



PRESSURE

TFT Technology

PMI Technology

P2P Technology

PAM Technology

PRIGNITZ  
MIKROSYSTEMTECHNIK

# PMP-S100-CAN

Datasheet

Pressure sensors Series with CAN Bus (based on the S100 Series)

- HIGH MEDIA RESISTANCE, NO INTERNAL SEALS, WITHOUT WELD SEAM
- SIGNAL CONDITIONING WITH ASIC
- HIGH INTEGRATION DENSITY
- VACUUM-TIGHT AND ELASTOMER-FREE
- FLEXIBLE FOR CUSTOMISED REQUIREMENT

## MAIN FEATURE

- **Pressure ranges\***: from 0 mbar.. 60 mbar to -1..2000 bar
- **Mechanical connections\***: 1/2"-14 NPT; 1/4"-18 NPT; G1/4"B Mano EN 837; G1/2"B Mano EN 837; G1/4"A Form E; 7/16 - 20UNF
- **Electrical connections\***: EN 175301-803-A; M12x1 (S763); Deutsch DT04-4P; EN 175301-803-C; Cable output
- **Wetted parts\*\***: stainless steel 1.4404 (316L)/17-4
- **Response time**: 1 ms max 2 ms
- **Accuracy (25°C)**: ≤ 0.5 % FS after limit-point calibration
- **Output** : CANopen 2.0A or CAN J1939



\* others on request. Different special custom-made solutions  
 \*\* depend of SPT product-version

## DESCRIPTION

Series of rugged pressure transmitters from SPT-Family for many applications like energy, gas, chemical technologies, HVAC, fuel cell, etc. Oil-filled or stainless steel measuring cell for relative and absolute pressures.

The pressure cells from 60 mbar to 2000 bar are available for different fields of use. Signal processing of the measurement bridge is affected by ASIC (Application-specific integrated circuit).

## APPLICATIONS



ENERGY TECHNOLOGY



AUTOMOTIVE INDUSTRY



TRANSPORTATION

Trucks, Busses, rail, Road  
Construction Machines



INDUSTRIAL AUTOMATION

Test stands, CNC equipment,  
Presses, HVAC



OFF HIGHWAY MOBILE EQUIPMENT

Vehicles and Machines in Construction,  
Mining, Farming, Military



INDUSTRIAL PROCESS CONTROL

Chemical, Pharma, Food

## TECHNICAL SPECIFICATIONS

### INPUT PARAMETERS

|                                    |  |      |      |     |     |     |     |     |     |      |      |      |      |      |
|------------------------------------|--|------|------|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| Pressure ranges (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   |      |      |      |
| Pressure ranges (bar) *            |  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Nominal pressure                   | 4  | 6    | 10   | 16  | 25  | 40  | 60  | 100 | 160 | 250  | 400  | 600  | 1000 | 2000 |
| Over pressure                      | 8  | 12   | 20   | 32  | 50  | 80  | 120 | 200 | 320 | 500  | 800  | 1200 | 1400 | 2200 |
| Burst pressure                     | 12   | 18   | 30   | 48  | 75  | 120 | 180 | 500 | 750 | 1000 | 1400 | 1800 | 2000 | 2500 |
| Pressure type                      | gauge, sealed reference, absolute  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Mechanical connections *           | 9/16-18UNF 6M; 1/2"-14 NPT; 1/4"-18 NPT; G1/4"B Mano EN 837; G1/2"B Mano EN 837; G1/4"A Form E; 7/16 - 20UNF |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Tightening torque                  | typ. 25 Nm; max. 50 Nm   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Wetted parts                       | stainless steel 316L / 17-4 PH ; with PAM Technology Silecon   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Body material                      | stainless steel  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| <b>OUTPUT SIZES</b>                |  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Electrical connections *           | M12x1 (S763); Deutsch DT04-4P; Cable output  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Supply voltage                     | 10 .. 32 VDC   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Supply Current                     | < 30 mA  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Output                             | CANopen 2.0A or CAN J1939  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Physical Layer                     | DIN 11898  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| CAN Parameter                      | Can be defined after Customer request  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Response time                      | typ. 2,2 ms      max. 5 ms   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| <b>PERFORMANCE CHARACTERISTICS</b> |  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Accuracy (25°C)                    | ≤ ±0.5 % FS after limit-point calibration  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Overall accuracy (- 5°C... 85°C)   | ≤ ±0.1 % FS / 10 K after limit-point calibration   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Long-term stability                | ≤ 0.1 % FS per year in referential conditions  |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Ambient temperature                | - 40...+ 105°C [-40 ... +221 °F]   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Medium temperature                 | - 40...+ 125°C [-40 ... +257 °F]   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| Storage temperature                | - 40...+ 125°C [-40 ... +257 °F]   |      |      |     |     |     |     |     |     |      |      |      |      |      |
| 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                                     |      |      |     |     |     |     |     |     |      |      |      |      |      |

