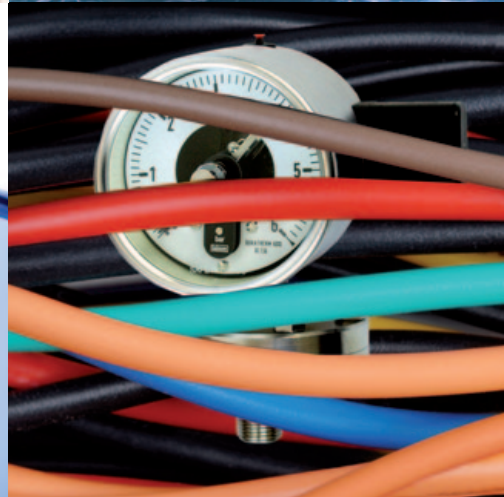




MEASUREMENT TECHNOLOGY

Made in Germany. Since 1968.



LABOM INSIDE

PRESSURE AND TEMPERATURE MEASURING

Pressure Temperature Level Signal Processing



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MEASUREMENT TECHNOLOGY



A WEALTH OF EXPERIENCE AND EXPERTISE

Standard and Custom Solutions

LABOM is one of the leading suppliers of controls and instrumentation for the process industries. The main focus of our activities is on pressure and temperature measurement and monitoring; and on processing derived variables such as level and flow.

In addition to a wide range of standard product, we offer custom-built instruments. We work closely with our customers to provide tailor-made solutions.

What challenges do you face in your industry?

LABOM pressure and temperature measuring devices are developed exclusively to meet the most stringent quality requirements. Hygienic design is a requirement of users in foodprocessing, pharmaceutical and biotechnology. Our customers from the shipping and petrochemical industries expect robust casings that can withstand rough service environments. Aggressive media, high process temperatures and the highest safety requirements are typical standards in the chemical industry, in the field of water/waste water and in power generation.

You can attach smart communication systems to our electronic instruments and put them to work in any process environment. A high degree of accuracy coupled with reliability over many years service are the primary quality requirements that every LABOM process instrument must satisfy.

Flexibility with our own Manufacturing and Warehousing Facilities

Meeting the high demands of our customers is both responsibility and motivation for us. We've been in this business for over 40 years: this gives us confidence; and we use the most advanced technologies to ensure our future. We serve our customers as partners at home and abroad. We have your processes and control challenges at heart and we will look to find the best solution for you!

Almost everything we offer our customers is produced in our manufacturing works in Hude/Germany (Oldenburg). Many of our staff have been with us for years; they are highly qualified. We are a vertically integrated manufacturer with high inventory levels, sophisticated quality standards and a large number of variants with short lead times.



Test and compensation of pressure transmitters



Diaphragm seals with compensating membrane



Inside view of high-bay warehouse



INSTRUMENTS FOR FOOD / PHARMACEUTICAL / BIOTECHNOLOGY

Manufacturers in food-processing, the pharmaceutical industry and bioengineering require a quality standard that can be combined under the collective name „hygienic design“. LABOM devices for hygienic service are manufactured according to GMP guidelines (Good Manufacturing Practice) and comply with the standards of the FDA (Food and Drug Administration), as well as the EHEDG (European Hygienic Equipment Design Group).



