



PRESSURE

P2P Technology

# PMP-C122-H

CIT Family: Computerized Intelligent Transducer

APPROVED FOR HYDROGEN

**PRIGNITZ**   
MIKROSYSTEMTECHNIK

DATASHEET

- INNOVATIVE, MONOLITHIC STAINLESS STEEL MEASURING CELL WITH TWO-CHIP PATENTED TECHNOLOGY (P2P)
- HIGH MEDIA RESISTANCE, NO INTERNAL SEALS, WITHOUT WELD SEAM
- COMPACT DESIGN, HIGH INTEGRATION DENSITY
- MICROPROCESSOR SIGNAL CONDITIONING
- HIGH SIGNAL ACCURACY BETTER 0,25% OF FULL SCALE SIGNAL
- SIGNAL DOWNSCALING BY PC-SOFTWARE
- ZERO-SETTING BY TOOL OR PC-SOFTWARE
- SIGNAL FILTERING (CUSTOMIZING POSSIBLE)

## MAIN FEATURE

- **Pressure ranges\***: -1 to 1.000 bar
- **Mechanical connections\***: 9/16-18 UNF 6M; 1/2"-14 NPT; 1/4"-18 NPT; G1/4"B Mano EN 837; G1/2"B Mano EN 837; 7/16-20 UNF
- **Electrical connections\***: EN 175301-803-A; M12x1 (S763); Cable output; Field housing
- **Wetted parts**: stainless steel 1.4404 (316L)
- **Response time\*\***:  $\leq 4$  ms
- **Accuracy**:  $\leq 0.25$  % FSO
- **Certificate**: EC 79/2009 Hydrogen type approval up to 600 bar
- **Optionally certificate**: EX protection (ATEX, IECEx, CSA)



Example of products

\*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. Has especially been adapted to the chemical and physical properties of hydrogen. Pressure cells from -1...1000 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.

The transducer is developed with a new type of two-chip technology (P2P Technology - our patented development). Our P2P measuring principle is based on the piezoresistive effect of two silicon Wheatstone full bridges and allows high accuracy in measuring gauge pressure for required applications.

## APPLICATION



**INDUSTRIAL AUTOMATION**  
Test stands, CNC equipment,  
Presses, HVAC



**RENEWABLE ENERGY**  
Oil, Gas, Wind, Water, Hydrogen,  
Power stations



**INDUSTRIAL PROCESS CONTROL**  
Chemical, Pharma, Food



**OFF HIGHWAY MOBILE EQUIPMENT**  
Vehicles and Machines in Construction,  
Mining, Farming, Military



**TRANSPORTATION**  
Trucks, Busses, rail, Road  
Construction Machines



**MARINE & OFFSHORE**  
Engines, Hydraulic, Fluidhandling

GALAXY OF CUSTOMIZED SOLUTIONS

PRIGNITZ-MST.DE

## TECHNICAL SPECIFICATIONS

INPUT PARAMETERS											
Pressure ranges (in bar) *											
Nominal pressure	10	16	25	40	60	100	160	250	400	600	1000
Over pressure	20	32	50	80	120	200	320	500	800	1200	1400
Burst pressure	50	75	100	200	250	500	750	1000	1400	1800	2000
Pressure type	gauge, sealed reference (>60 bar)										
Mechanical connections *	9/16-18 UNF 6M; 1/2"-14 NPT; 1/4"-18 NPT; G1/4"B Mano EN 837; G1/2"B Mano EN 837; 7/16-20 UNF										
Tightening torque	typ 25 Nm; max up to 50 Nm										
Wetted parts	stainless steel 1.4404 (316L)										
Body material	stainless steel 1.4301/AISI 304										
OUTPUT SIZES											
Electrical connections *	EN 175301-803-A; M12x1 (S763); Cable output; Field housing										
Output signal**	4...20 mA					1...5 V		ratiometric 0.5...4.5 V			
Supply voltage	10...32 V					10...32 V		ratiometric 5 V DC+-10%			
Load resistance	< (Vsupply-10)V/0.02 A					≥ 2 kOhm		≥ 2 kOhm			
Response time***	≤ 4 ms										
PERFORMANCE CHARACTERISTICS											
Accuracy (25°C) 4...1000bar	≤ 0.25 % FSO										
Overall accuracy (- 5°C... 85°C)	≤ 1.50 % FSO										
Long-term stability	≤ 0.1 % FS per year in referential conditions										
Ambient temperature	- 40...+ 85°C										
Medium temperature	- 40...+ 125°C										
Storage temperature	- 40...+ 125°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										
ELECTRICAL PROTECTION											
Reverse polarity	yes										
Dielectric strength	50 VDC										
CE-CONFORMITY											
EMC guideline	2014 / 30 / EU acc. to DIN EN 61326-1, DIN EN 61326-2-3										
RoHS guideline	2011/65/EU										
OTHER											
Weight****	~ 150g										
Lifetime	> 10 million load cycles										

\*other on request

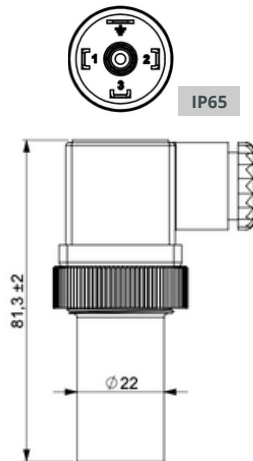
\*\*\*depend of Transmitter configuration

