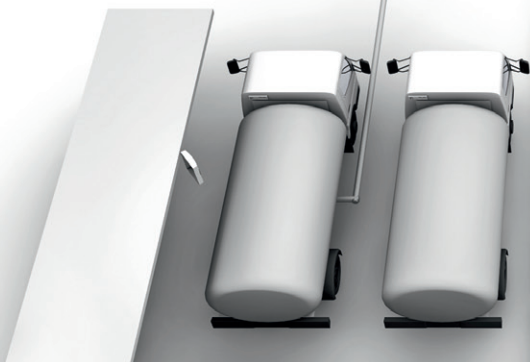
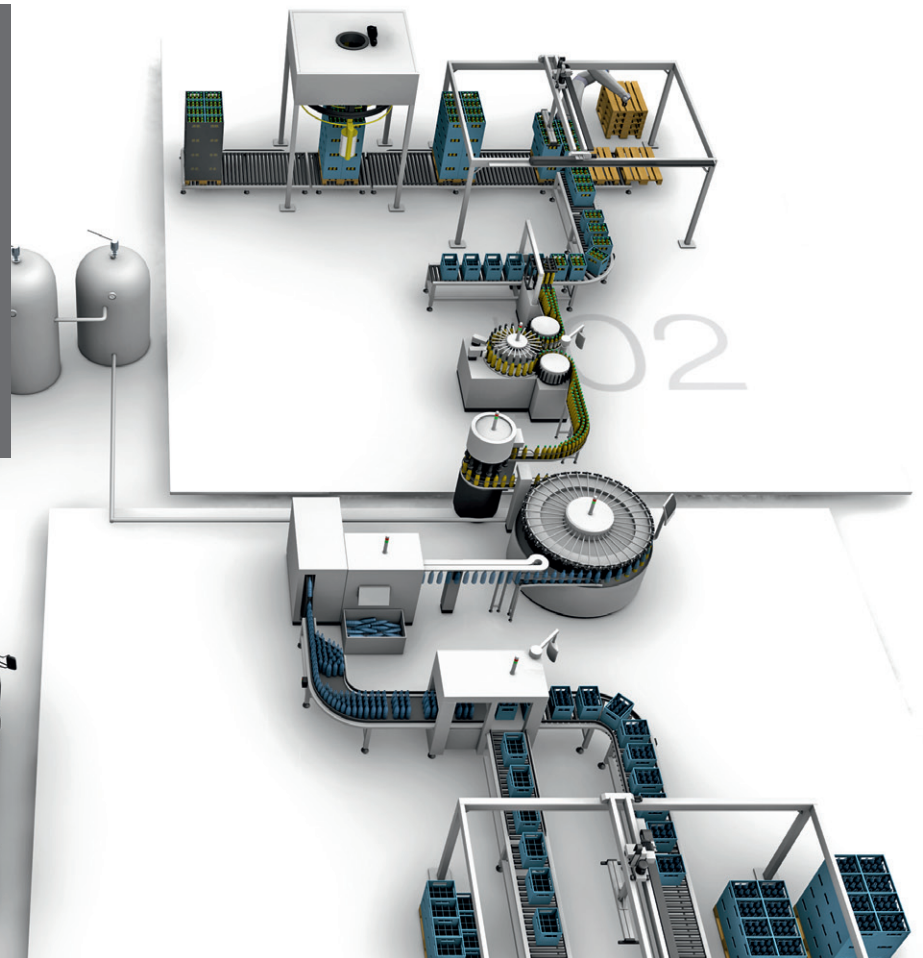


BALLUFF

sensors worldwide

Solutions for the Packaging Industry

Implement high standards flexibly, expertly and reliably





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Filling and Packaging

Handle complex tasks efficiently

Broad expertise

The packaging industry has high demands. There are multifaceted requirements to align: the goals of mechanical engineers, producers, dealers and end users as well as globally expanding, regional but diverse markets. Furthermore, there are strict official requirements such as hygiene regulations, as well as constantly new packaging concepts that involve frequent format changes.

Balluff provides you with workable solutions for flexibly mastering these challenges: sensors and systems, network and connection technology for the entire industry and its various fields, primary, secondary and end-of-line packaging. Our products are available worldwide and internationally approved.

Balluff technology stands for

- Highest system availability
- Fast and reliable size and product changeover
- Great flexibility even with complex processes, and
- High efficiency over the entire packaging process

With Balluff, you achieve

- Optimized product lines
- Productive process chains and
- Maximum quality

Use Balluff to easily implement your quality requirements and those of your customers!



For the best economy

In addition to quality and flexibility, market laws are extremely important. Because the competitive pressures are great. So economy is the first commandment.

Balluff sensors and equipment feature the latest technology and make mature industrial system concepts possible. Even with an extensive product line, they ensure easy operation and guarantee minimum set-up time. The increasing variety of shapes and sizes is then easily handled at high speeds. With high output and reduced costs. For you this means optimal productivity and best value creation.

In every branch of packaging

Balluff technology can be used throughout the packaging industry. In pharmaceutical and cosmetics manufacturing, or in the food and beverage industries.

Our services are right for all industries and for each individual step. Whether with cans, bottles, vials, tubes or blister packs in primary packaging, with packets or boxes in the secondary segment, or with pallets in end-of-line packaging. Balluff satisfies in every field. For decades.



Foods



Beverages



Cosmetics



Pharmaceutical



Medical devices



Primary packaging

Fast, reliable packaging for the pharmaceuticals industry



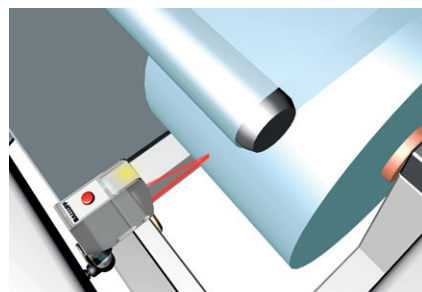
Photoelectric distance sensors BOD
Page 28/29



Capacitive sensors BCS
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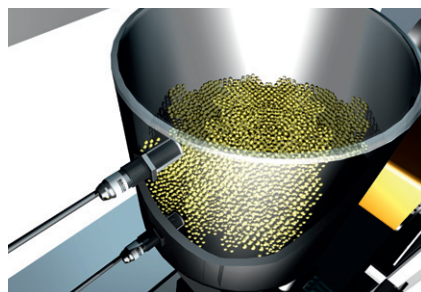
Contrast sensors BKT
Page 23



Reliably monitor the diameter of film rolls

The benefits to you

- Precise, continuous measurement
- Regardless of color and material
- High process reliability



Simple level measuring

The benefits to you

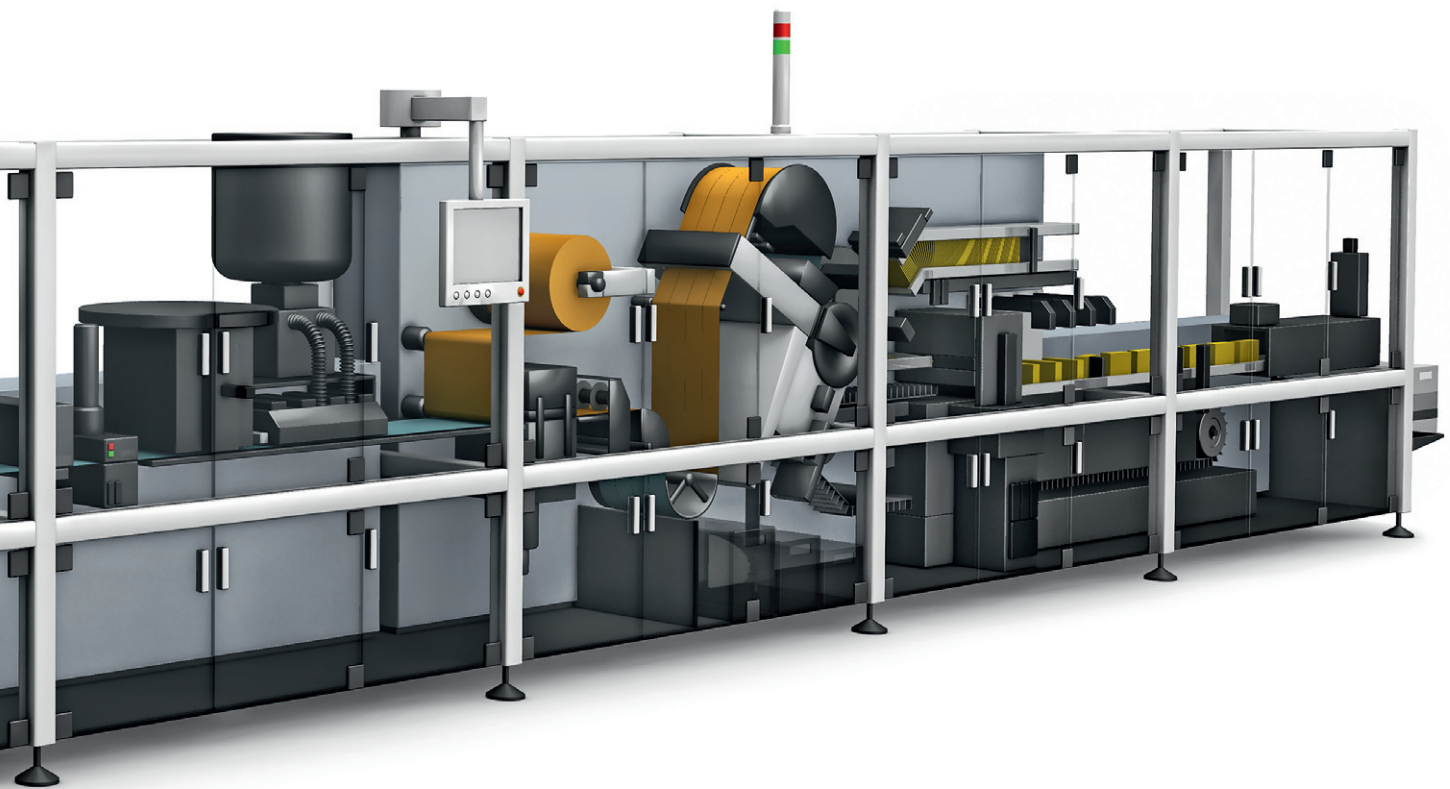
- Reliable detection through non-metallic walls
- Wear- and adjustment-free
- For optimized production



Cut and punch blister packs precisely

The benefits to you

- Quick, secure production
- Adjusting during operation
- High quality



Sensors and systems for maximum flexibility

Primary packaging is the area with the greatest variety and highest demands. For positioning and feeding, joining and labeling, monitoring and sealing. Fluid or fixed materials. In ampules and vials, or capsules and blisters. Balluff products guarantee maximum possible flexibility. With extraordinary process reliability.

Balluff reliability and security for high volumes

With Balluff you can execute the entire packaging process correctly and reliably down to the smallest detail, with the highest level of efficiency. Because Balluff fulfills high demands, even in sensitive areas. Counterfeit protection, format changes, track-and-trace and access controls are easy to achieve with our sensors and systems. Make the right decision with Balluff.



