



PRESSURE

TFT Technology

PMI Technology

P2P Technology

PRIGNITZ
MIKROSYSTEMTECHNIK

SPT Family

Intrinsically safe pressure transducers:
PMP-S111-Exi, PMP-S122-Exi, PMP-S131-Exi

Datasheet

These are stainless steel, intrinsically safe pressure sensors for the usage in hazardous areas.

In addition to its rugged construction and a good price- to- performance ratio these products will be the solution for pressure measurement for a very wide variety of applications.

MAIN FEATURE

- Pressure ranges * : from 0....100 mbar to -1....2000 bar (0...1.45 psi to -14.5...29000 psi)
- Hi- strength stainless steel construction no silicone oil, no internal O-Rings (above 4 bar)
- 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:



• **metallic connectors**

US: Class I, Zone 0 AEx ia IIC T4 Ga, Class I, Division 1, Groups A, B, C, D T4
CAN: Ex ia IIC T4 Ga IS Class I, Division 1, Groups A, B, C, D T4

• **for other plugs and cables:**

US: Class I, Zone 1 AEx ia IIC T4 Gb, Class I, Division 1, Groups A, B, C, D T4
CAN: Ex ia IIC T4 Gb, IS Class I, Division 1, Groups A, B, C, D T4

Rated for:

Class 2258 04 PROCESS CONTROL EQUIPMENT (for hazardous Canadian locations)

Class 2258 84 PROCESS CONTROL EQUIPMENT (for hazardous locations-certified to US standards)



- With flange plug: II 1G Ex ia IIC T4 Ga
- Other plugs: II 1G Ex ia IIB T4 Ga or II 2G Ex ia IIC T4 Gb

* other on request



Examples of series products

APPLICATION



MONITORING OF TANKS LEVEL



REMOTE PROCESS CONTROL



OIL & GAS EQUIPMENT



DRILLING & MINING



MARINE & OFFSHORE



CHEMICAL INDUSTRY

GALAXY OF CUSTOMIZED SOLUTIONS

PRIGNITZ-MST.DE

TECHNICAL SPECIFICATIONS

PERFORMANCE CHARACTERISTICS											
Pressure ranges (in bar) *											
Nominal pressure	0,1	0,16	0,25	0,4	0,6	1	1,6	2,5	4	6	10
Over pressure	1	1,5	2	2	4	5	10	5	8	12	20
Burst pressure	2	3	4	4	8	10	15	10	12	18	30
Nominal pressure	16	25	40	60	100	160	260	400	600	1000	2000
Over pressure	32	50	80	120	200	320	500	800	1200	1400	2200
Burst pressure	48	75	120	180	500	750	1000	1400	1800	2000	2500
Pressure ranges (in psi) *											
Nominal pressure	1.5	2.3	3.6	5.8	8.7	14.5	23.2	36.2	58	87	145
Over pressure	14.5	21.7	29	29	58	72.5	145	72.5	116	174	290
Burst pressure	29	43.5	58	58	116	145	217.5	145	174	261	435
Nominal pressure	232	362.5	580	870	1450	2320	3770	5800	8700	14500	29000
Over pressure	464	725	1160	1740	2900	4640	7250	11600	17400	20300	31900
Burst pressure	696	1087.5	1740	2610	7250	10875	14500	20300	26100	29000	36250
Accuracy (25°C)	≤ 0.5 % 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)										
Medium temperatur range	- 40 °C ... 85 °C (- 40 °F ... 185 °F)										
Shock protection	tested according to EN/IEC 60068-2-31										
Vibration resistance	20 g / 3 axes to EN/IEC 60068-2-6										
EMC/RFI emmission	EN 61326-1:2013- section 7										
	EN 61326-2-3:2013										
EMC/RFI susceptibility	EN 61326-1:2013 - section 6										
	EN 61326-2-3:2013										
Protection grade	≥ IP65 / DIN 40 050										
Material of wetted parts	PMP-S122-Exi, PMP-S131-Exi : stainless steel 1.4404 (316L); PMP-S111-Exi : stainless steel 1.4301 (304); PMP-S131-Exi with Hastelloy C-276 (only on request); PMP-S131-Exi with Inconel 718 (only on request)										

* other on request

ELECTRICAL DATA			
Available in certification:	CSA/ATEX	CSA	CSA
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)	CSA : 12 ... 27 V ATEX : 20 ... 27 V	10 ... 27 V (Vout x ... 5 V) 10 ... 27 V (Vout x ... 6 V) 15 ... 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	≤ 2 ms	≤ 2 ms	≤ 2 ms
Reverse polarity	yes		
Dielectric strength	710 V DC/500 V AC		
CONNECTION VERSIONS			
Electrical connection	EN 175 301-803-A /-C; M12 x 1 (Binder S763); TURCK MiniFast 4 pins; cable outlet; others upon request		
Process connections (standard)	G 1/4" DIN 1179-2; G 1/2" DIN 1179-2; G 1/4" EN 837; G 1/2" EN 837; 1/2" NPT male; 1/4"NPT male; 1/8" NPT male; 1/4" NPT female; 1/4" BSPP male; 9/16-18 UNF male; others upon request		
OUTLINE DIMENSIONS			
Hex wrench size	22 mm (0.87 ") (depending of thread)		
Casing diameter	22 mm (0.87 ")		
Over all case length	connector versions: typ. 90 mm (3.5") conduit versions: typ. 100 mm (4")		



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 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 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/S111-Exi/S122-Exi/S131-Exi/Rev.3/Dez.2024/ENG

HOW TO ORDER

PMP-S1XX-Exi.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
31 = PMI Technology with 316L material

TYPE

Exi = Intrinsically safe pressure transducer

CERTIFICATION

10 = CSA
20 = ATEX

ELECTRICAL OUTPUT

I2 = 4 ... 20 mA 2L
UR = ratiometric (only for CSA Products)
OU5 = 0 ... 5 V (only for CSA Products)
1U5 = 1 ... 5 V (only for CSA Products)
U10 = 0 ... 10 V (only for CSA Products)

PRESSURE RANGES

e.g.
(0...400)
(0...1500)
(-1...100)

UNIT

01 = bar
16 = psi

Customised Article number

ELECTRICAL CONNECTION

01 = Packard connector 3 pins
02 = EN 175 301-803-A
03 = EN 175 301-803-C
05 = Flange connector M12 / 4 pins (Binder S763)
08 = DEUTSCH DT04-2P (2 pins)
09 = DEUTSCH DT04-3P (3 pins)
10 = DEUTSCH DT04-4P (4 pins)
11 = AMP Super Seal
14 = TURCK MiniFast 7/8" 4 pins
C0 = Cable

SNUBBER

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

PROCESS CONNECTIONS

00 = Customised
01 = G 1/4" Form E
02 = G 1/4" Form A
04 = G 1/2"
07 = 1/2" NPT
08 = 1/4" NPT
10 = 9/16" UNF
11 = 3/8" UNF
13 = M12 x1
17 = M18 x 1,5
18 = M20 x 1,5 manometer port

TYPE OF PRESSURE

S = Sealed reference
g = gauge
a = absolute

PRIGNITZ

MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &
SERVICE

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