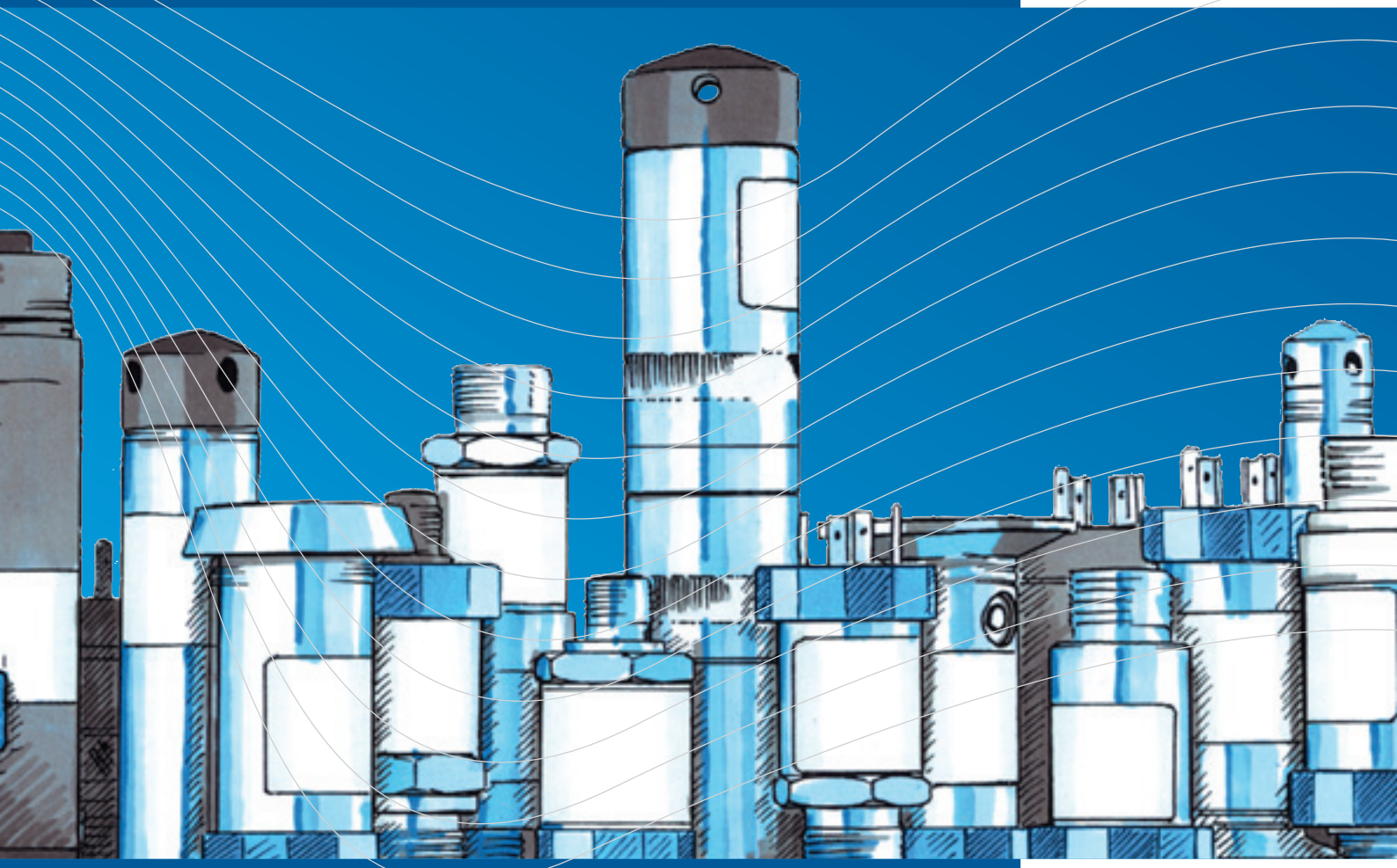
PRODUCT OVERVIEW



BD|SENSORS
pressure measurement

SENSOR TECHNOLOGIES

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

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.

1

stainless steel silicon 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

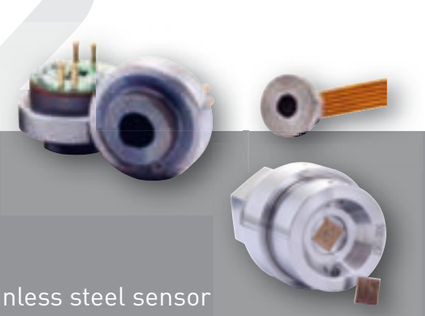
application: gaseous and liquid media compatible with stainless steel

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 applications

2



stainless steel sensor

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

3

thickfilm ceramic sensor

type DSK 511 with flush diaphragm (Ø = 18 mm)

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

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

type DSK 516 with flush diaphragm (Ø = 15 mm)

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

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

type DSK 611 in monolithic design (Ø = 18 mm)

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

application: OEM products with excellent price / performance ratio

4

capacitive ceramic sensor

type DSK 701 (Ø = 32.4 mm)

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

type DSK 720 M (Ø = 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.)

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 BDSENSORS has concentrated on electronic pressure measurement technology from the beginning.

With our unremitting product and 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 0.1 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.

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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.

PRESSURE

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APPLICATIONS

- hydraulics
- pneumatics
- process monitoring and process engineering
- control systems
- tool construction / presses / injection moulding machines
- power supply and distribution

For vacuum, overpressure and absolute pressure measurement
Pressure ranges: 0 ... 10 mbar to 0 ... 6000 bar

Based on different sensor technologies, combined with housing materials as stainless steel and various plastics, the industrial pressure transmitter are suitable for almost all industrial gases and fluids.

Our industrial pressure transmitter may be adapted to nearly any application due to a variety of electrical and mechanical connections.

