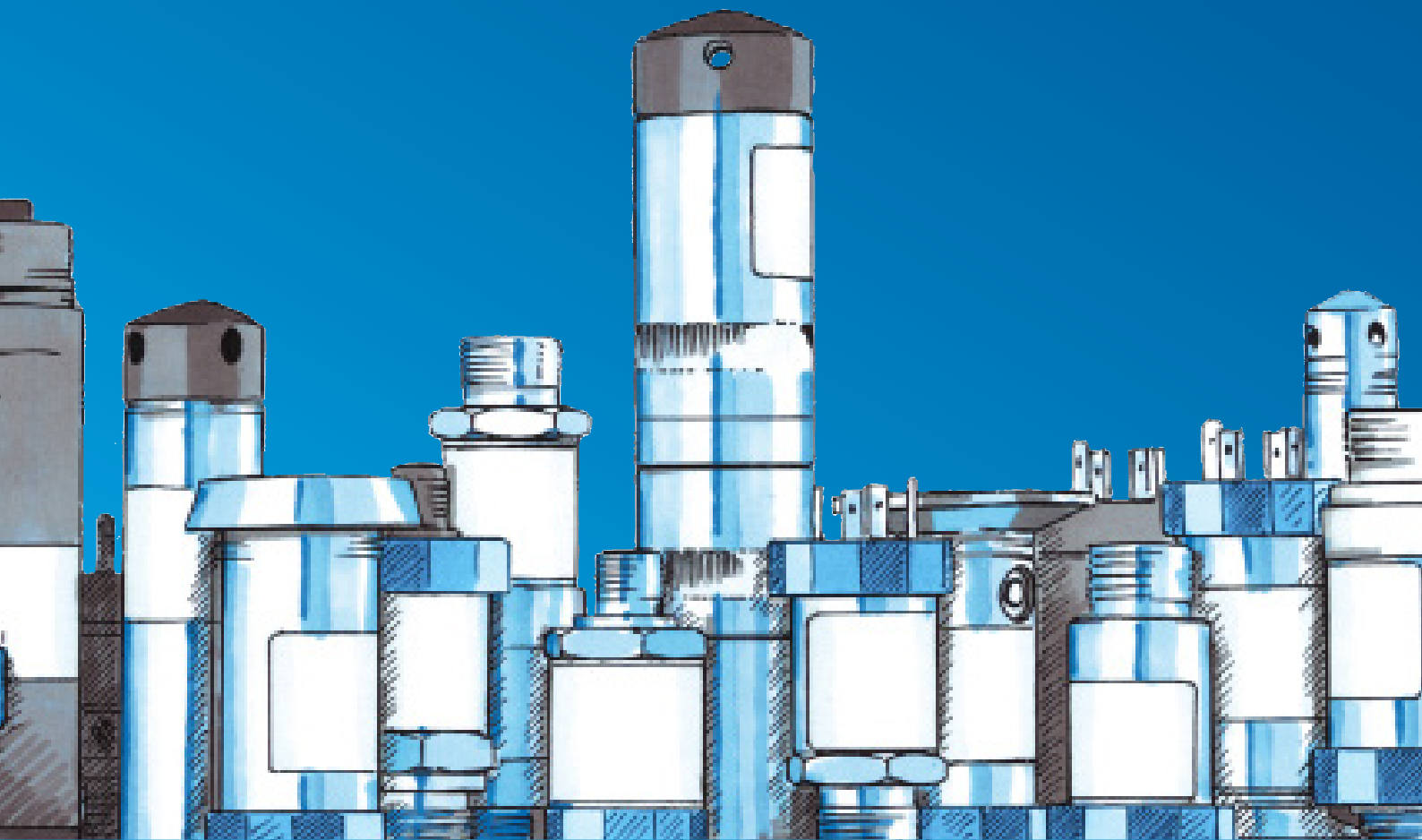
