PRESSURE

P2P Technology

PRIGNITZ MIKROSYSTEMTECHNIK

CIT Family
Flameproof Enclosure Pressure Transducers
PMP-C122.04-ExD
APPROVED FOR HYDROGEN

Datasheet

- For use in hazardous areas
- Single piece construction of the sensing element with stainless steel
- Measuring cell is free from welded seams
- No O-Rings, high overload and burst pressure capability
- Low power consumption: (< 10 mA) by sensors with voltage output
- Wide operating temperature range
- Low static and thermal errors
- Compatible with a wide range of liquids and gases
- High grade of EMI/RFI protection grade
- Wide variety of pressure ranges
- Factory sealed according to FM3615
- High signal accuracy better 0,25% of full scale signal
- Signal downscaling on request by PC-software
- Zero-setting by tool or on request by PC-software
- Signal filtering on request by PC- software

P2P INSIDE®

When creating these transmitter, we used 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.

MAIN FEATURE

- **Pressure ranges***: -1...10 bar to -1....1000 bar (-14.5 psi ...145 psi to -14.5 .... 14500 psi)
- **Mechanical connections*:** 1/2-14 NPT; 1/4 NPT other on request
- **Electrical connections*:** conduit fitting ½ NPT M with cable
- **Wetted parts:** stainless steel 1.4404 (316L)
- **Accuracy:** +/- 0,25 % FS
- **Approved for hazardous areas:**

Class I Division 1 Groups A, B, C, D explosion proof
Class II Division 1 Groups E, F, G ignition proof
UL/FM Class I Zone 1 Group IIC
Ex db IIC T5 Gb, Zone 21 Aex tb IIIC T100
Factory sealed according to FM3615
CSA Master Contract file: 267726
CSA Report file: 8015 0806

APPLICATION

INDUSTRIAL EQUIPMENT
Test stands, CNC equipment, Presses, Panel instrumentation

OIL & GAS EQUIPMENT
Platforms and pipelines, Well optimization

MARINE & OFFSHORE
Engines, Hydraulic, Fluidhandling

HYDROGEN INDUSTRY
CNG / hydrogen compression and storage

DRILLING & MINING
In cold climates

TECHNICAL SPECIFICATIONS

PERFORMANCE CHARACTERISTICS											
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	3600	6000	9000	14500
Over pressure	300	500	720	1200	1800	3000	5000	7200	12000	18000	20300
Burst pressure	750	1125	1500	3000	3750	7500	11250	15000	21000	27000	29000
Accuracy (25°C)	≤ 0,25 % FS										
Overall accuracy (- 5°C... 85°C)	≤ 1,5 % FS										
Overall accuracy (<- 5°C)	max ≤ 2.5 % FS										
Long-term stability	±0.1 % FS per year in referential conditions										
Pressure cycles	> 10 million										

ENVIRONMENTAL DATA			
Ambient temperatur range	- 40 °C ... 85 °C (-40 °F ... 185 °F)		
Storage temperature range	- 40 °C ... 85 °C (- 40 °F ... 185 °F)		
Media temperature range	- 40 °C ... 100 °C (- 40 °F ... 212 °F)		
Area of application	0 ... 2000 m/ 0...6000 ft above sea level		
Shock resistance	tested according to IEC60079-0:2017		
Vibration resistance	20 g / 3 axes to EN/IEC 60068-2-6		
EMI/RFI emmission	EN 61326-1:2013		
	EN 61326-2-3:2013		
EMI/RFI susceptibility	EN 61326-1:2013		
	EN 61326-2-3:2013		
Dielectric strength	300 V DC		
Protection class /type rating	IP68 / 3R		
Material of wetted parts	stainless steel 1.4404 (316L)		
Casing material	stainless steel 1.4301 or 1.4404		

