



PRESSURE

TFT Technology

PMI Technology

P2P Technology

PRIGNITZ
MIKROSYSTEMTECHNIK

PMP-C200-MOD

Pressure sensors Series with RS485 MODBUS RTU Interface
(based on the C200 new Series)

Datasheet

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

MAIN FEATURE

- **Pressure ranges***: from 0 mbar...20 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***: M12x1(S763); Cable output; Deutsch DT04-4P
- **Wetted parts****: stainless steel 1.4404 (316L)/17-4
- **Response time****: typ 1 ms
- **Accuracy (25°C)**: $\leq 0.2\%$ FS after limit-point calibration
- **Output** : RS485 MODBUS RTU



Example of product

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

DESCRIPTION

Pressure transducer for an application with high and very high accuracy requirements over a wide temperature range in industries, especially chemical, hydraulic, food, and pharmacy, etc. In the version with P2P Technology sensor can be applicable with the chemical and physical properties of hydrogen. Pressure cells from -1...2000 bar are available for different fields of use. Signal processing of the measurement bridge is affected by a microprocessor for compensation pressure cell characteristics well. The CIT allows a zero point correction, a range changing, and measurement filtering with an additional service box and PC-Software

APPLICATIONS



ENERGY TECHNOLOGY



INDUSTRIAL PROCESS CONTROL
Chemical, Pharma, Food



INDUSTRIAL AUTOMATION
Test stands, CNC equipment,
Presses, HVAC



GAS INDUSTRY



HVAC
Heating, Ventilation,
Air conditioning



CHEMICAL INDUSTRY

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 | | | | | | | | | | | | | |
| Body material | stainless steel | | | | | | | | | | | | | |

OUTPUT SIZES

| | |
|----------------------------|--|
| Electrical connections * | M12x1(S763); Cable output; Deutsch DT04-4P |
| Supply voltage | 10 ... 32 VDC |
| Supply Current | < 10 mA |
| Output | RS485 MODBUS RTU |
| Output Span | 10000 Digits Integer |
| Output by offset | 0 Digit Integer |
| Output by nominal Pressure | 10000 Digits Integer |
| Response time** | typ. 1 ms |
| Baud rate | from 2400 to 115200 configurable |
| Temperatur Measuring in °C | Yes |
| Pressure Measuring in bar | Yes |
| Command Description | Please refer to Protocol Descriptipon Dokument |

PERFORMANCE CHARACTERISTICS

| | |
|----------------------------------|--|
| Accuracy (25°C) | ≤ ±0.2 % 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...+ 85°C |
| Medium temperature | - 40...+ 125°C |
| Storage temperature | - 40...+ 85°C |
| 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

** depend of product

ELECTRICAL PROTECTION

| | |
|--------------------------|------------------------|
| Reverse polarity | YES |
| Dielectric strength | 50 V DC |
| Short-circuit protection | KS Out+ / UB- (for 1s) |

CE-CONFORMITY

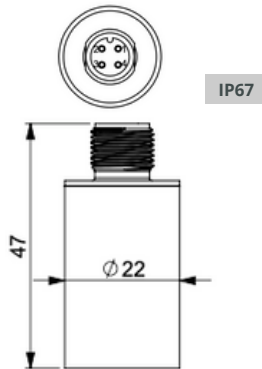
| | |
|----------------|---|
| EMV guideline | 2014 / 30 / EU acc. to DIN EN 61326-1, DIN EN 61326-2-3 |
| RoHS guideline | 2011/65/EU |

OTHER

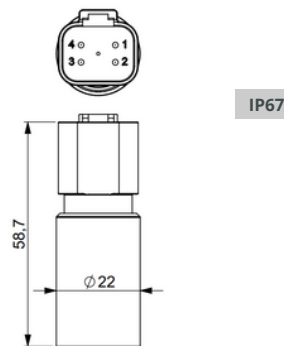
| | |
|-----------------|------------------------------------|
| Weight | depending on electrical connection |
| Lifetime cycles | > 100 million |

ELECTRICAL CONNECTION *

M12x1 (S763)