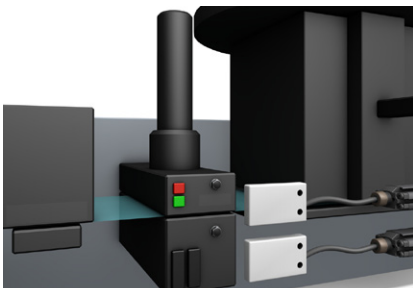
Industrial RFID systems BIS M
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Vision sensors BVS
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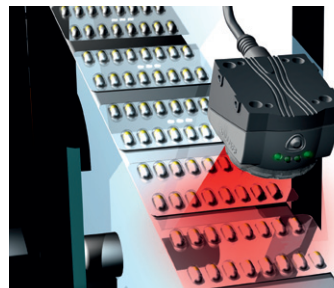
Industrial RFID systems BIS L
Page 21



Ensure quality using automatic identification of forming tools

The benefits to you

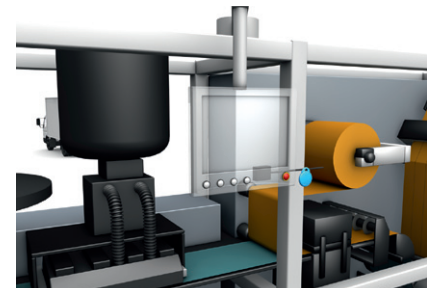
- Easy format change monitoring
- Short set-up times
- Reliable production



Fill blister packs correctly – one sensor provides optimal quality

The benefits to you

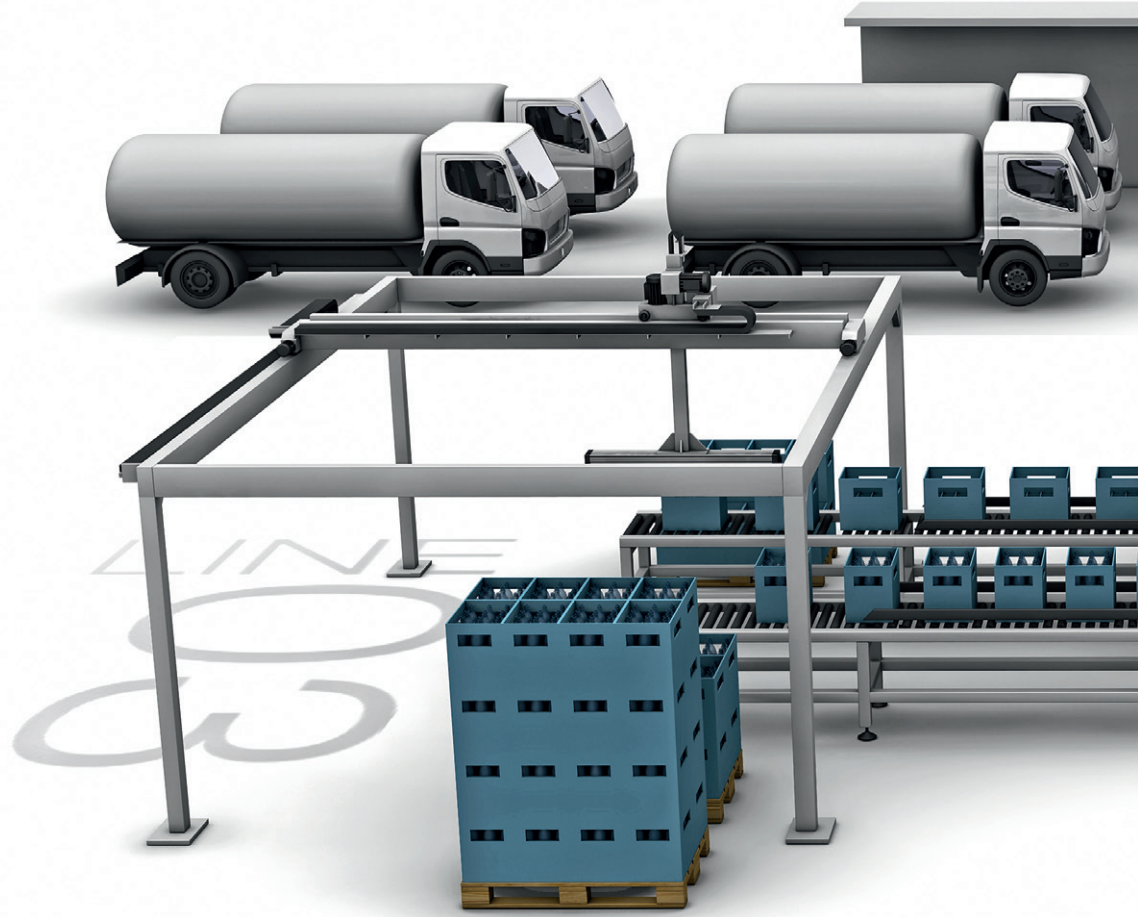
- Best results
- Greatest flexibility
- High productivity



Ensure access control through stainless steel (read head positioned behind, tag positioned in front of stainless steel wall)

The benefits to you

- Give qualified definitions of machine parameters
- Comprehensible configuration
- Increased process reliability



Primary packaging

Strict hygiene for the beverages industry



Through-beam fork sensors BGL
Page 23



Diffuse sensor BOS with background suppression
Page 22/23



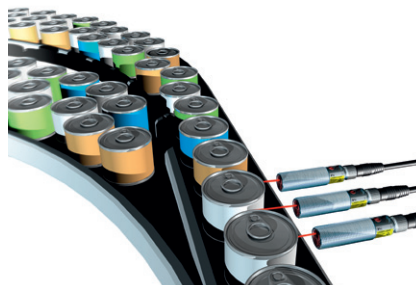
Vision sensors BVS
Page 20/21



Easily check transparent bottles

The benefits to you

- Fast, reliable inspection
- High output rate
- High process reliability



Reliably prevent conveyor belt backups

The benefits to you

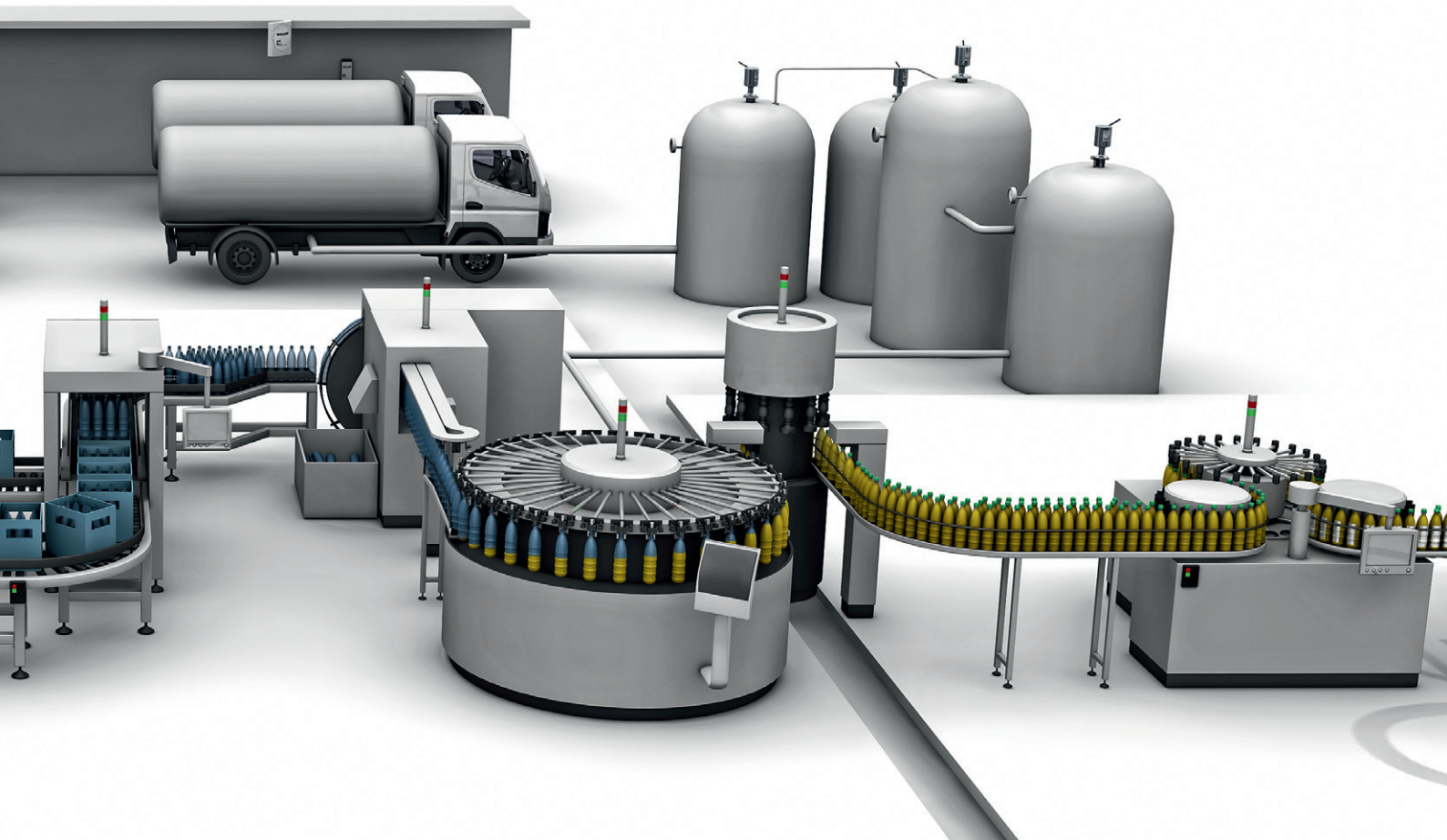
- Reliable positioning
- Dependable product flow
- High efficiency



Dependably check seals

The benefits to you

- Check several features simultaneously
- Easy change during the process
- Best productivity



Quality through maximum hygiene. Dependability through Balluff!

Filling plants are subject to the strictest hygiene regulations. Milk products, cosmetics, pharmaceuticals and beverages need to be filled in an aseptic and sterile process and correctly labeled. The requirements are substantial, especially because market laws are also in effect in the consumer sector.

Balluff provides security. Through components that make high cycle rates as well as quick and efficient filling processes possible. Profit from the highest quality.



Color sensors BFS
Page 23



Micropulse® transducers BTL
Page 29



Industrial RFID system BIS U (UHF)
Page 21



Reliably detect color labels

The benefits to you

- Greatest precision
- Optimal quality
- Maximum product dependability



Continuously measure the level with absolute precision: in filling plants, in milk collection technology, etc.

The benefits to you

- Continuous precision measurement
- High filling quality
- Best productivity

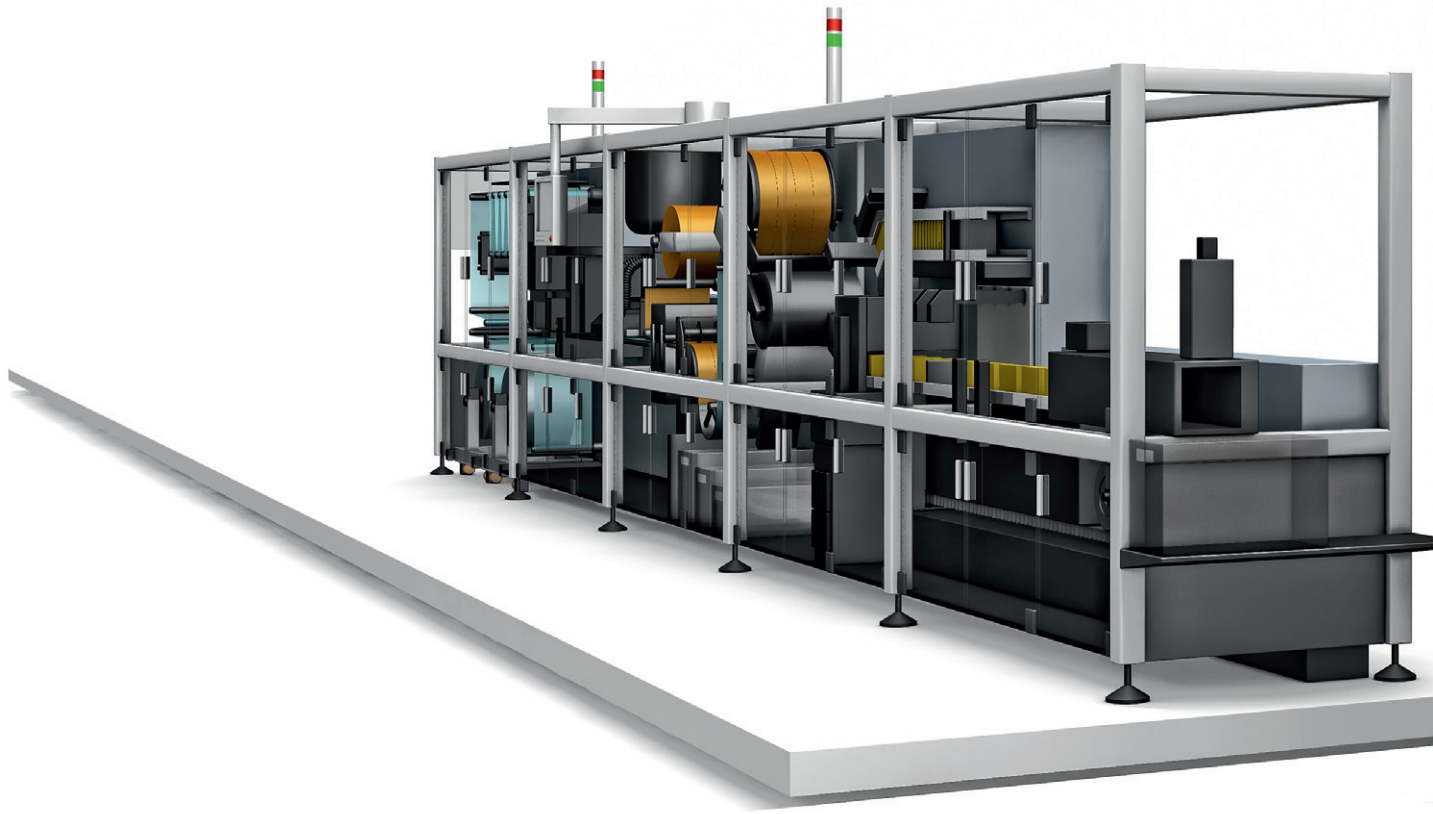
Versions with ATEX certification are also available.



