

## Model 355

### Flush Diaphragm Pressure Transducer



#### DESCRIPTION

Subminiature Model 355 gage pressure transducer is a rugged, one-piece, stainless steel unit which features a flush diaphragm design, making it ideal for operations which involve the spraying or application of sealants, paints, coatings or other congealable media which can clog conventional pressure ports. The internal-

ly amplified Model 355 accepts input voltage from 9 Vdc to 32 Vdc and delivers a high level 4 mA to 20 mA or 0 V to 5 V output. The Model 355 is all welded and hermetically sealed for reliable performance in corrosive environments.

#### FEATURES

- 0 psig to 500 psig to 0 psig to 5000 psig
- Flush diaphragm
- High level output
- No dead volume
- $\pm 0.25$  % accuracy
- Intrinsically safe available (2N option only)<sup>9</sup>
- CE approved<sup>10</sup>

# Model 355

## PERFORMANCE SPECIFICATIONS

| Characteristic    | Measure                                 |
|-------------------|---|
| Pressure ranges   | 0 psig - 500 psig to 0 psig - 5000 psig |
| Accuracy          | ±0.25 % <sup>7</sup>                    |
| Non-linearity     | 0.5 %                                   |
| Non-repeatability | 0.1 %                                   |
| Output            | 4 mA to 20 mA (std)                     |
| Resolution        | Infinite                                |

## ENVIRONMENTAL SPECIFICATIONS

| Characteristic           | Measure                            |
|--------------------------|------------------------------------|
| Temperature, operating   | -29 °C to 85 °C [-20 °F to 185 °F] |
| Temperature, compensated | 15 °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             |
|--------------------------------------|---------------------|
| Excitation (calibration)             |                     |
| 4 mA to 20 mA, two wire (std.)       | 9 Vdc to 32 Vdc     |
| 0 Vdc to 5 Vdc, three wire (opt. 2c) | 9 Vdc to 28 Vdc     |
| Insulation resistance                | 50 mOhm @ 50 V      |
| Electrical termination (std)         | PTIH-10-6P          |
| Mating connector (not incl.)         | PT06A-10-6S (AA111) |

## MECHANICAL SPECIFICATIONS

| Characteristic        | Measure   |
|-----------------------|---|
| Media                 | Gases, liquids compatible with 17-4 PH SS           |
| Overload, safe        | 300 % over capacity                                 |
| Overload, burst       | 500 % over capacity or 20000 psi, whichever is less |
| Pressure port         | 7/16-20 UNF   |
| Wetted parts material | 17-4 PH stainless steel                             |
| Case material         | Stainless steel                                     |

## RANGE CODES

| Range Code | Available ranges |
|------------|------------------|
| CR         | 500 psi          |
| CT         | 750 psi          |
| CV         | 1000 psi         |
| DJ         | 1500 psi         |
| DL         | 2000 psi         |
| DM         | 2500 psi         |
| DN         | 3000 psi         |
| DR         | 5000 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          | 500, 750, 1000, 1500, 2000, 2500, 3000, 5000 psi   |  |
| Temperature compensation | 1a. 60 °F to 160 °F<br>1b. 30 °F to 130 °F<br>1c. 0 °F to 185 °F   | 1d. -20 °F to 130 °F<br>1j. 0 °C to 50 °C<br>1k. -20 °C to 85 °C   |
| Internal amplifiers      | 2k. 4 mA to 20 mA, two-wire output<br>2c. 0 Vdc to 5 Vdc<br>2n. (2N) 4 mA to 20 mA (two wire output), intrinsically safe   |  |
| Pressure ports           | 5p. M12 x 15 male<br>5d. 7/16 -20 UNF male   |  |
| Electrical termination   | 6a. Bendix PTIH-10-6P (orequivalent) 6 pin (max 250 °F)<br>6e. Integral cable: Teflon (-54 °C to 245 °C)<br>6f. Integral cable: PVC (-30 °C to 70 °C)<br>6h. Integral cable: Silicone (-54 °C to 150 °C)                                 | 6i. Integral underwater cable, 8m (max 80 °C)<br>6n. DIN 40050<br>6q. Molded integral cable: Polyurethane<br>6v. Phoenix connector on end of cable |
| Special calibration      | 9e. CE mark<br>9a. 10 point (5 up/5 down) 20 % increments @ 20 °C<br>9b. 20 point (10 up/10 down) 10 % increments @ 20 °C  |  |
| Interfaces               | 53e. Signature calibration<br>53t. TEDS IEEE 1451.4 module8  |  |



