

HIGH-PERFORMANCE THIN FILM PRESSURE TRANSDUCER

STANDARD CUSTOM CONFIGURATIONS

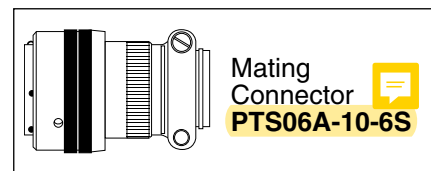
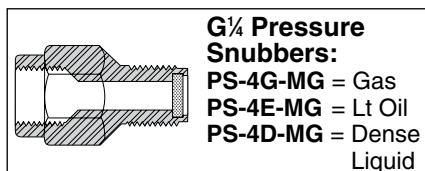
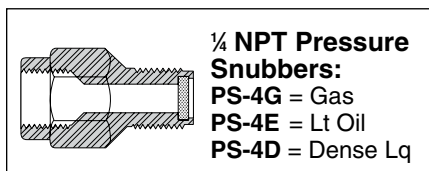
PX5500* SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
	A = 1/8-27 NPT Male B = 1/8-27 NPT Female C = 1/4-18 NPT Male D = 1/4-18 NPT Female L = MS33656-4 M = MS33649-4		015 psi 025 050 100 250 500 1K 1.5K 2.5K 3K 5K 10K	A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S	Base Price PX5500 V = mV/V 5T = 0 to 5V I = 4 to 20mA	CAL11 = 11-pt cal + cost
<p>*For a 350 Ω bridge change model number to PX5503. No additional charge.</p>		<p>0 = 0.6 m (2') cable add cost per/ft over 0.6 m (2')</p> <p>1 = PTIH-10-6P connector (or equal). Mating connector (sold separately), order PTS06A-10-6S DIN connector</p>		<p>To order a custom configuration:</p> <ol style="list-style-type: none"> 1. Select a pressure port 2. Select electrical connection 3. Select a pressure range 4. Select pressure units – Absolute, Gage or Sealed gage 5. Select output 6. Select options and agency approvals 		

Comes complete with 5-point calibration.

Ordering Examples: **PX5503A1-015AV**, 350 Ω bridge, 1/8-27 NPT male pressure port, PTIH-10-6P style connector, 15 psi absolute pressure range and mV/V output.

PTS06A-10-6S, mating connector (sold separately), **PX5500M1-10KG5T**, MS33649-4 female pressure port, PTIH-10-6P style connector, 10,000 psi gage pressure range and 0 to 5 Vdc output. **PTS06A-10-6S**, mating connector (sold separately).

PX5500L0-015A1-25FT, MS33656-4 male pressure port, 8 m (25') lead wire, 15 psi absolute pressure range and 4 to 20 mA output.



METRIC PSI RANGE CUSTOM CONFIGURATIONS

PXM5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE (BAR) [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
	MA = G1/8B Male cost MB = G1/8B Female no charge MC = G1/4B Male cost MD = G1/4B Female no charge		1.0 1.6 4.0 6.0 10 16 25 40 60 100 160 250 400 600	A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S A, G, S	I = 4 to 20 mA Base price PXM5500	CAL11 = 11-point calibration certificate ()m = Optional cable length in meters
<p>0 = 0.6 m (2') cable (std) add cost per/m over 0.2 m (2')</p> <p>1 = PTIH-10-6P connector (or equal, no charge)</p> <p>6 = mini DIN connector</p>		<p>To order a custom configuration:</p> <ol style="list-style-type: none"> 1. Select a pressure port 2. Select electrical connection 3. Select a pressure range 4. Select pressure units – Absolute, Gage or Sealed gage 5. Select output 6. Select options and agency approvals 				
<p>Visit us online for additional options including extended compensated temperatures.</p>						

Ordering Examples: **PXM5500MB0-010BARS5T**, 10 bar sealed gage pressure transducer with G1/8B female connection and 0.6 m (2') cable termination.

PXM5500MD1-010BARA5T, 10 bar absolute pressure transducer with G1/4B female connection and twist-lock connector.

PTS06A-10-6S, mating connector (sold separately).

STANDARD MODELS

To Order

Models with mV/V Output, MS33656-4 Connection, Integral Connector

RANGE		MODEL NO.	COMPATIBLE METERS*
ABSOLUTE PRESSURE (All Ranges Available in Absolute Pressure)			
0 to 15 psi	0 to 1.0 bar	PX5500L1-015AV	DP41-S, DP25B-S
0 to 25 psi	0 to 1.7 bar	PX5500L1-025AV	DP41-S, DP25B-S
0 to 50 psi	0 to 3.4 bar	PX5500L1-050AV	DP41-S, DP25B-S
0 to 100 psi	0 to 6.9 bar	PX5500L1-100AV	DP41-S, DP25B-S
GAGE PRESSURE (All Ranges also Available in Sealed Gage Pressure)			
0 to 15 psi	0 to 1.0 bar	PX5500L1-015GV	DP41-S, DP25B-S
0 to 25 psi	0 to 1.7 bar	PX5500L1-025GV	DP41-S, DP25B-S
0 to 50 psi	0 to 3.4 bar	PX5500L1-050GV	DP41-S, DP25B-S
0 to 100 psi	0 to 6.9 bar	PX5500L1-100GV	DP41-S, DP25B-S
0 to 250 psi	0 to 17.2 bar	PX5500L1-250GV	DP41-S, DP25B-S
0 to 500 psi	0 to 34.5 bar	PX5500L1-500GV	DP41-S, DP25B-S
0 to 1000 psi	0 to 68.9 bar	PX5500L1-1KGV	DP41-S, DP25B-S
0 to 1500 psi	0 to 103 bar	PX5500L1-1.5KGV	DP41-S, DP25B-S
0 to 2500 psi	0 to 172 bar	PX5500L1-2.5KGV	DP41-S, DP25B-S
0 to 3000 psi	0 to 207 bar	PX5500L1-3KGV	DP41-S, DP25B-S
0 to 5000 psi	0 to 345 bar	PX5500L1-5KGV	DP41-S, DP25B-S
0 to 10,000 psi	0 to 689 bar	PX5500L1-10KGV	DP41-S, DP25B-S



