

Product Overview. [Level Measurement.](#)
[Liquid Analysis.](#) [Leakage Sensors.](#)



Welcome to the World of Sensors and Measuring Instruments



Baumer – a name known worldwide for more than 55 years – is recognized as a leading producer of innovative sensor solutions for the factory and for the process automation industry.

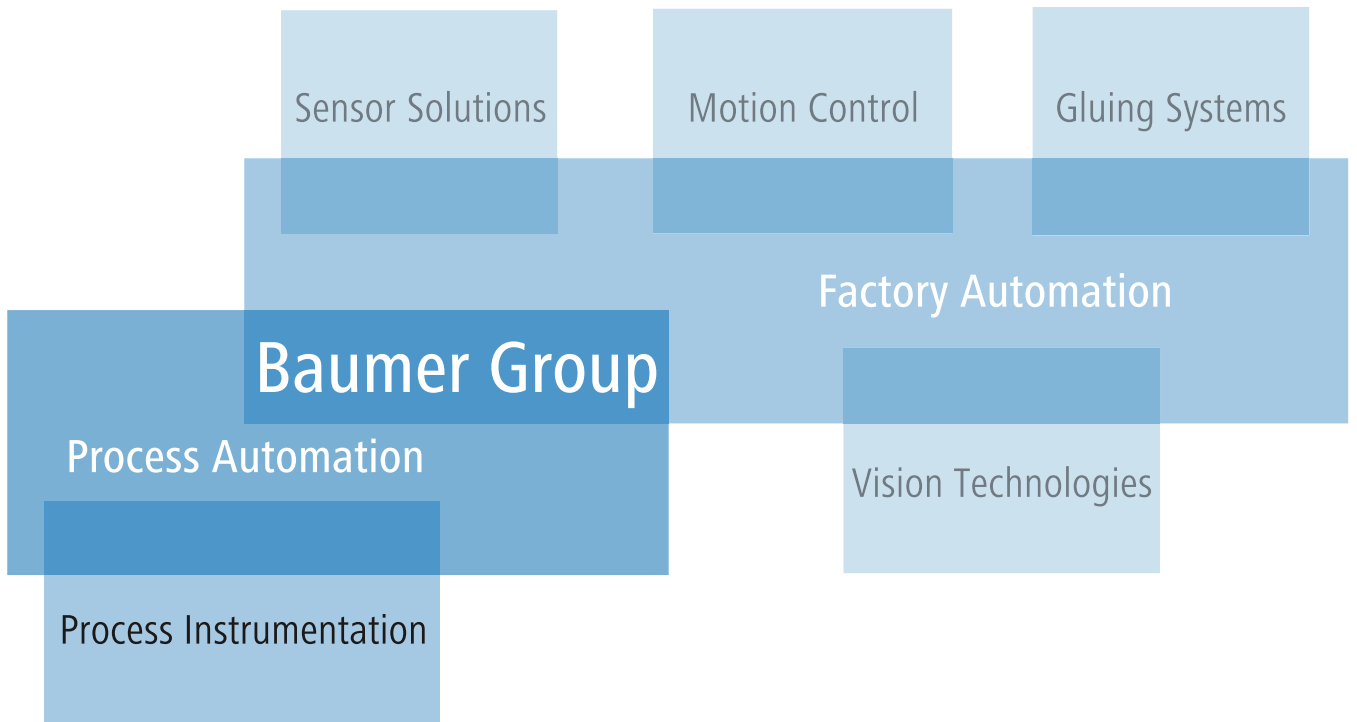
More than 2,000 employees in 32 countries work in the product segments: Sensor Solutions, Motion Control, Vision Technologies, Process Instrumentation and Gluing Systems. In innumerable fields, our products keep processes running.

The demands placed on sensors by industry can only be met by a company which constantly works innovatively. It is for this reason that Baumer maintains an outstandingly staffed development department in an international network of highly qualified specialists.

A global presence, offering the highest level of expertise with regard to consultation, sales and service, assures you of the well known Baumer standard of quality around the world.

In this catalog you will find a broad range of sensor products for level measurement and liquid analysis.

Your Partner for Innovative Sensor Design



Process Instrumentation

In its product segment Process Instrumentation, Baumer manufactures mechanical and electronic measuring instruments and offers customers one-stop pressure, temperature, level and conductivity solutions.

Our products are designed to provide precise measurement results whatever the environment. Through our expertise and knowledge, we are able to meet your requirements worldwide from standard to customized solutions.



Product Groups



Conductivity based Measuring Instruments

Level measurement and monitoring, with the help of compact but robust, accurate and highly repeatable sensors, is achieved using the conductivity of the media to transmit the signal.

Baumer has developed specifically for food and beverage industries a series of sensors which have stainless steel cases and probes with a complete range of process connections. The sensors are particularly suited for analogue output and switching signals which allow the user to display values, process signals and the detection of limits.



Hydrostatic Level Measurement

Mechanical, electronic and differential pressure measurement devices from Baumer including suitable process connections like adapters, flanges or diaphragm seals are suited for the complete coverage of levels, volumes or specific weights.

The devices can be used in open as well as closed tanks and can be mounted according to standard or hygienic procedures. This enables applications of the level measurement technique wherever simple and cost effective solutions are required.



Ultrasonic Sensors

The Baumer ultrasonic sensors are available as proximity switches and analog transmitters in robust, and hygienic designs.