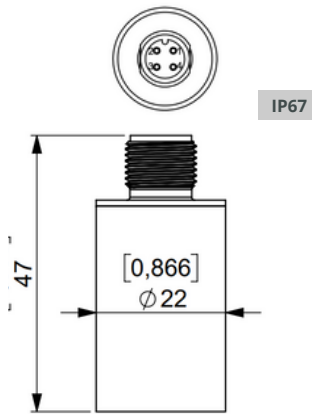
\*others on request.

## ELECTRICAL PROTECTION

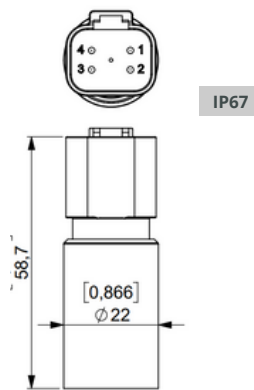
|                          |   |
|--------------------------|---|
| Reverse polarity         | YES   |
| Dielectric strength      | 50 V DC   |
| Short-circuit protection | KS Out+ / UB- (for 1s)                                  |
| <b>CE-CONFORMITY</b>     |   |
| EMV guideline            | 2014 / 30 / EU acc. to DIN EN 61326-1, DIN EN 61326-2-3 |
| RoHS guideline           | 2011/65/EU  |
| <b>OTHER</b>             |   |
| Weight                   | depending on electrical connection                      |
| Lifetime cycles          | > 100 million   |

## ELECTRICAL CONNECTION \*

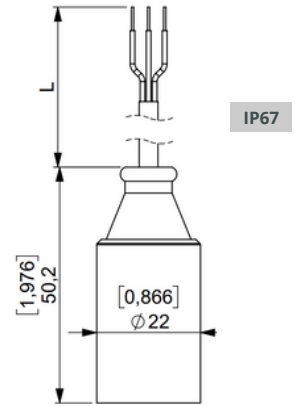
**M12x1 (S763)**



**Deutsch DT04-4P**



**Cable output**



| Pin1 | Pin2 | Pin3     | Pin 4   |
|------|------|----------|---------|
| +    | GND  | CAN high | CAN low |