Comes complete with 5-point calibration.

* Visit us online for compatible meters.

To order absolute pressure models, replace "G" in model number with "A". No extra charge.

To order sealed gage models, replace "G" in model number with "S". No extra charge.

Ordering Examples: PX5500L1-1KSV, 1000 psi sealed gage transducer with PTIH-10-6P electrical connection and MS33656-4 male pressure port. PTS06A-10-6S, mating connector (sold separately).

PX5500L1-100AV, 100 psi absolute pressure transducer with PTIH-10-6P electrical connection and MS33656-4 male pressure port. PTS06A-10-6S, mating connector (sold separately).

METRIC MODELS

To Order

Models with G 1/4 Male Pressure Connection, Cable or mini DIN and mV/V Output

RANGE		MODEL NO.	COMPATIBLE METERS*
GAGE PRESSURE			
0 to 1 bar	0 to 15 psi	PXM5500MC[*]-001BARGV	DP41-S, DP25B-S
0 to 1.60 bar	0 to 23 psi	PXM5500MC[*]-1.60BARGV	DP41-S, DP25B-S
0 to 4 bar	0 to 58 psi	PXM5500MC[*]-004BARGV	DP41-S, DP25B-S
0 to 6 bar	0 to 87 psi	PXM5500MC[*]-006BARGV	DP41-S, DP25B-S
0 to 10 bar	0 to 145 psi	PXM5500MC[*]-010BARGV	DP41-S, DP25B-S
0 to 16 bar	0 to 232 psi	PXM5500MC[*]-016BARGV	DP41-S, DP25B-S
0 to 25 bar	0 to 363 psi	PXM5500MC[*]-025BARGV	DP41-S, DP25B-S
0 to 40 bar	0 to 580 psi	PXM5500MC[*]-040BARGV	DP41-S, DP25B-S
0 to 60 bar	0 to 870 psi	PXM5500MC[*]-060BARGV	DP41-S, DP25B-S
0 to 100 bar	0 to 1450 psi	PXM5500MC[*]-100BARGV	DP41-S, DP25B-S
0 to 160 bar	0 to 2321 psi	PXM5500MC[*]-160BARGV	DP41-S, DP25B-S
0 to 250 bar	0 to 3626 psi	PXM5500MC[*]-250BARGV	DP41-S, DP25B-S
0 to 400 bar	0 to 5802 psi	PXM5500MC[*]-400BARGV	DP41-S, DP25B-S
0 to 600 bar	0 to 8702 psi	PXM5500MC[*]-600BARGV	DP41-S, DP25B-S

Comes complete with 5-point NIST-traceable calibration.

* Visit us online for compatible meters.

[*] = Insert "0" for 0.6 m (2') cable "1" for twist-lock connector for "6" for mini DIN connector.

To order absolute pressure models, replace "G" in model number with "A" (no extra charge).

To order sealed gage models, replace "G" in model number with "S" (no extra charge).

Ordering Example: PXM5500MC6-60BARSV, mV/V output, 60 bar sealed gage transducer with mini DIN connector and G 1/4 male pressure port. Mating connector included.

ACCESSORY

MODEL NO.	DESCRIPTION
PTS06A-10-6S	Mating connector for PX5500/PXM5500 units with PTIH-10-6P electrical connection



MILLIVOLT OUTPUT
PRESSURE TRANSDUCERS

B

High-Performance Thin Film Pressure Transducer

Imperial and Metric Models

0-5 and 0-10 Vdc Output Models

3 Wire Amplifier

0-15 to 0-10,000 psi-Imperial Models

0-1 to 0-600 bar-Metric Models

1 bar = 14.5 psi

1 kg/cm² = 14.22 psi

1 atmosphere = 14.7 psi = 29.93

inHg = 760.2 mmHg = 1.014 bar

**PX5500/
PXM5500 Series**

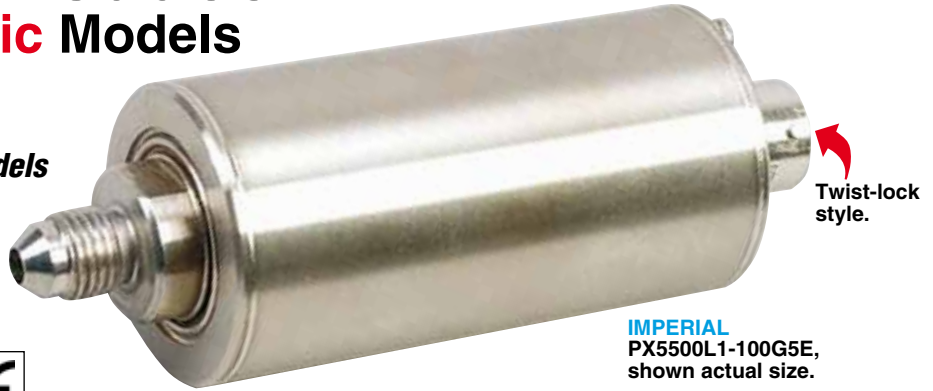


- ✓ **Integral Shunt Calibration**
- ✓ **Low Noise, 5 Vdc and 10 Vdc Output Models**
- ✓ **High 0.1% Accuracy**
- ✓ **Solid State Reliability**
- ✓ **Sputtered Strain Gage Design**
- ✓ **High Shock and Vibration Resistance**
- ✓ **Low Drift**