PRECISION

stainless steel sensor — process, oil and gas industry — XMP i

nominal pressure	0 ... 400 mbar to 0 ... 600 bar (turn-down 1:10 adjustable)
accuracy (according to IEC 60770)	0.1 % FSO
process connection	inch and NPT threads, DRD, flange
housing	two chamber aluminium die cast case stainless steel field housing
option	display and operating module cooling element up to 300 °C, flameproof enclosure
application	

ceramic sensor — process, oil and gas industry — XMP ci

nominal pressure	0 ... 60 mbar to 0 ... 20 bar (turn-down 1:10 adjustable)
accuracy (according to IEC 60770)	0.2 % FSO
process connection	inch and NPT-threads, DRD, flange
housing	two chamber aluminium die cast case stainless steel field housing
option	display and operating module flameproof enclosure
characteristics	diaphragm 99.9 % Al_2O_3
application	

PRECISION

stainless steel sensor — hygienic applications — x|act i

nominal pressure	0 ... 400 mbar to 0 ... 40 bar (turn-down 1:10 adjustable)
accuracy (according to IEC 60770)	0,1 % FSO
process connection	G1" cone, clamp, dairy pipe, Varivent®, DRD, flange
characteristics	hygienic version, display and operating module cooling element up to 300 °C
option	IS-version
application	

hygienic design HART®

ceramic sensor — hygienic applications — x|act ci

nominal pressure	0 ... 60 mbar to 0 ... 20 bar (turn-down 1:10 adjustable)
accuracy (accoding to IEC 60770)	0.2 % FSO
process connection	G1 ½" flush, clamp, dairy pipe, Varivent®, flange, DRD
characteristics	hygienic version, display and operating module, diaphragm 99.9 % Al_2O_3
option	IS-version
application	

hygienic design HART®

stainless steel sensor — laboratory, environmental industry — DMP 331 i — DMP 333 i

nominal pressure	0 ... 400 mbar to 0 ... 40 bar (DMP 331i) 0 ... 60 bar to 0 ... 600 bar (DMP 333 i)
accuracy (according to IEC 60770)	0.1% FSO
characteristics	digital electronics for linearisation and active temperature compensationn (temperature error 0.02% / 10 K), with communication interface for offset and span adjustment
option	IS-version, digital communication interface
application	

INDUSTRY

stainless steel sensor without media isolation — HVAC — DMP 343

nominal pressure	0 ... 10 mbar to 0 ... 1000 mbar
accuracy (according to IEC 60770)	0.35% FSO
option	IS-version, compact field housing
application	

extreme low pressure SIL

stainless steel sensor — universal applications — DMP 331 — DMP 333

nominal pressure	0 ... 100 mbar to 0 ... 40 bar (DMP 331) 0 ... 60 bar to 0 ... 600 bar (DMP 333)
accuracy (according to IEC 60770)	0.1 / 0.25 / 0.35 % FSO
option	IS-version, compact field housing, flush pressure port (DMP 331)
application	

SIL

stainless steel sensor — hydraulics — DMP 339

nominal pressure	0 ... 60 bar to 0 ... 600 bar
accuracy (nach IEC 60770)	0.35 % FSO
characteristics	G1/4" flush (Ø 8 mm)
option	IS-version
application	

flush

INDUSTRY

stainless steel sensor, welded — medical technology, hydraulics — DMP 335

nominal pressure	0 ... 6 bar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
characteristics	suitable for oxygen application, resistant against pressure peaks
option	IS-version
application	

high overpressure capability

stainless steel sensor, welded — plant and mechanical engineering — DMP 334

nominal pressure	0 ... 600 bar to 0 ... 2200 bar
accuracy (according to IEC 60770)	0.5 % FSO
option	IS-version, compact field housing, adjustability of span and offset
application	

high pressure

strain gauge — oil and gas industry — DMP 304

nominal pressure	0 ... 2000 bar to 0 ... 6000 bar
accuracy (according to IEC 60770)	0.25 / 0.5 % FSO
characteristics	adjustability of offset and span via external potentiometers pressure port 9/16 UNF
option	IS-version
application	

ultra high pressure

INDUSTRY

ceramic sensor — universal applications — DMK 331

nominal pressure	0 ... 400 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
option	IS-version, compact field housing, pressure port PVDF, oxygen application, pressure port G 1/2" flush
application	

aggressive media — SIL

ceramic sensor — laboratory techniques, biogas plants — DMK 351

nominal pressure	0 ... 40 mbar to 0 ... 20 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
option	IS-version, compact field housing, diaphragm 99.9 % Al_2O_3
application	

high overpressure capability

ceramic sensor — marine / shipbuilding / offshore — DMK 457

nominal pressure	0 ... 400 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
option	IS-version, compact field housing, submersible version, pressure port CuNiFe
recommended for	viscous, pasty and polluted media
application	

INDUSTRY

stainless steel sensor — marine / shipbuilding / offshore — DMP 457

nominal pressure	0 ... 100 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
option	IS-version, compact field housing, flush pressure port G 1/2", submersible version
recommended for	low and high pressure measurement of gases, fluids and media which are compatible with stainless steel and silicon oil
application	

ceramic sensor — marine / shipbuilding / offshore — DMK 456

nominal pressure	0 ... 40 mbar to 0 ... 20 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
special feature	IS-version (temperature class T6), stainless steel field housing
option	diaphragm 99.9 % Al_2O_3 thread or flange version
application	