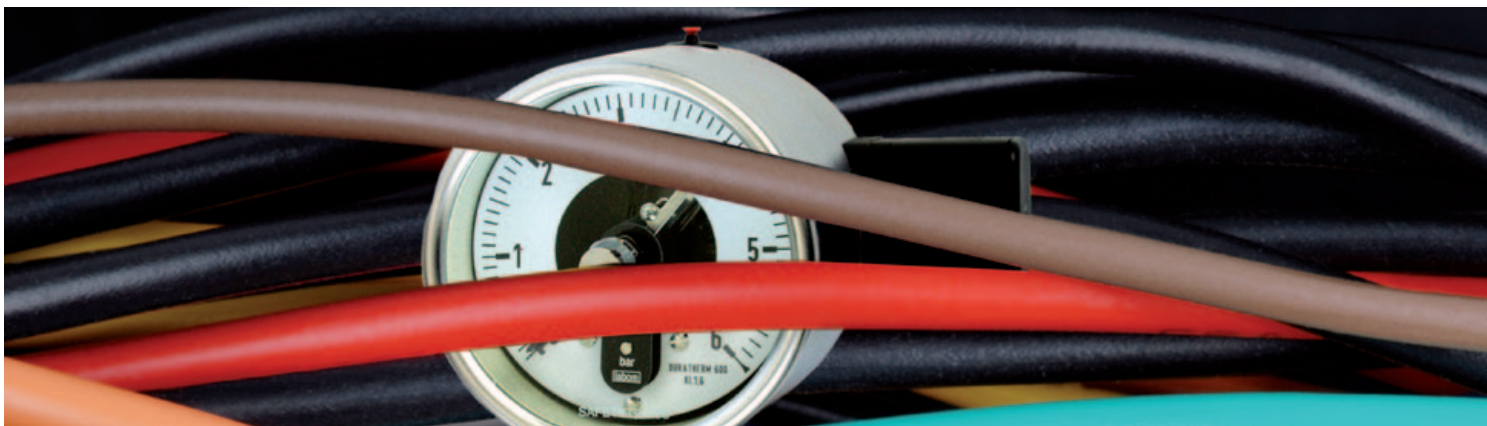
... FOR CHEMICAL AND PETROCHEMICAL INDUSTRY

Measuring devices for applications in the chemical/petrochemical industry are subject to high requirements in relation to exterior service conditions as well as in relation to the medium to be measured. Typically, we use stainless steel or high-grade materials (for example tantalum, hastelloy, nickel, PTFE). These materials provide excellent protection against corrosive media. Transmitters for pressure and temperature from LABOM are almost entirely „intrinsically safe to ATEX“: therefore, they can also be used in hazardous plants in the chemical/petrochemical industry.



... FOR WATER / WASTE WATER PLANT

LABOM measuring instruments in water supply plants and in clarification plants are making a contribution to the protection of environment. Correct measurements not only cut costs, but serve to promote more economical use of fresh water resources and to reduce the use of chemicals in wastewater treatment. The LABOM standard device in stainless steel and in robust construction with a high degree of protection against moisture is usually combined with special materials such as titanium and special coatings to avoid damage by corrosion. LABOM measuring instruments are used under extreme conditions to monitor process parameters in sea water desalinization plants. Or for level measurement in swimming baths, when levels have to be monitored with hydrostatic pressure measurement.



... FOR POWER ENGINEERING

Our measuring instruments carry out a host of different measurement tasks in the broad field of power engineering: They monitor underground gas accumulators, take measurements reliably on offshore platforms under extreme environmental conditions and ensure adherence to safety process parameters in gas turbines and nuclear power plants. Pressure gauges with electrical contact devices are used for pressure monitoring in oil- and gas supply plants subject to prior authorization. A conformity certificate is required for connection to systems in Zone 0.









... FOR SERVICE IN SHIPPING

For service in shipping LABOM's metrological devices have been designed as robust and reliable measuring facilities. These devices have been „travelling“ the high seas for many years now: They perform reliable measurement tasks in passenger ships, on tankers and in container vessels. A special ship design – cases with liquid filling or with capillary – protects measuring instruments from vibrations or aggressive environments. Many of LABOM's devices for service in shipping are approved by „GL“ (Germanischer Lloyd).



... FOR THE PAINTS INDUSTRY

A separate product family for the particular requirements of the paints industry has been established by LABOM. The trend towards water-soluble paints, especially in the automotive industry, has given rise to new concepts for pressure and temperature measurement. Besides the standard requirements such as dead-zone free measuring, special system fills and silicone-free designs have been developed by LABOM. Electrical measuring instruments for spraying plants have been designed to ATEX for service in hazardous systems.