Applications

- ✓ **R&D/Engineering Test Laboratories**
- ✓ **Functional Test Systems**
- ✓ **Production Testing**
- ✓ **Flight Testing**
- ✓ **Gas Turbine and Engine Test Stands**
- ✓ **Hydraulic Systems**
- ✓ **Custody Transfer Measurements**

OMEGA'S PX5500/PXM5500 transducer series provides high performance in demanding industrial and research applications where accuracy, reliability, and price are important. These transducers have a 10-year MTBF rate and are stable to 0.1% of FSO over an 18-month period. This translates into less downtime, fewer test reruns, more time between calibrations, and high confidence in your pressure data. When recalibration is impossible, relying on the high stability of the PX5500/PXM5500 Series transducers may be the only cost-effective way to obtain pressure data over the long term. OMEGA's thin-film technology makes this premium performance possible. The strain gages and



**IMPERIAL
PX5500L1-100G5E,**
shown actual size.

associated parts are sputter-deposited directly onto the pressure sensing element, eliminating the need for adhesives. The resulting molecular bond between the sensing element and the strain gage ensures virtually no shifting, drifting, or "creep" in the performance of the transducer. The micro-geometry design of the PX5500/PXM5500 sensing element affords a very small, low-mass sensor that reduces effects of mechanical vibration and shock. The PX5500/PXM5500 gives you accuracy, reliability, and stability at competitive prices.

Specifications

Electrical Connection: See Custom Configurations

Pressure Port: See Custom Configurations

Mating Connector (Style 1): PT06F10-6S (sold separately)

Weight: 225 g (8 oz) max

Excitation: 16 to 38 Vdc unregulated
Output (FS) 5E/5T Models: 5 Vdc ±0.1 Vdc ±10% adj

Output (FS) 10E Models: 10 Vdc ±0.1 Vdc ±10% adj

CE Compliant: Meets industrial emissions and immunity to EN61326

Zero Balance: 0 Vdc ±0.1 Vdc ±5% adj

Input Current: 20 mA max with no load

Output Resistance: 100 Ω max

Insulation Resistance: 100 M Ω @ 45 Vdc between all pins shorted together and case

Electrostatic Discharge: Protected to 15 kV max

Sensing Element: 4-active-arm bridge using sputter-deposited thin-film elements

Accuracy: Combined linearity, hysteresis and repeatability: ±0.10% FS (BFSL) <70 bar (<1000 psi) ±0.15% FS 70 bar (1000 psi) and above

Natural Frequency: 5 kHz for 1 bar (15 psi), increasing logarithmically to 50 kHz for 5000 psi

Operating Temp Range:

-54 to 121°C (-65 to 250°F)

Compensated Temp Range:

-18 to 82°C (0 to 180°F)

Thermal Effects (Over the Compensated Range):

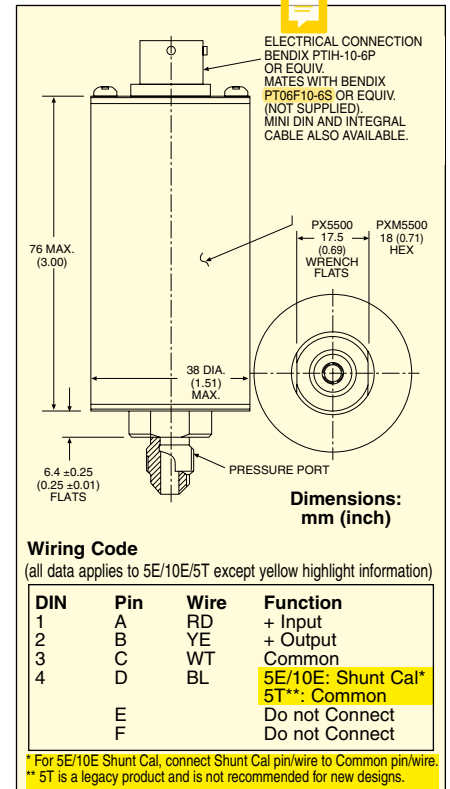
Span: ±0.015% FS/°F (0.027%/°C)
Zero: ±0.015% FS/°F (0.027%/°C)

Proof Pressure: 2 times rated pressure or 1000 bar (15,000 psi), whichever is less, will not cause changes in performance beyond the specified tolerance

Burst Pressure: 3 times rated pressure or 1300 bar (20,000 psi), whichever is less, will not cause rupture of the pressure containment cavity

Wetted Parts:

