



PRESSURE

TFT Technology

PMI Technology

P2P Technology

PRIGNITZ  
MIKROSYSTEMTECHNIK

# PMP-SW100

Datasheet

Electronic Pressure Switches Series (based on the S100 Series)

- HIGH MEDIA RESISTANCE, NO INTERNAL SEALS, WITHOUT WELD SEAM
- SIGNAL CONDITIONING WITH ASIC
- HIGH INTEGRATION DENSITY
- VACUUM-TIGHT AND ELASTOMER-FREE
- FLEXIBLE FOR CUSTOMISED REQUIREMENT

## MAIN FEATURE

- **Pressure ranges\***: from 0 mbar.. 60 mbar to 0..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
- **Electrical connections\***: EN 175301-803-A; M12x1 (S763); Deutsch DT04-4P; EN 175301-803-C; Cable output
- **Wetted parts\*\***: stainless steel 1.4404 (316L)/17-4
- **Response time**: 1 ms max 2 ms
- **Accuracy (25°C)**: ≤ 0.5 % FS after limit-point calibration
- **Output** : 2 x Switching canals with PNP high side



Example of products

\* others on request. Different special custom-made solutions  
\*\* depend of SPT product-version

## DESCRIPTION

Series of electronic pressure switches from SPT-Family for many applications like energy, gas, chemical technologies, HVAC, fuel cell, etc. Oil-filled or stainless steel measuring cell for relative and absolute pressures.

The pressure cells from 60 mbar to 2000 bar are available for different fields of use. Signal processing of the measurement bridge is affected by ASIC (Application-specific integrated circuit).

## APPLICATIONS



ENERGY TECHNOLOGY



AUTOMOTIVE INDUSTRY



TRANSPORTATION

Trucks, Busses, rail, Road  
Construction Machines



INDUSTRIAL AUTOMATION

Test stands, CNC equipment,  
Presses, HVAC



OFF HIGHWAY MOBILE EQUIPMENT

Vehicles and Machines in Construction,  
Mining, Farming, Military



INDUSTRIAL PROCESS CONTROL

Chemical, Pharma, Food

# 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 ranges (bar) *														
Nominal pressure	4	6	10	16	25	40	60	100	160	250	400	600	1000	2000
Over pressure	8	12	20	32	50	80	120	200	320	500	800	1200	1400	2200
Burst pressure	12	18	30	48	75	120	180	500	750	1000	1400	1800	2000	2500
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													
Tightening torque	typ. 25 Nm; max. 50 Nm													
Wetted parts	stainless steel 316L / 17-4 PH													
Body material	stainless steel													

## OUTPUT SIZES

Electrical connections *	EN 175301-803-A; M12x1 (S763); Deutsch DT04-4P; EN 175301-803-C; Cable output
Supply voltage	9 .. 36 VDC
Supply current	< 40 mA
Output	2 x Switching canals (defined after Customer request)
Switching point accuracy	≤ ±0.5 % FS after limit-point calibration
Max switching current	500 mA
Switch type	PNP High side switch
Load to GND	100 KOhm

## PERFORMANCE CHARACTERISTICS

Accuracy (25°C)	≤ ±0.5 % 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...+ 105°C (depending on switch current)
Medium temperature	- 40...+ 125°C [-40 ... +257 °F]
Storage temperature	- 40...+ 125°C [-40 ... +257 °F]
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

\*others on request.

## ELECTRICAL PROTECTION

Reverse polarity	YES
Dielectric strength	50 V DC
Short-circuit protection	KS Out+ / UB- (for 1s)
Thermal protection	YES

## CE-CONFORMITY

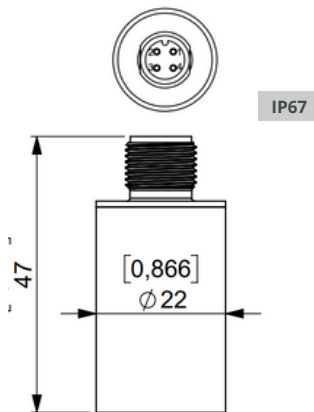
EMV guideline	2014 / 30 / EU acc. to DIN EN 61326-1, DIN EN 61326-2-3
RoHS guideline	2011/65/EU

