

P02 Series Pressure Sensor

The P02 series pressure sensor for almost all industries applications that provide reliable pressure even in extreme environments measurement results.

The pressure sensor combines the latest Application Specific Integrated Circuit (ASIC) and Oil-Filled piezoresistive technology, provides flexible output signals, absolute or relative (gauge) versions with measurement ranges from 0-1 to 0-100 bar. A wide variety of pressure and electrical connections are available.



Features

- Oil-Filled piezoresistiv technology
- Max. measuring range 100 bar
- RoHs Compliance (Lead-Free)
- The housing and wetted material are made of acid-resistant stainless steel

Applications

- Industrial air compressors
- Water supply and drainage systems
- Mechanical and plant engineering

Advantages

- Working temperature range -40°C - 105°C
- Compatible for nearly all aggressive media
- Impact and vibration resistance
- Temperature compensated
- High vibration stability, high durability
- Optional protection for load dump transient high voltage up to 400V

Standards

- EN60770
- EN 61000-6-2 Series
- EN 61000-6-3 Series
- IEC 60068-2: 2005

Absolute maximum ratings

Symbol	Parameter	Min.	Max.	Unit
P_n	Operating pressure range (Gauge)	0	100	bar
P_m	Prove pressure	3 times P_n		
P_B	Burst pressure	6 times P_n		
T_a	Ambient operating temperature	-40	+105	°C
T_m	Working media temperature	-30	+105	°C

Stresses above these ratings may cause permanent damage. Exposure to absolute maximum ratings for extended periods may degrade reliability.

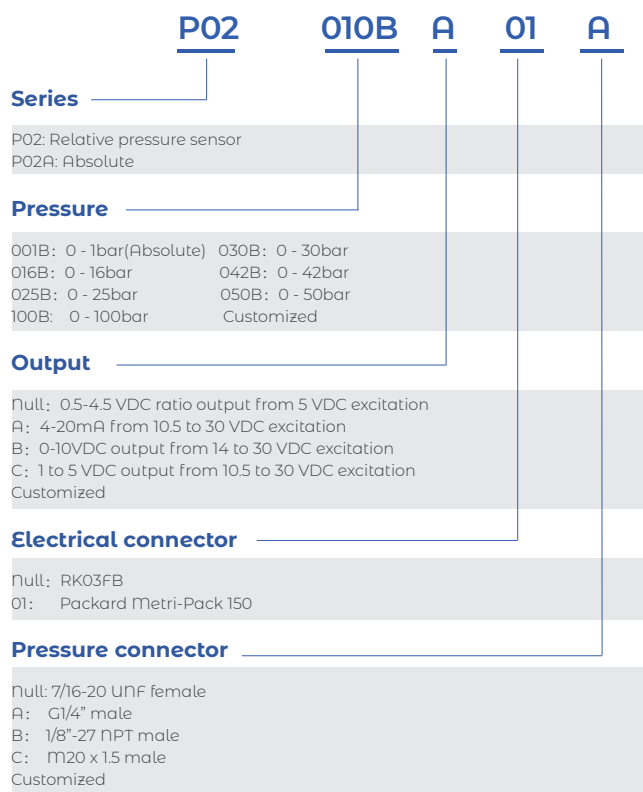
Specifications

Symbol	Parameter	Condition	Min.	Type	Max.	Unit
P_n	Operating pressure range (Gauge)	P02-010BXXXX		10		bar
		P02-016BXXXX		16		
		P02-020BXXXX		20		
		P02-030BXXXX		30		
		P02-042BXXXX		42		
		P02-050BXXXX		50		
		P02-100BXXXX		100		
BFSL	Best fitting straight line			0.25	0.3	% F.S
X	Linearity, hysteresis and repeatability	@ P_n , $T_a = 25\text{ °C}$		0.5	1	%
T_{COE}	Temperature coefficient of zero output	$T_a = 0\text{ °C} \dots 80\text{ °C}$		0.1	0.2	% F.S/10K
T_{COU}	Temperature coefficient of P_n	$T_a = 0\text{ °C} \dots 80\text{ °C}$ (except T_{COE})		0.1	0.2	% F.S/10K
Output	Standard electrical output signal	5 VDC excitation, ratio output	0.5		4.5	VDC
		10.5 to 30 VDC excitation	4		20	mA
		14 to 30 VDC excitation	0		10	VDC
		10.5 to 30 VDC excitation	1		5	VDC
T_R	Response time	Liquid viscosity < 100 cSt		5	10	mS
		Air		35	40	
L_D	life cycle duration			$10 \cdot 10^6$		circle

