

MPTW 250 Series

Wide-Temperature High-Precision Pressure Transducer

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 MPTW250 series pressure transducers manufactured by DABEY Technology are wide-temperature, multi-functional high-precision pressure measurement devices. Equipped with advanced micromachined silicon MEMS chips, specialized oil-filled dielectric isolation, robust anti-interference circuit design, and full stainless steel internal & external structural components, the MPTW250 series delivers outstanding accuracy and long-term reliability, compatible with a broad range of measuring media. Its built-in electronic circuit supports a bandwidth up to 10 KHz.

This product line features multiple configurable pressure port connections and diverse electrical output signal options. The rugged all-stainless steel construction offers excellent overload resistance and reliable measurement safety. Thanks to its highly modular design, DABEY can rapidly customize units to satisfy customers' unique special requirements.

The MPTWD 250 differential pressure variant adopts a wet-wet differential pressure core structure, which covers all working conditions: dry-dry, dry-wet, and wet-wet differential pressure measurement. Uniform pricing is maintained across all differential pressure types to deliver superior cost performance, eliminating customers' selection confusion caused by different differential pressure structural forms. The product design fully embodies DABEY's corporate philosophy: Customer Priority, Service Excellence, Quality First.

DATASHEET

PRESSURE MEASUREMENT

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

Electrical performance

Power Supply/Output	Refer to selection table, customisable
Circuit Bandwidth	10 KHz @ 3dB
Actual Frequency Response	<p>The frequency response of this series is limited by the acoustic characteristics of the cavity. The typical bandwidth for liquid media is approx. 10 KHz @ 3dB.</p> <p>Note: The actual value depends on the installation method. Please refer to the sensor knowledge column on our official website www.dabeysensor.com or contact DABEY Technology after-sales service department.</p>
Power-up Time	S1、 S2 、 <1ms 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	S4、 S5 、 S6<25mA
Input Impedance	S1、 S2 >5000 Ω
Output impedance	S1、 S2 5000 Ω S4、 S5 、 S6 <150 Ω
Long-term stability	Typical values $\pm 0.1\%FS^5$
Electrical connection	Refer to selection table, customisable

Temperature Performance⁴

Specifications	Description
Temperature Compensation Range	Selectable within the range of -55°C to 150°C
Operating and storage temperature range	-55°C -150°C
Total error in the whole temperature zone ⁷	S1、 S2 、
	Zero drift < $\pm 1.5\% FS^5/100^\circ C$
	Full scale drift < $\pm 1.5\% FS^5/100^\circ C$
	S4、 S5 、 S6 ⁵
Total error ⁶	Typical Value: < $\pm 0.25\% FS^5/100^\circ C$
	Maximum Value: < $\pm 0.5\% FS^5/100^\circ C$

DATASHEET

PRESSURE MEASUREMENT

Electrical Interface Definition

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

Electrical connector	Pin Definition	Electrical Output				
		S1	S2	S4	S5	S6
C1	A/1	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-
	E/5					
	F/6					
C2	A/1	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-
	E/5					
	F/6					
C3	A/1	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-
	E/5					
	F/6					
C4	A/1	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-
C5	A/1	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-
C6	A/1	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-
C7	A/1	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-
C8	Red	Vin+	Vin+	Vin+	Vin+	Vin+
	Green	Vout+	Vout+	Vout+	Vout+	Vout+
	White	Vout-	Vout-		Vout-	Vout-
	Black	Vin-	Vin-	Vin-	Vin-	Vin-
C9	Red					
	Black					
C12	1			Vin-		
	2			Vin-		
	3			Vout+		
	E					

