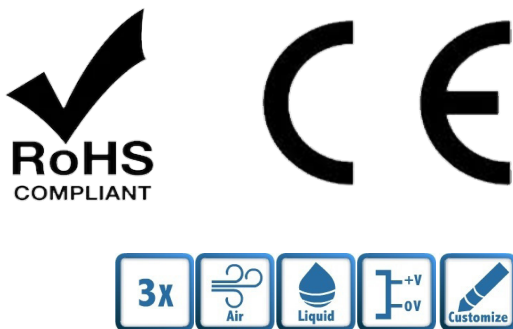


# P02 Series Pressure Sensor

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 piezoresistive 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

- EN 61000-6-2
- EN 61000-6-3
- IEC 60068-2-6
- IEC 60068-2-27
- IEC 60068-2-32
- IEC 60068-2-64

## 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

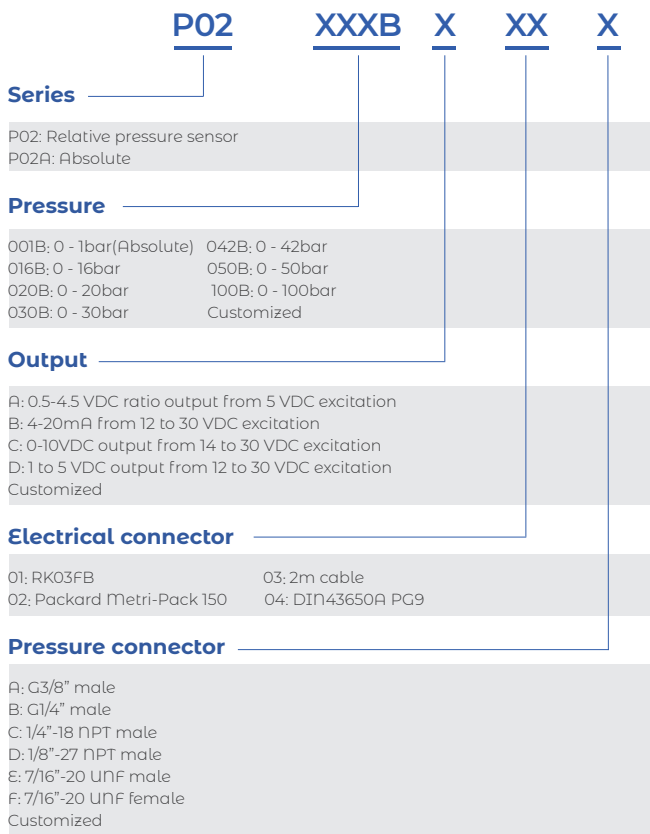
Symbol	Parameter	Condition	Min.	Typ.	Max.	Unit
$P_n$	Operating pressure range (Gauge or Absolute) *1	P02A001BXXX	-1	1		bar
		P02016BXXX		16		
		P02020BXXX		20		
		P02030BXXX		30		
		P02042BXXX		42		
		P02050BXXX		50		
		P02100BXXX		100		
<b>BFSL</b>	Best fitting straight line			0.2		% F.S
$\epsilon_L$	Accuracy include linearity, hysteresis and repeatability errors	@ $P_n, T_A = 25\text{ }^\circ\text{C}$		0.5	1	%
$T_{COE}$	Temperature coefficient of zero output	$T_A=0\text{ }^\circ\text{C} \dots 80\text{ }^\circ\text{C}$		0.1	0.2	% F.S/10K
$T_{COUT}$	Temperature coefficient of $P_n$	$T_A=0\text{ }^\circ\text{C} \dots 80\text{ }^\circ\text{C}$ (except $T_{COE}$ )		0.1	0.2	% F.S/10K
<b>Output</b>	Standard electrical output signal A	5 VDC excitation, ratio output	0.5		4.5	VDC
	Standard electrical output signal B	12 to 30 VDC excitation	4		20	mA
	Standard electrical output signal C	14 to 30 VDC excitation	0		10	VDC
	Standard electrical output signal D	12 to 30 VDC excitation	1		5	VDC
$T_R$	Response time	Liquid viscosity < 100 cSt		5	10	mS
		Air		35	40	

\*1 Pressure range can be customized according to requirements

## General characteristics

Symbol	Parameter	Value	Unit	Comment
<b>m-HSE</b>	Housing material	AISI 304		AISI 316L optional
<b>m-SR</b>	Seal type	Laser welding or HNBR "O" ring		
<b>m-WM</b>	Wetted materials	AISI 316L		
<b>IP</b>	Sealing grade	IP65 - IP68		Depending on the electrical connector
<b>F<sub>m</sub></b>	Mounting torque	≤ 35	Nm	±10%
<b>VIBR</b>	Random vibration	10	g	50 - 2000 Hz X/Y/Z Axis
<b>SHORT</b>	Short circuit protected	Yes		
<b>m</b>	Mass	200 - 300	grams	

## Name guide description



## Notes

The content of this document is subject to revision without notice. Luksens shall have no liability for any error or damage of any kind resulting from the use of this document.