The range covers different versions including the newly designed round "UFAR" or the cylindrical housing of the "FFAR" type. There are several housing materials available depending on the customer requirements. Current interface technologies allow practical and economical solutions.



Capacitive Sensors

Capacitive sensors can detect different medias in direct or non direct contact. In non direct contact they can "see" through a container wall made of plastic, glass, cardboard, etc...

The switching point can be easily adjusted with the potentiometer on the sensor.

A comprehensive product range of several housings and sensing ranges allows optimal selection for the application.



Photoelectric Sensors

Optical light is used to detect the presence of liquid, thus various and non-conductive liquids can be detected easily and reliably. With integrated electronics, commissioning is simple and it is unnecessary to adjust sensors. The operating principle is based on the total reflection of the infrared light on the inside of a translucent cone with a 45° tip. The critical angle for total reflection of the infrared light changes depending on whether the sensor tip is surrounded by liquid or air. In air the beam will be reflected twice and returns to the receiver, in liquid the ray will be deflected into the liquid.

The liquid can be electrically conducting, non-conducting, a cloudy liquid or clear making the sensor very versatile. The head is made of borosilicate glass and the different housings available, including high-quality steel field mountable versions offer extreme resistance to a great number of aggressive substances.



Liquid Analysis

Baumer has a series of precise and repeatable conductivity measurement devices with temperature compensation over a wide range from a few Micro-Siemens up to one thousand Milli-Siemens.

Two isolated analogue outputs are provided for conductivity and temperature.

A binary interface enables the automatic selection of four preset measurement ranges. This ensures exact repetition in a given recipe.



Leak Detecting Sensors

With optical leak detecting sensors, liquids from typically 1 ml can be easily and reliably detected. Typically, 1 ml of leaked liquid is sufficient to initiate an alarm. This and a fast response time of less than 1 ms allows an early leak detection and can lead to an emergency shut-down. It is therefore possible to prevent contamination of the system and loss of production facilities. The leak detecting sensor is coated with Teflon® PFA for protection in aggressive environments, is durable in use and requires no adjustment. The sensor can be screwed directly on the floor or on a base and is very quick and easy to release from its intelligent clip-system. That saves time and money during installation, commissioning and cleaning the system.



Accessories: Standard and Hygienic Process Connections

Aggressive, hot, high-viscosity, polluted, delicate or pure media / measured substances require an increased effort if measuring equipment is to be professionally integrated into the process. Welding sleeves from austenitic stainless steels, special materials, or coatings allows the use of Baumer level measuring devices in most applications.

Baumer products keep processes running in:

- Chemical, Petrochemical
 - Food, Beverage, Semi-luxury Goods
 - Printing Machinery
 - Injection Molding, Die Casting
 - Machine Tools
 - Medical Industry
 - Pharmaceutical, Bio Technology
 - Semiconductor Industry
 - Textile Machinery
 - Transportation
 - Water, Energy, Mining
 - Warehouse and Logistics
 - Wood Machinery
- And many others.

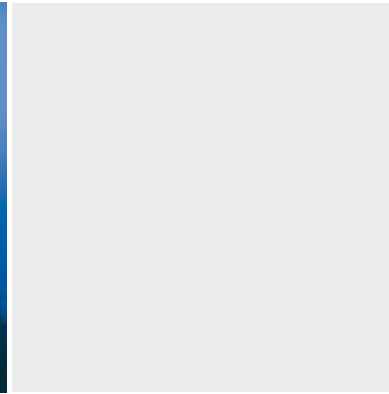


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Conductivity Based Instruments



Liquid level control in tanks or pipelines

In open or closed tanks with liquid or viscous media an LSP "potentiometric" level probe can successfully be used to monitor actual level. The conductivity of the media allows a reference flow of alternating current from the measuring rod to the housing wall or reference electrode.

The effect of the varying level covering the measuring rod acts like a wiper blade on a potentiometer and provides a varying current. The ratio between these two currents is used to calculate the level.

The LSK conductive probe touches the medium via the rod or probe tip and thereby triggers a current flow over the medium to tank wall or reference probe, which is connected to the sensor housing to give a level switch function.

There are several different designs for level control monitoring available.

Conductivity measurement: analogue and contact output			
Model	LSP 050	LSK x2x	LSK x5x
Characteristics	<ul style="list-style-type: none"> - Single rod: 1.4404 L = 200...3000 mm - Analogue signal output 4...20 mA - Measuring range configurable, rod length > 50 mm - Ambient conditions: PN ≤ 16 bar T = -20...+140°C 	<ul style="list-style-type: none"> - Stub or single rod: L = 17...2000 mm - Signal detection: contact with media - Output / Supply voltage: ext./internal switching module - Ambient conditions: PN ≤ 16 bar T = -20...+140°C 	<ul style="list-style-type: none"> - Multi rod: 1.4404 L = 200...2000 mm - Signal detection: contact with media - Output / Supply voltage: external switching module - Ambient conditions: PN ≤ 16 bar T = -20...+140°C
Conductivity of media	≥ 0,1µS/cm	≥ 0,1µS/cm	≥ 0,1µS/cm
Supply voltage	18...36 VDC	18...36 VDC	18...36 VDC
Current consumption	200 mA max.	≤ 10 mA AC without amplifier	≤ 10 mA AC without amplifier
Switching current	---	50 mA max. including amplifier	5 A max. including amplifier Type DNGA
Connection thread	G 1"	G 1/2"	G 1"
Protection class	IP 67, 3A-Sanitary Standard	IP 67, 3A-Sanitary Standard	IP 67, 3A-Sanitary Standard

Conductivity Based Instruments






Liquid level control in tanks or pipelines

The LSM series of sensors is used to detect level, media failure (dry run protection) or media differences (phase separation) of liquids and some liquid / solid solutions. This allows the sensor to ignore foam or product adhesion errors.