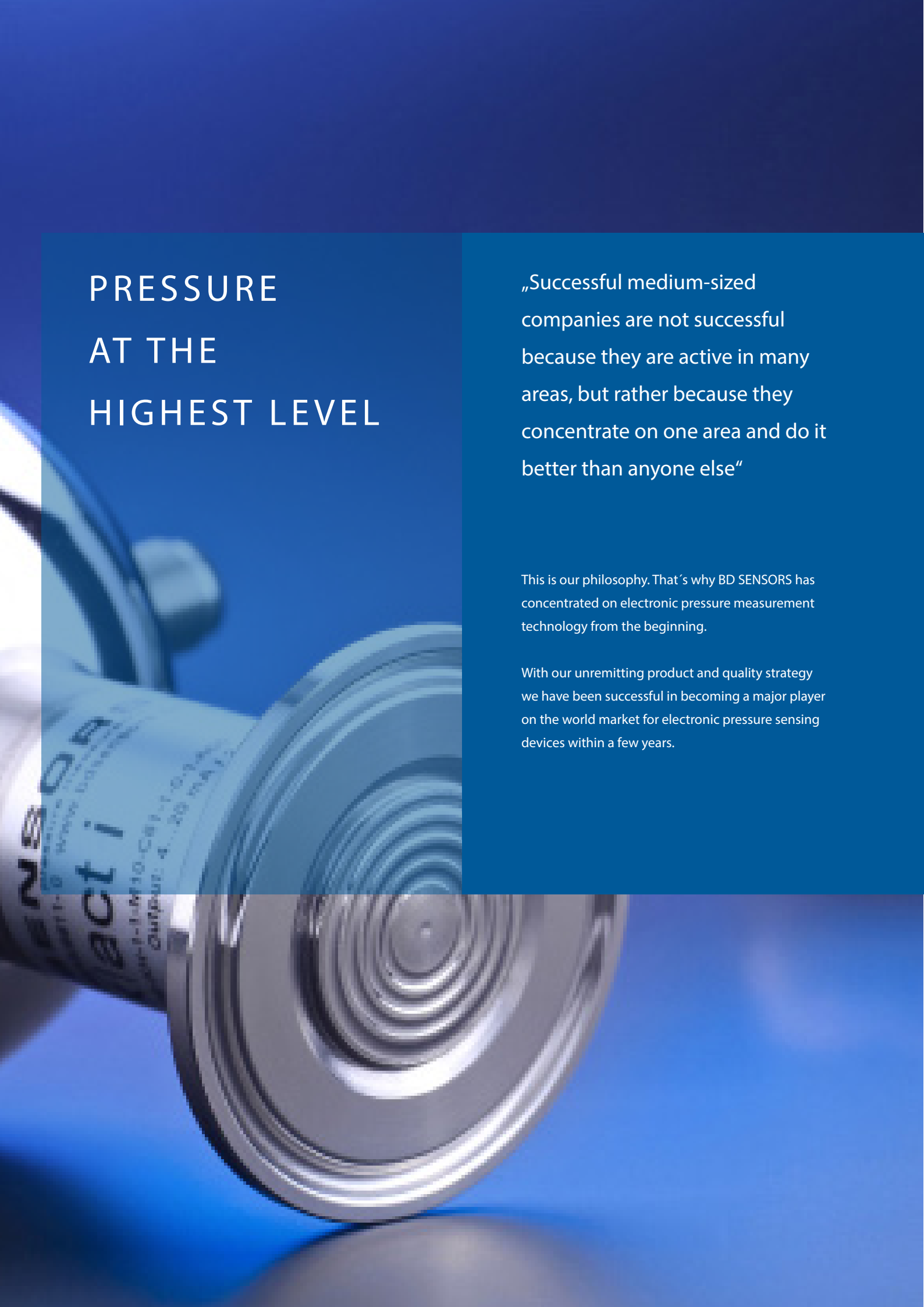


