GE
Sensing

Pressure Transmitters/Sensors

GE imagination at work

PROCON
SYSTEMS INC.
www.proconsystems.com

Total Capability for a World of Pressure

Since 1972, Druck products have successfully applied technological innovation and application focus to a diverse and demanding world of pressure. Druck has joined other GE high-technology sensing businesses under a new name—GE Sensing.

GE Sensing specialises in the design and manufacture of pressure sensors for a wide range of applications, using micromachined silicon technology.

Silicon technology has a high profile and, despite the proliferation of silicon sensors designed by other companies, GE Druck is an established world leader.

GE Sensing has one of the most comprehensive and technologically advanced silicon processing facilities. It is one of only a few companies worldwide converting raw silicon into finished products, by employing techniques such as micromachining.

Multi-disciplined engineering teams are experienced in the use of hybrids, ASICs, microprocessors and surface mount technology. Together with packaging design and other facets of engineering, GE Sensing provide a complete solution for pressure measurement.

Silicon sensor technology provides excellent performance characteristics and a modular design approach allows for flexibility of packaging to suit many different applications.

Shown below is an example of sensor construction, silicon processing and also 3D solid modelling design tools for fast and accurate product development.

Standard or Customised

GE Sensing actively seek out and satisfy new markets and needs, successfully addressing the diverse and ever growing applications for pressure measurement worldwide.

GE Sensing sensors are supplied in standard or customised designs to measure pressures from fractions of a millibar to over 1000 bar (14500 psi) and to achieve high accuracy in the most demanding environments.

Major areas of use include aerospace, automotive, oil and gas, water and transportation, with applications ranging from offshore oil platforms to formula one racing cars.

- Ranges from 0.1 mbar to 1400 bar (0.04 inH_2O to 20000 psi)
- Static accuracies up to 0.01%
- Millivolt, voltage, current, frequency outputs
- Digital and smart outputs
- Range of precision sensor technologies

A small selection of customised products are shown below. Refer to GE Sensing to discuss your own applications and product requirements in detail.

Test Stands

Digital output featuring CANbus serial interface and CANopen protocol.

- Ranges up to 70 bar (1000 psi)
- Total accuracy to 0.1% FS
- Input/output isolated
- Device self check

Process

The range includes conventional 4 to 20 mA and smart/HART® transmitters.

- Ranges up to 1400 bar (20000 psi)
- 0.1 % accuracy
- 4 to 20 mA and HART®
- Hazardous area approvals

Aerospace

Airframe, engine mount, ground/flight test and air data transducers.

- Excellent accuracy
- Flight certified versions
- Low risk technology
- Compact and rugged

Automotive

For engine/powertrain test, on-vehicle test, motorsport and component/ system test.

- High accuracy
- Flexible design
- Compact and rugged
- Wide temperature

Level

A flush, transmitter for hostile tank contents level measurement.

- Ranges up to 15 mH_20
- 0.1% accuracy
- IP 68 version
- Instrinsically safe

Oil & Gas

Direct subsea wellhead mounted for process measurement.

- High reliability
- Pressure and temperature outputs
- Ranges up to 690 bar (10000 psi)
- 0.1% accuracy

Current Output

Harsh Process

The precision pressure transmitters in the PTX 7500 Series are suitable for use in the demanding environment of the industrial and process sectors.

The 2 wire, 4 to 20 mA output is not affected by electrical noise or long distance transmission. Fully encapsulated electronics with RFI/EMI protection ensure that high levels of performance are maintained, even in harsh operating conditions. Power supply is self-regulated and independent zero and span adjustment provided.

Modular construction allows a wide choice of electrical terminations, pressure adaptors and pressure ranges to suit individual customer requirements.

- Ranges from 70 mbar to 700 bar (1 psi to 10000 psi)
- 0.15% accuracy
- 0.1% long term stability
- Intrinsically Safe versions
- Hastelloy/stainless wetted parts

Other types of transmitters are shown below. Refer to GE Sensing for further information and product datasheets.

OEM

PTX 1000 Series

Low cost 2 wire transmitter for OEM users throughout industry.

- Ranges up to 700 bar (10000 psi)
- Choice of fittings
- 0.25% accuracy
- Compact size

Quick Delivery

PTX 1400

A fixed specification format with DIN pressure ranges for quick delivery.

