

# ULTRA HIGH-PRESSURE TRANSDUCER WITH HIGH OPERATING TEMPERATURE RANGE

## mV/V Output

0-5000 to 0-200,000 psi

0-350 to 0-14,000 bar

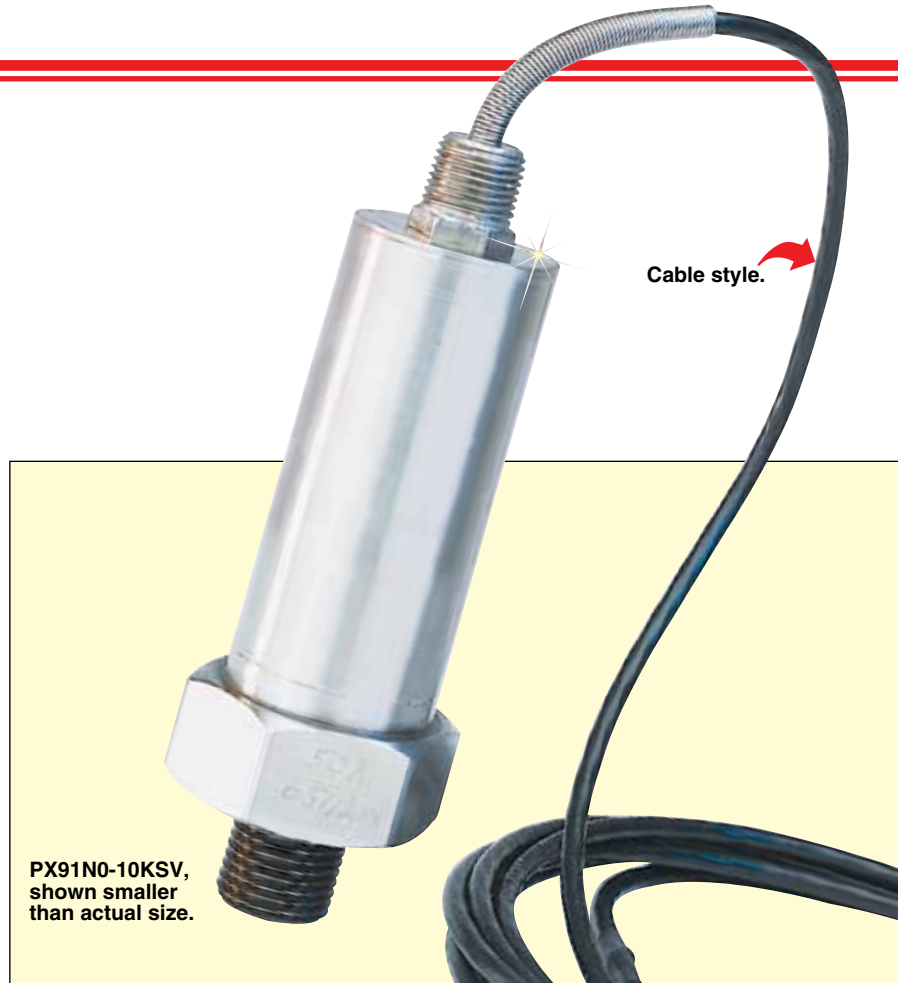
1 bar = 14.5 psi

1 kg/cm<sup>2</sup> = 14.22 psi

1 atmosphere = 14.7 psi = 29.93

inHg = 760.2 mmHg = 1.014 bar

## PX91 Series



- ✓ All Stainless Steel Construction
- ✓ High Operating Temperature, Up to 204°C (400°F)
- ✓ Hermetically Sealed for Harsh Environments

OMEGA's PX91 is a rugged, ultra-high pressure transducer series. Hermetically sealed, with all stainless steel construction, it is designed for use in test chambers. The PX91 is available in sealed gage pressures up to 200,000 psi. It has a high operating temperature up to 204°C (400°F). The pressure connection is via a high-pressure ferrule connection.

