PRESSURE

TFT Technology | P2P Technology

PRIGNITZ MIKROSYSTEMTECHNIK

SPT Family

Non- sparking pressure transmitter: PMP-S111-ExnA, PMP-S122-ExnA

Datasheet

These are stainless steel pressure transmitters for the usage in hazardous areas.
In addition to its rugged construction and a good price- to- performance ratio these product will be the solution for pressure measurement for a very wide variety of applications.

Examples of products

MAIN FEATURE

- Hi-strength stainless steel construction
- No internal O-Rings, no silicon oil
- 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
- Several electrical connection available

SUITABLE HAZARDOUS AREAS AND CONDITIONS:

US: Class I / Zone 2 AEx nA IIc T4 Gc;
CAN: Class I / Division 2;
Groups A, B, C, D T4 Ex nA IIC T4 Gc (Ta = -40 °C ... 80 °C)

APPLICATION

- **TEST STANDS**
- **REMOTE PROCESS CONTROL**
- **OIL & GAS EQUIPMENT**
- **REFRIGERATION**
- **GAS COMPRESSION AND STORAGE**
- **WATER MANAGEMENT**

TECHNICAL SPECIFICATIONS

PERFORMANCE CHARACTERISTICS									
Pressure ranges (in bar) *									
Nominal pressure	1	1,6	2,5	4	6	10	16	25	40
Over pressure	5	10	5	8	12	20	32	50	80
Burst pressure	10	15	10	12	18	30	48	75	120
Nominal pressure	60	100	160	260	400	600	1000	1500	
Over pressure	120	200	320	500	800	1200	1400	2000	
Burst pressure	180	500	750	1000	1400	1800	2000	2200	
Pressure ranges (in psi) *									
Nominal pressure	14.5	23.2	36.2	58	87	145	232	362	580
Over pressure	72.5	145	72.5	116	174	290	464	725	1160
Burst pressure	145	217.5	145	174	261	435	696	1087	1740
Nominal pressure	870	1450	2320	3770	5800	8700	14500	21750	
Over pressure	1740	2900	4640	7250	11600	17400	20300	29000	
Burst pressure	2610	7250	10875	14500	20300	26100	29000	31900	
Accuracy (25°C)	≤ 0,5 % FSO								
Overall accuracy (- 5°C... 85°C)	≤ 1,5 % FSO								
Overall accuracy (< - 5°C and > 85°C)	≤ 3 % FSO								
Stability (1 year)	+/- 0,25 % full scale (typical)								
Maximum working pressure	1000 bar / 14500 psi								
Pressure cycles	> 100 million								
ENVIRONMENTAL DATA									
Ambient temperatur range	- 40 °C ... 80 °C (-40 °F ... 176 °F)								
Storage temperature range	- 40 °C ... 80 °C (-40 °F ... 176 °F)								
Humidity	0 ... 100 % r. h., non condensing								
Shock protection	1000 g to EN/IEC 60068-2-32								
Vibration	20 g / 3 axes to EN/IEC 60068-2-6								
EMI/RFI emmission	EN 61326-1:2013- section 7								
	EN 61326-2-3:2013								
EMI/RFI susceptibility	EN 61326-1:2013 - section 6								
	EN 61326-2-3:2013								
Protection grade	>= IP66								
Material of wetted parts	stainless steel 1.4404 (316L); stainless steel 1.4301 (304); Hastelloy C-276 (only on request); Inconel 718 (only on request)								

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 ... 27 V	6... 27 V (Vout x ... 5 V) 8 ... 27 V (Vout x ... 6 V) 12 ... 27 V (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	< 2 ms	< 2 ms
Zero offset	< 1 % of FS	< 1 % of FS	< 1 % of FS
Span tolerance	< 2 % of FS	< 1,5 % of FS	< 1,5 % of FS
Reverse and overvoltage protection	yes		
CONNECTION VERSIONS			
Electrical connection*	TURCK MiniFast 4 pins; Conduit fitting ½ MNPT with cable		
Process connections (standard)	1/2" NPT male 1/4" NPT male 1/8" NPT male 1/4" BSPP male 1/4" NPT female 9/16-18 UNF male F250-c Autoclave		
OUTLINE DIMENSIONS			
Hex wrench size	22 mm (0.87 ")		
Casing diameter	22 mm (0.87 ")		
Over all case lenght	connector versions: max. 100 mm (3.95")		
	conduit versions: max. 110 mm (4.35")		

* Other on request

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.

CSA master contract:MC 267726
CSA certificate #:70159209

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.

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 80 °C (- 40 °F ... 176 °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/S111-Exna/S122-Exna/Rev.2/Mar.2023/ENG

HOW TO ORDER

PMP-S1XX-ExnA.XX-XX-(XX..XX)-XX-X-XXX-XX-XXX

FAMILIES

S = SPT Family

TECHNOLOGY& MATERIAL

11 = TFT Technology with 17-4PH material
22 = P2P Technology with 316L material

TYPE

ExnA = Non-sparking pressure transducers with CSA certification

CERTIFICATION

10 = CSA

ELECTRICAL OUTPUT

I2 = 4 ... 20 mA 3L
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
16 = psi

TYPE OF PRESSURE

S = Sealed reference
g = gauge

PROCESS CONNECTIONS

07 = 1/2" NPT
08 = 1/4" NPT
10 = 9/16-18 UNF male
other on request

SNUBBER

S = with snubber
N = no snubber

ELECTRICAL CONNECTION

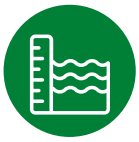
14 = TURCK MiniFast 7/8" 4 pins
CO = Cable

Customised Article number

PRIGNITZ

MIKROSYSTEMTECHNIK


PRESSURE


LEVEL


TEMPERATURE


CALIBRATION & SERVICE

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