



PRESSURE

P2P Technology

PMP-S222-H

SPT Family: Standard Pressure Transmitters
APPROVED FOR HYDROGEN

PRIGNITZ 
MIKROSYSTEMTECHNIK

DATASHEET

- **COMPACT DESIGN, HIGH INTEGRATION DENSITY**
- **HIGH MEDIA RESISTANCE, NO INTERNAL SEALS, WITHOUT WELD SEAM**
- **DIAGNOSTIC FUNCTION BASED ON THE OUTPUT SIGNAL (OPTIONAL)**
- **CUSTOMIZING POSSIBLE**

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
- **certificate:** EC 79/2009 Hydrogen type approval up to 600 bar

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.**

It was specially designed for OEM series use in harsh environmental conditions, such as those that prevail in the off-road sector (Vehicles and Machines in Construction, Mining, Farming, Military etc). Compared to conventional machine building, the field of mobile equipment has more demanding requirements, particularly with regard to resistance to overpressure, vibration and shock, as well as increased EMC performance. The pressure sensors PMP-S222-H were specially optimized for this and are therefore a robust solution for one of the sensor types most frequently used in mobile equipment.

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

APPLICATIONS



INDUSTRIAL AUTOMATION
Test stands, CNC equipment,
Presses, HVAC



RENEWABLE ENERGY
Oil, Gas, Wind, Water, Hydrogen,
Power stations



INDUSTRIAL PROCESS CONTROL
Chemical, Pharma, Food



OFF HIGHWAY MOBILE EQUIPMENT
Vehicles and Machines in Construction,
Mining, Farming, Military



TRANSPORTATION
Trucks, Busses, rail, Road
Construction Machines



MARINE & OFFSHORE
Engines, Hydraulic, Fluidhandling



P₂P  [®]
INSIDE

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**	4...20 mA	1...5 V	ratio metric 0.5...4.5 V
Supply voltage	10...32 V	7...32 V	ratio metric 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 % 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
Protection class	depending on electrical connection, see drawing of electrical connectors

ELECTRICAL PROTECTION

Reverse polarity	yes
Dielectric strength	HV 350 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

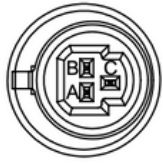
* Other on request

** Output is calibrated at zero and full scale

ELECTRICAL CONNECTION

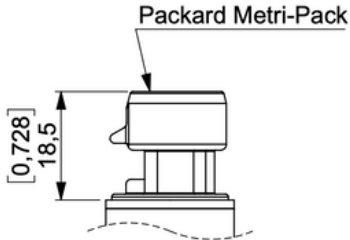
Other pinouts on request

Packard Metri-Pack



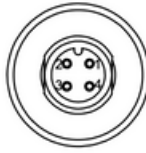
IP 67

< 50 bar IP 65



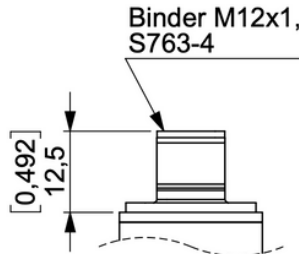
	PinA	PinB	PinC
0.5 -4.5 V; 1-5V	-	+	V/I out
4-20 mA	-	+	nc

Binder M12x1 (S763-4)



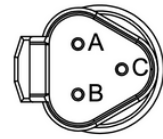
IP 67

< 50 bar IP 65

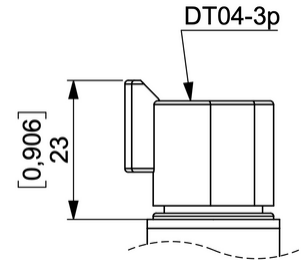


	Pin1	Pin2	Pin3	Pin4
0.5 -4.5 V; 1-5V	+	V/I out	-	nc
4-20 mA	+	nc	-	nc

DT04-3P



IP 67

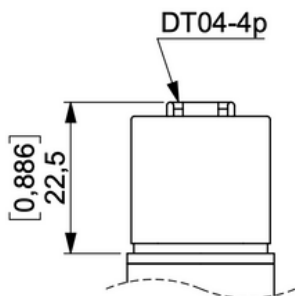


	PinA	PinB	PinC
0.5 -4.5 V; 1-5V	+	-	V/I out
4-20 mA	+	-	nc

DT04-4P

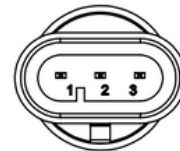


IP 67



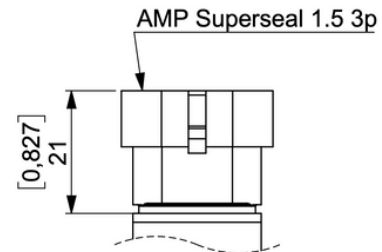
	Pin1	Pin2	Pin3	Pin4
0.5 -4.5 V; 1-5V	-	+	nc	V/I out
4-20 mA	-	+	nc	nc

