Honeywell

Heavy Duty Pressure Sensors/ Transducers Line Guide



Heavy Duty products. Built for the toughest applications. Honeywell Sensing and Control (S&C) offers decades of experience in the heavy duty pressure products industry. That's why, industry-wide, our heavy duty pressure sensors and transducers are known for enhanced quality, reliability, and service – which adds up to outstanding value for your applications.

Heavy Duty Pressure Sensors are small, allowing them to be used on their own in tight packages or as the building block for a complete transducer. The 13 mm Series and the 19 mm Series were developed for potential use in pressure applications that involve measurement of hostile media in harsh environments compatible with 316 stainless steel, a type of steel that increases corrosion resistance, improves resistance to pitting from chloride ion solutions, and provides increased strength at high temperatures.

Heavy Duty Pressure Transducers are complete amplified and compensated pressure measurement solutions. With a choice of ports, connectors, outputs and pressure ranges, the PX2 Series, MLH Series and SPT Series transducers can be configured to meet the needs of the application. They are engineered to be resistant to a wide variety of media for use in most harsh environments.

FEATURES

HEAVY DUTY PRESSURE SENSORS

13 mm Series.

Features: Rugged, isolated stainless steel package • Accommodates media that will not adversely affect 316L stainless steel • Based on reliable semiconductor technology • Calibrated and temperature compensated • Voltage or current supply options • Absolute and sealed gage pressures • For potential applications from 500 psi to 5,000 psi

Benefits: Used in high pressure potential applications involving measurement of hostile media in harsh environments. Piezoresistive semiconductor sensor chip in oil-isolated housing with or without an integral ceramic for temperature compensation and calibration is designed to provide reliable, stable, and accurate performance. Weld-ring collar and special back support ring for enhanced cycle life capability as well as further package integration in OEM applications. Potential applications include industrial and hydraulic controls, tank pressure, pressure transmitters, and process control systems.

19 mm Series.

Features: Rugged, isolated stainless steel package • Accommodates media that will not adversely affect 316L stainless steel • Small size • Based on reliable semiconductor technology • Absolute and gage pressures • Vacuum compatible, isolated sensors • Calibrated and temperature compensated (some listings) • For potential applications up to 500 psi

Benefits: Variety of pressure connections allow use in wide range of OEM equipment. Uncompensated version for use in potential applications using specialized circuit designs. Rugged for use in potential applications where corrosive liquids or gases are monitored and may also be exposed to a vacuum such as industrial controls, process control systems, industrial automation and flow control, and pressure calibrators.

HEAVY DUTY PRESSURE TRANSDUCERS

PX2 Series.

Features: Cost-effective • Designed for configurability • Application expertise • Global support • Wide selection of options • Short lead time • Small Total Error Band (TEB) • Fast response time • Long life • Six Sigma design standards • Environmentally tough • Wide operating temperature range • Shock and vibration resistant • Good EMC protection

Benefits: Precise pressure measurement solution optimizes system performance at a competitive cost. Over 15,000 standard configurations. Honeywell's knowledgeable application engineers are available to answer customer's specific design questions during the development of their product. Honeywell's global presence offers immediate product and application support throughout the development cycle, from design to global manufacturing. Numerous

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When reliability is demanded, Honeywell delivers.

Heavy Duty Pressure Sensors and Transducers are found in applications where they cannot be easily replaced — where supreme durability is a top priority. That's why you'll find Honeywell S&C heavy duty pressure products performing expertly in many potential applications, such as compressors and hydraulic controls, and in industries as diverse as aerospace, medical, transportation, agriculture, refrigeration, and industrial. Our full line of products deliver enhanced performance and reliability, plus: absolute, gage and sealed-gage measurement; a wide array of pressure ranges, port styles, termination types, and outputs; package types from miniature surface mount sensors to high-end stainless steel isolated (for stringent process control); pressure ranges from 3 psi to 8,000 psi; and corrosion resistance.





