PTS5051

PRESSURE TRANSMITTER

Pressure Transmitter
for Measuring Hydrostatic Column

Accuracy 0.25% and 0.5%

Standard output: **4 . . . 20 mA; 2-wire**
or 0 . . . 5 VDC; 3-wire
or 0 . . . 10 VDC; 3-wire

Description

Type PTS5051 pressure transmitter for measuring hydrostatic column is the ideal solution for customers with demanding measuring requirements. It features a very good accuracy, a robust design and an exceptional number of variants, meaning it can be suited to the widest range of applications.

Furthermore, it offers numerous options, such as different accuracy classes, extended temperature ranges and customer-specific pin assignments.

The robust design turns the type PTS5051 into a very high quality product, which even the most adverse environmental conditions cannot affect. Whether with the lowest temperatures when used outdoors, with extreme shock and vibration in machine building or with aggressive media in the chemical industry, this transmitter can meet all requirements.

All variants described in this data sheet are available on very short lead times. For particularly urgent demands, there is a sizeable stock available.

Features

- Non-linearity 0.2 % of span (BFSL)
- Output signals: 4 ... 20 mA, DC 0 ... 10 V, DC 0 ... 5 V and others
- Electrical connections: Angular connector form A, circular connector M12 x 1, various cable outlets and others
- Zero point and span adjustable via internal potentiometer

Measuring Ranges

Relative pressure	0...2.5bar
Absolute pressure	0… 0.25 bar to 0 … 2.5 bar

Applications

Liquid tank level measurement, especially for irregular container

Liquid measurement of drinking water and small diameter pipes

Sewage treatment plants and environment protection

Liquid monitoring measurement

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Technical data

Type	PTS5051						**Option**
Pressure type	negative or positive gauge pressure				absolute pressure		negative or positive gauge pressure
Output signal	4 . . . 20 mA - 2-wire 0 . . . 5 VDC - 3-wire 0 . . . 10 VDC - 3-wire						other signals on request
Accuracy % of F. S. [1]	0.5 *0.25% BFSL*	0.25 *0.13% BFSL*					
Ranges accord. to EN	0 . . . 0.1 bar [2] to 0 ... 2.5 bar						
Sensor element	Thin film piezoresistive						
Non-linearity	≤ ± 0.2% of F. S.						
Non-repeatability	≤ ± 0.1% of F. S.						
Stability (annual)	≤ ± 0.2% of F. S. in reference conditions						
Case	Stainless steel						
Pressure connection [4]	G 1/2 B to EN837						G 1/4 B; 1/4 NPT; 1/2 NPT
Wetted parts	Stainless steel						
Overload limit	≤ 16 bar 3.5 x; ≤ 600 bar 2 x; > 600 bar 1.5 x;						
Electrical connection	plug according to DIN EN 175301-803 form A with junction box round connector M12x1; 4-pin						cable outlet with 1 m cable
Power supply	10 . . . 30 VDC (14 . . . 30 VDC for output 0 . . . 10 V)						
Power consumption	current output 4 . . . 20 mA: signal currency voltage output: 8 mA						
for output (0) 4 . . . 20 mA Load	$\leq \frac{UB - 10V}{0{,}020A}$ for output 4...20 mA two wire > 5 kOhm for output 0 . . . 5 V > 10 kOhm for output 0 . . . 10 V						
Temp. compens. range	0 . . . 80 °C						
Temperature influence - Zero point - Measuring range	 ± 0.2% / 10 K [5] ± 0.2% / 10 K						
Adjustability	zero point and full scale up to ± 5%						
Response time	≤ 1 ms (within 10% to 90% of F. S.)						
Protection type	IP 65 to EN 60 529 / IEC 529 IP 67 to M12x1 connector						IP 67 / IP68 for cable outlet
CE-conformity [6] -pressure equipment Directive EMC directive	 97/23/EC 2004/108/EEC, EN 61326 Emission (Group 1, Class B) and immunity (industrial location)						
Electrical protection types	polarity, overload and short-circuit protection						
Insulation voltage [7]	500 VDC						
Temperature ranges - Storage - Medium - Ambient	 -40 . . .100 °C -30 . . .100 °C -20 . . . 80 °C						media temperature -40 . . . 125 °C
Weight	approx. 0.2 kg						

of F.S. = full scale value

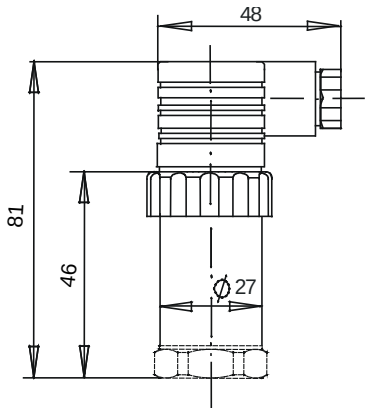
1) Including non linearity, hysteresis, zero point and full scale error (corresponds to error of measurement per IEC 61298-2)
2) 0.25% accuracy for ranges ≥0.25 bar
3) ≤± 0.4 %/10 K for measuring ranges 0 . . . 0.1 and 0 . . . 0.16 bar
4) Declaration of conformity on request
5) NEC Class 02 power supply (low voltage and low current max. 100 VA even under fault conditions)