Producttype		Certificates							Industries							Page
		EX (ATEX)	SIL2	GL (Germanischer Lloyd)	S (EN 837-1)	EHEDG	HART®	Profibus PA	Food/Pharmaceutical/Biotechnology	Chemistry/Petrochemistry	Water/Waste Water	Power engineering	Shipping	Paints industry	General applications	
D	PASCAL Ci intelligent pressure transmitter	■	■				■			■		■	■	■	■	10
	PASCAL CV modular pressure transmitter	■	■			■	■	■	■	■		■		■	■	11
	PASCAL CS pressure transmitter/switch					■			■	■					■	12
	UNIVERSAL CA pressure transmitter					■			■	■					■	13
	UNIVERSAL analog pressure transmitter	■		■					■	■					■	14
	COMPACT pressure transmitter	■	■	■		■			■	■			■		■	14
	COMPACT ECO pressure transmitter					■			■						■	13
	Pressure transmitter with bourdon tube and local indication	■			■					■					■	15
	Pressure gauges				■	■			■	■	■	■	■		■	16
	Pressure gauges with electrical contact	■	■	■	■				■	■	■	■	■		■	17
F	Hydrostatic level measurement	■	■						■	■	■		■		■	20
	Limit detection								■	■	■				■	20
T	Resistance Thermometer for Food/Pharma/Biotechnology	■	■	■		■			■	■	■	■	■		■	22
	Resistance Thermometer MiniTherm	■	■						■						■	22
	Temperature transmitter/temperature switch MiniTherm GS					■			■		■				■	23
	Resistance Thermometer Clamp-on technology	■	■						■							24
	Resistance Thermometer general application	■	■	■											■	25
	Thermometer for surface measurement	■	■						■	■						25
	Dial thermometer									■			■		■	27
	Dial thermometer with contact device	■	■							■			■		■	27
																

PASCAL CI INTELLIGENT

Pressure transmitter for pressure, differential pressure and level measurement for highest requirements



Chemical and
petrochemical industry
CI1010



Pressure and
Level measurement
CI1200



PASCAL DELTA p
for level measuring
and filter monitoring
CI1300



PASCAL DELTA p
for diaphragm seal operation
CI1330

Menu types

Min-Max Value
Phys. Quantity
Damping
Alarm State
Table Function
Current Balance
System Info
etc.

PASCAL Ci is an intelligent, microprocessor-controlled pressure transmitter for high requirements. The high-quality stainless steel case, the latest sensor technology as well as the graphic display meets the most challenging requirements.

- Microprocessor-controlled 2-wire technology transmitter for pressure, differential pressure and level measurement
- Multi-functional graphic display
- Easy configuration text-oriented
- Measuring ranges from 16 mbar to 400 bar
- High resistant to excess pressure
- Measuring ranges extension 1:20
- Signal output 4...20 mA, 2-wire technology
- Linearity up to 0.1 %
- Simultaneous communication via HART® protocol
- Explosion protection for gases, Class. per SIL2

The **pressure** transmitter/switch PASCAL CV using „smart“ module technology is suited for measuring the relative and absolute pressures of gases, vapors and liquids. The broad range of process connections allows the device to be deployed in a variety of processes. The design based on module technology/variable adapter means lower inventories over the longer term.

- Modular pressure transmitter (2-wire technology, 4...20 mA)
- Functional modules, convenient „plug technology“
 - Multi-function display
 - Switching module electrically isolated at all sides
 - Communication modules PROFIBUS PA, HART®
- Measuring range 80 mbar to 400 bar
- Accuracy $\leq 0.15\%$
- Explosion protection for gases and dust; Classification per SIL2, EHEDG certificate

Menu types

Min-Max Value
Phys. Quantity
Damping
Alarm State
Table Function
Current Balance
System Info
etc.



Switching



Profibus



Indicating



HART®

PASCAL CV MODULAR

Pressure transmitter with „smart“ module technologie

General applications

CV3100



With inline diaphragm seal
CV3100



Food / Pharmaceutical /
Biotechnology
CV3110



Chemistry / Petrochemistry
CV3120



Food / Pharma-
ceutical / Biotechnology
CV3110

PASCAL CS MULTIFUNCTIONAL

Pressure transmitter/Pressure switch – measure, switch and indicate



General applications
CS2100



Food/Pharmaceut./Biotechnology
with variable hygienic adapter
CS2110



Food/Pharmaceut./Biotechnology
CS2110



Chemistry/Petrochemistry
CS2130

The **pressure transmitter/pressure** switch PASCAL CS is suited for measuring the relative and absolute pressures of gases, vapors and liquids. The multifunctional PASCAL CS displays the measurement; outputs a current signal proportional to the pressure. It has two optional contacts.