AMP Superseal



IP 67

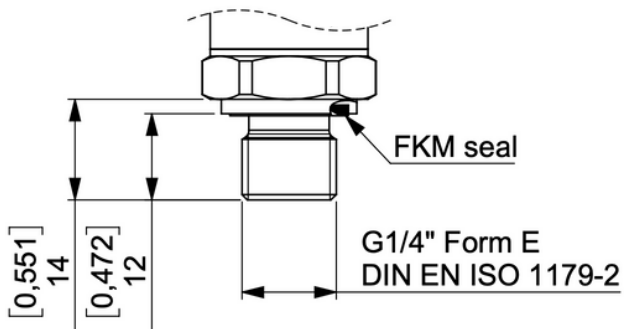
< 50 bar IP 65



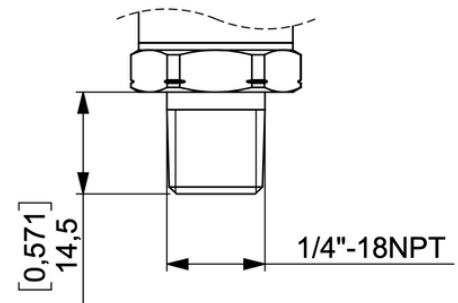
	PinA	PinB	PinC
0.5 -4.5 V; 1-5V	V/I out	-	+
4-20 mA	nc	-	+

PROCESS CONNECTIONS (EXAMPLES)

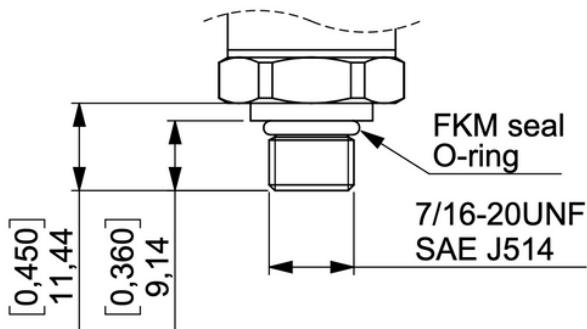
Contact us for other connections. We can realise different special customized solutions



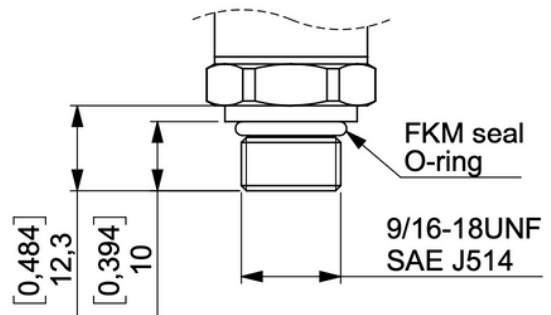
G1/4" A Form E



1/4"-18 NPT

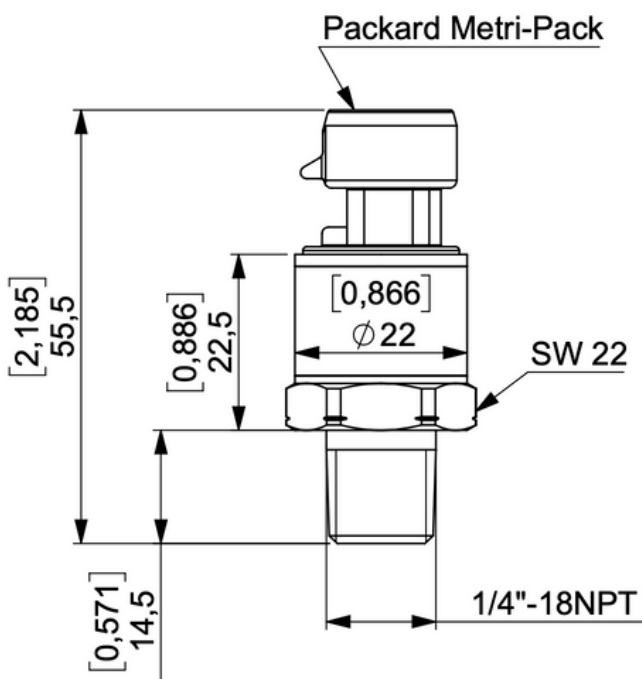


7/16-20 UNF



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.

Edition version: [D/S222-H/Rev.2/June.2023/ENG](#)

HOW TO ORDER

PMP-S222-H-XX-(XX..XX)-XX-X-XXX-XX-XXX

FAMILIES

S = SPT Family

TECHNOLOGY & MATERIAL

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

CERTIFICATION

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

ELECTRICAL OUTPUT

I0 = 4...20 mA
U5 = 1...5 V
UR = ratiometric

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

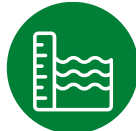
00 = customized
01 = G1/4"A form E
08 = 1/4"-18 NPT
09 = 7/16-20 UNF
10 = 9/16-18 UNF

PRIGNITZ

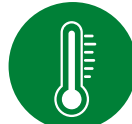
MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &
SERVICE

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