17-4 PH or 15-5 PH stainless steel



High-Performance Thin-Film Pressure Transducer

Imperial Custom Configurations

PX5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
A = 1/8-27 NPT male	B = 1/8-27 NPT female C = 1/4-18 NPT male D = 1/4-18 NPT female L = MS33656-4 M = MS33649-4 0 = 0.6 m (2') cable add cost per/foot over 0.6 m (2') 1 = PTIH-10-6P twist-lock connector (or equal, no charge). Mating connector (sold separately), order PT06F10-6S 6 = mini DIN connector (no charge)		015 psi	S,G,A	5E = 0 to 5 Vdc	CAL11 = 11-point calibration certificate + cost ()ft = Optional cable length in meters
		025	S,G,A	10E = 0 to 10 Vdc		
		050	S,G,A	5T* = 0 to 5 Vdc		
		100	S,G,A	* 5T is a legacy product and is not recommended for new designs.		
		250	S,G,A			
		500	S,G,A			
	1K	S,G,A				
	1.5K	S,G,A				
	2.5K	S,G,A				
	3K	S,G,A				
	5K	S,G,A				
	10K	S,G,A				

To order a custom configuration:

1. Select a pressure port
2. Select electrical connection
3. Select a pressure range
4. Select pressure units – Sealed Gage, Gage or Absolute
5. Select output
6. Select options

Visit us online for additional options including extended compensated temperatures.

To Order

Popular Imperial Models with 0 to 5 or 0 to 10 Vdc Output Shown Below (See Custom Configurations Section for All Available Versions/Options)

Pressure Range		Model No. (With Output Termination Style)		
Imperial	Metric	0.6 m (2') Cable	PTIH-10-6P Connector	mini DIN Connector
Absolute Pressure (All Ranges Available in Absolute Pressure, See Custom Configurations Section)				
0 to 15 psi	0 to 1.0 bar	PX5500[*]0-015A[**]	PX5500[*]1-015A[**]	PX5500[*]6-015A[**]
0 to 25 psi	0 to 1.7 bar	PX5500[*]0-025A[**]	PX5500[*]1-025A[**]	PX5500[*]6-025A[**]
0 to 50 psi	0 to 3.4 bar	PX5500[*]0-050A[**]	PX5500[*]1-050A[**]	PX5500[*]6-050A[**]
0 to 100 psi	0 to 6.9 bar	PX5500[*]0-100A[**]	PX5500[*]1-100A[**]	PX5500[*]6-100A[**]
Gage Pressure (All Ranges Also Available in Sealed Gage Pressure, See Below)				
0 to 15 psi	0 to 1.0 bar	PX5500[*]0-015G[**]	PX5500[*]1-015G[**]	PX5500[*]6-015G[**]
0 to 25 psi	0 to 1.7 bar	PX5500[*]0-025G[**]	PX5500[*]1-025G[**]	PX5500[*]6-025G[**]
0 to 50 psi	0 to 3.4 bar	PX5500[*]0-050G[**]	PX5500[*]1-050G[**]	PX5500[*]6-050G[**]
0 to 100 psi	0 to 6.9 bar	PX5500[*]0-100G[**]	PX5500[*]1-100G[**]	PX5500[*]6-100G[**]
0 to 250 psi	0 to 17.2 bar	PX5500[*]0-250G[**]	PX5500[*]1-250G[**]	PX5500[*]6-250G[**]
0 to 500 psi	0 to 34.5 bar	PX5500[*]0-500G[**]	PX5500[*]1-500G[**]	PX5500[*]6-500G[**]
0 to 1000 psi	0 to 68.9 bar	PX5500[*]0-1KG[**]	PX5500[*]1-1KG[**]	PX5500[*]6-1KG[**]
0 to 1500 psi	0 to 103 bar	PX5500[*]0-1.5KG[**]	PX5500[*]1-1.5KG[**]	PX5500[*]6-1.5KG[**]
0 to 2500 psi	0 to 172 bar	PX5500[*]0-2.5KG[**]	PX5500[*]1-2.5KG[**]	PX5500[*]6-2.5KG[**]
0 to 3000 psi	0 to 207 bar	PX5500[*]0-3KG[**]	PX5500[*]1-3KG[**]	PX5500[*]6-3KG[**]
0 to 5000 psi	0 to 345 bar	PX5500[*]0-5KG[**]	PX5500[*]1-5KG[**]	PX5500[*]6-5KG[**]
0 to 10,000 psi	0 to 689 bar	PX5500[*]0-10KG[**]	PX5500[*]1-10KG[**]	PX5500[*]6-10KG[**]

Comes complete with 5-point NIST-traceable calibration. Visit us online for compatible meters.

[*] Pressure Port (see Custom Configurations section and enter **A, B, C, D, L, or M**).

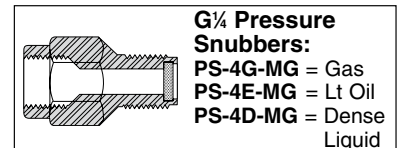
[**] Output Voltage Range: Enter "**5E**" for 0 to 5 Vdc output, or "**10E**" for 0 to 10 Vdc output.

To order absolute pressure transducers, change "**G**" in model number to "**A**" (no extra charge).

To order sealed gage transducers, change "**G**" in model number to "**S**" (no extra charge).

Ordering Examples: **PX5500L1-025A10E**, 25 psi absolute transducer with 0 to 10 Vdc output, PTIH-10-6P electrical connection, and MS33656-4, male pressure port. **PT06F10-6S**, mating connector (sold separately).

