



PRESSURE

TFT Technology

PMI Technology

P2P Technology

PAM Technology

PRIGNITZ  
MIKROSYSTEMTECHNIK

# PMP-S100-I2C

Pressure sensors Series with I<sup>2</sup>C digital Interface (based on the S100 Series)

Datasheet

- 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...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** : I<sup>2</sup>C Communication protocol



\* 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



GAS INDUSTRY



FUEL CELLS



LAB MEASUREMENTS



AUTOMOTIVE INDUSTRY



CHEMICAL INDUSTRY



HVAC (Heating, Ventilation, Air conditioning)

# 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													

## OUTPUT SIZES

Electrical connections *	EN 175301-803-A; M12x1 (S763); Deutsch DT04-4P; EN 175301-803-C; Cable output											
Supply voltage	5 .. 32 VDC											
Supply Current	< 10 mA											
Output	I <sup>2</sup> C Communication protocol											
Output span	20000 Digits											
Output by offset*	5000 Digits											
Output by nominal Pressure*	25000 Digits											
Response time	typ. 1 ms      max. 2 ms											

## PERFORMANCE CHARACTERISTICS

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)

## CE-CONFORMITY

EMV guideline	2014 / 30 / EU acc. to DIN EN 61326-1, DIN EN 61326-2-3
RoHS guideline	2011/65/EU

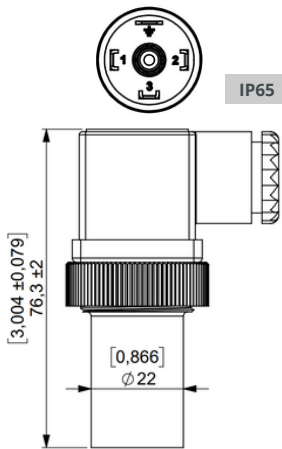
## OTHER

Weight	depending on electrical connection
Lifetime cycles	> 100 million

\*

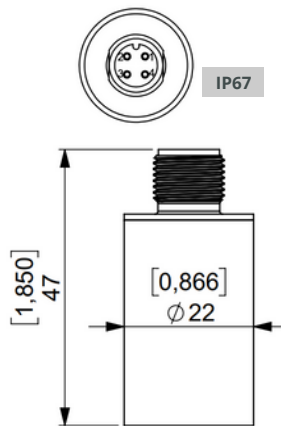
## ELECTRICAL CONNECTION

**EN 175301-803-A**



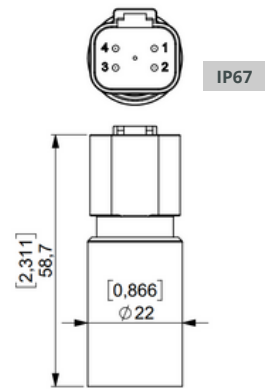
Pin 1	Pin 2	Pin 3	Pin 4
+	GND	SDA	SCL

**M12x1 (S763)**



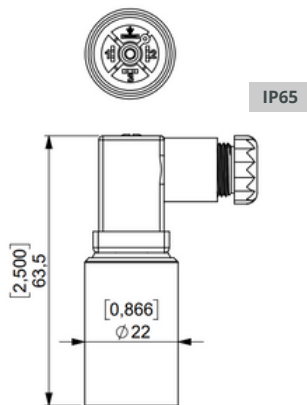
Pin 1	Pin 2	Pin 3	Pin 4
+	SCL	GND	SDA

**Deutsch DT04-4P**



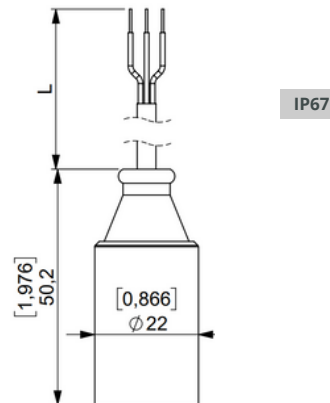
Pin 1	Pin 2	Pin 3	Pin 4
+	SCL	GND	SDA

**EN 175301-803-C**



Pin 1	Pin 2	Pin 3	Pin 4
+	GND	SDA	SCL

**Cable output**



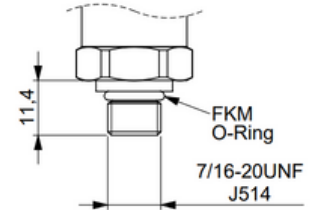
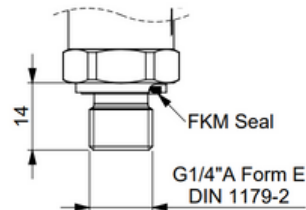
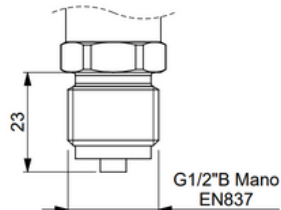
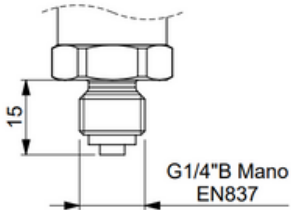
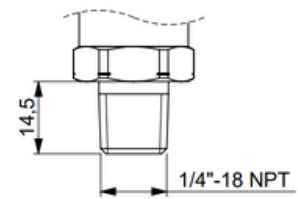
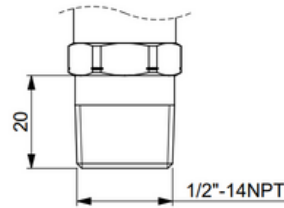
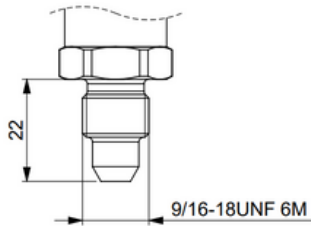
White	Brown	Yellow	Green
+	GND	SCL	SDA

\*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-I2C-(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

**I2C** = I<sup>2</sup>C Communication protocol

### 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

**02** = EN 175 301-803-A

**03** = EN 175 301-803-C

**05** = M12 / 4 pins (Binder S763)

**10** = DEUTSCH DT04-4P (4 pins)

**11** = AMP Super Seal

**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

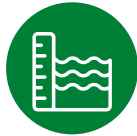
\* customisation available on request

# PRIGNITZ

## MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &  
SERVICE

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