Type:

Precont® PS4SC

Pressure switch for hygienic and general applications: Monitoring of absolute or relative pressure in gases, vapors, liquids and dust

In brief

Application

- General applications in
  - Machinery and plant engineering
  - Air-conditioning and refrigeration plant engineering
  - Hydraulic and pneumatic systems
  - Process industry
  - Environmental technology

Your benefits

- *Wide range of applications*
- Finely graded measuring ranges from 100 mbar up to 60 bar
- Wide process temperature range –40°C to +125°C
- Wide variety of process connections
- High protection class IP65 / IP67
- Wide environmental temperature range –40°C to +85°C
- Ceramic *front-flush or internal diaphragm*
- Increased accuracy – characteristic deviation ≤ 0,2% of measuring range
- Integrated evaluation electronic: Digital display, function LED's, keyboard / 2x PNP switch output / 1x current output 4...20mA / Connector plug M12
- *High operating comfort*: enclosure and display rotatable for *optimal operability* in each installation position
- Robust high brightness LED display for *best readability*
- 3-key operation without additional assistance with tactile feedback

Description

Due to the device construction with measuring ranges from -1 bar to 60 bar (gauge), measuring ranges from 0 bar to 60 bar (absolute), measuring spans from 100 mbar to 60 bar, process temperatures from –40°C to +125°C and process materials high purity Al2O3-ceramic / CrNi-steel as well as the availability of industrial standard process connections like thread ISO 228-1 (EN 837 manometer / inner thread / front-flush), dairy coupling DIN 11851 (front-flush), Varivent® (ront-flush), clamp ISO 2852 / BS 4825 / DIN 32676 (front-flush) and DRD (front-flush) the device is especially suitable for the use for machinery and plant engineering, air-conditioning and refrigeration plant engineering, hydraulic and pneumatic systems, process industry, environmental technology and facility and building automation.

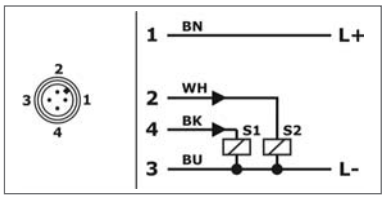
The device is suitable for demanding measuring requirements.
Due to its high accuracy and the high flexibility of configuration, the device can be suited a wide variety of applications.
Through its optimized design, the front-flush process connection enables the cleanability of the wetted diaphragm to be integrated into the process.
The device is suitable for the use at CIP/SIP cleaning processes.
Low-maintenance and trouble-free pressure measurement is thus also guaranteed in critical applications with frequently changing media.
The robust design and the high-quality workmanship turns the device into a very high quality product, which even the most adverse environmental conditions cannot affect, whether the lowest temperatures when used outdoors, extreme shock and vibration or aggressive media.

A captive laser marking of the type label ensures the identifiability throughout the entire lifetime of the device.
Obviously is the optional marking of a measurement point designation resp. TAG, a customer label or of a neutral type label, of course also per laser marking.
A LABS-free resp. silicone-free version, a factory calibration with calibration certificate and a customer specific configuration resp. preset is also optionally available like a material test certificate EN10204 3.1 or factory certifications for drink water resp. food suitability.

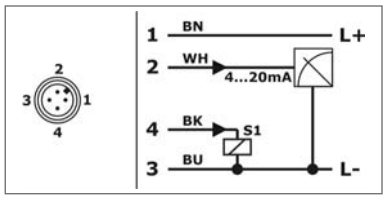
Technical Data

Technical Data		
Supply voltage:	10,5...35VDC, reverse polarity protected	
Supply current:	≤ 60mA	Analogue output max. 22,5mA Switch output with no load
2xPNP-switch output		
Function:	PNP switch to +L	
Output current:	0... ≤ 200mA	current limited, short circuit protected
Analogue output 4...20mA		
Operating range:	3,9...21mA, min. 3,8mA, max. 22mA	
Permitted load:	≤ (US - 10,5V) / 22mA	
Start-up time:	≤ 1 ms	
Measuring accuracy		
Characteristic deviation:	≤ ± 0,2% FS	
Long term drift:	≤ ± 0,1% FS / year	not cumulative
Temperature deviation	Zero: ≤ ±0,015% FS / K, max. ±0,75% (-20°C...+80°C) Span: ≤ ±0,015% FS / K, max. ±0,5% (-20°C...+80°C / > 400mbar), max. ±0,8% (-20°C...+80°C / ≤ 400 mbar)	
Materials		
Diaphragm: (process wetted)	Measuring range ≤ 1bar: Ceramic Al_2O_3 – 99,7% (SIP suitable) Measuring range ≥ 1,6bar: Ceramic Al_2O_3 – 96% (SIP suitable) Process connection 1/2/4/6/7/N/M/P/L/S/T: Ceramic Al_2O_3 – 99,9% (CIP/SIP suitable)	
Process connection: (process wetted)	Steel 1.4404/316L / Steel 1.4571/316Ti	
Terminal enclosure:	CrNi-steel	
Gaskets: (process wetted)	FPM – fluorelastomere (e.g. Viton®) EPDM – ethylene-propylene-dienmonomere, FDA-listed FFKM – perfluorelastomere (e.g. Kalrez®) FFKM hd – perfluorelastomere high density	
Environmental conditions		
Environmental temperature:	– 40°C...+85°C	
Process temperature:	-40...+100°C (extended -40...+125°C)	
Process pressure:	– 1 bar ...60 bar (depending on process connection)	
Protection:	IP65/IP67	EN/IEC 60529