PX5500C6-5KG5E, 5000 psi gage pressure transducer with 0 to 5 Vdc output, mini DIN electrical connection, and 1/4-18 NPT male pressure port.



High-Performance Thin-Film Pressure Transducer

Metric Custom Configurations

PXM5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE (BAR) [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
MA = G $\frac{1}{4}$ B Male extra charge			001BAR	S,G,A	5E = 0 to 5 Vdc	CAL11 = 11-point calibration certificate
MB = G $\frac{1}{4}$ B Female no charge			1.60BAR	S,G,A	10E = 0 to 10 Vdc	+ cost
MC = G $\frac{1}{4}$ B Male extra charge			004BAR	S,G,A	5T* = 0 to 5 Vdc	()ft = Optional cable length in meters
MD = G $\frac{1}{4}$ B Female no charge			006BAR	S,G,A	* 5T is a legacy product and is not recommended for new designs.	
	0 = 0.6 m (2') cable (std) add cost per/ meter over 0.6 m (2')		010BAR	S,G,A		
	1 = PTIH-10-6P twist-lock connector (or equal, no charge). Mating connector (sold separately), order PT06F10-6S		016BAR	S,G,A		
	0 = mini DIN connector (no charge)		025BAR	S,G,A		
			040BAR	S,G,A		
			060BAR	S,G,A		
			100BAR	S,G,A		
			160BAR	S,G,A		
			250BAR	S,G,A		
			400BAR	S,G,A		
			600BAR	S,G,A		

To order a custom configuration:

1. Select a pressure port
2. Select electrical connection
3. Select a pressure range
4. Select pressure units – Sealed Gage, Gage or Absolute
5. Select output
6. Select options

Visit us online for additional options including extended compensated temperatures.

Popular Metric Models with 0 to 5 or 0 to 10 Vdc Output Shown Below (See Custom Configurations Section for All Available Versions/Options)				
Pressure Range		Model No. (With Output Termination Style)		
Metric	Imperial	0.6 m (2') Cable	PTIH-10-6P Connector	mini DIN Connector
Gage Pressure (All Ranges Also Available in Absolute and Sealed Gage Pressure, See Below)				
0 to 1 bar	0 to 15 psi	PXM5500M[*]0-001BARG[**]	PXM5500M[*]1-001BARG[**]	PXM5500M[*]6-001BARG[**]
0 to 1.60 bar	0 to 23 psi	PXM5500M[*]0-1.60BARG[**]	PXM5500M[*]1-1.60BARG[**]	PXM5500M[*]6-1.60BARG[**]
0 to 4 bar	0 to 58 psi	PXM5500M[*]0-004BARG[**]	PXM5500M[*]1-004BARG[**]	PXM5500M[*]6-004BARG[**]
0 to 6 bar	0 to 87 psi	PXM5500M[*]0-006BARG[**]	PXM5500M[*]1-006BARG[**]	PXM5500M[*]6-006BARG[**]
0 to 10 bar	0 to 145 psi	PXM5500M[*]0-010BARG[**]	PXM5500M[*]1-010BARG[**]	PXM5500M[*]6-010BARG[**]
0 to 16 bar	0 to 232 psi	PXM5500M[*]0-016BARG[**]	PXM5500M[*]1-016BARG[**]	PXM5500M[*]6-016BARG[**]
0 to 25 bar	0 to 363 psi	PXM5500M[*]0-025BARG[**]	PXM5500M[*]1-025BARG[**]	PXM5500M[*]6-025BARG[**]
0 to 40 bar	0 to 580 psi	PXM5500M[*]0-040BARG[**]	PXM5500M[*]1-040BARG[**]	PXM5500M[*]6-040BARG[**]
0 to 60 bar	0 to 870 psi	PXM5500M[*]0-060BARG[**]	PXM5500M[*]1-060BARG[**]	PXM5500M[*]6-060BARG[**]
0 to 100 bar	0 to 1450 psi	PXM5500M[*]0-100BARG[**]	PXM5500M[*]1-100BARG[**]	PXM5500M[*]6-100BARG[**]
0 to 160 bar	0 to 2321 psi	PXM5500M[*]0-160BARG[**]	PXM5500M[*]1-160BARG[**]	PXM5500M[*]6-160BARG[**]
0 to 250 bar	0 to 3626 psi	PXM5500M[*]0-250BARG[**]	PXM5500M[*]1-250BARG[**]	PXM5500M[*]6-250BARG[**]
0 to 400 bar	0 to 5802 psi	PXM5500M[*]0-400BARG[**]	PXM5500M[*]1-400BARG[**]	PXM5500M[*]6-400BARG[**]
0 to 600 bar	0 to 8702 psi	PXM5500M[*]0-600BARG[**]	PXM5500M[*]1-600BARG[**]	PXM5500M[*]6-600BARG[**]

Comes complete with 5-point NIST-traceable calibration. Visit us online for compatible meters.

[*] Pressure Port (see Custom Configurations section and enter **MA**, **MB**, **MC**, or **MD**).

[**] Output Voltage Range: Enter “**5E**” for 0 to 5 Vdc output, or “**10E**” for 0 to 10 Vdc output.

To order absolute pressure models, replace “**G**” in model number with “**A**” (no extra charge).

To order sealed gage models, replace “**G**” in model number with “**S**” (no extra charge).

Ordering Examples: **PXM5500MC6-060BARS5E**, 60 bar sealed gage transducer with 0 to 5 Vdc output, mini DIN electrical connection and G $\frac{1}{4}$ male pressure port. Mating connector included.

