PBS Hygienic

Pressure switch for hygienic applications with display, analog output and IO-Link

SICK
Sensor Intelligence.

PBS Hygienic

Technical data overview

Medium	Liquid, gaseous
Pressure type	Absolute pressure Compound pressure Gauge pressure (depends on variant)
Pressure unit	bar psi MPa (depends on variant)
Accuracy	≤ ± 1 %
Process connection	Tri-Clamp 1 ½" (DIN 32676) Tri-Clamp 2" (DIN 32676) Conical coupling (DIN 11851) DN 40 with union nut Conical coupling (DIN 11851) DN 50 with union nut Clamp (DIN 32676) DN 32 Clamp (DIN 32676) DN 40 Clamp (DIN 32676) DN 50 G 1 hygienic flush-mounted (depends on variant)
Connection type	M12 round connector x 1, 4-pin / round connector M12 x 1, 5-pin (depends on variant)
Enclosure rating	IP65 IP67
Process temperature	−20 °C ... +125 °C (depends on variant)
Seal	Without seal EPDM FKM (depends on variant)
Communication interface	- / IO-Link (depends on variant)
Output signal	1 x PNP + 4 mA ... 20 mA 1 x PNP + 0 V ... 10 V 1 x NPN + 4 mA ... 20 mA IO-Link/PNP + 4 mA ... 20 mA 2 x PNP + 4 mA ... 20 mA IO-Link/PNP + PNP + 4 mA ... 20 mA IO-Link/PNP + 0 V ... 10 V 2 x PNP + 0 V ... 10 V (depends on variant)
Supply voltage	15 V DC ... 35 V DC

Product description

The electronic pressure switch PBS Hygienic has been designed for use in the food and beverage industry. The wetted parts are gap-free and have no dead spaces. Their high-quality stainless steel surfaces are smooth and easy to clean. The highly resistant stainless steel membrane is welded to the hygienic process connection without gaps or edges.

The device is designed for CIP and SIP processes. This enables safe hygienic operation in conjunction with optimized system throughput.

The PBS Hygienic is available with up to two switching outputs, an analog output and IO-Link in a single device. Its intuitive configuration via three large pushbuttons and display facilitates operation. The housing can be rotated in two ways, allowing the display and electrical connection to be aligned according to specific installation situation. Available with a variety of measuring ranges and process connections, the PBS Hygienic is suitable for universal use.

At a glance

- Hygienically-graded pressure switch with display for the food and beverage industry
- Wetted parts are made from stainless steel 1.4435
- Individually programmable switching outputs and analog output
- Pressure values are indicated on the display
- Unit of pressure value in the display can be switched
- Output states are indicated separately via large LEDs
- IO-Link

Your benefits

- Safe hygienic operation due to flush-mounted, highly resistant stainless steel membrane and hygienic process connections
- Suitability for CIP and SIP ensures high system availability
- Safe and easy setup with three large pushbuttons and legible, rotatable display
- Rotatable housing for optimum cable routing
- Wide range of available configurations enable customer-specific solutions
- High reliability: Corrosion-resistant design of wetted parts and housing with IP 65 and IP 67 enclosure ratings
- Ultimate system availability: IO-Link enables fast, reliable parameter setting when changing over products

Fields of application

- Hygienic pressure measurement and monitoring in the food and beverage industry
- Bottle filling machines
- Packaging machines
- Hydrostatic level measurement of liquids in tall tanks

Type code

Other models and accessories ➜ www.sick.com/PBS_Hygienic

Pressure type

R	Relative
A	Absolute
C	Vacuum and ± measuring range

Pressure unit

B	bar
M	MPa
P	psi
K	kg/cm²

Measuring range (see below)

Process connection

T1	Tri-Clamp 1 ½"
T2	Tri-Clamp 2"
54	Conical coupling (DIN 11851) DN 40 with grooved cap nut
55	Conical coupling (DIN 11851) DN 50 with grooved cap nut
D3	Clamp (DIN 32676) DN 32
D4	Clamp (DIN 32676) DN 40
D5	Clamp (DIN 32676) DN 50
HG	G 1 hygienic flush-mounted

Process temperature

S	–20 ... + 100 °C (+135 °C max. 1 h), not for process connection G 1 hygienic
E	–20 ... + 125 °C (+150 °C max. 1 h), only for process connection G 1 hygienic

Seal

E	Seal in contact with medium: EPDM, only for process connection G 1 hygienic
F	Seal in contact with medium: FKM, only for process connection G 1 hygienic
0	Without seal, only for process connection G 1 hygienic