Identify vehicles securely

The benefits to you

- Reliable track-and-trace
- Automated logistics



Secondary packaging

Cartoning – flexibly complete frequent format changes



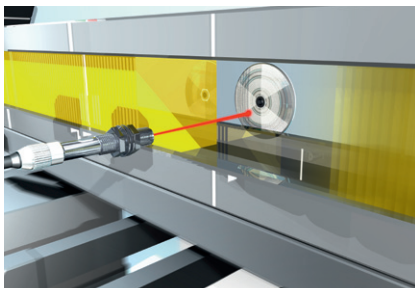
Retro-reflective sensors BOS
Page 22/23



Inductive couplers BIC
Page 18



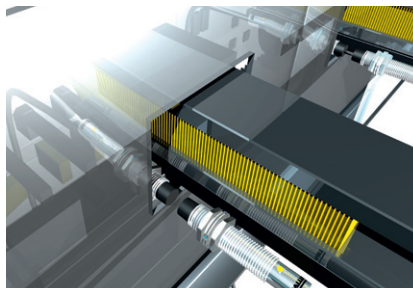
Sensors for pneumatic cylinders BMF
Page 26/27



Easily monitor levels

The benefits to you

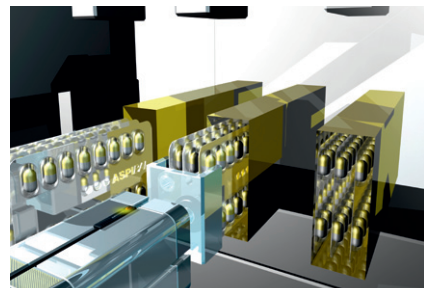
- Reliable loading
- Less scrap
- Greater productivity



Quickly providing any variety of boxes

The benefits to you

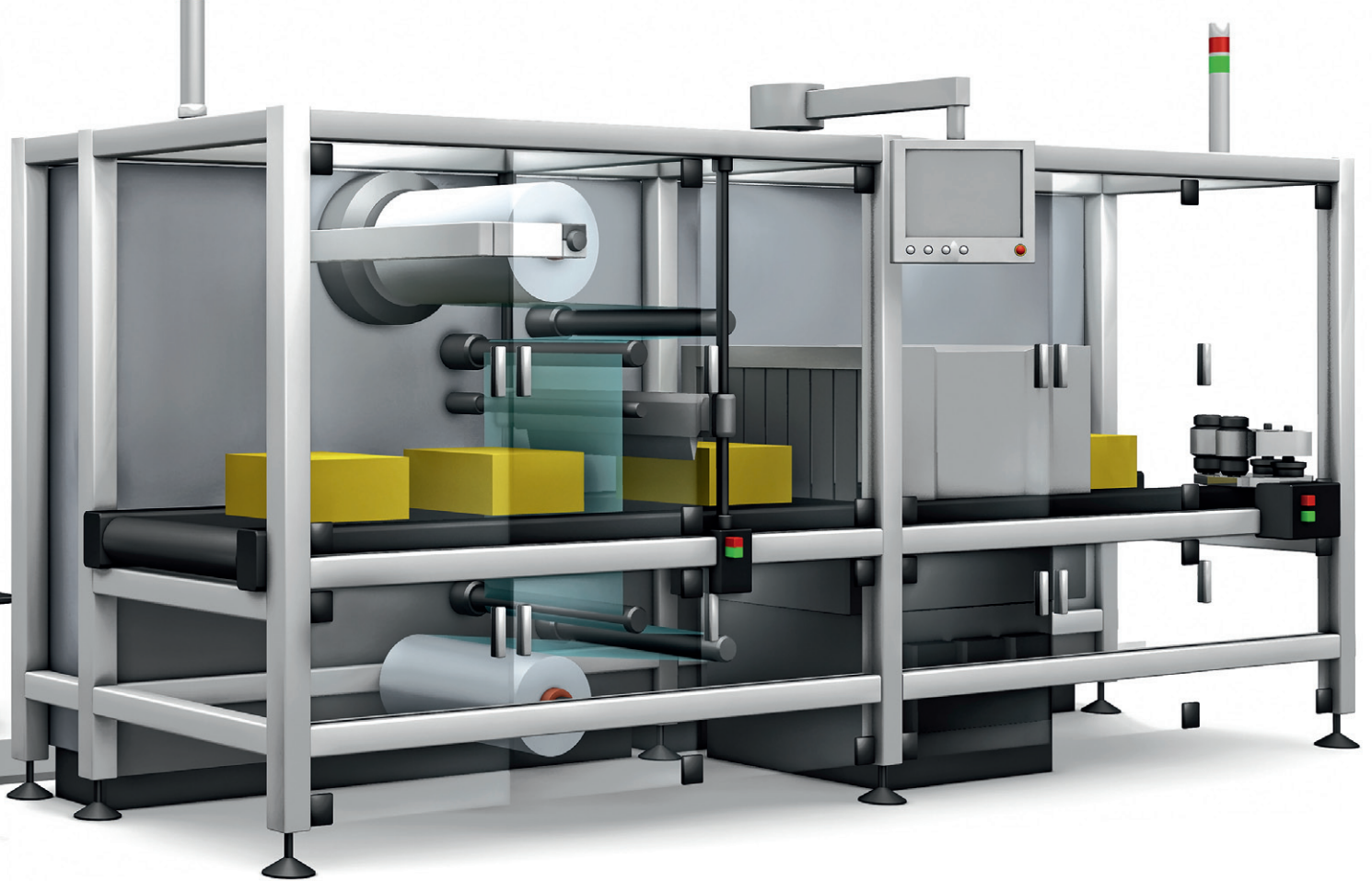
- Non-contact signal and power transmission
- Maintenance-free



Correctly feed stacked blister packs

The benefits to you

- Precise positioning
- Correct feeding
- Exceptional flexibility



Dependable production at high-speed

Packaging is conducive to marketing. Constantly new packaging concepts has to grab consumers' attention. The lot sizes are thereby smaller and entail frequent format changes.

The required flexibility and speed are reliably achieved with Balluff products. Because you can configure your machines innovatively and flexibly with our sensors and systems. Day in and day out.



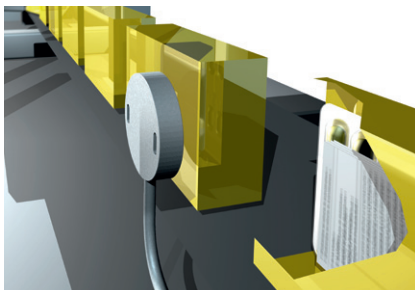
Capacitive sensors BCS
Page 27



Photoelectric distance sensors BOD
Page 28/29



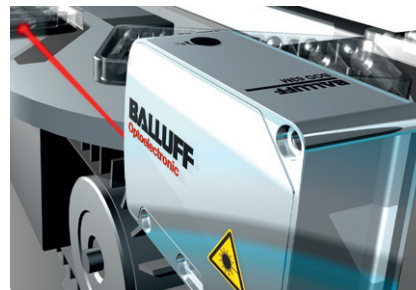
Transducers BTL/BML
Page 29



Reliably check packaging inserts

The benefits to you

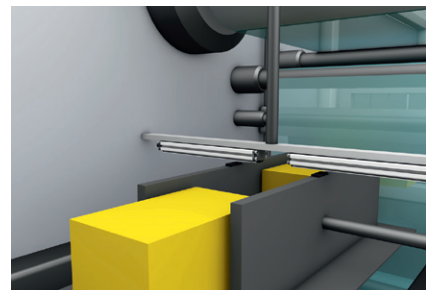
- Correct, fast results from a sealed box
- High efficiency



Dependably transport boxes

The benefits to you

- Gentle drive and transport
- High product quality
- Maximum process reliability



Adjust formats – automated as well as manually

The benefits to you

- Quick format changes in a short time
- Easy measuring and storing of the format data
- Optimizing the output rate



End-of-line packaging

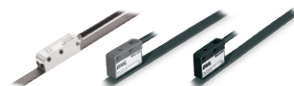
Crates and boxes quickly palletized



Vision sensors BVS
Page 20/21



Photoelectric distance sensors BOD
Page 28/29



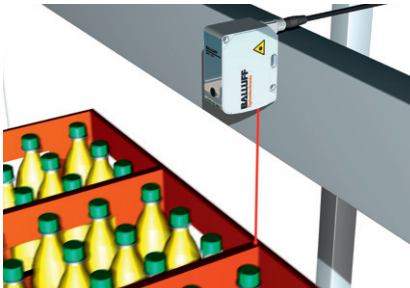
Magnetic linear encoder systems BML
Page 29



Dependably check barcodes

The benefits to you

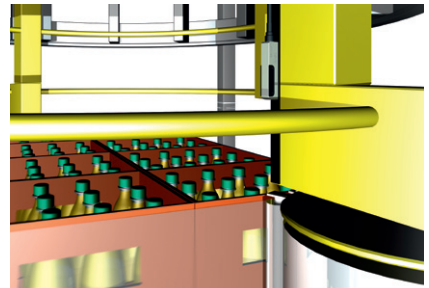
- Read, check and verify codes in one step
- Quick and reliable
- Reliably verify manufacture and expiration dates



Reliably check pallet heights

The benefits to you

- Precise checking over long distance
- High flexibility
- Best efficiency



Precisely position stretch wrap

The benefits to you

- Maximum protection
- Minimum consumption
- Simple to use, wear-free



For maximum flexibility

Packaging concepts for goods transport require maximum flexibility. At the same time, you have to produce the greatest possible quantity. To do so, make use of our support: for secure material flow with track-and-trace, correct handling of a wide variety of packages

and reliable handling of packaging material. And for many additional tasks. Balluff offers customized solutions for achieving your goals. Tailored exactly to your requirements. Contact us.



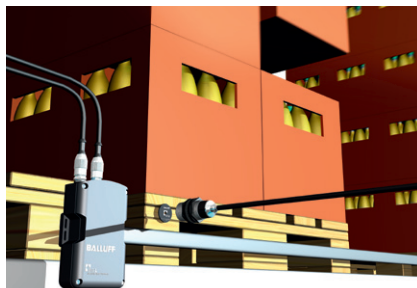
Industrial RFID systems BIS
Page 20/21



Luminescence sensors BLT
Object detection catalog



Fieldbus modules and components
Page 18/19



Uniquely identify and collate picked pallets

The benefits to you

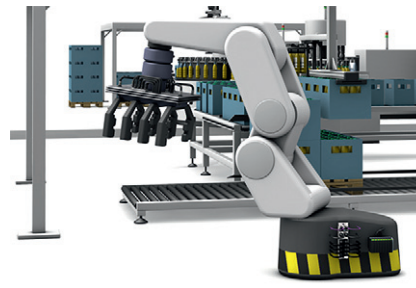
- Reliable even under changing formats
- Portable units for greatest flexibility