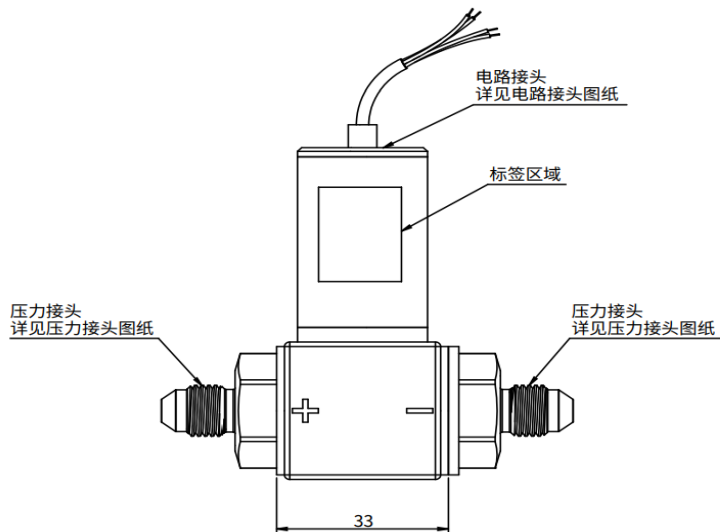
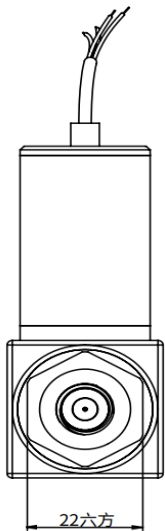
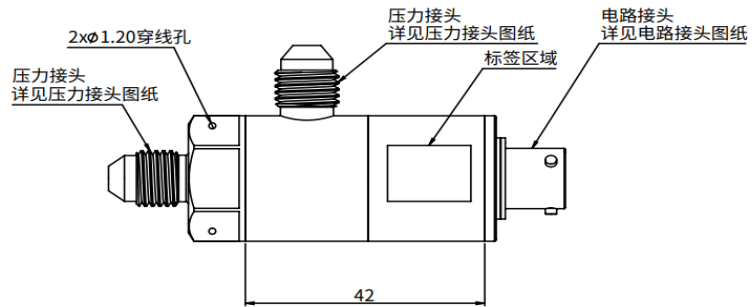
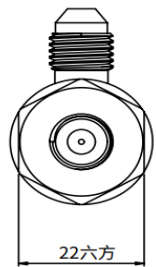
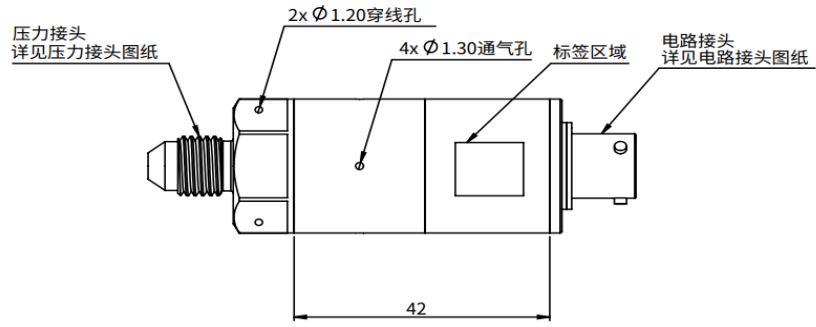
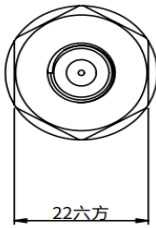
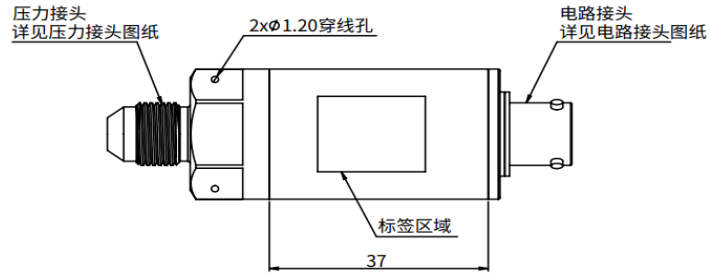
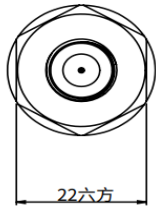
- 1: Custom compound ranges can be specially ordered, for example, (5-100)KPaA.
- 2: Pressure overload below this limit does not affect product performance.
- 3: This is the safe upper limit for the sensor; exceeding this value may cause leakage or deformation.
- 4: Temperature performance refers to 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

DATASHEET

PRESSURE MEASUREMENT

Outline Drawing (mm [inch])

