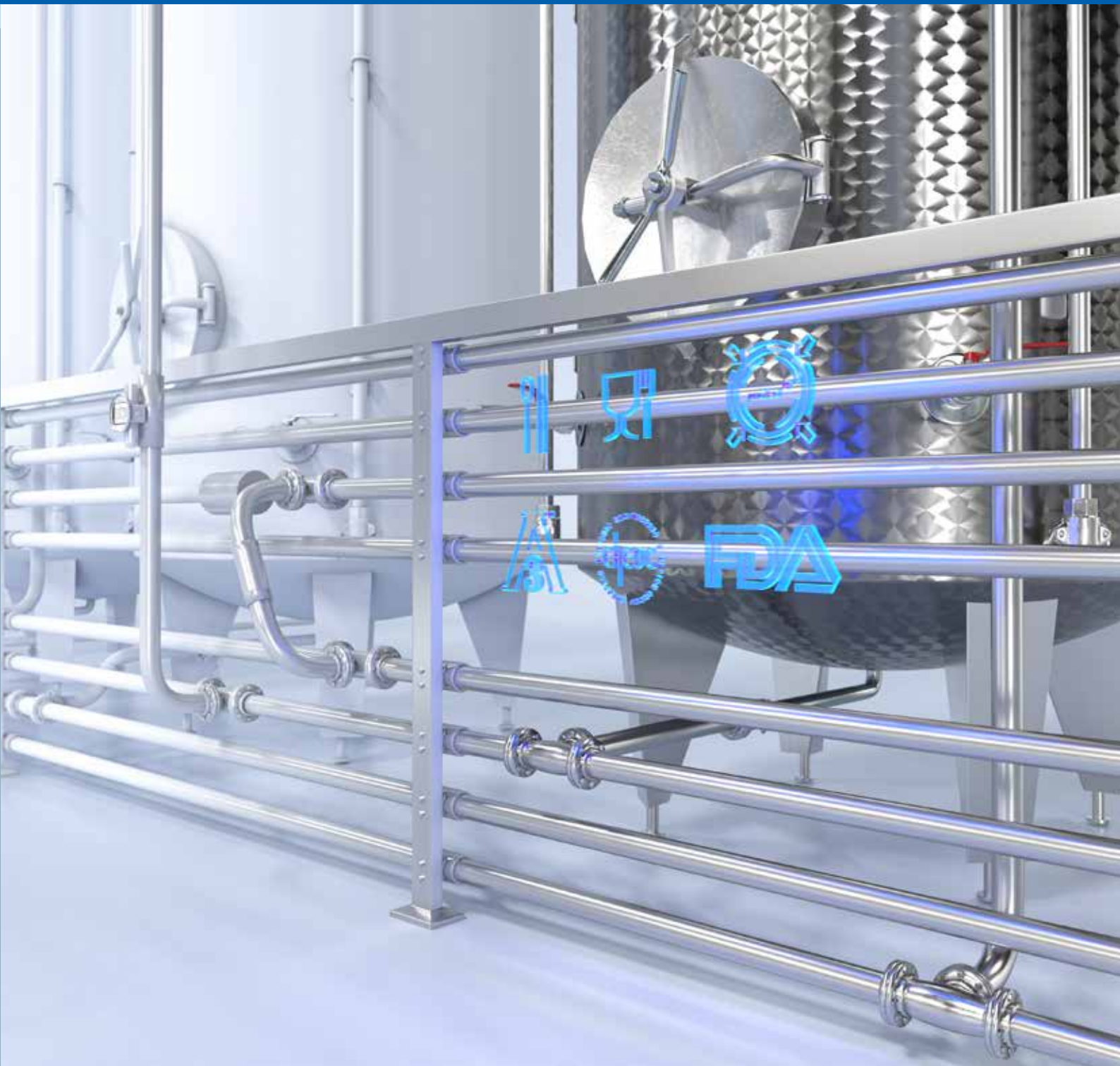# Sensors for the food and beverage industry

Smart solutions for safe, efficient and sustainable production – now and in the future

Precise. Proven. Clever.

Hygienic and efficient processes at highest product quality – these are the requirements of the food and beverage industry. We support you in mastering these challenges with reliable sensor solutions.

| Flow | Analysis | Level | Pressure | Temperature |

Precise

- Accurate measuring value
- Fast response time
- High temperature stability

Faster response times as well as reliable and accurate measuring values help you optimize your processes and thus save energy, time and media.