Position bottles correctly before repackaging

The benefits to you

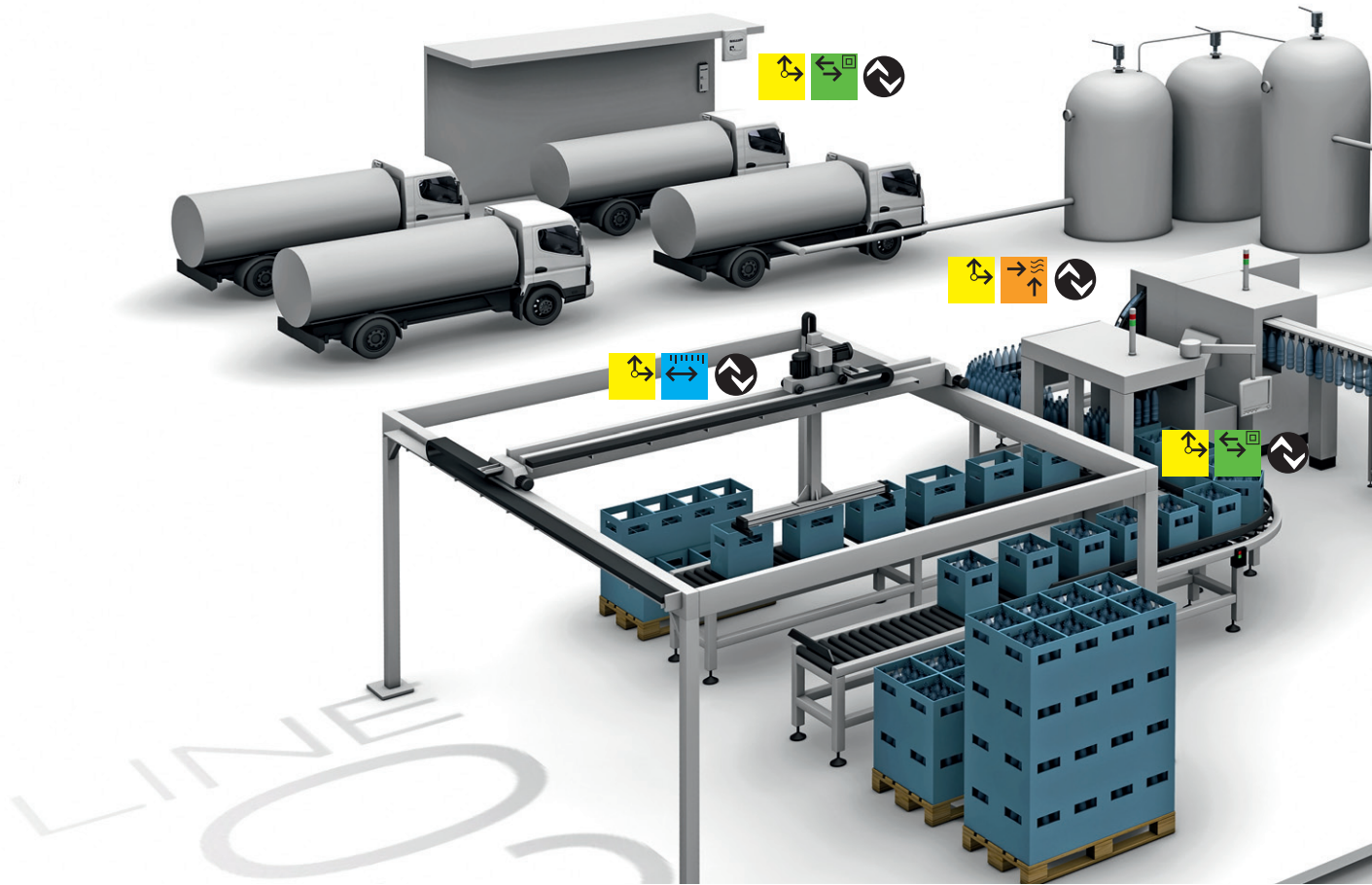
- Exact positioning
- Exceptional reliability
- Best quality



Connect sensors and actuators to the controller

The benefits to you

- Economical and real-time-capable data transfer
- Quick gripper changes through inductive couplers



Expert solutions with IO-Link

Utilize product variety, implement individual requirements



Industrial Networking and Connectivity

High-performance connection technology

- IO-Link master with various bus connections
- IO-Link hubs for sensor/actuator connection
- Inductive couplers
- Valve cluster switch

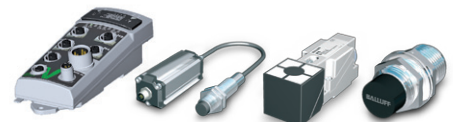


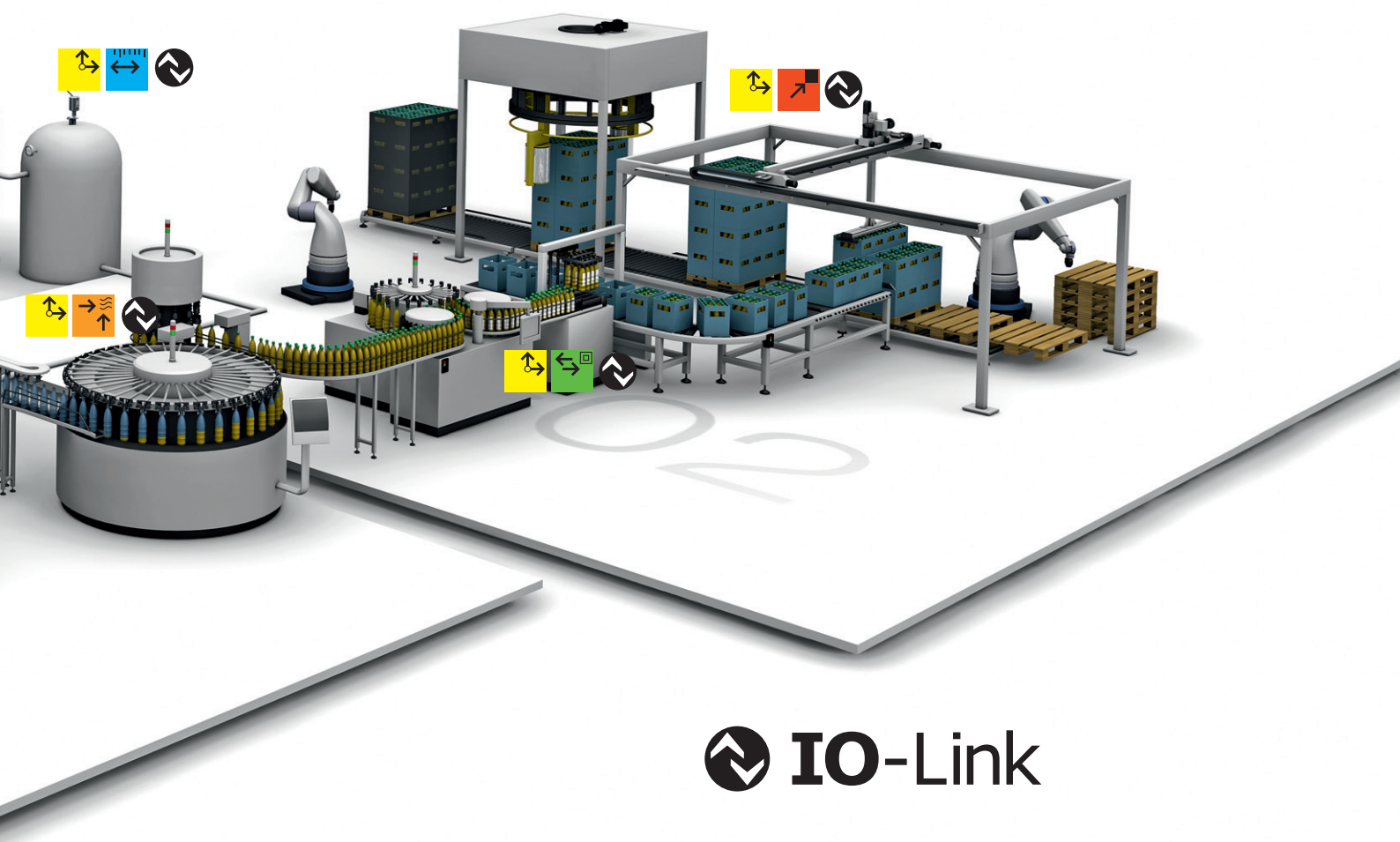
Easily visualizing operating states. IO-Link SmartLight – the intelligent light for displaying machine states



Industrial Identification

Complete identification solutions for transfer systems. IO-Link RFID simplifies the integration of sensors and actuators.





IO-Link

However complex the functions of the packaging industry, productivity demands simple solutions. And high efficiency requires flexibility and dependability. Balluff high-end performance is reliable and increases the added value in the entire process.

Because high-performance sensors and efficient connection technology guarantee customized solutions and innovative concepts, fine-tuned to your particular requirements. Take advantage of our wide product range and our expert solutions.

IO-Link provides you with communication from start to finish, from the control system to the lowest sensor/actuator level. The interface

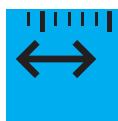
can be used universally and is fieldbus-independent; it transmits all sensor/actuator signals to the controller and, conversely, relays control data to the sensors and actuators. Through this process **IO-Link** integrates all sensors in the fieldbus structure. And enables comprehensive ongoing diagnostics and an automated configuration of parameters for **IO-Link devices** via the controller. **IO-Link** is easy to install. An unshielded standard industrial cable is all that is needed.

At the end of the day, **IO-Link** simplifies network topology while saving time and costs. **IO-Link** helps you maximize every technical opportunity.



Object Detection

Position monitoring during assembly. Set up best with IO-Link.



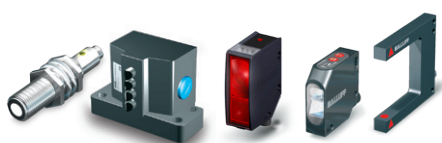
Linear Position Sensing and Measurement

Clamping distance monitoring in a machining center. Contactless position measurement with IO-Link.



Condition Monitoring and Fluid Sensors

Pressure monitoring in production. IO-Link pressure gauges right where the action is.

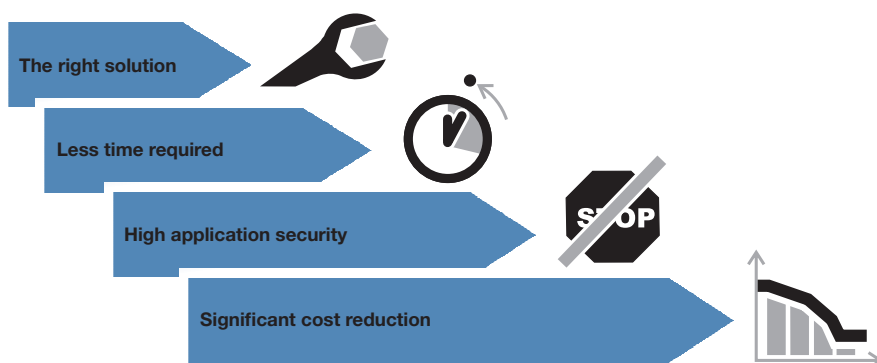


Services

**Customized. According to your specifications.
With maximum quality.**

Balluff offers highly efficient sensor technology with high-performance mini sensors and compact connection technology. And more. Because with our extensive services, you can obtain support direct from the manufacturer: from the design and planning of your projects, to testing and setup on-site, to training and support. Over the entire life cycle of our products.

This creates greater planning security and provides faster commissioning and an earlier start of production. This leads to higher productivity and more cost-effectiveness. And this relieves you of additional stress in your everyday work, giving you more time to focus on your core business.



You can find more information in our Services brochure or send us an e-mail: tsm.de@balluff.com

Application advice

through our TecSupport:

Discuss your technical requirements. And take advantage of our expertise.

Real-world examples:

- Selection of the correct identification procedure for an assembly line
- IO-Link concept as a cost-effective alternative to conventional wiring
- System consulting for radio frequency identification (RFID): identification of large steel pipes in adverse environments
- Recognizing multiple containers on a pallet in goods receiving

Commissioning:

Order expert knowledge. And benefit from a quick start of production.

Real-world examples:

- Setting up an optical checkpoint with the BVS vision sensor
- Consulting and support during the programming of RFID systems BIS
- Installation and commissioning of a color detection application with the color sensor BFS

Fully customized products:

Order individual versions according to your requirements: from preassembly to engineering services. And take advantage of the optimum.

Real-world examples:

- Extending the housing of a BHS high-pressure resistant inductive sensor
- Extra threads for the housing cover of a micropulse transducer BTL
- Customer-specific holder for an RFID data carrier
- Adaptation of the characteristics for analog sensors BAW

Workshops: make use of well-founded manufacturer knowledge. And benefit from application security.

- **Professional sensor use:** Select operating principles, install sensors professionally and ensure the reliable operation of your application.
- **Position and Distance Measurement:** This is how you perform precise and wear-free measurements.
- **RFID:** The right data at the right time at the right place.
- **Vision sensor:** Using an image processing sensor, ensure manufacturing quality in three steps.
- **Vision sensor identification:** Reliably identify all kinds of data matrix codes with an image-processing sensor.
- **Industrial networking with IO-Link:** Manage signals intelligently and cost-effectively.



Traceability for the consumer goods industry

Controlling the material flow across areas

Traceability for intralogistics means recording each step, for example in the packaging and filling process, and making it traceable at all times. To do so, the entire material flow is detected in automated form using Industrial RFID or barcodes: including everything from the subsuppliers to the primary and secondary packaging to end-of-line packaging. When there are different batches, lot sizes and packaging concepts, this is an immense gain. You have real-time access to all information, enabling you to make corrections even during the process. This makes just-in-time deliveries easier, ensures legal protection and compliance and guarantees product quality. A traceability solution documents whether a product was produced exactly to its specifications. The flexibility required for filling and packaging is given comprehensive support by traceability.