- Ranges up to 600 bar (9000 psi)
- IP65 DIN connector
- G¼ female port
- 0.15% typical accuracy

Industrial

PTX 120/WL

A differential pressure transmitter suitable for general industrial applications.

- Ranges up to 35 bar (500 psi)
- Line pressure to 75 bar (1000 psi)
- Stainless steel parts
- 0.1% accuracy

Liquid Level

PTX 1830/1730 Series

Fully submersible pressure transmitters for liquid level measurement.

- Ranges up to 600 mH_2O (900 psi)
- Titanium or stainless body
- 0.1% or 0.06% accuracy
- 17.5 mm (0.68 in) diameter

Flexible

STX/RTX Series

Smart/HART® and rangeable transmitters for flexibility of application.

- Ranges up to 1400 bar (20000 psi)
- 0.15% or 0.075% accuracy
- IS/Flameproof versions
- Optional display

Low Pressure

LPX Series

A series of differential pressure sensors with very low ranges.

- Ranges from 0.1 mbar (0.04 inH_2O)
- 0.1% or 0.2% accuracy
- Hostile media compatible
- Excellent stability

Voltage Output

Industrial

The PMP 4000 Series is an advanced range of amplified output sensors designed to meet the demands of many industrial applications. High measurement accuracy and stability remove the need for regular recalibration, reducing downtime and cost of ownership.

Every sensor is fully tested over both pressure and temperature extremes prior to despatch. The output voltage is set for the pressure range required and pressure and electrical connections are fitted according to customer preference. Zero and span access allows sensor interchangeability and the 3 wire configuration permits bi-directional outputs if required.

- Ranges from 70 mbar to 700 bar (1 psi to 10000 psi)
- 0.04% accuracy
- Outputs to 10V or ±5V
- Hastelloy/stainless wetted parts
- 400% overpressure

Some examples of other voltage output transducers are shown below. Refer to GE Sensing for further information and product datasheets.

OEM

PMP 1000 Series

For OEM users throughout industry, a low cost, flexible specification.

- Ranges up to 700 bar (10000 psi)
- 0.25% accuracy
- Choice of fittings
- Compact size

Quick Delivery

PMP 1400

A fixed specification with DIN pressure ranges for fast delivery, ex-stock.

- Ranges up to 600 bar (9000 psi)
- IP65 DIN connector
- G¼ female port
- 0.15% typical accuracy

Automotive

PMP 317 Series

For automotive applications requiring high level output and small physical size.

- Ranges up to 700 bar (10000 psi)
- 0.1% accuracy
- -40°C to +120°C (-40°F to 250°F) operation
- Compact and rugged

Isolation

PDCR 130 Series

Proven performance with full input/output isolation or split rail supply.

- Ranges up to 700 bar (10000 psi)
- 0.1% accuracy
- Outputs up to 12 V
- Zero/Span adjustment

Very Low Pressure

LPM Series

A series of differential sensors with very low pressure ranges.

- Ranges from 0.1 mbar (0.04 inH_2O)
- 0.1% or 0.2% accuracy
- Hostile media compatible
- Excellent stability

Differential

PMP 4100 Series

A PMP 4000 variant specifically for differential pressure measurement.

- Ranges up to 35 bar (500 psi)
- 0.04% accuracy
- Line pressure to 70 bar (1000 psi)
- 0.1% long term stability

Pressure Sensors

Millivolt Output

Extreme Environment/High Accuracy

The **PDCR 4000** Series is a range of high performance pressure transducers which combine high accuracy with the ability to operate in extreme environments. They are compact, rugged and, with hermetic pressure media isolation, are compatible with most fluids.

Fast delivery of a wide range of transducers can be achieved by holding completed "core" devices in stock, which can be selected for performance criteria and completed to the mechanical and electrical requirements of the customer.

- Ranges from 70 mbar to 700 bar (1 psi to 10000 psi)
- 0.04% accuracy
- 0.1% long term stability per annum
- Hastelloy/stainless wetted parts
- 400% Overpressure

Shown below are some other types of GE Sensing millivolt transducers ranging from a miniature high temperature device to a low cost OEM sensor. Refer to GE Sensing for further information and product datasheets.