Heavy Duty Pressure Sensors	13 mm Series	19 mm Series
Pressure connection	weld ring with back support, 1/8-27 NPT, 1/4-18 NPT, 7/16 UNF	weld ring with body O-ring, flush mount, flush mount with flange, 1/4-18 NPT, 1/8-27 NPT, 7/16 UNF, 1/4 BSPP, Euro O-ring, 1/4 VCR (female nut)
Measurement type	absolute, sealed gage	absolute, gage, vacuum gage
Construction	wetted parts 316L SS	wetted parts 316L SS
Pressure range	0 psi to 500 psi through 0 psi to 5000 psi	0 psi to 3 psi through 0 psi to 500 psi
Output	0 mV to 100 mV (nominal)	0 mV to 100 mV (nominal)
Linearity	±0.25 %BFSL max.	±0.25 %BFSL max.
Amplified	no	no
Compensated temperature range	0 °C to 82 °C [32 °F to 180 °F]	0 °C to 82 °C [32 °F to 180 °F]
Termination	ribbon cable	ribbon cable



Heavy Duty Pressure Transducers	PX2 Series
Pressure connection	NPT 1/4-18, NPT 1/8-27, 9/16-18 UNF SAE J1926-3, 7/16-20 UNF SAE J1926-3, 1/4 45° Flare Female Schrader, M12 x 1.5 ISO 6149-3, G1/4 ISO 1179-3, G1/8 ISO 1179-3
Measurement type	absolute, sealed gage
Construction	port and housing: 304 stainless steel; connector: PBT 30% GF
Pressure range	1 bar to 46 bar | 100 kPa to 4.6 MPa | 15 psi to 667 psi
Output	ratiometric: 5.0 V, 10 %Vs to 90 %Vs; 5.0 V, 5 %Vs to 95 %Vs; 3.3 V, 10 %Vs to 90 %Vs; 3.3 V, 5 %Vs to 95 %Vs regulated: 1 Vdc to 6 Vdc, 0.25 Vdc to 10.25 Vdc, 0.5 Vdc to 4.5 Vdc, 1 Vdc to 5 Vdc current: 4 mA to 20 mA
Accuracy	±0.25 %FSS
Total Error Band	±2 %FSS at -40 °C to 125 °C [-40 °F to 257 °F]
Amplified	yes
Compensated temperature range	-40 °C to 125 °C [-40 °F to 257 °F]
Termination	Delphi Metri-Pack 150, Micro M12 IEC 61076-2, DIN EN 175301-803C, Deutsch DTM04-3P, Cable Harness (1, 2, 3, 5 meter)



Heavy Duty Pressure Transducers	MLH Series
Pressure connection	1/4-18 NPT, M12 x 1.5 (ISO 6149), M14 x 1.5 (ISO 6149), 3/8-24 UNF (SAE-3 O-ring boss), M18 x 1.5 (ISO 6149), 1/8 in-27 NPT, 1/2 in-20 UNF (SAE-5 O-ring boss), M10 x 1 (ISO 6149), 1/4 in SAE female Schrader (7/16-20 UNF-2B internal thread), 7/16-20 UNF (SAE-4 O-ring boss), 1/2 in NPT; 9/16-18 UNF (SAE-6 O-ring boss), R 1/4-19 BSPT (ISO 7-1 tapered thread), G 1/4-19 (DIN 3852-2), G 1/8 with O-ring groove, M16 x 1.5 (ISO 6149), G 1/4 with O-ring groove, G 1/8 (DIN 3852-2), R 1/8-28 BSPT (ISO 7-1 tapered thread), M20 x 1.5 (ISO 6149), 1/2-20 (SAE J514)
Measurement type	gage, sealed gage
Construction	port: 304L stainless steel; diaphragm: Haynes 214 alloy
Pressure range	0 psi to 50 psi through 0 psi to 8000 psi
Output	ratiometric (from 5 Vdc excitation): 0.5 Vdc to 4.5 Vdc regulated: 1 Vdc to 6 Vdc, 0.25 Vdc to 10.25 Vdc, 0.5 Vdc to 4.5 Vdc, 1 Vdc to 5 Vdc current: 4 mA to 20 mA
Accuracy	±0.25 %FSS (±0.5 %FSS on ranges below 100 psi)
Amplified	yes
Compensated temperature range	ratiometric output: -40 °C to 125 °C [-40 °F to 257 °F] regulated and current outputs: -40 °C to 125 °C [-40 °F to 257 °F] (See product literature for operating and temperature compensated area graphics.)
Termination	Delphi Metri-Pack 150, Hirschmann (mates with G4W1F), M12 x 1 (Brad Harrison micro), DIN 43650-C, 8 mm-male, Amp Superseal 1.5; cable (1 m), cable (3 m), flying leads (20 AWG – 6 in), Deutsch DTM04-3P (integral)