Key factors for Return on Investment (ROI)

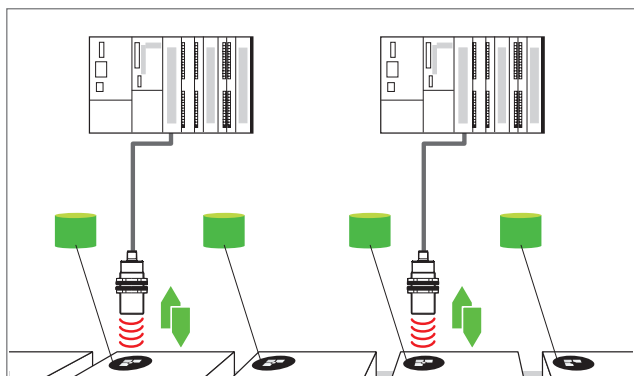
- Checking material flow from various subsuppliers
- Reducing time required and preventing delivery/quality problems
- Complying with legal requirements and documenting quality standards for each product
- Ensuring a high level of transparency, from the subsuppliers to the finished, palletized products

Procedure

Reusable or disposable RFID data carriers and barcodes are attached to containers, packaging or pallets. As the goods pass through the various stations, the tags automatically receive and store information such as the exact quantity, individual process steps, version and serial number, etc.

Decentralized data – read and write

For decentralized data storage, read/write tags are usually used.



RFID – read and write

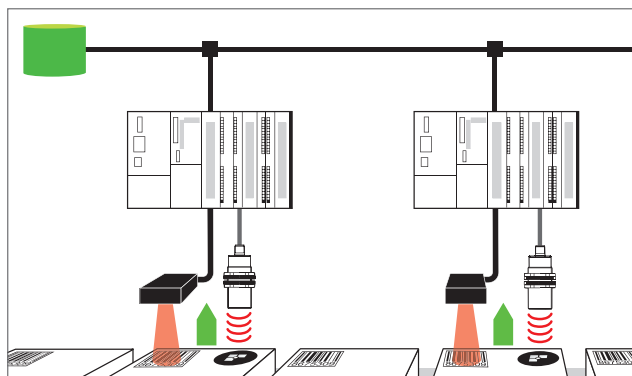


UHF RFID data carriers enable you to track all goods movements between the individual stations – from the incoming components to the outgoing end products.

After use, the RFID tag is either deleted or replaced by a new one. If read/write variants are used, the data can be processed in decentralized form. For the simple read-only variant, a central database is required. We would be glad to advise you on which technology is the best fit.

Centralized data – read only

For centralized data storage, only an ID or type plate has to be read out, which is attached to the product or equipment via barcode or RFID tag.



Optical/RFID – read only



Industrial Networking and Connectivity

Economical connection of sensors/actuators to the controller

IO-Link

Fieldbus modules



Type	8 ports		8 ports 4x IO-Link		M12, D-coded Female		8 ports 4x IO-Link		4 ports 4x IO-Link		4 ports 4x IO-Link		8 ports 4x IO-Link		8 ports		8 ports 4x IO-Link		16 ports		EtherCAT 8x IO-Link 16x I/O			
Ordering code																								
Part number	BNI0052 BNI PNT-302-105-Z015		BNI004U BNI PNT-502-105-Z015		BNI0054 BNI PBS-302-103-Z001		BNI005R BNI PBS-502-101-Z001		BNI003P BNI PBS-507-002-Z001		BNI0030 BNI PBS-504-002-K008		BNI0040 BNI CCL-502-100-Z001		BNI002F BNI CCL-104-100-Z001		BNI0002 BNI DNT-202-000-Z005		BNI004A BNI EIP-502-105-Z015		BNI0019 BNI EIP-306-100-Z010		BNI0077 BNI ECT-508-105-Z015	
No. of ports	8		8		8		8		4		4		8		8		8		16		8			
Inputs	16		16		16		16		8		4		12		16		8		16		16			
Outputs	16		16		16		16		8		4		12		8		16		16		16			
Max. config. inputs/outputs	16		16				16						12						16		16			
Analog input I																								
Analog input U																								
Analog output I																								
Analog output U																								
IO-Link ports, max.			4				4		4				4						4		8			
IO-Link version			1.1				1.1		1.1				1.1						1.1		1.1			

Field components

IO-Link

Industrial RFID

Position switches

Linear position sensing and measurement

Inductive couplers

LED signal tower light



Type	IO-Link Industrial RFID systems read/write units				IO-Link Mechanical multiple position switches		Inductive positioning systems			IO-Link Micropulse transducers		Inductive couplers		IO-Link SmartLight									
Ordering code																							
Part number	BIS00M1 BIS M-402-045-004-07-S4		BIS00LW BIS M-402-045-002-07-S4		BIS00LK BIS M-401-045-001-07-S4		BIS00LM BIS M-451-045-001-07-S4		BNS 819- _ _ _ _ 100-10-FD-S4			BIP0007 BIP LD2-T014-01-EP02		BIP0004 BIP LD2-T040-02-S4		BTL6-U110-M _ _ _ -PF-S4		BIC005A BIC 110-I2A50-Q40KFU-SM4A4A		BIC005C BIC 210-I2A50-Q40KFU-SM4A5A		BNI0072 BNI IOL-802-000-Z036	
IO-Link version	1.0/1.1				1.0					1.1				1.1									

Tracking and tracing streams of goods



Model	BIS V RFID processor unit			HF read/write head BIS VM, M30x1.5, non-flush, antenna round		HF read/write head BIS VM 80x80x40 mm, non-flush		HF read/write head BIS VM, 25x50x10 mm, non-flush, antenna round		HF read/write head BIS VM, M12x1, non-flush, antenna round		HF read/write head BIS VM, M18x1, non-flush, antenna round	
Ordering code Part number	BIS00T3 BIS V-6102-019-C001	BIS00U9 BIS V-6110-063-C002	BIS010P BIS V-6111-073-C003	BIS00RF BIS VM-300-001-S4	BIS00T0 BIS VM-301-001-S4	BIS00T2 BIS VM-351-001-S4	BIS00T9 BIS VM-305-001-S4	BIS00T7 BIS VM-306-001-S4	BIS00T8 BIS VM-307-001-S4				
Profibus	■												
EtherCAT		■											
CC-Link			■										
Degree of protection as per IEC 60529	IP 65	IP 65	IP 65	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67		



Model	Vision Sensors BVS identification								Vision Sensors BVS Standard							
Ordering code Part number	BVS001R BVS ID-3-005-E	BVS0001 BVS ID-3-001-E	BVS000T BVS ID-3-003-E	BVS000Y BVS ID-3-007-E	BVS001C BVS ID-3-105-E	BVS0019 BVS ID-3-101-E	BVS001A BVS ID-3-103-E	BVS001E BVS ID-3-107-E	BVS000E BVS OI-3-005-E	BVS0003 BVS OI-3-001-E	BVS0005 BVS OI-3-003-E	BVS0013 BVS OI-3-105-E	BVS0014 BVS OI-3-101-E	BVS0012 BVS OI-3-103-E		
Light type: red, LED	■	■	■	■					■	■	■					
Light type: infrared, LED					■	■	■	■				■	■	■		
Lens	6 mm	8 mm	12 mm	16 mm	6 mm	8 mm	12 mm	16 mm	6 mm	8 mm	12 mm	6 mm	8 mm	12 mm		
Working distance: Reading the barcode and data matrix code	■	■	■	■	■	■	■	■								
Verifying manufacture and expiration dates (OCV)	■	■	■	■	■	■	■	■								
Checking brightness and contrast									■	■	■	■	■	■		
Checking part position, diameter and width									■	■	■	■	■	■		
Detect patterns									■	■	■	■	■	■		
Detect 360 °C patterns																
Detect 360 °C contour																
Ethernet interface	■	■	■	■	■	■	■	■								
RS232 port	■	■	■	■	■	■	■	■								
Degree of protection as per IEC 60529	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54	IP 54		



Access control for configuration



BIS00T6 BIS VM-352-001-S4	HF read/write head BIS VM, 25x50x10 mm, non-flush, rod antenna	IP 67
BIS00W2 BIS M-410-068-001-00-S115	HF High Frequency BIS M-410 Reading/writing compact processors 56x40x24 mm	IP 67
BIS00W1 BIS M-410-067-001-04-S92		IP 67
BIS00W4 BIS M-410-068-001-09-S72		IP 67
BIS00W3 BIS M-410-068-001-02-S115		IP 67
BIS00W6 BIS M-411-068-001-00-S115	HF High Frequency BIS M-411 Reading/writing compact processors 105x73x24 mm	IP 67
BIS00W5 BIS M-411-067-001-04-S92		IP 67
BIS00W8 BIS M-411-068-001-09-S72		IP 67
BIS00W7 BIS M-411-068-001-02-S115		IP 67
BIS00Z5 BIS U-620-068-101-00-S115	UHF Ultra High Frequency BIS U-62_ processors 164x112x45 mm	IP 65
BIS00Z9 BIS U-620-067-101-04-S92		IP 65
BIS00Z1 BIS U-626-069-101-06-ST31		IP 65
BIS00Z4 BIS U-620-068-101-00-ST29		IP 65
BIS00Z8 BIS U-620-067-101-04-ST30		IP 65
BIS00Z0 BIS U-626-069-101-06-ST32		IP 65
BIS L-404-035-001-00-S115	Read/write device, 50x40x20 mm Access control	IP 54
BIS L-204-03/L-BK	Black keyfob	
BIS L-204-03/L-BL	Blue keyfob	
BIS L-204-03/L-GN	Green keyfob	
BIS L-204-03/L-RD	Red keyfob	



BVS000L BVS OI-3-055-E	Vision Sensors BVS Advanced	IP 54
BVS000J BVS OI-3-051-E		IP 54
BVS000K BVS OI-3-053-E		IP 54
BVS000W BVS OI-3-057-E		IP 54
BVS0016 BVS OI-3-155-E		IP 54
BVS0015 BVS OI-3-151-E		IP 54
BVS0017 BVS OI-3-153-E		IP 54
BVS0018 BVS OI-3-157-E		IP 54
BVS001M BVS UR-3-001-E	Vision Sensors BVS Universal	IP 54
BVS001N BVS UR-3-003-E		IP 54
BVS001L BVS UR-3-005-E		IP 54
BVS001P BVS UR-3-007-E		IP 54
BVS001H BVS UR-3-101-E		IP 54
BVS001J BVS UR-3-103-E		IP 54
BVS001F BVS UR-3-105-E		IP 54
BVS001K BVS UR-3-107-E		IP 54

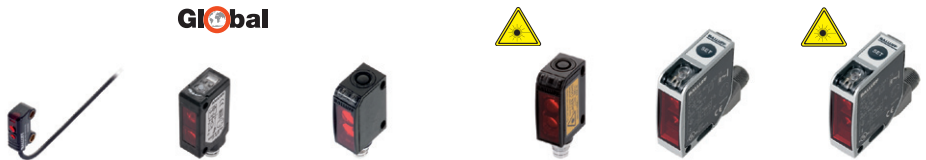
Object Detection

Photoelectric sensor technology for miniaturized modules and standard applications



Type	BOS 08M	BOS 08M	BOS 12M	BOS 12M laser	BOS 18M	BOS 18M red light
Supply voltage	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Output function	PNP NO/NC	PNP NO	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC
Connection	Connectors/ cables	Cable	Connectors/ cables	Connectors/ cables	Connectors	Connectors
Ambient temperature	-10...+60 °C	-10...+60 °C	-5...+55 °C, -15...+55 °C, -20...+60 °C	-10...+50 °C	-5...+55 °C	-5...+55 °C
Degree of protection as per IEC 60529	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Light type	Red light	Infrared light	Infrared light, red light	Laser	Infrared light, red light	Infrared light, red light
Special features						
Housing material	Metal	Stainless steel	Metal	Metal	Metal	Metal

Many other products are included in our complete object detection product line.



