












PRESSURE TRANSDUCERS

Potential Application	Model	Order Code	Accuracy	Page	
Quick Ship	FP2000	FPA,FPB,FPG, FPV,FDD,FDW	0.10% - 0.25%	16	
General Purpose	A-5 Z TJE	AP141,AP142 AP131,AP132 AP121,AP122	0.5% 0.25% 0.1%	21 25 29	
Ultra High Accuracy	Super TJE	AP111,AP112	0.05%	33	
Miniature Flush Diaphragm	S G F A-105 A-105a A-205 A-205a	BP357,BP358 BP386,BP387 BP340-BP346 AP311 AP313-AP318 BP312 BP314-316	1% 1% 1% 0.5% 0.5% 0.5% 0.5%	36 39 42 45 48 50 52	
Flush Diaphragm	355	BP313	0.25%	54	
Transmitters	440 415 811	AP415,AP416 AP411,AP412 BP421,BP422	0.2% 0.1% 0.25%	57 60 63	
High Pressure	HP	BP521	0.5%	65	
OEM	LM BDR LCP	BP211 BP217 BP223,BP224	0.10% 0.5% - 0.75% 1%	68 70 73	
Digital O/P	DS	AP611-AP614	0.1%	75	
Special Applications	LL-V CIP-Ultra 424 425 AS17A AS19G	BP712 see datasheet BP424 BP425 AP161 AP162	0.1% 0.15% - 0.5% 0.25% 0.25% 0.15% 0.15%	77 79 82 84 86 86	
Calibration	Accugage	AG400,AG401	0.05% - 0.10%	88	

Model FP2000

Performance

Pressure Ranges & Range codes

	psi	Range Code	torr	Range Code	mBar	Range Code	kPa	Range Code	Bar	Range Code	in Hg	Range Code	mm Hg	Range Code	in H ₂ O	Range Code
Gage, Absolute (Order Codes FPG, FPA)	0.5*	AN	15	HA	35	JA	2	KA	0.035	MA	1	UB	15	VA	5	WB
	1*	AP	50	HB	70	JB	7	KB	0.1	MB	2	UD	50	VB	10	WA
	2*	AR	135	HC	175	JC	15	KC	0.2	MC	5	UF	135	VC	20	WC
	2.5*	AS	250	HD	350	JD	35	KD	0.5	MD	10	UA	250	VD	30	WE
	5	AT	750	HE	700	JE	70	KE	1	ME	15	UC	750	VE	50	WG
	10	AV	1500	HF	750	JF	100	KF	2	MF	20	UE	1500	VF	100	WI
	15	BJ			1000	JG	200	KG	3.5	NA	30	UG			120	WK
	25	BL			3500	JH	300	KH	5	MG	50	UI			150	WM
	30	BM			7000	JI	700	KJ	7	NB	60	UK			200	WP
	50	BN			10000	JK	1000	KL	10	MH	80	UM			300	WR
	75	BP					1500	KM	20	MI	100	UP			500	WS
	100	BR					1700	KN	30	MJ	200	UH				
	150	CJ					2000	KP	35	NC	300	UJ				
	200	CL					3000	KQ	50	MK	500	UL				
	150	CN					5000	KR	70	ND	1000	UN				
	300	CP					7000	KS	100	ML						
	400	CQ					10000	KT	135	NE						
	500	CR					15000	KU	350	NG						
	600	CS					20000	KV	500	MM						
	750	CT					35000	KW	700	NH						
	1000	CV					50000	KY								
	1500	DJ					70000	KZ								
	2000	DL														
2500	DM															
3000	DN															
5000	DR															
6000	DS															
7500	DT															
10000	DV															
Barometric (Order Code FPB)											0-30	UG				
											16-32	UQ				
											26-32	UR				
Vacuum (Order Code FPV)	1	AP	50	HB	35	JA	7	KB	0.035	MA	10	UA	15	VA	10	WA
	5	AT	135	HC	70	JB	15	KC	0.1	MB	20	UE	50	VB	20	WC
	10	AV	250	HD	175	JC	35	KD	0.2	MC	30	UG	135	VC	30	WE
	15	BJ	750	HE	350	JD	100	KF	0.5	MD			250	VD	50	WG
					700	JE			1	ME			750	VE	100	WI
				750	JF											
				1000	JG											
Differential (Order Codes FDD, FDW)	0.5	AN	15	HA	35	JA	2	KA	0.035	MA	1	UB	15	VA	5	WB
	1	AP	50	HB	70	JB	7	KB	0.1	MB	2	UD	50	VB	10	WA
	2	AR	135	HC	175	JC	15	KC	0.2	MC	5	UF	135	VC	20	WC
	2.5	AS	250	HD	350	JD	35	KD	0.5	MD	10	UA	250	VD	30	WE
	5	AT	750	HE	700	JE	70	KE	1	ME	15	UC	750	VE	50	WG
	10	AV	1500	HF	750	JF	100	KF	2	MF	20	UE	1500	VF	100	WI
	15	BJ			1000	JG	200	KG	3.5	NA	30	UG			120	WK
	25	BL			3500	JH	300	KH	5	MG	50	UI			150	WM
	30	BM			7000	JI	700	KJ	7	NB	60	UK			200	WP
	50	BN			10000	JK	1000	KL	10	MH	80	UM			300	WR
	75	BP					1500	KM	20	MI	100	UP			500	WS
	100	BR					1700	KN	30	MJ	200	UH				
	150	CJ					2000	KP	35	NC	300	UJ				
	200	CL					3000	KQ	50	MK	500	UL				
	150	CN					5000	KR	70	ND	1000	UN				
	300	CP					7000	KS	100	ML						
	400	CQ							135	NE						
	500	CR							350	NG						
	600	CS							500	MM						
	750	CT														
	1000	CV														