- Functional, rotatable case in seamless design
- 4 digit LED display, can be mirror-imaged by 180°
- Indication module can be turned through 300°
- Measuring ranges 0...160 mbar to 0...40 bar rel., 0...1 bar to 0...6 bar abs.
- Output signal 4...20 mA, 2-wire technology fully encapsulated electronics unit
- Accuracy $\leq 0.2\%$
- 2 floating contacts
- Easy to program locally (as per VDMA standard or via PC software)
- Galvanic isolation between transmitter and switching outputs
- Hygienic design according to EHEDG



UNIVERSAL CA UNIVERSAL

Pressure transmitter for measuring gauge pressure and absolute pressure of gases, vapors and liquids



General applications
CA2100



Food/Pharmaceut./Biotechnology
CA2110



Chemistry/Petrochemistry
CA2130

- Stainless steel case, degree of protection IP 65
- Directly ventilated sensor element
- Accuracy $\leq 0.2\%$
- Output signal 4...20 mA, 2-wire technology

- Easy zero setting by using a magnet
- Measuring ranges 0...160 mbar to 0...40 bar rel., 0...1 bar to 0...6 bar abs.
- Hygienic design according to EHEDG

COMPACT ECO ADVANTAGEOUS

Digital pressure transmitter in cost efficient design



General applications
CB7500 ECO



Food/Pharmaceut./Biotechnology
CC7510 ECO

- Relative and absolute pressures of gases, vapors and liquids.
- Measuring ranges 0...1 up to 0...600 bar
- Accuracy $\leq 0.3\%$

- Output signal 4...20 mA, 2-wire technology
- Stainless steel case, degree of protection IP 65
- Process temperature -20...+120 °C
- Easy zero correction using a magnet

COMPACT

Pressure transmitter in robust design for use in tough environments



General applications
CB6010



Food/Pharmaceut./Biotechnology
CC6010



Chemistry/Petrochemistry
CC6010

- Wetted parts of stainless steel; completely welded
- Measuring ranges 0...160 mbar to 0...400 bar
- Linearity error including hysteresis < 0.2 % f.s.
- Output signal: 4...20 mA
- Explosion protection (gas), Classification per SIL2

- Degree of protection IP 65, IP 67 option
- Process temperature up to 140 °C (short term, for sterilization)
- Piezoresistive measuring system

UNIVERSAL

Relative and absolute pressures, overload protected



Field housing or right angle plug
CB1(2)02/CE1(2)01



For diaphragm seals
CC1(2)02



Thin film DMS
CB1(2)03

- Wetted parts of stainless steel, completely welded
- Measuring ranges 0...160 mbar to 0...600 bar rel., 0...0.4 bar to 0...25 bar abs.
- Piezoresistive sensor element
- Measuring system overload protected

- Explosion protection (gas), Classification per SIL2
- Zero point and measuring span can be adjusted externally by means of a potentiometer
- Output signal 4...20 mA, 0...10 VDC and 0...0,5 VDC

WITH BOURDON TUBE

Mechanical safety pattern gauge with local indication and integral electronic angle-of-rotation sensor



CK5200

- Pressure transmitter with local indication for measuring the relative and absolute pressures
- Safety pattern gauge S3, DN 100 and 160, per EN 837-1
- Output signal: 4...20 mA (20...4 mA) 2-wire technology
- Nominal ranges 0...0.6 to 1000 bar
- Integrated angle-of-rotation sensor, not subject to wear
- Explosion protection for gases and dust
- Additional contact device available
- Diaphragm seals available
- Easy zero correction using a magnet

PASCAL DELTA P & UNIVERSAL

Differential pressure transmitter



PASCAL DELTA p
Level measurement and filter
monitoring

CI1300



PASCAL DELTA p
Reduced volume for diaphragm
seal operation

CI1330



UNIVERSAL
Filter monitoring

CP1310

- The pressure transmitter PASCAL DELTA P is ideally suited for level measurements and filter monitoring.
- The analog pressure transmitter UNIVERSAL is suited for measuring the differential pressure of gases. The area of application lies in general filter monitoring.
- PASCAL DELTA P has been specially designed for process connections with diaphragm seals. Working/dead volumes have been significantly reduced; you may thus use diaphragms with minimal nominal sizes at low process pressures; any ensuing temperature errors are very slight.

