

# Precont® PN4SC

Pressure transmitter / Pressure switch with data memory  
for general applications

Technical information TI05.25



## Application

General applications in

- Machinery and plant engineering
- Air-conditioning and refrigeration plant engineering
- Hydraulic and pneumatic systems
- Process industry
- Environmental technology
- Facility and building automation

## Main features

- Wide range of applications
- Finely graded measuring ranges from 50 mbar up to 60 bar
- Wide process temperature range  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Wide variety of process connections
- High protection class IP65 / IP67
- Wide environmental temperature range  $-20^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$
- Ceramic front-flush or internal diaphragm
- Highest accuracy – characteristic deviation to  $\leq 0,05\%$  of measuring range
- Integrated evaluation electronic
- Graphic display, keyboard
- 4x PNP switch output
- 1x current output 0/4...20mA – voltage output 0...10V
- Measure data memory for more than 500.000 measuring values
- Battery powered data logger function
- Connector plug M12
- High operating comfort
- Enclosure and display rotatable for optimal operability in each installation position
- Extensive diagnostic functions for system analysis



## Description

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 low temperatures when used outdoors, high 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.



# Technical Data

## Analogue output – current 0...20mA

Operating range I<sub>Out</sub> 0...20,5mA, max. 22mA  
 Permitted load R<sub>L</sub> ≤ (U<sub>S</sub> - 9V) / 22mA  
 Step response time T<sub>90</sub> ≤ 15 ms (t<sub>d</sub> = 0s)  
 Start-up time t<sub>On</sub> ≤ 1s

## Analogue output – current 4...20mA

Operating range I<sub>Out</sub> 3,8...20,5mA, min. 3,6mA, max. 22mA  
 Permitted load R<sub>L</sub> ≤ (U<sub>S</sub> - 9V) / 22mA  
 Step response time T<sub>90</sub> ≤ 15 ms (t<sub>d</sub> = 0s)  
 Start-up time t<sub>On</sub> ≤ 1s

## Analogue output – voltage 0...10V

Operating range U<sub>Out</sub> 0 ... 10,5 V, max. 11 V  
 Permitted load R<sub>L</sub> ≥ U<sub>Out</sub> / 3mA  
 Step response time T<sub>90</sub> ≤ 15 ms (t<sub>d</sub> = 0s / R<sub>L</sub> = 10kR)  
 Start-up time t<sub>On</sub> ≤ 1s

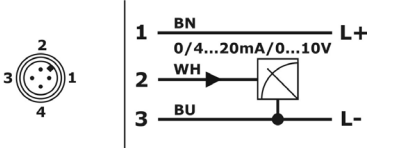
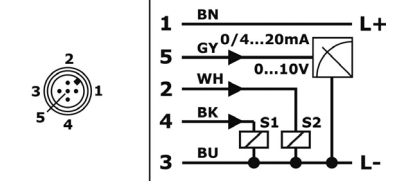
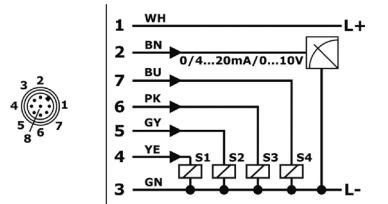
## Switch output PNP S1 / S2 / S3 / S4

Function PNP switch to +L  
 Output voltage U<sub>Out</sub> U<sub>Out</sub> ≥ U<sub>S</sub> - 2V  
 Output current I<sub>L</sub> 0... ≤ 200mA, current limited, short circuit protected  
 Step response time T<sub>90</sub> ≤ 25 ms (t<sub>d</sub> = 0s)  
 Rise time T<sub>90</sub> < 25μs (R<sub>L</sub> < 3kR / I<sub>Out</sub> > 4,5mA)  
 Start-up time t<sub>On</sub> ≤ 1s  
 Switch cycles ≥ 100.000.000

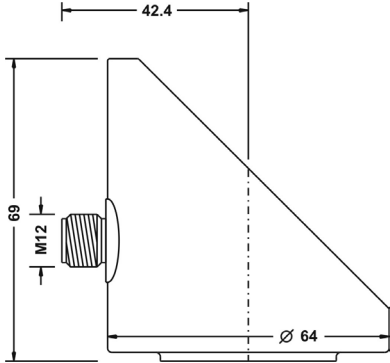
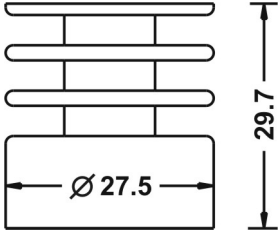
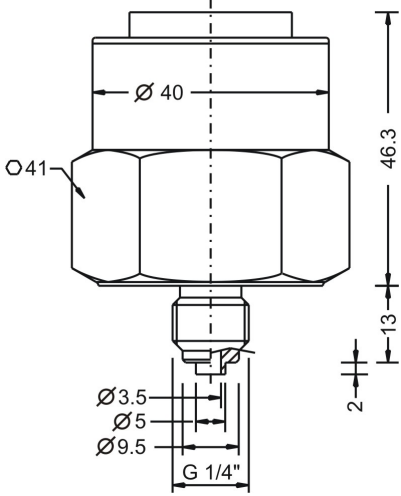
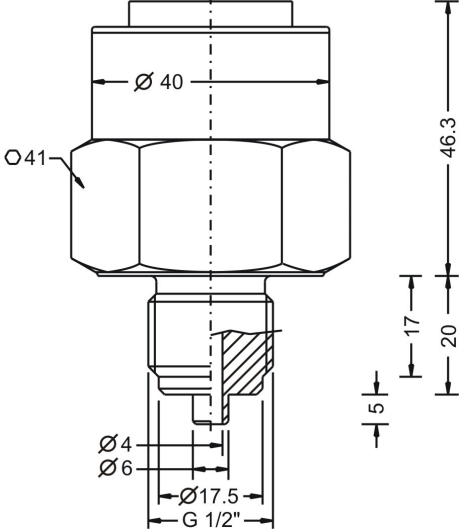
## Environmental conditions

