PRESSURE

PMI Technology

PRIGNITZ MIKROSYSTEMTECHNIK

CIT- Family: Computerized Intelligent Transducer

For low pressure application: PMP-C131,PMP-C132

Datasheet

- 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)

Examples of products

MAIN FEATURE

- **Pressure ranges***: 20 mbar to 10 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; G1/2" Form E flush membrane
- **Electrical connections*:** EN 175301-803-A; M12x1 (S763); Cable output; Field housing
- **Wetted parts**:** stainless steel 1.4404 (316L)/17-4 PH/Hastelloy
- **Response time**:** ≤ 4 ms
- **Accuracy (25°C):** ≤ 0.25 % FS after limit-point calibration
- **Optionally with:** EX protection (ATEX, IECEx, CSA)

***others on request. Different special custom-made solutions**

**** depend of CIT product-version**

DESCRIPTION

Series of pressure transducers from CIT-Family for an application with high and very high accuracy requirements over a wide temperature range in industries, especially chemical, hydraulic, food, and pharmacy, etc. Oil-filled and stainless steel pressure cells from 20 mbar to 10 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.

APPLICATION

INDUSTRIAL AUTOMATION
Test stands, CNC equipment, Presses, HVAC

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

INDUSTRIAL PROCESS CONTROLE
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

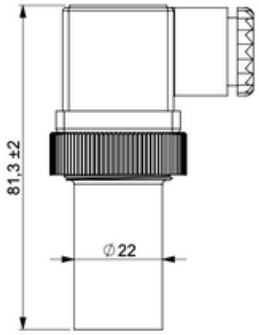
INPUT PARAMETERS											
Pressure ranges (bar) *											
Nominal pressure	0,1	0,16	0,25	0,4	0,6	1	1,6	2,5	4	6	10
Over pressure	1	1,5	2	2	4	5	10	5	8	12	20
Burst pressure	2	3	4	4	8	10	15	10	12	18	30
Pressure type**	Gauge, sealed reference, absolute										
Mechanical connections *	9/16-18UNF 6M; 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; G1/2" Form E flush membrane										
Tightening torque	typ 25 Nm; max up to 50 Nm										
Wetted parts	stainless steel 316L / 17-4 PH/ Hastelloy										
Body material	stainless steel										
OUTPUT SIZES											
Electrical connections *	M12x1 (S763) EN 175301-803-A Cable output Cable output with Conduit connection										
Output signal* Supply voltage Load resistance	4..20 mA 10...32 V < (Vsupply - 10)V/0.02 A			1...5 V 10...32 V ≥ 2 kOhm			ratiometric 0.5...4.5 V ratiometric 5 V DC+-10 % ≥ 2 kOhm				
Response time*	≤ 4 ms										
PERFORMANCE CHARACTERISTICS											
Accuracy (25°C) ≤ 1bar	≤ ±0.5 % FS after limit-point calibration										
Accuracy (25°C) ≥ 1bar	≤ ±0.25 % 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...+ 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 V DC										
CE-CONFORMITY											
EMC guidline	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										

*others on request

ELECTRICAL CONNECTION *

EN 175301-803-A

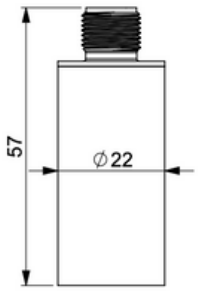
IP65



	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) Steel

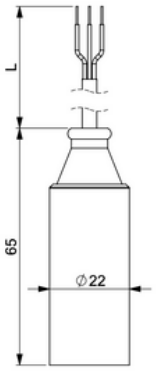
IP67



	Pin1	Pin2	Pin3	Pin4	
0.5 -4.5 V; 1-5V	+	nc	-	V/I out	E05
4-20 mA	+	SCL	-	SDA	E06

Cable output

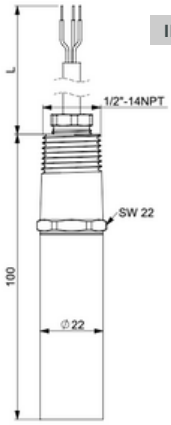
IP67



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

Cable output with Conduit connection

IP68



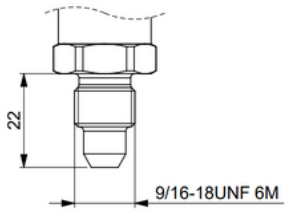
	red	black	white	green
0.5 -4.5 V; 1-5V	+	-	V/I out	nc
4-20 mA	+	-	nc	nc