*0.5 to 2.5 psi ranges not available for absolute pressure

Model FP2000

Performance

Accuracy (note 1).....See table below
 Output (selectable).....mV/V (See table below), 0-5 VDC, 0-10 VDC, or 4-20 mA (2 wire)
 Resolution.....Infinite

Non-amplified output

@ 10 VDC excitation	Gage & Absolute	Vacuum	Barometric	Differential
0.10% accuracy	50 mV (note 4)	25 mV	40 mV	50 mV (note 4)
0.25% accuracy	100 mV	50 mV	80 mV	100 mV

Environmental

Temperature, Operating.....-40° to 240°F
 Temperature, Compensated.....40° to 140°F (note 2)
 Temperature, Error Band (note 2)
 0.10% accuracy.....+/- 0.5% F.S.
 0.25% accuracy.....+/- 1.0% F.S.

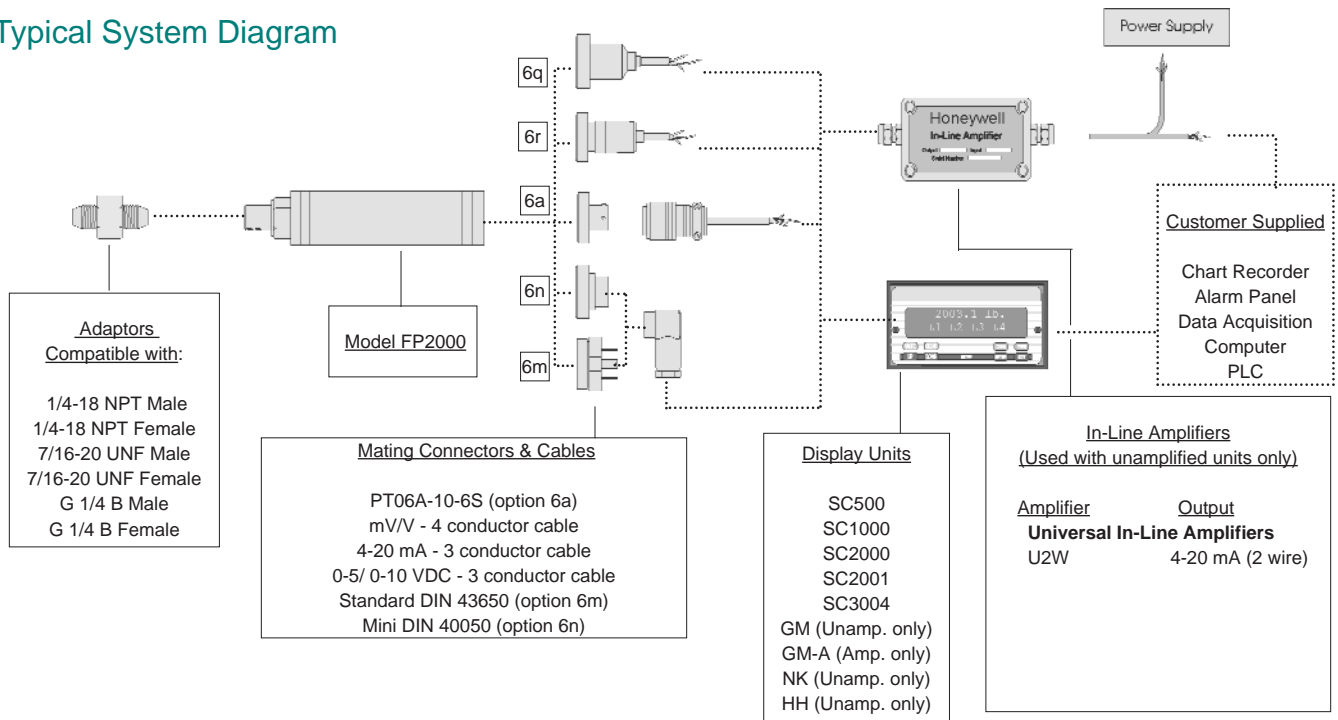
Electrical

Excitation (calibration)
 Amplified (4-20 mA, 0-5 VDC).....9-28 VDC
 Amplified (0-10 VDC).....15-28 VDC
 Unamplified (mV/V).....10 VDC

Mechanical

Media (note 3).....Gas, Liquid
 Overload-Safe
 1000 psi and below.....4x Full Scale or 3,000 psi, whichever is less
 1500 psi and above.....4x Full Scale or 15,000 psi, whichever is less
 Negative Direction (for Differential).....4x Full Scale or 250 psi, whichever is less
 Overload-Burst.....300% over capacity
 Pressure Port.....200% over capacity
 Wetted Parts Material.....Ha C276 & 316L Stainless Steel

Typical System Diagram



