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Terwin 5000 Series Melt Pressure / Temperature Transducers and Transmitters



Description:

The Terwin 5000 Series melt pressure / temperature transducers / transmitters utilise hydraulic transmission between the sensing diaphragm that is in contact with the melt and the strain gauge assembly that produces an electrical output.

Models are available with either nominal 3.33mV/V output (transducer), 4-20mA DC or 0-10V DC (transmitter) conditioned outputs. All outputs utilise industry standard 80% calibration.

Available pressure ranges are 0-500psi through 0-30,000psi (0-35 bar through 2,000 bar). Other units of pressure measurement, such as kg/cm² or MPa etc., are available if required.

Standard thread size is ½"-20UNF, however optional European sizes such as M18 x 1.5mm, M14 x 1.5mm and Japanese sizes PF3/8 and PF3/4 are also available.

Available with a selection of stem lengths: 3", 6", 9", 12", 15" & 18".

Optional fill materials are available.

Features:

- ✓ Low cost.
- ✓ Proven sensor design.
- ✓ High performance.
- ✓ Accuracy better than $\pm 0.5\%$.
- ✓ Terwin *Extru-Max*[™] diaphragm as standard.
- ✓ Internal 80% negative shunt calibration.
- ✓ Compatible with most competitor models

Benefits:

- ✓ Superior abrasion resistance
- ✓ Reliable, repeatable pressure measurement
- ✓ Wide variety of pressure ranges
- ✓ Optional stems lengths
- ✓ Optional thread sizes

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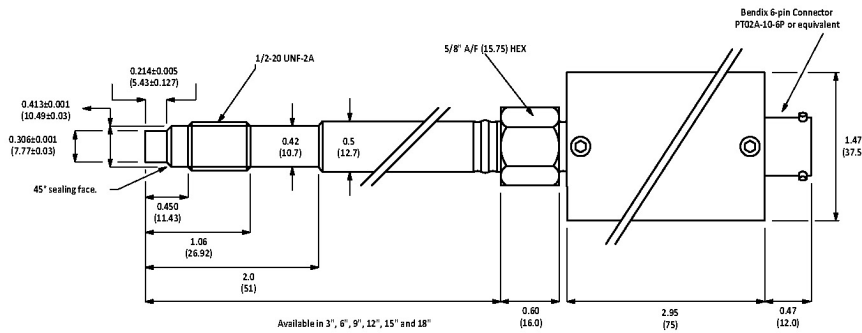


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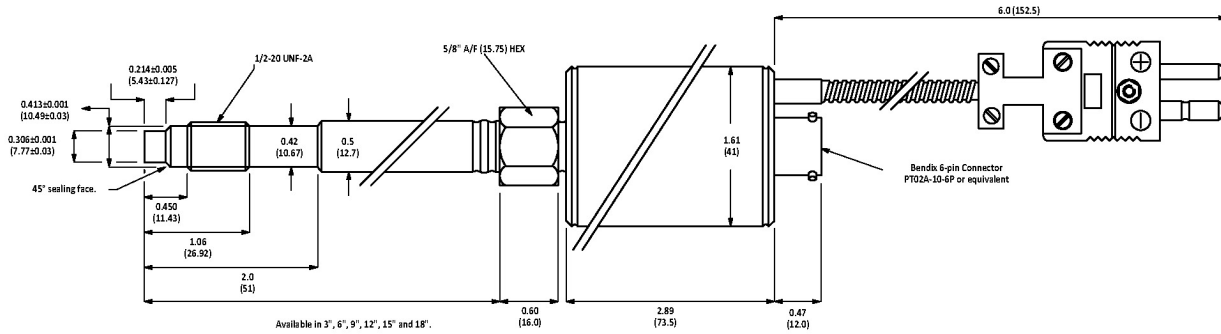
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All dimensions mm's (inches)

