Honeywell

Heavy Duty Pressure Transducers Line Guide



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

The 13 mm Series and 19 mm Series were developed for potential use in pressure applications that involve measurement of hostile media in harsh environments compatible with 316L 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. They are small, allowing them to be used on their own in tight packages or as building blocks.

The SPT Series, MLH Series, PX2 Series, and PX3 Series are complete amplified and compensated pressure measurement solutions. With a choice of ports, connectors, outputs and pressure ranges, these products may 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

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.

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.

MLH Series.

Features: All-metal wetted parts • No internal elastomeric seals • Stable and creep free • Voltage and current outputs • Less than 2 ms response time • Easy customization • Rated IP65 or better

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When reliability is demanded, Honeywell delivers.
Heavy Duty Pressure 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 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 Transducers	13 mm Series	19 mm Series
Pressure port type	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]
Electrical connector type	ribbon cable	ribbon cable



Heavy Duty Pressure Transducers	SPT Series
Pressure port type	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]
Electrical connector type	bayonet connector, cable



Heavy Duty Pressure Transducers	MLH Series
Pressure port type	1/4-18 NPT, 1/8-27 NPT, 7/16-20 UNF 1/4 inch 45° Flare Female Schrader (SAE J512), 1/2-14 NPT, R 1/4-19 BSPT (ISO 7-1 tapered thread), R 1/8-28 BSPT (ISO 7-1 tapered thread)
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.)
Electrical connector type	Metri-Pack 150, Hirschmann (mates with G4W1F), M12 x 1 (Brad Harrison micro), DIN 43650-C, 8 mm male, AMP Superseal 1.54, Cable (24 AWG,1 meter), Cable (24 AWG, 3 meter), flying leads (20 AWG, 6 in), Deutsch DTM04-3P (integral)



Heavy Duty Pressure Transducers	PX2 Series
Pressure port type	7/16-20 UNF 1/4 in 45° Flare Female Schrader (SAE J512), 7/16-20 UNF 45° Flare Male (SAE J513), 7/16-20 UNF 37° Flare Male (SAE J514), G1/4 (ISO 1179-3), G1/8 (ISO 1179-3), M12 x 1.5 (ISO 6149-3), 1/4-18 NPT, 1/8-27 NPT, 9/16-18 UNF, (SAE J1926-3), 7/16-20 UNF (SAE J1926-3)
Measurement type	absolute, sealed gage, vented gage
Construction	port and housing: 304 stainless steel, connector: PBT 30% GF
Pressure range	1 bar to 70 bar | 100 kPa to 7 MPa | 15 psi to 1000 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]
Electrical connector type	Metri-Pack 150 (UL 94 HB or V-0 options), Micro M12, DIN, Deutsch, cable harness (1 m, 2 m, 3 m, or 5 m).



Heavy Duty Pressure Transducers	PX3 Series
Pressure port type	7/16-20 UNF 1/4 inch 45º Flare Female Schrader (SAE J512), G1/4 A-G (1179-3), G1/4 A-L (1179-2) , M12 x 1.5 (ISO 6149-3), 1/4-18 NPT, (ANSI/ASME B1.20.1), 1/8-27 NPT, (ANSI/ASME B1.20.1), brazable tube
Measurement type	absolute, sealed gage
Construction	threaded ports: brass C36000 (lead (Pb) content: 3.7% max.) tube port: copper UNS C12200 (lead (Pb) free)
Pressure range	1 bar to 50 bar | 15 psi to 700 psi
Output	ratiometric: 0.5 Vdc to 4.5 Vdc ratiometric: 0.33 Vdc to 2.97 Vdc current: 4 mA to 20 mA
Accuracy	±0.25 %FSS
Total Error Band	±1.0 %FSS at -20ºC to 85ºC [-4ºF to 185ºF] ±2.0 %FSS at <-20ºC, >85ºC [<-4ºF, >185ºF]
Amplified	yes
Compensated temperature range	-40ºC to 125ºC [-40ºF to 257ºF] (all outputs)
Electrical connector type	Metri-Pack 150 (UL V-0), DIN (Male, EN 175301-803C), cable harness (PVC or XLPE)

• 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.

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 • Application 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. Thousands of possible 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. Fast response time maximizes system performance. 10 million cycles (minimum) to operating pressure provides enhanced 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. Six Sigma design standards result in a high level of quality, performance, and consistency so that customers are assured that the transducer will perform to specification. Compatibility with a wide variety of harsh media, including brake fluid, common hydrofluorocarbon refrigerants, engine oil, hydraulic fluids, and dry air, 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 affected 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.

PX3 Series.

Features: Pressure range: 1 bar to 50 bar | 15 psi to 700 psi (absolute and sealed gage) • Ratiometric output: 0.5 Vdc to 4.5 Vdc or 0.33 Vdc to 2.97 Vdc; current output: 4 mA to 20 mA • Fully calibrated and temperature compensated • Total Error Band: ±1.0 %FSS from -20°C to 85°C [-4°F to 185°F] • External freeze/thaw resistance: 6 cycles from -30°C to 50°C [-22°F to 122°F] • High insulation resistance: >100 MOhm • Dielectric strength: AC1500V, 1 min. or AC1800, 1 s • Current consumption for ratiometric output: 3.5 mA max. • EMC (radiated immunity) for ratiometric output: 200 V/m per ISO 11452-2 • Ingress protection IP67 (Metri-Pack 150), IP69K (cable harness) • 4 mA to 20 mA output operational at 125°C • RoHS, REACH, and CE compliant • Seven industry-standard pressure port types, including a tube port which provides for hermetically-sealed process connection

Benefits: Total Error Band provides the most comprehensive, clear and meaningful indication of the sensor's true measurement performance over a specified temperature range; small error promotes system uptime and efficiency. Survives exposure to frost, commonly found in refrigeration systems. Protects the user and sensor in high over-voltage situations, and ensures that the device is compliant with industry standards. Operates reliably in the presence of electro-magnetic fields, such as near wireless signals, RF communication, and electrical devices. Helps to reduce energy costs, and enhances product life if used in battery driven systems. Media compatibility: Common HFC (hydrofluorocarbon) refrigerants such as R410A and R134A, next generation low global warming potential (GWP) refrigerants such as R448A (Solstice® N40), R32 and R1234ZE, engine oil, petroleum-based hydraulic fluids, brake fluids, and dry air. For ammonia and other corrosive media, see Honeywell's SPT Series. Potential industrial applications include refrigerant pressure monitoring in HVAC/R systems and air compressor system pressure. Potential transportation applications include air system monitoring and hydraulic oil pressure monitoring.

Warranty. Honeywell warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. 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 that Honeywell, in its sole discretion, 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.**

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