



## Pressure transmitter

### HPT 1400S Smart

IO-Link interface

Relative pressure

Device temperature

Accuracy 0.5%

smart



IO-Link

#### Features

- IO-Link interface
- Robust
- Very compact design
- Added value thanks to:
  - Process data
  - Condition data
  - Smart data

#### Description

The new generation of smart sensors is designed to generate further relevant information in addition to the operation data. This ensures the support of dynamic, real-time optimised and self-organising processes, which optimises the availability as well as the resource consumption and reduces operating costs.

The pressure transmitter series HPT 1400S has been specifically developed for the use in serial applications, suitable also for applications where limited space is available. Like most of our pressure transmitter series, the HPT 1400S is based on a robust and long-life thin-film sensor.

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

The transmitters are available providing various pressure ranges. A basic accuracy of  $\leq \pm 0.5\%$  FS, combined with a small temperature drift, ensures a broad range of applications for the HPT 1400S.

IO-Link is the communication between the sensor / actuator (IO-Link device) and an IO-Link master based on a point-to-point interface. Process data, parameters and diagnostic information from the pressure sensor can be transmitted via a standard cable (SDCI mode).

In addition, the HPT 1400S provides a wide range of additional smart information.

#### Application fields

Wide range of applications within the mechanical engineering sector, such as:

- Hydraulics
- Pneumatics
- Cooling power units
- Compressors
- and much more

## 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								
Parts in contact with the fluid	Mech. connection: stainless steel Seal: FKM								
Output data									
Output signal	IO-Link V1.1								
Accuracy acc. to DIN 16086, terminal based	≤ ± 0.5 % FS typ. ≤ ± 1.0 % 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	≤ 5 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								
CE mark	EN 61000-6-1 / -2 / -3 / -4								
Vibration resistance to DIN EN 60068-2-6 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 acc. to IEC 60529 <sup>2)</sup>	IP 67								
IO-Link specific data									
IO-Link revision	V1.1								
Transmission Rate, Baud rate	38.4 kbit/s (COM2)								
Minimum Cycle Time	2.5 ms								
Process data width	16 bit								
SIO Mode Supported	Yes								
Sensor profile	GPS								
M-sequence capability	PREOPERATE = TYPE_1 V (8 Byte) OPERATE = TYPE_2_2 ISDU supported								
Download the IO Device Description (IODD) from:	<a href="https://ioddfinder.io-link.com/#/">https://ioddfinder.io-link.com/#/</a>								
Other data									
Supply voltage	9 .. 35 V DC (18 .. 30 V DC for communication operation)								
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

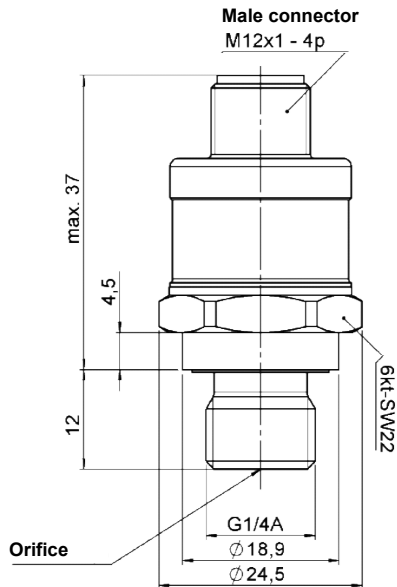
<sup>1)</sup> In the standard up to -25°C with FKM seal, -40 °C on request

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

## Pin connections

M12x1, 4 pole	Pin	Output signal: F31	
		Signal	Description
	1	L+	+U <sub>B</sub>
	2		n.c.
	3	L-	0V
	4	Q1/C	Switching output (SP1) / IO-Link communication

## Dimensions



## Model code

HPT 1 4 4 6 S - F31 - XXXX - 000

### Mechanical connection

4 = G 1/4 A ISO 1179-2 with orifice

### Electrical connection

6 = Connector male M12x1, 4 pole

### Enhanced functions

S = Smart

### Output signal

F31 = IO-Link

### 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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