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

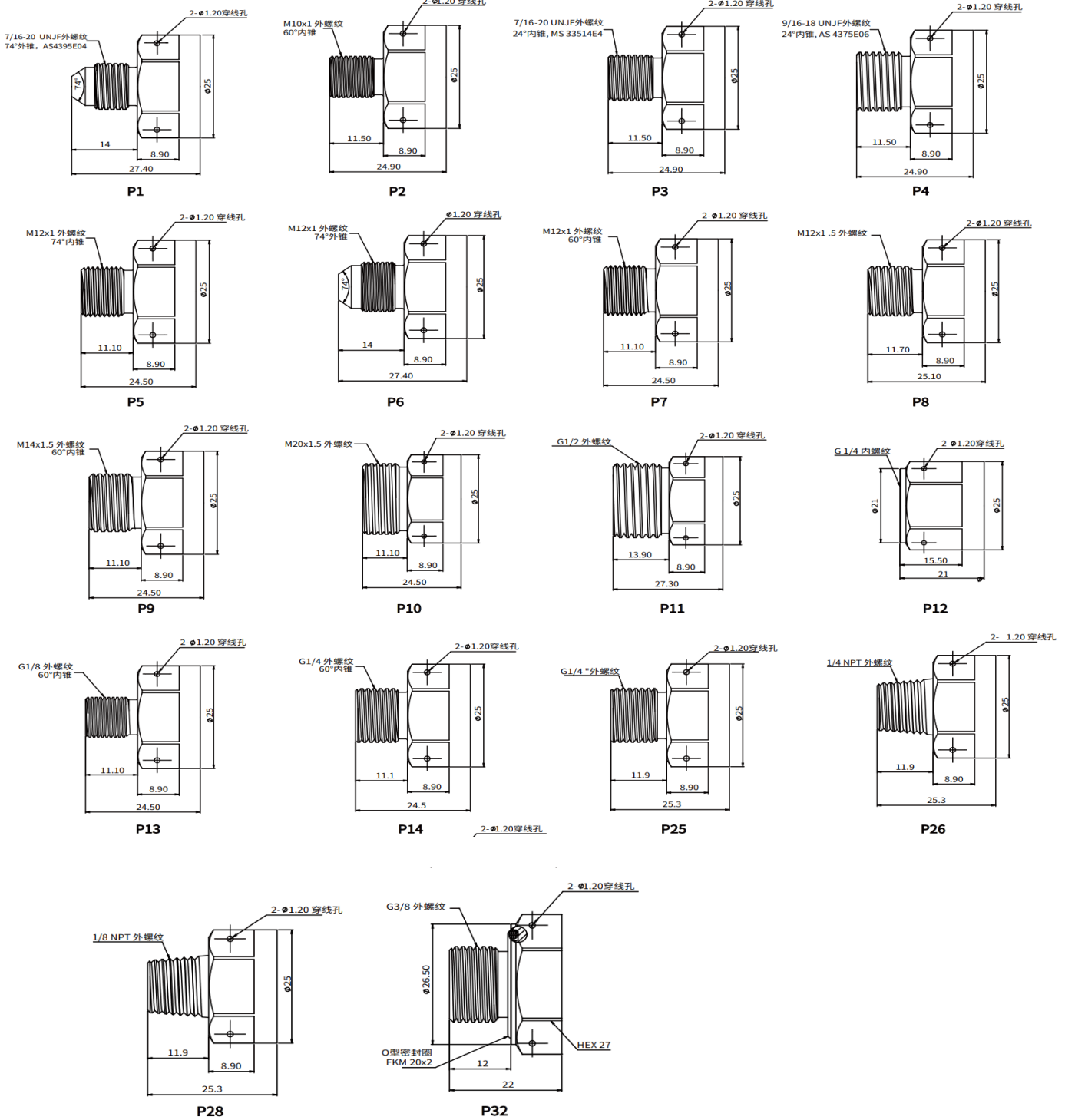


DATASHEET

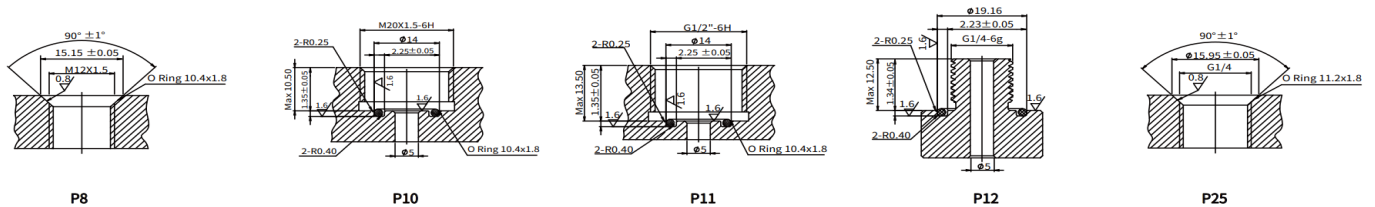
PRESSURE MEASUREMENT

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

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



Recommended installation diagram

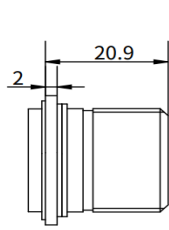


DATASHEET

PRESSURE MEASUREMENT

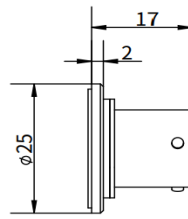
Dabey Technology Co., LTD
 Sales@dabeysensor.com
 86-18890003683
 www.dabeysensor.com