Notes

1. Accuracies stated are expected for Best Fit Straight Line for all errors, including linearity, hysteresis & non-repeatability thru zero.
2. For low pressure ranges, temperature effects may vary.
3. The Wet/Wet differential pressure transducer has two separate, welded Hastelloy diaphragms. In the Wet/Dry unit, the wet port (high port) has all-welded stainless and Hastelloy construction. The dry port (low port) has no isolation diaphragm.
4. For low gage and differential pressure ranges at 0.10% accuracy, non-amplified output @ 10 VDC excitation = 100mV.

Internal Amplifiers

Amplifier Specifications	Unamplified Output Option 2u	Voltage Output Option 2d	Voltage Output Option 2g	Current 2 Wire Option 2p	Intrinsically Safe Amp 2n (2N)***
Output Signal	see table on previous page	0-5 VDC	0-10 VDC	4-20 mA	4-20 mA
Input Power (Voltage)	10 VDC	9-28 VDC	15-28VDC	9-32 VDC	9-28 VDC
Input Power (Current)	2mA @ 10 VDC	10mA	15mA	4-24 mA	4-24 mA
Frequency Response	Natural Frequency	300Hz	300Hz	300 Hz	2000 Hz
Power Supply Rejection	N/A	60db	60db	60 db	60 db
Operating Temperature	-100° to 250°F	-20° to 185°F	-20° to 185°F	-20° to 185° F	-20° to 185° F
Reverse Voltage Protection	N/A	Yes	Yes	Yes	Yes
Short Circuit Protection	N/A	Momentary	Momentary	Yes	Yes