The microwaves emitted by the transmitter becomes subject to a time delay depending on the media. When in contact with a media having a different dielectric constant outside the selected range, an electronic switch is triggered. The probe tips are designed so that even in pipelines with low cross section no major disruption of the flow exists.

The LSM 025xS is designed to detect the level of fine solids or granulates with a very low dielectric constant.

			
Level measurement in materials of different dielectric value			
Model	LSM020	LSM025 / LSM025xS	LSM030 / LSM030xS
Characteristics	<ul style="list-style-type: none"> - Tip: PEEK - Signal output: tip covered by media - Sensitivity adjustment: through jumper - Ambient conditions: PN ≤ 16 bar T = -20...+140°C 	<ul style="list-style-type: none"> - Tip: 316L stainless steel - Signal output: tip covered by media - Sensitivity adjustment: through jumper - Ambient conditions: PN ≤ 16 bar T = -20...+140°C 	<ul style="list-style-type: none"> - Tip: 316L stainless steel - Signal output: tip covered by media - Sensitivity adjustment: through jumper - Ambient conditions: PN ≤ 16 bar T = -20...+140°C
Dielectric value of media	> 22	< 10 or > 30	< 10 or > 28
Supply voltage	18...36 VDC	18...36 VDC	18...36 VDC
Current consumption	70 mA max., amplifier included	70 mA max., amplifier included	70 mA max., amplifier included
Switching current	50 mA max.	50 mA max.	50 mA max.
Connection thread	G 1/2"	G 1/2"	M12 x 1,5
Protection class	IP 67, 3A-Sanitary Standard	IP 67, 3A-Sanitary Standard	IP 67, 3A-Sanitary Standard

Hydrostatic Level Measurement



Hydrostatic level measurement in open / closed tank

Baumer pressure transmitter are used for reproducible hydrostatic level measurement in many applications in the production of food, beverages, chemical and pharmaceutical life science products.

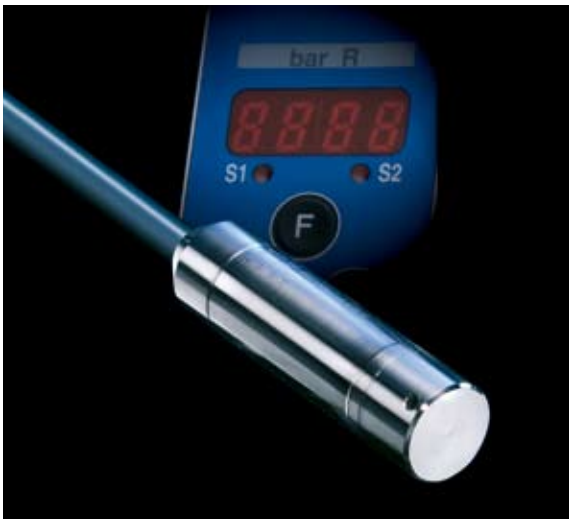
In the case of open tanks, the fluid column in the tank above the base mounted pressure transmitter can be covered.

In the case of closed tanks an additional pressure transmitter has to be mounted in the top of the tank which measures the additional top pressure.

The difference between the two readings, is the pressure of the fluid column above the measuring transmitter at the bottom of the tank. This pressure measurement may be read in a downstream indicator or controller as level, volume or specific weight measurement.

	Pressure Transmitters		
Model	E91x - Y91x	E92x - Y92x	E93x - Y93x
Characteristics	<ul style="list-style-type: none"> - Housing: stainless steel 1.4301 - Zero adjustment as standard - Span adjustment (option) - Wetted parts in contact with the media: stainless steel 1.4404, ceramic, elastomer - M.R.: 0...25 mbar to 0...40 bar relative or absolute ≥ 1 bar - Max. overpressure: 2...4 times of M.R. 	<ul style="list-style-type: none"> - Housing: stainless steel 1.4301 - Zero adjustment as standard - Span adjustment (option) - Wetted parts in contact with the media: flush diaphragm, stainless steel 1.4404 - M.R.: 0...1,6 to 0...40 bar relative or absolute $\geq 1,6$ bar - Max. overpressure: 2...4 times of M.R. 	<ul style="list-style-type: none"> - Housing: stainless steel 1.4301 - Zero adjustment as standard - Span adjustment (option) - Wetted parts in contact with the media: flush diaphragm, stainless steel 1.4404 - M.R.: 0...260 mbar to 0...40 bar relative or absolute - Max. overpressure: 2...4 times of M.R.
Span and zero adjustment	Adjustable through potentiometer	Adjustable through potentiometer	Adjustable through potentiometer
Supply voltage	E91x: 8 (14)...40 VDC Y91x: 8 (14)...28 VDC	E92x: 8 (14)...40 VDC Y92x: 8 (14)...28 VDC	E93x: 8 (14)...40 VDC Y93x: 8 (14)...28 VDC
Signal output	4 (0)...20 mA / 0...10 V	4 (0)...20 mA / 0...10 V	4 (0)...20 mA / 0...10 V
Global error	$\pm 0,6\%$ of F.S.	$\pm 0,6\%$ of F.S.	$\pm 0,6\%$ of F.S.
Media temperature	-25...+100°C	-25...+100°C	-15...+100°C
Process connection	G 1/4", G 1/2" and NPT	G 1/2" / G 3/4" / G 1" with flush diaphragm	Diaphragm seal, Clamp, SMS, DIN, Varivent®
Protection class / Approval	IP 65 / IP 67 / Y91x: ATEX, CSA, FM Lloyd's, Norske Veritas	IP 65 / IP 67 / Y92x: ATEX, CSA, FM Bureau Veritas	IP 65 / IP 67 / Y93x: ATEX, CSA, FM 3A-Sanitary Standard

