

MPT 500 Series

Miniature Aerospace Pressure Sensor

Applications

Aerospace
Automobile Manufacturing
Petroleum and Petrochemical
Industrial Automation
Shipbuilding
Construction Machinery

Features

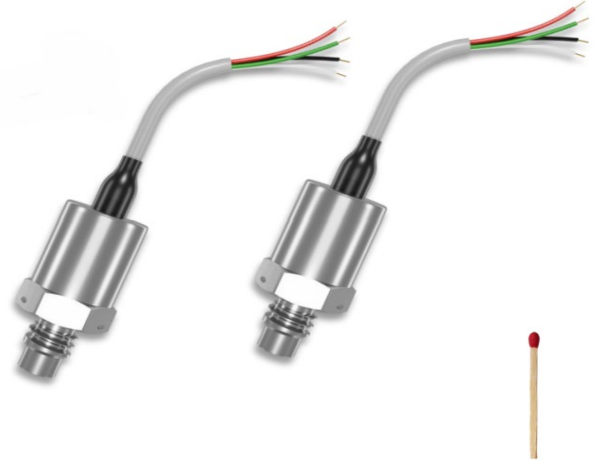
High Precision and Stability
Superior Environmental Adaptability
Flexible Customization
Fast Response and Low Power Consumption
Comprehensive Safety Certification
High Frequency

Profiles

The MPT500 series pressure sensor is a miniature, multi-functional, high-precision pressure sensor.

Advanced micromachined silicon technology MEMS chip, special oil-filled media isolation, solid anti-interference circuit design and stainless steel internal and external structural interfaces make the MPT500 series a high-precision, reliable pressure sensor suitable for a wide range of measurement media.

Through the front design of the pressure core, the series has a small size, wide range, and high pressure resistance. The sensor can provide a variety of different electrical output signals and output methods, and can measure two types of pressure: adiabatic pressure and sealed gauge pressure.



DATASHEET

PRESSURE MEASUREMENT

Dabey Technology Co., LTD
 Sales@dabeysensor.com
 86-18890003683
 www.dabeysensor.com

Power-up Time	A、B <1ms D <200ms
Zero and Full-Scale Output Range	Rating within $\pm 5\%FS$ Other requirements can be customized
Insulation Resistance	$\geq 100M\Omega@50VDC$
Electrical strength	leakage current $\leq 5mA@50VAC$ RMS
Maximum Operating Current	D <25mA
Input Impedance	A、B >5000 Ω
Output impedance	A、B 5000 Ω D <150 Ω
Long-term stability	Typical values $\pm 0.1\%FS^5$
Electrical connection	See selection table, can be customized

Temperature Performance⁴

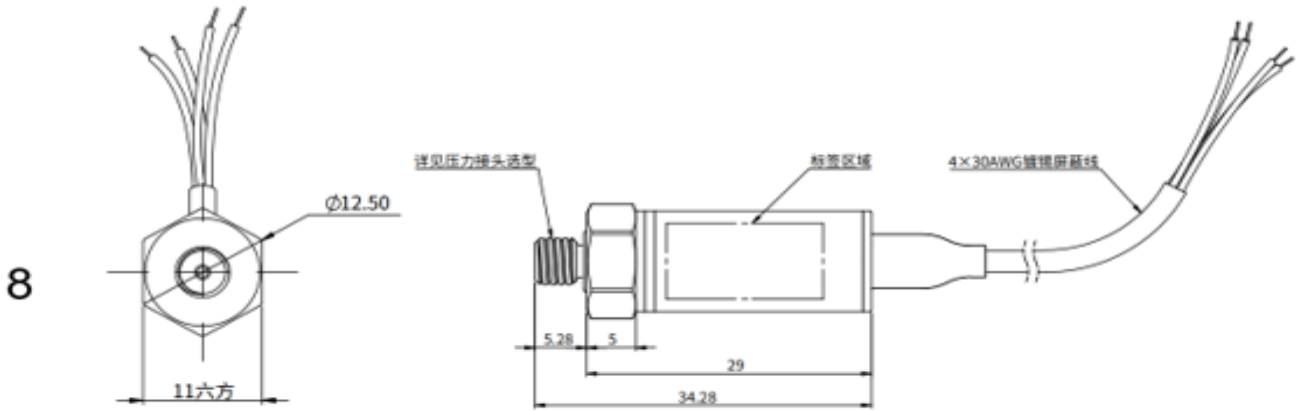
Specifications	Description
Temperature Compensation Range	Selectable within the range of -40°C to 125°C
Operating and storage temperature range	-55°C -150°C
Total error in the whole temperature zone ⁷	A、B
	Zero drift < $\pm 1.5\% FS^5/100^\circ C$
	Full scale drift < $1.5\%FS^5/100^\circ C$
	D
	Total error ⁶ < $0.5\% FS^5/100^\circ C$