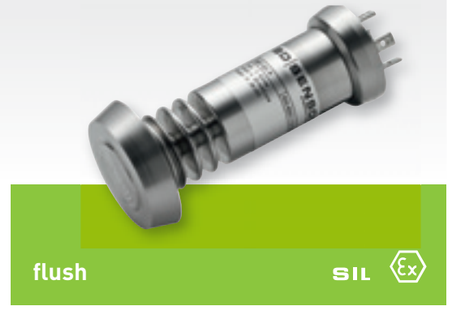
ceramic sensor — marine / shipbuilding / offshore — DMK 458

nominal pressure	0 ... 40 mbar to 0 ... 20 bar
accuracy (according to IEC 60770)	0.1 / 0.25 % FSO
special feature	stainless steel field housing
option	IS-version (temperature class T4), diaphragm 99.9 % Al_2O_3, pressure port of CuNiFe
application	

INDUSTRY

stainless steel — hygienic applications — DMP 331 P

nominal pressure	0 ... 100 mbar to 0 ... 40 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
process connection	G½", G¾", G1" flush, dairy pipe, clamp
option	IS-version, compact field housing, FDA conforming filling fluid, cooling element up to 300 °C
application	



ceramic sensor — hygienic applications — DMK 331 P

nominal pressure	0 ... 60 bar to 0 ... 400 bar
accuracy (according to IEC 60770)	0.5 % FSO
process connection	G½" / G¾" / G1" flush
option	compact field housing, FDA conforming filling fluid, cooling element up to 300 °C
application	

ceramic sensor — hygienic applications — DMK 351 P

nominal pressure	0 ... 40 mbar to 0 ... 20 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
process connection	G1 ½" flush, clamp, dairy pipe, Varivent®, flange
option	IS-version, compact field housing, diaphragm 99.9 % Al_2O_3
application	

OEM

stainless steel sensor, welded — mobile hydraulics — 17.600 G

nominal pressure	0 ... 6 bar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
output signal	4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire 0.5 ... 4.5 V / 3-wire rat.
pressure port	G ¼", ¼" NPT, G ½"
application	

heavy duty

stainless steel sensor without media isolation — plant and mechanical engineering — 18.600 G

nominal pressure	0 ... 100 mbar to 0 ... 6 bar
accuracy (according to IEC 60770)	0.5 % FSO
output signal	4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire 0.5 ... 4.5 V / 3-wire rat.
pressure port	G ¼", ¼" NPT, G ½"
application	

pneumatics

stainless steel sensor — general industrial applications — 18.601 G

nominal pressure	0 ... 100 mbar to 0 ... 6 bar
accuracy (according to IEC 60770)	0.5 % FSO
output signal	4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire 0.5 ... 4.5 V / 3-wire rat.
pressure port	G ¼", ¼" NPT, G ½"
application	

low pressure

OEM

stainless steel sensor — general industrial application — 18.605 G

nominal pressure	0 ... 1 mH_2O to 0 ... 10 mH_2O
accuracy (according to IEC 60770)	0.5 % FSO
output signal	4 ... 20 mA / 2-wire 0 ... 10 V / 2-wire 0.5 ... 4.5 V / 3-wire rat.
pressure port	G ¼" with PVC cable
application	

submersible

ceramic sensor — universal application — 26.600 G

nominal pressure	0 ... 1 bar to 0 ... 400 bar
accuracy (according to IEC 60770)	0.5 % FSO
output signal	4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire 0.5 ... 4.5 V / 3-wire rat.
pressure port	G ¼", ¼" NPT, G ½"
option	oil and grease free version
application	

standard

ceramic sensor — universal application — 30.600 G

nominal pressure	0 ... 1,6 bar to 0 ... 250 bar
accuracy (according to IEC 60770)	1 % FSO
output signal	4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire 0.5 ... 4.5 V / 3-wire rat.
pressure port	G ¼", ¼" NPT
application	

low cost

DIFFERENTIAL PRESSURE TRANSMITTER

For differential pressure measurement
Pressure ranges: 0 ... 1 mbar to 0 ... 70 bar

Thanks to different sensor technologies combined with compact aluminium die-cast cases or plastic housings, our differential pressure transmitters may be used for numerous fluids and gases, e. g. for monitoring ventilation ducts, filters and fans in HVAC areas as well as for level measurement in closed pressurized tanks.

PRECISION

stainless steel sensor — process, oil and gas industry — XMD

nominal pressure	0 ... 75 mbar to 0 ... 2 bar
accuracy (according to IEC 60770)	0.1 % FSO
characteristics	IS-version, turn-down 1:10, aluminium die-cast case
process connection	internal thread ¼" – 18 NPT
option	display and operating module, flameproof enclosure, chemical seals assembly
application	

fluids + gases — HART®

INDUSTRY

stainless steel sensor — plant and mechanical engineering — DMD 831

differential pressure	0 ... 80 mbar to 0 ... 70 bar
accuracy (according to IEC 60770)	1 % FSO BFSL
characteristics	display and pressure port rotatable, up to 2 contacts, turn-down 1:10
application	

fluids + gases

silicon sensor — plant and mechanical engineering — DMD 341

nominal pressure	0 ... 6 mbar to 0 ... 1000 mbar
accuracy (according to IEC 60770)	0.35 / 1 / 2 % FSO
option	display and switching module with up to 2 contacts
application	

gases

INDUSTRY

stainless steel sensor — plant and mechanical engineering — DMD 331

nominal pressure	0 ... 0.2 bar to 0 ... 16 bar
differential pressure	0 ... 20 mbar to 0 ... 16 bar
accuracy (according to IEC 60770)	0.5 % FSO
characteristics	compact design, wet / wet mechanically robust and reliable at dynamic pressure as well as with shock and vibration
application	

fluids + gases

silicon sensor — HVAC — DPS 200

differential pressure	0 ... 1 mbar to 0 ... 1.000 mbar
accuracy (according to IEC 60770)	1 % FSO BFSL
option	5-digit LC-display
application	

gases and compressed air

DIGITAL PRESSURE GAUGE

With a great variety of mechanical and electrical connections, BD|SENSORS offers a new generation of digital pressure gauges for different applications.
Due to the two sensor technologies in use (stainless steel sensor or ceramic sensor), our digital pressure gauges are suitable for nearly all fluids, pasty media and gases.