Hydrostatic Level Measurement



Hydrostatic level measurement in open / closed tank

Digital pressure switches with analogue signal output and freely adjustable electronic limit switches are suitable for the measurement and monitoring of liquid levels.

These instruments can be fitted with different adapters and diaphragm seals for optimal connection to the measurement point.

Hydrostatic level measurement in open tanks, bore holes and channels

Ideal for most depth measurement applications. The Pressure Transmitter is lowered into the liquid by the secure and ventilated cable. The pressure of the liquid column above the immersed transmitter provides an output relevant to depth or head pressure above it. The highly accurate and robust design make it very versatile.

	Digital Pressure Switches		Submersible Transmitter
Model	TED6 - TED5	YTED - YTED System	ED 752
Characteristics	<ul style="list-style-type: none"> - Housing: stainless steel 1.4301 with digital display and control panel - Auto-zero function, adjustable switching points value - Wetted parts: st. s steel 1.4404, ceramic, elastomer - M.R.: -1...0 to 0...40 bar relative and absolute - Max. overpressure: 2...4 times of M.R. 	<ul style="list-style-type: none"> - Housing: stainless steel 1.4301 with digital display and control panel - Auto-zero function, adjustable switching points value - Wetted parts: st. s steel 1.4404, ceramic, elastomer - M.R.: -1...0 to 0...40 bar relative and absolute - Max. overpressure: 2...4 times of M.R. 	<ul style="list-style-type: none"> - Housing: stainless steel 1.4301 - Zero point adjustment by wire linking on sensor cable - Wetted parts: stainless steel housing, st. steel 1.4435 diaphragm - M.R.: 0...100 mbar to 0...40 bar rel. absolute \geq 500 mbar - Max. overpressure: 3 times of M.R.
Span and zero adjustment	Programmable	Programmable	4...20mA version: with external zero setting
Supply voltage	TED5: 18...32 VDC TED6: 10...32 VDC	YTED: 10...28 VDC YTED System: 24 VDC	9 (15)...30 VDC
Signal output	4...20 mA / 2 set points, configured parameters of each threshold	4...20 mA / 2 set points, configured parameters of each threshold	4(0)...20 mA / 0...10V / 0...5V
Global error	$\pm 0,6\%$ of F.S.	$\pm 0,6\%$ of F.S.	$\pm 0,1 / 0,2 / 0,4\%$ of F.S.
Media temperature	-25...+100°C	-25...+100°C	-10 (-30)...+125°C
Process connection	G 1/4", G 1/2" and NPT	G 1/4", G 1/2" and NPT	M27 x 1,5 with or without protection (flush diaphragm)
Protection class / Approval	IP 65	IP 65 / EEx ia IIC T6 and T5 YTED System incl. safety module ATEX Intrinsic Safety NAEV30	IP 68 / EEx ia IIC Lloyd's Register

Hydrostatic Level Measurement


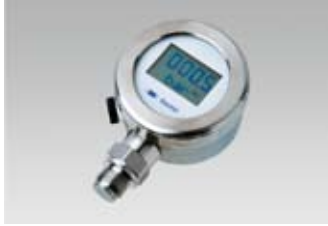



Pressure transmitters with and without digital display

Pressure transmitters with field housing can be easily installed and operated in outdoor applications. The robust housing with IP65 protection or better allows safe operation, even under adverse environmental conditions. The FlexBar devices are programmable using the dedicated FlexProgrammer. The FlexBar 3501 with its high quality stainless steel housing can be used in marine engineering, steel mills or other arduous applications where the environment may risk high levels of contamination.

It is also programmable through menu selectable push buttons when use of a programmer is undesirable.

Process connections can be varied to suit requirements with adapters or diaphragm seals in either flanged or in hygienic designs.

