

Model F

Subminiature, Low Profile Pressure Transducer³



DESCRIPTION

Honeywell includes a full line of subminiature pressure transducers to accurately measure pressure ranges from 10 psig to 3000 psig. These subminiature pressure transducers have a high natural frequency and utilize a flush diaphragm.

Temperature compensation is accomplished by using temperature-sensitive components located inside the transducers. These transducers have a small electrical zero balance circuit board which is in the leadwire (approximately 1 in x 0.087 in thick). This balance board does not have to be the same temperature as the transducer.

FEATURES

- 10 psig to 3000 psig range
- mV/V output
- Low profile design
- Subminiature footprint
- High frequency
- 1 % accuracy
- CE approved

All units have four (4) active bonded strain gages arranged in a Wheatstone-bridge configuration.

Most are manufactured with a unitized stainless steel diaphragm. The advantage of this type of design is that a thin diaphragm and heavy sidewalls are made from one piece of stainless steel. This unitized diaphragm is rugged, but at the same time it is thin enough to measure low pressures.

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PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Pressure ranges	10, 15, 25, 30, 50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 750, 1000, 1500, 2000, 2500, 3000 psig ²
Accuracy ¹	1.0 % full scale
Linearity (10 psig to 100 psig)	±0.5 mV
Linearity (150 psig to 3000 psig)	±1.0 % full scale
Hysteresis (10 psig to 100 psig)	±0.5 mV
Hysteresis (150 psig to 3000 psig)	±1.0 % full scale
Non-repeatability (10 psig to 100 psig)	±0.1 mV
Non-repeatability (150 to 3000 psig)	±0.1 % full scale
Output (10 psig to 100 psig)	2 mV/psi to 5 mV/psi (@ 5 Vdc)
Output (150 psig to 3000 psig)	2 mV/V
Resolution	Infinite

ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-54 °C to 149 °C [-65 °F to 300 °F] (-29 °C to 121 °C [-20 °F to 250 °F] for semiconductor strain gage)
Temperature, compensated	16 °C to 71 °C [60 °F to 160 °F]
Temp effect, zero (10 to 100 psig)	0.02 mV/°F
Temp effect, zero (150 to 3000 psig)	0.01 % full scale/°F
Temp effect, span (10 to 100 psig)	0.03 mV/°F
Temp effect, span (150 to 3000 psig)	0.02 % reading/°Ft

ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Strained gage type (10 to 100 psig)	Bonded semiconductor
Strained gage type (150 to 3000 psig)	Bonded foil
Excitation (calibration)	5 Vdc
Bridge resistance (10 to 100 psig)	500 ohm
Bridge resistance (150 to 3000 psig)	350 ohm
Shunt calibration data	Included
Electrical termination (std)	Four twisted leads (1.83 m [5 ft]) with external balance board

MECHANICAL SPECIFICATIONS

Characteristic	Measure
Media	Gas, liquid, not conductive
Overload, safe (10 psig to 100 psig)	100 % over capacity
Overload, safe (150 psig to 3000 psig)	50 % over capacity
Wetted parts material (10 to 100 psig)	17-4 PH stainless steel or BeCu
Wetted parts matl (150 to 3000 psig)	17-4 PH stainless steel
Case material	Stainless steel

RANGE CODES

Range Code	Available ranges	Range Code	Available ranges
AV	10 psig	CP	300 psig
BJ	15 psig	CQ	400 psig
BL	25 psig	CR	500 psig
BM	30 psig	CS	600 psig
BN	50 psig	CT	750 psig
BP	75 psig	CV	1000 psig
BR	100 psig	DJ	1500 psig
CJ	150 psig	DL	2000 psig
CL	200 psig	DM	2500 psig
CN	250 psig	DN	3000 psig

OPTION CODES

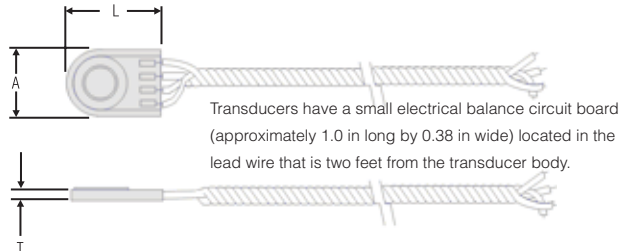
Range Code	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see http://sensing.honeywell.com/TMsensor-ship for updated listings.
Pressure ranges	10, 15, 25, 30, 50, 75, 100, 150, 200, 250, 300, 400, 500, 600, 750, 1000, 1500, 2000, 2500, 3000 psig
Temperature compensation	1a. 60 °F to 160 °F 1b. 30 °F to 130 °F 1c. 0 °F to 185 °F 1f. 70 °F to 250 °F 1d. -20 °F to 130 °F 1e. -20 °F to 200 °F 1g. 70 °F to 325 °F 1i. -65 °F to 250 °F
Internal amplifiers	2u. Unamplified, mV/V output
Electrical termination	Four twisted leads 1.83 m [5 ft]