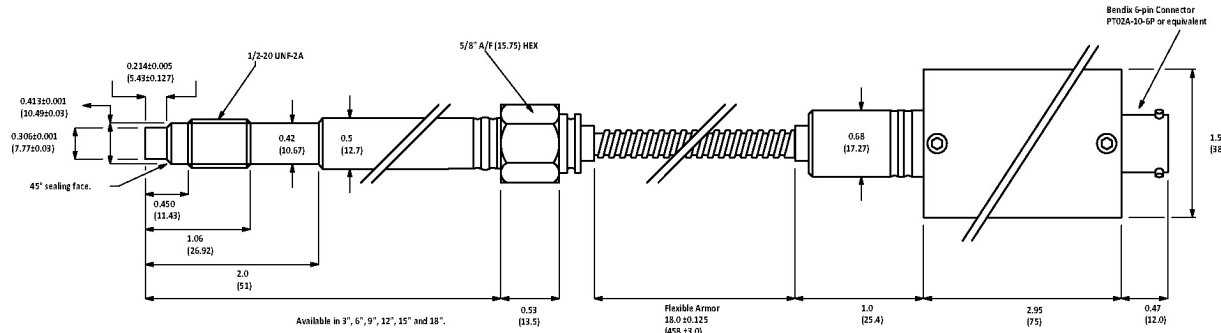
MODEL 51
Pressure



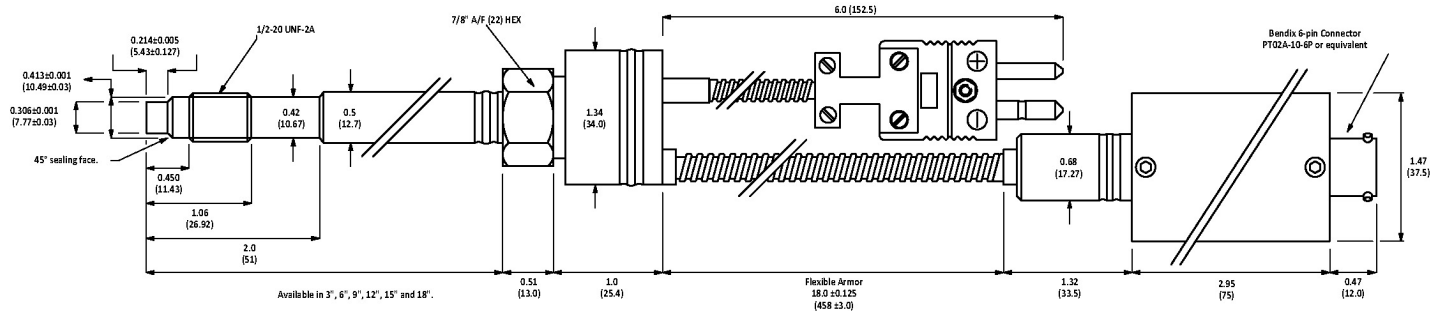
MODEL 52
Pressure & Temperature



MODEL 53
Pressure

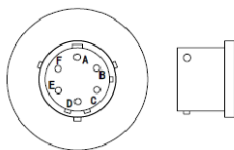


MODEL 54
Pressure & Temperature

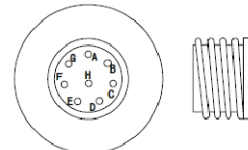


Industry Standard Connectors:

6-Pin (D6)
(Standard)



8-Pin (D8)
(Optional)



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Transducers and Transmitters

5000 Series Ordering Codes

51 - 6 - M - J - Y - D6 - 7M5 - A - OIL - H - M18 - SPXXX

MODEL:		CODE:
51	Rigid stem	51
52	Rigid stem + temperature sensor	52
53	Rigid stem + flexible capillary	53
54	Rigid stem + flexible capillary + temperature sensor	54
STEM LENGTH:		CODE:
3 inches (76.2mm)		3
6 inches (152.4mm)		6
9 inches (228.6mm)		9
12 inches (305.0mm)		12
15 inches (381.0mm)		15
18 inches (457.2mm)		18
Other (contact sales)		TBA
PRESSURE OUTPUT SIGNAL:		CODE:
3.33mV/V (standard)		M
4-20mA DC (2-wire + calibration pair)		A
0-10V DC (4-wire + calibration pair)		V
TEMPERATURE SENSOR (52 + 54 Series ONLY)		CODE:
None		X
"J" I/C (standard)		J
"K" C/A		K
PT100		P
ARMoured CAPILLARY LENGTH (53 + 54 Series ONLY)		CODE:
None		Y
18 inches (standard)		18
36 inches etc		36 etc
CONNECTOR TYPE:		CODE:
PT02A-10-6P (6-Pin bayonet)		D6
PC02E-12-8P (8-Pin threaded)		D8
½"-14NPT Threaded Process Connector With Flying Lead		NPT
Non-Standard (contact sales)		TBA