			
	Pressure Transmitters		
Model	ED 701 hygienic execution	FlexBar HRT / FlexBar 3431 Profibus	FlexBar 3501
Characteristics	<ul style="list-style-type: none"> - Field housing: stainless steel 1.4301 - M.R.: 0...100 mbar to 0...40 bar relative, absolute ≥ 400 mbar - Max. overpressure: 3 times of M.R. - Process connections: Clamp, hygienic, conical shaped, flush diaphragm, flange 	<ul style="list-style-type: none"> - Field housing 80 mm dia.: stainless steel 1.4301, polished - M.R.: -0,1...0,4 bar to -1...400 bar - Max. overpressure: 400% of M.R. max. 600 bar - Process connections: Varivent®, G 1/2", Clamp, hygienic execution 	<ul style="list-style-type: none"> - Stainless steel, diecast housing size: 132 x 152 x 140 mm - M.R.: -1...70 bar relative, absolute - Max. overpressure: 1,5...15 times of M.R. - Process connections: Varivent®, G 1/2", Clamp, hygienic execution
Adjustment limits	Auto Zero push button: factory setting can be reloaded at any time	Auto Zero push button Turn down 25:1 / 30 point linearization	Auto Zero push button Turn down 25:1 / 30 point linearization
Supply voltage	9 (15)...30 VDC	FlexBar HRT: 6,5...35 VDC FlexBar 3431: 9...32 VDC	12...35 VDC
Signal output	4...20 mA / 0...10 V / 0...5 V	4...20 mA, HART® 3431: Profibus PA	4...20 mA HART®
Global error	0,1 / 0,2 / 0,4% of F.S.	$\pm 0,2\%$ of F.S.	$\pm 0,1\%$ of F.S.
Process connection	Standard G 1/4", G 1/2", G 1"	Standard G 1/2", flush diaphragm	Standard G 1/2" EN 837-1
Protection class / Approval	IP 65...IP 68 / EEx ia IIC T5 & T6 / Lloyd's Register	IP 65...IP 67 / EEx ia IIC T5 & T6	IP 67 / EEx ia IIC T4 / T5

Hydrostatic Level Measurement



Differential pressure measurement for level control in closed tanks
Mechanical and electronic differential pressure instruments are ideally suited for the hydrostatic measurement of level in closed tanks.

The pressure difference is measured between the total pressure at the base and the pressure in the top of the tank above the media.

Mechanical differential pressure gauges show the differential pressure using a pointer directly on the scale.

In electronic differential pressure transmitters however, the output signal represents the differential pressure. In both devices the scale as well as the output signal can be calibrated to represent the measuring units, such as the volume, the specific gravity or the mass. The process connection can be customer specific, but in most cases flanged diaphragm seals are used.



Differential Pressure Measurement / Process Chemical Seal

Model	MX / MZ	EDD 575 FKK	D902
Characteristics	<ul style="list-style-type: none"> - M.R.: 0...0,1 / 0...25 bar diff. - Static pressure: max. 100 bar - Case: 150 mm dia. in st. steel 1.4301 	<ul style="list-style-type: none"> - M.R.: 0...4 mbar to 0...20 bar diff. - Static pressure: max. 140 bar 	<ul style="list-style-type: none"> - 316L stainless steel flanges DN 10...100 / 1/2"... 4" - Diaphragm: 316L st. steel or Hastelloy C276 - M.R.: rel. and diff. min.10 mbar, absolute press. min. 50 mbar - Typical specifications: max. pressure: 100 bar process T°C: max. +400°C - Capillary tube: max. 12 m
Sensing element	Two 1.4404 (AISI 316 L) stainless steel bellows	Capacitive differential pressure measuring cell, st. steel 1.4404	Diaphragm seal compatible with process pressure transmitters
Supply voltage	---	10,5...42 VDC	---
Signal output	---	4...20 mA, HART®	---
Accuracy	±2,0% of F.S.	±0,1% of F.S.	---
Process connection	2 x G 1/2" / 2 x 1/2" NPT	2 x 1/4 18 NPT female	Round flanges ISO DN 15...DN 50 or ANSI DN 1/2"...2"
Protection class / Approval	IP 65	IP 67, NEMA 6/6P, ATEX II 1G/D	IP 68

Ultrasonic Sensors



Non contact level switches

This non-contact measurement system is suitable for level control in open and closed containers. The sensors are highly durable and in some cases equipped with stainless steel housing allowing reliable use in harsh environmental conditions.

Baumer ultrasonic proximity sensors form a wide product range with different measuring characteristics. Distances from 100 mm up to 2,5 m can be repeatedly detected. One or two adjustable switching points are available.

			
	Ultrasonic proximity Sensors		
Model	UZAM 30	UZAM 50	UNAR 18
Characteristics	<ul style="list-style-type: none"> - Housing: brass nickel plated - Sensing range: 110...1 000 mm - Adjustment: Teach-in function - Repeatability: ≤ 0,5 mm - Connection types: cable / connector M12 x 1 	<ul style="list-style-type: none"> - Housing: brass nickel plated - Sensing range: 350...2 500 mm - Adjustment: Teach-in function - Repeatability: ≤ 1 mm - Connection types: cable / connector M12 x 1 	<ul style="list-style-type: none"> - Chemically resistant - Housing: stainless steel 1.4435 - Sensing range: 100...1 000 mm - Adjustment: Teach-in function - Repeatability: ≤ 0,5 mm - Connection types: connector M12 x 1
Measuring system	Ultrasonic 2 point proximity switch	Ultrasonic 2 point proximity switch	Ultrasonic sensor
Supply voltage	12...30 VDC	12...30 VDC	12...30 VDC
Output current	< 200 mA	< 200 mA	< 200 mA
Operating temperature	-10...+60°C	-10...+60°C	0...+60°C
Housing diameter	M30 x 1,5	M30 x 1,5	M18 x 1
Protection class	IP 67	IP 67	IP 67



Non contact level transmitters

This non-contact measurement system is suitable for level control in open and closed containers. The sensors are highly durable and in some cases equipped with stainless steel housing allowing reliable use in harsh environmental conditions.

