



PRESSURE

P2P Technology

TFT Technology

PMI Technology

PMP-S/Sw100-IO-Link

Pressure sensors/switch series with IO-Link (based on SPT-Family)

- Useable as IO-Link pressure sensor or switch with temperature measurement and IO-Link 1.1
- Plug & Play, compact and optimized design
- Adjustable and readable via IO-Link
- High media resistance, no internal seals, without weld seam (with P2P Technology)



MAIN FEATURE

- **Pressure ranges:** from 0 mbar.. 60 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; G1/2" Form E flush membrane
- **Electrical connections*:** M12x1 (S763); Cable output
- **Response time:** ≥ 3 ms
- **Accuracy:** ≤ 0.5 % FS

*others on request. Different special custom-made solutions

DESCRIPTION

PMP-S/Sw100-IO-Link is a fully electronic pressure switch without mechanical components, featuring a digital interface and intelligent functions for automation needs. Its two switching outputs are individually configurable via the standardized digital IO-Link interface (IEC 61131-9), simplifying commissioning and allowing for replacement during operation without reprogramming. Re-parameterization during operation enables swift response to changes, while diagnostic values, process data, and status messages are recorded via IO-Link for analysis.

Temperature measurement within the pressure cell accounts for ambient conditions. IO-Link streamlines programming, enhancing durability, and offering smart features for efficient machine design. The compact stainless steel housing ensures versatility in harsh environments, supported by the wide pressure range (-1 to 2000 bar) of the stainless steel measuring cell. The monolithic stainless steel pressure connection enhances media compatibility and pressure resistance (in case of P2P Technology).

APPLICATIONS



INJECTION-MOULD MACHINES



AUTOMATION ENGINEERING



SPECIAL-PURPOSE MACHINE BUILDING



MACHINE TOOLS



HYDRAULICS AND PNEUMATICS



POWER PACKS

TECHNICAL SPECIFICATIONS

INPUT PARAMETERS

| | | | | | | | | | | | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------|------|------|------|-----|-----|-----|------|------|------|------|
| Pressure ranges (in bar) * | | | | | | | | | | | |
| Nominal pressure | 1 | 4 | 10 | 25 | 60 | 100 | 250 | 400 | 600 | 1000 | 2000 |
| Over pressure | 6 | 10 | 20 | 50 | 120 | 300 | 500 | 800 | 1000 | 1400 | 2200 |
| Burst pressure | 10 | 20 | 40 | 75 | 200 | 500 | 750 | 1200 | 1500 | 2000 | 2500 |
| Set point SP Range | 1-100 % | | | | | | | | | | |
| Reset point rP Range | 0 - 99 % | | | | | | | | | | |
| Steps / Incremental (in mbar) | 0,1 | 1 | 1 | 1 | 10 | 10 | 10 | 100 | 100 | 100 | 100 |
| Smallest hysteresis (SP-rP) & (FH-FL) | 0,001 | 0,01 | 0,01 | 0,01 | 0,1 | 0,1 | 0,1 | 1 | 1 | 1 | 1 |
| Pressure type | gauge, sealed reference (>60 bar), absolute | | | | | | | | | | |
| 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 | | | | | | | | | | |
| Tightening torque | typ 25 Nm; max 50 Nm | | | | | | | | | | |
| Wetted parts | stainless steel | | | | | | | | | | |
| Body material | stainless steel 1.4301/AISI 304 | | | | | | | | | | |

OUTPUT SIZES

| | |
|-------------------------|--------------------------------------------------------|
| Electrical connections* | M12x1 (S763); Cable output |
| Output | 2 switching outputs, NPN / PNP, 1 IO-Link output |
| Power supply voltage | 18...30VDC |
| Current consumption | < 15 mA @ 24V |
| Switch current | Max. 200mA |
| Max.switch frequency | 200 Hz |
| Response time | ≥ 3 ms |

PERFORMANCE CHARACTERISTICS

| | |
|----------------------------------|-----------------------------------------------|
| Accuracy (25°C) | ≤ 0.5 % FS |
| Overall accuracy (-40°C...-25°C) | ≤ 2,5 %FS |
| Overall accuracy (-25...0°C) | ≤ 1,5 %FS |
| Overall accuracy (0...85°C) | ≤ 1 %FS |
| Long-term stability | ≤ 0.1 % FS per year in referential conditions |
| Ambient temperature | - 25...+ 85°C |
| Medium temperature | - 25...+ 85°C |
| Storage temperature | - 40...+ 85°C |
| Shock resistance | DIN EN 60068-2-27, 500 g |
| Vibration resistance | DIN EN 60068-2-6, 20 g |
| Protection class | depending on the electrical connection |
| MTTFd | >100 year |
| Min. pressure cycles | > 100 million |