Environmental temperature -20°C...+70°C  
 Limitation  
 Backlight LCD ≥ 60% >> -20°C...+60°C  
 Backlight LCD ≥ 80% >> -20°C...+50°C  
 Protection IP65/IP67 (EN/IEC 60529)  
 Climatic classification 4K4H (EN/IEC 60721-3-4)  
 Shock classification 15g [11ms] (EN/IEC 60068-2-27)  
 Vibration classification 4g [10...2000 Hz] (EN/IEC 60068-2-6)  
 EM compatibility Operation device class B / Industrial range (EN/IEC 61326)  
 Tightening torque ≤ 50Nm  
 Weight 0,6...1,5kg

# Electrical connection

Electronic output type M 1x signal 0/4...20mA-0...10V, supply 24VDC	Electronic output type K 1x signal 0/4...20mA-0...10V, 2x switch PNP, supply 24VDC	Electronic output type R 1x signal 0/4...20mA-0...10V, 4x switch PNP, supply 24VDC
		

# Dimensions (mm)

Terminal enclosure	Temperature decoupler
	
<p>Internal process membrane Type 6 – Thread ISO 228-1 – G<math>\frac{1}{4}</math>"A, EN 837</p>	<p>Internal process membrane Type 1 – Thread ISO 228-1 – G<math>\frac{1}{2}</math>"A, EN 837</p>
	

Further terminal assignment and dimensional drawings can be found in the operating instructions or in the technical information.

# Order code

## Version

PN4S Standard

**Sensor** (process wetted)  
C Capacitive, ceramic Al<sub>2</sub>O<sub>3</sub>

**Approval**  
S Standard

### Process connection

- 6 Thread ISO 228-1 – G $\frac{1}{4}$ "A, EN 837 (manometer)
- 1 Thread ISO 228-1 – G $\frac{1}{2}$ "A, EN 837 (manometer)
- 3 Thread ISO 228-1 – G $\frac{1}{4}$ "A, DIN EN ISO 1179-2 E
- 4 Thread ISO 228-1 – G $\frac{1}{4}$ "I, inner thread
- 2 Thread ISO 228-1 – G $\frac{1}{2}$ "A, inner bore  $\varnothing$  11,4mm
- E Thread ANSI – NPT  $\frac{1}{4}$ "
- C Thread ANSI – NPT  $\frac{1}{2}$ "
- 9 Thread ISO 228-1 – G $\frac{1}{2}$ "A, front-flush
- 8 Thread ISO 228-1 – G $\frac{3}{4}$ "A, DIN EN ISO 1179-2 E, front-flush
- 5 Thread ISO 228-1 – G1"A, DIN EN ISO 1179-2 E, front-flush
- 7 Thread ISO 228-1 – G1 $\frac{1}{2}$ "B, front-flush
- A Thread ISO 228-1 – G1 $\frac{1}{2}$ "A, extended, front-flush
- R Milk pipe coupling DIN 11851 – DN25, PN40, front-flush
- N Milk pipe coupling DIN 11851 – DN40, PN40, front-flush
- M Milk pipe coupling DIN 11851 – DN50, PN25, front-flush
- P Varivent N - DN40...162 (1 $\frac{1}{2}$ "...6"),  $\varnothing$  68mm, PN40, front-flush
- L DRD – DN50,  $\varnothing$  65mm, PN25, front-flush
- U Clamp DIN 32676-A – DN20, PN25, front-flush
- S Clamp DIN 32676-A/-C – DN25...40/1"...1 $\frac{1}{2}$ ", ISO 2852 – DN25...38, PN25, front-flush
- T Clamp DIN 32676-A/-C – DN50/2", ISO 2852 – DN40...51, PN25, front-flush

### Material process seal

 (process wetted)

- 1 FKM/FPM
- 3 EPDM – FDA, food applications
- 4 FFKM
- 6 FFKM – high density, gas applications

**Material process connection** (process wetted)  
V 316L/316Ti

**Material terminal enclosure**  
C CrNi-steel N41, 304

### Measuring range

- 26 0...50 mbar
- 01 0...100 mbar
- 02 0...200 mbar
- 03 0...400 mbar
- 04 0...600 mbar
- 05 0...1 bar
- 06 0...1,6 bar
- 07 0...2,5 bar
- 08 0...4 bar
- 09 0...6 bar
- YY Special measuring range

### Electronic – Output

- M Current 0/4...20mA / voltage 0...10V, 3-wire
- K Current 0/4...20mA / voltage 0...10V, 2x switch PNP, 3-...5-wire
- R Current 0/4...20mA / voltage 0...10V, 4x switch PNP, 3-...7-wire

### Electronic – Function

- 0 Data logger
- 2 Data logger with time stamp, backup battery

### Process temperature

- 0 -40°C...+100°C
- 1 -40°C...+125°C, temperature decoupler

### Pressure type

- R Gauge pressure
- A Absolute pressure (FS  $\geq$  100mbar)

### Measuring accuracy

- 1  $\leq \pm 0,2\%$
- 3  $\leq \pm 0,1\%$ , linearization protocol
- 6 Xcellence:  $\leq \pm 0,05\%$ , (FS  $\geq$  200mbar)  
Linearization protocol

### Electrical connection

- S Plug M12-A-4P/5P/8P

Precont® PN4S

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