PRESSURE

P2P Technology

PMP-S222

SPT Family: Standard Pressure Transmitters

OEM pressure transmitter for high pressure and aggressive media application

DATASHEET

- **COMPACT DESIGN, HIGH INTEGRATION DENSITY**
- **HIGH MEDIA RESISTANCE, NO INTERNAL SEALS, WITHOUT WELD SEAM**
- **DIAGNOSTIC FUNCTION BASED ON THE OUTPUT SIGNAL (OPTIONAL)**
- **CAN BE APPROVED FOR HYDROGEN**
- **CUSTOMIZING POSSIBLE**
- **FOR HIGH QUANTITIES MOQ 500**

MAIN FEATURE

- **pressure ranges**: 10 to 900 bar [150psi to 15,000psi]
- **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:** ≤ 0.5 % FS limit-point settings at 25 °C
- **optionally certificate**: EX protection (ATEX, IECEx, CSA); up to 600 bar [9000psi], EC 79/2009 Hydrogen approval

P2P TECHNOLOGY ®

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 CONTROLE
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

TECHNICAL SPECIFICATIONS

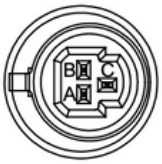
INPUT PARAMETERS											
Pressure ranges (in bar) *											
Nominal pressure	10	16	25	40	60	100	160	250	400	600	900
Over pressure	20	32	50	80	120	200	320	500	800	1200	1400
Burst pressure	50	75	100	200	250	500	750	1000	1400	1800	2000
Pressure ranges (in psi) *											
Nominal pressure	150	250	360	600	900	1500	2500	3625	6000	9000	15000
Over pressure	300	500	720	1200	1800	3000	5000	7250	12000	18000	30000
Burst pressure	750	1125	1500	3000	3750	7500	11250	14500	21000	27000	30000
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** Supply voltage Load resistance	4..20 mA 10...32 V < (Vsupply - 10)V/0.02 A					1...5 V 7...32 V ≥ 2 kOhm			ratiometric 0.5...4.5 V ratiometric 5 V DC+-10 % ≥ 2 kOhm		
Response time	typ. 1 ms max. 2 ms										
PERFORMANCE CHARACTERISTICS											
Accuracy (25°C)	≤ 0.5 % FS limit point settings										
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 strength	KS Out+ / UB- (for 1s)										
CE-CONFORMITY											
EMV guidline	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

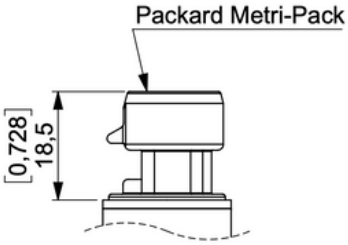
Other pinouts on request

Packard Metri-Pack



IP 67

< 50 bar IP 65

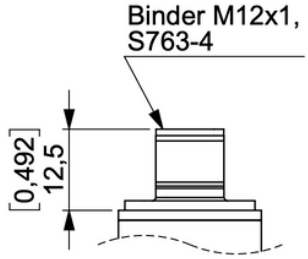


	PinA	PinB	PinC
0.5 -4.5 V; 1-5V	-	+	V/I out
4-20 mA	-	+	nc

Binder M12x1 (S763-4)

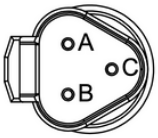
IP 67

< 50 bar IP 65

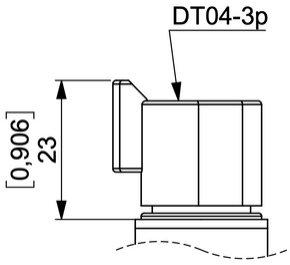


	Pin1	Pin2	Pin3	Pin4
0.5 -4.5 V; 1-5V	+	V/I out	-	nc
4-20 mA	+	nc	-	nc

DT04-3P



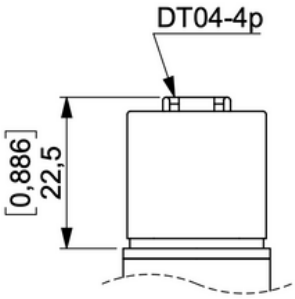
IP 67



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

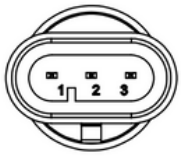
DT04-4P

IP 67



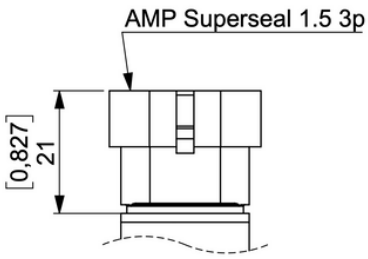
	Pin1	Pin2	Pin3	Pin4
0.5 -4.5 V; 1-5V	-	+	nc	V/I out
4-20 mA	-	+	nc	nc