Amplifier Specifications	Unamplified Output Option 2u	Voltage Output Option 2e	Voltage Output Option 2f	Current 2 Wire Option 2y	Intrinsically Safe Amp 2n (2N)***
Output Signal	see table on previous page	0-5 VDC	0-10 VDC	4-20 mA	4-20 mA
Input Power (Voltage)	10 VDC	9-28 VDC	15-28VDC	9-32 VDC	9-28 VDC
Input Power (Current)	2mA @ 10 VDC	10mA	15mA	4-24 mA	4-24 mA
Frequency Response	Natural Frequency	2000Hz	2000Hz	2000 Hz	2000 Hz
Power Supply Rejection	N/A	60db	60db	60 db	60 db
Operating Temperature	-100° to 250°F	-20° to 185°F	-20° to 185°F	-20° to 185° F	-20° to 185° F
Reverse Voltage Protection	N/A	Yes	Yes	Yes	Yes
Short Circuit Protection	N/A	Momentary	Momentary	Yes	Yes

Wiring Codes

	Unamplified Output Option 2u	Voltage Output Option 2d/ 2e	Voltage Output Option 2g/ 2f	Current 2 Wire Option 2p/ 2y	Intrinsically Safe Amp Option 2n (2N)***
Bendix PTIH-10-6P (Opt. 6a)					
No Shunt Cal	A (+) Excitation B (+) Excitation C (-) Excitation D (-) Excitation E (-) Output F (+) Output	A (+) Supply B (-) Supply Return C (-) Output D (+) Output 0-5VDC E No Connection F No Connection	A (+) Supply B (-) Supply Return C (-) Output D (+) Output 0-10VDC E No Connection F No Connection	A (+) Supply B No Connection C No Connection D (+) Output 4-20 mA E No Connection F No Connection	A (+) Supply B No Connection C No Connection D (+) Output 4-20 mA E Case Ground F No Connection
With Shunt Cal (Opt. 3d)	A (+) Excitation B (-) Excitation C (+) Output D (-) Output E No Connection F Shunt Cal	A (+) Supply B (-) Supply Return C (-) Output D (+) Output 0-5VDC E No Connection F Shunt Cal	A (+) Supply B (-) Supply Return C (-) Output D (+) Output 0-10VDC E No Connection F Shunt Cal	A (+) Supply B No Connection C No Connection D (+) Output 4-20 mA E No Connection F Shunt Cal	A (+) Supply B No Connection C No Connection D (+) Output 4-20 mA E No Connection F Shunt Cal
Std. DIN 43650 (Opt. 6m)					
No Shunt Cal	1 (+) Excitation 2 (+) Output 3 (-) Output 4 (-) Excitation	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND No Connect. to case	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND No Connect. to case	1 (+) Supply 2 (+) Output 4-20 mA 3 No Connection GND No Connection	1 (+) Supply 2 (+) Output 3 Case Ground GND No Connection
With Shunt Cal (Opt. 3d)	Not Applicable	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND Shunt Cal	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND Shunt Cal	1 (+) Supply 2 (+) Output 4-20 mA 3 No Connection GND Shunt Cal	1 (+) Supply 2 (+) Output 3 Case Ground GND Shunt Cal
Mini DIN 40050 (Opt. 6n)					
No Shunt Cal	1 (+) Excitation 2 (+) Output 3 (-) Output 4 (-) Excitation	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND No Connect. to case	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND No Connect. to case	1 (+) Supply 2 (+) Output 4-20 mA 3 No Connection GND No Connection	1 (+) Supply 2 (+) Output 3 Case Ground GND No Connection
With Shunt Cal (Opt. 3d)	Not Applicable	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND Shunt Cal	1 (+) Supply 2 (+) Output 3 Supply/ Output com. GND Shunt Cal	1 (+) Supply 2 (+) Output 4-20 mA 3 No Connection GND Shunt Cal	1 (+) Supply 2 (+) Output 3 Case Ground GND Shunt Cal
5' Integral Cable (Opt. 6q)					
No Shunt Cal	R (+) Excitation Bl (-) Excitation G (-) Output W (+) Output	R (+) Supply Bl (-) Supply Return G (-) Output W (+) Output 0-5VDC	R (+) Supply Bl (-) Supply Return G (-) Output W (+) Output 0-10VDC	R (+) Supply Bl (+) Output 4-20 mA	R (+) Supply Bl (+) Output 4-20 mA W Case Ground
With Shunt Cal (Opt. 3d)	Not Applicable	R (+) Supply Bl (-) Supply Return G Shunt Cal W (+) Output 0-5VDC	R (+) Supply Bl (-) Supply Return G Shunt Cal W (+) Output 0-10VDC	R (+) Supply Bl (+) Output 4-20 mA G Shunt Cal	R (+) Supply Bl (+) Output 4-20 mA W Case Ground G Shunt Cal
Conduit Fitting (Opt. 6r)					
No Shunt Cal	R (+) Excitation Bl (-) Excitation G (-) Output W (+) Output	R (+) Supply Bl (-) Supply Return G (-) Output W (+) Output 0-5VDC	R (+) Supply Bl (-) Supply Return G (-) Output W (+) Output 0-10VDC	R (+) Supply Bl (+) Output 4-20 mA	R (+) Supply Bl (+) Output 4-20 mA W Case Ground
With Shunt Cal (Opt. 3d)	Not Applicable	R (+) Supply Bl (-) Supply Return G Shunt Cal W (+) Output 0-5VDC	R (+) Supply Bl (-) Supply Return G Shunt Cal W (+) Output 0-10VDC	R (+) Supply Bl (+) Output 4-20 mA G Shunt Cal	R (+) Supply Bl (+) Output 4-20 mA W Case Ground G Shunt Cal