Output signal

B	1 x PNP + 4 ... 20 mA
C	1 x PNP + 0 ... 10 V
D	2 x PNP + 4 ... 20 mA
E	2 x PNP + 0 ... 10 V
G	1 x NPN + 4 ... 20 mA
H	1 x NPN + 0 ... 10 V
I	2 x NPN + 4 ... 20 mA
K	2 x NPN + 0 ... 10 V
N	IO-Link/PNP + 4 ... 20 mA
P	IO-Link/PNP + 0 ... 10 V
Q	IO-Link/PNP + PNP + 4 ... 20 mA
R	IO-Link/PNP + PNP + 0 ... 10 V
S	IO-Link/PNP + NPN + 4 ... 20 mA
T	IO-Link/PNP + NPN + 0 ... 10 V

Electrical connection

M	M12 x 1, 4-pin, IP 65 and IP 67 (for variants with a switching output and analog output)
5	M12 x 1, 5-pin, IP 65 and IP 67 (for variants with two switching outputs and analog output)

PBSH -				S					A	0	Z

Not all variants of the type code can be combined!

Measuring range

	Gauge pressure measuring range		Absolute pressure measuring range		± measuring range
1X0	0 … 1 bar	1X0	0 … 1 bar abs	1X0	−1 … 0 bar
1X6	0 … 1.6 bar	1X6	0 … 1.6 bar abs	2X5	−1 … +1.5 bar
2X5	0 … 2.5 bar	2X5	0 … 2.5 bar abs	4X0	−1 … +3 bar
4X0	0 … 4 bar	4X0	0 … 4 bar abs	6X0	−1 … +5 bar
6X0	0 … 6 bar	6X0	0 … 6 bar abs	010	−1 … +9 bar
010	0 … 10 bar	010	0 … 10 bar abs	016	−1 … +15 bar
016	0 … 16 bar	016	0 … 16 bar abs	025	−1 … +24 bar
025	0 … 25 bar	025	0 … 25 bar abs		

	Gauge pressure measuring range		Absolute pressure measuring range		± measuring range
015	0 … 15 psi	015	0 … 15 psi abs	015	−14.5 … +0 psi
025	0 … 25 psi	025	0 … 25 psi abs	030	−14.5 … +15 psi
030	0 … 30 psi	030	0 … 30 psi abs	040	−14.5 … +25 psi
050	0 … 50 psi	050	0 … 50 psi abs	045	−14.5 … +30 psi
060	0 … 60 psi	60	1 … 60 psi abs	065	−14.5 … +50 psi
100	0 … 100 psi	100	0 … 100 psi abs	115	−14.5 … +100 psi
160	0 … 160 psi	160	0 … 160 psi abs	175	−14.5 … +160 psi
200	0 … 200 psi	200	0 … 200 psi abs	215	−14.5 … +200 psi
250	0 … 250 psi	250	1 … 250 psi abs	315	−14.5 … +300 psi
300	0 … 300 psi	300	0 … 300 psi abs		

	Gauge pressure measuring range		Absolute pressure measuring range		± measuring range
X10	0 … 0.1 MPa	X10	0 … 0.1 MPa abs	X10	-0.1 … +0 MPa
X16	0 … 0.16 MPa	X16	0 … 0.16 MPa abs	X25	−0.1 … +0.15 MPa
X25	0 … 0.25 MPa	X25	0 … 0.25 MPa abs	X40	-0.1 … +0.3 MPa
X40	0 … 0.4 MPa	X40	0 … 0.4 MPa abs	X60	-0.1 … +0.5 MPa
X60	0 … 0.6 MPa	X60	0 … 0.6 MPa abs	1X0	-0.1 … +0.9 MPa
1X0	0 … 1 MPa	1X0	0 … 1 MPa abs	1X6	-0.1 … +1.5 MPa
1X6	0 … 1.6 MPa	1X6	0 … 1.6 MPa abs	2X5	-0.1 … +2.4 MPa
2X5	0 … 2.5 MPa	2X5	0 … 2.5 MPa abs		

	Gauge pressure measuring range		Absolute pressure measuring range		± measuring range
1X0	0 … 1 kg/cm^2	1X0	0 … 1 kg/cm^2 abs	1X0	−1 … 0 kg/cm^2
1X6	0 … 1.6 kg/cm^2	1X6	0 … 1.6 kg/cm^2 abs	2X5	−1 … +1.5 kg/cm^2
2X5	0 … 2.5 kg/cm^2	2X5	0 … 2.5 kg/cm^2 abs	4X0	−1 … +3 kg/cm^2
4X0	0 … 4 kg/cm^2	4X0	0 … 4 kg/cm^2 abs	6X0	−1 … +5 kg/cm^2
6X0	0 … 6 kg/cm^2	6X0	0 … 6 kg/cm^2 abs	010	−1 … +9 kg/cm^2
010	0 … 10 kg/cm^2	010	0 … 10 kg/cm^2 abs	016	−1 … +15 kg/cm^2
016	0 … 16 kg/cm^2	016	0 … 16 kg/cm^2 abs	025	−1 … +24 kg/cm^2
025	0 … 25 kg/cm^2	025	0 … 25 kg/cm^2 abs		

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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.

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