



PRESSURE

P2P Technology

PRIGNITZ 

MIKROSYSTEMTECHNIK

# PMP-S122-H

SPT Family: Standard Pressure Transmitter

APPROVED FOR HYDROGEN

DATASHEET

- MEASURING CELL IS FREE FROM WELDED SEAMS
- NO LEAK PATHS AND WEAK POINTS
- VACUUM-TIGHT AND ELASTOMER-FREE
- FLEXIBLE FOR CUSTOMISED REQUIREMENTS

## MAIN FEATURE

- **Pressure ranges\***: from 4 bar to 1.000 bar
- **Mechanical connections\***: 9/16-18 UNF 6M; 1/2"-14 NPT; 1/4"-18 NPT; G1/4"B Mano EN 837; G1/2"B Mano EN 837; 7/16-20 UNF
- **Electrical connections\***: EN 175301-803-A, Packard Metri-Pack, M12x1 (S763), Packard Metri-Pack, cable
- **Wetted parts**: stainless steel 1.4404 (316L)
- **Response time**: < 1ms
- **Accuracy**:  $\leq 0.5\%$  FS limit-point settings ( $\leq 0.35\%$  FS BFS) at 25 °C
- **Optionally certificate**: EX protection (ATEX, IECEx, CSA); up to 600 bar  
EC 79/2009 Hydrogen approval

## DESCRIPTION

Very rugged pressure transmitter SPT (approved for H<sub>2</sub>) is based on **a new type of two-chip technology (P2P Technology - our patented development), which enables the highest demands on robustness and performance such as stability, vibration/shock resistance.** 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 and permeation 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 has a very robust design.

## APPLICATIONS



ENERGY TECHNOLOGY



AUTOMOTIVE INDUSTRY



FUEL CELLS



GAS TECHNOLOGY



CHEMICAL INDUSTRY



HVAC (Heating, Ventilation, Air conditioning)



Example of products

\*others on request

P2P  
TECHNOLOGY® 

## TECHNICAL SPECIFICATIONS

INPUT PARAMETERS													
Pressure ranges (in bar) *													
Nominal pressure	4	10	16	25	40	60	100	160	250	400	600	1000	
Over pressure	8	20	32	50	80	120	200	320	500	800	1200	1600	
Burst pressure	12	30	48	75	120	180	300	480	750	1200	1800	2000	
Type of pressure	gauge, sealed reference (> 60 bar)												
Mechanical connections *	9/16-18 UNF 6M; 1/2"-14 NPT; 1/4"-18 NPT; G1/4"B Mano EN 837; G1/2"B Mano EN 837; 7/16-20 UNF												
Tightening torque	typ 25 Nm; max 50 Nm												
Wetted parts	stainless steel 1.4404 (316L)												
Body material	stainless steel 1.4301/AISI 304												
OUTPUT SIZES													
Electrical connections *	EN 175301-803-A, Packard Metri-Pack, M12x1 (S763), Packard Metri-Pack, cable												
Output signal **	4..20 mA						1...5 V			ratiometric 0.5...4.5 V			
Supply voltage	10...32 V						7...32 V			ratiometric 5 V DC+-10%			
Load resistance	< (Vsupply - 10)V/0.02 A						≥ 2 kOhm			≥ 2 kOhm			
Response time	typ. 1 ms						max. 2 ms						
PERFORMANCE CHARACTERISTICS													
Accuracy (25°C)***	≤ 0.5 % FS limit point settings (≤ 0.35 % FS BFSL)												
Overall accuracy (- 5°C... 85°C)	1.50 %												
Long-term stability	≤ 0.1 % FS per year in referential conditions												
Ambient temperature	- 40...+ 105°C												
Medium temperature	- 40...+ 125°C												
Storage temperature	- 40...+ 125°C												
Shock resistance	1000 g to IEC 60068-2-32												
Vibration resistance	20 g to IEC 60068-2-6												
Protection class	depending on electrical connection, see drawing of electrical connectors												
ELECTRICAL PROTECTION													
Reverse polarity	YES												
Dielectric strength	HV 350 V DC												
Short-circuit protection	KS Out+ / UB- (for 1s)												
CE-CONFORMITY													
EMV guideline	2014 / 30 / EU acc. to DIN EN 61326-1, DIN EN 61326-2-3												
RoHS guideline	2011/65/EU												
OTHER													
Weight***	~ 120 g												
Lifetime cycles	> 100 million												

## APPROVALS CERTIFICATE

\*\*\*

CE Compliance: EMC directive 2014 / 30 / EU according in EN 61326-2-3

RoHS guideline: 2011/65/EU

Approved according to the European Directive EC79/2009

PRIGNITZ-Mikrosystemtechnik GmbH is certified acc. to ISO 9001. We offer a multitude of products compliant with ATEX, IECEx, CSA, and other worldwide relevant qualifications.