Electrical Interface Definition

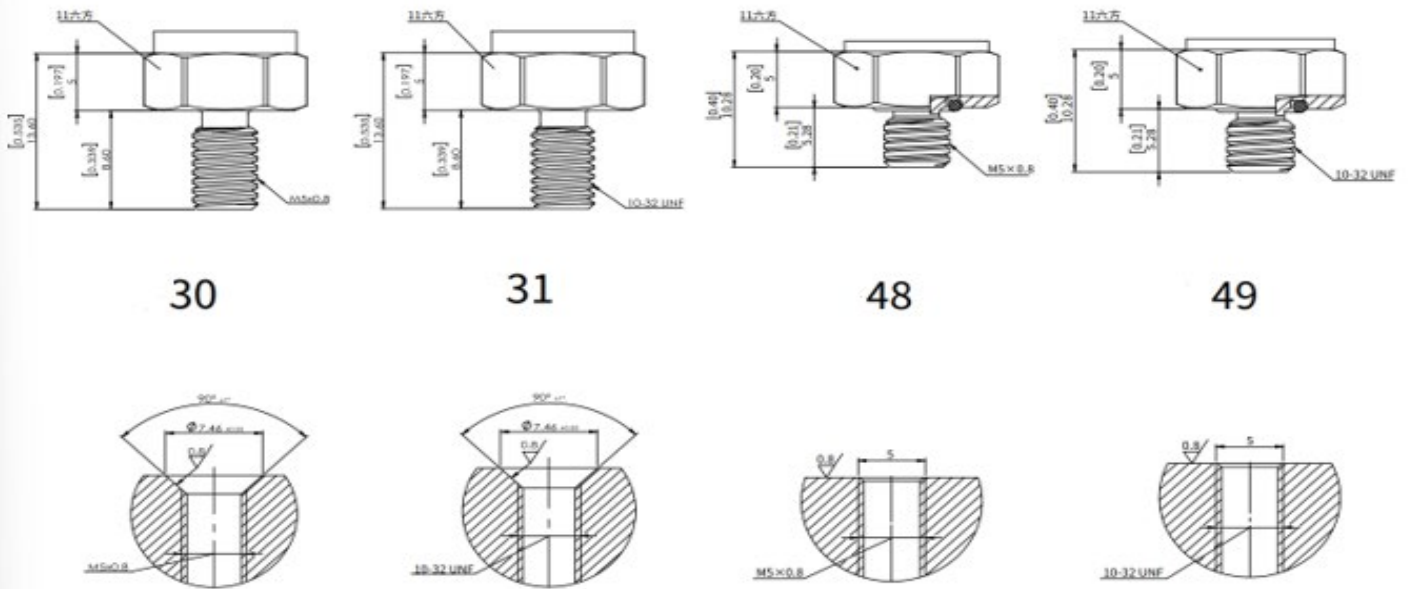
Electrical connector	Pin Definition	Electrical Output		
		A	B	D
8	Red	Vin+	Vin+	Vin+
	Green	Vout+	Vout+	Vout+
	White	Vout-	Vout-	
	Black	Vin-	Vin-	Vin-

- 1: Custom compound ranges can be specially ordered, for example, (5-100)KPaA.
- 2: Pressure overload below this limit does not affect product performance.
- 3: This is the safe upper limit for the sensor; exceeding this value may cause leakage or deformation.
- 4: Temperature performance refers to the performance within the compensated temperature range.
- 5: FS = Full Scale (Full Range).
- 6: Error based on the best endpoint line fit.
- 7: Refer to China's national standard GB/T 15478-2015

Outline Drawing (mm [inch])



Pressure fittings & Recommended installation drawings(mm [inch])



Installation torque: Measuring range 0~35 MPaA, 10N.m
 Measuring range 35~70 MPaA, 22N.m

O-ring: inner diameter 7.65mm, wire diameter 1.63mm,
 material and measured medium match

How to Order? Look at the selection table below

Model No :

MPT500

Signal output

- A** 0~100mV output, 10VDC powered, output proportional to supply voltage, four-wire.
- B** 0~100mV output, 8-16VDC powered, output independent of supply voltage, four-wire.
- D** 0.5~4.5V output, 8~32VDC powered, high-precision digital compensation, three-wire

Electrical Connection

8 4x30AWG (1m length) tinned shielded wire

Note:Other specifications are available upon request.

Pressure Connection Fittings

30 M5*0.8 external thread

31 10-32 UNF external thread

48 M5*0.8 external thread, **Length: 5.28mm**

49 10-32 external thread, **Length: 5.28mm**

Note:Other specifications are available upon request

Compensation Temperature Range

TA 25°C~8

TE -10°C~50°C

TB -20°C~125°C

TF -20°C~80°C

TC -40°C~125°C

TG -40°C~80°C

Accuracy

A1 0.2%FS BFSL

A2 0.1%FS BFSL

Calibration Report

CA Ambient temperature six-point pressure data

CB Five-point full-temperature data

							Pressure Range	Unit	Type
MPT500	A	8	30	TA	A1	CA	0~35	MPa	A (Absolute Pressure)
							0~35	MPa	S (Sealed Gauge Pressure)
							0~10	Mpa	A
									Special Requirements
									S(Remarks in Contract)

MPT500-A830TAA1CA, 0~10Mpa, A