Note: For Wiring Codes, R=Red; Bl = Black; W = White; G = Green.

Color specifies cable and letter or number specifies connection

*** See Sensotec website for most up-to-date information regarding Intrinsically Safe approvals ref. #008-0547-00.

How To Order

The **FP2000 Order Code** is an easy way for you to order exactly what you want the factory to build. Simply make one selection in each of the six required categories. Choose adders and accessories only if you require them. By visiting our website at www.honeywell.com/sensotec you can view complete technical specifications for the FP2000, or click to our on-line shopping site and actually place your order.

Step 1

TRANSDUCER TYPE

	Type Code
<input type="radio"/> Pressure - Gage	FPG
<input type="radio"/> Pressure - Absolute	FPA
<input type="radio"/> Diff - wet/wet	FDW
<input type="radio"/> Pressure - barometric	FPB
<input type="radio"/> Diff - wet/dry	FDD
<input type="radio"/> Pressure - vacuum	FPV

UNIT

<input type="radio"/> psi	<input type="radio"/> bar
<input type="radio"/> torr	<input type="radio"/> in Hg
<input type="radio"/> mBar	<input type="radio"/> mm Hg
<input type="radio"/> kPa	<input type="radio"/> in H ₂ O

Step 2

PRESSURE RANGE

Gage, Absolute and Differential		Range		Range	
		Code		Code	
<input type="radio"/>	0.5 psi	AN	<input type="radio"/>	250 psi	CN
<input type="radio"/>	1 psi	AP	<input type="radio"/>	300 psi	CP
<input type="radio"/>	2 psi	AR	<input type="radio"/>	400 psi	CQ
<input type="radio"/>	2.5 psi	AS	<input type="radio"/>	500 psi	CR
<input type="radio"/>	5 psi	AT	<input type="radio"/>	600 psi	CS
<input type="radio"/>	10 psi	AV	<input type="radio"/>	750 psi	CT
<input type="radio"/>	15 psi	BJ	<input type="radio"/>	1,000 psi	CV
<input type="radio"/>	25 psi	BL	<input type="radio"/>	1,500 psi	DJ
<input type="radio"/>	30 psi	BM	<input type="radio"/>	2,000 psi	DL
<input type="radio"/>	50 psi	BN	<input type="radio"/>	2,500 psi	DM
<input type="radio"/>	75 psi	BP	<input type="radio"/>	3,000 psi	DN
<input type="radio"/>	100 psi	BR	<input type="radio"/>	5,000 psi	DR
<input type="radio"/>	150 psi	CJ	<input type="radio"/>	6,000 psi	DS
<input type="radio"/>	200 psi	CL	<input type="radio"/>	7,500 psi	DT
			<input type="radio"/>	10,000 psi	DV

Barometric		Vacuum			
<input type="radio"/>	16-32"Hga	UQ	<input type="radio"/>	1 psi	AP
<input type="radio"/>	26-32"Hga	UR	<input type="radio"/>	5 psi	AT
<input type="radio"/>	0-30"Hga	UG	<input type="radio"/>	10 psi	AV
			<input type="radio"/>	15 psi	BJ

