



PBT

A genuinely talented all-rounder

PRESSURE SENSORS

SICK
Sensor Intelligence.



Technical data overview

Device type	Pressure transmitter	
Measuring ranges		
	Gauge pressure	0 bar ... 0.05 bar up to bar ... 1000 bar
	Absolute pressure	0 bar ... 0.1 bar up to 0 bar ... 25 bar
	Compound pressure	–1 bar ... 0 bar up to –1 bar ... +24 bar
Pressure unit	Bar, MPa, psi and kg/cm ²	
Accuracy	≤ ± 1 % of the span	
	≤ ± 0.5 % of the span	
	≤ ± 0.25 % of the span	
	≤ ± 0.6 % of the span	
Output signal	Analog	
Electrical connection	M12 round connector x 1, angled plug, cable connection	

Product description

The PBT is a universal electronic pressure transmitter used in general industrial applications for pressure measurement of liquid and gaseous fluids. Suitable for standard measuring applications in machine and plant engineering, pressure control systems, hydraulics, pneumatics, etc., it supports a wide variety of configurations. and can thus provide the perfect match for individual customer requirements. Its precise and rugged measurement technology, compact dimensions, and quick and simple installation set the PBT apart as a genuinely talented all-rounder.

At a glance

- Pressure measurement ranges from 0 bar ... 0.05 bar up to 0 bar ... 1000 bar
- Relative, absolute, and ± measuring ranges
- Large number of process connections available
- No mechanical moving parts. Hence no wear, fatigue, or maintenance
- Circularly welded, hermetically sealed stainless steel membrane
- Output signal 4 mA ... 20 mA, 0 V ... 5 V or 0 V ... 10 V
- Electrical connection M12 x 1, angled plug (acc. to DIN 175301-803 A) or cable connection

Your benefits

- Compact size takes up less space
- Simple and cost-saving installation
- Available in a wide selection of configurations, enabling a perfect match to individual customer requirements
- Robust design enables higher reliability
- Excellent price/performance ratio

Type code

Other models and accessories →

Type code

Pressure type	
R	Relative
A	Absolute
C	Vacuum and ± measuring range
Pressure unit	
B	bar
M	MPa
P	psi
K	kg/cm ²
Measuring range (see below)	
Non-linearity	
S	≤ ± 0,5% of the range (BFSL)
A	≤ ± 0,25% of the range (BFSL)
Process connection	
G4	G ¼ B, EN 837
G1	G ¼ A, DIN 3852-E
G2	G ¼ internal
G3	G ⅜ B, EN 837
GE	G ½ B, EN 837
GT	G ½ A, DIN 3852-E
N1	¼ NPT
NF	¼ NPT internal
M2	M20 x 1.5
U1	7/16"-20 UNF SAE #4 J514 external with O-ring boss (FKM)
R1	R ¼ ISO 7 (DIN 2999)
Canal drilling	
S	Standard canal drilling
N	0.3 mm erosion drilling
M	0.6 mm erosion drilling
E	Extended canal drilling 10 mm
W	Extended canal drilling 6 mm
Process temperature	
S	0 ... +80 °C
E	-30 ... +100 °C
H	-40 ... +100 °C
F	-20 ... +100 °C
Seal	
N	NBR
F	FPM/FKM
C	Copper
S	Stainless steel
O	Without seal
Output signal	
A	4 ... 20 mA, 2-wire
V	0 ... 10 V, 3-wire
U	0 ... 5 V, 3-wire
W	1 ... 5 V, 3-wire
X	0,5 ... 4.5 V, 3-wire
R	0.5 ... 4.5 V, 3-wire ratiometric
L	1 ... 6 V, 3-wire
Electrical connection	
M	M12 x 1, 4-pin, IP 67
L	Angled plug, DIN EN 175301-803 A, IP 65
2	Cable output, 2 m, IP67
5	Cable output, 5 m, IP67
Supply voltage	
A	8 ... 30 V DC
C	14 ... 30 V DC
M	9 ... 30 V DC
Special features of the version	
Z	Without special features of the version
V	Vibration resistance 20 g
G	Oil- and grease-free
H	Oil- and grease-free & vibration resistance 20 g

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Not all variants of the type code can be combined! Not all available variants are shown.