AMP Superseal



IP 67

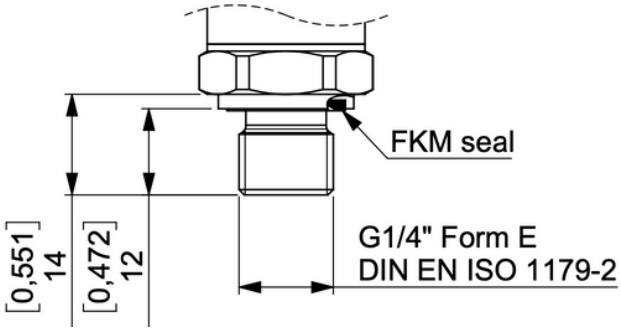
< 50 bar IP 65



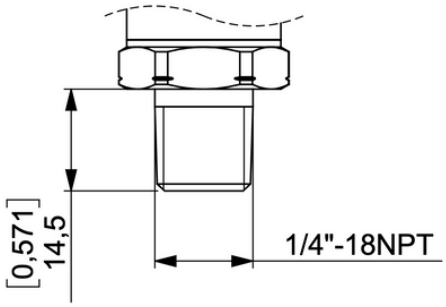
	PinA	PinB	PinC
0.5 -4.5 V; 1-5V	V/I out	-	+
4-20 mA	nc	-	+

PROCESS CONNECTIONS (EXAMPLES)

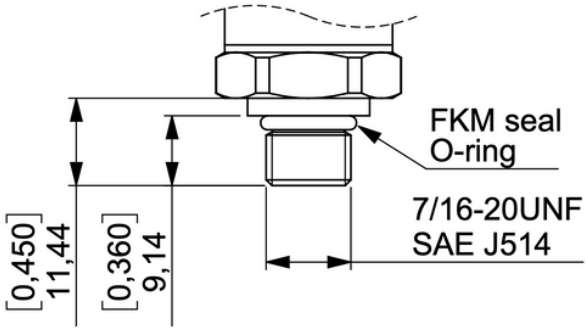
Contact us for other connections. We can realise different special customized solutions



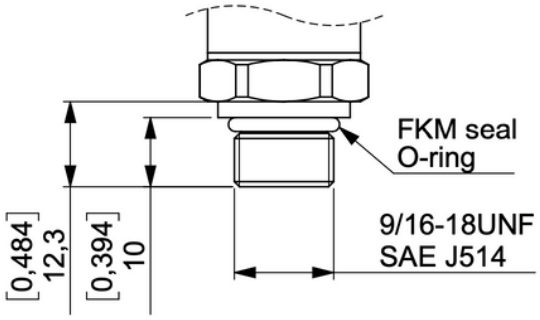
G1/4"A Form E



1/4"-18 NPT

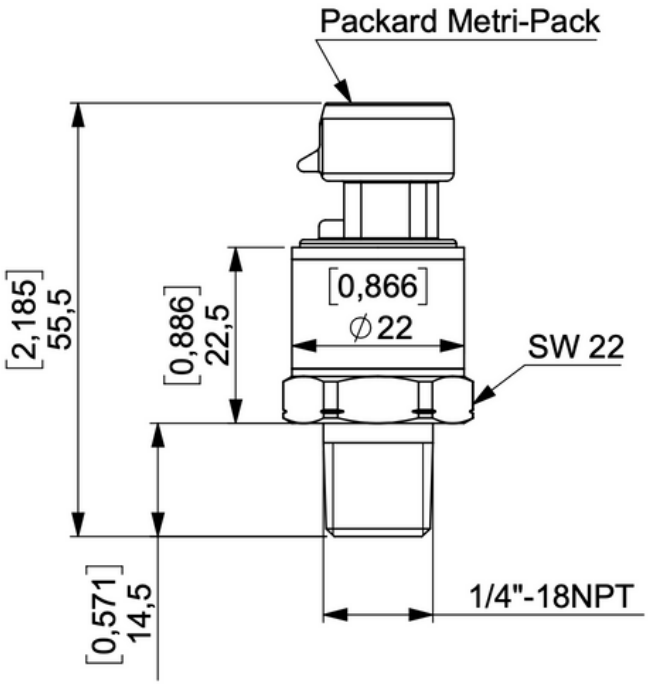


7/16-20 UNF



9/16-18 UNF

PRODUCT CONSTRUCTION



HOW TO ORDER

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

Customised Article number

FAMILIES

S = SPT Family

TECHNOLOGY & MATERIAL

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

ELECTRICAL CONNECTION

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

ELECTRICAL OUTPUT

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

SNUBBER

S = snubber
N = no snubber

PRESSURE RANGES

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

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

UNIT

01 = bar
16 = psi

TYPE OF PRESSURE

g = gauge
S = Sealed reference

Befor 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 injure 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.

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/Rev.2/June.2023/ENG

PRIGNITZ

MIKROSYSTEMTECHNIK

PRESSURE

LEVEL

TEMPERATURE

CALIBRATION & SERVICE

CONTACTS:

Tel.: **+49 (0) 38 77 / 5 67 46-0**
Fax: **+49 (0) 38 77 / 5 67 46-18**
Margarethenstraße 61
19322 Wittenberge / Elbe
Germany
info@prignitz-mst.de