To Order			
RANGE		MODEL NO.	COMPATIBLE METERS**
CABLE STYLE, SEALED GAGE PRESSURE			
0 to 5000 psi	0 to 345 bar	PX91N0-5KSV	DP41-S, DP25B-S
0 to 10,000 psi	0 to 689 bar	PX91N0-10KSV	DP41-S, DP25B-S
0 to 15,000 psi	0 to 1034 bar	PX91N0-15KSV	DP41-S, DP25B-S*
0 to 20,000 psi	0 to 1379 bar	PX91N0-20KSV	DP41-S, DP25B-S*
0 to 30,000 psi	0 to 2068 bar	PX91N0-30KSV	DP41-S, DP25B-S*
0 to 35,000 psi	0 to 2413 bar	PX91N0-35KSV	DP41-S, DP25B-S*
0 to 50,000 psi	0 to 3447 bar	PX91N0-50KSV	DP41-S, DP25B-S*
0 to 60,000 psi	0 to 4137 bar	PX91N0-60KSV	DP41-S, DP25B-S*
0 to 80,000 psi	0 to 5516 bar	PX91P0-80KSV	DP41-S, DP25B-S*
0 to 100,000 psi	0 to 6895 bar	PX91P0-100KSV	DP41-S, DP25B-S*
0 to 120,000 psi	0 to 8274 bar	PX91P0-120KSV	DP41-S, DP25B-S*
0 to 150,000 psi	0 to 10,342 bar	PX91P0-150KSV	DP41-S, DP25B-S*
0 to 200,000 psi	0 to 13,790 bar	PX91P0-200KSV	DP41-S, DP25B-S*

Comes complete with 5-point NIST traceable calibration.

Metric ranges available – consult Engineering.

\* 4-digit meter. \*\* Visit us online for compatible meters.

**Ordering Examples:** PX91P0-100KSV, 100,000 psi sealed gage model with 1-14 NS fitting and 3 m (10') cable.

PX91N0-15KSV, 15,000 psi sealed gage model with 1/2-14 NPSM fitting and 3 m (10') cable.



# ULTRA-HIGH-PRESSURE TRANSDUCERS CABLE OR CONNECTOR STYLE

**0-5 Vdc Output**  
**0-5000 to 0-200,000 psi**  
**0-350 to 0-14,000 bar**

1 bar = 14.5 psi  
1 kg/cm<sup>2</sup> = 14.22 psi  
1 atmosphere = 14.7 psi = 29.93 inHg = 760.2 mmHg = 1.014 bar

## PX91 Series



PX91N1-30KS5T



Twist-lock style.

Both models shown smaller than actual size.

PX91N0-30KS5T



Cable style.

- ✓ Ranges Up to 200,000 psi
- ✓ High Operating Temperature, Up to 121°C (250°F)
- ✓ Hermetically Sealed for Harsh Environments
- ✓ Internal Shunt Resistor

OMEGA's PX91 amplified output series comprises rugged, high-temperature/ultra-high-pressure transducers. They are hermetically sealed, with all stainless steel construction, and are designed for the harshest test chamber environments. The PX91 is available in sealed gage pressures from 5000 psi to 200,000 psi. The electrical connection is either a sealed connector or a lightning-protected, amplifier housing. The pressure connection is via a high-pressure ferrule.

### To Order

RANGE	MODEL NO.	COMPATIBLE METERS**
<b>SEALED GAGE PRESSURE – [*] INSERT "0" FOR CABLE OR "1" FOR CONNECTOR</b>		
0 to 5000 psi	0 to 345 bar	<b>PX91N[*]-5KS5T</b> DP41-E, DP25B-E, DP24-E
0 to 10,000 psi	0 to 689 bar	<b>PX91N[*]-10KS5T</b> DP41-E, DP25B-E, DP24-E
0 to 15,000 psi	0 to 1034 bar	<b>PX91N[*]-15KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 20,000 psi	0 to 1379 bar	<b>PX91N[*]-20KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 30,000 psi	0 to 2068 bar	<b>PX91N[*]-30KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 35,000 psi	0 to 2413 bar	<b>PX91N[*]-35KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 50,000 psi	0 to 3447 bar	<b>PX91N[*]-50KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 60,000 psi	0 to 4137 bar	<b>PX91N[*]-60KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 80,000 psi	0 to 5516 bar	<b>PX91P[*]-80KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 100,000 psi	0 to 6895 bar	<b>PX91P[*]-100KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 120,000 psi	0 to 8274 bar	<b>PX91P[*]-120KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 150,000 psi	0 to 10,342 bar	<b>PX91P[*]-150KS5T</b> DP41-E, DP25B-E*, DP24-E*
0 to 200,000 psi	0 to 13,790 bar	<b>PX91P[*]-200KS5T</b> DP41-E, DP25B-E*, DP24-E*

Comes complete with 5-point NIST traceable calibration.  
Metric ranges available – consult Engineering.