Measuring range

	Gauge pressure measuring range	Overload limit
X05	0 ... 0.05 bar	0.1 bar
X10	0 ... 0.1 bar	0.2 bar
X16	0 ... 0.16 bar	0.32 bar
X20	0 ... 0.2 bar	0.4 bar
X25	0 ... 0.25 bar	0.5 bar
X40	0 ... 0.4 bar	0.8 bar
X60	0 ... 0.6 bar	1.2 bar
1X0	0 ... 1 bar	2 bar
1X6	0 ... 1.6 bar	3.2 bar
2X5	0 ... 2.5 bar	5 bar
4X0	0 ... 4 bar	8 bar
6X0	0 ... 6 bar	12 bar
010	0 ... 10 bar	20 bar
016	0 ... 16 bar	32 bar
025	0 ... 25 bar	50 bar
040	0 ... 40 bar	80 bar
060	0 ... 60 bar	120 bar
100	0 ... 100 bar	200 bar
160	0 ... 160 bar	320 bar
250	0 ... 250 bar	500 bar
400	0 ... 400 bar	800 bar
600	0 ... 600 bar	1,200 bar
1K0	0 ... 1,000 bar	

	Absolute pressure measuring range	Overload limit
X10	0 ... 0.1 bar abs	0.2 bar abs
X16	0 ... 0.16 bar abs	0.32 bar abs
X25	0 ... 0.25 bar abs	0.5 bar abs
X40	0 ... 0.4 bar abs	0.8 bar abs
X60	0 ... 0.6 bar abs	1.2 bar abs
1X0	0 ... 1 bar abs	2 bar abs
1X6	0 ... 1.6 bar abs	3.2 bar abs
2X5	0 ... 2.5 bar abs	5 bar abs
4X0	0 ... 4 bar abs	8 bar abs
6X0	0 ... 6 bar abs	12 bar abs
010	0 ... 10 bar abs	20 bar abs
016	0 ... 16 bar abs	32 bar abs
025	0 ... 25 bar abs	50 bar abs

	± measuring range	Overload limit
X05	-0.05 ... 0 bar	
X10	-0.1...0 bar	
X16	-0.16...0 bar	
X25	-0.25...0 bar	
X40	-0.4...0 bar	
X60	-0.6...0 bar	
1X0	-1...0 bar	
1X1	-1...+1 bar	2 bar
1X6	-1 ... +0.6 bar	3.2 bar
2X5	-1 ... +1.5 bar	5 bar
4X0	-1 ... +3 bar	8 bar
6X0	-1 ... +5 bar	12 bar
010	-1 ... +9 bar	20 bar
016	-1 ... +15 bar	32 bar
025	-1 ... +24 bar	50 bar

	Gauge pressure measuring range	Overload limit
1X0	0 ... 1 psi	2 psi
5X0	0 ... 5 psi	10 psi
010	0 ... 10 psi	20 psi
015	0 ... 15 psi	30 psi
025	0 ... 25 psi	60 psi
030	0 ... 30 psi	60 psi
050	0 ... 50 psi	100 psi
100	0 ... 100 psi	200 psi
160	0 ... 160 psi	290 psi
200	0 ... 200 psi	400 psi
300	0 ... 300 psi	600 psi
500	0 ... 500 psi	1,000 psi
1K0	0 ... 1,000 psi	1,740 psi
1K5	0 ... 1,500 psi	2,900 psi
2K0	0 ... 2,000 psi	4,000 psi
3K0	0 ... 3,000 psi	6,000 psi
5K0	0 ... 5,000 psi	10,000 psi
8K0	0 ... 8,000 psi	17,400 psi
10K	0 ... 10,000 psi	20,000 psi
15K	0 ... 15,000 psi	30,000 psi

	Absolute pressure measuring range	Overload limit
5X0	0 ... 5 psi abs	10 psi abs
015	0 ... 15 psi abs	30 psi abs
025	0 ... 25 psi abs	60 psi abs
030	0 ... 30 psi abs	60 psi abs
050	0 ... 50 psi abs	100 psi abs
100	0 ... 100 psi abs	200 psi abs
150	0 ... 160 psi abs	290 psi abs
200	0 ... 200 psi abs	400 psi abs
300	0 ... 300 psi abs	600 psi abs

	± measuring range	Overload limit
015	-14.5 ... +0 psi	30 psi
030	-14.5 ... +15 psi	60 psi
045	-14.5 ... +25 psi	100 psi
075	-14.5 ... +30 psi	200 psi
115	-14.5 ... +100 psi	290 psi
175	-14.5 ... +160 psi	400 psi
215	-14.5 ... +200 psi	400 psi
315	-14.5 ... +300 psi	600 psi

