



PRESSURE

P2P Technology

# PMP-S222-SENT

**SPT Family: Standard Pressure Transmitters**

**OEM pressure transmitter for high pressure  
and aggressive media application with SENT Protocol**

**DATASHEET**

- **COMPACT DESIGN, HIGH INTEGRATION DENSITY**
- **HIGH ACCURACY AND RESOLUTION**
- **RESISTANCE TO INTERFERENCE AND HIGH DATA TRANSFER RATE**
- **NO CALIBRATION REQUIRED, SUPPORT FOR DIAGNOSTICS AND SELF-TESTING**
- **HIGH MEDIA RESISTANCE, NO INTERNAL SEALS, WITHOUT WELD SEAM**
- **FOR LARGE QUANTITIES, MINIMUM ORDER QUANTITY (MOQ): 500**
- **CUSTOM SOLUTION WITH HIGH COMPLEXITY**
- **CAN BE APPROVED FOR HYDROGEN**

## MAIN FEATURE

- **pressure ranges:** 10 to 1000 bar [145psi to 14.500psi]
- **mechanical connections:** G1/4"A Form E, DIN EN ISO1179-2; 1/4"-18 NPT; 7/16-20 UNF SAE J514
- **electrical connections:** M12x1 (S763-4) (plastic), Packard Metri-Pack, DEUTSCH DT 04-3P, DEUTSCH DT 04-4P, AMP Superseal
- **wetted parts:** stainless steel 1.4404 (316L)
- **response time:** typ. 1 ms
- **accuracy:**  $\leq 0.5\%$  FSO
- **output signal:** Sent (SAE J2716 JAN2010, Rev3)
- **certificate:** EC 79/2009 Hydrogen type approval up to 600 bar

**SENT**



## DESCRIPTION

The piezoresistive, very compact pressure transmitters from SPT-Family (without oil reservoir) 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, and shock resistance.

Thanks to the SAE J2716 JAN2010 protocol, PMP-S222-SENT offers high data accuracy and resolution, which are crucial for applications in the automotive industry and industrial automation. Its digital single-wire transmission reduces interference and simplifies installation. The high data rate and the fact that no calibration is required ensure reliability and efficiency. The sensor is easy to integrate with existing systems and has low maintenance costs.

All manufacturing steps from packaging in modern clean rooms to final calibration take place in Prignitz Mikrosystemtechnik in Germany.

## APPLICATIONS



**INDUSTRIAL AUTOMATION**



**AUTOMOTIVE INDUSTRY**



**QUALITY CONTROL SYSTEMS**



**AVIATION INDUSTRY**

# TECHNICAL SPECIFICATIONS

## INPUT PARAMETERS

Pressure ranges (in bar) *											
Nominal pressure	10	16	25	40	60	100	160	250	400	600	1000
Over pressure	20	32	50	80	120	200	320	500	800	1200	1400
Burst pressure	50	75	100	200	250	500	750	1000	1400	1800	2000
Pressure ranges (in psi) *											
Nominal pressure	150	250	360	600	900	1500	2500	3625	6000	9000	14500
Over pressure	300	500	720	1200	1800	3000	5000	7250	12000	18000	20300
Burst pressure	750	1125	1500	3000	3750	7500	11250	14500	21000	27000	29000
Pressure type	gauge, sealed reference (>60 bar)										
Mechanical connections	G1/4"A Form E, DIN EN ISO1179-2; 1/4"-18 NPT; 7/16-20 UNF SAE J514; 9/16-18 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	Packard Metri-Pack, M12x 1 (S763) (plastic), Deutsch DT04-3P, Deutsch DT04-4P, AMP Superseal
Output signal**	Sent (SAE J2716 JAN2010, Rev3)
Ticktime	adjustable from 3µs to 90µs
Supply voltage	5 VDC
Response time	typ. 1 ms    max. 2 ms
Sensor Pressure Data	12 bit Fast channel

## PERFORMANCE CHARACTERISTICS

Accuracy (25°C)	≤ 0.5 % FSO
Overall accuracy (- 5°C... 85°C)	≤ 1.50 % FSO
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