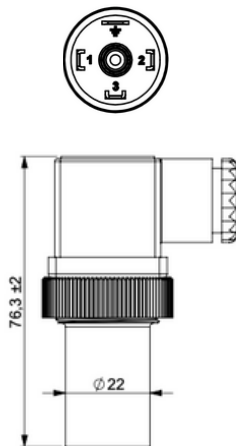
\*others on request

\*\* Output is calibrated at zero and full scale

\*\*\*depend of SPT product-version

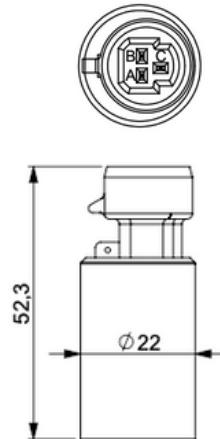
# ELECTRICAL CONNECTION

EN 175301-803-A



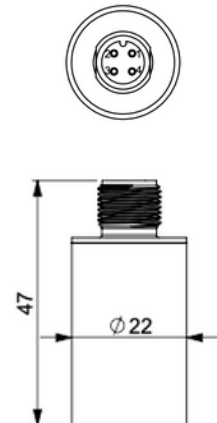
	Pin1	Pin2	Pin3	Pin4	Pin5
0.5 -4.5 V; 1-5V	+	-	V/I out	GND	Thread
4-20 mA	+	-	nc	GND	nc

Packard Metri-Pack



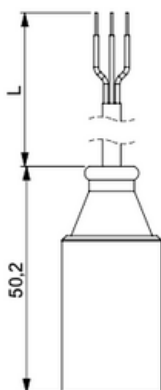
	PinA	PinB	PinC
0.5 -4.5 V; 1-5V	-	+	V/I out
4-20 mA	-	+	nc

M12x1 (S763)



	Pin1	Pin2	Pin3	Pin4
0.5 -4.5 V; 1-5V	+	V/I out	-	nc
4-20 mA	+	nc	-	nc

Cable output



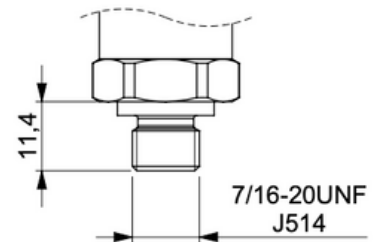
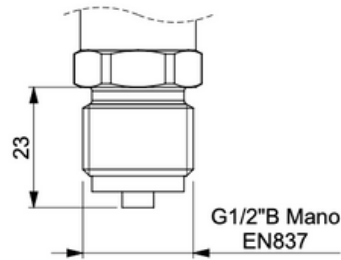
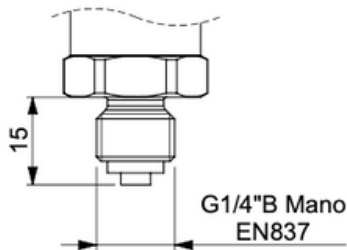
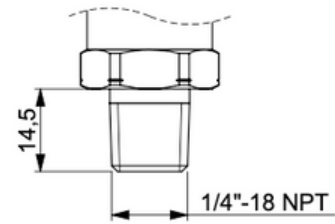
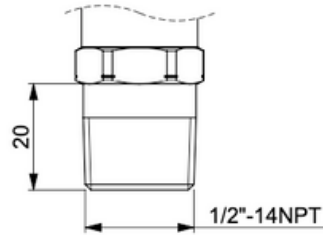
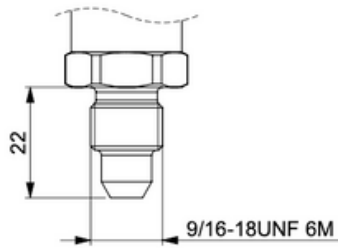
	white	brown	yellow	green
0.5 -4.5 V; 1-5V	+	-	V/I out	GND
4-20 mA	+	-	GND	GND
4-20mA digital	+	-		



Before installation and operation, ensure that the appropriate pressure sensor has been selected in terms of pressure range, design and specific measuring conditions. Non compliance can result in serious injury and/or damage to the equipment.