MECHANICAL PRESSURE MEASUREMENT

The classical gauges



Bourdon tube
BA4550



Diaphragm pressure gauge
BA2500



With capsular element
BA1230



Absolute pressure gauge
BB2200



For differential pressure, highly overload resistant
BD3200

The measuring element of a mechanical pressure gauge with bourdon tube contains an elastic bourdon tube which is clamped at one end. This elastic measuring element is deformed in proportion to the applied pressure. For measuring gaseous and liquid media in the overpressure and underpressure ranges of 0...25 mbar to 0...25 bar, pressure gauges with diaphragms are used. They have the advantage that high security against overpressure can be realised and with protective foils made from special materials the diaphragm protects against particularly aggressive media.

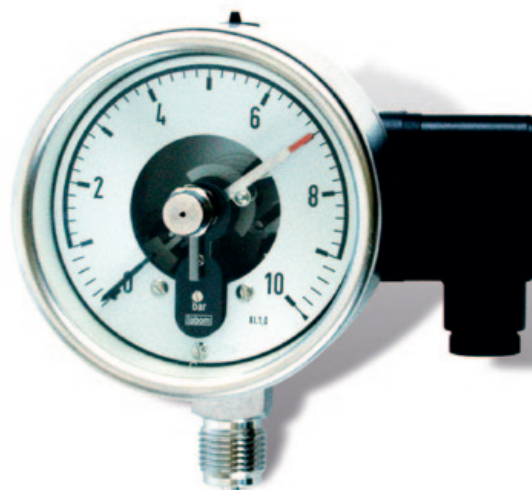
- High quality bayonet ring case in DN 63, DN 100 and DN 160
- Designed according to safety standards per EN 837-1
- Case and pressure element assembly of stainless steel
- High overload protection
- Measuring ranges from 2.5 mbar to 1600 bar and 60 mbar abs to 2500 mbar abs

Contact devices are auxiliary switches which – depending on the direction of movement – open, close or change electrical circuits at the set limit values by means of a contact arm which is moved by the actual value pointer.

- High quality bayonet ring case in DN 63, DN 100 and DN 160
- Designed according to safety standards per EN 837-1
- Highly overload protected
- Explosion protection, Classification per SIL2 and GL
- Case and pressure element assembly of stainless steel
- Electrical contact device per DIN 16085
- Funktionen: slow acting contact, magnetic snap contacts, inductive contact devices
- Measuring ranges from 60 mbar to 1600 bar