Electrical Connector Drawings



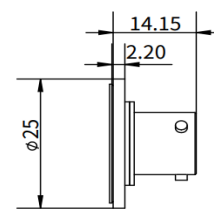
C1

6针D38999/25YB98PN



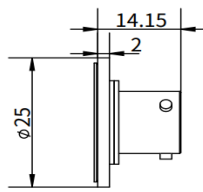
C2

6针MIL-C-2648航空插座,
系列1外壳尺寸10



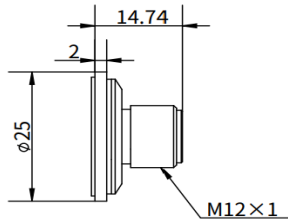
C4

4针MIL-C-26482航空插座,
系列1外壳尺寸8



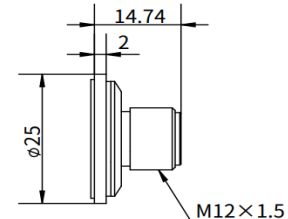
C5

PTIH-8-4P



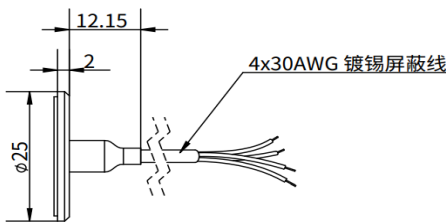
C6

4针 M12×1



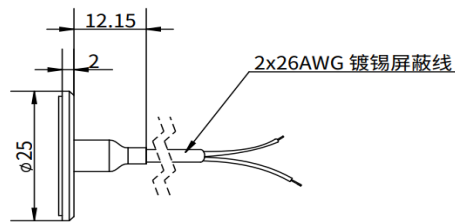
C7

4针 M12×1.5



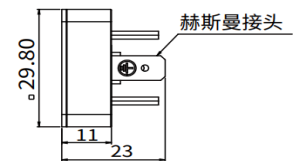
C8

4x30AWG (1m线长) 镀锡屏蔽线



C9

2x26AWG (1m线长) 镀锡屏蔽线



C12

DIN43650

How to Order? Look at the selection table below

Model No :

MPTW250 Absolute / Sealed gauge pressure

MPTWD250 Gauge / Differential pressure

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.
- 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)

Electrical Connection

C1: 6-pin D38999/25YB98PN

C2: 6-pin MIL-C-26482 Aviation Receptacle, Series 1, Shell Size 10

C3: 5-pin MS83723/90Y1005PN

www.dabeysensor.com

PRESSURE MEASUREMENT

C4: 4-pin MIL-C-26482 Aviation Receptacle, Series 1, Shell Size 8

C5: PTIH-8-4P

C6: 4-pin M12×1

C7: 4-pin M12×1.5

C8: 4×30AWG tinned shielded cable (1m length)

C9: 2×26AWG tinned shielded cable (1m length)

C12: Detachable DIN43650 connector

(*Operating temperature range: -40~80°C, supports 2-wire & 3-wire connection)

Note:Other specifications are available upon request.

Pressure Connection Fittings

P1: 7/16-20 UNJF external thread (74° external cone, AS4395E04)

P2: M10×1 external thread (60° internal cone)

P3: 7/16-20 UNJF external thread (24° internal cone, MS33514E4)

P4: 9/16-18 UNJF external thread (24° internal cone, AS4375E06)

P5: M12×1 external thread (74° internal cone)

P6: M12×1 external thread (74° external cone)

P7: M12×1 external thread (60° internal cone)

P8: M12×1.5 external thread

P9: M14×1.5 external thread (60° internal cone)

P10: M20×1.5 external thread

P11: G1/2 external thread

P12: G1/4 internal thread

P13: G1/8 external thread (60° internal cone)

P14: G1/4 external thread (60° internal cone)

Note:Other specifications are available upon request

P25: G1/4 external thread

P26: 1/4 NPT external thread

P28: 1/8 NPT external thread

P32: G3/8 external thread

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

0~70

-0.1~5

-0.1~70

-1.5~5

Unit

MPa

MPa

MPa

MPa

Type

A (Absolute Pressure)

G(Gauge pressure)

S (Sealed gauge pressure)

D (Differential)

Special Requirements

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

MPTW250

S1

C1

P1

TA

A1

CA

0~10

Mpa

A

S

MPTW250- S1C1P1TAA1CA, 0~10Mpa, A