

PX2 Series Heavy Duty Pressure Transducer

INTRODUCTION

Honeywell's PX2 Series Heavy Duty Pressure Transducer is a line of highly configurable pressure transducers that use piezoresistive sensing technology with ASIC (Application Specific Integrated Circuit) signal conditioning in a stainless steel housing that is compatible with a variety of harsh media. (See Figure 1.)

Figure 1. PX2 Series Heavy Duty Pressure Transducer



The PX2 Series is fully calibrated and compensated for transducer offset, sensitivity, temperature effects and non-linearity using an on-board ASIC. This provides a Total Error Band of $\pm 2\%$ over the operation temperature range of $-40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$ [$-40\text{ }^{\circ}\text{F}$ to $257\text{ }^{\circ}\text{F}$].

With thousands of possible configurations, the PX2 Series allows Honeywell to meet customer requirements and quickly provide samples. New standard configurations are regularly being added to the series.

The PX2 Series is compatible with a variety of harsh media including brake fluid, refrigerants, engine oil, tap water, hydraulic fluids, and compressed air. The wide operating temperature range, up to IP69K protection, and CE compliance allow compatibility for reliable performance in tough environments.

These transducers measure absolute or sealed gage pressure. The absolute versions have an internal vacuum reference and an output value proportional to absolute pressure. The sealed gage versions have an internal pressure reference of one atmosphere at sea level.

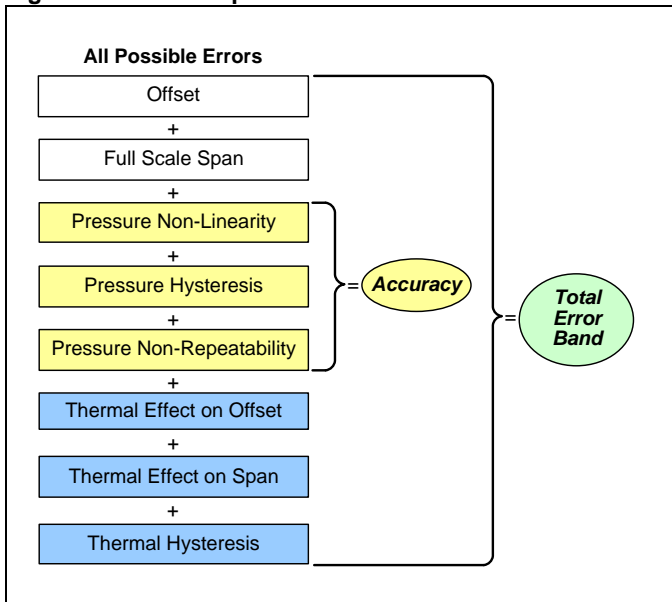
Honeywell's PX2 transducer is available in 7 bar to 34 bar [100 psi to 500 psi] pressure ranges. All products are designed and manufactured according to ISO 9001 standards.

VALUE PROPOSITIONS (★=competitive differentiator)

- ★ **Designed for configurability:** Numerous standard or custom connectors, ports, pressure types and ranges, and output options:
 - Allows customers the ability to configure devices to meet their specific application needs
 - Allows for quick availability of product samples
- ★ **Cost-effective:** The PX2 Series' configurability makes it a cost-effective solution; by configuring the transducer to meet the system's needs, the PX2 Series reduces the design and implementation costs of the end product
- ★ **Application expertise:** Honeywell's knowledgeable application engineers are available to answer customers' specific design questions during the development, launch, and production of their product
- **Global support:** Honeywell's global presence offers customers immediate product and application support; this allows Honeywell to support the customer throughout the development cycle from design to global manufacturing
- **Industry-leading Total Error Band (TEB):** Honeywell specifies TEB—the most comprehensive, clear, and meaningful measurement—that provides the transducer's true accuracy over a compensated temperature range of $-40\text{ }^{\circ}\text{C}$ to $125\text{ }^{\circ}\text{C}$ [$-40\text{ }^{\circ}\text{F}$ to $257\text{ }^{\circ}\text{F}$]. The PX2 Series TEB of $\pm 2\%$:
 - Provides excellent transducers interchangeability due to minimal part-to-part variation in accuracy
 - Eliminates the customers' need for individual transducer testing and calibration
 - Supports system accuracy and warranty requirements

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Figure 2. Error Components of Total Error Band



- **Durable:** Compatibility with a wide variety of harsh media (brake fluid, refrigerants, engine oil, tap water, hydraulic fluids, and compressed air), wide operating temperature range, up to IP69K sealing, and CE compliance allow for use in tough environments
- ★ **Designed to Six Sigma standards:** Provides the highest level of product quality, performance, and consistency; Six Sigma provides confidence that the transducer will perform to specification
- ★ **Energy efficient:** The PX2 Series AC and AD output transfer functions offer a 3.3 V ratiometric output with a <7 ms turn on time enabling the PX2 Series to be used when energy efficiency is a key requirement

FEATURES AND BENEFITS

- **Broad compensated temperature range** allows customers to design the same sensor into a broad set of applications
- **Good EMC protection** means that the transducer will not be damaged by environmental electromagnetic interference

POTENTIAL APPLICATIONS

Figures 3 through 5 show specific applications in which these sensors may be used.

Industrial:

Figure 3. HVAC/R



Function: May be used to monitor system performance for proper environment control of compressor inlet and outlet pressure, rooftop chillers, compressor rack rooms, refrigerant recovery systems, and compressor oil pressure.

Customer Benefits: Broad temperature compensation ($\pm 2\%$) over a wide operating temperature range allows the system to function as designed under a wider temperature swing.

Figure 4. Air Compressors



Function: May be used to monitor compressor performance and efficiency, specifically, compressor inlet and outlet pressure, filter pressure drop, cooling water inlet and outlet pressure, and compressor oil pressure.

Customer Benefits: Broad temperature compensation ($\pm 2\%$) over a wide operating temperature range allows the system to function as designed under a wider temperature swing.

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Transportation:

Figure 5. Heavy Equipment and Alternative Fuel Vehicles



Function: May be used to maintain heavy equipment performance by monitoring system pressure, fluid power, fluid flow, and fluid level in key systems such as pneumatics, light hydraulics, brake pressure, engine oil pressure, transmission, and truck/trailer air braking.

Customer Benefits: The transducer's good EMC rating, water ingress protection up to IP69K, and mechanical shock rate to 100g per MIL-STD-202F in a stainless steel housing allow the PX2 Series to perform in tough, heavy equipment environments.

WARRANTY/REMEDY

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 other 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.

SALES AND SERVICE

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 or:

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