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MOUNTING DIMENSIONS AND CHARACTERISTICS

Order code	Foil/Semi-conductor	Range	A	T	L
BP340	Foil	150 psig to 500 psig	6,96 mm [0.275 in]	1,07 mm [0.042]*	12,7 mm [0.50 in]
BP341	Foil	150 psig to 3000 psig	8,13 mm [0.320 in]	1,07 mm [0.042]*	12,7 mm [0.50 in]
BP342	Foil	150 psig to 3000 psig	10,8 mm [0.425 in]	1,52 mm [0.060]	14,22 mm [0.56 in]
BP343	Semiconductor	15 psig to 500 psig	3,81 mm [0.150 in]	1,07 mm [0.042]	12,7 mm [0.50 in]
BP344	Semiconductor	10 psig to 500 psig	6,96 mm [0.275 in]	1,07 mm [0.042]	12,7 mm [0.50 in]
BP345	Semiconductor	10 psig to 3000 psig	8,13 mm [0.320 in]	1,07 mm [0.042]	12,7 mm [0.50 in]
BP346	Semiconductor	10 psig to 3000 psig	10,8 mm [0.425 in]	1,52 mm [0.060]	14,22 mm [0.56 in]

* Nominal

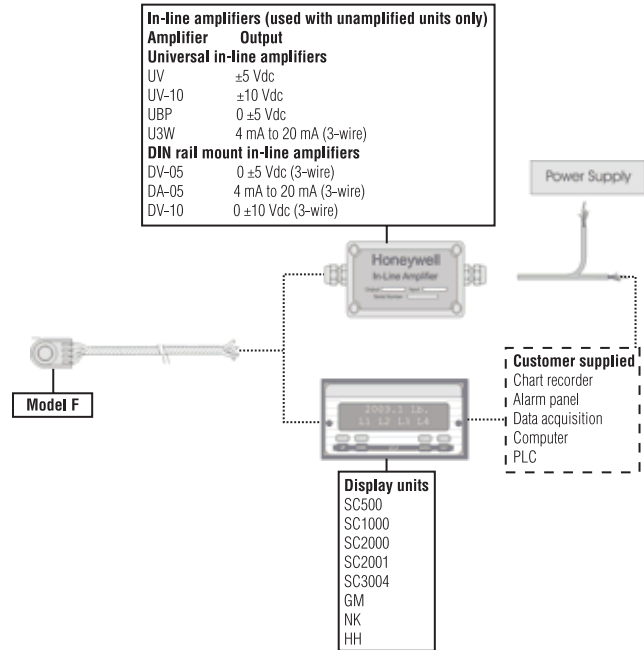


For reference only

WIRING CODES

Wire	Cable/unamplified
Red	(+) excitation
Black	(-) excitation
Green	(-) output
White	(+) output

TYPICAL SYSTEM DIAGRAM



SPECIAL REQUIREMENTS (CONSULT FACTORY)

Have a special requirement? New case pressure, different cable lengths, electrical connectors, or materials? Consult our factory by calling +1 614-850-5000 (800-848-6564). Customization is key to our test and measurement business. Special outputs, wiring codes, and calibrations are all standard to us.

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NOTES

1. Accuracies stated are expected for best-fit straight line for all errors, including linearity, hysteresis & non-repeatability thru zero.
2. Low pressure ranges (10 psig to 100 psig) - semiconductor gage (500 ohm); high pressure ranges (150 psig to 3000 psig) - Foil gages (350 ohm).
3. All model Fs have a cemented diaphragm.
4. Only available with foil strain gage.

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship. Honeywell's standard product warranty applies unless agreed to otherwise by Honeywell in writing; please refer to your order acknowledgement or consult your local sales office for specific warranty details. If warranted goods are returned to Honeywell during the period of coverage, Honeywell will repair or replace, at its option, without charge those items it finds defective. **The foregoing is buyer's sole remedy and is in lieu of all warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Honeywell be liable for consequential, special, or indirect damages.**

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For more information about Sensing and Control products, visit www.honeywell.com/sensing or call +1-815-235-6847

Email inquiries to info.sc@honeywell.com

WARNING **PERSONAL INJURY**

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

Failure to comply with these instructions could result in death or serious injury.

WARNING **MISUSE OF DOCUMENTATION**

- The information presented in this catalogue is for reference only. DO NOT USE this document as product installation information.
- Complete installation, operation and maintenance information is provided in the instructions supplied with each product.

Failure to comply with these instructions could result in death or serious injury.

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008602-1-EN IL50 GLO
May 2008
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