PRODUCT OVERVIEW



BD SENSORS®
pressure measurement



PRESSURE AT THE HIGHEST LEVEL

„Successful medium-sized companies are not successful because they are active in many areas, but rather because they concentrate on one area and do it better than anyone else“

This is our philosophy. That's why BD SENSORS has concentrated on electronic pressure measurement technology from the beginning.

With our unremitting product and quality strategy we have been successful in becoming a major player on the world market for electronic pressure sensing devices within a few years.

With 260 employees at 4 locations in Germany, the Czech Republic, Russia and China BD SENSORS has solutions from 1.6 mbar to 6000 bar:

- > pressure sensors, pressure transducers
pressure transmitters

- > electronic pressure switches

- > pressure measuring devices with display and switching outputs

- > hydrostatic level probes

Two pressure transmitters and a submersible probe, based on a stainless steel silicon sensor were the beginning. Today the range extends to more than 70 standard products, from economical OEM devices to high-end products with HART[®] communication or field bus interface.

In addition we have developed hundreds of customer-specific applications, underlining the competence and flexibility of BD SENSORS. The excellent price/performance ratio of our products is proof of the fact that we are able to meet the toughest demand: Being a problem-solver for our customers.

INDEX

TYPES OF SENSORS

2 – 3

PRESSURE

4 – 10

LEVEL

11 – 13

SWITCH

14 – 15

EVALUATION

15

4 ARGUMENTS

16

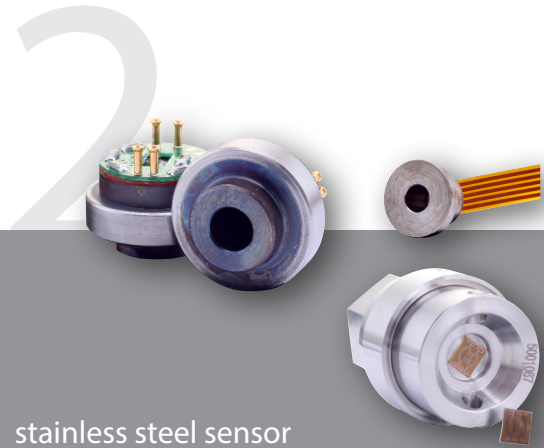
For large production batches as well as for small production numbers, no matter for what medium or external factors, with almost any mechanical or electrical connection - we solve your problem

flexibly, quickly and cost-efficiently.

The requirements on pressure and level measuring devices are various and, in addition to intelligent design solutions, require most of all appropriate sensor technology.



stainless steel silicon sensor



stainless steel sensor

type DSP 210 without media isolation
(Ø = 18 mm)

pressure ranges: 0 ... 20 mbar to 0 ... 7 bar
 application: gases, compressed air,
 liquids and non-aggressive media

type DSP 410 / DSP 411 (Ø = 18 mm)
with stainless steel diaphragm

pressure ranges: 0 ... 100 mbar to 0 ... 40 bar
 application: gaseous and liquid media compatible
 with stainless steel

type DSP 413 / DSP 415 (Ø = 15 mm)
with stainless steel diaphragm

pressure ranges: 0 ... 400 mbar to 0 ... 600 bar
 application: for submersible probes Ø = 17 mm
 as well as for pressure transmitters
 with G 1/2" flush and hydraulic
 application

type Microfused

pressure ranges: 0 ... 3.5 bar to 0 ... 700 bar
 application: hydraulic and oxygen applications

type thinfilm-sensor

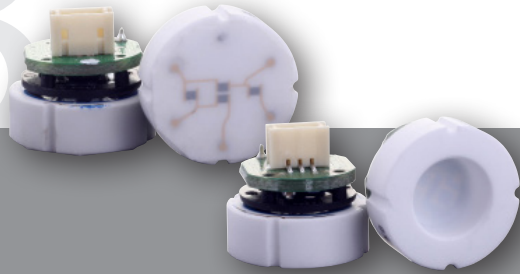
pressure ranges: 0 ... 60 bar to 0 ... 2200 bar
 application: hydraulic applications

type strain gauge

pressure ranges: 0 ... 1000 bar to 0 ... 6000 bar
 application: hydraulic applications,
 high dynamic pressure