\*\*output is calibrated at zero and full-scaled

\*\*\*\*depend of CIT product version

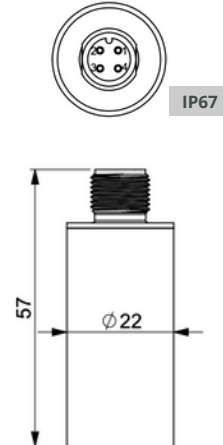
# ELECTRICAL CONNECTION

EN 175301-803-A



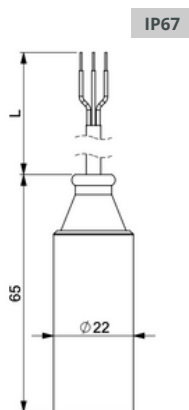
	Pin1	Pin2	Pin3	Pin4	Pin5
0.5 -4.5 V; 1-5V	+	-	V/I out	GND-SDA	Thread-SCL
4-20 mA	+	-	SDA	GND-SCL	nc

M12x1 (S763)



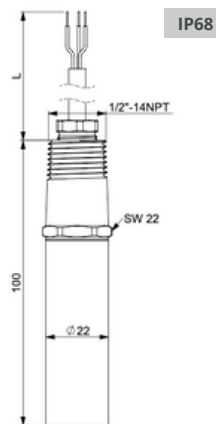
	Pin1	Pin2	Pin3	Pin4
0.5 -4.5 V; 1-5V	+	nc	-	V/I out
4-20 mA	+	SCL	-	SDA

Cable output



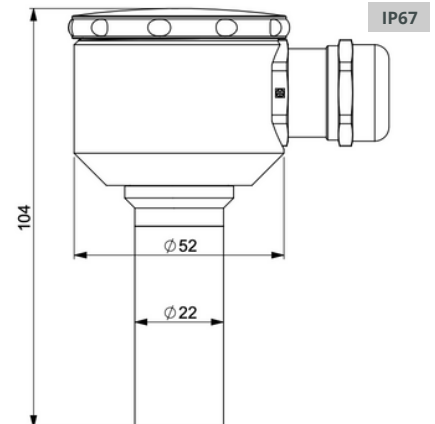
	red	black	white	green
0.5 -4.5 V; 1-5V	+	-	V/I out	nc
4-20 mA	+	-	nc	nc

Cable output  
with conduit 1/2" NPT



	red	black	white	green
0.5 -4.5 V; 1-5V	+	-	V/I out	nc
4-20 mA	+	-	nc	nc

Field housing SW 22  
(optionally 320° rotatable)



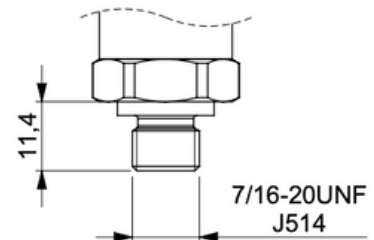
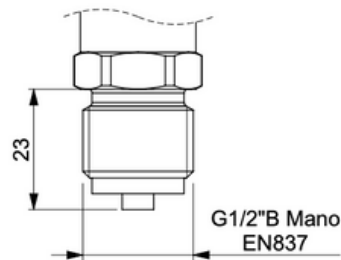
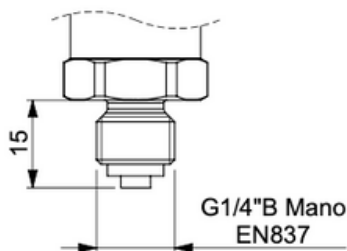
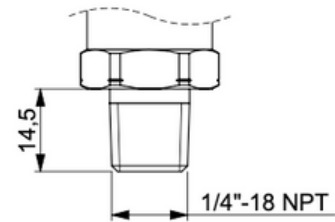
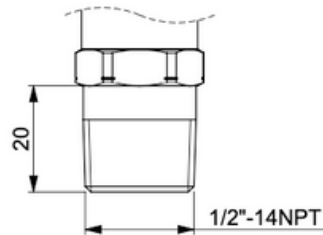
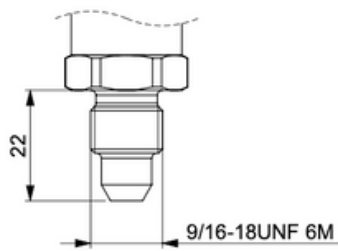
	Pin1	Pin2	Pin3
4-20 mA	-	nc	+



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.

## PROCESS CONNECTIONS



## 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.

## 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.

Edition version: [D/C122-H/Rev.2/June.2023/ENG](#)

## HOW TO ORDER

### PMP-C122-H-XXX- (XX..XX)-XX-XX-XXX-XX-XXX

#### FAMILIES

**C** = CIT family

#### TECHNOLOGY & MATERIAL

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

#### CERTIFICATION

**H** = EC 79/2009 (only up to 600 bar)

#### ELECTRICAL OUTPUT

**I2** = 4-20mA 2L  
**I3** = 4-20mA 3L  
**I30** = 0-20mA 3L  
**UR** = ratiometric  
**OU5** = 0-5V  
**IU5** = 1-5V  
**UI0** = 0-10V

#### PRESSURE RANGES

e.g.  
**(-1...10)**  
**(0...60)**  
**(0...400)**

#### UNIT

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

#### TYPE OF PRESSURE

**g** = Relative pressure  
**S** = Sealed reference pressure

**Customised  
Articel number**

#### ELECTRICAL CONNECTION

**00** = Customized  
**02** = MVS/A  
**05** = M12X1 (steel) S763-4  
**90** = Field Housing 74mm  
**C0** = cable  
**CC** = Cable output with conduit

#### SNUBBER

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

#### PROCESS CONNECTIONS

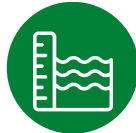
**00** = customized  
**05** = G1/2 B Mano  
**07** = 1/2-14 NPT  
**08** = 1/4-18 NPT  
**09** = 7/16-20 UNF  
**10** = 9/16-18 UNF  
**19** = G1/4 manometr Port

# PRIGNITZ

## MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &  
SERVICE

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