Heavy Duty Pressure Transducers	SPT Series
Pressure connection	1/8-27 NPT, 1/4-18 NPT, 7/16-20 UNF, 1/4-19 BSPP, 1/4 VCR gland
Measurement type	absolute, gage, sealed gage, vacuum gage pressures
Construction	wetted parts 316L SS
Pressure range	0 psi to 3 psi through 0 psi to 5000 psi
Output	4 mA to 20 mA, 0 mV to 100 mV, 1 Vdc to 5 Vdc
Linearity	±0.25 %BFSL max.
Amplified	yes, amplified and unamplified
Compensated temperature range	-10 °C to 85 °C [14 °F to 185 °F]
Termination	bayonet connector, cable

standard or custom connectors, ports, pressure ranges and types, and output options. Customers can count on quick response to prototypes, dedicated teams and manufacturing processes ensure product samples are shipped quickly. Small Total Error Band of ±2% over a compensated temperature range of -40 °C to 125 °C [-40 °F to 257 °F] provides excellent interchangeability due to minimal part-to-part variation in accuracy, eliminates customers' need for individual transducer testing and calibration, and supports system accuracy and warranty requirements. Fast response time maximizes system performance. 10 million cycles (minimum) to operating pressure provides long life in the application. AC and AD output transfer functions offer a 3.3 V ratiometric output with a <7 ms turn-on time to enable use when energy efficiency is a key requirement. Compatibility with a wide variety of harsh media, including refrigerants, engine oil, brake fluid, hydraulic fluid, tap water, and compressed water, up to IP69K ingress protection sealing, and 100 V/m radiated immunity allow for use in tough environments. Wide compensated operating temperature range allows customers to design the same sensor into a variety of applications. Shock and vibration resistance increase flexibility of use within the application. Good EMC protection means that the transducer will not be damaged by environmental electromagnetic interference. Potential applications include industrial HVAC/R and air compressors, as well as a wide variety of general system and factory automation pump, valve and fluid pressure applications.

MLH Series.

Features: All-metal wetted parts • No internal elastomeric seals • Stable and creep free • Input reverse voltage protection • Less than 2 ms response time • Easy customization • Rated IP65 or better • Exceeds CE heavy industrial EMC for use in areas of high RFI/EMI • Amplified and temperature compensated • Wide choice of connections and terminations • Calibration for special pressure ranges

Benefits: Combines ASIC technology with media isolated, metal diaphragm. All-metal wetted parts for use in a variety of potential fluid applications. Amplified outputs often eliminate cost of external amplifiers. Wide selection of industry-standard connectors and process ports for enhanced reliability and user flexibility. Potential applications include compressors, refrigeration and HVAC/R, general industrial and hydraulics, multiple transportation applications including braking and alternate fuels, medical.

SPT Series.

Features: Based on reliable semiconductor technology • Rugged, 316L stainless steel wetted parts • Calibrated and temperature compensated • Absolute, gage, sealed gage, and vacuum gage pressures • For use in potential medical applications where compatibility is a problem.

Benefits: Variety of pressure connections allows use in wide range of OEM equipment. For use in potential applications where corrosive liquids and gases are monitored such as industrial automation and flow control, pressure instrumentation, hydraulic systems, and process control.

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.

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