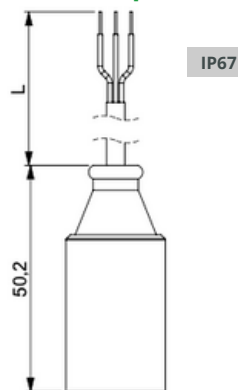
Deutsch DT04-4P



| Pin1 | Pin2 | Pin3 | Pin4 |
|------|--------------|------|--------------|
| + | B- (RS485 B) | - | A+ (RS485 A) |

| Pin1 | Pin2 | Pin3 | Pin4 |
|------|--------------|------|--------------|
| + | B- (RS485 B) | - | A+ (RS485 A) |

Cable output



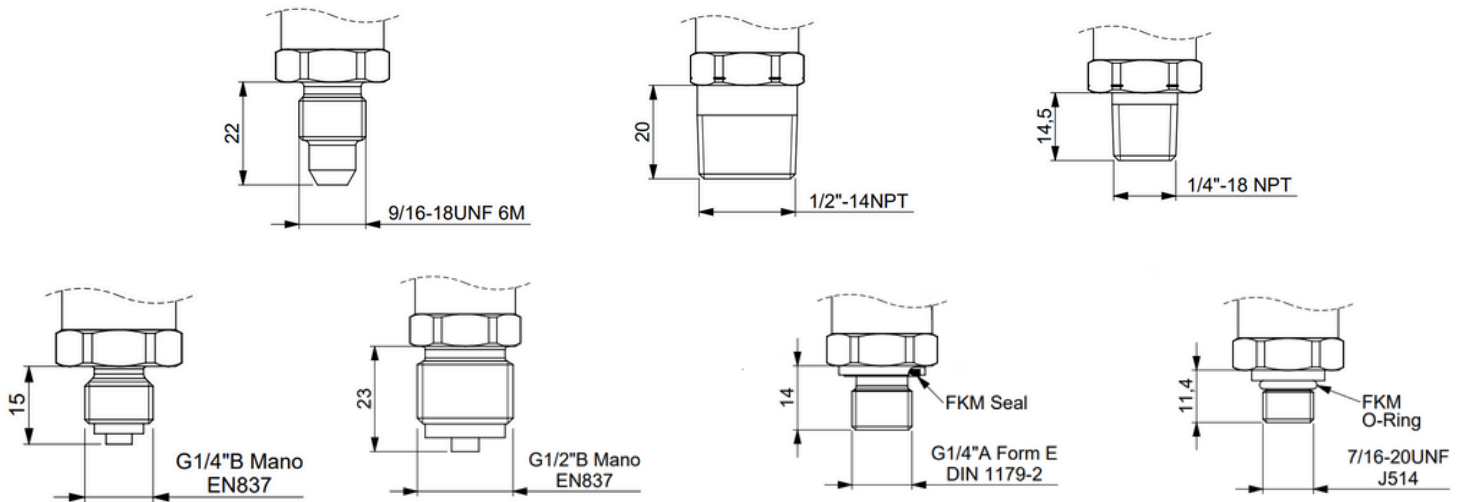
| White | Blue | Yellow | Green |
|-------|--------------|--------|--------------|
| + | B- (RS485 B) | - | A+ (RS485 A) |

*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 tests, 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 ... +85 °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-C2XX-MOD-(XX..XX)-XX-XX-XXX-XX-XXX

FAMILIES

C = CIT 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

ELECTRICAL OUTPUT

MOD = RS485 MODBUS RTU

PRESSURE RANGES

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

UNIT

01 = bar
16 = psi

TYPE OF PRESSURE

g = gauge
S = sealed reference
a = absolute

* customisation available on request

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

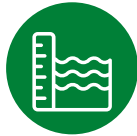
00 = Customised
01 = G 1/4" Form E
02 = G 1/4" Form A
04 = G 1/2"
05 = G1/2" B Mano
07 = 1/2" NPT
08 = 1/4" NPT
09 = 7/16-20 UNF 2A
10 = 9/16" UNF
11 = 3/8" UNF
13 = M12 x1
17 = M18 x 1,5
18 = M20 x 1,5 manometer port
19 = G1/4 manometer port

PRIGNITZ

MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &
SERVICE

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