

PRESSURE TRANSMITTERS



with a monolithic stainless-steel measuring cell

- ✓ **SUITABLE FOR HYDROGEN**
- ✓ **MEASURING CELL, FREE FROM WELDED SEAMS**
- ✓ **SEAL-FREE**
- ✓ **DURABLE LONG-TERM**



TECHNICAL PARAMETERS

- vacuum and 1 bar to 1.000 bar
- relative pressure, sealed reference
- (0)4...20 mA, 0...(5)10 V, ratiometric and more
- M12x1, Packard Metri-Pack, wiring and many more
- precision < 0,5 % FS (limit-point calibration)
- medium-contacting parts of stainless steel 1.4404
- response time < 1ms
- optionally with EX protection (ATEX, IECEx, CSA)

DESCRIPTION

The piezoresistive stainless-steel measuring cell has especially been adapted to the chemical and physical properties of hydrogen. The entire sensor consists of a single piece, which is designed to prevent embrittlement of the metal surface by ionized hydrogen. It is also absolutely vacuum-tight and elastomer-free.

Leaks caused by material fatigue on internal seals are thus eliminated from the outset. It has no disturbing

pressure transfer fluid and no large pressurized surfaces. The membrane is of a very robust design.

The link-in to the connection pins is made by wedge-wedge bonding and is therefore absolutely stable even at low temperatures, shocks or vibrations. The measuring bridge evaluates the via a mixed signal ASIC. The SPT-H2 can also be used for other critical media.

APPLICATIONS

- **ENERGY TECHNOLOGY** • **FUEL CELLS** • **CHEMICAL INDUSTRY**
- **AUTOMOTIVE INDUSTRY** • **GAS TECHNOLOGY** • **PLANT ENGINEERING**