ELECTRICAL CONTACT DEVICES

The variation of the classical mechanical pressure gauge



Diaphragm pressure gauge
BE2200



For differential pressure, highly
overload resistant
BG32000



Pressure gauge for special
supervision
BN4200



Absolute pressure gauge
BF2200

DIAPHRAGM SEALS VARIETY

For every process in question the appropriate connection

Diaphragm Seals for Food / Pharma / Biotechnology



Varivent in-line acces unit
DL8080



HYGIENIC Tubus
DL8140



Screw-in thread
HYGIENIC
DE2130

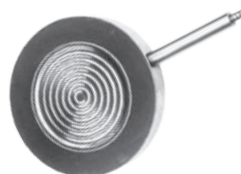


NEUMO Biocontrol
DL8110

Diaphragm seals for general applications



Flange-Type
DA1420



Cell type
DC4680



Screw-in thread
DE1180

Diaphragm seals for special applications



Variable connections
DDD1100



Saddle flange
DD4200

Inline diaphragm seals for Food / Pharma / Biotechnology



Aseptic design
DF6100

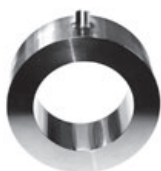


DN 10 with clamp connection
DF5100



Standard design
DF

Inline diaphragm seals for general applications



Cell Design
DP2100



Flange Connection
DP4100



DN 15 for threaded pipe
connection
DS1260

Diaphragm seals are partitions in pressure measuring instruments which prevent the measured medium from entering the measuring system. Measuring problems, which are often impossible to solve with the pressure gauge itself, can be solved by selecting the correct diaphragm seal system. Diaphragm seals can have the following forms: flange-type diaphragm seal, screw-type diaphragm seal, trunk-type diaphragm seal, inline diaphragm seal.

- Basic body and membrane of stainless steel
- Special materials very resistant to chemical influence upon request, and PTFE film for use under vacuum
- Vacuumtight and designed for processes temperatures from -10 to +140 °C
- Patented membrane technology
- Hygienic design
- Broad range of process connections
- More than 60 different forms available

THE LEVEL EXPERTS

PASCAL LEVEL

Pressure and level transmitter

- Output signal: 4...20 mA, 2-wire technology HART® protocol
- Measuring ranges 0...0.16 mWS to 0...160 mWS



CI1200

- Accuracy linearity/hysteresis 0.2 %, optional 0.1 %
- Explosion protection for gases

PASCAL CV LEVEL

Pressure and level transmitter

- LTC-technology
- Output signal: 4...20 mA, HART® protocol or PROFIBUS PA
- Various function modules



CV3110L

- Accuracy $\leq 0.15\%$
- Explosion protection for gases, Classification per SIL2

SUBMERSIBLE PRESSURE TRANSMITTER

For hydrostatic level measurement

- Digital design of the electronic unit
- Measuring ranges 0...160 mbar to 0...2500 mbar, each intermediate value adjustable



CG2010

- Immersion case: stainless steel, coated
- Accuracy 0.15 %
- Can be parameterized via PC

LIMES

Limit detection switch

- Limit detection for the fill level of liquids
- Particularly suitable as a substitute for vibrating fork sensor systems
- 7 base settings for several medias



LV1110

- Suitable for medias with a permittivity > 2
- Hygienic installation as per EHEDG
- Various process connections via adapter

INSTRUMENTS-MADE TO MEASURE

Examples of tailor-made solutions

Indoor- and Outdoor Resistance Thermometer



- Temperature sensor for ambient temperature
- Sturdy design
- Measuring resistor 1 x Pt 100, 3-wire technology
- Operating temperature -40...+80°C
- Explosion protection, Classification per SIL2

Autoclavable pressure gauge per EHEDG



- Hygienic casing as per EHEDG, no dead zones, hermetically sealed
- 1.4435 stainless steel with delta ferrite content < 3%
- Can be sterilized in an autoclave and with gamma sterilization
- FDA-compliant pressure transmitting fluid

Flexible temperature sensor installation



- Resistance thermometer GA2610 Clamp-on technology, no contact to medium
- Measuring range -20...+160°C
- Device with quick-release clasp and articulation for fast installation

Pressure Transmitter Compact Level



- Flat design, suitable for level measurement on tanks
- Hygienic design according to EHEDG, FDA und GMP recommendations
- Stainless steel case, Degree of protection IP 65
- Flush mounted diaphragm of stainless steel
- Measuring ranges 0...160 mbar to 0...16 bar relative.

RESISTANCE THERMOMETERS

Electronic temperature measurement for food / pharmaceutical / biotechnology



MiniTherm
Fast response
GA2700



MiniTherm
With thermowell
GA2720



Inline transducer
GA2200



Field housing with inter-
changeable measuring
insert
GA2540

The **temperature** is one of the seven basic units of the international unit system. In general, it is the most familiar measuring unit and, in addition, the most important one for nearly all production processes. Resistance sensors use the effect that the electrical resistance of a material changes as a function of its temperature. This resistance change can be measured and then converted into a temperature.

