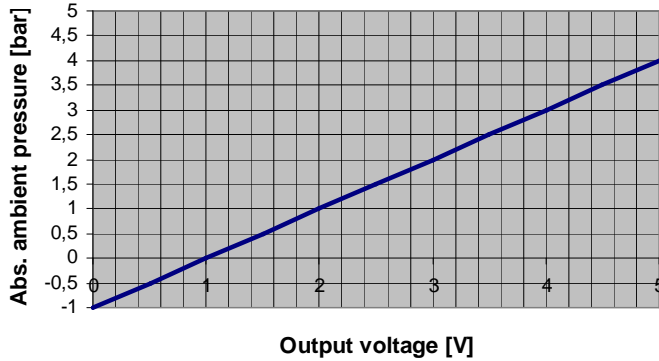
Art.No.:..... SA-PK004M10-000

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Pressure sensor -1 to 4 bar absolute measurement

Formula

	SA-PK004M10-000	Multiplicator	Offset
12 Bit A/D	Pressure [bar]	= 5 / 4095	* Digits - 1
16 Bit A/D	Pressure [bar]	= 5 / 65535	* Digits - 1
Voltage*)	Pressure [bar]	= 1	* Volt - 1



*) You can use the "voltage formula" only, If the voltage supply of the sensor is +5V
 In case of other sensor supplying, you must use the following general formula to calculate the physical value:
Pressure[bar] = 5 / voltage supply * Volt - 1

Connector layout

Analog-line

Pin	Name	Description	Color (standard)
1	AGND	Analog Ground	black
2	n.c.	Not connected	-
3	+12V	Power supply	red
4	n.c.	Not connected	-
5	Signal	Analog signal	white



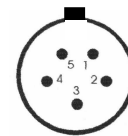
Possible options on customer request !

Please note:

For the first order of special customer options please use the following order code: **SA-PK004M10-000**
 After the first order you will get from 2D a uniquely order code for your next orders.

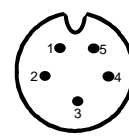
Connector type

Mating plug



Binder 719, 5 PF (front side)

Connector at sensor



Binder 719, 5 PM (front side)