PRESSURE RANGE: 0 - (zero to)			
PSI	CODE:	BAR	CODE:
500psi	5C	35bar	35B
1,000psi	1M	70bar	70B
1,500psi	1M5	100bar	100B
3,000psi	3M	200bar	200B
5,000psi	5M	350bar	350B
7,500psi	7M5	500bar	500B
10,000psi	10M	700bar	700B
15,000psi	15M	1,000bar	1000B
20,000psi	20M	1,500bar	1500B
30,000psi	30M	2,000bar	2000B
Non-standard		TBA	
ACCURACY:			CODE:
±0.5% (standard)			A
±0.25%			B
FILL MATERIAL:			CODE:
Mercury			Left blank
Silicon Oil			OIL
Glycerine Oil			GLY
DIAPHRAGM:			CODE:
Terwin Extru-Max™ Coating			Left blank
Hastelloy "C276"			H
Other			TBA
THREAD SIZE:			CODE:
1/2"-20UNF-2A			Left blank
M14x1.5mm			M14
M18x1.5mm			M18
PF3/8 (G3/8)			G3/8
PF3/4 (G3/4)			G3/4
Non-standard (contact sales)			TBA
SPECIAL CODE			CODE:
None			Left Blank
Code to be issued by factory			SPXXX

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Specifications

Standard Pressure Ranges:	psi	0-5,000	0-7,500	0-10,000	0-15,000
	bar	0-350	0-500	0-700	0-1,000
Available Pressure Ranges	psi	0-500 thru to 0-30,000			
	bar	0-35 thru to 0-2,000			
Combined Error	Within $\pm 0.5\%$ F.R.O. (Optional $\pm 0.25\%$) Oil filled units have reduced accuracy of $\pm 1\%$ with optional $\pm 0.5\%$ within standard pressure ranges. Non-standard ranges have an accuracy of $\pm 1.5\%$.				
Repeatability	Within $\pm 0.1\%$ F.R.O.				
Resolution	Infinite				
Maximum Pressure:	2 x full range or 25,000psi (1,700 bar) which ever is less.				
	On 30,000psi (2,000bar) sensors, the maximum pressure is 35,000psi (2,400 bar).				
Body Material	17PH4 Stainless steel.				
Diaphragm Material	Terwin Extru-Max™ Long Life Diaphragm				
Available Fill Materials	Mercury (standard)	Silicon Oil	Glycerine Oil		
Mounting Torque	20ft lbs (27Nm) (240 inch/lbs)				
Standard Thread Size	1/2"-20UNF-2A (standard).				
Available Thread Sizes	M14x1.5mm, M18 x 1.5mm, PF3/8 (G3/8) and PF3/4 (G3/4).				
Electrical Specifications					
Excitation	Transducers: 5-12V D.C.		Transmitters: 15-30V D.C.		
Configuration	Four-arm bonded foil Wheatstone bridge strain gauge				
Bridge Resistance	350 Ω $\pm 10\%$				
Outputs	Transducers		Transmitters (current)		Transmitters (voltage)
	3.33mV/V D.C. $\pm 10\%$		4-20mA D.C.		0-10V D.C.
Zero Balance	Transducers $\pm 10\%$ F.R.O.		Transmitters $\pm 10\%$ adjustable by customer assessable potentiometer		
Internal Negative Shunt Calibration	Transducers 80% F.S.O. $\pm 0.25\%$		Transmitters 80% F.S.O. $\pm 0.25\%$ adjustable by customer assessable potentiometer		
Electrical Connectors	6-Pin (D6) PT02A-10-6P		8-Pin (D8) PT02E-12-8P		1/2"-NPT direct cable outlet
Integral Temperature Sensors	"J" I/C (standard)		"K" C/A (optional)		PT100 (optional)
Maximum Diaphragm Temperature	Model No:	Mercury Fill	Silicon Fill	Glycerine Fill	
	51/52	350°C / 662°F	200°C / 392°F	180°C / 356°F	
	53/54	450°C / 842°F	250°C / 482°F	220°C / 428°F	
Maximum Strain Gauge Temperature	Transducers	121°C / 250°C.	Transmitters	85°C / 185°F	
Zero Shift Due To Temperature Change	<0.02% F.S.O./°C or <0.01% F.S.O./°F				
Span Shift Due To Temperature Change	<0.02% F.S.O./°C or <0.01% F.S.O./°F				

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