\* 4-digit meter.

\*\* Visit us online for compatible meters.

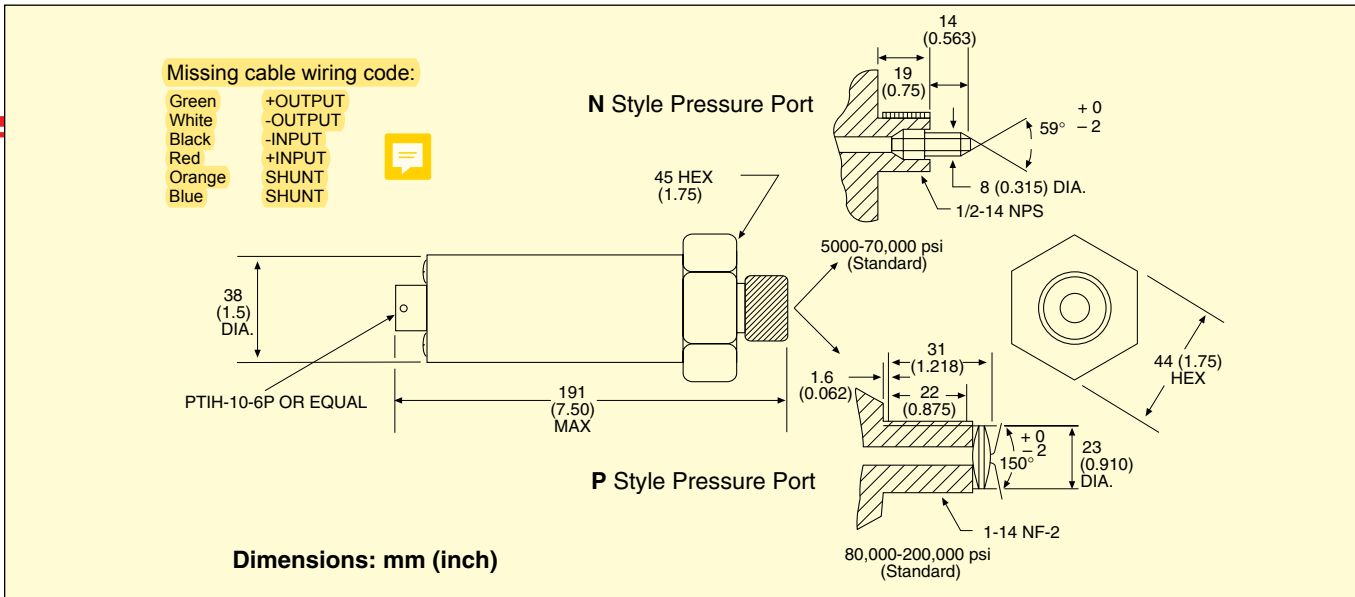
[\*] Insert "0" for 3 m (10') cable, "1" for connector style or "5" for amplifier housing.

Ordering Examples: **PX91N1-60KS5T**, 60,000 psi sealed gage model with 0 to 5 Vdc output, 1/2 -14 NPSM fitting, connector style. **PT06F10-6S-R**, mating connector (sold separately).

