

## MPT100 Series

### Miniature 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

MPT100 series pressure sensor is a wide temperature zone, small, 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 MPT100 series a high-precision, reliable pressure sensor suitable for a wide range of measurement media, and further provides electronic circuitry with a 10KHz frequency bandwidth.

Through the front design of the pressure core, the series has a small size, wide range and high pressure resistance. The sensors 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  
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 86-18890003683  
 www.dabeysensor.com

Power-up Time	S1、S2 <1ms S3、S4、S5、S6<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	S3、S4、S5、S6<25mA
Input Impedance	S1、S2 >5000 $\Omega$
Output impedance	S1、S2 5000 $\Omega$ S3、S4、S5、S6<150 $\Omega$
Long-term stability	Typical values $\pm 0.1\%FS^5$
Electrical connection	See selection table, can be customized

### Temperature Performance<sup>4</sup>

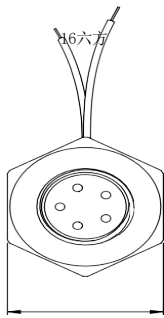
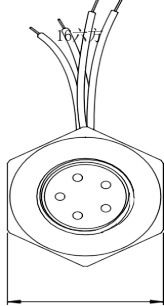
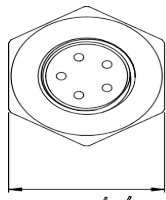
Specifications	Description
Temperature Compensation Range	Selectable within the range of -40°C to 125°C
Operating and storage temperature range	-55°C -150°C
Total error in the whole temperature zone <sup>7</sup>	S1、S2
	Zero drift < $\pm 1.5\% FS^5/100^\circ C$
	Full scale drift < $1.5\% FS^5/100^\circ C$
	S3、S4、S5、S6
	Total error <sup>6</sup> < $0.5\% FS^5/100^\circ C$

### Electrical Interface Definition

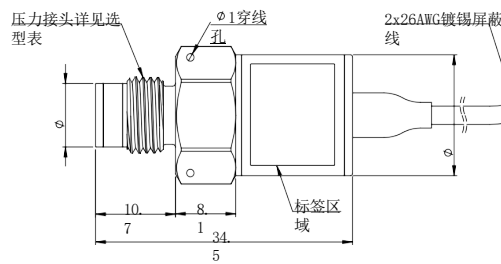
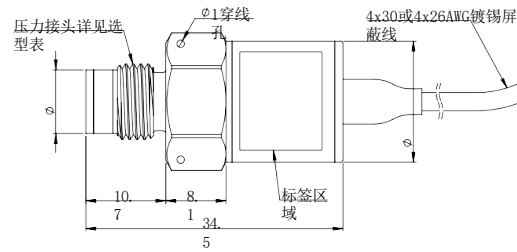
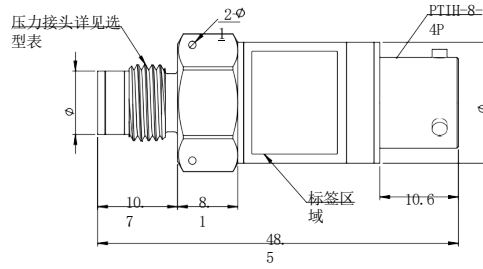
Electrical connector	Pin Definition	Electrical Output					
		S1	S2	S3	S4	S5	S6
C5	A/1	Vin+	Vin+	Vin+	Vin+	Vin+	Vin+
	B/2	Vout+	Vout+		Vout+	Vout+	Vout+
	C/3	Vout-	Vout-			Vout-	Vout-
	D/4	Vin-	Vin-	Vin-	Vin-	Vin-	Vin-
C8 C14	Red	Vin+	Vin+	Vin+	Vin+	Vin+	Vin+
	Green	Vout+	Vout+		Vout+	Vout+	Vout+
	White	Vout-	Vout-			Vout-	Vout-
	Black	Vin-	Vin-	Vin-	Vin-	Vin-	Vin-
C9	Red			Vin+			
	Black			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

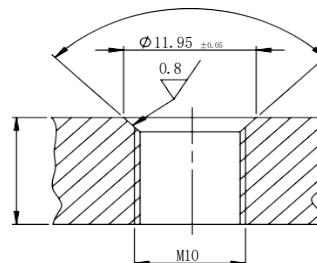
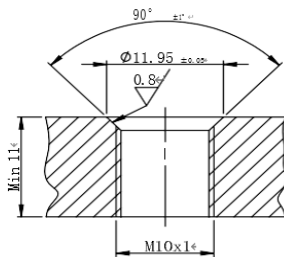
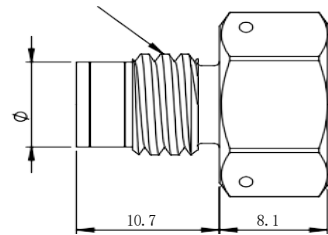
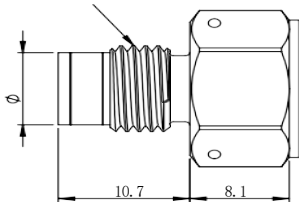
**Outline Drawing**



16六方



**Pressure fittings & Recommended installation drawings**



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**

**MPT100**

**Signal output**

- S1** 0~100mV output, 10VDC powered, output proportional to supply voltage, four-wire.
- S2** 0~100mV output, 8-16VDC powered, output independent of supply voltage, four-wire.
- S3** 4~20mA output, 12~28VDC powered, high-precision digital compensation, two-wire
- S4** 0.5~4.5V output, 8~32VDC powered, high-precision digital compensation, three-wire
- S5** 0~5V output, 8~32VDC powered, high-precision digital compensation, four-wire,  
output common mode 2.5V (typical)
- S6** 0~10V output, 14~32VDC powered, high-precision digital compensation, four-wire,  
output common mode 5V (typical)

**Circuit Connections**

- C5** PTIH-8-4P
  - C8** 4x30AWG (1m length) tinned shielded wire
  - C9** 2x26AWG (1m length) tinned shielded wire
  - C14** 2x26AWG (1m length) tinned shielded wire
- Note:Other specifications are available upon request.

**Pressure Connection Fittings**

- P15** 3/8-24 UNJF external thread
- P16** M10x1 external thread
- P17** M10 external thread

Note:Other specifications are available upon request

**Compensation Temperature Range**

- TA** 25°C~80°C                      **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**

- 0~70**                      **MPa**
- 0~70**                      **MPa**

**Type**

- A** (Absolute Pressure)
- S** (Sealed Gauge Pressure)

**Special Requirements**

Refer to the purchase contract for details on 'S'.

**MPT100 S1 C5 P15 TA A1 CA 0-20 MPA A S**

**MPT100 -S1C5P15TAA1CA, 0~20Mpa, A**

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**PRESSURE MEASUREMENT**

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