

## Model A-105

### Flush Diaphragm Pressure Transducer



#### DESCRIPTION

Model A-105 gage pressure transducers 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 can be made thin enough to measure low pressures. Available pressure ranges span from 100 psig to 15,000 psig. These models can be used in corrosive fluid

environments. Model A-105 has welded electrical connectors as an integral part of the transducer body and recommended for applications involving rough handling or where an all-welded stainless steel transducer is required.

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

#### FEATURES

- 100 psig to 15000 psig range
- Flush mount design
- No dead volume
- Miniature footprint
- Stainless steel
- CE approved

# Model A-105

## PERFORMANCE SPECIFICATIONS

| Characteristic               | Measure                                                                             |
|------------------------------|-------------------------------------------------------------------------------------|
| Pressure ranges              | 100, 150, 200, 300, 500, 750, 1000, 1500, 2000, 3000, 5000, 7500, 10000, 15000 psig |
| Accuracy <sup>6</sup>        | 0.5 % full scale                                                                    |
| Non-linearity and hysteresis | ±0.5 % full scale                                                                   |
| Non-repeatability            | ±0.1 % full scale                                                                   |
| Output                       | 2 mV/V nominal                                                                      |
| Resolution                   | Infinite                                                                            |

## ENVIRONMENTAL SPECIFICATIONS

| Characteristic           | Measure                             |
|--------------------------|-------------------------------------|
| Temperature, operating   | -54 °C to 149 °C [-65 °F to 300 °F] |
| Temperature, compensated | 16 °C to 71 °C [60 °F to 160 °F]    |
| Temperature effect, zero | 0.01 % full scale/°F                |
| Temperature effect, span | 0.02 % reading/°F                   |

## ELECTRICAL SPECIFICATIONS

| Characteristic               | Measure                             |
|------------------------------|-------------------------------------|
| Strained gage type           | Bonded foil                         |
| Excitation (calibration)     | 5 Vdc                               |
| Excitation (acceptable)      | Up to 5 Vdc or (Vac)                |
| Insulation resistance        | 5000 mOhm @ 50 Vdc                  |
| Bridge resistance            | 350 ohm                             |
| Shunt calibration data       | Included                            |
| Electrical termination (std) | PTIH-10-6P or equivalent (hermetic) |
| Mating connector (not incl.) | PT06A-10-6S or equiv. (AA111)       |

## MECHANICAL SPECIFICATIONS

| Characteristic        | Measure                                     |
|-----------------------|---------------------------------------------|
| Media                 | Gases, liquids compatible with wetted parts |
| Overload, safe        | 50 % over capacity                          |
| Proof pressure        | 400 % (max. 25 k psi)                       |
| Dead volume           | Flush diaphragm                             |
| Wetted parts material | 17-4 PH stainless steel                     |
| Weight                | 2 oz                                        |
| Case material         | Stainless steel                             |
| Installation          | See Model 355                               |

## RANGE CODES

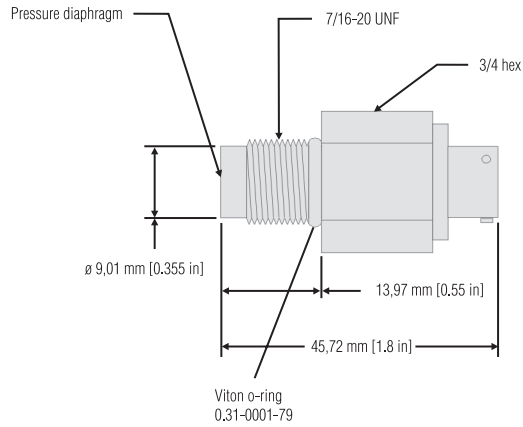
| Range Code | Available ranges |
|------------|------------------|
| BR         | 100 psi          |
| CJ         | 150 psi          |
| CL         | 200 psi          |
| CP         | 300 psi          |
| CR         | 500 psi          |
| CT         | 750 psi          |
| CV         | 1000 psi         |
| DJ         | 1500 psi         |
| DL         | 2000 psi         |
| DN         | 3000 psi         |
| DR         | 5000 psi         |
| DT         | 7500 psi         |
| DV         | 10000 psi        |
| EJ         | 15000 psi        |