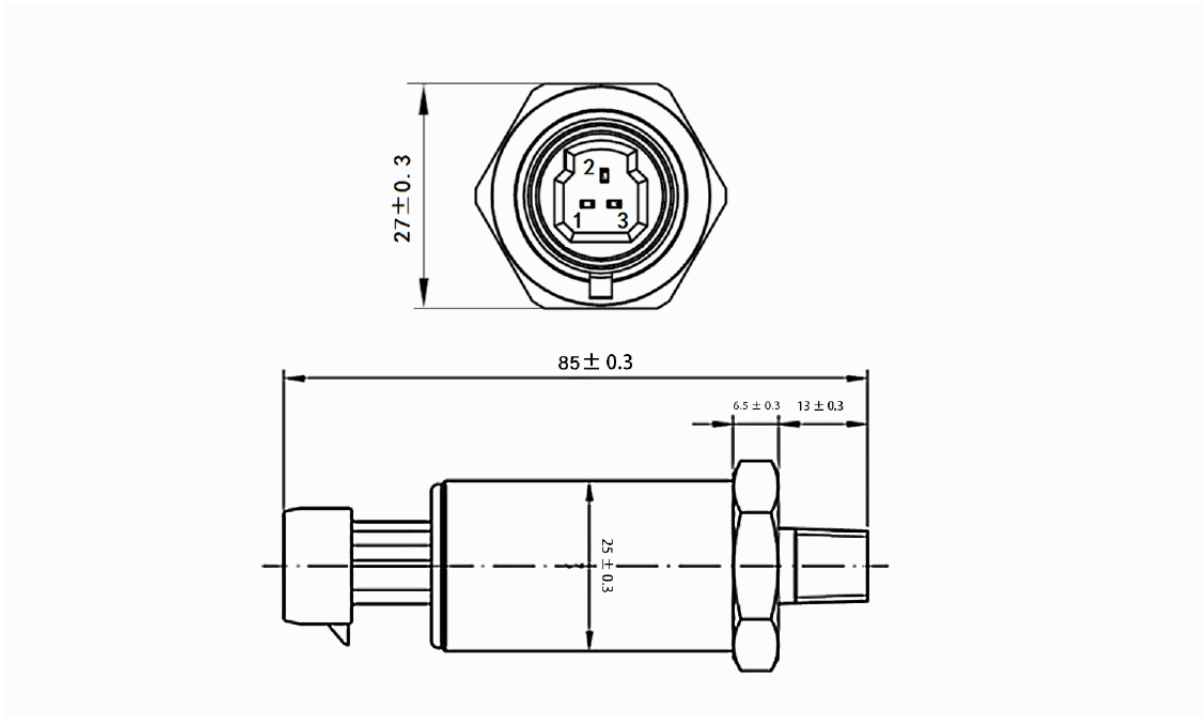
General characteristics

Symbol	Parameter	Value	Unit	Comment
m-HSE	Housing material	SS304		Stainless steel
m-SR	Seal ring material	HNBR		
m-WM	Wetted Materials	SS316		Stainless steel
IP	Sealing grade	IP65 - IP68		Depend on connector
f_m	Mounting torque	≤ 35	Nm	±10%
VIBR	Vibration	1	mm	10 - 55 Hz, XYZ 3 axis
SHORT	Short circuit protected	Yes		
m	Mass	200 - 300	grams	

Name guide description



Dimension (mm)



Safety and Environment



The product is to be installed by manufacturer trained personnel or competent person trained in accordance with manufacturer installation instructions.

With respect to applicable standards IEC 61010-1/ EN 61010-1 *safety requirements for electrical equipment for measurement, control and laboratory use part 1 general requirements*, the product should be used in limited energy secondary circuits.



Risk of electrical shock

Certain parts of the module can carry hazardous voltage during the operation process of the product because hazardous live voltage of primary conductor, power supply occurs, injury and/or serious damage will be caused if this warning is ignored.

Conducting parts must be inaccessible after installation of the product. Additional protection including shield or protective housing could be used according to IEC 60664 Insulation coordination for equipment within low-voltage supply systems.

Disconnection of the main supply will protect against possible injury and serious damage.



ESD protection

Damage from an ESD event will occur if the personnel is not well grounded when handling.

Important notice

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