**PX91P0-80KS5T**, 80,000 psi sealed gage model with 0 to 5 Vdc output, 1-14 NS fitting and 3 m (10') PTFE cable.

# ULTRA-HIGH-PRESSURE TRANSDUCERS

SPECIALTY  
PRESSURE TRANSDUCERS  
**B**



## SPECIFICATIONS

**Excitation:** 28 Vdc  $\pm$  4 V  
**Output:** 0 to 5 Vdc  $\pm$  10% adj  
**Zero Balance:** 0 V  $\pm$  10% FSO adj  
**Non-Linearity:**  
 $\leq$ 70K psi: 0.35% FS  
 $>$ 70K psi: 0.5% FS  
**Hysteresis:** 0.10% FS  
**Repeatability:** 0.10% FS  
**Operating Temp Range:**  
 -46 to 121°C (-50 to 250°F)  
**Shunt:** 80% FSO  
**Compensated Temp Range:**  
 17 to 71°C (60 to 160°F)

**Thermal Effects:**  
**Span:** 0.005% rdg/°F  
**Zero:** 0.005% FSO/°F

**Proof Pressure:**  
**70K to 50K:** 120% of rated pressure

**Burst Pressure:**  
**70K to 50K:** 150% of rated pressure  
**70K to 50K:** 120% of rated pressure

**Wetted Parts:**  
 $\leq$ 70K: 17-4 PH SS  
 $>$ 70K: 455 SS

**Pressure Port:**  
 $\leq$ 70K psi: 1/2-14 NPSM (fits 0.315" dia. 59° ferrule)  
 $>$ 70K psi: 1-14 NS-2 (use 0.910" dia. 150° ferrule)

**Electrical Connection:**  
 PTIH-10-6P or 10' cable  
**Optional:** Lightning-protected amplifier housing

**Mating Connector:** For connector style, PT06F10-6S-R (sold separately)



## CUSTOM CONFIGURATIONS

PX91 SERIES	PRESSURE PORT [ 1 ]	ELECTRICAL CONNECTION [ 2 ]	RANGE (psi) [ 3 ]	UNITS [ 4 ]	OUTPUT [ 5 ]	OPTIONS [ 6 ]
<b>Ranges <math>\leq</math>70,000 psi</b> <b>N</b> = 1/2-14 NPSM (use with 0.315" dia. 59° ferrule) <b>Ranges <math>&gt;</math>70,000 psi</b> <b>P</b> = 1-14 NS-2 (use with 0.910" dia. 150° ferrule)			5K 10K 15K 20K 30K 35K 50K 60K 80K 100K 120K 150K 200K	S = Sealed gage	5T = 0 to 5 Vdc	<b>Visit us online for additional options, including extended compensated temperatures.</b>
0 = 3 m (10') cable + add cost/ft over 3 m (10') 1 = PTIH-10-6P connector (or equal, no charge) Mating connector (sold separately), order <b>PT06F10-6S-R</b> Amplified Models Only { 5 = Lightning-protected amplifier housing (no charge)						

**To order a custom configuration:**

1. Select a pressure port
2. Select electrical connection
3. Select a pressure range
4. Select pressure units
5. Select output

To order extra cable on cable style models, add suffix "-(length in feet) FT" for additional cost per foot beyond the standard 3 m (10') length.

**Ordering Examples:** PX91P5-100KS5T, 100,000 psi sealed gage pressure range model with 0 to 5 Vdc output, 1-14 NS-2 fitting and lightning-protected amplifier housing. PX91P1-80KS5T, 80,000 psi sealed gage pressure range model with 0 to 5 Vdc output, 1-14 NS-2 fitting and integral connector. PT06F10-6S-R, mating connector (sold separately). PX91N0-50K5T-25FT, 50,000 psi sealed gage pressure range model with 0 to 5 Vdc output, NPSM fitting and 7.6 m (25') cable. PX91P0-100KS5T, 100,000 psi sealed gage pressure range model with 0 to 5 Vdc output, 1-14 NS fitting and twist-lock 6 pin connector. PT06F10-6S-R, mating connector (sold separately).



# ULTRA-HIGH-PRESSURE TRANSMITTER LIGHTNING-PROTECTED HEAD STYLE

**4 to 20 mA Output**  
**0-5000 to 0-200,000 psi**  
**0-350 to 0-14,000 bar**

1 bar = 14.5 psi  
1 kg/cm<sup>2</sup> = 14.22 psi  
1 atmosphere = 14.7 psi = 29.93 inHg = 760.2 mmHg = 1.014 bar

## PX91 Series



- ✓ Ranges Up to 200,000 psi
- ✓ All Stainless Steel Case
- ✓ High Operating Temperature, Up to 121°C (250°F)
- ✓ Lightning-Protected Amplifier Housing

OMEGA's PX91 amplified output series comprises rugged, high-temperature/ultra high-pressure transducers. They are hermetically sealed, with all stainless steel construction, and are designed for the harshest test chamber environments. The PX91 is available in sealed gage pressures from 5000 psi to 200,000 psi. The electrical connection is a lightning-protected amplifier housing. The pressure connection is via a high-pressure ferrule.