ACCURACY

	Accuracy Code
<input type="radio"/> 0.10%	1
<input type="radio"/> 0.25%	2

Step 3

OUTPUT

	Basic Output	If Adding 9d or 9f Code (<5,000 psi)	If Adding 1y, 3d, 9e or 14c
<input type="radio"/>	mV/V	2u	N.A.
<input type="radio"/>	5 VDC	2d	N.A.
<input type="radio"/>	10 VDC	2g	N.A.
<input type="radio"/>	4-20 mA	2p	2n(2N)

Note: If any ADDERS are required, the output code must be revised. See Screen 4.

PRESSURE PORT

	Port Code
<input type="radio"/> 1/4-18 NPT Female	5a
<input type="radio"/> 1/4-18 NPT Male	5b
<input type="radio"/> 7/16-20 UNF Female	5c
<input type="radio"/> 7/16-20 UNF Male	5d
<input type="radio"/> G 1/4 B Female	5f
<input type="radio"/> G 1/4 B Male	5g
<input type="radio"/> 1/8-27 NPT Female	5h
<input type="radio"/> 1/8-27 NPT Male	5i
<input type="radio"/> M12 x 1.5 Male	5p
<input type="radio"/> M12 x 1.5 Female	5q
<input type="radio"/> 9/16-18 UNF SAE Male	5r
<input type="radio"/> 9/16-18 UNF SAE Female	5s

ELECTRICAL CONNECTOR

	Connector Code
<input type="radio"/> Bendix PTIH-10-6P	6a
<input type="radio"/> DIN 43650	6m
<input type="radio"/> Mini DIN (40050)	6n
<input type="radio"/> Integral Polyurethane 5' Cable	6q
<input type="radio"/> 1/2 x 14 NPT Conduit 5' Cable Exit	6r

Step 4

ADDERS

	Adder Code
<input type="radio"/> Enhanced Thermals	1y
<input type="radio"/> Shunt Cal	3d
<input type="radio"/> IS Rating	9d
<input type="radio"/> CE Rating	9e
<input type="radio"/> IS & CE Rating	9f
<input type="radio"/> Potentiometers	14c

Note: If you choose any Adder Output from Screen 4, you must revise your output code selection using this output code chart. I.S. Outputs available only on ranges up to 5,000 psi.

Adder Output Code

<input type="radio"/> mV/V	2u
<input type="radio"/> 5 VDC	2e
<input type="radio"/> 10VDC	2f
<input type="radio"/> 4-20mA	2y
(CE only)	
<input type="radio"/> 4-20 mA	2n(2N)
(I.S. only)	
<input type="radio"/> 4-20mA	2n(2N)
(I.S. & CE)	

ACCESSORIES

Mating Connectors Only		Acc.Code
<input type="radio"/> Mini Din		AA161
<input type="radio"/> Bendix		AA111
Mating Connectors with 15' Cable for Bendix Connector (6A)		Without Shunt
<input type="radio"/> mV/V	AA113	AA513
<input type="radio"/> 4-20mA	AA116	AA516
<input type="radio"/> 0-5/0-10VDC	AA117	AA517

Step 5

DESCRIPTION	BASIC CODE						ADDER CODE See Screen 4			
	TYPE	ACCU- RACY	RANGE	OUT- PUT	PRES- SURE	ELECT. CONN.	EX- TENDED	SHUNT CAL	I.S./CE RATED	POTS
Order Code										
Accessory Code										

EXAMPLE ORDER CODE:

Selection	Description	Code
Transducer Type	Differential wet/wet	FDW
Accuracy	0.10%	1
Pressure Range	250 psi	CN
Output	4-20mA	2y
Pressure Port	1/4 - 18 NPT Male	5b
Electrical Output Connections	Bendix PTIH-10-6P	6a
Adders	Enhanced Temp. Range	1y
Accessories	Mating Connector w/Cable	AA116

There must be a code in each of the 6 Basic Code Boxes. If there are no Adders or Accessories chosen, leave their boxes blank.

COMMENTS: Potentiometers are located on the side. See drawing for details. No potentiometers are available on mV/V output option.



Approved



Approved



Approved
Intrinsically Safe Amp