DRUCK
PRESSURE



FÜLLSTAND
LEVEL



TEMPERATUR
TEMPERATURE



ANALYSE
ANALYSIS



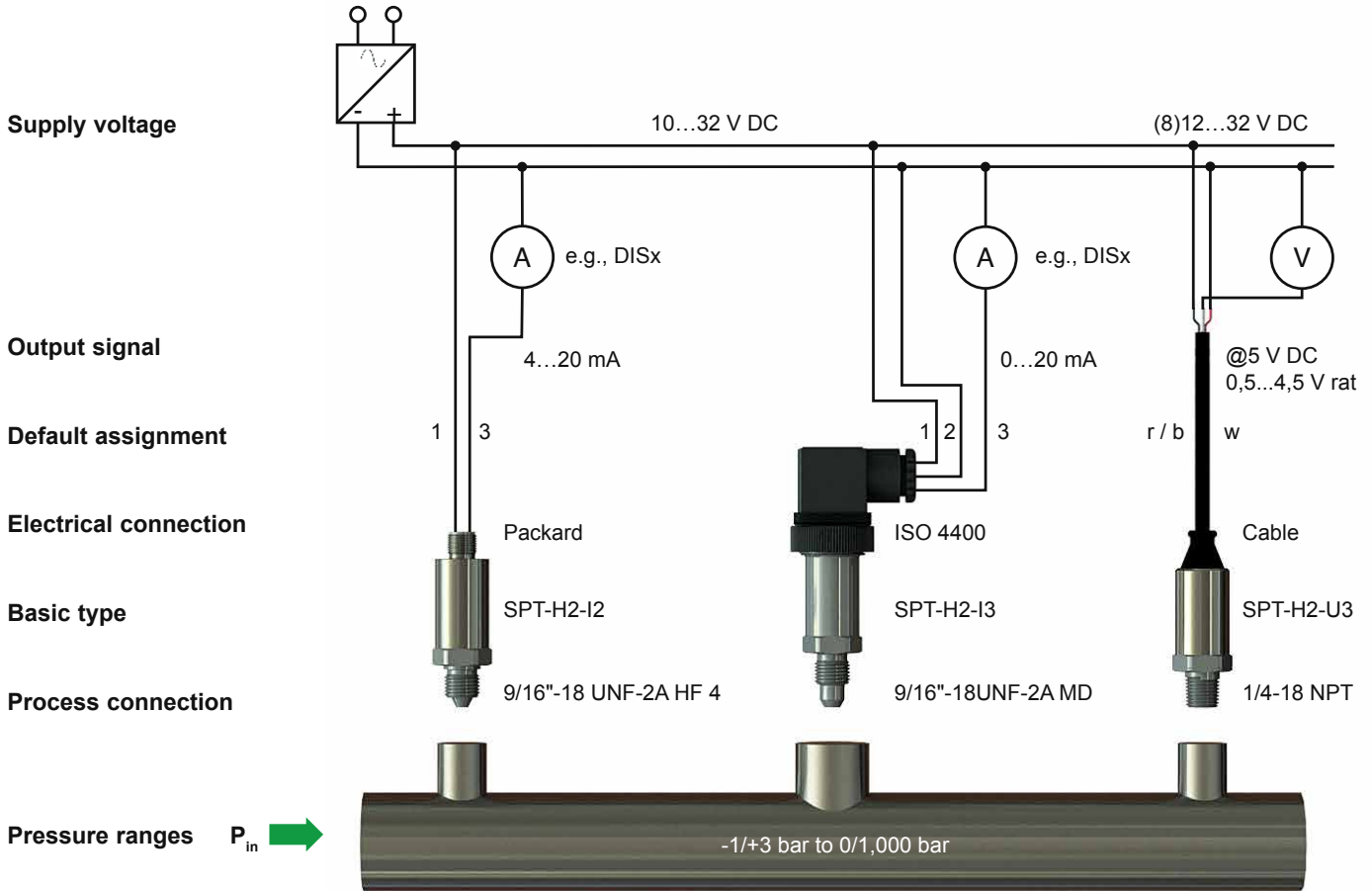
PRIGNITZ
MIKROSYSTEMTECHNIK

PRESSURE TRANSMITTERS with a monolithic stainless-steel measuring cell

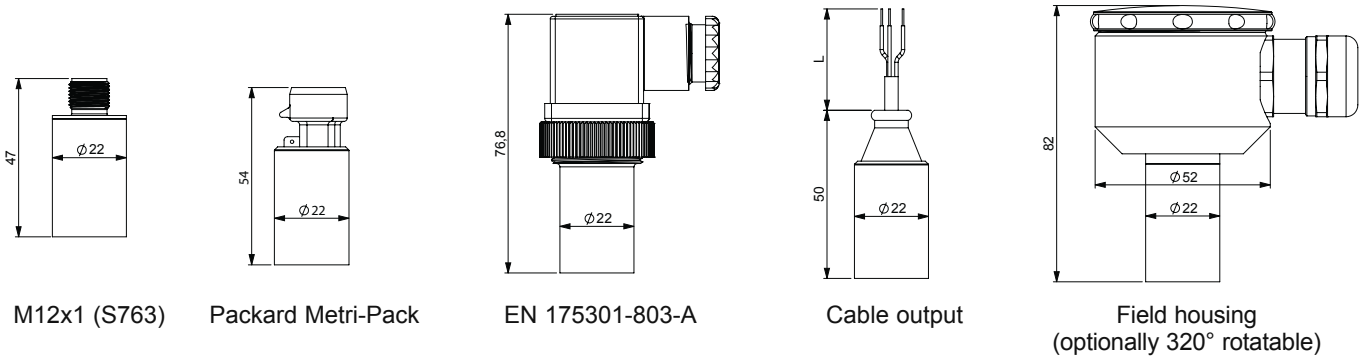
Technical data	Type: SPT-H2
Pressure ranges (in bar *)	-1 1 1,6 2,5 4 25 40 60 100 160 250 400 600 1.000
Excess pressure *)	min. 2-fold; pressure range from 1,000 bar: min. 1.5-fold
Burst pressure *)	3-fold; pressure range from 1,000 bar: 2-fold
Type of pressure	relative pressure
Measuring principle	piezoresistive (semiconductor on stainless steel)
Medium-contacting parts	stainless steel 1.4404 (316L) (others on request)
Internal seals	none (monolithic stainless-steel measuring cell)
Pressure-transmitting medium	none (dry stainless-steel measuring cell)
Housing material	1.4301 / AISI 304
Process connections *)	1/4" and 1/2" NPT, 9/16"-18 UNF-2A MD, 9/16"-18 UNF-2A HF 4 G1/4 B and G1/2 B acc. to EN 837 (manometer nipple)
Electrical connections *)	plug connectors acc. to EN 175301-803 Form A and C, M12x1, Packard Metri-Pack, AMP, German, field housing, wire output port
Mass	approx. 120 g
Output signal, supply voltage and load resistance *)	4 ... 20 mA, 2-wire $R_A \leq (U_B - 10V) / 20 \text{ mA}$ (supply 10 ... 32 V DC) 0 ... 10V, 3-wire $R_L > 5 \text{ k}\Omega$ (supply 12 ... 32 V DC) 0 ... 5 V, 3 -wire $R_L > 2,5 \text{ k}\Omega$ (supply 7 ... 32 V DC) 0,5 ... 4,5 V ratiometric, 3 Leiter $R_L > 4,7 \text{ k}\Omega$ (supply 5 V DC +/- 10%)
Response time (T90)	< 1 ms
Total error **)	$\leq 0.5 \%$ FS after limit-point calibration ($\leq 0.35 \%$ FS BFSL) acc.to DIN EN 61298-2 (incl. non-linearity, zero offset, hysteresis and repeatability) in the compensated range
Non-linearity	$\leq 0.2 \%$ FS after limit-point calibration ($\leq 0.1 \%$ FS acc. to BFSL)
Non-repeatability	$\leq 0,10 \%$ FS
Hysteresis	$\leq 0,15 \%$ FS
Medium TK of the offset	$\leq 0,15 \%$ FS / 10K
Medium TK of the range	$\leq 0,15 \%$ FS / 10K
Long-term durability	$\leq 0.1 \%$ FS per year in referential conditions
Permissible temperatures	
Temperature of the medium	- 40 ... + 125°C
Ambient temperature	- 40 ... + 105°C
Storage temperature	- 40 ... + 125°C
Compensated range	0 ... + 80°C
CE-conformity	EC Directive 89 / 336 / EEC
Pressure devices	2014/68/EU
EMC directive	2004 / 108 / EC acc. to EN 61326
Shock resistance	g 1000 acc. to IEC 60068-2-32
Vibration resistance	g 20 acc. to IEC 60068-2-6
Electrical protection	
Dielectric strength	350 VDC
Short-circuit resistance	Out+ / U_B - (for 1s)
Reverse polarity protection	U_B + / U_B in place
IP type *)	plug connections acc. to EN 175301-803 IP65, M12 x 1, Packard Metri-Pack, AMP, German, cable IP 66 and IP 67. The IP types specified in the data sheets generally apply to the counter plug connected. An aerated counter plug and / or wire is usually required for relative transmitters to enable atmospheric pressure balance. From a pressure range of 60 bar, no ventilated mating connector and / or cable is necessary.