PX91N5-50KSI shown much smaller than actual size.

**To Order Visit [omega.com/px91-ic](http://omega.com/px91-ic) for Pricing and Details**

RANGE	MODEL NO.	COMPATIBLE METERS**
<b>PROTECTED HEAD STYLE, SEALED GAGE PRESSURE, 4 to 20 mA OUTPUT</b>		
0 to 5000 psi	0 to 345 bar	<b>PX91N5-5KSI</b> DP41-E, DP25B-E, DP24-E
0 to 10,000 psi	0 to 689 bar	<b>PX91N5-10KSI</b> DP41-E, DP25B-E, DP24-E
0 to 15,000 psi	0 to 1034 bar	<b>PX91N5-15KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 20,000 psi	0 to 1379 bar	<b>PX91N5-20KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 30,000 psi	0 to 2068 bar	<b>PX91N5-30KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 35,000 psi	0 to 2413 bar	<b>PX91N5-35KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 50,000 psi	0 to 3447 bar	<b>PX91N5-50KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 60,000 psi	0 to 4137 bar	<b>PX91N5-60KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 80,000 psi	0 to 5516 bar	<b>PX91P5-80KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 100,000 psi	0 to 6895 bar	<b>PX91P5-100KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 120,000 psi	0 to 8274 bar	<b>PX91P5-120KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 150,000 psi	0 to 10,342 bar	<b>PX91P5-150KSI</b> DP41-E, DP25B-E*, DP24-E*
0 to 200,000 psi	0 to 13,790 bar	<b>PX91P5-200KSI</b> DP41-E, DP25B-E*, DP24-E*

Comes complete with 5-point NIST traceable calibration and operator's manual.  
Metric ranges available – consult Engineering.

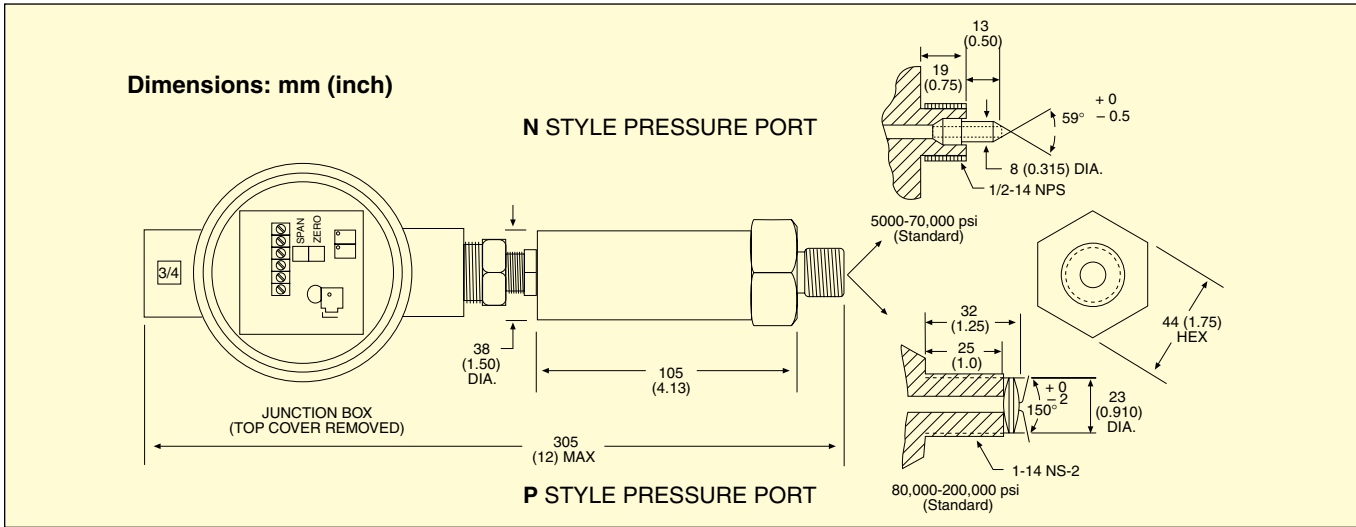
\* 4-digit meter.