PXM5500MC0-010BARA10E, 10 bar absolute pressure transducer with 0 to 10 Vdc output, 0.6 m (2') cable connection and G $\frac{1}{4}$ male pressure port.

Accessories

Model No.	Description
PT06F10-6S	Mating connector for PX5500/PXM5500 Series units with PTIH-10-6P twist-lock connector

HIGH-PERFORMANCE THIN-FILM TRANSMITTER

STANDARD AND METRIC MODELS

4 to 20 mA Output
0-15 to 0-10,000 psi-Standard Models
0-1 to 0-600 bar-Metric Models

1 bar = 14.5 psi
 1 kg/cm² = 14.22 psi
 1 atmosphere = 14.7 psi = 29.93
 inHg = 760.2 mmHg = 1.014 bar



STANDARD
PX5500L1-100GI,
 shown actual size.

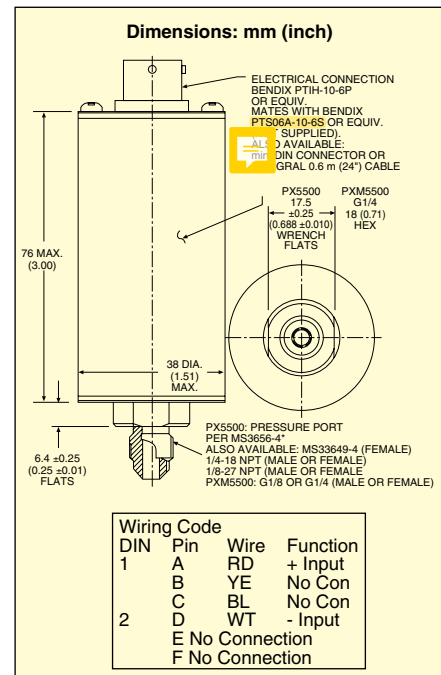
PX5500/PXM5500 Series



OMEGA's PX5500/PXM5500 transducer series provides high performance in demanding industrial and research applications where accuracy, reliability, and price are important. These transducers have a 10-year MTBF rate and are stable to 0.1% of FS over an 18-month period. This translates into less downtime, fewer test reruns, more time between calibrations, and more reliable pressure data. When recalibration is impossible, relying on the high stability of a PX5500/PXM5500 transducer may be the only cost-effective way to obtain pressure data over the long term. OMEGA's thin-film technology makes this premium performance possible. The strain gages and associated structures are sputter-deposited directly onto the pressure sensing element, thus eliminating the need for adhesives. The resulting molecular bond between the sensing element and the strain gages ensures virtually no shifting, drifting, or "creep" in the performance of the transducer. The micro-geometry design of the PX5500/PXM5500 sensing element results in a very small, low-mass sensor that reduces effects of mechanical vibration and shock. The PX5500/PXM5500 delivers accuracy, reliability, and stability at competitive prices.

SPECIFICATIONS

mA Models
Excitation: 10 to 40 Vdc unregulated, reverse polarity protected
Output (FS): 4 to 20 mA ±0.8 mA adj
Zero Balance: 4 mA ±0.4 mA adj
Input Current: 20 mA max with no load



- ✓ High 0.1% Accuracy
- ✓ Solid State Reliability
- ✓ Sputtered Strain Gage Design
- ✓ High Shock and Vibration Resistance
- ✓ Low Drift
- ✓ 5-Point NIST Calibration Standard

Applications

- ✓ Testing
- ✓ R&D/Engineering Test Laboratories
- ✓ Functional Test Systems
- ✓ Production Testing
- ✓ Product Quality Assurance
- ✓ Flight Testing
- ✓ Gas Turbine and Engine Test Standards
- ✓ Ground Support Equipment
- ✓ Hydraulic Systems
- ✓ Custody Transfer Measurements

Load Impedance: 50 (V – 10) Ω max where V is supply voltage (40 Vdc max)

Insulation Resistance: 100 MΩ @ 45 Vdc between all pins shorted together and case

Electrostatic Discharge: Protected to 15 kV max

Sensing Element: 4-active-arm bridge using sputter-deposited thin-film elements

Accuracy (Combined Linearity, Hysteresis and Repeatability): ±0.10% FS (BFSL) <1000 psi
 ±0.15% FS 1000 psi and above

Vibration Sensitivity: At 20 g peak sinusoidal vibration from 10 to 2000 Hz (½" D.A.), the output shall not exceed 0.04% FS/g for 15 psi range, decreasing to 0.003% FS/g for 1000 psi and above

Natural Frequency: 5 kHz for 15 psi, increasing logarithmically to 50 kHz for 5000 psi

SPUTTERED SILICON TECHNOLOGY

Shock: Qualification level of 100 g, 11 ms half sine wave without damage

Operating Temp Range: -40 to 85°C (-40 to 185°F)

Compensated Temp Range: -18 to 82°C (0 to 180°F)

Thermal Effects (Over the Compensated Range):

Span: ±0.02% FS/°F
Zero: ±0.02% FS/°F

Proof Pressure: 2 times rated pressure or 15,000 psi, whichever is less, will not cause changes in performance beyond the specified tolerance

Burst Pressure: 3 times rated pressure or 20,000 psi, whichever is less, will not cause rupture of the pressure containment cavity

