

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
- ± 0.50 % accuracy
- Intrinsically safe available (2N option only)⁹
- CE approved¹⁰

Model 355

PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Pressure ranges	0 psig - 500 psig to 0 psig - 5000 psig
Accuracy	±0.50 % ⁷
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 http://sensing.honeywell.com/TMsensor-ship for updated listings.
Pressure ranges	500, 750, 1000, 1500, 2000, 2500, 3000, 5000 psi
Temperature compensation	1a. 60 °F to 160 °F 1b. 30 °F to 130 °F 1c. 0 °F to 185 °F 1d. -20 °F to 130 °F 1j. 0 °C to 50 °C 1k. -20 °C to 85 °C
Internal amplifiers	2k. 4 mA to 20 mA, two-wire output 2c. 0 Vdc to 5 Vdc 2n. (2N) 4 mA to 20 mA (two wire output), intrinsically safe
Pressure ports	5p. M12 x 15 male 5d. 7/16 -20 UNF male
Electrical termination	6a. Bendix PTIH-10-6P (orequivalent) 6 pin (max 250 °F) 6e. Integral cable: Teflon (-54 °C to 245 °C) 6f. Integral cable: PVC (-30 °C to 70 °C) 6h. Integral cable: Silicone (-54 °C to 150 °C) 6i. Integral underwater cable, 8m (max 80 °C) 6n. DIN 40050 6q. Molded integral cable: Polyurethane 6v. Phoenix connector on end of cable
Special calibration	9e. CE mark 9a. 10 point (5 up/5 down) 20 % increments @ 20 °C 9b. 20 point (10 up/10 down) 10 % increments @ 20 °C
Interfaces	53e. Signature calibration 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: Option 2c	Current two-wire: Option 2k	Intrinsically safe amp: 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 ³	9 Vdc to 28 Vdc ³
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 B Output com.** C Supply ret.** D (+) Output E No connection F No connection	A (+) Supply B No connection C No connection D (+) Output E Case ground F No connection	A (+) Supply B No connection C No connection D (+) Output E Case ground F No connection
Wiring code: cable^{3,5,6}	R (+) Supply BI Output com* G Supply ret.* W (+) Output B No connection Br No connection	R (+) Supply BI (+) Output W Case ground	R (+) Supply BI (+) Output W Case ground

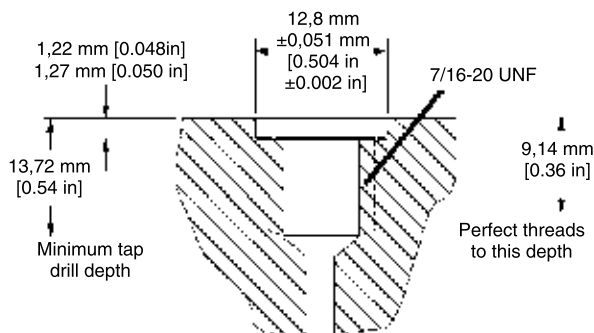
* Black and green wires are internally connected.

** Pins B and C are internally connected.

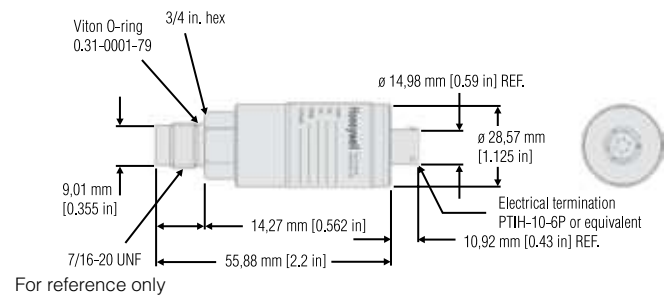
*** See Honeywell's Web site for the most up-to-date information regarding Intrinsically safe approvals. Ref #008-0547-00.

INSTALLATION AND MOUNTING

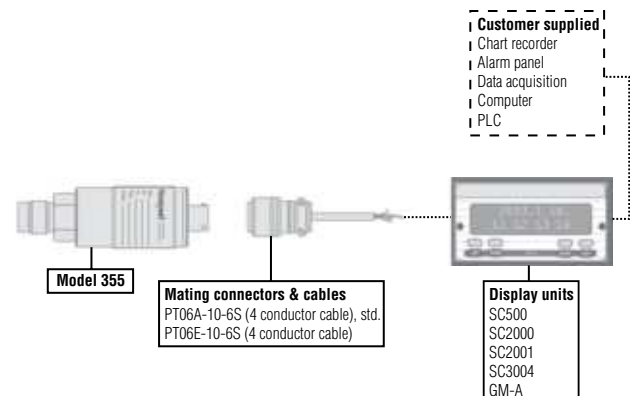
The Model 355 has straight threads and uses a #12 O-ring for pressure sealing. To get the best seal with the O-ring on the transducer, the tapped hole should have the dimensions shown here. For normal operating temperatures [-65 °F to 250 °F] use the BUNA-N (black) O-rings. For high temperatures [250 °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



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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.

Find out more

Honeywell serves its customers through a worldwide network of sales offices, representatives and distributors. For application assistance, current specifications, pricing or name of the nearest Authorized Distributor, contact your local sales office. To learn more about Honeywell's test and measurement products, call **+1-614-850-5000**, visit **<http://measurementsensors.honeywell.com>**, or e-mail inquiries to **info.tm@honeywell.com**

Sensing and Control
Honeywell
1985 Douglas Drive North
Golden Valley, MN 55422 USA
sensing.honeywell.com

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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.

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 datasheet 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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