\*\* See [omega.com](http://omega.com) for compatible meters.

**Ordering Examples:** **PX91N5-60KSI**, 60,000 psi sealed gage model with 4 to 20 mA output, 1/2-14 NPSM fitting and lightning-protected amplifier housing.

**PX91P5-80KSI**, 80,000 psi sealed gage model with 4 to 20 mA output, 1-14 NS fitting and lightning-protected amplifier housing.

# ULTRA-HIGH-PRESSURE TRANSMITTER



## SPECIFICATIONS

**4 to 20 mA Output**

### ELECTRICAL

**Excitation:** 12 to 40 Vdc

**Output:** 4 to 20 mA ±10% adj

**Zero Balance:** 4 mA +10% -2% adj

### Linearity:

≤70K psi: ±0.35% FSO

>70K psi: ±0.50% FSO

**Hysteresis:** ±0.10% FSO

**Repeatability:** ±0.10% FSO

**Operating Temp Range:**

-46 to 121°C (-50 to 250°F)

**Compensated Temp Range:**

17 to 71°C (60 to 160°F)

**Thermal Effects:**

**Span:** 0.005% rdg/°F

**Zero:** 0.005% FSO/°F

**Proof Pressure:**

**70K to 50K:** 120% of rated pressure

**70K to 50K:** 110% of rated pressure

**Burst Pressure:**

**70K to 50K:** 150% of rated pressure

**70K to 50K:** 120% of rated pressure

**Wetted Parts:**

≤70K psi: 17-4 PH stainless steel

>70K psi: 455 stainless steel

**Pressure Port:**

≤70K psi: 1/2-14 NPSM  
(use 0.315" dia. 59° ferrule)

>70K psi: 1-14 NS-2  
(use 0.910" dia. 150° ferrule)

**Electrical Connection:** Terminal strip inside lightning-protected amplifier housing

**Optional:** PTIH-10-6P or equal

**Mating Connector:** PT06F10-6S-R (sold separately)

## CUSTOM CONFIGURATIONS

PX91 SERIES	PRESSURE PORT [ 1 ]	ELECTRICAL CONNECTION [ 2 ]	RANGE (psi) [ 3 ]	UNITS [ 4 ]	OUTPUT [ 5 ]	OPTIONS [ 6 ]
<b>Ranges ≤70,000 psi</b> <b>N =</b> 1/2-14 NPSM (use with 0.315" dia 59° ferrule) <b>Ranges &gt;70,000 psi</b> <b>P =</b> 1-14 NS-2 (use with 0.910" dia. 150° ferrule)			5K 10K 15K 20K 30K 35K 50K 60K 80K 100K 120K 150K 200K	S = Sealed gage	I = 4 to 20 mA	See <a href="http://omega.com">omega.com</a> for additional options.
<b>0 =</b> 3 m (10') PTFE cable <b>+ add cost/ft</b> over 3 m (10') <b>1 =</b> PTIH-10-6P connector (or equal, no charge) Mating connector (sold separately), order <b>PT06F10-6S-R</b>						<b>To order a custom configuration:</b> 1. Select a pressure port 2. Select electrical connection 3. Select a pressure range 4. Select pressure units 5. Select output
<b>Amplified Models Only</b> } <b>5 =</b> Lightning-protected amplifier housing (no charge)						

Metric ranges available – consult Engineering.

To order extra cable on cable style models, add suffix “-(length in feet) FT” for additional cost per foot beyond the standard 3 m (10') length.

**Ordering Examples:** **PX91P5-100KSI**, 100,000 psi sealed gage pressure range model with 4 to 20 mA output, 1-14 NS-2 fitting and lightning-protected amplifier housing.

**PX91P1-100KSI**, 100,000 psi sealed gage pressure range model with 4 to 20 mA output, 1-14 NS fitting and integral twist-lock connector.

**PT06F10-6S-R**, mating connector (sold separately).