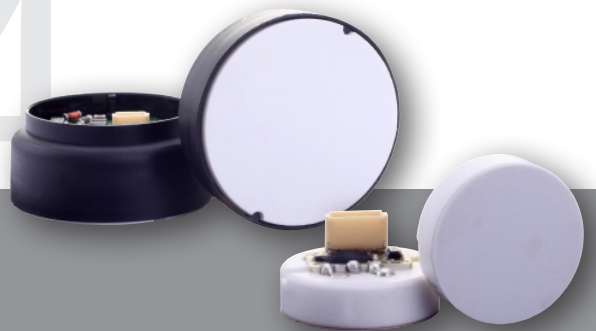
BD SENSORS is one of the few companies worldwide using four elements of modern pressure measurement, offering sensors produced by BD SENSORS itself or by partner companies with BD SENSORS know-how.

3



thickfilm ceramic sensor

4



capacitive ceramic sensor

type DSK 511 with flush diaphragm
($\varnothing = 18$ mm)

pressure ranges: 0 ... 0.5 bar to 0 ... 600 bar

application: for aggressive media and oxygen;
with flush diaphragm preferred
for highly viscous or contaminated media

type DSK 516 with flush diaphragm
($\varnothing = 15$ mm)

pressure ranges: 0 ... 0.5 bar to 0 ... 50 bar

application: for submersible probes $\varnothing 17$ mm
and pressure transmitter with
G 1/2" flush

type DSK 611 in monolithic design
($\varnothing = 18$ mm)

pressure ranges: 0 ... 2 bar to 0 ... 400 bar

application: OEM products with excellent price /
performance ratio

type DSK 701
($\varnothing = 32,4$ mm)

pressure ranges: 0 ... 60 mbar to 0 ... 20 bar

type DSK 720 M
($\varnothing = 18$ mm)

pressure ranges: 0 ... 100 mbar to 0 ... 50 bar

application: preferred for hydrostatic level
measurement as screw-in transmitter
or submersible probes, a.o. for
aggressive media (acids, lyes, etc.)

INDUSTRY



DMP SERIES

These transmitters can be used in all industrial areas where the medium is compatible with stainless steel.

The modular concept of these devices allows to combine different stainless steel sensors and electronic modules with a variety of electrical and mechanical versions.

Thanks a diversity of variations of these sensors are able to meet almost all requirements in industrial applications.

DMP 343

- ranges from 6 mbar up to 1000 mbar
- silicon sensor without media isolation
- for gases, pressurized air and non-aggressive low viscous oils



DMP 331

- ranges from 100 mbar up to 40 bar
- stainless steel sensor
- for all medias compatible with stainless steel



DMP 333

- ranges from 60 bar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel



DMP 334

- ranges from 600 bar up to 2200 bar
- thin-film sensor with media isolation
- for all medias compatible with stainless steel



DMP 304

- ranges from 2000 bar up to 6000 bar
- strain gauge sensor
- for all medias compatible with stainless steel



DMP 457

- ranges from 100 mbar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel





DMK SERIES

Industrial pressure transmitters with ceramic sensor were especially designed for pasty, polluted or aggressive media and for oxygen applications at low pressure range.

As with all industrial pressure transmitters made by BD SENSORS, you may choose between various electrical and mechanical connections.

An option between two variants of sensor materials: standard 96% ceramic or special 99,9% ceramic for most aggressive medias.

DMK 331

- ranges from 400 mbar up to 600 bar
- thickfilm ceramic sensor
- for pasty, polluted, abrasive or aggressive media, oxygen applications
- for biogas applications



DMK 351

- ranges from 40 mbar up to 20 bar
- capacitive ceramic sensor
- for pasty, polluted, abrasive or aggressive media, oxygen applications
- for biogas applications



DMK 457

- ranges from 400 mbar up to 600 bar
- thickfilm ceramic sensor
- for shipbuilding and offshore applications



DMK 458

- ranges from 40 mbar up to 20 bar
- capacitive ceramic sensor
- marine, shipbuilding, offshore



WITH SEPARATOR OR COOLING ELEMENT



DMP/DMK P SERIES

The pressure transmitters designed for use in the food and pharmaceutical industry. The compact design with hygienic process connections makes it possible to achieve an outstanding performance in terms of accuracy, temperature behavior and long term stability.