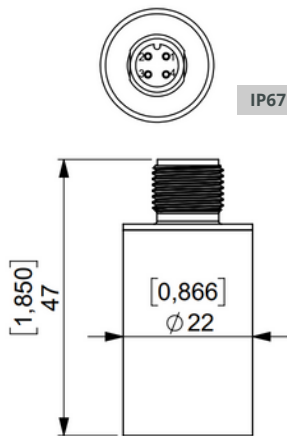
* Other on request

| ELECTRICAL PROTECTION | |
|-------------------------------|-----------------------------------------------------------------------------|
| Reverse polarity | yes |
| Overvoltage | 70 V |
| Short-circuit strength | yes |
| TEMPERATURE SIGNAL | |
| Output | Via IO-Link |
| Short circuit | -40 to 125 °C |
| Resolution | 1 K |
| Accuracy | ± 10°K |
| t _{0,9} | 80 sek. |
| FACTORY SETTING | |
| SP1 / rP1 | 40 / 60% FS; Hno |
| SP2 / rP2 | 30 / 70% FS; Hno |
| IO-LINK INTERFACE | |
| Revision | IO-Link V1.1 Process Data Variable; Device Identification; Device Diagnosis |
| Min. process cycle time | 4 ms |
| Transmission type | COM2, 38.4kBaud |
| Profile | Smart Sensor Profile 2nd Edition v1.1.2 |
| SIO-Mode | yes |
| Master port type | A |
| Process data analogue (in Pa) | 2 Byte Process data; 1 Byte scaling factor |
| Process data binary | 1 byte |
| SDCI Standard | IEC 61131-9 |
| 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 | ~ 80 g (for M12 connector variant) |

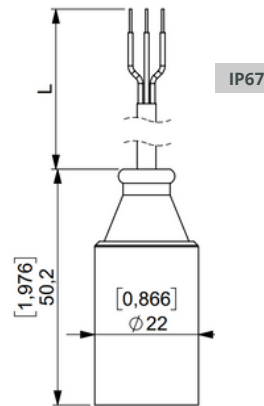
ELECTRICAL CONNECTION

Other connections or pinouts on request

M12x1 (S763)



Cable output

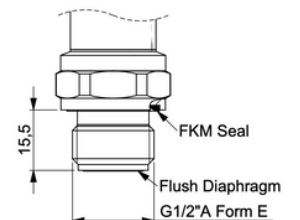
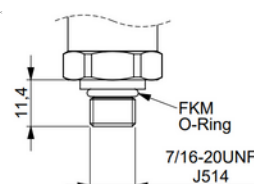
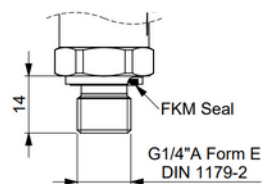
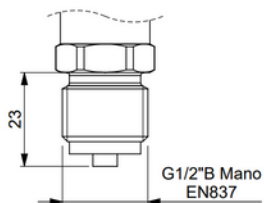
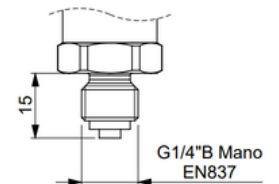
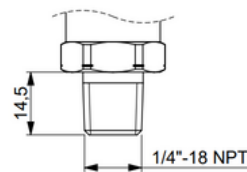
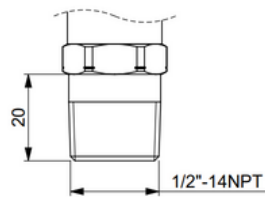
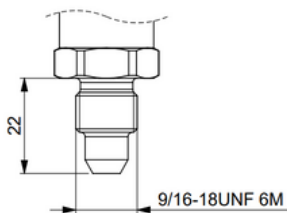


| Pin 1 | Pin 2 | Pin 3 | Pin 4 |
|-------|--------|-------|--------------------|
| + | S2 out | GND | S1 out/ IO Link |

| White | Brown | Yellow | Green |
|-------|--------|--------|--------------------|
| + | S2 out | GND | S1 out/ IO Link |

PROCESS CONNECTIONS

Other connections 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.



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.

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/PMP-S/Sw100-IO-Link/Rev.1/Mai.2024/ENG](#)

HOW TO ORDER

PMP-S/Sw100-IO-Link-(XX..XX)-XX-X-XXX-XX-XXX

FAMILIES

S/Sw = SPT Family Pressure Transmitter and Switch

ELECTRICAL OUTPUT

IO-Link = IO-Link digital output

PRESSURE RANGES

e.g.
(0...500)
(-1...1)

UNIT

01 = bar
16 = psi

TYPE OF PRESSURE

g = gauge
S = Sealed reference
a = absolute

Customised Article number

ELECTRICAL CONNECTION

04 = M12x1 (plastic); 4P
C0 = cable

SNUBBER

S = snubber
N = no snubber

PROCESS CONNECTIONS

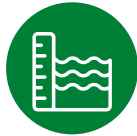
00 = Customised
01 = G 1/4" Form E
02 = G 1/4" Form A
03 = G 1/2" Form E
04 = G 1/2"
05 = G1/2" B Mano
07 = 1/2" NPT
08 = 1/4" NPT
09 = 7/16-20 UNF 2A
10 = 9/16" UNF
11 = 3/8" UNF
13 = M12 x1
17 = M18 x 1,5
18 = M20 x 1,5 manometer port
19 = G1/4 manometer port

PRIGNITZ

MIKROSYSTEMTECHNIK



PRESSURE



LEVEL



TEMPERATURE



CALIBRATION &
SERVICE

© 2024 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