Pressure Sensors

Product Guide

GE Druck

- Ranges 0.1 mbar to 1400 bar
- Millivolt, Volt and Milliamp outputs
- Digital outputs
- High accuracy, stability and overload
- Compact and rugged construction
- Standard or customised designs

Pressure Measurement

Total Capability for a World of Pressure

Established in 1972, GE Druck specialises in the design and manufacture of pressure sensors for a wide range of applications, using micromachined silicon technology.

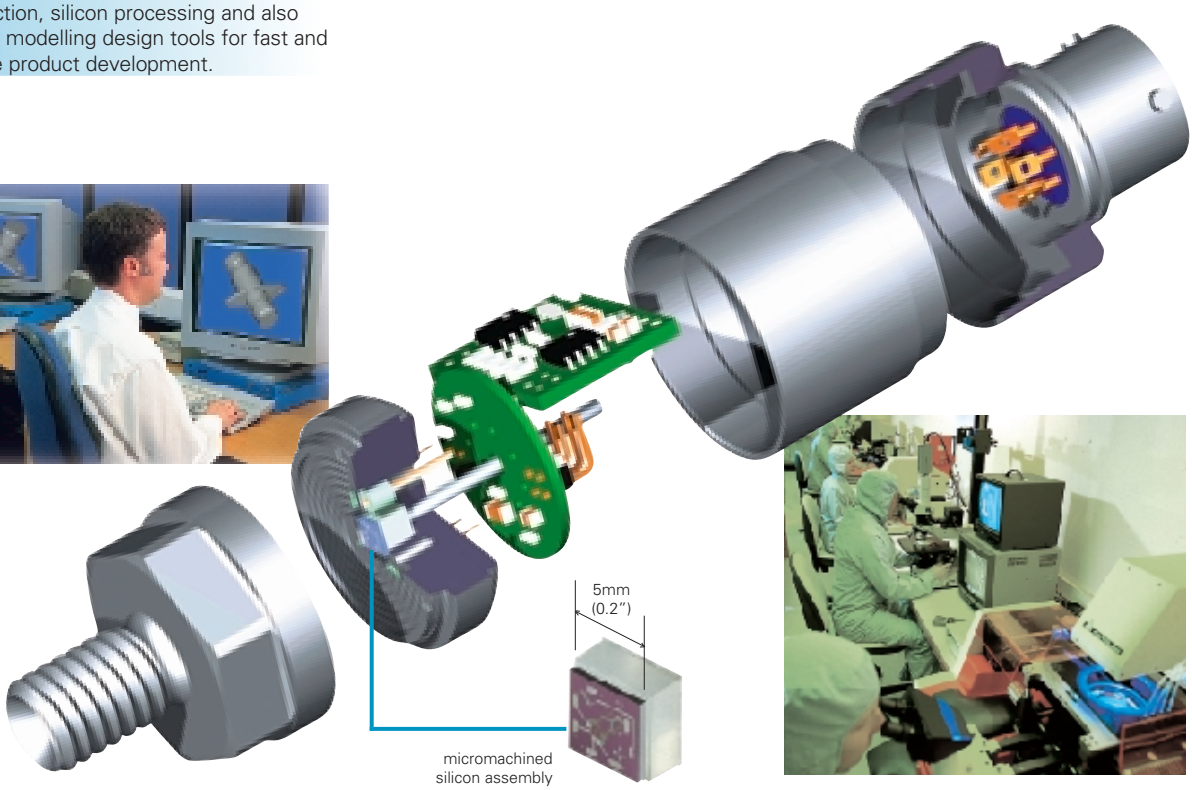
Silicon technology has a high profile and, despite the proliferation of silicon sensors designed by other companies, GE Druck is an established world leader.

GE Druck 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 Druck 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.



The GE Druck 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 Druck 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 Druck 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.

Pressure Sensors

Range of Pressure Transducers and Transmitters

MILLIVOLT OUTPUT

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 70mbar to 700 bar
- 0.04% accuracy
- 0.1% long term stability per annum
- Hastelloy/stainless wetted parts
- 400% Overpressure

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

PDCR 1000 Series

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

- Ranges up to 700 bar
- Choice of fittings
- 0.25% accuracy
- Compact size

PDCR 1830/1730 Series

Fully submersible pressu sensors for liquid level measurement.

