



PRESSURE

P2P Technology

PMP-C122-H

CIT Family: Computerized Intelligent Transducer
APPROVED FOR HYDROGEN

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****: ≤ 4 ms
- **Accuracy**: ≤ 0.25 % FS after limit-point calibration
- **Optionally certificate**: EX protection (ATEX, IECEx, CSA); up to 600 bar EC 79/2009 Hydrogen approval



*others on request. Different special custom-made solutions

** depend of CIT product-version

DESCRIPTION

P2P
TECHNOLOGY® 

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	900
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		±0,3% FS										
Overall accuracy (- 5°C... 85°C)		±1.50 %										
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										

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.

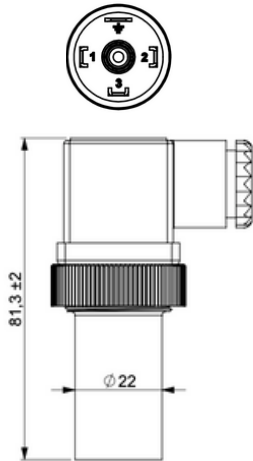


*others on request

**depend of CIT product-version

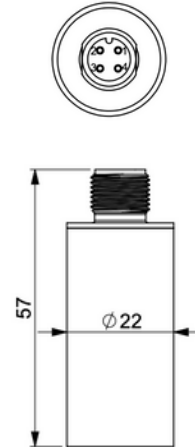
ELECTRICAL CONNECTION

EN 175301-803-A



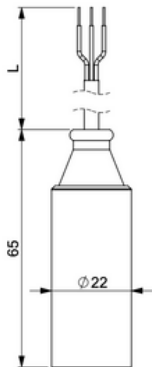
	Pin1	Pin2	Pin3	Pin4	Pin5
0.5 - 4.5 V; 1-5V	+	-	V/I out	GND-SDA	Thread-SCL
4-20 mA	+	-	SDA	GND-SCL	nc

M12x1 (S763)



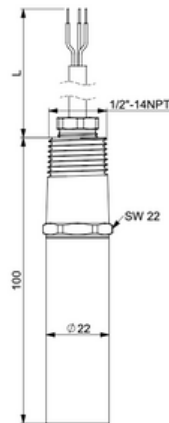
	Pin1	Pin2	Pin3	Pin4
0.5 - 4.5 V; 1-5V	+	nc	-	V/I out
4-20 mA	+	SCL	-	SDA

Cable output



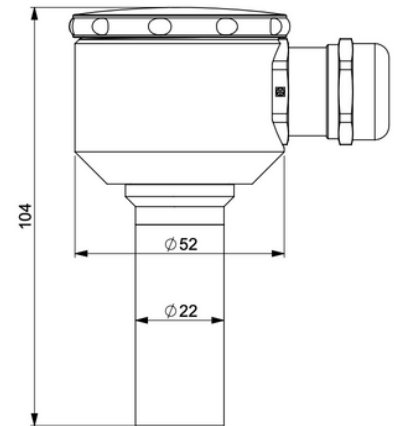
	red	black	white	green
0.5 - 4.5 V; 1-5V	+	-	V/I out	nc
4-20 mA	+	-	nc	nc

Cable output



	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)



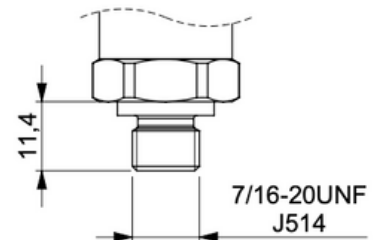
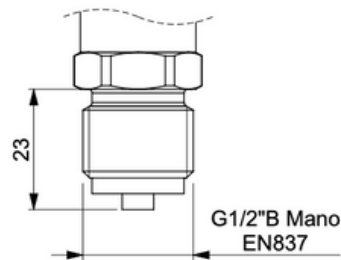
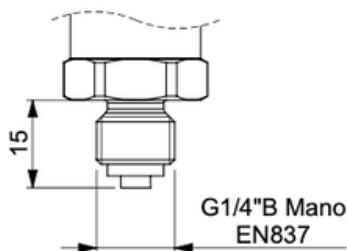
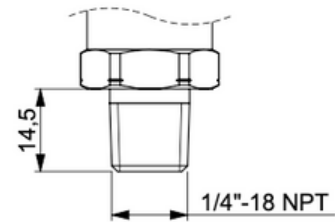
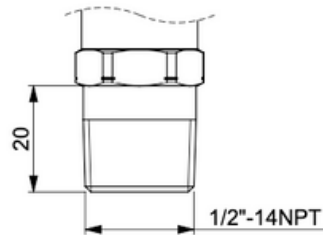
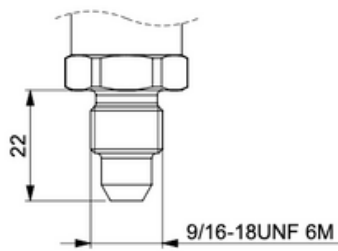
	Pin1	Pin2	Pin3
4-20 mA	-	nc	+