## OPTION CODES

| Range Code                       | Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see <a href="http://sensing.honeywell.com/TMsensor-ship">http://sensing.honeywell.com/TMsensor-ship</a> for updated listings.                |                                                                                           |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| Pressure ranges                  | 100, 150, 200, 300, 500, 750, 1000, 1500, 2000, 3000, 5000, 7500, 10000, 15000 psig                                                                                                                                                                     |                                                                                           |
| Temperature compensation         | 1a. 60 °F to 160 °F<br>1b. 30 °F to 130 °F<br>1c. 0 °F to 185 °F<br>1d. -20 °F to 130 °F<br>1e. -20 °F to 200 °F                                                                                                                                        | 1f. 70 °F to 250 °F<br>1i. -65 °F to 250 °F<br>1g. 70 °F to 325 °F<br>1h. 70 °F to 400 °F |
| Internal amplifiers              | 2u. Unamplified, mV/V output                                                                                                                                                                                                                            |                                                                                           |
| Pressure ports                   | 5d. 7/16-20 UNF male<br>5p. M12 x 1.5 male                                                                                                                                                                                                              |                                                                                           |
| Electrical termination           | 6a. Bendix PTIH-10-6P (or equivalent)<br>6 pin (max 250 °F)<br>6e. Integral cable: Teflon (-65 °F to 475 °F)<br>6h. Integral cable: Silicone (-65 °F to 300 °F)<br>6i. Integral underwater cable: (max 180 °F)<br>6v. Phoenix connector on end of cable |                                                                                           |
| Special calibration <sup>3</sup> | 9a. 10 point (5 up/5 down)<br>20 % increments @ 70 °F 3<br>9b. 20 point (10 up/10 down)<br>10 % increments @ 70 °F 3                                                                                                                                    |                                                                                           |
| Wetted diaphragm                 | 10e. Iconel X-750                                                                                                                                                                                                                                       |                                                                                           |
| Shock and vibration              | 44a. Shock & vibration resistance                                                                                                                                                                                                                       |                                                                                           |

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## MOUNTING DIMENSIONS AND CHARACTERISTICS

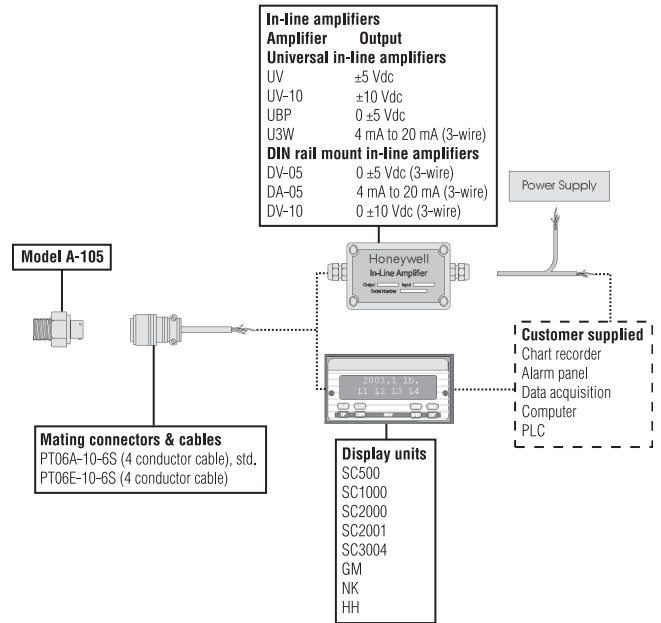


For reference only

## WIRING CODES

| Connector | Connector, unamplified |
|-----------|------------------------|
| A         | (+) excitation         |
| B         | (+) excitation         |
| C         | (-) excitation         |
| D         | (-) excitation         |
| E         | (-) output             |
| F         | (+) 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. Not available with option 1c.
2. G=Green; B=Blue; W=White; Bl=Black; Br=Brown; Y=Yellow; R=Red; O=Orange. Color specifying cable and number or letter specifying connector.
3. Availability varies with range.
4. No mating connector necessary with cable option.
5. Not available with temperatures below -29 °C [-20 °F] or above 85 °C [185 °F].
6. Accuracies stated are expected for best-fit straight line for all errors, including linearity, hysteresis & non-repeatability thru zero.

**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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Email inquiries to [info.sc@honeywell.com](mailto: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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