

# SSPS-PSMx0x-x Mx

**Piezoresistive silicon pressure sensor with threaded**



## **PRODUCTS FEATURES**

- Constant Current or Voltage, excitation optional
- Highly reliable imported pressure chip
- Wide temperature compensation
- Compensating plate glued to protect against moisture
- Interface threads are optional
- 316L stainless steel body.
- Warranty period 18 months

# SSPS-PSMx0x-x Mx

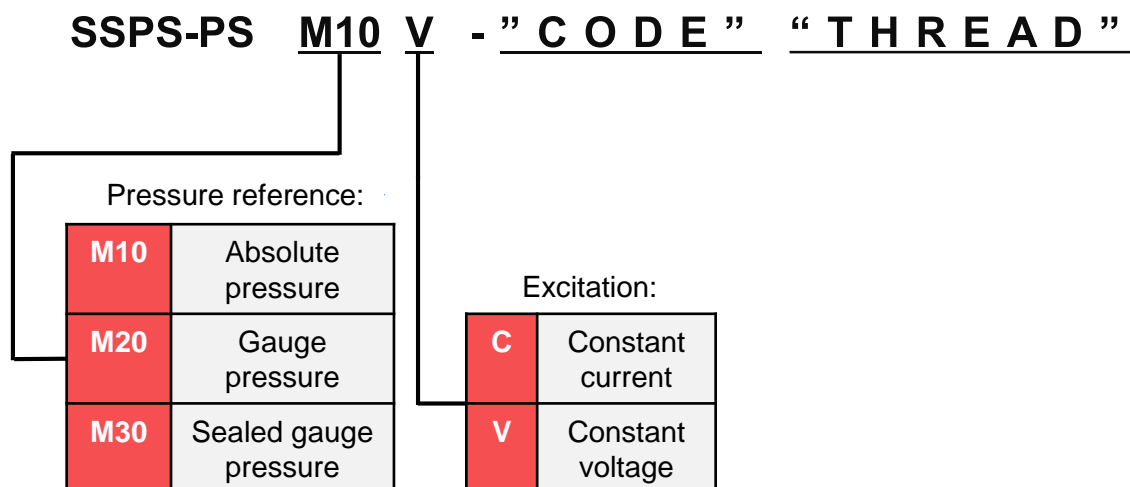
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## 1. Product model code table

Example:

Series Piezoresistive silicon pressure:

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CODE	Pressure reference	Pressure range	Overpressure	Burst pressure	O-ring
10k	G	0~10kPa	300%FS	600%FS	NBR
20k	G	0~20kPa	300%FS	600%FS	NBR
35k	G, A	0~35kPa	300%FS	600%FS	NBR
70k	G	0~70kPa	300%FS	600%FS	NBR
100k	G, A	0~100kPa	200%FS	500%FS	NBR
160k	G, A	0~160kPa	200%FS	500%FS	NBR
250k	G, A	0~250kPa	200%FS	500%FS	NBR
400k	G, A	0~400kPa	200%FS	500%FS	NBR
600k	G, A	0~600kPa	200%FS	500%FS	NBR
1M	G, A	0~1MPa	200%FS	500%FS	NBR
1.6M	G, A, S	0~1.6MPa	200%FS	500%FS	NBR
2.5M	G, A, S	0~2.5MPa	200%FS	500%FS	NBR
4M	S	0~4MPa	200%FS	400%FS	NBR

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CODE	Pressure reference	Pressure range	Overpressure	Burst pressure	O-ring
6M	S	0~6MPa	200%FS	400%FS	Fluorine rubber
10M	S	0~10MPa	200%FS	400%FS	Fluorine rubber
16M	S	0~16MPa	200%FS	400%FS	Fluorine rubber
25M	S	0~25MPa	150%FS	400%FS	Fluorine rubber
40M	S	0~40MPa	150%FS	300%FS	Fluorine rubber
60M	S	0~60MPa	150%FS	300%FS	Fluorine rubber
100M	S	0~100MPa	150%FS	300%FS	Fluorine rubber

THREAD
M20X1.5
M10X1
M10X1.5
M12X1
M12X1.5
M14X1.5
M16X1.5
M18X1.5
M20X1.5
M22X1.5
M27X1.5

Example: **SSPS-PSM20V-10k M20X1.5** – Series piezoresistive silicone sensor, gauge pressure, excitation constant voltage, pressure range from 0 to 35kPa with thread M20X1.5.