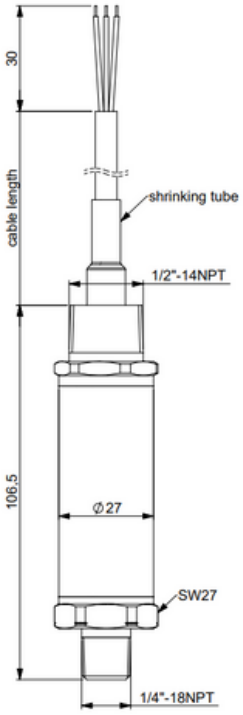
ELECTRICAL DATA			
Output signal	4 ... 20 mA	0/1 ... 5 V DC; 0/1 ... 6 V DC; 0/1 ... 10 V DC	0,5 ... 4,5 V DC ratiometric
Supply voltage (DC)	10 ... 28 V	6 ... 27 V DC (Vout x ... 5 V) 8 ... 27 V DC (Vout x ... 6 V) 12 ... 27 V DC (Vout x ... 10 V)	5 V DC +/- 5 %
Load resistance	< (Vcc-10 V)/20 mA	> 5 kOhm	> 2,5 kOhm
Current consumption	3,6 ... 21,4 mA	7 mA typ.	7 mA typ.
Response time	< 5 ms	< 5 ms	< 5 ms
Reverse polarity	yes		

CONNECTION VERSIONS	
Electrical connection	conduit fitting ½ NPT M with cable Standard lenght: 2/4/10/15 ft. or 0,6/1,2/3/4,5 m
Process connections (standard)	1/2" NPT male 1/4" NPT male others upon request
Tightening torque	25 Nm
OUTLINE DIMENSIONS	
Hex wrench size	27 mm (1 1/16")
Casing diameter	27 mm (1 1/16")
Over all case lenght	max. 110 mm (4.35")

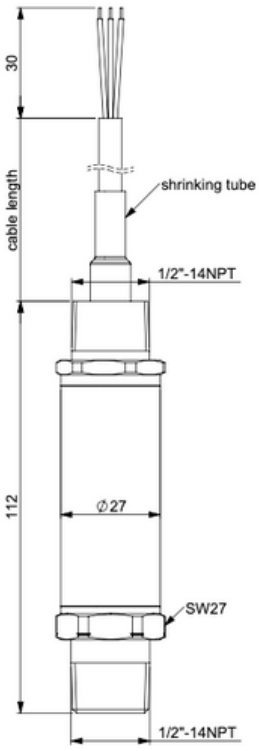
* other on request

PRODUCT CONSTRUCTION

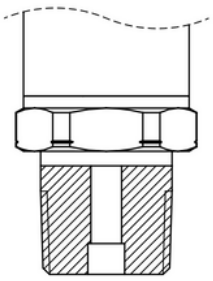
1/4" NPT male

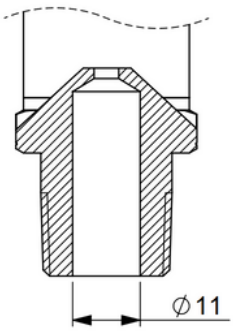


1/2" NPT male



Optional process connections for 1/2-14 NPT





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 injure and/or damage to the equipment.

WARNING: Prignitz Mikrosystemtechnik reserve the right to modify their products without notice to customers. 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.

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 compres- sors, 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.

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).

Recommended conditions at the place of storage:

- - 40 °C to 85 °C (- 40 °F ... 185 °F)

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:

- 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.

Edition version:D/C-122.04-ExD/Rev.2/18July.2023/ENG

HOW TO ORDER

* Please add the special configuration at the end of the order text
e.g. pressure ports radius 10 mm

PMP-C122.04-ExD-XX-(XX..XX)-XX-S-XXX-XX-XXX*

FAMILIES
C = CIT Family

TYPE
ExD =Explosion Proof Pressure Transducers

ELECTRICAL OUTPUT
I2 = 4 ... 20 mA 2L
UR = ratiometric
0U5 = 0 ... 5 V
1U5 = 1 ... 5 V
U10 = 0 ... 10 V

PRESSURE RANGES
e.g.
(**0...400)**
(0...1500)
(-1...100)

UNIT
01 = bar
10 = kPa
14 = MPa
16 = psi

TYPE OF PRESSURE
S = Sealed reference

PROCESS CONNECTIONS
07= 1/2-14 NPT
09 = 1/4 NPT
other on request

SNUBBER
S = with snubber
N = no snubber
C = customized pressure channel with a diameter of 11 mm

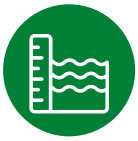
CABEL LENGHT
Standard lenght:
2/4/10/15 ft.
or
0,6/1,2/3/4,5 m

Customised Article number

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