*) Others on request; **) Special custom-made solutions with optionally higher precision on request

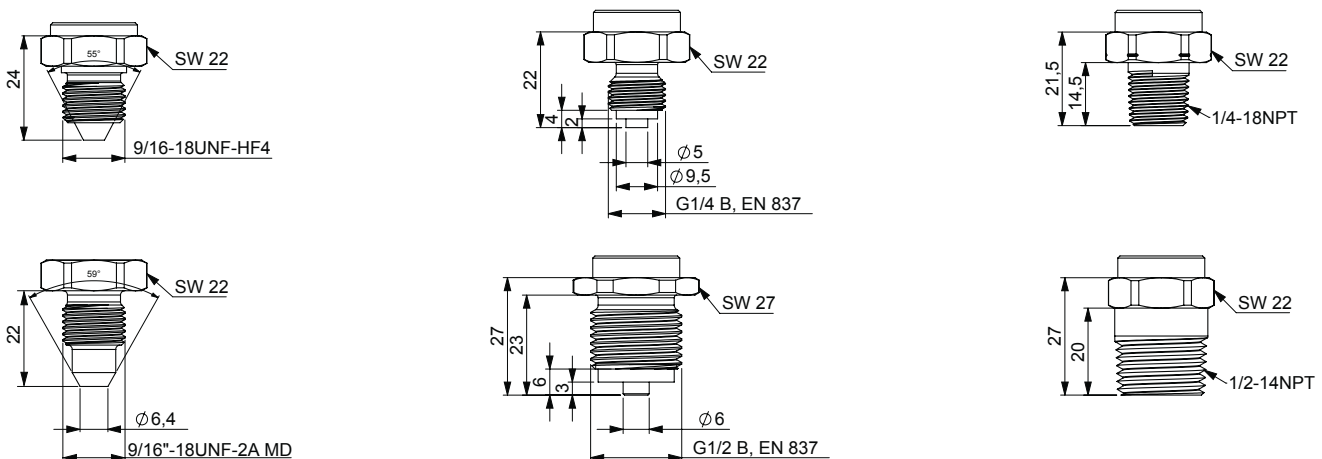
SYSTEM DESIGN



ELECTRICAL CONNECTION (examples)



PROCESS CONNECTION (examples)



OPTIONS

In addition to the parameters specified, a variety of specific customer requests can be implemented:

- EX variants are available for applications in EX-hazardous areas (ATEX, IECEx, CSA)
- other process and electrical connections are available in a wide range of variants
- analog output signals can be customized on request

Do not hesitate to ask us.



ACCESSORIES for the measuring point

LEDD – this plug-on display for device plugs acc. to EN 175301-803-A is simply fitted between the plug at the transmitter and the cable box. It is supplied from the 4 ... 20 mA loop and does not require any additional auxiliary voltage.



Signal input:	4 ... 20 mA
Measuring range:	- 1999 bis 9999, freely adjustable
Display:	4-stellige 7 mm LED
Calibration:	scaling, decimal point, attenuation
Housing:	plastic, IP 65
Options:	1x switchpoint PNP

DIS3 is a 4.5-digit digital display and control device fit for being mounted on switchboard panels. It is parameterized by default – matching the pressure transmitter. The connected transmitter is powered and evaluated by internal voltage supply.



Signal input:	0 ... 5 V DC 0 ... 10 V DC 4 ... 20 mA
Measuring range:	- 1999 bis 9999 default configured
Display:	4.5-digit 7 mm LED
Dimensions:	48 x 48 mm
Housing:	plastic, IP 65
Options:	1 or 2 relay outlets

FURTHER MEASURING DEVICES from our product range



Pressure transmitter, flush at the front



Level probe



Compact temperature transmitter



Differential pressure switch for low pressure



Differential transmitter for low pressure

SERVICE

We develop and manufacture analog and digital electronic pressure transmitters and pressure switches for relative pressure, absolute pressure and differential pressure as well as temperature transducers and level probes to measure filling levels. PRIGNITZ-Mikrosystemtechnik GmbH is certified acc. to ISO 9001. We offer a multitude of products compliant with ATEX, IECEx, CSA, DNVGL and other worldwide relevant qualifications.

Due to permanent further development of our products, we reserve the right to make technical changes.

