

# Type-PT

## Pressure Transducers

# TYPE-PT PRESSURE TRANSDUCERS

## FEATURES

- Compact Size
- Maximum Flexibility
- Excellent Price/Performance Ratio

## DESCRIPTION

The Type-PT line of micro-machined, absolute and gage pressure transducers and transmitters for both harsh and benign media with the superior accuracy of  $< \pm 0.5\%$  represents a significant cost savings over currently available pressure transducers. These compact, transducers measure pressures from 15 Psi/1 BAR to 3,000 PSI/206.8 BAR and are well suited for a variety of automotive, industrial and commercial applications.

## TYPICAL APPLICATIONS

- Refrigeration
- Fuel Cells
- Hydraulics
- Process Control
- Spraying Systems
- Hydrogen Storage
- Pneumatics
- Compressors
- Flow
- Robotics
- Agriculture
- Pumps

## STANDARD FULL SCALE PRESSURE RANGES

- 15, 50, 75, 100, 200 and 300 PSIG  
1, 3.5, 5.2, 6.9, 13.8 & 20.7 BARG
- 500, 750, 1000, 1500, 2000 & 3000 PSIS  
34.5, 51.7, 68.9, 103.4, 137.9 & 206.8 BARG
- 50, 75, 100, 200, 300, 500, 750, 1000, 1500, 2000 and 3000 PSIA  
3.5, 5.2, 6.9, 13.8, 20.7, 34.5, 51.7, 68.9, 103.4, 137.9 & 206.8 BARG

# PERFORMANCE SPECIFICATIONS

(all values at 22°C unless noted otherwise)

Output Type	0.5 to 4.5 Volts	4 – 20 mA	1 – 5 Volts
Accuracy <sup>1</sup>	75-3000 PSI 5.2-206.8 BAR	< 0.50% FS	< 0.50% FS
	15-50 PSI 1-3.5 BAR	< 1.00% FS	< 1.00% FS
Thermal Error	75-3000 PSI 5.2-206.8 BAR	< 0.50%FS	< 0.50%FS
	15-50 PSI 1-3.5 BAR	< 1.00% FS	< 1.00% FS
Total Error	75-3000 PSI 5.2-206.8 BAR	< 1.0% FS	< 1.0% FS
	15-50 PSI 1-3.5 BAR	< 2.0% FS	< 2.0% FS
Stability (Typical)		< 0.25%FS/Year	< 0.25%FS/Year
Zero Pressure Offset <sup>2</sup>		0.50 V	4.0 mA
Full Scale Output <sup>3</sup>		4.5 V	20 mA
Operating Temperature		-40 to 105°C	-40 to 105°C
Storage Temperature		-40 to 105°C	-40 to 105°C
Proof Pressure		3 x FS	3 x FS
Burst Pressure		10 x FS	10 x FS
Absolute Pressure Transducers	or 15,000 PSIA 1034 BARA (whichever is less)	or 15,000 PSIA 1034 BARA (whichever is less)	or 15,000 PSIA 1034 BARA (whichever is less)
Burst Pressure		5 x FS	5 x FS
Gage Pressure Transducers		5 x FS	5 x FS

## ELECTRICAL SPECIFICATIONS

Output Type	0.5 to 4.5 Volts	4 – 20 mA	1 – 5 Volts
Supply Voltage	5 +/- 0.5	8 to 30 Volts	8 to 30 Volts
Supply Current	< 5 mA	Not Applicable	< 5 mA
Output Current	0.45 mA Max (Sink or Source)	Not Applicable	0.45 mA Max (Sink or Source)
Response Time	< 1 ms	< 1 ms	< 1 ms
Reverse Polarity Protection	N/A	Yes	Yes

## RELIABILITY & ENVIRONMENTAL PERFORMANCE

	Test Conditions	Value	Units
Wetted Materials	304L & 316L Stainless Steel	-	-
Pressure/Temperature Cycles <sup>4</sup>	0 to FS @ 8Hz; and -40°C to 105°C	>1.8x10 <sup>6</sup>	Cycles
Thermal Shock	105°C to -40°C, 0.5 hr soaks at Temp. (2s Transfer)	250	Cycles
Vibration	10 to 2050 Hz, 20 Sinusoidal, 3 Axes	144	Hours
EMC Compatibility	80 MHz - 1 GHz	100	V/M
Humidity	85°C and 90% to 95% R. H.	250	Hours
Weight	Model PT with M12 x 1.5 6g 304L Stainless Port	85	Grams

