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GP:50

PLASTIC MELT PRESSURE TRANSDUCER/TRANSMITTER

Models 130 & 131
230 & 231
330 & 331



PLASTIC MELT PRESSURE

GENERAL

The GP:50 product line of melt pressure transducers and transmitters are based on the proven bonded strain gage principle successfully utilized in thousands of applications. Our unique design incorporates a heavier sensor allowing a thicker tip diaphragm, provides better linearity, and reduces costs.

The design incorporates an extremely small capillary tubing that transmits the media pressure to the strain gage sensor and mating electronics via a mechanical fill fluid. (Mercury is the standard, silicone and mineral oil are readily available depending on the application).

FEATURES:

- Rugged, all-welded, all stainless steel construction.
- Interchangeable with existing systems.
- Many options available, Hastelloy C-276 or Boron - Hardening
- Explosion-Proof ratings available
- Internal Calibration Resistor set to 80% ± 0.5% FSO
- Zero and Span controls, approximately ± 20% FSO (2XX, 3XX only)

PRESSURE RANGES:

- From 0-500 through 0-30,000 psi)
  (See ordering guide)

ACCURACY:

(Non -Linearity, Hysteresis, Non-repeatability)

- ± 0.25% FSO, RSS (0-5000 psi & higher)
- ± 0.5% FSO, RSS (0-500 and 0-3500 psi)

MODEL	OUTPUT @ 70° F*	EXITATION
130/131	3.33* mV/V ± 2%	3.5-15 Vdc
230/231	5.0 Vdc ± 2%	9-40 Vdc
330/331	4-20 mA ± 2%	9-36 Vdc

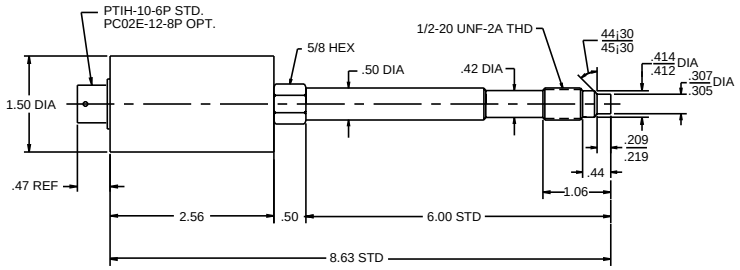
* Amplified Output

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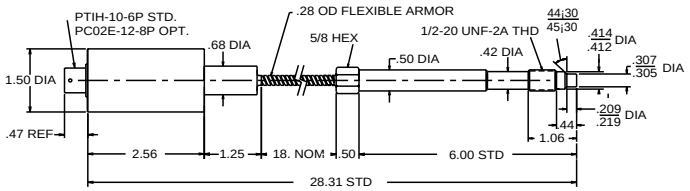
OUTLINE

Some options will affect dimensions.
Consult factory if important.

MODEL 30



MODEL 31



MODELS 130, 230, 330

These are the rigid stem versions of GP:50's plastic melt pressure transducers. Available in a standard length of 6 inches, they may be ordered in longer or shorter lengths to accommodate individual needs (See outline drawing & close up). The limiting minimums may be the die temperature and environment which must jointly combine to restrict the electronics and sensor from exceeding 180°F.

MODELS 131, 231, 331

The flexible tube version of the product line provides the ultimate in thermal isolation for those demanding applications reaching the upper limits of 750°F. Provided with a standard 18 inch length of flexible capillary tubing protected with a stainless steel armored jacket, and a 6 inch rigid stem length (see outline drawing), they can be provided in shorter or longer lengths, with or without the armor, for machine geometries requiring alternative packages. Many variations are possible. Please call the factory for free consultation on your needs.

WIRING CODE

PTIH-10-6P	130, 131	230, 231	330, 331
A/1	+ Signal	+ Signal	+ Excit./Signal
B/2	- Signal	- Signal*	- Excit./Signal
C/3	+ Excit.	+ Excit.	NC
D/4	- Excit.	- Excit.*	NC
E/5	Calibrate	Calibrate	Calibrate
F/6	Calibrate	Calibrate	Calibrate

PC02E-12-8P	130, 131	230, 231	330, 331
A/1	+ Excit.	+ Excit.	+ Excit./Signal
B/2	+ Signal	+ Signal	NC
C/3	- Excit.	- Excit.*	NC
D/4	- Signal	- Signal*	- Excit./Signal
E/5	Cal. (Common)	Cal. (Common)	Calibrate
F/6	Cal. (Int. Res)	Cal. (Int. Res.)	Calibrate
G/7	NC	NC	NC
H/8	Cal. (Ext. Res.)	Cal. (Ext. Res.)	NC

Pigtail	330, 331
Red	+ Excit./Signal
Black	- Excit./Signal
Shield	NC

* - Signal and - Excitation are common to each other.

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SPECIFICATIONS

Unless otherwise stated, these specifications are the standards to which the units are normally constructed. Alterations may be easily and readily accomplished by the standard modification code or by discussion with the factory. We invite your inquiry.