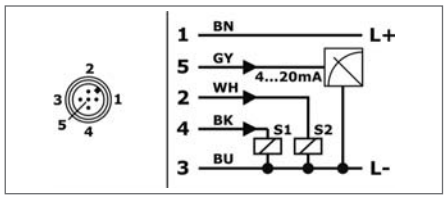
Electrical connection



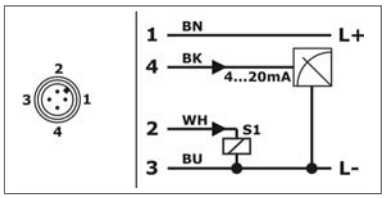
Signal 2x PNP
Conductor color standard connection cable M12 – A-coded: BN = brown, WH = white, BU = blue, BK = black



Signal 4...20 mA / 1x PNP
Conductor color standard connection cable M12 – A-coded: BN = brown, WH = white, BU = blue, BK = black



Signal 4...20 mA / 2x PNP
Conductor color standard connection cable M12 – A-coded: BN = brau brown n, WH = white, BU = blue, BK = black, GY = grau

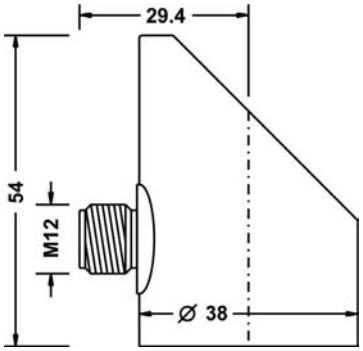


Signal 4...20 mA / 1x PNP / Desina
Conductor color standard connection cable M12 – A-coded: BN = brown, WH = white, BU = blue, BK = black

Dimension drawings

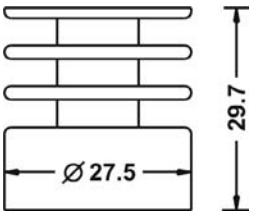
Type:
Precont® PS4SC

Terminal enclosure



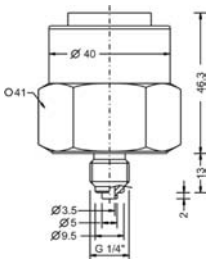
Type 1 – Thread ISO 228-1 – G½"A, EN 837

Temperature decoupler

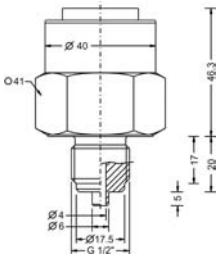


Type 4 – Thread ISO 228-1 – G¼"I, inner thread

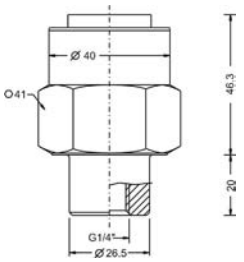
Type 6 – Thread ISO 228-1 – G¼"A, EN 837



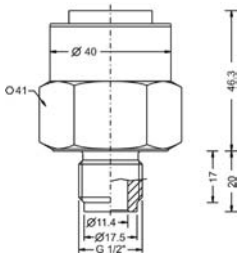
Type 2 – Thread ISO 228-1 – G½"A, inner bore



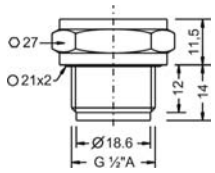
Type 9 – Thread ISO 228-1 – G½"B, front-flush



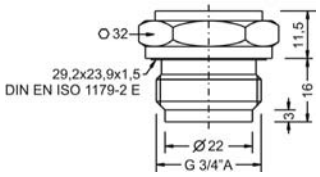
Type 8 – Thread ISO 228-1 – G¾"A, front-flush



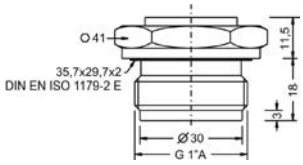
Type 5 – Thread ISO 228-1 – G1"A, front-flush



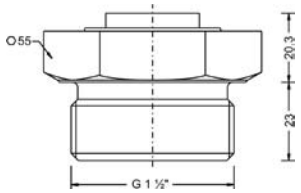
Type 7 – Thread ISO 228-1 – G1½"B, front-flush



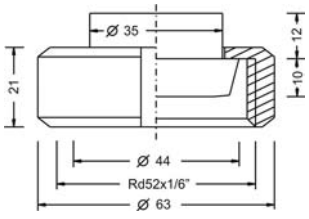
Type R – Dairy coupling DIN 11851 – DN25, PN40