- Sensor 1 x Pt 100; 3- or 4-wire technology
- Interchangeable measuring insert
- Process connections for food / pharmaceutical / biotechnology
- Hygienic design as per EHEDG
- Fast response
- Explosion protected devices, Classification per SIL2

The multifunctional temperature transmitter/temperature switch MiniTherm GS is suited for temperature sensing on tanks and piping, especially for hygienic applications. With lots of process connections for food/pharmaceutical/biotechnology it is the right solutions for every requirement.

- Multifunctional temperature transmitter/temperature switch
- Interchangeable measuring insert, can be recalibrated
- Process connections for food/pharmaceutical/biotechnology
- 4 digit LED display, can be mirror-imaged by 180°
- Operating temperature -50 °C...+200 °C
- Output signal 4...20 mA, 2-wire technology
- Easy to program locally or via PC software



MiniTherm GS
GS2700

MINITHERM GS DIGITAL

Temperature transmitter/temperature switch MiniTherm GS for food / pharmaceutical / biotechnology and general applications



MiniTherm GS
G 1/2 B
GS2700



MiniTherm GS
Separate thermowell
GS2720



MiniTherm GS
Clamp connection
GS2720

CLAMP-ON PATENTED

Resistance thermometer/temperature switch clamp-on technology for food / pharmaceutical / biotechnology



Field housing
GA2610/GA2611



Clamp-on GS
GS2610



Tightening strap installation
GA2620



Mounting bracket for
tight spaces
GA2610

The **resistance thermometer** in clamp-on technology is used for temperature sensing and process control, mainly for sterile applications. The resistance thermometer can be quickly and easily fitted to all existing pipe-work. There are no changes necessary to the piping and no welding required. The resistance thermometer can be supplied with a built-in transmitter.

- Hygienic temperature measurement, no contact to medium
- High accuracy, fast response
- Measuring resistor 1 x Pt 100, 3-wire technology, class A
- Clamp-on-system allows quick and cost efficient installation
- Hygienic design as per EHEDG
- Measuring range: -20 °C ... +160 °C
- Measuring insert can be recalibrated, replaceable; the installation arrangements are unchanged
- Explosion protection, Classification per SIL2

RESISTANCE THERMOMETERS

For temperature sensing in tanks and piping; extensive range of configuration options available



Resistance thermometer
without thermowell

GA2500



Resistance thermometer
with screw-in thermowell

GA2510



Resistance thermometer
with weld-in thermowell

GA2520



MiniTherm
Threaded connection

GA2700

- Measuring insert 1 x Pt 100 or 2 x Pt 100 in 2-wire/3-wire/4-wire technology
- Interchangeable measuring insert

- Transmitter can be integrated
- Explosion protection, Classification per SIL2

SURFACE

Resistance thermometers for measuring surface temperature



GA2650

- Flush mounted silver temperature sensor, thermally isolated
- Replaceable 6 mm measuring insert, pretensioned
- Explosion protection, Classification per SIL2

- Temperature range - 20...+ 150 °C
- Mounted with weld-on or weld-in socket GE 4100
- Fast response time

ELECTRONIC DIGITAL

Electronic digital thermometer



GE4100

- Case and wetted parts of stainless steel
- Sturdy mechanical design and construction make it suitable for numerous applications

- Quick response with lasting accuracy
- Completely maintenance free for the life span of the product, by means of a solar cell or a battery

TRANSMITTER FOR TEMPERATURE

Head mounting; extensive range of configuration options

Measuring range selectable

PA2240



Digital programmable

PA2250



HART® protocol

70MEHI



With circular connector M12

PA2430

Digital transmitters convert a temperature dependent change of resistance into a standard load-independent current signal of the type commonly used in process control systems. Likewise, linear changes in resistance, e.g. by valves or level transmitters can be converted into an analog current signal.

- Suitable for installation in connecting heads in accordance with DIN, form B
- Output signal: 4...20mA invertible, 2-wire technology
- Explosion protection
- Input for resistance thermometer and resistance

LABOM inside

After all you want your plant to work perfectly. You can rely on the LABOM brand for all your instrumentation and monitoring needs. Here at LABOM we put special emphasis on quality, reliability and customer care. As a medium-sized technology company we provide custom solutions based on a wide range of approved and certificated products.