<sup>1</sup> Includes hysteresis, repeatability and non-linearity (BFSL)

<sup>2</sup> Transducer output @ 0 Psia, 0 Psig, or 0 Psis (consult factory for other options)

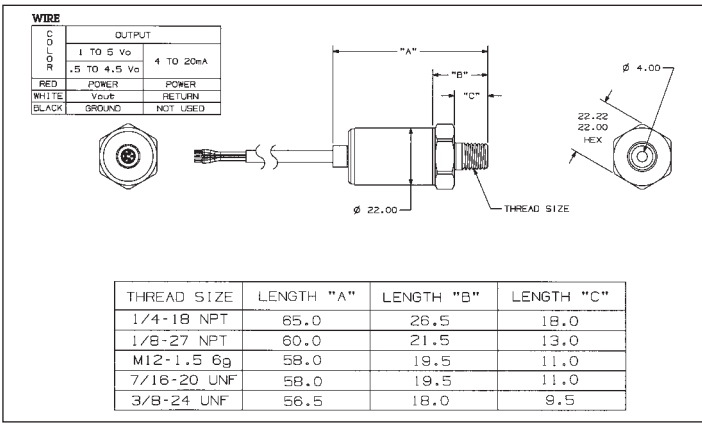
<sup>3</sup> Transducer output @ Pressure Range +14.5 Psia