Proven

- Robust and durable
- Certified for food safety
- Long-term industry know-how

Developed from food industry practice with highest requirements on robustness, hygiene, vibration, temperature and tightness, our sensors allow for 24/7 reliable operation. Safety that pays off.

Clever

- Smart sensor solutions
- Perfect-match portfolio
- Easy in engineering and application

Smart sensor solutions reduce complexity and make your plants faster and more flexible. Convincing technology that already today meets the requirements of the digital future.

At home in your industry

Dairy
The demanding hygienic requirements of milk processing are the traditional basis of our product development.

Brewery
We support the entire production from silo, hot and cold block on to packaging department with our robust sensors.

Beverage production
Quickly changes to the next product when producing a variety of soft drinks and sodas require flexible sensor solutions.

Smart sensor solutions for your applications

CIP – Cleaning in place
Tailored sensor solutions help you solve your cleaning tasks. Perfectly automated to save time, energy, detergents, and water, without jeopardizing food and process safety.

Heat Exchanger
Fast measuring technology, accurate and unaffected by process temperatures, help you optimize energy consumption and cleaning regime while ensuring safe production.

Inventory Management
Reliable sensors allow accurate production planning based on real time values and ensure complete material utilization emptying tanks and silos. Safe batch separation improves production quality.

Certificates and approvals

CE   FDA

A3   EHEDG   proTecd

Safety, quality & performance – Baumer Hygienic Connection

Hygienic requirements not only gain ever more importance when it comes to audit systems like GFSI or FSSC 22.000, they further enhance technology. Creative solutions following design requirements help plant and machine builders to improve their systems. Furthermore they not only help food producers to fulfill audit requirements but also to save raw materials, energy, CIP effort and water at increased system uptime.

Hygienic design by Baumer

The Baumer Hygienic Connection (BHC) is an example on how clever design can help reduce mixing cycles and dead zones in your process and actively contribute towards food safety. Front flush integration ensures optimum plant operation while reducing consumption of time and resources in cleaning cycles.

Challenge

- Zones without flow support the growth of microorganisms
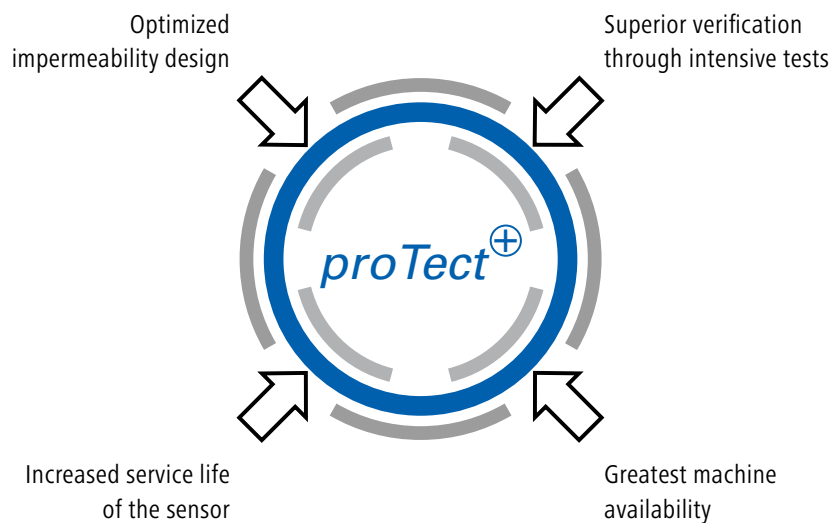- Extended mixing phases
- Hard to clean and sterilize