Type	BOS 2K	BOS 5K	BOS 6K	BOS 6K laser	BOS 21M	BOS 21M laser
Supply voltage	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Output function	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC
Connection	Connectors/ cables	Connectors/ cables	Connectors/ cables	Connectors/ cables	Connectors	Connectors
Ambient temperature	-20...+50 °C	-25...+55 °C	-20...+60 °C	-20...+60 °C	-10...+50 °C, -25...+55 °C	-10...+50 °C
Degree of protection as per IEC 60529	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67
Light type	Red light	Infrared light, red light	Red light	Laser, red light	Infrared light, red light	Laser
Special features			Teach-in	Teach-in		
Housing material	Plastic	Plastic	Plastic	Plastic	Metal	Metal

Many other products are included in our complete object detection product line.



BOS 18M red light angle head	BOS 18M laser	BOS 18M laser with angle head	BOS 18E M18 BOS 18E D18 BOS 18E	BOS 18KF	BOS 18KW with angle head	BOS Q08M	BOS Q08M laser
10...30 V DC, 10...36 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC
Connectors	Connectors/ cables	Connectors/ cables	Connectors	Connectors/ cables	Connectors/ cables	Connectors/ cables	Connectors/ cables
-15...+55 °C, -25...+55 °C	-5...+55 °C, -10...+55 °C, -15...+55 °C	-5...+55 °C	-5...+75 °C, -20...+75 °C	-10...+50 °C -25...+55 °C	-10...+50 °C -25...+55 °C	-10...+60 °C	0...+50 °C
IP 67 Red light	IP 65/IP 67 Laser	IP 67 Laser	IP 69K/IP 68 Infrared light, red light	IP 67 Infrared light, red light, laser	IP 67 Infrared light, red light, laser	IP 67 Red light	IP 67 Laser
Metal	Metal	Metal	Stainless steel	Plastic	Plastic	Metal	Metal



BOS 23K	BOS 23K laser	BOS 50K	BKT 67M	Fork sensor BGL-A	Fork sensor BGL-C	Angle sensor BWL	Color sensor BFS 33
10...30 V DC	10...30 V DC, 12...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC	24 V DC ±10%
PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP/NPN/ Analog NO/NC	PNP/NPN NO/NC	PNP/NPN Analog NO/NC	PNP/NPN NO/NC	PNP NO/NC
Connectors	Connectors	Connectors	Connectors	Connectors	Connectors	Connectors	Cable
-20...+60 °C	-20...+60 °C	-5...+55 °C, -10...+60 °C	-10...+55 °C	-10...+60 °C	-5...+55 °C	-10...+60 °C	+10...+55 °C
IP 67/IP 69K Red light	IP 67/IP 69K Laser	IP 67 Red light	IP 67 Red, green and blue light	IP 67 Red light, PinPoint, infrared, laser	IP 67 Red light	IP 67 Red light, Pin- Point, infrared, laser	IP 54 White light
			Interchange- able optics	Fluid detection Transparent detection	IO-Link		Fiber optics
Plastic	Plastic	Plastic	Metal	Metal	Metal	Metal	Metal

Object Detection

Ultrasonic sensors for special applications



Type	BUS M18M, switching output, straight	BUS W18M, switching output, right-angle	BUS M18M, analog output, straight	BUS M18M, analog output, right-angle	BUS M18M, switching output, straight	BUS W18M, switching output, right-angle	BUS M18M, analog output, straight	BUS W18M, analog output, right-angle	BUS M18M, switching output, straight	BUS W18M, switching output, right-angle	BUS M18M, analog output, straight	BUS W18M, analog output, right-angle						
Ordering code	BUS0020	BUS0023	BUS0026	BUS0025	BUS0028	BUS0027	BUS0029	BUS002A	BUS0024	BUS002C	BUS0050	BUS002E	BUS004Z	BUS004Y	BUS004T	BUS004W	BUS004R	BUS004U
Part number	BUS M18M1-GPX1-02/015-S92G	BUS W18M1-GPX1-02/015-S92G	BUS M18M1-XA-02/015-S92G	BUS M18M1-XB-02/015-S92G	BUS W18M1-XA-02/015-S92G	BUS W18M1-XB-02/015-S92G	BUS M18M1-GPX1-03/025-S92G	BUS W18M1-GPX1-03/025-S92G	BUS M18M1-XA-03/025-S92G	BUS M18M1-XB-03/025-S92G	BUS W18M1-XA-03/025-S92G	BUS W18M1-XB-03/025-S92G	BUS M18M1-GPX1-07/035-S92G	BUS W18M1-GPX1-07/035-S92G	BUS M18M1-XA-07/035-S92G	BUS M18M1-XB-07/035-S92G	BUS W18M1-XA-07/035-S92G	BUS W18M1-XB-07/035-S92G
Scanning range	20...150 mm						30...250 mm						65...350 mm					
push/pull IO-Link NO/NC	■	■					■	■					■	■				
0...10 V Rising/falling			■		■				■		■				■		■	
4...20 mA Rising/falling				■		■				■		■			■		■	■
Degree of protection as per IEC 60529	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67



Type	BUS M30M, Switching output	BUS M30M, Analog output	BUS M30M, switching and analog output	BUS M30M, Switching output	BUS M30M, Analog output	BUS M30M, switching and analog output	BUS M30M, Switching output	BUS M30M, Analog output	BUS M30M, switching and analog output	BUS M30M, Switching output	BUS M30M, Analog output	BUS M30M, switching and analog output				
Ordering code	BUS0022	BUS002R	BUS002N	BUS002L	BUS005F	BUS005H	BUS005K	BUS005M	BUS0039	BUS003C	BUS003F	BUS0038	BUS003P	BUS003W	BUS003T	BUS003L
Part number	BUS M30M1-PPX-03/025-S92K	BUS M30M1-PWX-03/025-S92K	BUS M30M1-XC-03/025-S92K	BUS M30M1-PPC-03/025-S92K	BUS M30M1-PPX-07/035-S92K	BUS M30M1-PWX-07/035-S92K	BUS M30M1-XC-07/035-S92K	BUS M30M1-PPC-07/035-S92K	BUS M30M1-PPX-20/130-S92K	BUS M30M1-PWX-20/130-S92K	BUS M30M1-XC-20/130-S92K	BUS M30M1-PPC-20/130-S92K	BUS M30M1-PPX-35/340-S92K	BUS M30M1-PWX-35/340-S92K	BUS M30M1-XC-35/340-S92K	BUS M30M1-PPC-35/340-S92K
Scanning range	30...250 mm				65...350 mm				200...1300 mm				350...3400 mm			
PNP, NO/NC contact	■				■				■				■			
2x PNP, NO/NC contact		■				■				■				■		
0...10 V/4...20 mA			■				■				■				■	
PNP NO/NC				■				■								■
0...10 V/4...20 mA								■								
PNP 125 HZ																
0...10 V																
4...20 mA																
Degree of protection as per IEC 60529	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67	IP 67

Object Detection

Sensor technology: inductive, magnetic and capacitive

IP 68
as per BWN

IP 69K

ECOLAB **FDA**
H₂O₂ resistant

Inductive Sensors

Stainless steel V4A 316



Type	M8x40 mm flush, 2 mm 0...1.6 mm				Ø 12x50 mm flush, 2 mm				M12x50 mm flush, 2 mm				M12x45 mm flush, 4 mm				M12x65 mm flush, 4 mm				Ø 12x54.5 mm non-flush, 4 mm				M12x54.5 mm non-flush, 4 mm				Ø 18x45 mm flush, 5 mm															
Ordering code	BES014A				BES0430				BES0444				BES0433				BES0432				BES0435				BES0434				BES0436				BES0431				BES0443				BES0439			
Part number	BES M08EE-PS020B-S49G				BES G12EE1-PSY20B-S04G-L02				BES M12EE1-PSY20B-S04G-L01				BES M12EE-PSC40B-S04G-L01				BES M12EE-POC40B-S04G-L01				BES M12EE-POC40B-S04G-L01				BES M12EE-NSC40B-S04G-L01				BES G12EE1-PSY40F-S04G-L02				BES M12EE1-PSY40F-S04G-L01				BES G18EE1-PSY50B-S04G-L02							
PNP, NO	■				■				■				■				■				■				■				■				■											
PNP, NC									■				■				■				■				■				■				■											
NPN, NO													■																															
NPN, NC																	■																											
Degree of protection: IP 69K and IP 68 according to BWN Pr. 27					■				■				■				■				■				■				■				■											
Degree of protection as per IEC 60529	IP 68				IP 68				IP 68				IP 68				IP 68				IP 68				IP 68				IP 68				IP 68											

Magnetic Sensors

Festo T-slot

Festo T-slot

SMC Festo C-slot

SMC Festo C-slot



Type	BMF 235 5.5x5x23.5 mm The new scale for every T-slot with M8 connector				BMF 235 5.5x5x23.5 mm The new scale for every T-slot with direct PUR cable				BMF 243 3.8x24x3 mm The new scale for each C-slot (rounded groove) with M8 connector				BMF 243 3.8x24x3 mm The new scale for each C-slot (rounded groove) with direct PUR cable			
Ordering code	BMF00C4				BMF00AT				BMF00EL				BMF00EF			
Part number	BMF 235K-PS-C-2A-SA2-S49-00,3				BMF 235K-PS-C-2A-PU-02				BMF 243K-PS-C-2A-SA2-S49-00,3				BMF 243K-PS-C-2A-PU-02			
PNP, NO	■				■				■				■			
PNP, NC					■				■				■			
NPN, NO									■				■			
NPN, NC													■			
Degree of protection as per IEC 60529	IP 67				IP 67				IP 67				IP 67			

Stainless steel V4A 316



+160 °C
High temperature range!

BES0441 BES M18EE1-PSY50B-S04G-L01	M18x45 mm flush, 5 mm	IP 69K
BES0437 BES M18EH-PCS80B-S04G-L01	M18x65 mm flush, 8 mm	IP 69K
BES0438 BES M18EH-POC80B-S04G-L01		IP 69K
BES043A BES G18EE1-PSY80F-S04G-L02	Ø 18x54.5 mm non-flush, 8 mm	IP 69K
BES0442 BES M18EE1-PSY80F-S04G-L01	M18x54.5 mm non-flush, 8 mm	IP 69K
BES043T BES 515-326-SA49-D-TF-02	M18x1 flush, 5 mm	IP 69K
BES043U BES 515-360-SA13-D-TF-02	M18x1, non-flush, 8 mm	IP 69K
BES043W BES 515-327-SA22-D-TF-02	M30x1.5 flush, 10 mm	IP 69K
BES043Y BES 515-362-SA4-D-TF-02	M30x1.5, non-flush, 15 mm	IP 69K
BES02FO BES 515-327-E5-T-S4	M30x1.5 flush, 10 mm, 0...8.1 mm	IP 69K



IP 68 degree of protection in accordance with BWN Pr. 27

Balluff Factory Standard (BWN): Testing products for use in the foods industry.

IP 68 degree of protection in accordance with BWN Pr. 20

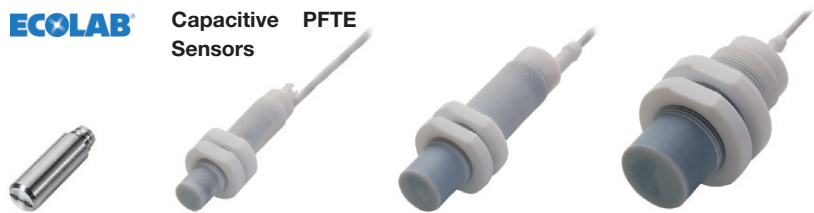
Balluff Factory Standard (BWN): temperature storage 48 h at 60 °C, 8 temperature cycles according to EN 60068-2-14/IEC 60068-2-14 between the benchmark temperatures according to the data sheet, 1 h water storage, insulation test, 24 h water storage, insulation test, 8 temperature cycles to EN 60068-2-14 IEC 60068-2-14 between the benchmark temperatures according to the data sheet, 7 days water storage, insulation test.

IP 69K degree of protection

DIN 40050 part 9: Protection against entry of water under high pressure- or steam jet cleaning.