Baumer ultrasonic analogue sensors form a wide product range with different measuring characteristics. Distances from 100 mm up to 2,5 m can be repeatedly detected. Desired measuring ranges can be easily adjusted with a simple teach-in-function.

			
	Ultrasonic analog Sensors		
Model	UNAR 18	UNAM 50	UFAR
Characteristics	<ul style="list-style-type: none"> - Chemically resistant - Housing: stainless steel 1.4435 - Sensing range: 100...1 000 mm - Adjustment: Teach-in function - Repeatability: ≤ 0,5 mm - Connection types: connector M12 x 1 	<ul style="list-style-type: none"> - Housing: brass nickel plated - Sensing range: 400...2 500 mm - Adjustment: Teach-in function - Repeatability: ≤ 1 mm - Connection types: cable / connector M12 x 1 	<ul style="list-style-type: none"> - Housing: 80 mm dia., stainless steel - Sensing range: 100...1 000 mm - LC-Display: 4 digits, 7 segment LCD - 30-step linearization - Connection types: PG / connector M12 x 1
Measuring system	Ultrasonic sensor	Ultrasonic sensor	Ultrasonic sensor
Supply voltage	15...30 VDC	15...30 VDC	15...30 VDC
Signal output	4...20 / 20...4 mA	4...20 / 20...4 mA	4...20 / 20...4 mA
Operating temperature	0...+60°C	-10...+60°C	0...+60°C
Housing diameter	M18 x 1,5	M30 x 1,5	G 1/2" EN 837
Protection class	IP 67	IP 67	IP 65 / IP 67




Capacitive Sensors



Fill level sensors for liquids and solids

Capacitive sensors are suitable for the detection of fluids or granules directly in tubes and containers. They can also be used to detect such levels through a container wall made of plastic, glass, cardboard etc.

When the media reaches the detection range at the sensor face, the sensor will switch on. To allow precise adjustment the integrated potentiometer in the sensor can be adjusted to suit each application.




			
	Capacitive proximity Sensors		
Model	CFAM 18	CFAM 30	CFAH 30
Characteristics	<ul style="list-style-type: none"> - Housing: brass nickel plated - Nominal sensing distance: up to 8 mm - Adjustable by potentiometer - Connection types: cable / connector M12 x 1 	<ul style="list-style-type: none"> - Housing: brass nickel plated - Nominal sensing distance: up to 15 mm - Adjustable by potentiometer - Connection types: cable / connector M12 x 1 	<ul style="list-style-type: none"> - Housing: V2A / PTFE - Nominal sensing distance: up to 15 mm - Adjustable by potentiometer - Connection types: connector M12 x 1
Measuring system	Capacitive	Capacitive	Capacitive
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC
Output current	< 200 mA	< 200 mA	< 200 mA
Operating temperature	-25...+75°C	-25...+75°C	-40...+200°C
Housing diameter	M18 x 1	M30 x 1,5	M30 x 1,5
Protection class	IP 65	IP 65	IP 67



Level switches for non conductive media

These level monitoring sensors have housing options in polysulphone, steel and stainless steel to provide different types of protection. As optical light is used to detect the liquid, various liquids including non conductive liquids can be detected.

The operating principle is based on the total reflection of the infrared light on the inside of a translucent cone with a 45° tip. The critical angle for total reflection of the infrared light changes depending on whether the sensor tip is surrounded by liquid or air. In air the beam will be reflected twice and returns to the receiver, in liquid the ray will be deflected into the liquid. With optical level monitoring, liquids can be easily and reliably detected without the need of an electrical connection or mechanical movement between the liquid and the sensor.

			
Optical level Sensors with switch function			
Model	FFAK 17	FFAM	FFAR (*)
Characteristics	<ul style="list-style-type: none"> - Sensitivity adjustment - Chemically resistant - Nominal pressure (probe tip): max. 10 bar 	<ul style="list-style-type: none"> - Sensitivity adjustment - Housing: stainless steel 1.4305 - Chemically resistant - Nominal pressure (probe tip): max. 40 bar 	<ul style="list-style-type: none"> - Housing 55 mm dia., st. steel - Chemically resistant - Nominal pressure (probe tip): max. 40 bar - Connector M12 x 1 (*) (Housing with screw cap)
Measuring system	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Supply voltage	10...30 VDC	10...30 VDC	10...30 VDC
Output current	< 200 mA	< 200 mA	< 200 mA
Operating temperature	0...+65°C	0...+65°C	0...+65°C
Process connection	G 3/8"	G 3/8"	G 1/2"
Protection class	IP 67	IP 67	IP 67

Analysing Instrument for liquids



Conductivity transmitter

If conductivity in liquids has to be measured like in the food and beverage industry or in the water treatment or enrichment of cleaning agents, the temperature compensated Baumer conductivity sensor guarantees reliable measurement values.

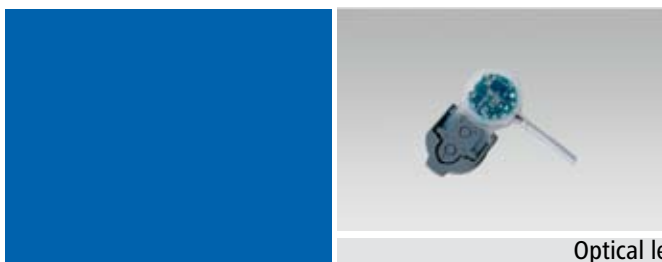
14 switchable conductivity ranges compensated with 7 temperature ranges enables an accurate, qualitative control of the process. In the device both values will be displayed by a protected glass window. Each measured value has an isolated analogue signal output of 4...20 mA available. Four preset measuring ranges can be chosen by an external controller, for example, depending on the recipe specification.