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

PRECISION

stainless steel sensor — test and calibration equipment — DM 01

nominal pressure	0 ... 100 mbar to 0 ... 400 bar
accuracy (according to IEC 60770)	0.05 % FSO BFSL
characteristics	stainless steel housing Ø = 100 mm, data logger function, modular sensor concept
LC- display	graphic LC-display 128 x 64 pixel with background illumination
pressure port	inch, NPT threads
option	IS-version, digital output, RS 485 / USB-interface
application	

modular concept

INDUSTRY

stainless steel sensor / ceramic sensor — BAROLI 02 — BAROLI 05

nominal pressure	0 ... 100 mbar to 0 ... 600 bar (BAROLI 02) 0 ... 400 mbar to 0 ... 600 bar (BAROLI 05)
accuracy (according to IEC 60770)	0.125 % FSO BFSL (BAROLI 02) 0.25 % FSO BFSL (BAROLI 05)
LC- display	4.5-digit 7-segment display, 6-digit 14-segment additional display
process connection	inch, NPT threads
application	

housing and display rotatable

stainless steel sensor / ceramic sensor — BAROLI 02 P — BAROLI 05 P

nominal pressure	0 ... 100 mbar to 0 ... 40 bar (BAROLI 02 P) 0 . . . 60 bar to 0 ... 400 bar (BAROLI 05 P)
accuracy (according to IEC 60770)	0.2 % FSO BFSL (BAROLI 02 P) 0.25 % FSO BFSL (BAROLI 05 P)
LC-display	4.5-digit 7-segment display, 6-digit 14-segment additional display
process connection	G ½" flush, G 1" flush, dairy pipe, clamp
application	

flush

OEM

ceramic sensor — plant and mechanical engineering — DM 10

nominal pressure	0 ... 1.6 bar to 0 ... 250 bar
accuracy (according to IEC 60770)	0.5 % FSO BFSL
characteristic	adjustable housing
LC-display	4,5-digit 7-segment display
pressure port	G ¼", ¼" NPT
function	min-/max-function with reset-function
application	

low-cost

LEVEL

HYDROSTATIC LEVEL PROBES 21 - 26

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APPLICATIONS

- ground water monitoring
- depth and level measurement in wells
- drinking water systems
- level monitoring in open and closed tanks
- storm water systemes
- pump and booster stations
- water treatment plants
- tank farms / fuel storage
- recycling of process water

The hydrostatic level probes made by BD|SENSORS are suitable for measuring the level of liquid and pasty media of all kind.

The separable submersible probes LMP 308 / LMP 808 / LMK 358 / LMK 858 are a speciality; the cable part can be separated from the sensor head effortlessly and without tools. This is an enormous advantage for many of our customers during assembly as well as when performing service and maintenance.

Special versions, such as integrated overvoltage protection, temperature sensor or data logger are just as much a part of our standard program as the communication version with RS-485 interface or HART®-protocol.

PRECISION

stainless steel sensor — energy industry, environmental industry — LMP 308 i

level	0 ... 4 mH_2O to 0 ... 250 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.1% FSO
special feature	cable part and sensor head separable
option	IS-version, cable protection via corrugated pipe
recommended for	

ø 35 mm

separable stainless steel probe

ceramic sensor — environmental industry — LMK 358 H

level	0 ... 60 cmH_2O to 0 ... 100 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (accuracy to IEC 60770)	0.1 / 0.2 % FSO
special feature	HART® communication
option	IS-version, cable protection via corrugated pipe, diaphragm 99.9 % Al_2O_3
recommended for	

ø 39,5 mm

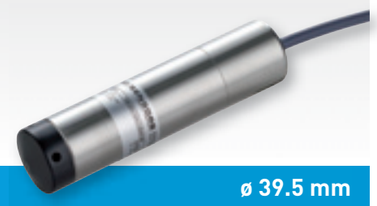
separable stainless steel probe

HART®

PRECISION

ceramic sensor — chemical industry, environmental industry — LMK 382 H

level	0 ... 60 cmH_2O to 0 ... 100 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.1 / 0.2 % FSO
special feature	HART® communicaton
option	IS-version, flange version, diaphragm 99.9 % Al_2O_3
recommended for	



ø 39.5 mm
stainless steel probe
HART®

ceramic sensor — marine / shipbuilding / offshore — LMK 458 H

level	0 ... 60 cmH_2O to 0 ... 200 mH_2O
housing matieral	stainless steel 1.4404 (316 L), CuNiFe
accuracy (according to IEC 60770)	0.1 / 0.2 % FSO
special feature	HART® communication
option	IS-version; diaphragm 99.9 % Al_2O_3 screw-in or flange version
recommended for	

ø 39.5 mm
HART®

STANDARD

stainless steel sensor — energy industry, environmental industry — LMP 305

level	0 ... 1 mH_2O to 0 ... 250 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
special feature	suitable for level measurement in 1¨ pipes
recommended for	

ø 19 mm
stainless steel probe

STANDARD

stainless steel sensor — energy industry, enviromental industry — LMP 307

level	0 ... 1 mH_2O to 0 ... 250 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.1 / 0.25 / 0.35 % FSO
option	IS-version cable protection via corrugated pipe
recommended for	

ø 27 mm
stainless steel probe
SIL

stainless steel sensor — energy industry, enviromental industry — LMP 308

level	0 ... 1 mH_2O to 0 ... 250 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.1 / 0.25 / 0.35 % FSO
option	IS-version, cable protection via corrugated pipe
special feature	cable part and sensor head separable
recommended for	