- Ranges up to 600 mH20
- Titanium or stainless body
- 0.1% or 0.06% accu
- 17.5mm diameter

PDCR 9X2 Series

A series of transducers suitable for extreme temperature environments.

- Ranges up to 700 bar
- - 54 to +125°C operation
- Connector versions
- High accuracy

PDCR 2100 Series

Wet/Wet differential transducers suitable for hostile applications.

- Ranges up to 60 bar
- Line pressure to 140 bar
- 0.1% accuracy
- Stainless/hastelloy

PDCR 330 Series

Flight qualified series of transducers for aerospace applications.

- CAA/FAA qualified
- Ranges to 700 bar
- - 54 to +150°C operation
- Compact and rugged

PDCR 200

A miniature, flush diaphragm device with high response output.

- Ranges up to 60 bar
- 0.3% accuracy
- Excellent response
- M5 or UNF connector

VOLTAGE OUTPUT

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 70mbar to 700 bar
- 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 Druck for further information and product datasheets.

PMP 1000 Series

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

- Ranges up to 700 bar
- 0.25% accuracy
- Choice of fittings
- Compact size

PMP 1400

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

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

PMP 317 Series

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

- Ranges up to 700 bar
- 0.1% accuracy
- -40 to + 120 °C operation
- Compact and rugged

PDCR 130 Series

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

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

LPM Series

A series of absolute and differential sensors with very low pressure ranges.

- Ranges from 0.1mbar
- 0.1% or 0.2% accuracy
- Hostile media compatible
- Excellent stability

PMP 4100 Series

A PMP 4000 variant specifically for differential pressure measurement.

- Ranges up to 35 bar
- 0.04% accuracy
- Line pressure to 70 bar
- 0.1% long term stability

CURRENT OUTPUT

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, 4-20 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 70mbar to 700 bar
- 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 Druck for further information and product datasheets.

PTX 1000 Series

Low cost 2 wire transmitter for OEM users throughout industry.

- Ranges up to 700 bar
- Choice of fittings
- 0.25% accuracy
- Compact size

PTX 1400

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

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

PTX 120/WL

A differential pressure transmitter suitable for general industrial applications.

- Ranges up to 35 bar
- Line pressure to 75 bar
- Stainless steel parts
- 0.1% accuracy

PTX 1830/1730 Series

Fully submersible pressure transmitters for liquid level measurement.

- Ranges up to 600 mH20
- Titanium or stainless body
- 0.1% or 0.06% accuracy
- 17.5mm diameter

STX/RTX Series

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

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

LPX Series

A series of absolute and differential pressure sensors with very low ranges.

- Ranges from 0.1mbar
- 0.1% or 0.2% accuracy
- Hostile media compatible
- Excellent stability

STANDARD OR CUSTOMISED

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

GE Druck sensors are supplied in standard or customised designs to measure pressures from fractions of a millibar to over 1000 bar 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 0.1mbar to 1400 bar
- 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 Druck 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
- Total accuracy to 0.1% FS
- Input/output isolated
- Device self check

Process

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

- Ranges up to 1400 bar
- 0.1 % accuracy
- 4-20 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, bulkhead mounting transmitter for hostile tank contents level measurement.

- Ranges up to 600 mH20
- 0.1% accuracy
- IP 68 version
- Flush fitting

Oil & Gas

Direct subsea wellhead mounted for process measurement.

- High reliability
- Pressure and temperature outputs
- Ranges up to 690 bar
- 0.1% accuracy

Pressure Measurement

Quality Assured Service & Support

GE Druck is committed to producing the highest quality products. This commitment extends from initial concept and development through to manufacturing, testing and despatch.

GE Druck 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. UKAS accredited GE Druck Laboratories provide traceability to international standards for pressure, electrical and temperature measurements.

Operating through a global network of subsidiaries and exclusive agents, GE Druck maintains the highest standards of customer service. A fully integrated computer system ensures efficient customer support from sales enquiry to field service. Dedicated sales, product support, 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 even the management of large complex programme contracts.

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