The modular construction concept allows a combination of various process connections with different filling fluids and a cooling element. Several electrical connections complete their profile. These transmitters fulfill nearly all requirements in hygienic industrial processes.

DMP 331P

- ranges from 100 mbar up to 40 bar
- cooling element for media temperatures up to 300 °C
- variable process connection including standard threads, clamp, diary pipe, sandwich or flange



DMK 331P

- ranges from 60 bar up to 400 bar
- cooling element for media temperatures up to 300 °C
- suited for viscous and pasty media



PRECISION



DMP/LMP i SERIES

Transmitters with excellent measurement qualities and attractive price. Standard accuracy is 0,1%.

Excellent thermal error in compensated range (0,01 % FSO / 10K).

The signal processing of sensor is done by digital electronics with 16-bit analog digital converter. Consequently it is possible to conduct an active compensation.

DMP 331i / LMP 331i

- ranges from 400 mbar up to 40 bar
- stainless steel sensor
- for all medias compatible with stainless steel



DMP 333i

- ranges from 60 bar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel





XMP SERIES

Transmitters with excellent measurement qualities and attractive price. Standard accuracy is 0,1%. Excellent thermal error in compensated range (0,01 % FSO / 10K).

Different process connections such as threads and flanges with an internal or flush welded diaphragm are available and can be combined with a cooling element for media temperatures up to 300 °C.

The transmitter is as a standard equipped with HART®-communication. Customer can choose between a two chamber aluminum die cast case or a stainless field housing.

XMP i

- ranges from 400 mbar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel



XMP ci

- ranges from 60 mbar up to 20 bar
- capacitive ceramic sensor
- gases, steam, dust and fluids, viscous and pasty medias



x|act SERIES

Transmitters with excellent measurement qualities and attractive price. Standard accuracy is 0,1%. Excellent thermal error in compensated range (0,01 % FSO / 10K).

The precise pressure transmitter x|act i has been especially designed for the food industry, pharmacy and biotechnology. The robust stainless steel globe housing has a high ingress protection IP 67 and all characteristics for a residue-free and antibacterial cleaning.

Different process connections such as threads and flanges with an internal or flush welded diaphragm are available and can be combined with a cooling element for media temperatures up to 300 °C.

x|act i

- ranges from 400 mbar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel



x|act ci

- ranges from 60 mbar up to 20 bar
- capacitive ceramic sensor
- gases, steam, dust and fluids, viscous and pasty medias



DIGITAL GAUGE



BAROLI SERIES

Due to the two sensor technologies in use (stainless steel or ceramic sensor), our digital pressure gauges are suitable for nearly all fluids, pasty media and gases.

The display module is continuously rotatable, so that a clear readability is guaranteed even in unusual installation positions.

Min./max. function with reset, offset and end point calibration, setting the pressure unit and automatic switch-off configuration via display buttons.

BAROLI 02

- ranges from 100 mbar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel



BAROLI 05

- ranges from 400 mbar up to 600 bar
- thickfilm ceramic sensor
- gases, steam, dust and fluids, viscous and pasty medias



DM 01 – TEST AND CALIBRATION EQUIPMENT

The digital pressure gauge DM 01 is a precision device fulfilling highest demands. It was conceived especially for the process monitoring and calibration. The advantage: With the digital display DM 01, different pressure transmitters can be used for various measurement ranges.

The pressure transmitter can be selected and easily exchanged for the required pressure range on site – without tools or parameter setting.

Outstanding measuring qualities, an intuitive operation, as well as an innovative, modular sensor concept characterise the DM 01. The battery-powered digital pressure gauge can be used e.g. for controlling pressure courses or calibrating pressure transmitters.

The integrated data logger is able to record pressure and temperature values linearly and cyclically. These measurements can be transferred to a PC via USB and analysed by software BD|LOG.