Capacitive PFTE Sensors



BMF001Z BMF 10E-PS-D-2-SA1-S49	BMF 10E The stainless steel sensor specifically for the food industry	IP 69K
BCS006Z BCS M12TTG1-PSM80G-ET02	M12x1 non-flush 1...8 mm	IP 65
BCS0070 BCS M12TTG1-POM80G-ET02		IP 65
BCS0071 BCS M12TTG1-NSM80G-ET02		IP 65
BCS0072 BCS M12TTG1-NOM80G-ET02		IP 65
BCS0073 BCS M18TTI2-PSC15G-AT02	M18x1 non-flush 2...15 mm	IP 67
BCS0074 BCS M18TTI2-POC15G-AT02		IP 67
BCS0075 BCS M18TTI2-NSC15G-AT02		IP 67
BCS0076 BCS M18TTI2-NOC15G-AT02		IP 67
BCS0077 BCS M30TH2-PSC30G-AT02	M30x1.5 non-flush 2...30 mm	IP 67
BCS0078 BCS M30TH2-POC30G-AT02		IP 67
BCS0079 BCS M30TH2-NSC30G-AT02		IP 67
BCS007A BCS M30TH2-NOC30G-AT02		IP 67



Many other products are included in our global catalog or online at: www.balluff.com

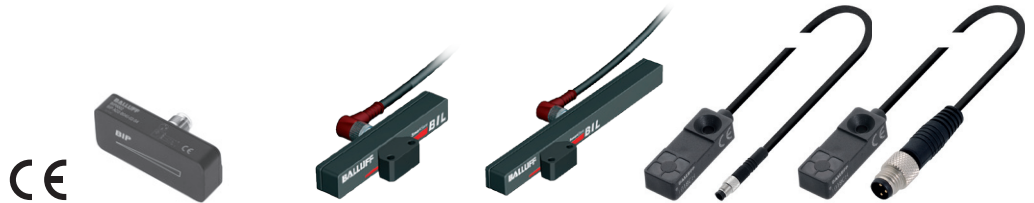
Linear Position Sensing and Measurement

The appropriate measuring principle for the optimal solution

Optical, magneto-inductive and inductive



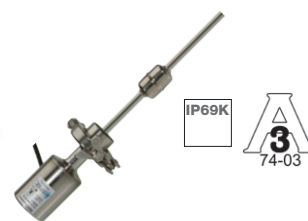
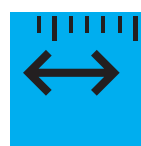
Type	Working range	Ordering code	Part number	Light type	Output
	BOD 6K 20...80 mm	BOD000H BOD 6K-RA01-S75-C	BOD000F BOD 6K-RA01-C-02	Red light	RS485 interface
	BOD 21M 25...45 mm	BOD000L BOD 21M-LA01-S92	BOD000P BOD 21M-LB01-S92	Laser light	PNP transistor
	BOD 21M 20...200 mm	BOD000M BOD 21M-LA02-S92	BOD000R BOD 21M-LB02-S92		IO-Link
	BOD 21M 20...500 mm	BOD000N BOD 21M-LA04-S92	BOD000T BOD 21M-LB04-S92		2x PNP transistor
	BOD 26K 45...85 mm	BOD0002 BOD 26K-LA01-S4-C	BOD0001 BOD 26K-LA01-C-06		Alarm output
	BOD 26K 45...85 mm	BOD0004 BOD 26K-LA02-S4-C	BOD0003 BOD 26K-LA02-C-06		
	BOD 26K 30...100 mm	BOD0005 BOD 26K-LB04-ST15-C	BOD000C BOD 26K-LBR04-ST15-C		
	BOD 26K 80...300 mm	BOD0006 BOD 26K-LB05-ST15-C	BOD000E BOD 26K-LBR05-ST15-C		



Type	Ordering code	Part number	Output signal	Degree of protection as per IEC 60529
Inductive displacement sensors BIP IO-Link	BIP0002 BIP AD2-B040-02-S4	BIP0004 BIP LD2-T040-02-S4	BIP0005 BIP OD2-B040-02-S4	IP 67
Magneto-inductive displacement sensors BIL 60 Voltage 0...10 V out-of-range 11 V or current 4...20 mA, out-of-range 22 mA	BIL0006 BIL EMID0-T060A-01-S75			IP 67
Magneto-inductive displacement sensors BIL 160 voltage 0...10 V or current 4...20 mA	BIL0004 BIL ED0-P160A-01-S75			IP 67
Inductive distance sensors Block designs, 10x30x6 mm R03, M5, flush	BAW0030 BAW R03KC-UAE40B-BP00,3-GS26			IP 67
Inductive distance sensors Block designs, 10x30x6 mm R03, M8, flush	BAW0031 BAW R03KC-UAE40B-BP00,3-GS49			IP 67



			BOD0007 BOD 26K-LB06-S92-C	BOD 26K 30...100 mm
	■			
	■			
			BOD0008 BOD 26K-LB07-S92-C	BOD 26K 80...300 mm
	■			
	■			
			BOD000U BOD 63M-LA02-S115	BOD 63M 200...2000 mm
	■	■		
			BOD0010 BOD 63M-LB02-S115	
	■	■		
			BOD0012 BOD 63M-LI06-S4	BOD 63M 200...6000 mm
	■	■		
			BOD000W BOD 63M-LA04-S115	BOD 63M 200...6000 mm
	■	■		
			BOD0011 BOD 63M-LB04-S115	
	■	■		
			BOD0015 BOD 66M-RA01-S92-C	BOD 66M 100...600 mm
	■	■		
			BOD0016 BOD 66M-RB01-S92-C	
	■	■		
			BOD0013 BOD 66M-LA04-S92-C	BOD 66M 200...2000 mm
	■	■		
			BOD0014 BOD 66M-LB04-S92-C	
	■	■		



	BGL0033 BGL 30C-005-S4	Analog Fork sensor 1 analog with 1 switching/error output
	BGL003C BGL 50C-005-S4	
	BML-S1H... BML-S1H_ _6_C-M3_A-DO-KA00,3-S284	Magnetic encoder system Working range 256 mm, absolute, resolution 1 µm, read distance 0.35 mm, output signal SSI
	BML-S1C0... BML-S1C0-Q53_ _M400_ _0-KA_ _	Magnetic encoder system Working range infinite or rotary, incremental, resolu- tion 0.1 mm, read distance 2 mm, output signal HTL
	BTL6-U110-M_ _-PF-S4_ _	Profile PF BTL6 Measuring length 50...4570 mm
	BTL6-A600-M_ _-PF-S115	
	BTL6-E600-M_ _-PF-S115 (-10...+10 V)	
	BTL6-C600-M_ _-PF-S115	
	BTL6-G600-M_ _-PF-S115 (0...20 mA)	
	BTL5-A11-M_ _-SF- _	Rod SF BTL5 Measuring length 25...4500 mm Pressure rating 300 bar (depending on the float)
	BTL5-E1-M_ _-SF- _	
	BTL5-C1-M_ _-SF- _ (0...20 mA)	

Fluid Sensors

Level detection with **SMART**LEVEL technology



SMARTLEVEL 15



SMARTLEVEL 15



SMARTLEVEL 500+

Type	M18x1 non-flush Media-dependent					M30x1.5 non-flush Media-dependent					M30x1.5 non-flush Media-dependent					
Ordering code Part number	BCS008A BCS M18TTI2-PSCFAG-AT02	BCS008C BCS M18TTI2-POCFAG-AT02	BCS008E BCS M18TTI2-NSCFAG-AT02	BCS008F BCS M18TTI2-NOCFAG-AT02			BCS0086 BCS M30TTH2-PSCFAG-AT02	BCS0087 BCS M30TTH2-POCFAG-AT02	BCS0088 BCS M30TTH2-NSCFAG-AT02	BCS0089 BCS M30TTH2-NOCFAG-AT02			BCS00TZ BCS M30TTH2-GPCFVG-AT02			
PNP/NPN and NO/NC user codable																
PNP, NO	■					■							■			
PNP, NC		■					■									
NPN, NO			■					■								
NPN, NC				■					■							
Degree of protection as per IEC 60529	IP 64	IP 64	IP 64	IP 64		IP 64	IP 64	IP 64	IP 64			IP 67				



SMARTLEVEL 15



Type	40x40x10 mm Uniflat, flush Media-dependent	
Ordering code Part number	BCS00U8 BCS Q40BBAA-PSCFAC-EP00,3-GS49	BCS00U7 BCS Q40BBAA-POCFAC-EP00,3-GS49
PNP, NO	■	
PNP, NC		■
Degree of protection as per IEC 60529	IP 67	IP 67

The new capacitive SmartLevel sensors in the Uniflat design detect conductive media through non-metallic container walls with a thickness up to 10 mm extremely reliably.

Their installation is quick and easy. This is because they can be screwed on or attached to bypass tubes with cable ties. Their connection is made using a 2 m cable or a short pigtail line and an M8 plug.

The codable output function provides PNP or NPN and normally open or normally closed functionality.

SmartLevel

- Suppress foam and deposits
- Adjustment-free installation
- Are easy to install on tubes with cable ties
- Regular cleaning can be omitted



SMARTLEVEL 500+



SMARTLEVEL 15



SMARTLEVEL 50



Pressure rated to 10 bar

	M30x1.5 non-flush Media-dependent	Ø 50x10 mm flush Media-dependent	Ø 50x10 mm flush Media-dependent	R 3/8" non-flush Level adjustable
BCS00HJ BXS M30T4M3-GPCFVG-S04G				
BCS0080 BCS D50TT05-PSCFAC-ET02				
BCS0081 BCS D50TT05-POCFAC-ET02				
BCS0082 BCS D50TT05-NSCFAC-ET02				
BCS0083 BCS D50TT05-NOCFAC-ET02				
BCS00UW BCS D50TT06-PSCFSC-ET02				
BCS00UY BCS D50TT06-POCFSC-ET02				
BCS00WO BCS D50TT06-NSCFSC-ET02				
BCS00UZ BCS D50TT06-NOCFSC-ET02				
BCS006H BCS S01T401-PSCFNG-KM16-T02				
BCS006J BCS S01T401-POCFNG-KM16-T02				
BCS006K BCS S01T401-NSCFNG-KM16-T02				
BCS006L BCS S01T401-NOCFNG-KM16-T02				
IP 64, connection side IP 67	IP 67	IP 67	IP 67	IP 67



Other 3/8" types and NPTF 3/8" are available.

Selection list for SMARTLEVEL according to liquids

- SMART 15**
Conductivity value approx. 0.7...15 mS
- SMART 50**
Conductivity value approx. 15...50 mS
- SMART 500+**
Conductivity value Approx. 50...500 mS and greater

Industrial wastewater (depending on conductivity of the medium)		
Disinfectants (media containing chlorine)		
Table salt solution		
Rinsing agents		
Milk/buttermilk/yogurt		
Fruit juice		
Coolant/lubricants	Ketchup/mustard	
Formic acid (30 %)	Sulfuric acid (10 %)	
	Calcium chloride (30 %)	
	Blood	Hydrochloric acid (40 %)
Beer	Seawater	Nitric acid (12 %)

Fluid Sensors

For media in which standard pressure sensors reach their limit



2 programmable switching points (NO or NC)



1 programmable switching point and analog output 0...10 V DC

Type	PNP -1...2 bar -14.5...29 psi	PNP -1...10 bar -14.5...145	PNP 0...2 bar 0...29 psi	PNP 0...5 bar 0...73 psi	PNP 0...10 bar 0...145 psi	PNP 0...20 bar 0...290 psi	PNP 0...50 bar 0...725 psi	PNP 0...100 bar 0...1450 psi	PNP 0...250 bar 0...3626 psi	PNP 0...400 bar 0...5802 psi	PNP 0...600 bar 0...8702 psi	PNP -1...2 bar -14.5...29 psi	PNP -1...10 bar -14.5...145	PNP 0...2 bar 0...29 psi	PNP 0...5 bar 0...73 psi	PNP 0...10 bar 0...145 psi	PNP 0...20 bar 0...290 psi
Ordering code Part number	BSP005M BSP V002-IV003-D00A0B-S4	BSP005N BSP V010-IV003-D00A0B-S4	BSP005P BSP B002-IV003-D00A0B-S4	BSP005R BSP B005-IV003-D00A0B-S4	BSP005T BSP B010-IV003-D00A0B-S4	BSP005U BSP B020-IV003-D00A0B-S4	BSP005W BSP B050-IV003-D00A0B-S4	BSP005Y BSP B100-IV003-D00A0B-S4	BSP005Z BSP B250-IV003-D00A0B-S4	BSP0060 BSP B400-IV003-D00A0B-S4	BSP0061 BSP B600-IV003-D00A0B-S4	BSP006F BSP V002-IV003-A00A0B-S4	BSP006H BSP V005-IV003-A00A0B-S4	BSP006J BSP B002-IV003-A00A0B-S4	BSP006K BSP B005-IV003-A00A0B-S4	BSP006L BSP B010-IV003-A00A0B-S4	BSP006M BSP B020-IV003-A00A0B-S4
Ambient/media temperature	-40...+85 °C/-40...+125 °C											-40...+85 °C/-40...+125 °C					
Display/function indicators	7 segment display/LED											7 segment display/LED					
Degree of protection as per IEC 60529	IP 67 (when connected)											IP 67 (when connected)					
Process connection	G1/2" EN 3852											G1/2" EN 3852					