ø 35 mm
separable stainless steel probe
SIL

stainless steel sensor — energy industry, environmental industry — LMP 808

level	0 ... 1 mH_2O to 0 ... 100 mH_2O
housing material	PVC grey
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
option	cable protection via PVC-pipe
special feature	cable part and sensor head separable
recommended for	

ø 35 mm
separable plastic probe
SIL

STANDARD

ceramic sensor — energy industry, environmental industry — LMK 306

level	0 ... 6 mH_2O to 0 ... 200 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.5 % FSO
special feature	for level measurement in ¾" pipes
recommended for	

ø 17 mm

stainless steel probe

ceramic sensor — energy industry, environmental industry — LMK 307

level	0 ... 4 mH_2O to 0 ... 250 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.5 % FSO
option	IS-version
recommended for	

ø 27 mm

stainless steel probe SIL

ceramic sensor — energy industry, enviromental industry — LMK 358

level	0 ... 40 cm H_2O to 0 ... 100 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
special feature	cable protection via corrugated pipe, cable part and sensor head separable
option	IS-version, diaphragm 99.9 % Al_2O_3
recommended for	

ø 39.5 mm

separable stainless steel probe

STANDARD

ceramic sensor — energy industry, environmental industry — LMK 382

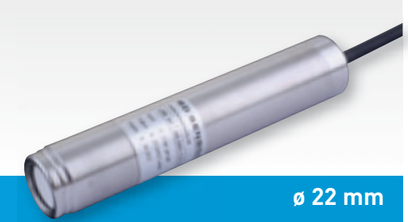
level	0 ... 40 cmH_2O to 0 ... 100 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according toi IEC 60770)	0.25 / 0.35 % FSO
option	IS-version, flange version, diaphragm 99.9 % Al_2O_3, mounting with stainless steel pipe
recommended for	

ø 39.5 mm

stainless steel probe

ceramic sensor — energy industry, environmental industry — LMK 387

level	0 ... 1 mH_2O to 0 ... 200 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
option	IS-version, mounting with stainless steel pipe
recommended for	



ø 22 mm

stainless steel probe

ceramic sensor — marine / shipbuilding / offshore — LMK 458

level	0 ... 40 cmH_2O to 0 ... 200 mH_2O
housing material	stainless steel 1.4404 (316 L), CuNiFe
accuracy (according to IEC 60770)	0.1 / 0.25 % FSO
special feature	permissible temperature up to 125 °C, chemical resistance against seawater and HFO
option	IS-version; diaphragm 99.9 % Al_2O_3; screw-in and flange version
recommended for	

ø 39.5 mm

STANDARD

ceramic sensor — chemical industry, enviromental industry — LMK 807

level	0 ... 4 mH_2O to 0 ... 100 mH_2O
housing material	PVC grey
accuracy (according to IEC 60770)	0.5 % FSO
option	FKM, EPDM, FFKM seals
recommended for	

ø 35 mm

plastic probe — SIL

ceramic sensor — chemical industry, environmental industry — LMK 809

level	0 ... 0.4 mH_2O to 0 ... 100 mH_2O
housing material	PP or PVDF
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
special feature	diaphragm 99.9 % Al_2O_3, chemical resistance
option	prepared for mounting with pipe extension
recommended for	

ø 45 mm

plastic probe

ceramic sensor — chemical industry, environmental industry — LMK 858

level	0 ... 0.4 mH_2O to 0 ... 100 mH_2O
housing material	PVC grey
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
special feature	cable part and sensor head separable
option	cable protection via PVC-pipe, diaphragm 99.9 % Al_2O_3 chemical resistance
recommended for	

ø 45 mm

separable plastic probe

stainless steel sensor — plant and mechanical engineering — LMP 331

nominal pressure	0 ... 100 mbar to 0 ... 40 bar
level	0 ... 1 mH_2O to 0 ... 400 mH_2O
accuracy (according to IEC 60770)	0.1 / 0.25 / 0.35 % FSO
pressure port	G 3/4" flush
option	IS-version, compact field housing
recommended for	

SIL

ceramic sensor — plant and mechanical engineering — LMK 331

nominal pressure	0 ... 400 mbar to 0 ... 60 bar
level	0 ... 4 mH_2O to 0 ... 600 mH_2O
accuracy (according to IEC 60770)	0.5 % FSO
pressure port	G ¾" flush for pasty and contaminated media
option	IS-version, pressure port PVDF, compact field housing
reommended for	

aggressive media — SIL

ceramic sensor — environmental industry, renewable energy — LMK 351

nominal pressure	0 ... 40 mbar to 0 ... 20 bar
level	0 ... 0.4 mH_2O to 0 ... 200 mH_2O
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
pressure port	G1 ½" flush
option	IS-version, pressure port PVDF or stainless steel diaphragm 99.9 % Al_2O_3 compact field housing
recommended for	

aggressive media

SWITCH

PRESSURE SWITCH WITH DISPLAY 29 - 32

PRESSURE SWITCH WITHOUT DISPLAY 33

APPLICATIONS

- → mobile hydraulics
- → dry running protection
- → flow monitoring
- → grease monitoring
- → gas compressors
- → test and construction engineering

PRESSURE SWITCH

with display

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 200 / DS 400 series is especially suitable as an intelligent pressure switch for general plant and machine construction and the processing industry.

output signal:
2-wire (4 ... 20 mA) or 3-wire (0 ... 10 V),
up to 4 contacts

electrical connection:
various plugs
(e. g. DIN or circular plug) or cable outlet

Depending on the requirements, the universal pressure measuring devices with display and switching contacts can be used as :