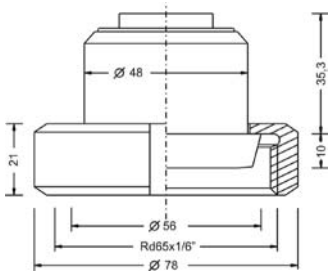
Type N – Dairy coupling DIN 11851 – DN40, PN25



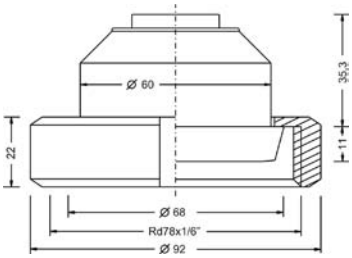
Type M – Dairy coupling DIN 11851 – DN50, PN25

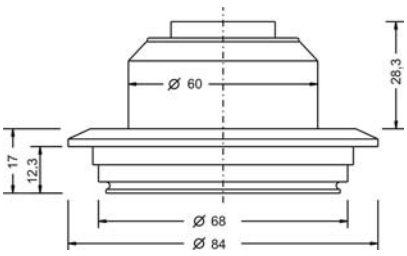


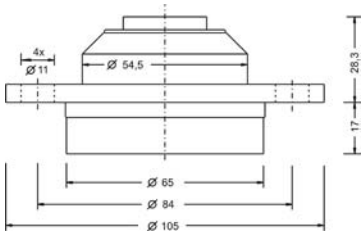
Type P – Varivent® – Type N / tube DN40-162 / 1½"-6", PN40



Type L – DRD – DN50 / Ø65mm, PN25







Order code

Type
PS4S Standard

Measuring system – material diaphragm (process wetted) / sensor type / accuracy
C Ceramic Al2O3 96%/99,7%/99,9% / capacitive

Approval
S Standard

Process connection
6 Thread ISO 228-1 – G¼"A, EN 837 manometer
1 Thread ISO 228-1 – G½"A, EN 837 manometer
4 Thread ISO 228-1 – G¼"I, inner thread
2 Thread ISO 228-1 – G½"A, inner bore
9 Thread ISO 228-1 – G½"B, front-flush, ≤ 20 bar
8 Thread ISO 228-1 – G¾"A, front-flush, ≤ 20 bar
5 Thread ISO 228-1 – G1"A, front-flush, ≤ 20 bar
7 Thread ISO 228-1 – G1½"B, front-flush
R Dairy coupling DIN 11851 – DN25, PN40, ≤ 20 bar
N Dairy coupling DIN 11851 – DN40, PN40
M Dairy coupling DIN 11851 – DN50, PN25
P Varivent® – Type N / tube DN40-162 / 1½"-6", PN40
L DRD – DN50 / Ø65mm, PN25
S Clamp ISO 2852 – DN25-38 / BS 4825 – 1"-1½" / DIN 32676 – DN25-38, PN25
T Clamp ISO 2852 – DN40-51 / BS 4825 – 2" / DIN 32676 – DN50, PN25
Y others

Material process gaskets (process wetted)
1 FPM – fluorelastomere (e.g. Viton®)
3 EPDM – ethylene-propylene-dienmonomere, FDA-listed
4 FFKM - perfluorelastomere (e.g. Kalrez®)
6 FFKM hd - perfluorelastomere high density - gas applications
Y others

Material process connection (process wetted)
V CrNi-steel

Material terminal enclosure
C CrNi-steel

Measuring range
26 0...0,05 bar
01 0...0,1 bar
02 0...0,25 bar
03 0...0,4 bar
04 0...0,6 bar
05 0...1 bar
06 0...1,6 bar
07 0...2,5 bar
08 0...4 bar
09 0...6 bar
10 0...10 bar
11 0...16 bar
12 0...20 bar
15 -0,1...0 bar
16 -1...0 bar
17 -1...+1 bar
18 -0,1...+0,1 bar
YY Special measuring range

Electronic – output
A 2x switch PNP, supply 24VDC
B 1x switch PNP, 1x signal 4...20mA , supply 24VDC
C 2x switch PNP, 1x signal 4...20mA, supply 24VDC
D 1x switch PNP, 1x signal 4...20mA, supply 24VDC, Desina

Electronic – function
S Standard

Process temperature
0 Standard –40°C...+100°C
1 Extended –40°C...+125°C, temperature decoupler

Pressure type
R Gauge pressure
A Absolute pressure, ≥ 1 bar

Measuring system – accuracy
1 0,2%

Electrical connection
S Plug M12x1

Order code

Precont®	PS4S	C	S			V	C			S			1	S

Equipment

Order information	*Model*
BKZ0412-VA	Matching cable socket, VA-nut
BKZ0512-VA	Matching cable socket, VA-nut
LKZ0405PUR-AS	Connection cable 5 m, 4-pole, shielded
LKZ0410PUR-AS	Connection cable 10 m, 4-pole, shielded
LKZ0505PUR-AS	Connection cable 5 m, 5-pole, shielded
LKZ0510PUR-AS	Connection cable 10 m, 5-pole

Stand 04/2019