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

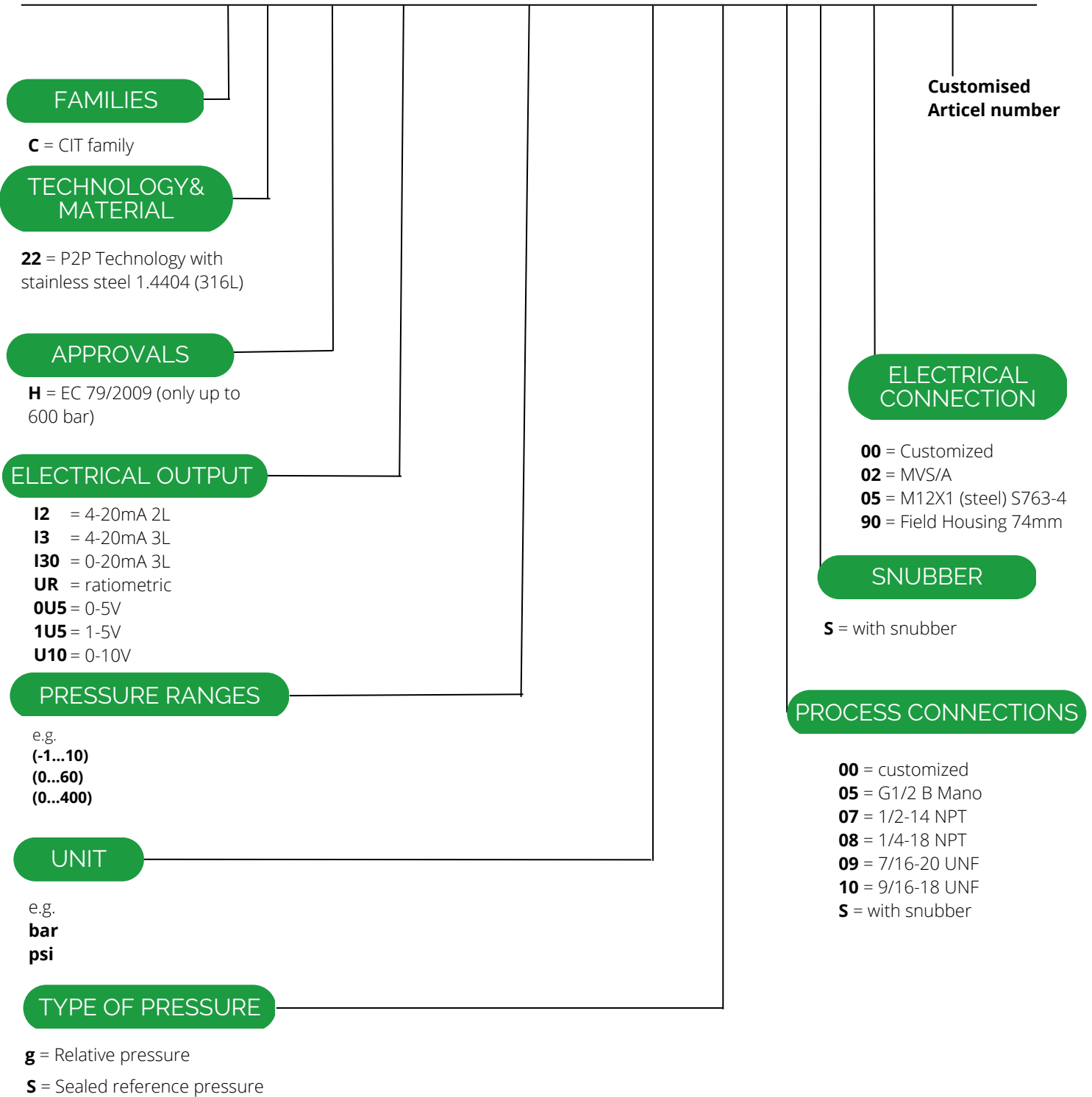
An indisputable advantage of the products from Prignitz Mikrosystemtechnik is that in addition to the specified parameters, a variety of specific customer requests can be implemented:

- 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.

HOW TO ORDER *

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



* other on request

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

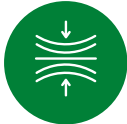
Strictly observe the following when shipping the instrument:

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.

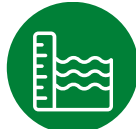
Edition version: D/C122-H/Rev.2/Jan.2023/ENG

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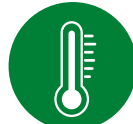
MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &
SERVICE

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