- → pressure transmitter
- → electronic pressure switch
- → digital pressure gauge

stainless steel sensor — universal applications — DS 400

nominal pressure	0 ... 100 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
characteristics	up to 2 contacts, 4-digit LED-display in ball housing, rotatable and configurable display module
pressure port	inch and NPT threads
option	IS-version
application	

robust version

ceramic sensor — universal applications — DS 401

nominal pressure	0 ... 400 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
characteristics	up to 2 contacts, 4-digit LED-display in ball housing , rotatable and configurable display module
pressure port	inch and NPT threads
option	IS-version, pressure port PVDF
application	

robust version

PRESSURE SWITCH

with display

stainless steel sensor — universal applications — DS 200

nominal pressure	0 ... 100 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
characteristics	up to 4 contacts, 4-digit LED-display, rotatable and configurable display moduler
pressure port	inch and NPT threads
option	IS-version
application	

stainless steel sensor without media isolation — HVAC — DS 210

nominal pressure	0 ... 10 mbar to 0 ... 1000 mbar
accuracy (according to IEC 60770)	0.35 % FSO
characteristics	up to 4 contacts, 4-digit LED-display, rotatable and configurable display module
pressure port	inch and NPT threads
option	IS-version
application	

low pressure

ceramic sensor — universal applications — DS 201

nominal pressure	0 ... 400 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
characteristics	up to 4 contacts, 4-digit LED-display, rotatable and configurable display module
pressure port	inch and NPT threads
option	IS-version
application	

stainless steel sensor, welded — hydraulics, oxygen application — DS 217

nominal pressure	0 ... 6 bar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
characteristics	up to 2 contacts, 4-digit LED-display, rotatable and configurable display module
pressure port	G ½", G ¼", ¼" NPT
application	

OEM

stainless steel sensor, welded — medical technology, oxygen application — DS 202

nominal pressure	0 ... 6 bar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.5 % FSO
characteristics	up to 4 contacts, 4-digit LED-display, rotatable and configurable display module, oxygen version
pressure port	inch and NPT threads
option	IS-version
application	

high overpressure capability

ceramic sensor — pneumatics, hydraulics — DS 230

nominal pressure	0 ... 2 bar to 0 ... 400 bar
accuracy (according to IEC 60770)	1.5 % FSO
characteristics	up to 2 contacs, 4-digit LED-display, rotatable and configurable display module
pressure port	G ¼", ¼" NPT
application	

OEM

PRESSURE SWITCH
with display

stainless steel sensor — hygienic applications — DS 200 P

nominal pressure	0 ... 100 mbar to 0 ... 40 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
characteristics	up to 4 contacts, 4-digit LED-display, rotatable and configurable display module
pressure port	inch thread (flush), dairy pipe, clamp
option	cooling element up to 300 °C
application	

ceramic sensor — hygienic applications — DS 201 P

nominal pressure	0 ... 60 bar to 0 ... 400 bar
accuracy (according to IEC 60770)	0.5% FSO
characteristics	up to 4 contacts, 4-digit LED-display, rotatable and configurable display moduler
pressure port	inch thread (flush)
option	cooling element up to 300 °C
application	

high pressure

stainless steel sensor — hygienic applications — DS 400 P

nominal pressure	0 ... 100 mbar to 0 ... 40 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
characteristics	up to 2 contacts, 4-digit LED-display, rotatable and configurable display module
pressure port	inch thread (flush), dairy pipe, clamp
option	IS-version, cooling element up to 300 °C
application	

hygienic design

PRESSURE SWICH
without display

The pressure switches DS 4 and DS 6 were designed also for OEMs (original equipment manufacturers). 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.

silicon sensor — pneumatics — DS 4

nominal pressure	0 ... 1 bar up to 0 ... 10 bar
contacts	1 or 2
pressure port	G 1/8" internal thread, M5 internal thread
characteristics	configurable via PC or programming device
application	

compact version

ceramic sensor — hydraulics — DS 6

nominal pressure	0 ... 2 bar to 0 ... 400 bar
contacts	1 or 2
pressure port	G ¼"
option	oil and grease free, oxygen version
characteristics	configurable via PC or programming device
application	

high pressure

EVALUATION

DISPLAYS 35 - 37

DATA LOGGER 38

APPLICATIONS

- in situ display for pressure, temperature and level
- in situ display at pumping stations
- display panel for silo battery
- combined level and temperature measurement in heated container
- pressure regulation of hydraulic circuits
- filter monitoring
- pressure and level measurement in biogas plants
- pressure regulation / monitoring of test stands

In order to correctly interpret analogue signals, display and evaluation devices are indispensable. Besides the classic version with display and analogue outputs (PA 430, ASM 430), BD|SENSORS offers with the process displays of CIT-series an evaluation device that can be combined with our pressure measuring devices and hydrostatic submersible probes and is furthermore also suitable for acquiring for example temperature and potentiometer signals.