1 programmable switching point and analog output 4...20 mA

Type	PNP -1...2 bar -14.5...29 psi	PNP -1...10 bar -14.5...145	PNP 0...2 bar 0...29 psi	PNP 0...5 bar 0...73 psi	PNP 0...10 bar 0...145 psi	PNP 0...20 bar 0...290 psi	PNP 0...50 bar 0...725 psi	PNP 0...100 bar 0...1450 psi	PNP 0...250 bar 0...3626 psi	PNP 0...400 bar 0...5802 psi	PNP 0...600 bar 0...8702 psi							
Ordering code Part number	BSP0062 BSP V002-IV003-A02A0B-S4	BSP0063 BSP V005-IV003-A02A0B-S4	BSP0064 BSP B002-IV003-A02A0B-S4	BSP0065 BSP B005-IV003-A02A0B-S4	BSP0066 BSP B010-IV003-A02A0B-S4	BSP0067 BSP B020-IV003-A02A0B-S4	BSP0068 BSP B050-IV003-A02A0B-S4	BSP0069 BSP B100-IV003-A02A0B-S4	BSP006A BSP B250-IV003-A02A0B-S4	BSP006C BSP B400-IV003-A02A0B-S4	BSP006E BSP B600-IV003-A02A0B-S4							
Ambient/media temperature	-40...+85 °C/-40...+125 °C																	
Display/function indicators	7 segment display/LED																	
Degree of protection as per IEC 60529	IP 67 (when connected)																	
Process connection	G1/2" EN 3852																	

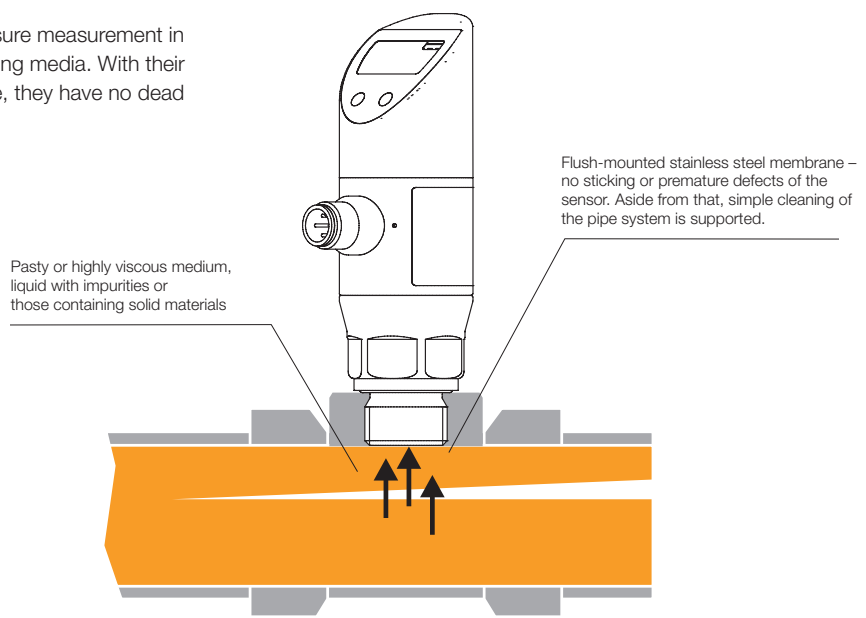
BSP006N	0...50 bar	PNP
BSP B050-IV003-A00A0B-S4	0...725 psi	
BSP006P	0...100 bar	PNP
BSP B100-IV003-A00A0B-S4	0...1450 psi	
BSP006R	0...250 bar	PNP
BSP B250-IV003-A00A0B-S4	0...3626 psi	
BSP006T	0...400 bar	PNP
BSP B400-IV003-A00A0B-S4	0...5802 psi	
BSP006U	0...600 bar	PNP
BSP B600-IV003-A00A0B-S4	0...8702 psi	

Other process connections
(e.g. TriClamp, Varivent, etc.)
available on request.



Flush-mounted BSP pressure sensors

Pressure sensors BSP are ideally suited for pressure measurement in viscous, paste-like, crystallizing or solids-containing media. With their flush-mounted, welded stainless steel membrane, they have no dead spaces and can be cleaned particularly well.



Accessories

Connectors and power supplies

ECOLAB

IP 68
as per BWN

IP 69K



Type	M12, can be fabricated, body: PBT transparent, contact: brass			M8, 3-pin straight			M8, 3-pin right-angle			M8, 3-pin with LED			M8, 4-pin straight			M8, 4-pin right-angle			M12, 3-pin with LED right-angle																													
Ordering code	BCC0CAA			BCC06WA			BCC06WE			BCC08CZ			BCC0A2F			BCC08E0			BCC0A2H			BCC097W			BCC06WC			BCC06WF			BCC0A2L			BCC0A2M			BCC06U9			BCC06UA			BCC06UC			BCC08CM		
Part number	BCC S445-0000-1A-000-51X475-000-C024			BCC S313-0000-10-001-PX8334-100-C002			BCC S323-0000-10-001-PX8334-100-C002			BCC S323-0000-10-004-PX0334-020			BCC S323-0000-10-004-PX0334-030			BCC S323-0000-10-004-PX0334-050			BCC S323-0000-10-004-PX0334-100			BCC S323-0000-10-004-PX8334-030-C002			BCC S314-0000-10-003-PX8434-100-C002			BCC S324-0000-10-003-PX8434-100-C002			BCC S425-0000-1A-004-VX8334-050			BCC S425-0000-1A-004-VX8334-100			BCC S425-0000-1A-004-VX8334-150			BCC S425-0000-1A-004-VX8334-200			BCC S425-0000-1A-004-VX8334-250			BCC S425-0000-1A-004-PX0334-020		
Length				10 m			10 m			2 m			3 m			5 m			10 m			3 m			10 m			10 m			5 m			10 m			15 m			20 m			25 m			2 m		
Cable material	PA			PUR			PUR			PUR			PUR			PUR			PUR			PUR			PVC			PVC			PVC			PVC			PVC			PUR								
Degree of protection as per IEC 60529	IP 67			IP 68			IP 68			IP 69K			IP 69K			IP 69K			IP 69K			IP 68			IP 68			IP 69K			IP 69K			IP 69K			IP 69K			IP 69K								

Other lengths on request.

ECOLAB

IP 68
as per BWN

IP 69K



Type	M12, 4-pin right-angle			M12, 4-pin with LED, right-angle			M12, 5-pin straight			M12, 8-pin shielded, straight			M12, 5-pin shielded, right-angle																	
Ordering code	BCC097Y			BCC08CT			BCC06MT			BCC09JJ			BCC097A			BCC09JH			BCC06MR			BCC06WK			BCC06WL					
Part number	BCC S425-0000-1A-003-PX8434-030-C002			BCC S425-0000-1A-008-PX0434-020			BCC S415-0000-1A-017-PX8534-100			BCC S418-0000-1A-069-PS8825-100-C002			BCC S418-0000-1A-069-PS8825-200-C002			BCC S425-0000-1A-016-PS8525-100-C002			BCC S425-0000-1A-017-PS8525-100-C002			BCC S425-0000-1A-017-PX8534-100			BCC S415-0000-1A-017-PX8534-100-C002			BCC S425-0000-1A-017-PX8534-100-C002		
Length	3 m			2 m			10 m			10 m			10 m			10 m			10 m			10 m			10 m			10 m		
Cable material	PUR			PUR			PUR			PUR			PUR			PUR			PUR			PUR			PUR			PUR		
Degree of protection as per IEC 60529	IP 68			IP 68			IP 69K			IP 68			IP 68			IP 68			IP 68			IP 69K			IP 68			IP 68		

Other lengths on request.



Ordering code	Part number	Output current	Output power	Degree of protection as per IEC 60529	Type
BCC08CN	BCC S425-0000-1A-004-PX0334-030	3 m	PUR	IP 69K	M12, 3-pin with LED right-angle
BCC08CP	BCC S425-0000-1A-004-PX0334-050	5 m	PUR	IP 69K	M12, 3-pin with LED right-angle
BCC08CR	BCC S425-0000-1A-004-PX0334-100	10 m	PUR	IP 69K	M12, 3-pin with LED right-angle
BCC06UE	BCC S425-0000-1A-004-PX0334-150	15 m	PUR	IP 69K	M12, 3-pin with LED right-angle
BCC06UF	BCC S425-0000-1A-004-PX0334-200	20 m	PUR	IP 69K	M12, 3-pin with LED right-angle
BCC06UH	BCC S425-0000-1A-004-PX0334-250	25 m	PUR	IP 69K	M12, 3-pin with LED right-angle
BCC06UJ	BCC S425-0000-1A-004-PX0334-400	40 m	PUR	IP 69K	M12, 3-pin with LED right-angle
BCC097Z	BCC S425-0000-1A-004-PX8334-030-C002	3 m	PUR	IP 68	M12, 3-pin with LED right-angle
BCC06M7	BCC S415-0000-1A-003-VX8434-100	10 m	PVC	IP 69K	M12, 4-pin straight
BCC06M8	BCC S415-0000-1A-003-VX8434-150	15 m	PVC	IP 69K	M12, 4-pin straight
BCC06M9	BCC S415-0000-1A-003-VX8434-200	20 m	PVC	IP 69K	M12, 4-pin straight
BCC06MA	BCC S415-0000-1A-003-VX8434-250	25 m	PVC	IP 69K	M12, 4-pin straight
BCC06MC	BCC S415-0000-1A-003-VX8434-300	30 m	PVC	IP 69K	M12, 4-pin straight
BCC06ME	BCC S415-0000-1A-003-VX8434-350	35 m	PVC	IP 69K	M12, 4-pin straight
BCC06MH	BCC S415-0000-1A-003-PX8434-100-C002	10 m	PUR	IP 68	M12, 4-pin straight
BCC097H	BCC S415-0000-1A-003-PX8434-250-C002	25 m	PUR	IP 68	M12, 4-pin straight
BCC06MF	BCC S425-0000-1A-003-VX8434-100	10 m	PVC	IP 69K	M12, 4-pin right-angle
BCC06MH	BCC S425-0000-1A-003-VX8434-150	15 m	PVC	IP 69K	M12, 4-pin right-angle
BCC06MJ	BCC S425-0000-1A-003-VX8434-200	20 m	PVC	IP 69K	M12, 4-pin right-angle
BCC06MK	BCC S425-0000-1A-003-VX8434-250	25 m	PVC	IP 69K	M12, 4-pin right-angle
BCC06ML	BCC S425-0000-1A-003-VX8434-300	30 m	PVC	IP 69K	M12, 4-pin right-angle
BCC06MM	BCC S425-0000-1A-003-VX8434-350	35 m	PVC	IP 69K	M12, 4-pin right-angle
BCC06F2	BCC S425-0000-1A-003-PX8434-100	10 m	PUR	IP 69K	M12, 4-pin right-angle



Output voltage 24 V DC
For additional information and conditions of use, see product data sheet.

BCC097E	BCC S415-0000-1A-017-PX6534-250-C002	25 m	PUR	IP 68	
BCC097F	BCC S425-0000-1A-017-PX6534-250-C002	25 m	PUR	IP 68	

Type	Ordering code	Part number	Output current	Output power	Degree of protection as per IEC 60529
Single phase, isolated output (4-pin), SELV	BAE00EN	BAE PS-XA-1W-24-038-601	3.8 A	91.2 W	IP 67
Single phase, grounded output (4-pin), PELV	BAE00FW	BAE PS-XA-1W-24-038-607	3.8 A	91.2 W	IP 67
Single phase, isolated output (5-pin), SELV	BAE00ER	BAE PS-XA-1W-24-038-603	3.8 A	91.2 W	IP 67
Single phase, isolated output (4-pin), SELV	BAE00ET	BAE PS-XA-1W-24-080-604	8 A	192 W	IP 67
Single phase, isolated output (5-pin), SELV	BAE00FL	BAE PS-XA-1W-24-080-605	8 A	192 W	IP 67
Single phase, grounded output (4-pin), PELV	BAE00FY	BAE PS-XA-1W-24-080-606	8 A	192 W	IP 67

BALLUFF

sensors worldwide



Systems and service



Industrial Networking and Connectivity



Industrial Identification



Object Detection



Linear Position Sensing and Measurement



Condition Monitoring and Fluid Sensors



Accessories

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