## ELECTRICAL PROTECTION

Reverse polarity	yes
Dielectric strength	HV 30 V DC
Short-circuit strength	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	~ 50 g
Lifetime	> 10 million load cycles

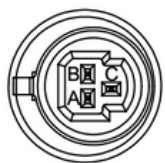
\* Other on request

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

# ELECTRICAL CONNECTION

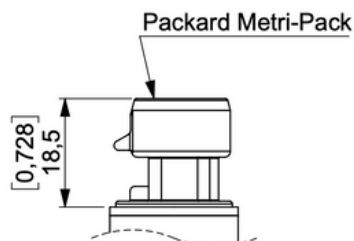
Other pinouts on request

## Packard Metri-Pack



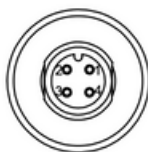
IP 67

< 50 bar IP 65



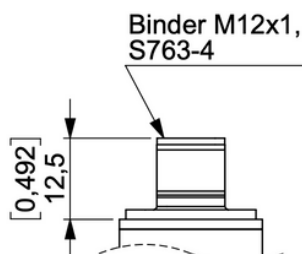
PinA	PinB	PinC
-	+	SENT

## Binder M12x1 (S763-4)



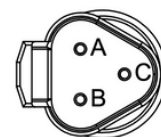
IP 67

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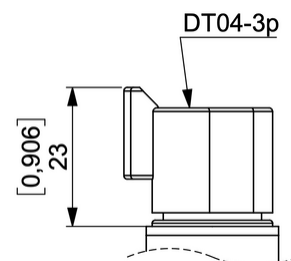