	Inductive conductivity Transmitter	
Model	ISL 05x	
Characteristics	<ul style="list-style-type: none"> - Housing: stainless steel 1.4301, with screw cap incl. window - Electronic: completely potted - 14 conductivity ranges from 0...0,5 to 0...999mS/cm - 7 temperature ranges from 0...+50 to -20...+150°C - Adjustment through menu using push-turn button - Programme sequence: external selection of up to 4 pre adjusted measuring ranges possible - Media pressure: 10 bar max. - Wetted materials: stainless steel 1.4404, PEEK - Process connect.: G1" rotating gland allows easy positioning of the instrument 	
Span and zero adjustment	Given by adjusted pressure and temperature ranges	
Supply voltage	18...36 VDC, 180 mA max.	
Signal output	Conductivity: 4...20 mA, Temperature: 4...20 mA	
Accuracy	±1% of selected M.R.	
Operating temperature	-20...+130°C (short time up to +140°C)	
Process connection	G 1" hygienic design acc. 3A requirements	
Protection class	IP 67	



Leak detecting sensors

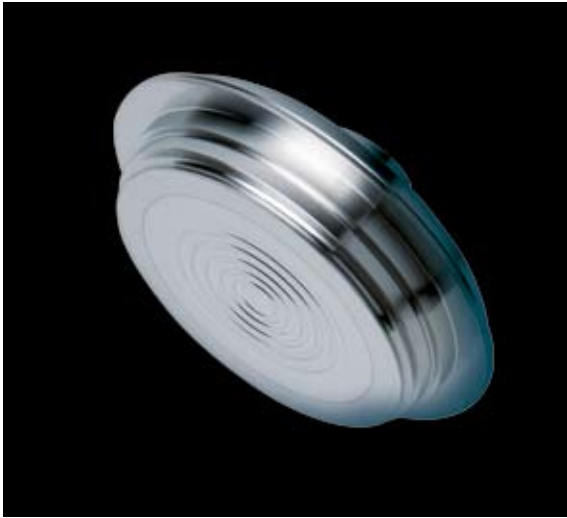
The use of optical light allows detection of many liquids including those that are non conductive. Typically a leakage volume as small as 1ml is sufficient to initiate an alarm. This ensures early leak detection and can also lead to an emergency shutdown of a pump to protect it from damage. The integrated circuit provides failsafe action with a normally high status that changes to low status when wet, to trigger an alarm in a leak, cable break or sensor failure mode. The leak detecting sensor is coated with Teflon® PFA for protection in aggressive environments to provide durability.



Optical leak detection Sensor with switching output

Model	FODK 23		
Characteristics	<ul style="list-style-type: none"> - Integrated electronics - Detects liquid amounts of approx. 1 ml - Chemically resistant, protection by Teflon® PFA sheath 		
Measuring system	Photoelectric sensor		
Supply voltage	10,8...26,4 VDC		
Output current	< 50 mA		
Operating temperature	-25...+50°C		
Mounting thread	2 x knockouts Ø 4.5		
Protection class	IP 67		


Accessories: Process Connections



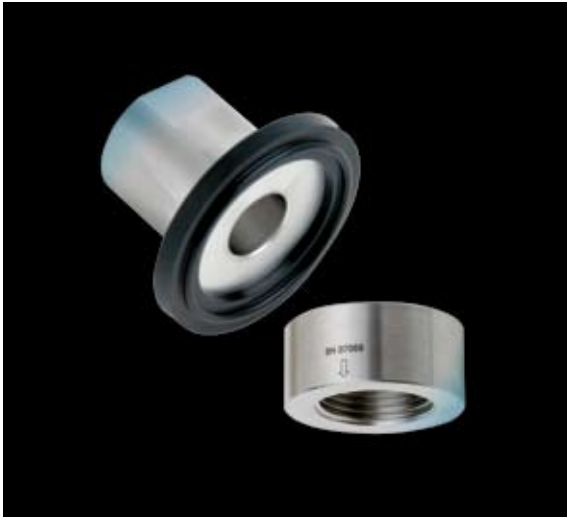
Diaphragm seals for hygienic industrial process connections

Baumer provides a variety of industrial process connections such as diaphragm seals or tubular pipe separators plus a sterile inline tube concept. Standard process oriented materials, filling fluids and surface finishes are readily available. Special process oriented materials, filling Media or surface finishes are available on demand.

Due to the demanding and often critical process conditions Baumer Process Instrumentation pays special attention to the design, assembling, filling and the calibration procedure of all level-measuring devices.