OEM

PDCR 1000 Series

A low cost, flexible solution for OEM users throughout industry.

- Ranges up to 700 bar (10000 psi)
- Choice of fittings
- 0.25% accuracy
- Compact size

Liquid Level

PDCR 1830/1730 Series

Fully submersible pressure sensors for liquid level measurement.

- Ranges up to 600 mH_2O (900 psi)
- Titanium or stainless body
- 0.1% or 0.06% accuracy
- 17.5 mm (0.68 in) diameter

Temperature Extreme

PDCR 9X2 Series

A series of transducers suitable for extreme temperature environments.

- Ranges up to 700 bar (10000 psi)
- -54°C to 125°C (-65°F to 260°F) operation
- Connector versions
- High accuracy

Harsh Environments

PDCR 2100 Series

Wet/Wet differential transducers suitable for hostile applications.

- Ranges up to 60 bar (900 psi)
- Line pressure to 140 bar (2000 psi)
- 0.1% accuracy
- Stainless/hastelloy

Aerospace

PDCR 330 Series

Flight qualified series of transducers for aerospace applications.

- CAA/FAA qualified
- Ranges to 700 bar (10000 psi)
- -54°C to 150°C (-65°F to 300°F) operation
- Compact and rugged

Miniature

PDCR 200

A miniature, flush diaphragm device with high response output.

- Ranges up to 60 bar (900 psi)
- 0.3% accuracy
- Excellent response
- M5 or UNF connector

More than Sensors

The GE Group comprises fourteen subsidiary companies and a global agency network with development and manufacturing operations in Europe and the USA.

To address a wide range of applications and markets, GE has four product marketing divisions. These groups are pressure sensors, portable calibrators, primary and secondary standards and Aviation Ground Support Equipment.

In addition to the range of pressure sensors, some products from the other divisions are shown. Refer to GE for associated product guides and datasheets.

Portable Field Calibrators Division

A wide range of precision battery powered instruments used to calibrate pressure, temperature and electrical parameters, often in remote locations.

Primary & Secondary Standards Division

A wide range of calibration standards are available, including primary piston gauges and deadweight testers, electronic pressure controllers and pressure indicators.

Aviation Ground Support Equipment Division

A wide range of advanced Air Data Test Sets, aeronautical indicators and primary standards are available for flightline and laboratory applications.

Our Commitment

Quality Assurance

GE Sensing is committed to producing the highest quality products. This commitment extends from initial concept and development through to manufacturing, testing and despatch. GE Sensing is approved to the highest international quality standards, including ISO 9001, CAA/FAA and also by many companies who apply their own specific QA requirements.

Customer Care

Operating through a global network of sales officer and agents, GE Sensing maintains the highest standards of customer care. A fully integrated computer system ensures efficient customer support from sales enquiry to field service. Dedicated sales, application engineering, order processing and service teams use quality approved procedures to ensure fast response with flexibility of operation.

This successful philosophy is continually proven through the efficient delivery of standard catalogue products, custom products for specific applications and the management of large complex programme contracts.

Supporting Services

Our highly trained staff can support you, no matter where you are in the world. We can provide training (standard curricula or individually tailored), nationally accredited calibration - both initially and at periodic intervals (accredited by UKAS, NVLAP, DKD, RvA and other regionally bodies), extended warrantee terms and rental of portable or laboratory calibrators. Further details can be found in www.gesensing.com/productservices/service.htm

About us

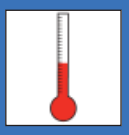
GE has united the technological innovation and experience of industry leaders in the design and manufacture of advanced sensing and measurement solutions into one world-class business—GE Sensing.

GE's sensing products measure temperature, pressure, liquid level, moisture and humidity, gas concentration, and flow rate for applications ranging from environmental, medical, and pharmaceutical to automotive, aerospace, chemical, and petrochemical.

From high-quality hand-held and portable field calibrators to stand-alone measurement instruments and systems, GE Sensing provides end-to-end solutions that can help you monitor, protect, and control your critical processes and applications.

Pressure 

Flow 

Temperature 

Gas 

Moisture 

Humidity 

Level 

Electrical 

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