Full Scale Pressure Ranges - See ordering guide	
Accuracy	
Static Error Band (Non-linearity, Hysteresis, Non-repeatability)	± 0.5% FSO(RSS) 500 through 3500 psi ± .25% FSO(RSS) 5000 through 30000 psi
Material in Contact with Pressure Media	15-5 PH diaphragm, Armoloy coated (hard chrome) Diamond, Boron or Titanium Nitride coatings optional
Proof Pressure	2 times full scale pressure range or 35,000 psi whichever is less
Temperature Limits	
Diaphragm	750°F (400°C), 1000°F available with NaK fill
Strain Gauge Housing	176°F (80°C)
Temperature Effects from Diaphragm	
From Fill	
Zero	8 psi/100°F per inch of stem and capillary
From Strain Gauge Housing	
Zero	Less than ± 1.0% FSO/100°F (± 2.0% FSO/100°C)
Span	Less than ± 1.0% FSO/100°F (± 2.0% FSO/100°C)
Electricals	
Input Impedance	
Model 130, 131	350 ohm, nominal
Input Current	
Model 230, 231	8 mA, nominal
Load Impedance	
Model 130, 131	50,000 ohms minimum for less than 0.1% FSO attenuation
Model 330, 331	1350 ohms maximum, at 36 Vdc and 750 ohms at 24 Vdc
Output Current	
Model 230, 231	2.0 mA maximum for less than 0.1% FSO attenuation
Zero Balance	
Model 130, 131	0.0 mV/V ± 5% FSO @ 70°F
Model 230, 231	0.0 Vdc ± 2% FSO @ 70°F
Model 330, 331	4.0 mA ± 2% FSO @ 70°F
Range Calibration Signal	80% ± 0.5% FSO standard
Connections	
Pressure	1/2" - 20 UNF-2A thread for standard (M18 x 1.5 metric thread optional)
Electrical	PTIH-10-6P, standard PT06A-10-6S (SR), standard mate (not included) See options.
Enclosed Materials	316 stainless steel
Mounting Torque	500 inch pounds, maximum
Identification to body.	Etched stainless steel nameplate welded

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ORDERING GUIDE

Ordering: Specify model, and pressure range and indicate modifications or accessories required.

Use The Following Codes To Identify Desired Item.

MODEL		RANGE		OPTIONS
•	—	•	—	•/•/•

Example: 331-RV-CF/GP

MODEL

130/131	3.33 mV/V
230/231	5 Vdc
330/331	4-20 mA
230X/231X	5 Vdc
330X/331X	4-20 mA
330Z/331Z	4-20 mA

PRESSURE RANGE

	psi		bar
RH	500	UV	50
RJ	600	UX	75
RK	750	UY	100
RM	1000	UZ	150
RO	1500	VA	200
RR	2000	VB	300
RS	2500	VC	350
RT	3000	VD	500
RV	5000	VE	700
RX	7500	VF	750
RZ	10000	UA	1000
SB	15000	UH	1400
SD	20000	UB	1500
SF	30000	UC	2000
SZ	Other		

GP:50 reserves the right to make product improvements and amendments to the product specification stated throughout this brochure without prior notification. Please contact the factory on all critical dimensions and specifications for verification.

OPTIONS

AA - None (standard connector PTIH-10-6P)

ALTERNATE CONNECTOR OR CABLE

CC Bendix PC02E-12-8P,
[Mate: PC06A-12-8S-(SR), not included]
CD Cannon WK6-32S,
[Mate: WK6-21C, not included]
CF 1/2" NPT(M) thread with 36" potted leads
CZ Alternate Connector/ Cable/ Other

ALTERNATE PRESSURE PORT

FB M18 X 1.5 Metric Thread
FG M14 X 1.5 Metric Thread
FZ Non-Standard Pressure Port

GENERAL

GB Alternate Electronic Output - specify zero and span output values
GP Hastelloy C-276 Diaphragm and Thread
GQ Boron-Hardened diaphragm
GS 0-10 Vdc FSO, Model 2xx only, (Requires 16-32 Vdc excitation)
QJ NaK Fill for 750°F max. applications
GW NaK Fill with Inconel diaphragm and stemfor 1000°F max. applications
GV Silicone Oil Fill. (Increases Thermal Shift) Consult factory
GX Mineral Oil Fill. (Increases Thermal Shift) Consult factory
JW Titanium Nitride-Coated Diaphragm & Threads
JA 100 ohm RTD., 3 - wire, provided with no external cal. &
8 - pin standard connector
GZ Customer Special
MO Gentran Wiring
MP Barber-Colman Wiring

RIGID STEM

GN 12.5" Rigid Stem
GO 9" Rigid Stem
HD 3" Rigid Stem
HJ 1 3/16" Rigid Stem
HT 24" Rigid Stem
HU 4" Rigid Stem

FLEX TUBING

GT 30" Armored Capillary Tube
HS 9" Armored Capillary Tube
HV 24" Armored Capillary Tube
HY 12" Armored Capillary Tube
MT Non-standard Armored Capillary Tube (50" max)

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