			
	Diaphragm Seals		
Model	DANC - Clamp	DADL - Hygienic	DAVA - Varivent®
Characteristics	<ul style="list-style-type: none"> - Material: stainless steel 1.4404 - Diaphragm laser welded - Diaphragm material: stainless steel 1.4435 - Surface roughness $Ra \leq 0,8 \mu m$ - Option: e-polished - 3A-Sanitary standard 	<ul style="list-style-type: none"> - Material: stainless steel 1.4404 - Diaphragm laser welded - Diaphragm material: stainless steel 1.4435 - Surface roughness $Ra \leq 0,8 \mu m$ - Option: e-polished - 3A-Sanitary standard 	<ul style="list-style-type: none"> - Material: stainless steel 1.4404 - Diaphragm laser welded - Diaphragm material: stainless steel 1.4435 - Surface roughness $Ra \leq 0,8 \mu m$ - Option: e-polished - 3A-Sanitary standard
Connection systems	Clamp DN 25...50 to NF, ISO, DIN	Hygienic with nut, smooth housing DN 25...50 to DIN	Varivent® DN 25, 40, 125
M.R.	0...1 to 0...40 bar -1...1,5 to -1...39 bar	0...1 to 0...40 bar -1...1,5 to -1...39 bar	0...1 to 0...40 bar -1...1,5 to -1...39 bar
Media temperature	-20...+225°C max.	-20...+150°C max.	-20...+150°C max.
Operating temperature	-20...+225°C product specific application, complies with FDA recommendations	-20...+150°C product specific application, complies with FDA recommendations	-20...+150°C product specific application, complies with FDA recommendations
Special material	Hastelloy C276 on request	Hastelloy C276 on request	Hastelloy C276 on request

Accessories: Mounting Aids



Welding sleeves and adapters for level measuring instruments


The pressure transmitter series FlexBar, ED 701 and level sensors LSK, LSM, LSP, ISL, allow the completion of the process connection by standard or hygienic adapters and welding sleeves. A wide variety of types allows the selection for the often critical process conditions of level measurement. Screw blanking plugs help if a device is not yet available or has to be used for any other purpose. A high-quality stainless steel surface allows use even in sterile areas.

			
	Adapters	Welding Sleeves	Blanking Plugs
Model	CAM / VAM / LAM / RAM / SAM	PM 020...PM 052	PS 020...PS 050
Characteristics	<ul style="list-style-type: none"> - Execution: with Clamp DIN/ISO, Varivent®, hygienic, ... - Material: stainless steel 1.4404 - Sealing material : EPDM gasket - Cleaning: according to specifications SIP and CIP - Material certificate: 3.1 B (option) 	<ul style="list-style-type: none"> - Execution: hygienic with lip for pipes, spherical, ... - Material: stainless steel 1.4404 - Sealing material : PEEK / stainless steel 1.4404 - Cleaning: according to specifications SIP and CIP - A mark indicates the final gland or plug position - Material certificate: 3.1 B (option) 	<ul style="list-style-type: none"> - Execution: metall, conical shaped - Material: stainless steel 1.4404 - Sealing material : stainless steel 1.4404 - Cleaning: according to specifications SIP and CIP
Compatible sensors	LSP / LSM / LSK / ED 701 / FlexBar / ISL	LSP / LSM / LSK / ED 701 / ISL	For welding sleeves
Sensor thread options	M12 / G 1/2" / G 1"	M12 / G 1/2" / G 1"	M12 / G 1/2" / G 1"
Media pressure	see device	see device	see device
Operating temperature	Stainless steel: -20...+600°C PEEK: -20...+250°C	Stainless steel: -20...+600°C PEEK: -20...+250°C	Stainless steel: -20...+600°C PEEK: -20...+250°C
Protection class / Approval	depend on specif. of the sensor 3A-Sanitary standard	depend on specif. of the sensor 3A-Sanitary standard	absolute leak 3A-Sanitary standard
Connection thread	on request	on request	on request

Accessories: Programmer



The FlexProgrammer 9701 is a user-friendly programming tool for all configurable pressure and temperature transmitters plus 80 mm digital displays. Suitable for use as a direct to PC configurator or it can be a remote configuration tool, to meet workshop or "on plant" requirements. The FlexProgrammer 9701 is delivered complete with software and usable with different communication protocols like mA, HART® or Profibus PA. The use is easy and intuitive. For direct configuration the Flex Programmer is connected via USB.Port to PC.

		
	FlexProgrammer	
Model	FlexProgrammer 9701	
Characteristics	<ul style="list-style-type: none"> - Easy programming with menu control function - Data transfer from PC to device via USB - Programming of each device on the spot without a PC - Robust plastic case with digital display, buttons for interacting and carrying strap - Rechargeable via USB-Port: battery type NiMH 2,4 V, 450mAh - CD with Flex Program software included in delivery 	
Supply voltage	On external USB or when separately used on rechargeable battery	
Software	FDT based, user-friendly menus with relief, part of the delivery volume	
Ambient values	0...+50°C, rel. humidity <90%	
Protection class	IP 42	

Additional Sensors from our extensive range

Pressure Transmitters

- Comprehensive choice of measurement technologies
- Rugged all stainless steel design
- Different outputs (I/U or fieldbus)
- Wide range of mechanical design and electrical outputs

More information at: www.baumerprocess.com



Sensors for Temperature Measurement

- Rugged all stainless steel design options
- Wide range of mechanical design and electrical outputs
- Programmable head mounted transmitters and displays
- Process temperatures up to +600°C

More information at: www.baumerprocess.com

Sensors for Angle and Position Measurement

- Rotary encoders and actuators in Stainless steel
- Inductive sensors in complete metal housing
- Vision Sensor *VeriSens*® in stainless steel, ideal for inspection of profile, presence and position of objects
- Optical sensors on fibre optic light guide basis for difficult conditions

More information at: www.baumergroup.com



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