The multifunctional process transmitter CIT 400 has been exclusively developed for supplying 2- and 3-wire sensors with current signal and for acquiring measuring results. Two different types of housing and a combination of independent limit contacts and a freely configurable analogue output are available. We are therefore able to offer you solutions for nearly every measurement task.

plug-on display, self powered — PA 430

display	4-digit LED display, display and housing rotatable
signal input	4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire
characteristics	adjustable housing
option	IS-version, up to 2 freely configurable contacts
dimensions	47 x 47 x 68 mm (W x H x D)

with contacts

field display — PA 440

display	4-digit LC-display
signal input	4 ... 20 mA / 2-wire 0 ... 10 V / 3-wire
option	IS-version up to 2 freely configurable contacts
dimensions	plastic housing 120 x 80 x 57 mm (W x H x D) aluminium housing 125 x 80 x 57 mm (W x H x D)

with contacts

process display — CIT 200

display	4-digit LED display
signal input	0/4 ... 20 mA. 1 ... 5 V 0/2 ... 10 V
option	signal input PT 100 / PT 500 / PT 1000 remote control
dimensions	front panel housing 72 x 36 x 77 (95) mm (W x H x D)

process display — CIT 250

display	4-digit LED display
signal input	0/4 ... 20 mA, 1 ... 5 V 0/2 ... 10 V
option	signal input PT100 / PT 500 / PT 1000, up to 2 freely configurable contacts
dimensions	front panel housing 72 x 36 x 95 mm (W x H x D)

with contacts

process display — CIT 300

display	4-digit LED display
signal input	0/4 ... 20 mA / 0/1 ... 5 V 0/2 ... 10 V
option	signal input PT 100 / PT 500 / PT 1000, 2 or 4 freely configurable contacts, analogue output
dimensions	front panel housing 96 x 48 x 98 mm (W x H x D)

with contacts and analogue output

process display — CIT 350

display	4-digit LED display, multicolour 20 segment bargraph
signal output	0/4 ... 20 mA / 0/1 ... 5 V 0 /2 ... 10 V
option	2 or 4 freely configurable contacts, analogue output
dimensions	front panel housing 48 x 96 x 98 mm (W x H x D)

with bargraph

process display — CIT 400

display	4-digit LED display
signal input	0/4 ... 20 mA
option	IS-version, up to 4 limit value relays and 1 alarm relay
dimensions	front panel housing 72 x 72 x 110 mm (W x H x D) housing for hat rail and wall mounting 70 x 75 x 110 (W x H x D)

multichannel process display LCD — CIT 600

display	graphic LC display 128 x 64 pixel, background illuminated
signal input	2 / 4 / 8 channels: 0/4 ... 20 mA
option	signal input PT 100 / PT 500 / PT 1000, lockable door
dimensions	front panel housing 96 x 96 x 98 mm (W x H x D)

The data logger can record up to 2 million measurement values with a maximum measuring rate of 1 Hz in internal memory (8 MB). By connecting a USB stick, the capacity can be enlarged to several GB.

The software helps the user displaying (table, graphic), saving, evaluating and exporting the recorded data as well as issuing reports and configurations.

multichannel process display, LCD — CIT 650

display	graphic LC display 128 x 64 pixel, background illuminated
signal input	max. 8 channels: 0 ... 20 mA, 0 ... 10 V
option	signal input PT 100 / PT 500 / PT 1000, USB-host-port, internal memory 8 MB, lockable door
dimensions	front panel housing 96 x 96 x 100 mm (W x H x D)

with data logger

multichannel process display, TFT — CIT 700 — CIT 750

display	graphic TFT-display, CIT 700: 3,5", 320 x 240 pixel, CIT 750: 5,7", 320 x 240 Pixel, touchscreen
characteristics	3 freely fittable slots, 16 different input / output modules, transducer supply 24 V_{DC}, communication interfaces: RS-485 (Modbus RTU) master / slave, USB-host-port, USB device connection
option	communication interfaces: 2 x RS-485, 1 x RS-232, 2 x USB-host-port, Ethernet 10 MB, RJ-45
dimensions	96 x 96 x 100 mm (W x H x D) CIT 700 144 x 144 x 100 mm (W x H x D) CIT 750
functional range standard	- configuration of max. 60 channels via inputs, outputs, mathematical / logical functions, controller, profiles or virtual outputs - allocation of clogged channels in 10 groups (max. 6 channels per group) - connection of channels via mathematical / logical functions - 8 integrated PD / PI / PID controller
data logger	- data logging of max. 60 channels - freely selectable measuring rate (max. 10 Hz) - extensive trigger functions - internal memory 1.5 GB

with contacts and analogue outputs and data logger

SPECIAL DEVICES

NEW PRODUCTS

BD|SENSORS offers besides the classic analogue pressure and level transmitters also devices with digital interfaces. The basis is the interface standard RS 485, which has a high electromagnetic immunity due to the symmetric signal transmission, and which is suitable for a max. wire length of up to 1 km.

Besides these characteristics, the network capability is an important criterion, which is why the RS 485 standard is among other things the basis for the different PROFIBUS interfaces. BD|SENSORS uses ModBus RTU as communication protocol.

stainless steel sensor — universal applications — DCT 331

nominal pressure	0 ... 100 mbar to 0 ... 600 bar
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
output signal	RS 485 Modbus RTU
option	IS-version compact field housing, flush pressure port
application	

digital SIL

strain gauge — oil and gas industry — HU 300

nominal pressure	0... 5000 psi to 0 ... 15000 psi
accuracy (according to IEC 60770)	0.5 % FSO
electrical connection	MIL/ Bendix connection, cable outlet, Glenair (on request),
pressure port	WECO® 2" (1502) WECO® 2" (2002/2202)
application	

hammer union

ceramic sensor — marine / shipbuilding / offshore — EP 500

nominal pressure	0 ... 60 mbar to 0 ... 20 bar
accuracy (according to IEC 60770)	0.2 % FSO
pressure port	G ¼", hose connection
characteristics	with communication interface for offset, span and damping adjustment
application	

air-bubbling

ceramic sensor — environmental industry — DCT 387

nominal pressure	0 ... 1 mH_2O to 0 ... 200 mH_2O
housing material	stainless steel 1.4404 (316 L)
accuracy (according to IEC 60770)	0.25 / 0.35 % FSO
characteristics	digital output RS 485 Modbus RTU, high overpressure capability, suitable for water and sewage
option	R 1/2" thread for stainless steel pipe mounting
application	