Wetted Parts: 17-4 PH or 15-5 PH stainless steel

Pressure Port: See dimensional drawings on page B-215

Electrical Connection: PTIH-10-6P standard

Mating Connector: **PTS06A-10-6S** (sold separately)

Weight: 225 g (8 oz) maximum



CURRENT OUTPUT PRESSURE TRANSDUCERS

B

STANDARD CUSTOM CONFIGURATIONS

PX5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE (psi) [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
A = 1/8-27 NPT male			015	A, G, S	Base Price PX5500 I = 4 to 20 mA	CAL11 = 11-pt cal + cost ()ft = Optional cable length in feet
B = 1/8-27 NPT female			025	A, G, S		
C = 1/4-18 NPT male			050	A, G, S		
D = 1/4-18 NPT female			100	A, G, S		
L = MS33656-4			250	A, G, S		
M = MS33649-4			500	A, G, S		
			1K	A, G, S		
			1.5K	A, G, S		
			2.5K	A, G, S		
			3K	A, G, S		
			5K	A, G, S		
			10K	A, G, S		
	0 = 0.6 m (2') cable add cost per/ft over 0.6 m (2')					
	1 = PTIH-10-6P connector (or equal, no charge). Mating connector (sold separately), order PTS06A-10-6S					
	6 = mini DIN connector					

To order a custom configuration:

1. Select a pressure port
2. Select electrical connection
3. Select a pressure range
4. Select pressure units – Absolute, Gage or Sealed gage
5. Select output
6. Select options and agency approvals

Ordering Examples: **PX5500A1-015AV**, 1/8-27 NPT male pressure port, twist-lock connector, 15 psi absolute pressure range and mV/V output. **PTS06A-10-6S**, mating connector (sold separately). **PX5500M1-10KG5T**, MS33649-4 female pressure port, twist-lock connector, 10,000 psi gage pressure range and 0 to 5 Vdc output. **PTS06A-10-6S**, mating connector (sold separately). **PX5500L0-015AI-25FT**, MS33656-4 male pressure port, 8 m (25') lead wire, 15 psi absolute pressure range and 4 to 20mA output.

METRIC CUSTOM CONFIGURATIONS

PXM5500 SERIES	PRESSURE PORT [1]	ELECTRICAL CONNECTION [2]	RANGE (BAR) [3]	UNITS [4]	OUTPUT [5]	OPTIONS [6]
MA = G1/8B Male cost			1.0	A, G, S	Base price PXM5500 I = 4 to 20 mA	CAL11 = 11-point calibration certificate ()m = Optional cable length in meters
MB = G1/8B Female no charge			1.6	A, G, S		
MC = G1/8B Male cost			4.0	A, G, S		
MD = G1/8B Female no charge			6.0	A, G, S		
			10	A, G, S		
			16	A, G, S		
			25	A, G, S		
			40	A, G, S		
			60	A, G, S		
			100	A, G, S		
			160	A, G, S		
			250	A, G, S		
			400	A, G, S		
			600	A, G, S		
	0 = 0.6 m (2') cable (std) add cost per/m over 0.2 m (2')					
	1 = PTIH-10-6P connector (or equal, no charge)					
	6 = mini DIN connector					

To order a custom configuration:

1. Select a pressure port
2. Select electrical connection
3. Select a pressure range
4. Select pressure units – Absolute, Gage or Sealed gage
5. Select output
6. Select options and agency approvals

Visit us online for additional options including extended compensated temperatures.

Ordering Examples: **PXM5500MB0-010BARS5T**, 10 bar sealed gage pressure transducer with G1/8B female connection and 0.6 m (2') cable termination.

PXM5500MD1-010BARA5T, 10 bar absolute pressure transducer with G1/8B female connection and twist-lock connector.

PTS06A-10-6S, mating connector (sold separately).



STANDARD MODELS

To Order

Models with 4 to 20 mA Output, MS33656-4 Connection, Twist-Lock Connector

RANGE		MODEL NO.	COMPATIBLE METERS*
Absolute Pressure (All Ranges Available in Absolute Pressure)			
0 to 15 psi	0 to 1.0 bar	PX5500L[*]-015AI	DP41-E, DP25B-E, DP24-E
0 to 25 psi	0 to 1.7 bar	PX5500L[*]-025AI	DP41-E, DP25B-E, DP24-E
0 to 50 psi	0 to 3.4 bar	PX5500L[*]-050AI	DP41-E, DP25B-E, DP24-E
0 to 100 psi	0 to 6.9 bar	PX5500L[*]-100AI	DP41-E, DP25B-E, DP24-E
Gage Pressure (All Ranges Also Available in Sealed Gage Pressure)			
0 to 15 psi	0 to 1.0 bar	PX5500L[*]-015GI	DP41-E, DP25B-E, DP24-E
0 to 25 psi	0 to 1.7 bar	PX5500L[*]-025GI	DP41-E, DP25B-E, DP24-E
0 to 50 psi	0 to 3.4 bar	PX5500L[*]-050GI	DP41-E, DP25B-E, DP24-E
0 to 100 psi	0 to 6.9 bar	PX5500L[*]-100GI	DP41-E, DP25B-E, DP24-E
0 to 250 psi	0 to 17.2 bar	PX5500L[*]-250GI	DP41-E, DP25B-E, DP24-E
0 to 500 psi	0 to 34.5 bar	PX5500L[*]-500GI	DP41-E, DP25B-E, DP24-E
0 to 1000 psi	0 to 68.9 bar	PX5500L[*]-1KGI	DP41-E, DP25B-E, DP24-E
0 to 1500 psi	0 to 103 bar	PX5500L[*]-1.5KGI	DP41-E, DP25B-E, DP24-E
0 to 2500 psi	0 to 172 bar	PX5500L[*]-2.5KGI	DP41-E, DP25B-E, DP24-E
0 to 3000 psi	0 to 207 bar	PX5500L[*]-3KGI	DP41-E, DP25B-E, DP24-E
0 to 5000 psi	0 to 345 bar	PX5500L[*]-5KGI	DP41-E, DP25B-E, DP24-E
0 to 10,000 psi	0 to 689 bar	PX5500L[*]-10KGI	DP41-E, DP25B-E, DP24-E

Comes complete with 5-point NIST traceable calibration.