# Dimension (mm)

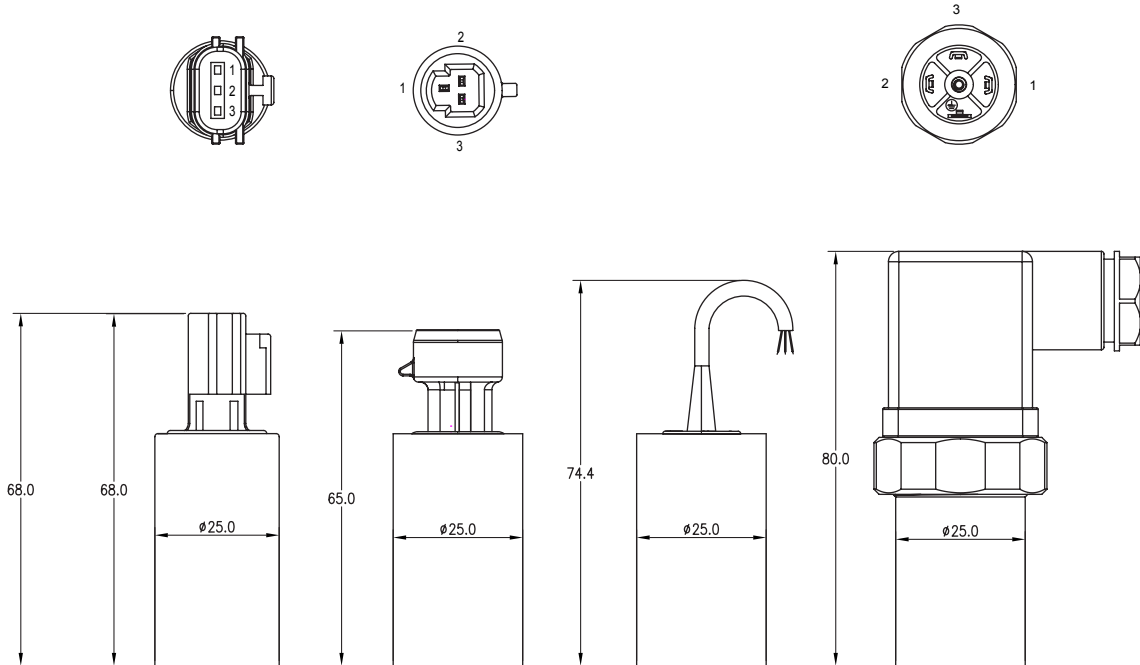
Electrical connector and main body

Code 01: RK03FB

Code 02: Packard Metri-Pack 150

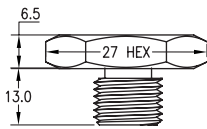
Code 03: 2m cable Red, Black, Blue

Code 03: DIN43650A

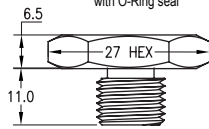


Pressure connector

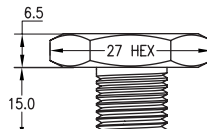
Code A  
G 3/8" male



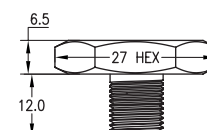
Code B  
G 1/4" male  
with O-Ring seal



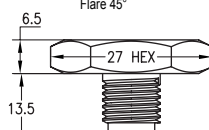
Code C  
1/4"-18 NPT male



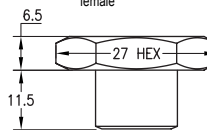
Code D  
1/8"-27 NPT male



Code E  
7/16"-20 UNF male  
Flare 45°



Code F  
7/16"-20 UNF  
female



Electrical Connector Code	01	02	03	04
	RK03FB	Packard Metri-Pack 150	2m Cable	DIN43650A PG9
sealing level	IP67	IP65	IP67	IP65
Material	PPS	PA66	UL2464	PA6
Pin connection 0.5 – 4.5 V, 1 – 5 V, 0 – 10 V output	1. GND, 2. V <sub>OUT</sub> , 3. V <sub>DD</sub>	1. V <sub>OUT</sub> , 2. GND, 3. V <sub>DD</sub>	BL. V <sub>OUT</sub> , BK. GND, R. V <sub>DD</sub>	1. VDD, 2. GND, 3. VOUT
Pin connection 4-20mA output	1. NULL, 2. -, 3. +	1. -, 2. NULL, 3. +	BL. -, BK. NULL, R. +	1., 2., 3.NULL

# 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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