<sup>4</sup> Pressure cycling performed at rated full scale pressure

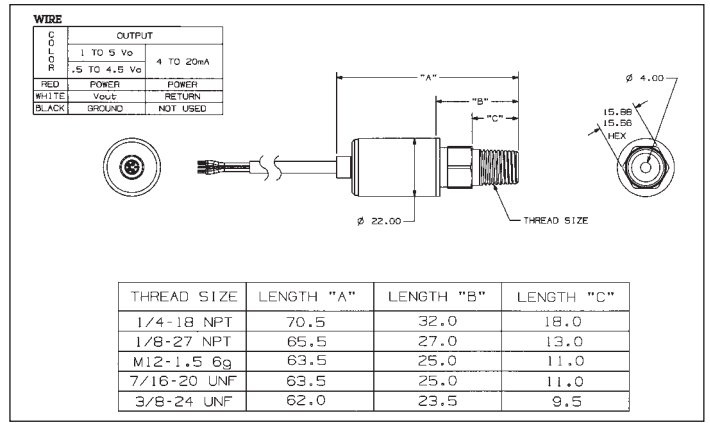
T-PT P/I TRANSDUCERS

- ✓ Improved Accuracy
- ✓ Lower Pressure Ranges
- ✓ M12 & Mini DIN Connectors



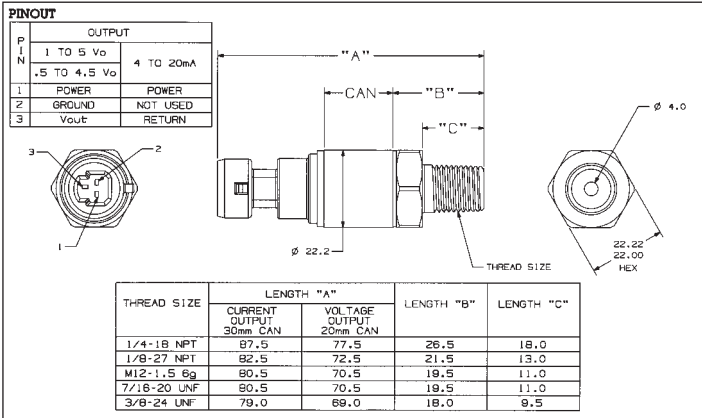


Integral Harness with 22mm Hex

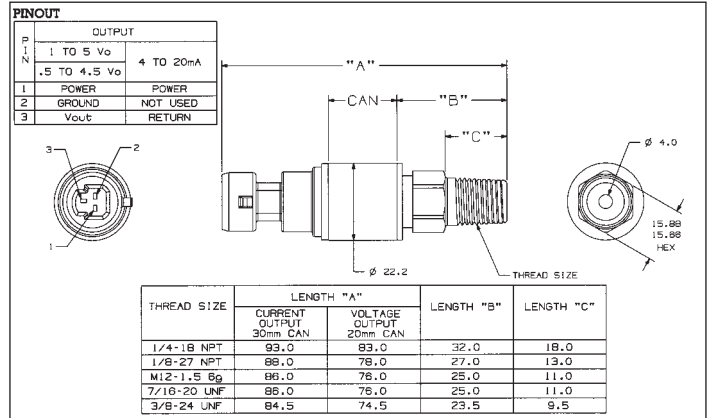


Integral Harness with 5/8" Hex

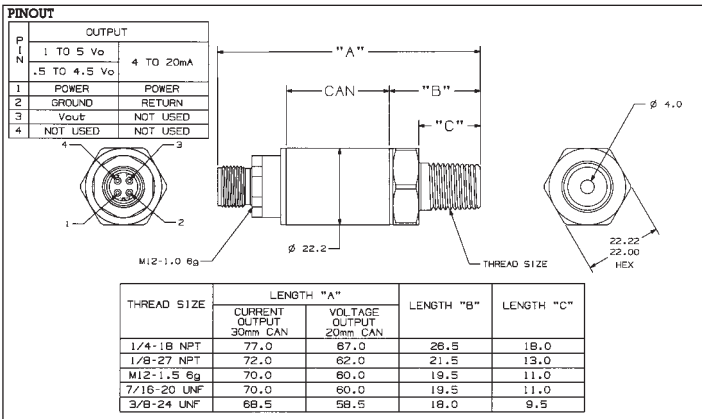
Harness Construction: PVC Jacketed 24 AWG Wire



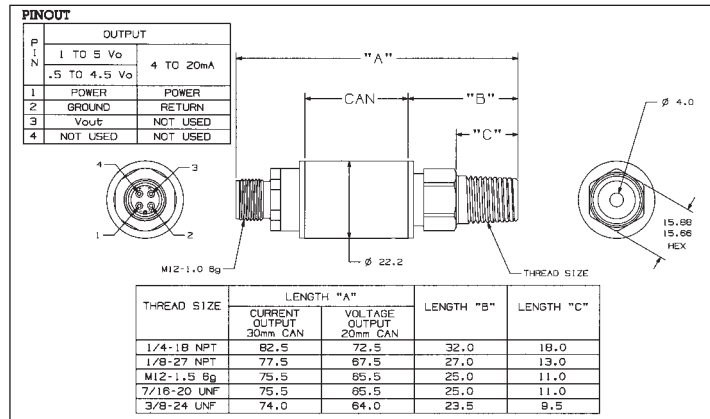
Packard Connector with 22mm Hex  
8 - 30 Vdc Input : 1 - 5 Vdc Output