## OTHER

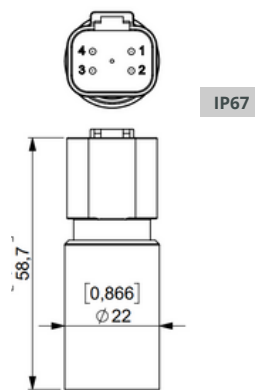
Weight	depending on electrical connection
Lifetime cycles	> 100 million

## ELECTRICAL CONNECTION \*

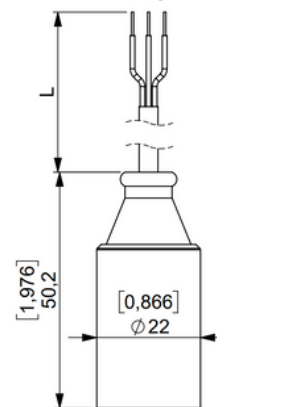
**M12x1 (S763)**



**Deutsch DT04-4P**



**Cable output**



Pin1	Pin2	Pin3	Pin 4
+	GND	S1 OUT	S2 OUT

Pin1	Pin2	Pin3	Pin 4
+	GND	S1 OUT	S2 OUT

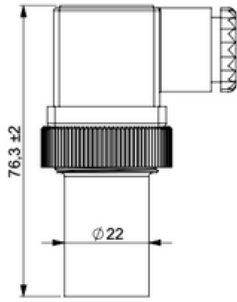
White	Brown	Yellow	Green
+	GND	S1 OUT	S2 OUT

\*others on request

EN 175301-803-A



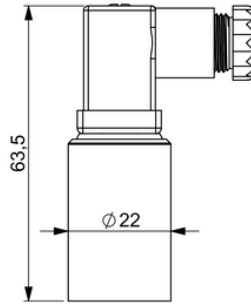
IP65



EN 175301-803-C



IP65

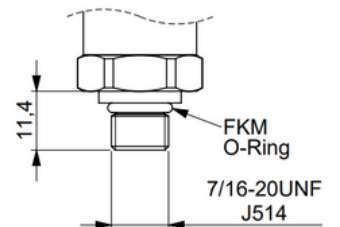
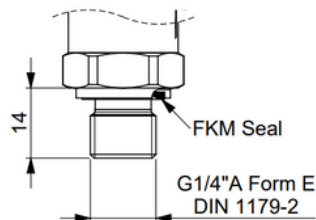
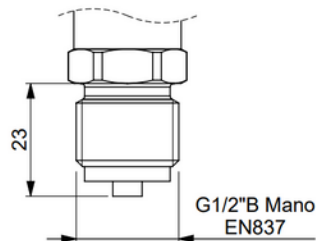
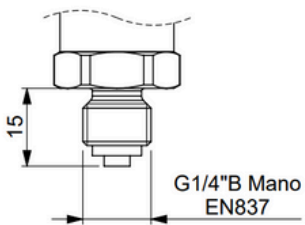
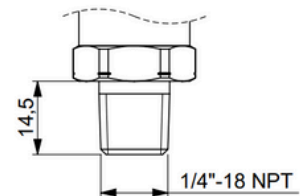
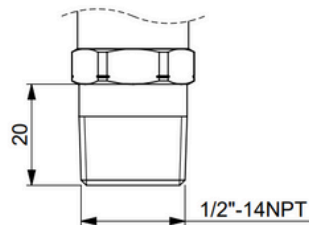
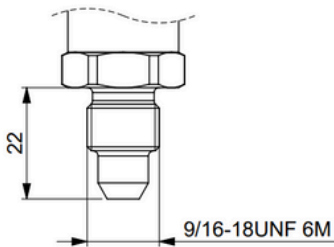


Pin1	Pin2	Pin3	Pin 4
+	GND	S1 OUT	S2 OUT

Pin1	Pin2	Pin3	Pin 4
+	GND	S1 OUT	S2 OUT

**PROCESS CONNECTIONS** \*

All dimensions in mm



\*others on request

## 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.



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.