digital ø 22 mm available 10/2012

silicon sensor — HVAC — DPS 300

differential pressure	0 ... 0.5 mbar to 0 ... 1000 mbar
accuracy (according to IEC 60770)	0.1 % FSO BFSL
option	LC display, automatic zero adjustment, contacts, square-root extraction
application	

multirange differential pressure transmitter available 12/2012

stainless steel sensor — hygienic applications — DMP 331 Pi

nominal pessure	0 ... 400 mbar to 0 ... 40 bar
accuracy (according to IEC 60770)	0.1 % FSO
characteristics	hygienic pressure connections (inch thread flush, dairy pipe, clamp), excellent temperature behaviour, vacuum resistant
option	communication interface for offset, span and damping adjustment; cooling element
application	

precision available 07/2012

heavy industry

The heavy industry sector – in particular the mining, heavy chemical, iron and steel industries – places high demands on the housing, the electronics and the sensor element. No problem for BD|SENSORS, as our pressure transmitters can withstand even the roughest process conditions and are characterized by

- high mechanical stability (shock and vibration resistance)
- ATEX approval (ia = intrinsically safe version, xd = flameproof enclosure)
- dust ATEX zone 20
- SIL (construction of pressure transmitters acc. to international safety standard)

environmental industry - water and waste water

BD|SENSORS sets standards in industrial and domestic water treatment with its elaborate selection of pressure and level measurement devices. Whether drinking water, sludge or aggressive waste water is concerned – the demands on our hydrostatic submersible probes could not be more diverse.

By using specific sensor technologies and robust housing materials (PP, PVC, PVDF, stainless steel etc.) as well as seal and cable sheath materials in combination with many years of experience, we assist you in choosing the correct transmitter type for your application.

chemical and petrochemical industry

From the production of colors and varnishes to synthetic fabrics, from the distillation to the storage in tanks – an accurate monitoring and exact dosage is essential for the safety and maximum productivity in chemical and petrochemical plants.

Precise measurements of our pressure and level transmitters in crucial places result in a saving of time, a higher productivity and reliability in the later production stages. We answer all your questions and provide individual solutions!

oil and gas industry

The oil and gas industry becomes more and more important, as resources are activated, new oil and gas fields are exploited and existing plants are modified in order to cover the worldwide demand for oil and natural gas. For improving the efficiency of those plants, higher and higher requirements are placed to component suppliers. BD|SENSORS offers safe electronic pressure and level measurement devices by:

- carefully selecting and using oil and seawater resistant metal alloys and cable sheath materials
- globally accepted approvals as GL, DNV, ATEX, UL etc.
- high reliability (SIL certification)
- abrasion-resistant pressure sensors
- ingress protection rates of IP 68 and higher.

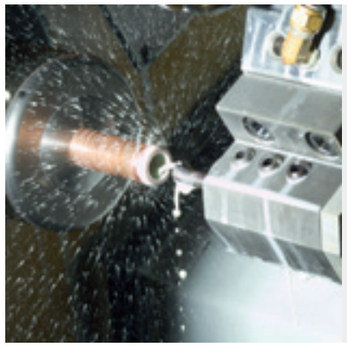
energy industry / renewable energies

A high efficiency, reliability and economic efficiency are the fundamental requests that plant construction companies have in energy management. Whether fossil fuels, wind or water power, solar or geothermal energy – system components such as pressure and level transmitters with an outstanding life expectancy and precision are of importance here.

food and luxury food industry

Due to rising demands on the hygienic conditions in the food and luxury food sector, our pressure and level transmitters are part of a hygienic concept and have to comply with the specific process requirements such as materials, CIP/ SIP capable sensors, surface roughness, adaption and design of process connections acc. to 3A standard and EHEDG as well as elastomeric seals.

BD|SENSORS offers with its pressure transmitters, pressure switches and level probes the complete equipment for measurements under alternating conditions or for cyclic cleaning and sterilization processes.



plant and mechanical engineering

The plant and mechanical engineering sector is situated in a complex global environment. To be successful in this branch, reliability and flexibility in the measurement task (pressure ranges, accuracy, electrical and mechanical connections), on-time deliveries as well as the processing of output signals are in the center of interest.

As a reliable supplier of electronic pressure measurement devices, BD|SENSORS offers complete and practical solutions for companies and measurement tasks of all kind. With our customized products, we are able to convert your challenge into an efficient process control.

marine / shipbuilding / offshore

The electronic pressure and level transmitters such as DMK 458, DMP 457 and LMK 458 face extreme mechanical and climatic conditions on board of ships, harbor terminals, wind power stations, drilling rigs etc. BD|SENSORS offers with its wide product range solutions for requirements such as:

- resistance against seawater
- vibration resistance and long-term stability
- high safety aspect also in hazardous areas as well as an overcharging protection for chemicals and LPG
- stability at extreme temperature changes
- highest accuracy on draught measurement
- marine approvals such as GL (Germanischer Lloyd) and DNV (Det Norske Veritas).

COMPETENCE

Industrial pressure measurement technology from 0.1 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.

> A successful cooperation to our customer´s full satisfaction is our motivation - developing together high-quality competitive pressure and level transmitters.
> Customer-specific solutions, reliability and flexibility combined with an excellent price/performance ratio make us a competent partner for pressure measurement at the highest level.“

KNOW-HOW

Know-how is the foundation for successfully producing high-quality electronic pressure measurement devices.

Modern equipment in development and production together with reliable partners are the basic units which make this foundation strong.

- → ISO 9001 certified
- → state-approved metrology center
- → accredited calibration laboratory
- → EMC-lab for norm-conforming tests
- → state-of-the-art CNC production
- → CIM production

INDUSTRIES

- plant and machine engineering
- chemical and biochemical industry
- energy industry
- renewable energy
- semiconducter 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

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