DM 01

- ranges from 100 mbar up to 400 bar
- stainless steel sensor
- class of accuracy 0,05 %
- for all medias compatible with stainless steel
- modular sensor concept
- datalogger including software
- graphic display
- communication interface USB 2.0
- zero point calibration
- turn off automatic



DIFFERENTIAL



DMD SERIES

The compact design allows the integration in machines and applications with limited space.

The DMD calculates the difference between the pressure on the positive and the negative side and converts it into a proportional electrical signal.

As with all industrial pressure transmitters made by BD SENSORS, you may choose between various electrical and mechanical connections.

DMD 341

- differential pressure from 6 mbar up to 1 bar
- silicon sensor without media isolation
- for gases, pressurized air and non-aggressive low viscous oils



DMD 331

- differential pressure from 20 mbar up to 16 bar
- stainless steel sensor
- for all medias compatible with stainless steel



XMD SERIES

The differential pressure transmitter XMD has been especially designed for the process industry and can be used for level measurement of closed, pressurized tanks, pump or filter controlling, etc.

Another attribute is the possibility to switch the output signal from linear to square root extraction by what the flow rate of the medium can be issued.

Static overpressure 130 bar, HART® communication, Ex ia or Ex d.

XMD

- nominal pressure from 75 mbar up to 20 bar
- stainless steel sensor
- for all medias compatible with stainless steel





DPS SERIES

These transmitters were developed specially for the differential pressure measuring of dry, non aggressive gases and compressed air.

DPS will be most frequently used in heating, ventilation or air conditioning systems.

DPS 200

- nominal pressure from 6 mbar up to 1 bar
- silicon sensor without media isolation
- for gases, compressed air and non-aggressive medias



DPS 300

- nominal pressure from 1,6 mbar up to 1bar
- silicon sensor without media isolation
- for gases, compressed air and non-aggressive medias
- two switching contacts



OEM PRODUCTS



OEM SERIES

Low cost products with excellent price efficiency ratio. Using of all our basic sensors in combination with various mechanical and electrical connections predestinate these products for applications in almost all industrial branches.

18.600 G

- nominal pressure from 100 mbar up to 6 bar
- silicon sensor without media isolation
- for gases, pressurized air and non-aggressive low viscous oils



18.605 G

- nominal pressure from 1 m H₂O up to 10 m H₂O
- stainless steel sensor
- submersible, cable gland with PVC cable
- for all medias compatible with stainless steel



17.600 G

- nominal pressure from 6 bar up to 600 bar
- sensor type Microfused
- for all medias compatible with stainless steel, oxygen applications



26.600 G

- nominal pressure from 1 bar up to 400 bar
- thickfilm ceramic sensor
- gases, steam, dust and fluids, oxygen applications



30.600 G

- nominal pressure from 1,6 bar up to 250 bar
- thickfilm ceramic sensor
- gases, steam, dust and fluids, oxygen applications



SUBMERSIBLE PROBES



LMK SERIES

These probes were designed for continuous level measurement in waste water with abrasives, sewage, higher viscosity or aggressive fluids.

Basic element is a capacitive ceramic sensor which offers a high overload resistance and medium compatibility. Plastic or stainless steel housing, reduced diameter (19 mm), different kinds of cable or seals materials available.

We also offer probes for marine and offshore. These probes are in a consequence of the certification by Germanischer Lloyd predestined for shipbuilding and offshore applications.

LMK 858

- ranges from 40 cm H₂O up to 100 m H₂O
- PVC housing, diameter 45 mm
- separable cable part
- waste water, sewage, aggressive medias



LMK 458

- ranges from 40 cm H₂O up to 200 m H₂O
- CuNiFe or Stainless steel, diameter 39,5 mm
- screw-in and flange version
- shipbuilding, offshore, ballast tanks



LMK 358

- ranges from 40 cm H₂O up to 100 m H₂O
- stainless steel housing, diameter 39,5 mm
- separable cable part
- waste water, sewage, fuel storage



LMK 807

- ranges from 4 m H₂O up to 100 m H₂O
- PVC housing, diameter 35 mm
- waste water, sewage, aggressive medias

SIL



LMK 809

- ranges from 40 cm H₂O up to 100 m H₂O
- PP or PVDF housing, diameter 45 mm
- waste water, sewage, aggressive medias, most of acids and lyes





LMP SERIES

These probes were designed for continuous level measurement in water and clean or waste fluids.