## 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

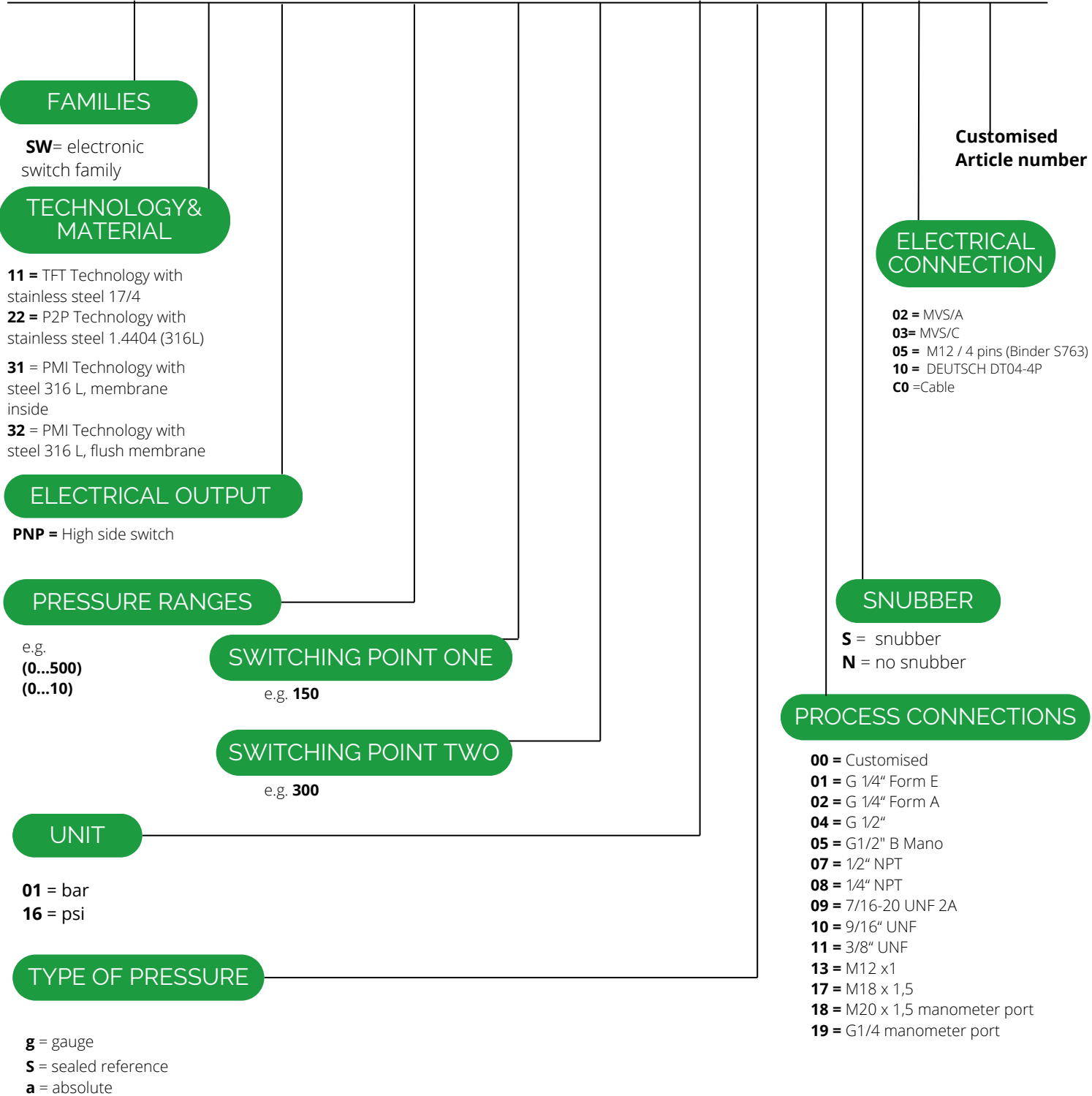
Strictly observe the following when shipping the instrument:

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-SW100/ /Rev.1/June.2024/ENG

# HOW TO ORDER \*

## PMP-SW1XX-PNP-(XX..XX)-XS1-XS2-XX-XX-XXX-XX-XXX



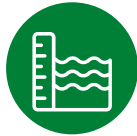
\* customisation available on request

# PRIGNITZ

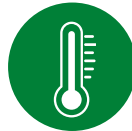
## MIKROSYSTEMTECHNIK



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](mailto:info@prignitz-mst.de)**