	Gauge pressure measuring range	Overload limit
X10	0 ... 0.1 MPa	0.2 MPa
X16	0 ... 0.16 MPa	0.32 MPa
X25	0 ... 0.25 MPa	0.5 MPa
X40	0 ... 0.4 MPa	0.8 MPa
X60	0 ... 0.6 MPa	1.2 MPa
1X0	0 ... 1 MPa	2 MPa
1X6	0 ... 1.6 MPa	3.2 MPa
2X5	0 ... 2.5 MPa	5 MPa
4X0	0 ... 4 MPa	8 MPa
6X0	0 ... 6 MPa	12 MPa
010	0 ... 10 MPa	20 MPa
016	0 ... 16 MPa	32 MPa
025	0 ... 25 MPa	50 MPa
040	0 ... 40 MPa	80 MPa
060	0 ... 60 MPa	120 MPa
100	0 ... 100 MPa	200 MPa

	Absolute pressure measuring range	Overload limit
X10	0 ... 0.1 MPa abs	0.2 MPa abs
X16	0 ... 0.16 MPa abs	0.32 MPa abs
X25	0 ... 0.25 MPa abs	0.5 MPa abs
X40	0 ... 0.4 MPa abs	0.8 MPa abs
X60	0 ... 0.6 MPa abs	1.2 MPa abs
1X0	0 ... 1 MPa abs	2 MPa abs
1X6	0 ... 1.6 MPa abs	3.2 MPa abs
2X5	0 ... 2.5 MPa abs	5 MPa abs

	± measuring range	Overload limit
X10	-0.1 ... +0 MPa	0.2 MPa
X16	-0.1 ... +0.06 MPa	0.12 MPa
X25	-0.1 ... +0.15 MPa	0.3 MPa
X40	-0.1 ... +0.3 MPa	0.6 MPa
X60	-0.1 ... +0.5 MPa	1 MPa
1X0	-0.1 ... +0.9 MPa	1.8 MPa
1X6	-0.1 ... +1.5 MPa	3 MPa
2X5	-0.1 ... +2.4 MPa	4.8 MPa

	Gauge pressure measuring range	Overload limit
1X0	0 ... 1 kg/cm ²	2 kg/cm ²
1X6	0 ... 1.6 kg/cm ²	3.2 kg/cm ²
2X5	0 ... 2.5 kg/cm ²	5 kg/cm ²
4X0	0 ... 4 kg/cm ²	8 kg/cm ²
6X0	0 ... 6 kg/cm ²	12 kg/cm ²
010	0 ... 10 kg/cm ²	20 kg/cm ²
016	0 ... 16 kg/cm ²	32 kg/cm ²
025	0 ... 25 kg/cm ²	50 kg/cm ²
040	0 ... 40 kg/cm ²	80 kg/cm ²
060	0 ... 60 kg/cm ²	120 kg/cm ²
100	0 ... 100 kg/cm ²	200 kg/cm ²
160	0 ... 160 kg/cm ²	320 kg/cm ²
250	0 ... 250 kg/cm ²	500 kg/cm ²
400	0 ... 400 kg/cm ²	800 kg/cm ²
600	0 ... 600 kg/cm ²	1,200 kg/cm ²
1K0	0 ... 1,000 kg/cm ²	2,000 kg/cm ²

	Absolute pressure measuring range	Overload limit
1X0	0 ... 1 kg/cm ² abs	2 kg/cm ² abs
1X6	0 ... 1.6 kg/cm ² abs	3.2 kg/cm ² abs
2X5	0 ... 2.5 kg/cm ² abs	5 kg/cm ² abs
4X0	0 ... 4 kg/cm ² abs	8 kg/cm ² abs
6X0	0 ... 6 kg/cm ² abs	12 kg/cm ² abs
010	0 ... 10 kg/cm ² abs	20 kg/cm ² abs
016	0 ... 16 kg/cm ² abs	32 kg/cm ² abs
025	0 ... 25 kg/cm ² abs	50 kg/cm ² abs

	± measuring range	Overload limit
1X0	-1 ... +0 kg/cm ²	
1X6	-1 ... +0.6 kg/cm ²	1 kg/cm ²
2X5	-1 ... +1.5 kg/cm ²	3 kg/cm ²
4X0	-1 ... +3 kg/cm ²	6 kg/cm ²
6X0	-1 ... +5 kg/cm ²	10 kg/cm ²
010	-1 ... +9 kg/cm ²	18 kg/cm ²
016	-1 ... +15 kg/cm ²	30 kg/cm ²
025	-1 ... +24 kg/cm ²	48 kg/cm ²

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SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents and preventing damage to the environment.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our customers need. In application centers in Europe, Asia and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes us a reliable supplier and development partner.

Comprehensive services complete our offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

For us, that is "Sensor Intelligence."



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