## 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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## INTERNAL AMPLIFIERS

| Amplifier specifications            | Vehicle voltage output:<br>Option 2c   | Current two-wire:<br>Option 2k   | Intrinsically safe amp:<br>Option 2N (2n)***   |
|-------------------------------------|--|--|--|
| Output signal                       | 0 Vdc to 5 Vdc @ 45 mA   | 4 mA to 20 mA  | 4 mA to 20 mA  |
| Input power (voltage)               | 11 Vdc to 28 Vdc   | 9 Vdc to 28 Vdc <sup>3</sup>   | 9 Vdc to 28 Vdc <sup>3</sup>   |
| Input power (current)               | 40 mA  | 4 mA to 28 mA  | 4 mA to 24 mA  |
| Frequency response                  | 3000 Hz  | 300 Hz   | 2000 Hz  |
| Power supply rejection              | 60 db  | 60 db  | 60 db  |
| Operating temperature               | -20 °F to 185 °F   | 0 °F to 185 °F   | -20 °F to 185 °F   |
| Reverse voltage protection          | Yes  | Yes  | Yes  |
| Short circuit protection            | Momentary  | Yes  | Yes  |
| Wiring code: connector              | A (+) Supply<br>B Output com.**<br>C Supply ret.**<br>D (+) Output<br>E No connection<br>F No connection | A (+) Supply<br>B No connection<br>C No connection<br>D (+) Output<br>E Case ground<br>F No connection | A (+) Supply<br>B No connection<br>C No connection<br>D (+) Output<br>E Case ground<br>F No connection |
| Wiring code: cable <sup>3,5,6</sup> | R (+) Supply<br>Bl Output com*<br>G Supply ret.*<br>W (+) Output<br>B No connection<br>Br No connection  | R (+) Supply<br>Bl (+) Output<br>W Case ground   | R (+) Supply<br>Bl (+) Output<br>W Case ground   |

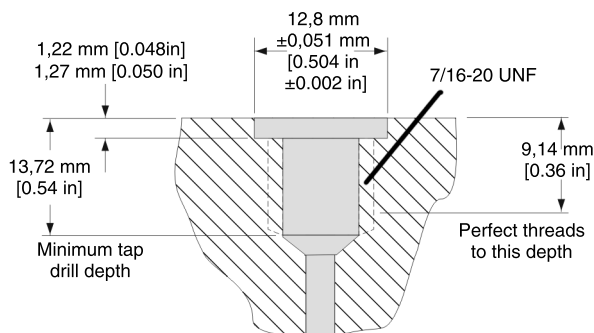
\* Black and green wires are internally connected.

\*\* Pins B and C are internally connected.

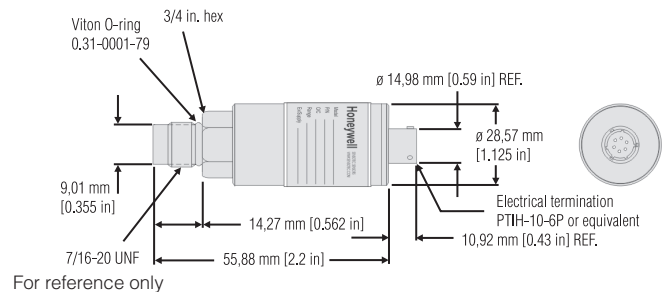
\*\*\* See Honeywell's Web site for the most up-to-date information regarding Intrinsically safe approvals. Ref #008-0547-00.

## INSTALLATION AND MOUNTING

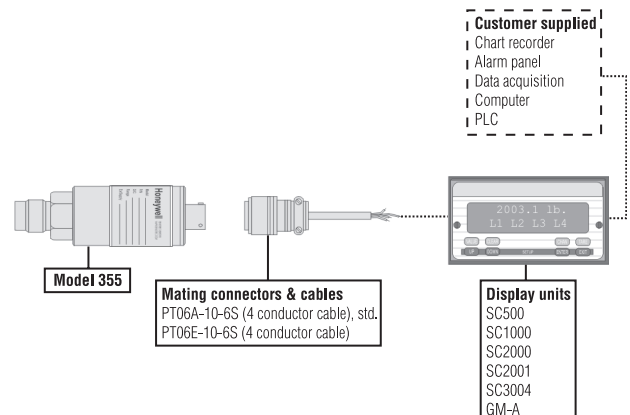
The Model 355 has straight threads and uses a #12 O-ring for pressure sealing. To get the best seal with the O-ring on the transducer, the tapped hole should have the dimensions shown here. For normal operating temperatures [-65 °F to 250 °F] use the BUNA-N (black) O-rings. For high temperatures [250 °F to 425 °F] use silicone rubber (red). Maximum torque is 50 in.-lb., 17-4 PH stainless steel only.



## MOUNTING DIMENSIONS AND CHARACTERISTICS



## TYPICAL SYSTEM DIAGRAM



# Model 355

# Flush Diaphragm Pressure Transducer

## NOTES

1. Gage pressure units greater than 500 psi are sealed at atmospheric pressure.
2. Input power (voltage) for internal amplifier options 2j, 2k, 2n (2N) depends on load resistance.
3. Interconnecting shunt cal. 1 with shunt cal. 2 terminal provides 50 % (unamplified units), 75 % (4 mA to 20 mA, three wire units), or 80 % (voltage amp. units) of full scale output for quick calibration. Shunt calibration comes standard with internal amplifier options 2a, 2b, 2c, 2t and 2j.
4. Not available with temperatures below -29 °C [-20 °F] or above 85 °C [185 °F].
5. 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.
6. No mating connector necessary with cable option.
7. Accuracies stated are expected for best-fit straight line for all errors including linearity, hysteresis & non-repeatability thru zero.
8. Consult factory for TEDS availability with amplified models.
9. Range dependent; consult factory. Termination dependent; consult factory.
10. CE approved only with 2N option.

**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.**

While we provide application assistance personally, through our literature and the Honeywell web site, it is up to the customer to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this printing. However, we assume no responsibility for its use.

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

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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