**WARNING:** Prignitz Mikrosystemtechnik reserve the right to modify their products without notice. It is imperative that we should be consulted over any particular use or application of our products and it is the responsibility of the buyer to establish, particularly through all the appropriate testes, that the product is suitable for the use or application. Under no circumstances will our warranty apply, nor shall we be held responsible for any application (such as any modification, addition, deletion, use in conjunction with other electrical or electronic components, circuits or assemblies, or any other unsuitable material or substance) which has not been expressly agreed by us prior to the sale of our products.

## PROCESS CONNECTIONS



## CUSTOMIZED SOLUTIONS

An indisputable advantage of the products from Prignitz Mikrosystemtechnik is that in addition to the specified parameters, a variety of specific customer requests can be implemented:

- EX versions are available for use in hazardous areas (ATEX, IECEx, CSA)
- other process and electrical connections available in a wide range of options
- analog output signals can be customized upon request.

Feel free to ask us. We are ready to implement individual solutions for you.

## HOW TO ORDER\*

### PMP-S122-H-XXX- (XX..XX)-XX-XX-XXS-XX-XXX

Customised  
Articel number

#### FAMILIES

**S** = SPT family

#### TECHNOLOGY& MATERIAL

**22** = P2P Technology with  
stainless steel 1.4404 (316L)

#### APPROVALS

**H** = EC 79/2009 (only up to  
600 bar)

#### ELECTRICAL OUTPUT

**I2** = 4-20mA 2L  
**I3** = 4-20mA 3L  
**I30** = 0-20mA 3L  
**UR** = ratiometric  
**0U5** = 0-5V  
**1U5** = 1-5V  
**U10** = 0-10V

#### PRESSURE RANGES

e.g.  
**(-1...10)**  
**(0...60)**  
**(0...400)**

#### UNIT

e.g.  
**bar**  
**psi**

#### TYPE OF PRESSURE

**g** = gauge

**S** = Sealed reference

#### ELECTRICAL CONNECTION

**00** = Customized  
**02** = MVS/A  
**05** = M12X1 (steel) S763-4  
**90** = Field Housing 74mm

#### SNUBBER

**S** = with snubber

#### PROCESS CONNECTIONS

**00** = customized  
**05** = G1/2 B Mano  
**07** = 1/2-14 NPT  
**08** = 1/4-18 NPT  
**09** = 7/16-20 UNF  
**10** = 9/16-18 UNF  
**S** = with snubber

\* other on request

## TRANSPORT, PACKAGING AND STORAGE

### Transport

Check the pressure transmitter for any damage that may have been caused during transportation. Obvious damage must be reported immediately.

### Packaging and storage

Do not remove packaging until just before mounting.

Keep the packaging as it will provide optimum protection during transport (e.g. change in installation site, sending for repair).

Permissible conditions at the place of storage:

- Storage temperature: -40 ... +125 °C

## DISMOUNTING, RETURN AND DISPOSAL

### Dismounting

Physical injuries and damage to property and the environment caused by hazardous media Upon contact with hazardous media (e.g. oxygen, acetylene, flammable or toxic substances), harmful media (e.g. corrosive, toxic, carcinogenic, radioactive), and also with refrigeration plants and compressors, there is a danger of physical injuries and damage to property and the environment.

- Should a failure occur, aggressive media with extremely high temperature and under high pressure or vacuum may be present at the instrument.
- Wear the requisite protective equipment.

### Dismounting the instrument

- Depressurise and de-energise the pressure transmitter.
- Disconnect the electrical connection.
- Unscrew the pressure transmitter with a spanner using the spanner flats.

### Return

Strictly observe the following when shipping the instrument:

All instruments delivered to Prignitz Mikrosystemtechnik must be free from any kind of hazardous substances (acids, bases, solutions, etc.) and must therefore be cleaned before being returned.

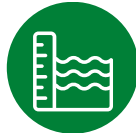
Edition version: D/S122-H/Rev.2/Jan.2023/ENG

# PRIGNITZ

## MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &  
SERVICE

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