Solution

- Flush mounted sensor
- Exchangeable gasket with defined compression
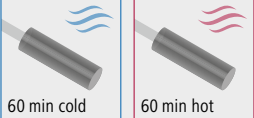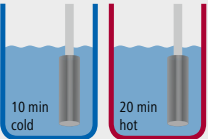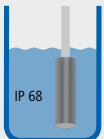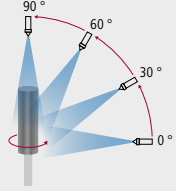- System solution for all technologies
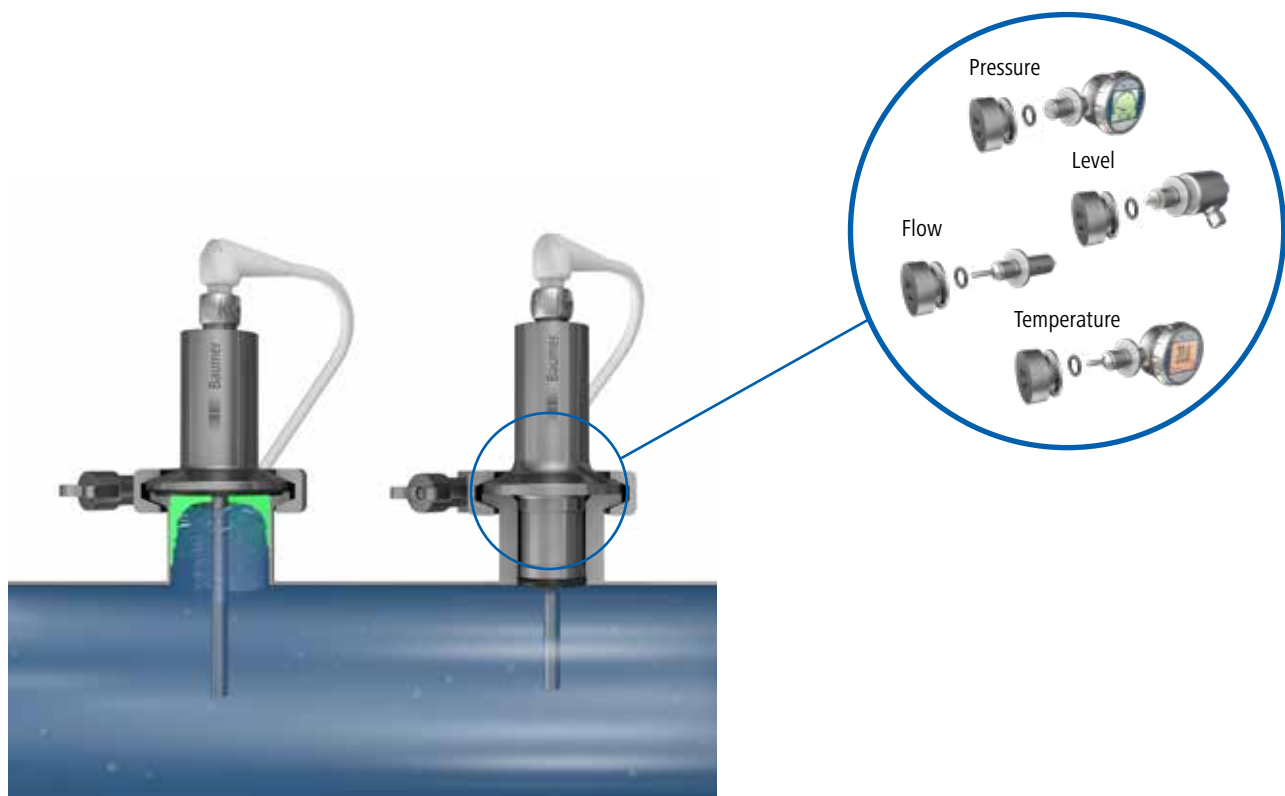
Robust, safe and impermeable over the entire service life – the *proTect+* impermeability concept

Water, moisture and condensation are the main reasons for sensor failure in Food and Beverage applications. To ensure long lasting and resilient sensor performance Baumer developed the *proTect+* feature to ensure safe performance beyond IP 69 protection. Like in practical industry use, the sensors are first subjected to an aging process and then tested in in line with IP protection class guidelines to guarantee long lasting performance even in challenging environments and many cleaning cycles.

Optimized
impermeability design

Superior verification
through intensive tests

proTect ⊕

Increased service life
of the sensor

Greatest machine
availability

proTect+ test series

In order to guarantee absolute impermeability, the sensors are exposed to the following extensive stress tests:

Simulation of aging effects		Impermeability tests according to IP protection	
60 min cold / 60 min hot	10 min cold / 20 min hot	IP 68	90° 60° 30° 0°
Air temperature cycle test	Water temperature cycle test	IP x8 immersion test	IP x9 test

IP tests after
aging effects:
IP x9
IP x8

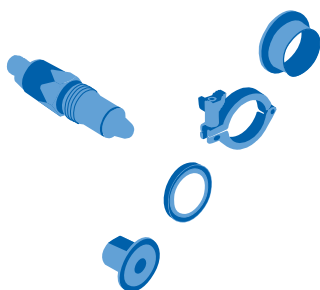# Smart solutions for maximum process reliability

Flexible Dual Channel interfaces help switch from analog to digital technology. Dual Channel sensors allow using both digital and analog output in parallel. This way, all IO-Link benefits are accessible. However sensors can be controlled via 4 … 20 mA analog output. Especially in filling and packaging food and beverages, the sensors supply both fast real-time data for machine control as well as acyclic data for status analysis and process optimization and pave the way to digital 4.0 communication.