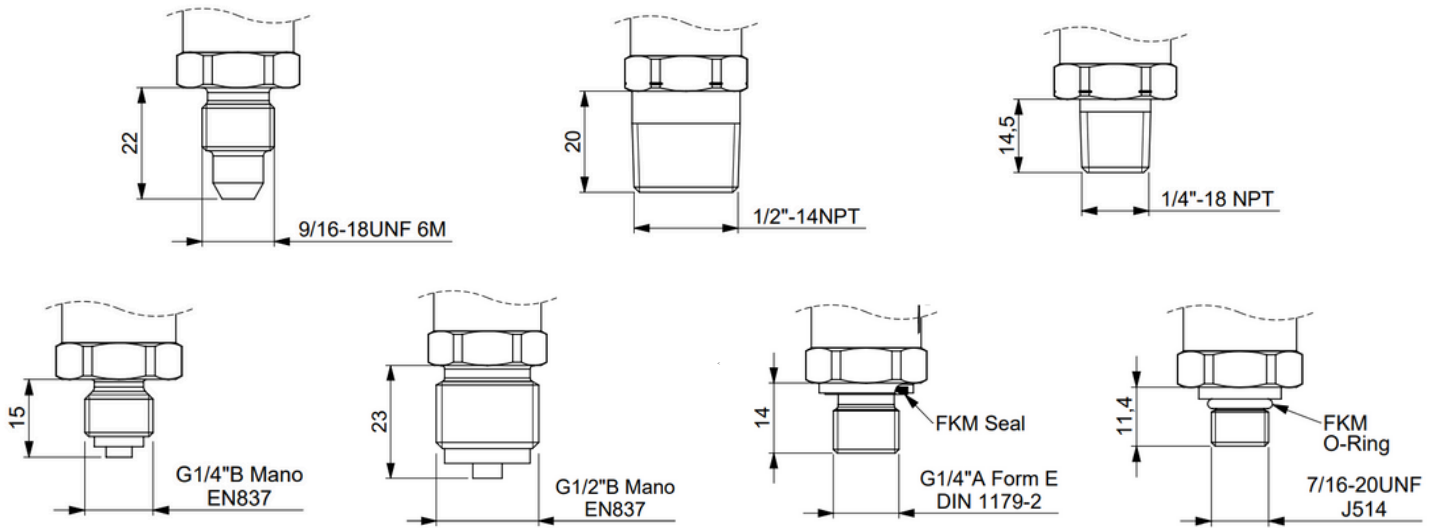
| Pin1 | Pin2 | Pin3     | Pin 4   |
|------|------|----------|---------|
| +    | GND  | CAN high | CAN low |

| White | Brown | Yellow   | Green   |
|-------|-------|----------|---------|
| +     | GND   | CAN high | CAN low |

\*others on request

## PROCESS CONNECTIONS \*

All dimensions in mm



## 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.

\*others 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 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 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.



## 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.

# HOW TO ORDER \*

## PMP-S1XX-CAN- (XX..XX)-XX-XX-XXX-XX-XXX

### FAMILIES

**S** = SPT family

### TECHNOLOGY & MATERIAL

**11** = TFT Technology with stainless steel 17/4

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

**31** = PMI Technology with steel 316 L, membrane inside

**32** = PMI Technology with steel 316 L, flush membrane

**40** = PAM Technology with Silicon membrane for non-aggressive media

### ELECTRICAL OUTPUT

**CAN** = CAN BUS Output : CANopen 2.0A or CAN J1939

### PRESSURE RANGES

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

### UNIT

**01** = bar  
**16** = psi

### TYPE OF PRESSURE

**g** = gauge  
**S** = sealed reference  
**a** = absolute

**Customised Article number**

### ELECTRICAL CONNECTION

**05** = M12 / 4 pins (Binder S763)  
**10** = DEUTSCH DT04-4P (4 pins)  
**C0** = Cable

### SNUBBER

**S** = snubber  
**N** = no snubber

### PROCESS CONNECTIONS

**00** = Customised  
**01** = G 1/4" Form E  
**02** = G 1/4" Form A  
**04** = G 1/2"  
**05** = G1/2" B Mano  
**07** = 1/2" NPT  
**08** = 1/4" NPT  
**09** = 7/16-20 UNF 2A  
**10** = 9/16" UNF  
**11** = 3/8" UNF  
**13** = M12 x1  
**17** = M18 x 1,5  
**18** = M20 x 1,5 manometer port  
**19** = G1/4 manometer port

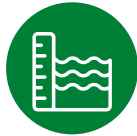
\* customisation available on request

# PRIGNITZ

## MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &  
SERVICE

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