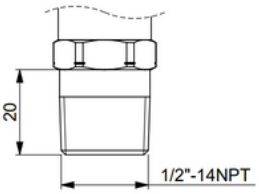
Befor installation and operation, ensure that the appropriate pressure sensor has been selected in terms of pressure range, design and specific measuring conditions. Non compliance can result in serious injure and/or damage to the equipment.

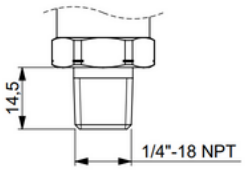
WARNING: Prignitz Mikrosystemtechnik reserve the right to modify their products without notice. It is imperative that we should be consulted over any particular use or application of our products and it is the responsibility of the buyer to establish, particularly through all the appropriate testes, 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.

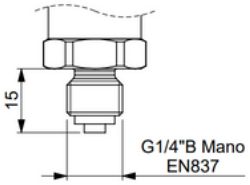
***other on request**

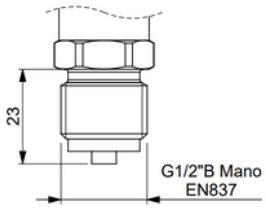
PROCESS CONNECTIONS *

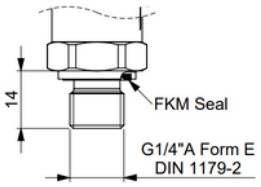


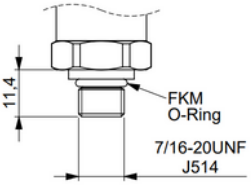


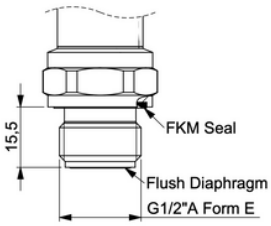












APPROVALS CERTIFICATE **

CE Compliance: EMC directive 2014 / 30 / EU according in EN 61326-2-3
RoHS guideline: 2011/65/EU

PRIGNITZ-Mikrosystemtechnik GmbH is certified acc. to ISO 9001. We offer a multitude of products compliant with ATEX, IECEx, CSA, EC79 and other worldwide relevant qualifications.

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.

***other on request** ****depend of CIT product-version**

HOW TO ORDER *

PMP-C1XX-XX-(XX..XX)-XX- X- XXX-XX-XXX

FAMILIES
C= CIT Family

ARTICLE NUMBER
Customised Artice

ELECTRICAL CONNECTION
02 = EN 175301-803-A
05 = 12x1 (S763)
C = Cable output
CC = Cable output with conduit connections

TECHNOLOGY& MATERIAL
31 = PMI Technology with steel 316 L, membrane inside
32 = PMI Technology with steel 316 L, flush membrane

SNUBBER
S = with snubber
0 = without snubber

ELECTRICAL OUTPUT
I2 = 4 ... 20 mA 3L
UR = ratiometric
0U5 = 0 ... 5 V
1U5 = 1 ... 5 V
U10 = 0 ... 10 V

PROCESS CONNECTIONS
00 = Customised
01 = G 1/4“ Form E
02 = G 1/4“ Form A
03 = G 1/2“ Form E
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

PRESSURE RANGES
e.g.
(0...20)
(0...10)

UNIT
e.g.
bar
mbar
psi

TYPE OF PRESSURE
S = Sealed reference
g = gauge
a = absolute

***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 compres- sors, 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/C131/C132/Rev.3/Mar.2023/ENG

PRIGNITZ

MIKROSYSTEMTECHNIK

PRESSURE

LEVEL

TEMPERATURE

CALIBRATION & SERVICE

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