Basic element is a high quality stainless steel sensor with high requirements for exact measurement with excellent long term stability. Plastic or stainless steel housing, reduced diameter (19 mm), different kinds of cable or seals materials available.

Separable probes were developed to facilitate storage and maintenance. The transmitter's head is plugged to the cable assembly with a connector and can be changed easily without tools.

LMP 307

- ranges from 1 m H₂O up to 250 m H₂O
- stainless steel housing, diameter 27 mm
- clear water, waste water without abrasives



LMP 308

- ranges from 1 m H₂O up to 250 m H₂O
- stainless steel housing, diameter 35 mm
- separable cable part
- clear water, waste water without abrasives



LMP 808

- ranges from 1 m H₂O up to 100 m H₂O
- PVC housing, diameter 35 mm
- separable cable part
- clear water, waste water without abrasives



PRECISION PROBES



LMP i SERIES

Transmitters with excellent measurement qualities and attractive price. Standard accuracy is 0,1%. Excellent thermal error in compensated range (0,01 % FSO / 10K).

The signal processing of sensor signal is done by digital electronics with 16-bit analog digital converter. Consequently it is possible to conduct an active compensation.

LMP 307i

- ranges from 1 m H₂O up to 250 m H₂O
- stainless steel housing, diameter 27 mm
- clear water, waste water without abrasives



LMP 308i

- ranges from 4 m H₂O up to 250 m H₂O
- stainless steel housing, diameter 35 mm
- separable cable part
- clear water, waste water without abrasives



SCREW-IN PROBES



LMP SERIES

These probes were designed for continuous level measurement in water and clean or waste fluids. Basic element is a high quality stainless steel sensor with high requirements for exact measurement with excellent long term stability.

Optional features like e.g. an intrinsically safe version or a functionally safe version (SIL 2) increase the advantages in launching and realizing projects for plants and systems.

LMP 331

- ranges from 1 m H₂O up to 400 m H₂O
- stainless steel housing
- clear water, waste water without abrasives
- G 3/4" flush



LMK SERIES

Level probes with ceramics sensor has been especially designed for pasty, polluted or aggressive media and for oxygen applications at low pressure range.

You may choose between various electrical and mechanical connections and two variants of sensor materials: standard 96% ceramic or special 99,9% ceramic for extra aggressive medias.

PVDF housing for using in aggressive medias. Usage in more viscous or polluted media is possible because of the semi-flush sensor.

LMK 331

- ranges from 4 m H₂O up to 600 m H₂O
- PVDF or Stainless steel housing
- waste water, sewage, aggressive medias, most of acids and lyes
- G 3/4" flush



LMK 351

- ranges from 40 cm H₂O up to 200 m H₂O
- PVDF or Stainless steel housing
- waste water, sewage, aggressive medias, most of acids and lyes
- G 1 1/2" flush





WITHOUT DISPLAY

These electronic pressure switches are used in hydraulic and pneumatic applications for monitoring and controlling the pressure via switching outputs.

The 1 or 2 freely programmable contacts whose status is indicated by differently coloured LED's can be configured quickly and comfortably either by the optionally available tools P-SET (PC software and programming adapter) or via the programming device P6.

DS 4

- ranges from 1 bar up to 10 bar
- silicon sensor without media isolation
- dry air, pneumatics, vacuum technology



DS 6

- ranges from 2 bar up to 400 bar
- thickfilm ceramic sensor
- mechanical engineering, hydraulics, oxygen application



WITH DISPLAY

Pressure switch with up to 4 contacts.

