



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



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

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		

*other on request

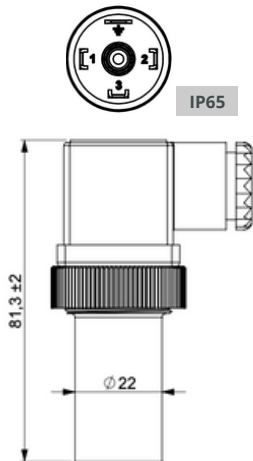
***depend of Transmitter configuration

**output is calibrated at zero and full-scaled

****depend of CIT product version

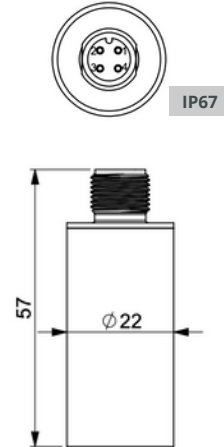
ELECTRICAL CONNECTION

EN 175301-803-A



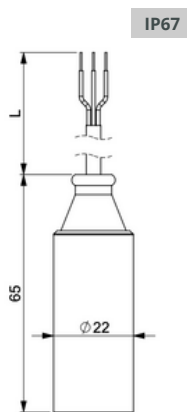
	Pin1	Pin2	Pin3	Pin4	Pin5
0.5 -4.5 V; 1-5V	+	-	V/I out	GND-SDA	Thread-SCL
4-20 mA	+	-	SDA	GND-SCL	nc

M12x1 (S763)



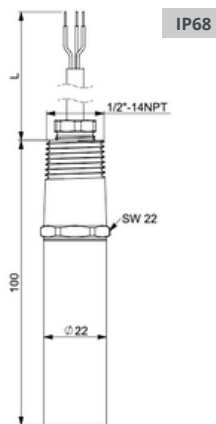
	Pin1	Pin2	Pin3	Pin4
0.5 -4.5 V; 1-5V	+	nc	-	V/I out
4-20 mA	+	SCL	-	SDA

Cable output



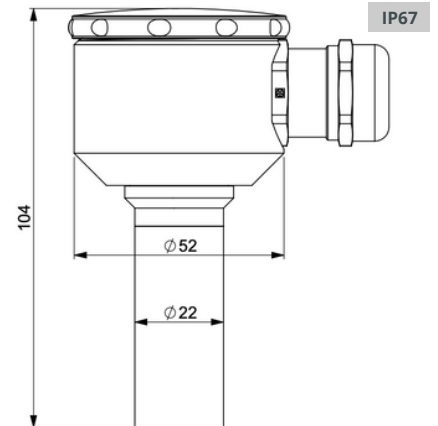
	red	black	white	green
0.5 -4.5 V; 1-5V	+	-	V/I out	nc
4-20 mA	+	-	nc	nc

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)



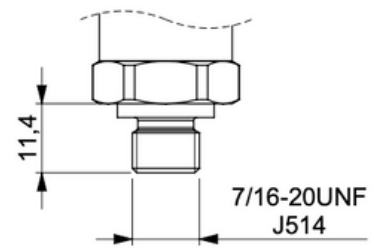
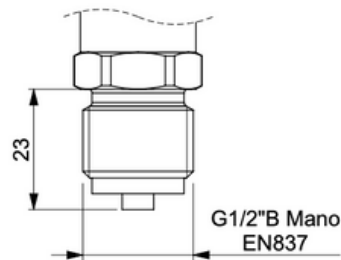
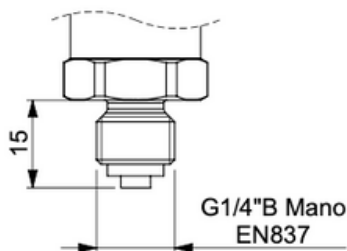
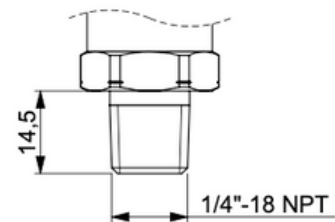
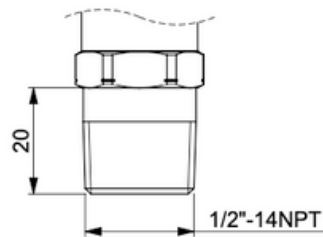
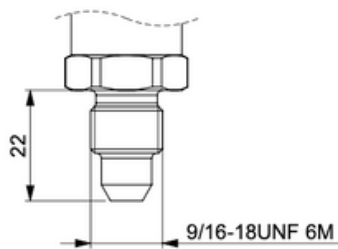
	Pin1	Pin2	Pin3
4-20 mA	-	nc	+