Dimensions

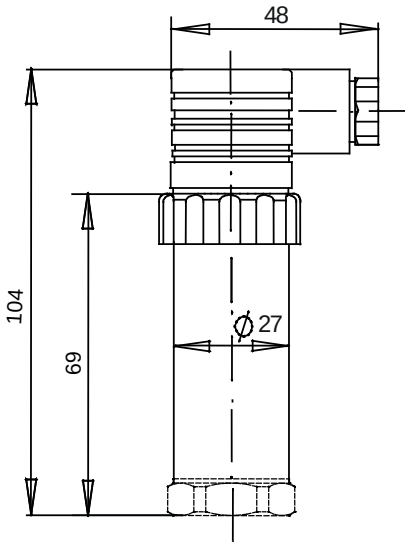
Case

plug according to DIN EN 175301-803 form A with junction box

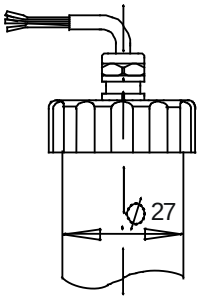
Accuracy 0.5%



Accuracy 0.25%

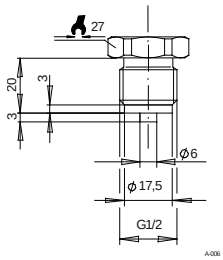


cable outlet

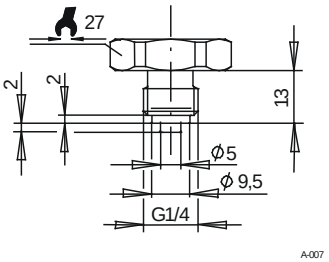


Pressure connections

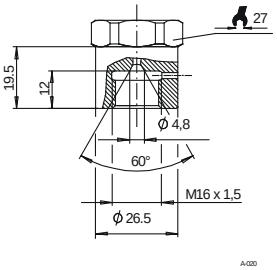
G 1/2 B



G 1/4 B

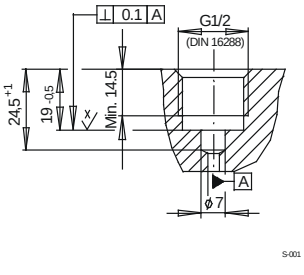


High pressure connection
M16x1.5 female

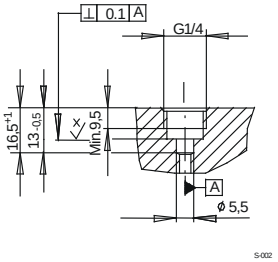


Screw-in aperture according to DIN 16 288

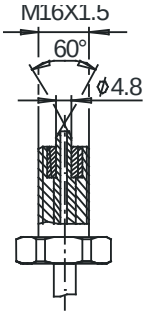
G 1/2



G 1/4



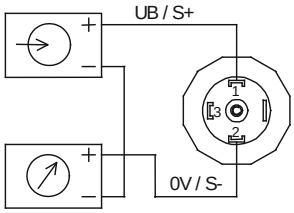
High pressure connection
M16x1.5 female



Electrical connection

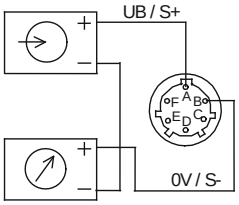
Two-wire system

plug according to DIN EN 175301-803
form A with junction box



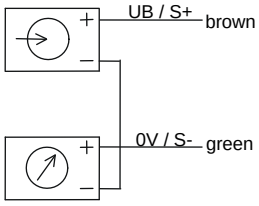
E-001

MIL-plug



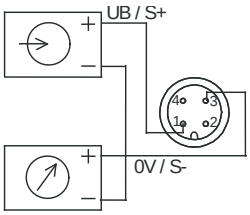
E-011

cable outlet



E-015

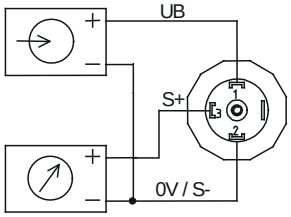
M12x1



E-033

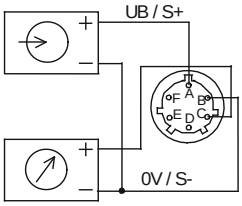
Three-wire system

plug according to DIN EN 175301-803
form A with junction box



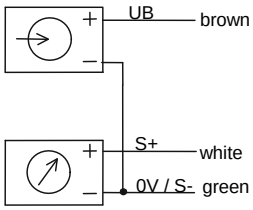
E-002

MIL-plug



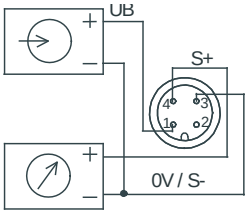
E-012

cable outlet



E 017 -

M12x1



E-034

Connection table for DIN plug or cable outlet

	4 . . . 20 mA (2-wire)		0 . . . 10 VDC (3-wire)	
Supply: UB+	1	brown	1	brown
Supply: 0V	2	green	2	green
Signal: S+	---	--------	3	white
Signal:	---	--------	2	green

Order details

1. Type
2. Measuring range
3. Output signal
4. Options

Modifications reserved

PTS5051