

## Model DS

### Digital Output Pressure Sensor



#### DESCRIPTION

The Model DS offers the “smart” combination of microprocessor-based, internal signal conditioning and micromachined silicon pressure sensor technology to provide digital communications directly to your PC with superior accuracy and stability. With <1 ms step response on the analog output and >300 readings/

second on the digital output, the Model DS provides the speed required for dynamic automotive or aerospace applications. With an all-welded stainless steel construction, the Model DS is suitable for rugged environments and pressure media compatible with stainless steel.

#### FEATURES

- 0.1 % total error band (includes temperature)
- 1200 Hz analog response
- Gage and absolute designs available
- All-welded stainless steel construction
- Selectable RS-232 or RS-485
- 380 readings/second digital output

# Model DS

## PERFORMANCE SPECIFICATIONS

Characteristic	Measure
Pressure ranges	5, 15, 30, 50, 100, 150, 250, 500, 750, 1000, 2000, 2500 psig/a
Accuracy <sup>3</sup>	0.1 % typical accuracy over the compensated temperature range
Digital (and/or) analog outputs <sup>4</sup>	RS-485 or RS-232, plus 0 Vdc to 5 Vdc (non isolated)
Baud rate	1200, 2400, 4800, 9600, 19200, 38400, 57600 or 115200
Data framing	1 start bit, 8 data bits, 1 stop bit
Output response, digital	> 300 readings/second at 115 k baud
Output response, analog	Max. 2500 updates. second with < 1 ms step response
Output resolution	1.22 mV/bit (12 bits on 0 Vdc to 5 Vdc)

## ENVIRONMENTAL SPECIFICATIONS

Characteristic	Measure
Temperature, operating	-40 °C to 82 °C [-40 °F to 180 °F]
Temperature, compensating	4 °C to 60 °C [40 °F to 140 °F]

## ELECTRICAL SPECIFICATIONS

Characteristic	Measure
Electrical termination (std)	Bendix PT02-12-8P or equivalent mates with PT06A-12-8S

## MECHANICAL SPECIFICATIONS

Characteristic	Measure
Media	Gas and liquid compatible with 316L SS and Hastelloy C-276
Overload, burst	
Ranges less than 1000 psig/a	400 % over capacity or 3000 psi, whichever is less
Ranges greater than 1000 psig/a	400 % over capacity or 15000 psi, whichever is less
Pressure port	1/4-18 NPT
Wetted parts material	All welded stainless steel

## RANGE CODES

Range Code	Available ranges
<b>AT</b>	5 psig/a
<b>BJ</b>	15 psig/a
<b>BM</b>	30 psig/a
<b>BN</b>	50 psig/a
<b>BR</b>	100 psig/a
<b>CJ</b>	150 psig/a
<b>CN</b>	250 psig/a
<b>CR</b>	500 psig/a
<b>CT</b>	750 psig/a
<b>CV</b>	1000 psig/a
<b>DM</b>	2500 psig/a

## OPTION CODES

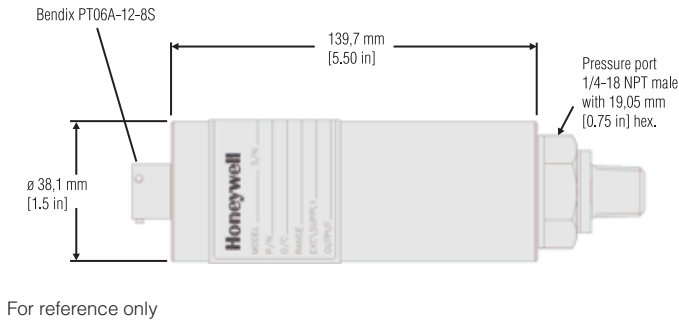
Range Code	Many range/option combinations are available in our quick-ship and fast-track manufacture programs. Please see <a href="http://sensing.honeywell.com/TMsensor-ship">http://sensing.honeywell.com/TMsensor-ship</a> for updated listings.
<b>Pressure ranges</b>	5, 15, 30, 50, 100, 150, 250, 500, 750, 1000, 2500 psig/a
<b>Temperature compensation</b>	4 °C to 60 °C [40 °F to 140 °F] 1c. -18 °C to 85 °C [0 °F to 185 °F] 1k. -20 °C to 85 °C [-4 °F to 185 °F]
<b>Internal amplifiers</b>	RS-485 or RS-232, 0 Vdc to 5 Vdc (non-isolated)
<b>Pressure ports</b>	5b. 1/4-18 NPT male 5a. 1/4-18 NPT female 5c. 7/16-20 UNF female (per MS33649-4) 5d. 7/16-20 UNF male (per MS33656E4)
<b>Electrical termination</b>	Bendix PT02-12-8P (or equiv), 8 pin (max. 121 °C [250 °F])

## WIRING CODES

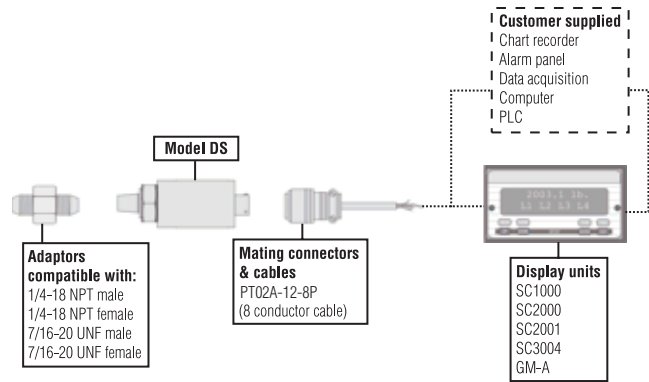
Pin	Function
<b>A</b>	RS-485A (+)/RS-232 TxD
<b>B</b>	0 Vdc to 5 Vdc analog output
<b>C</b>	Analog output return
<b>D</b>	No connection
<b>E</b>	Supply return
<b>F</b>	(+) Supply 15 Vdc to 28 Vdc
<b>G</b>	RS-485 B (-)/RS-232 RxD
<b>H</b>	RS-485 ground/RS-232 ground

# Digital/Analog Output Pressure Sensor

## MOUNTING DIMENSIONS AND CHARACTERISTICS



## 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. The dual output of both the digital and analog signals allow flexibility in potential applications where the conventional 0 Vdc to 5 Vdc output is desired. The digital output replaces the computer interface A-D card with direct connection into your PC RS-232 or RS-232 port.

**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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