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

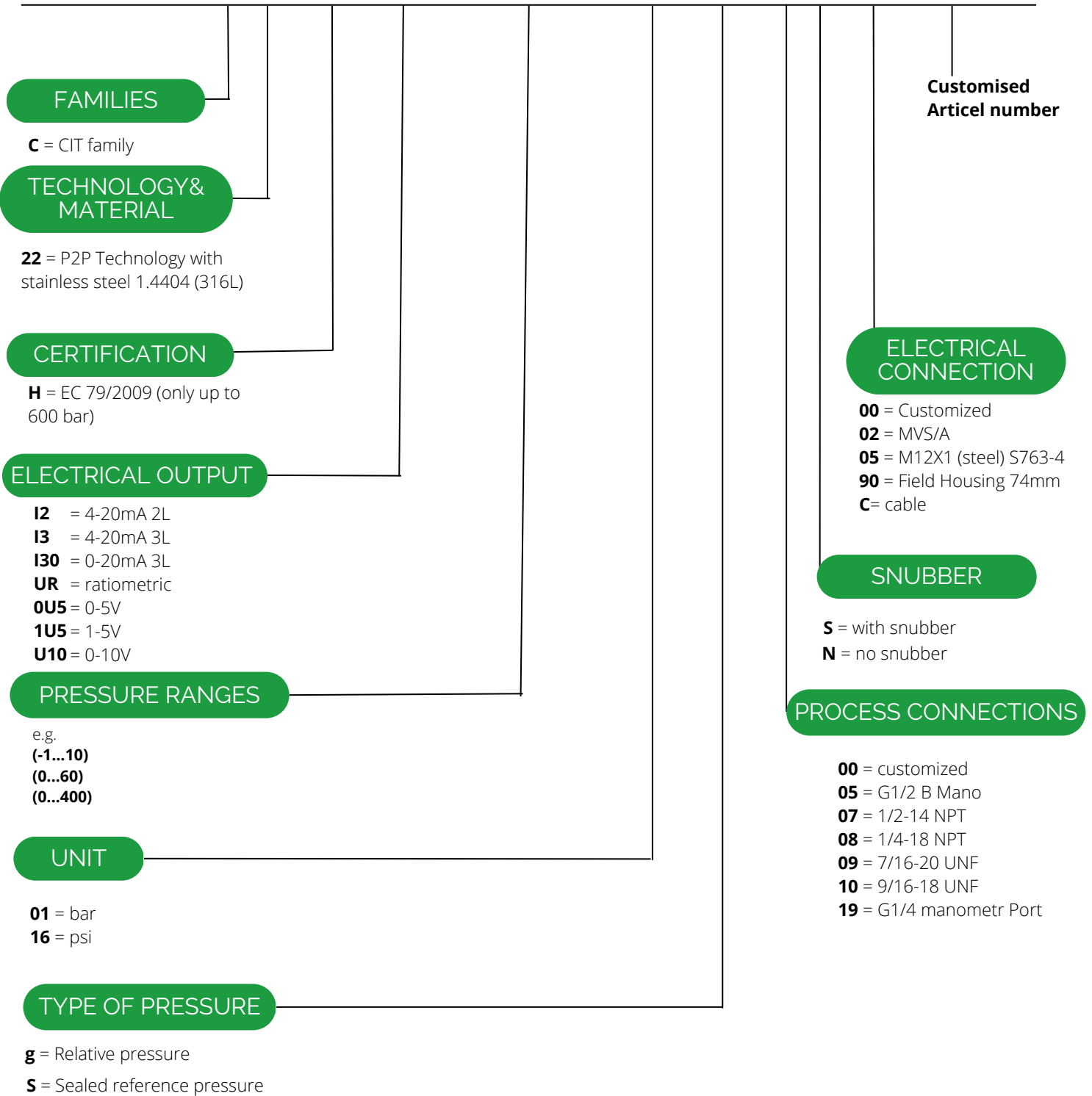
An indisputable advantage of the products from Prignitz Mikrosystemtechnik is that in addition to the specified parameters, a variety of specific customer requests can be implemented:

- 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.

HOW TO ORDER

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



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.

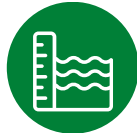
Edition version: [D/C122-H/Rev.2/June.2023/ENG](#)

PRIGNITZ

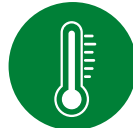
MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &
SERVICE

© 2023 PRIGNITZ Mikrosystemtechnik GmbH
All rights reserved. / Alle Rechte vorbehalten.

CONTACTS:

Tel.: **+49 (0) 38 77 / 5 67 46-0**

Fax: **+49 (0) 38 77 / 5 67 46-18**

Margarethenstraße 61
19322 Wittenberge / Elbe
Germany

info@prignitz-mst.de