Made in Germany. Since 1968.



DIAL THERMOMETERS

Suitable for use outdoors and in aggressive environments

Bimetall thermometer
FA2300



Bimetall thermometer
FA2400/FA2310



Gas expansion thermometer
FN2400



Gas expansion thermometer
with capillary
FN2430



Gas expansion thermometer
with clip-on bulb
FN2/FN3

- Bayonet ring case DN 100/160
- Degree of protection IP 66
- Case and wetted parts of stainless steel

- Accuracy class 1 as per EN 13190
- Different connections can be supplied



WITH CONTACT DEVICE

Radial bottom or center back connection



Bimetall thermometer
FP2300



Gas expansion thermometer
FU2460



Gas expansion thermometer
with capillary
FU2430

- Bayonet ring case DN 100/160
- Degree of protection IP 66
- Case and wetted parts of stainless steel

- Electrical contact device per DIN 16196:
 - Slow acting contact
 - Magnetic snap contact
 - Inductive contact devices

THERMOWELLS

Separates the measuring device from measured medium



Thermowell
screw-in type
HA8050



Thermowell
screw-in type
HA8010/HA8020

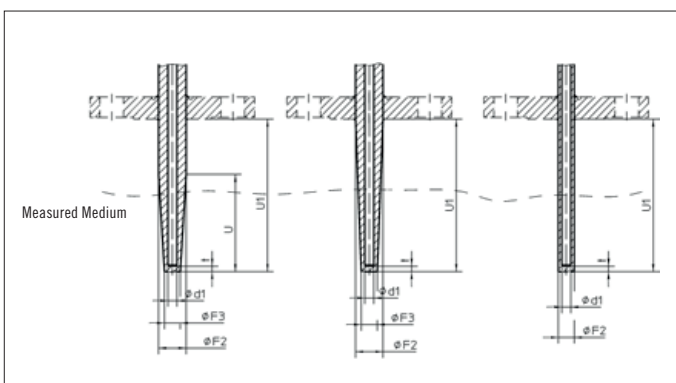


Thermowell
weld-in type
HB8010

LABOM thermowells are made of thermally conductive materials; they are used to separate the temperature sensor from the product. Thermowells are recommended for use with pressurized product. Thermowells provide protection against corrosive product and they allow the thermometer to be replaced easily. They are designed for use with a suitable dial thermometer or temperature transducer. We would be glad to carry out a thermowell calculation and analysis for dynamic operating conditions.

THERMOWELL CALCULATION

Typically thermowells are used in applications where they are to remain in the measured medium, where only the temperature transducer is to be exchanged or retrofitted, or where the measured medium shall not come in contact with the temperature transducer. Thermowells also provide protection against mechanical loading.



Thermowells for dial indicating thermometers and thermowells for resistance thermometers are manufactured according to DIN 43772 (new). **The corresponding LABOM dial indicating thermometers and temperature transmitters are fully compatible metrologically with these standards.**

We offer upon request a calculation for thermowells for your individual solution as a service. This can be made for static or dynamic applications with certificate. Please use the contact form on page 30 in this publication.

SIGNAL PROCESSING

Units for signal processing



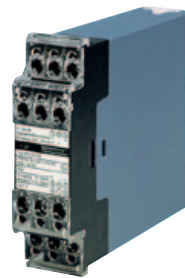
Temperature transmitters
such as...

205A7



Isolators
such as...

P15000H1



Supply Units
such as...

WG20



Smart process meter
such as...

PAX P



LED on-site indication
such as...

PAX P

Security considerations almost always require that the measuring and control signals transmitted in industrial plants are electrically separated. Our series device programme is electrically isolated. Depending on the type, the measuring signals are also amplified or converted. The LED on-site indicators are for use in the whole range of measurement technics where the standard signal of 4...20mA is available. Contact protection relays increase the switching safety and the switching performance of electromechanical limit value switches and reduce the contact load of same.

- Transmitters
- Isolators
- Supply units
- Indicators
- Contact protection relays

INTERESTED?

Please contact us for more information

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