Packard Connector with 5/8" Hex  
8 - 30 Vdc Input : 1 - 5 Vdc Output

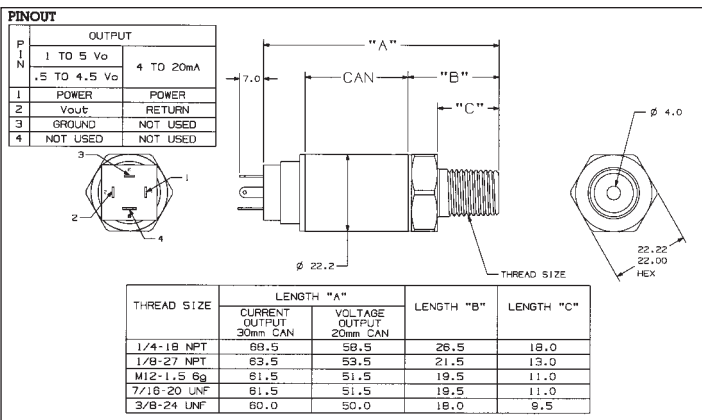


M12 4 Pin Micro Connector with 22mm Hex

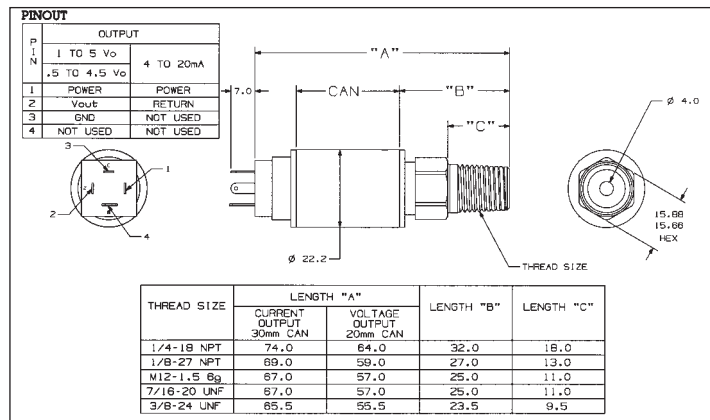


M12 4 Pin Micro Connector with 5/8" Hex

For PT Model with M12 4 Pin Micro Connectors use the 30mm CAN designation above



DIN 43650 Micro-mini Connector with 22mm Hex



DIN 43650 Micro-mini Connector with 5/8" Hex

For PT Model with Micro-mini Connectors use the 30mm CAN designation above

STANDARD PACKAGING OPTIONS

# ORDERING MATRIX

P T

Product Family	
Pressure Ranges	
PSI	BAR
15 (G)	1 (G)
50 (A or G)	3.5 (A or G)
75 (A or G)	5.2 (A or G)
100 (A or G)	6.9 (A or G)
200 (A or G)	13.8 (A or G)
300 (A or G)	20.7 (A or G)
500 (A or S)	34.5 (A or S)
750 (A or S)	51.7 (A or S)
1000 (A or S)	68.9 (A or S)
1500 (A or S)	103.4 (A or S)
2000 (A or S)	137.9 (A or S)
3000 (A or S)	206.8 (A or S)

Port Configuration		
	Hex	Port
A	22mm	1/4 – 18 NPT
B	22mm	1/8 – 27 NPT
C	22mm	M12 – 1.5 6g
D	22mm	7/16 – 20 UNF
E	22mm	3/8 – 24 UNF
F	5/8"	1/4 – 18 NPT
G	5/8"	1/8 – 27 NPT
H	5/8"	M12 – 1.5 6g
I	5/8"	7/16 – 20 UNF
J	5/8"	3/8 – 24 UNF

Connector	
P	– Packard
MD	– DIN 43650 Micro-mini Connector
M12	– M12 4 Pin Micro Connector
I 6	– 6" Integral Harness
I 12	– 12" Integral Harness
I 18	– 18" Integral Harness
I 24	– 24" Integral Harness
I 36	– 36" Integral Harness
I 72	– 72" Integral Harness

Output Options	
4.5V	– 0.5 to 4.5V (5V input only)
5V	– 1 to 5V (8 to 30V input only)
20mA	– 4 to 20mA (8 to 30V input only)

- Notes:
1. A, G, or S designates Absolute, Gage or Sealed Gage Pressure
  2. Calibration of the transducer is as follows:
    - a. Absolute Transducers are calibrated to have 0.5 Vdc, 1 Vdc, or 4 mA respectively at 0 PSIA
    - b. Gage Transducers are calibrated to have 0.5 Vdc, 1 Vdc, or 4 mA respectively at 0 PSIG
    - c. Sealed Gage Transducers are calibrated to have 0.5 Vdc, 1 Vdc, or 4 mA respectively at 0 PSIG
  3. Sealed Gage Sensors are not vented to atmosphere, but are calibrated to resemble a gage sensor output per the above note.

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## MATING CONNECTORS AVAILABLE



Packard Connector (lengths and p/n's)

6"	122-007-00	24"	122-007-03
12"	122-007-01	36"	122-007-04
18"	122-007-02		



M12 Connector - 90° Angle p/n: 122-008-00



M12 Connector - Straight p/n: 122-008-01



Mini DIN Connector p/n: 122-009-00

**IMPORTANT NOTICE:** Our recommendations, if any, for the use of this product are based on tests believed to be reliable. The greatest care is exercised in the selection of our raw materials and in our manufacturing, no guarantee or warranty, express or implied is made as to such use or effects incidental to such use, handling or possession or the results to be obtained, whether in accordance with the directions or claimed so to be. The manufacturer expressly disclaims responsibility therefor. Furthermore, nothing contained herein shall be construed as a recommendation to use any product in conflict with existing laws and/or patents covering any material use.

I-PT P/I TRANSDUCERS

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