



## Pressure transmitter

### HPT 1400S Smart

Analogue output

Data recording function

Relative pressure

Device temperature

Accuracy 0.5%

**smart**

#### Features

- Analogue output
- Data recording function/  
recording of operational,  
diagnostic and application data  
such as:
  - Operating hours
  - Device Temperature
  - Temperature-Time-Load  
signal
  - Min/max values for pressure  
and temperature
  - Overload detection
  - Lifetime pressure usage  
profile

#### Description

The smart pressure transmitter series HPT 1400S is also available with an analogue output signal. Additional to the standard 4 .. 20mA three-wire signal, the sensor also internally records a variety of relevant operational and application specific data. This information provides the possibility for analysing and diagnosing the operational conditions of a machine or system, as well as detecting possible downtime reasons.

The data is stored in a non-volatile memory and is available to be read out as required. For example via the HYDAC portable data recorder HMG 4000 or by means of a PC, using the ZBE P1. In addition to the analogue output, a switching output signal is also available. The corresponding switching conditions can be pre-defined by the user.

The materials in contact with the fluid, (fluid port and sensor), are constructed from stainless steel with a welded connection, which means that that there are no seals on the fluid side, eliminating the risk of leakage.

#### Application fields

The pressure transmitter series HPT 1400S has been specifically developed for use in serial applications, suitable also for applications where limited space is available.

## Technical details

Input data									
Measuring ranges	bar	16	25	40	60	100	250	400	600
Overload pressures	bar	32	50	80	120	200	500	800	1000
Burst pressure	bar	125	125	200	300	500	1250	2000	2000
Mechanical connection	G 1/4 A ISO 1179-2, male								
Tightening torque, recommended	20 Nm (see drawing)								
Parts in contact with fluid	Mech. connection: stainless steel Seal: FKM								
Output data									
Output signal	4 .. 20 mA, RLmax = UB-6 V / 0.02 A; load max. 500 Ω								
Accuracy acc. to DIN 16086 terminal based	≤ ± 0.5% FS typ. ≤ ± 1% FS max.								
Accuracy at minimum value setting (B.F.S.L)	≤ ± 0.25% FS typ. ≤ ± 0.5% FS max.								
Temperature compensation, zero point	≤ ± 0.015% FS / °C typ. ≤ ± 0.025% FS / °C max.								
Temperature compensation, over range	≤ ± 0.015% FS / °C typ. ≤ ± 0.025% FS / °C max.								
Non-linearity acc. to DIN 16086, terminal based	≤ ± 0.3% FS max.								
Hysteresis	≤ ± 0.4% FS max.								
Repeatability	≤ ± 0.1% FS								
Rise time	≤ 3 ms								
Long-term drift	≤ ± 0.3% FS typ. / year								
Smart Functions									
Operating data logging (resettable as well as persistent throughout the whole life cycle)	Pressure (min /max / average values) operating time, i.e. -general (hour counter) -Arrhenius value (device temperature, weighted operating time)								
Measuring channel-related events	General measured-channel related operating times event counter Statistic for the actual use (operation per measuring range segment / over/undershooting, overload etc.)								
Environmental conditions									
Compensated temperature range	-25 .. +85 °C								
Operating temperature range <sup>1)</sup>	-40 .. +100 °C / -25 .. +100 °C								
Storage temperature range	-40 .. +100 °C								
Fluid temperature range <sup>1)</sup>	-40 .. +125 °C / -25 .. +125 °C								
€ mark	EN 61000-6-1 / -2 / -3 / -4								
Vibration resistance acc. to IEC 68-2-6 at 10 .. 500 Hz	≤ 25g								
Shock resistance acc. to DIN EN 60068-2-27	100 g / 6 ms / half-sine 500 g / 1 ms / half-sine								
Protection class to IEC 60529 <sup>2)</sup>	IP 67								
Other data									
Supply voltage	9 .. 35 V DC								
Residual ripple of supply voltage	≤ 5 %								
Current consumption	≤ 25 mA								
Life expectancy	> 10 million load cycles (0 .. 100% FS)								
Weight	~ 45 g								

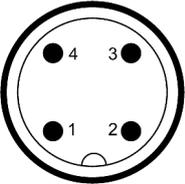
**Note:** Reverse polarity protection of the supply voltage, overvoltage, override and short circuit protection are provided.

**FS (Full Scale)** = relative to complete measuring range

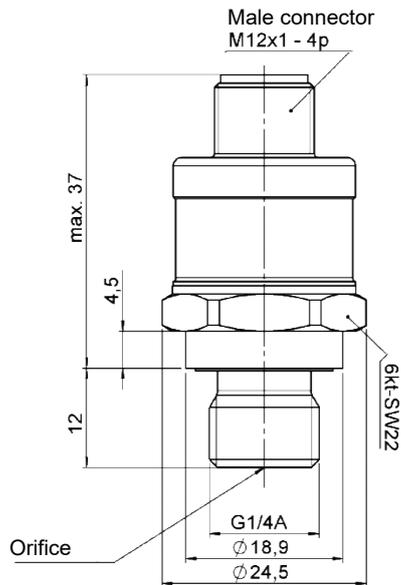
<sup>1)</sup> In the standard up to -25°C with FKM seal, -40 °C on request

<sup>2)</sup> With mounted mating connector in corresponding protection type

## Pin connections

M12x1, 4-pin	Pin	Output signal: C
	1	+U <sub>B</sub>
	2	Analogue signal
	3	0V
	4	Communication / switching output (Q1)

## Dimensions



## Model code

HPT 1 4 4 6 S - C - XXXX - 000

### Mechanical connection

4 = G1/4 A ISO 1179-2 with orifice

### Electrical connection

6 = Connector male M12x1, 4 pole

### Enhanced function

S = Smart

### Output signal

C = 4 .. 20 mA, 3-conductor

### Pressure ranges in bar

0016; 0025; 0040; 0060; 0100; 0160; 0250; 0400; 0600

### Modification number

000 = Standard

### Accessories:

Appropriate accessories, such as mating connectors, can be found in the Accessories brochure.

## Note

The information in this brochure relates to the operating conditions and applications described.  
For applications or operating conditions not described, please contact the relevant technical department.  
Subject to technical modifications.

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