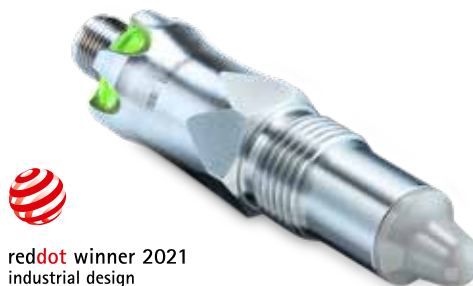## One display for any technology

Baumer *CombiSeries*®
- Quick set up and easy process monitoring
- Simple touch screen operation
- Alarm warnings by changing color- and value indication on the display
- Flexible display configuration

reddot winner 2021
industrial design

Robust 360° process visualization

Baumer *KingCrown*
The multicolor, robust *KingCrown* process visualization provides real-time information on the process status. Five defined colours indicate whether the process is proceeding as intended, the sensor is switching or if there is a malfunction. Thanks to its electrical stainless steel connection the Baumer *KingCrown* is a reliable solution even in demanding production environments.

The right process connection

Baumer Connection Identifier (BCID)
The Baumer Connection Identifier helps find your way thru the large variety of process connections, identify the required parts and see how they fit together. The smart adapter concept allows for sensor exchange without changing the process itself. The Baumer Connection Identifier is a comfortable and safe tool to support you in finding the right components.
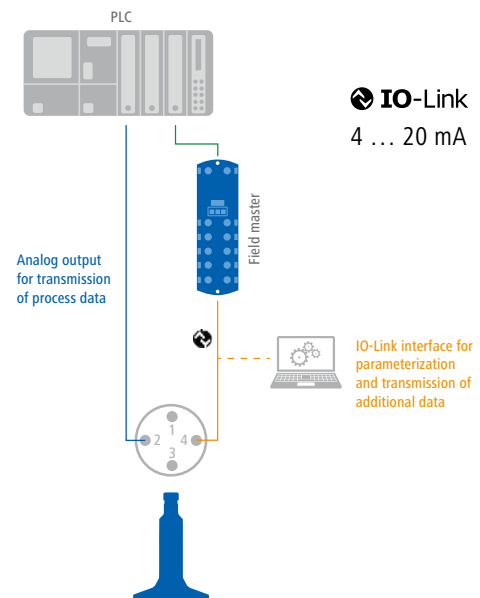
The bridge to the digital future – from analog to IO-Link

Flexible Dual Channel interfaces help switch from analog to digital technology. Dual Channel sensors allow using both digital and analog output in parallel. This way, all IO-Link benefits are accessible. However sensors can be controlled via 4 … 20 mA analog output. Especially in filling and packaging food and beverages, the sensors supply both fast real-time data for machine control as well as acyclic data for status analysis and process optimization and pave the way to digital 4.0 communication.

PLC

◉ **IO**-Link
4 … 20 mA

Field master

Analog output
for transmission
of process data

IO-Link interface for
parameterization
and transmission of
additional data

Added value thanks to digital sensor data

1   Easy and fast commissioning

2   Valuable secondary data like sensor temperature or additional measured values

Easy parameterization and maximum flexibility for production in lot size 1

- Parameterization via stationary PLC or mobile devices
- Data storage for automated parameter transfer during sensor replacement
- Online re-parameterization for recipe changes while operation provide high flexibility and maximum plant utilization

Additional data for optimized plant availability and reduced total cost of ownership

- Diagnostic, analytical and identification data
- Diagnostic data like sensor temperature reduces downtime probability and is basis for predictive maintenance
- Secondary process data and data verification
- Process traceability

Baumer

Passion for Sensors

More information can be found:
www.baumer.com/food-and-beverage