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## Technical Specifications

Pressure range	-100kPa~0~10kPa... 100MPa
Pressure reference	Gauge pressure, Absolute pressure, Sealed gauge pressure
Excitation	1.5 mA recommended for constant current 10V recommended for constant voltage
Input impedance	Constant current: 2kΩ~5kΩ Constant voltage: 3kΩ~18kΩ
Electrical connection	Silicon soft wire
Compensation temperature	Constant current: 0°C~60°C(≤70kPa), -10°C~70°C(other ranges); constant pressure: -20°C~85°C
Operating temperature	-40°C~120°C
Storage temperature	-40°C~125°C
Insulation resistance	≥200MΩ/250VDC
Response time	≤1ms (up to 90%FS)
Measured medium	All the liquids and gases compatible with 304
Mechanical vibration	20g (20~5000Hz)
Shock	100g (10ms)
Service life	10x10 <sup>6</sup> (cycles)
<b>Structural performance parameters</b>	
Diaphragm material	316L
Housing material	304
Oil filling	Silicon oil
Sealing ring	NBR or fluorine rubber

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## Basic parameters

Parameters	Condition	Min.	Nominal	Max.	Unit	Note
Nonlinearity		-0.3	±0.2	0.3	%FS	Calculate according to BFSL least square method
Hysteresis		-0.05	±0.03	0.05	%FS	
Repeatability		-0.05	±0.03	0.05	%FS	
Zero output		-2	±1	2	mV	
Full scale span output	1.5mA, ≤35kPa 1.5mA, other ranges 10V, ≤35kPa 10V, other ranges	30 60 60 98	90 100	150 120	mV	
Zero temp. coefficient	10kPa Other ranges	-2 -1.5	±1.5 ±0.75	2 1.5	%FS	Note (1)
Span temp. coefficient		-1.5	±0.75	1.5	%FS	Note(1)
Thermal hysteresis		- 0.075	±0.05	0.075	%FS	Note(2)
Long term stability		-0.3	±0.2	0.3	%FS/year	

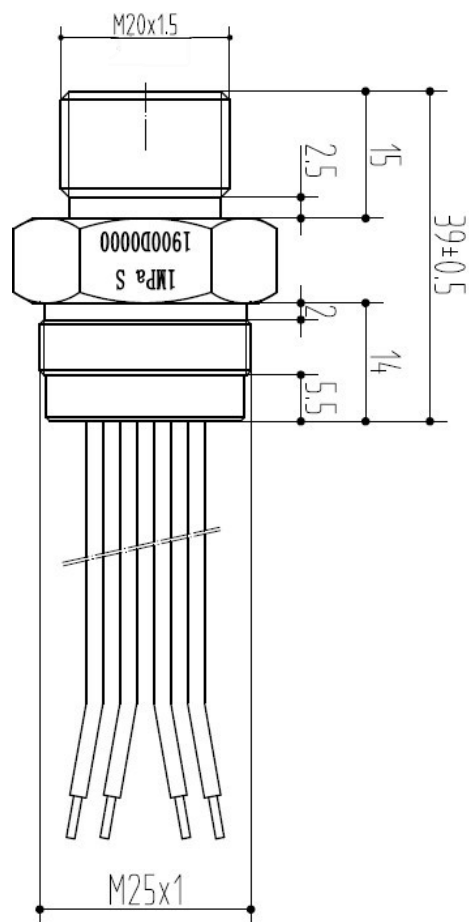
Note(1) - in the compensation temperature range, refer to 30 °C for 0 °C ~60 and -10 °C ~70 °C, and refer to 32.5 °C for -20 °C ~85 °C

Note(2) - After passing high and low temperature, return to the reference temperature

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## Mechanical dimensions and electrical connection

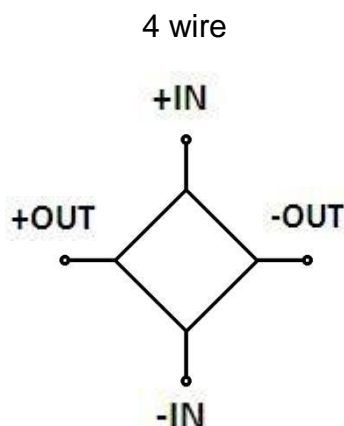


Wire color	Definition
Red	Excitation + (IN+)
Blue	Excitation - (IN-)
Yellow	Output+(OUT+)
White	Output-(OUT-)

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### Equivalent circuit



The range can be exceeded or reduced to within  $\pm 30\%$  FS.

The maximum overload of the system should be less than the overload protection limit of the sensor, otherwise it will affect the service life of the product or even damage it.

The common method of compensation is 1.5mA constant current compensation, which is recommended as a priority.

**If you have any special requirements regarding the performance parameters and functions of the product, please to discuss with us.**