Depending on the requirements, the universal pressure measuring devices with display and switching contacts can be used as pressure transmitter, electronic pressure switch or digital pressure gauge.

Due to the simple handling as well as the variety of software features (switching points and hysteresis freely configurable, delay function, Min/Max-value data storage, display and analogue output signal scalable, etc.) the DS 2XX series is especially suitable as an intelligent pressure switch for general plant and machine construction and the processing industry.

DS 210

- ranges from 10 mbar up to 1 bar
- silicon sensor without media isolation
- gases, pressurized air, non aggressive media



DS 200

- ranges from 100 mbar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel



DS 230

- ranges from 2 bar up to 400 bar
- thickfilm ceramic sensor
- pneumatics, pumps and hydraulic machines



PRESSURE SWITCHES



DISPLAY & HYGIENIC DESIGN

Pressure switch with up to 2 contacts.

Depending on the requirements, the universal pressure measuring devices with display and switching contacts can be used as pressure transmitter, electronic pressure switch or digital pressure gauge.

Due to the simple handling as well as the variety of software features (switching points and hysteresis freely configurable, delay function, Min/Max-value data storage, display and analogue output signal scalable, etc.) the DS 4XX series is especially suitable as an intelligent pressure switch for general plant and machine construction and the processing industry.

DS 400

- ranges from 100 mbar up to 600 bar
- stainless steel sensor
- for all medias compatible with stainless steel



DS 401

- ranges from 400 mbar up to 600 bar
- thickfilm ceramic sensor
- viscous, pasty or highly contaminated media



DISPLAYS & EVALUATION DEVICES



PA 430

Plug-on display for pressure transmitter with output signal: 4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire.

IS version available.

Switch mode, hysteresis, parameterizable deceleration of the contacts. Display and connector rotatable. 1 or 2 contacts.



PA 440

Field display for pressure transmitter with output signal: 4 ... 20 mA / 2-wire or 0 ... 10 V / 3-wire.

IS version available.

Switch mode, hysteresis, parameterizable deceleration of the contacts (1 or 2 contacts).

Plastic or aluminium housing.

4 ADVANTAGES

COMPETENCE

Industrial pressure measurement technology
from 1.6 mbar up to 6000 bar

- > pressure transmitters, electronic pressure switches
or hydrostatic level probes
- > OEM or high-end products
- > standard products or customized solutions

BD SENSORS has the right pressure measuring device at the
right price.

PRICE / PERFORMANCE

pressure measurement at the highest level

The concentration on electronic pressure transmitter has led to
extraordinary efficiency and economical pricing.

BD SENSORS is certain to be one of the most economical
suppliers on the world market, given equal technical and
commercial conditions.

RELIABILITY

projectable delivery times and strict
observance of deadlines

Short delivery times and firm deadlines, even for special
designs, make BD SENSORS a reliable partner for our
customers.

BD SENSORS reduces the level of your stock-keeping and
increases your profitability.

FLEXIBILITY

We have special solutions for your individual
requirement.

We solve your problem in industrial pressure measurement
quickly and economically, not only with large-scale
production lines, but also for smaller requirements.

BD SENSORS is especially flexible when technical support and
quick assistance are required in service case as well as for rush
orders.

INDUSTRIES



plant and machine engineering



chemical and biochemical industry



energy industry



renewable energy



semiconductor industry /
cleanroom technology



HVAC



hydraulics



refrigeration



calibration techniques



laboratory techniques



medical technology



food and beverage



hydraulics



oil and gas industry



pharmaceutical industry



marine / shipbuilding / offshore



heavy industry



environmental industry



packaging and paper industry

MEDIA



sewage



aggressive media



colours



gases



fuels and oils



pasty and viscous media



oxygen



water

BD SENSORS[®]
pressure measurement



BD SENSORS authorized partner in Lithuania - JSC "Vilakra"

L. Zamenhofo st. 3
LT-06332 Vilnius
Lithuania

Phone +370 5 2742803
Fax +370 5 2742804

www.vilakra.lt
info@vilakra.lt