Pin1	Pin2	Pin3	Pin4
+	SENT	-	nc

## DT04-3P



IP 67

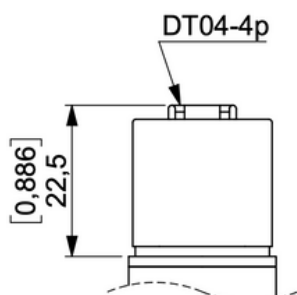


PinA	PinB	PinC
+	-	SENT

## DT04-4P

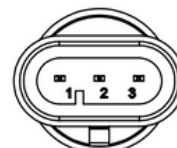


IP 67



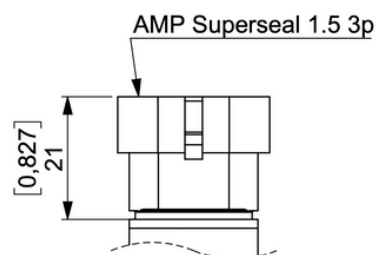
Pin1	Pin2	Pin3	Pin4
-	+	nc	SENT

## AMP Superseal



IP 67

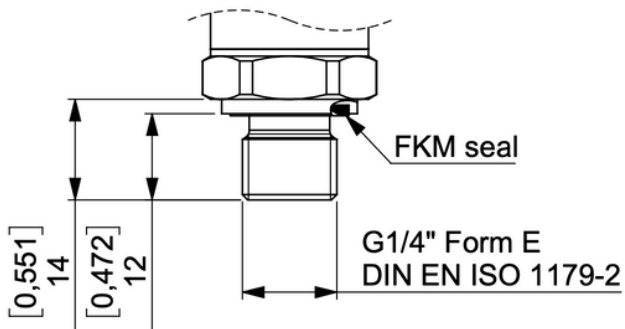
< 50 bar IP 65



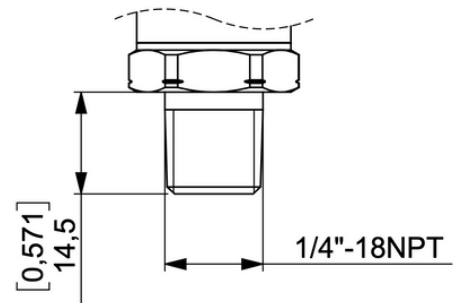
PinA	PinB	PinC
SENT	-	+

## PROCESS CONNECTIONS (EXAMPLES)

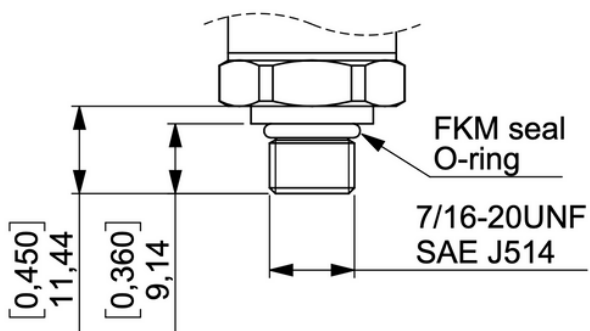
Contact us for other connections. We can realise different special customized solutions



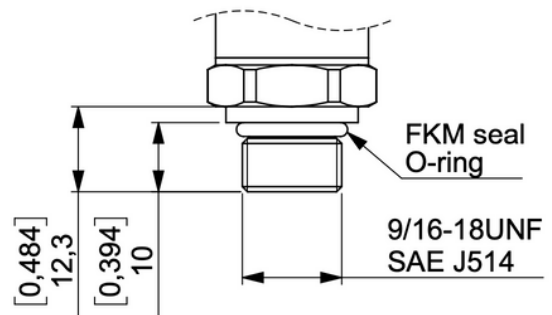
G1/4" A Form E



1/4"-18 NPT

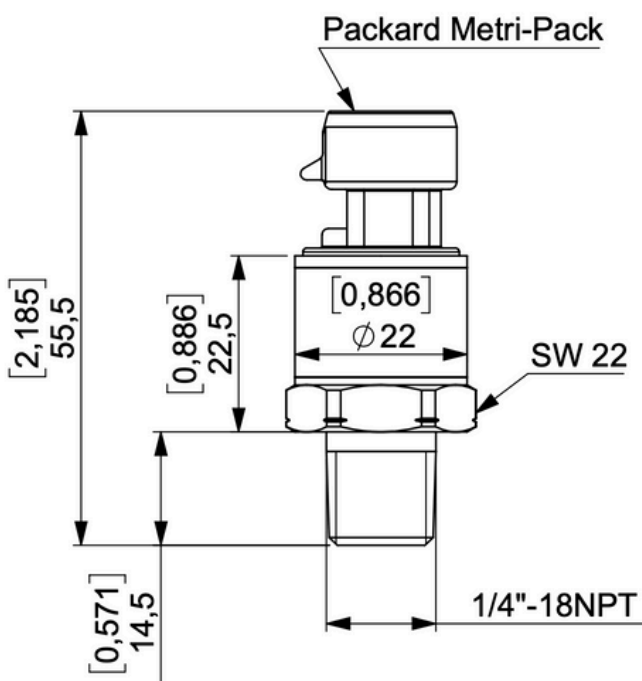


7/16-20 UNF



9/16-18 UNF

## PRODUCT CONSTRUCTION





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 tests, 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.

## 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.



## 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.

## 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.

## HOW TO ORDER

# PMP-S222-SENT-(XX..XX)-XX-X-XXX-XX-XXX

### FAMILIES

**S** = SPT Family

### TECHNOLOGY & MATERIAL

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

### ELECTRICAL OUTPUT

**SENT** : SENT Digital output

### PRESSURE RANGES

e.g.  
**(0...500)**  
**(0...10)**

### UNIT

**01** = bar  
**16** = psi

### TYPE OF PRESSURE

**g** = gauge  
**S** = Sealed reference

Customised  
Article number

### ELECTRICAL CONNECTION

**01** = Packard Metri-Pack  
**04** = M12x1 (plastic); 4P  
**09** = DT 04-3P  
**10** = DT 04-4P  
**11** = AMP Superseal

### SNUBBER

**S** = snubber  
**N** = no snubber

### PROCESS CONNECTIONS

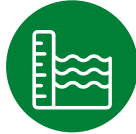
**00** = customized  
**01** = G1/4"A form E  
**08** = 1/4"-18 NPT  
**09** = 7/16-20 UNF  
**10** = 9/16-18 UNF

# PRIGNITZ

## MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &  
SERVICE

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