* Visit us online for compatible meters.

[*] = Insert "0" for 0.6 m (2') cable, "1" for twist-lock connector, or "6" for mini DIN connector.

To order absolute pressure models, change "G" in model number to "A" (no extra charge).

To order sealed gage models, change "G" in model number to "S" (no extra charge).

Ordering Examples: PX5500L1-1KSI, 1000 psi sealed gage transducer with 4 to 20 mA output, PTIH-10-6P electrical connector and MS33656-4, male pressure port.

PTS06A-10-6S, mating connector (sold separately).

PX5500L1-100AI, 100 psi absolute pressure transducer with 4 to 20 mA output, PTIH-10-6P electrical connector and MS33656-4, male pressure port. PTS06A-10-6S, mating connector (sold separately).

METRIC MODELS

Models with G 1/4 Male Pressure Connection, Cable or Connector and 4 to 20 mA Output

RANGE		MODEL NO.	COMPATIBLE METERS*
GAGE PRESSURE			
0 to 1 bar	0 to 15 psi	PXM5500MC[*]-001BARGI	DP41-E, DP25B-E, DP24-E
0 to 1.60 bar	0 to 23 psi	PXM5500MC[*]-1.60BARGI	DP41-E, DP25B-E, DP24-E
0 to 4 bar	0 to 58 psi	PXM5500MC[*]-004BARGI	DP41-E, DP25B-E, DP24-E
0 to 6 bar	0 to 87 psi	PXM5500MC[*]-006BARGI	DP41-E, DP25B-E, DP24-E
0 to 10 bar	0 to 145 psi	PXM5500MC[*]-010BARGI	DP41-E, DP25B-E, DP24-E
0 to 16 bar	0 to 232 psi	PXM5500MC[*]-016BARGI	DP41-E, DP25B-E, DP24-E
0 to 25 bar	0 to 363 psi	PXM5500MC[*]-025BARGI	DP41-E, DP25B-E, DP24-E
0 to 40 bar	0 to 580 psi	PXM5500MC[*]-040BARGI	DP41-E, DP25B-E, DP24-E
0 to 60 bar	0 to 870 psi	PXM5500MC[*]-060BARGI	DP41-E, DP25B-E, DP24-E
0 to 100 bar	0 to 1450 psi	PXM5500MC[*]-100BARGI	DP41-E, DP25B-E, DP24-E
0 to 160 bar	0 to 2321 psi	PXM5500MC[*]-160BARGI	DP41-E, DP25B-E, DP24-E
0 to 250 bar	0 to 3626 psi	PXM5500MC[*]-250BARGI	DP41-E, DP25B-E, DP24-E
0 to 400 bar	0 to 5802 psi	PXM5500MC[*]-400BARGI	DP41-E, DP25B-E, DP24-E
0 to 600 bar	0 to 8702 psi	PXM5500MC[*]-600BARGI	DP41-E, DP25B-E, DP24-E

Comes complete with 5-point NIST traceable calibration.

* Visit us online for compatible meters.

[*] = Insert "0" for 0.6 m (2') cable, "1" for twist-lock connector, or "6" for mini DIN connector.

To order absolute pressure models, replace "G" in model number with "A" (no extra charge).

To order sealed gage models, replace "G" in model number with "S" (no extra charge).

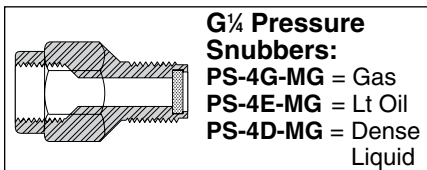
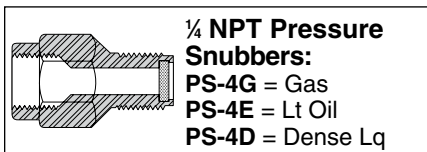
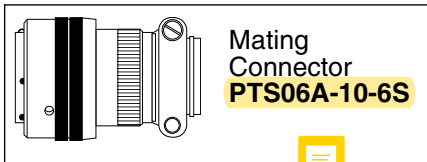
Ordering Examples: PXM5500MC0-060BARSI, 60 bar sealed gage transmitter with 4 to 20 mA output, 0.6 m (2') cable connection and G 1/4 male pressure port.

PXM5500MC6-1.60BARAI, 1.6 bar absolute pressure transmitter with 4 to 20 mA output, mini-DIN connection and G 1/4 male pressure port. Mating connector included.

Twist-lock style.



STANDARD
PX5500L1-100GI,
shown actual size.



ACCESSORY

MODEL NO.	DESCRIPTION
PTS06A-10-6S	Mating connector for PX5500 units with integral twist-lock connector