

BALLUFF

For efficient
automation

PRODUCTS + NEWS



B *innovating automation*

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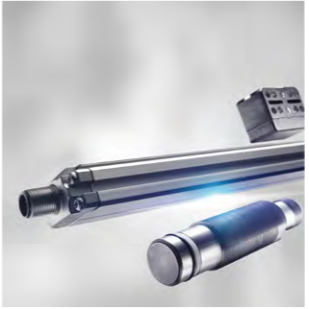


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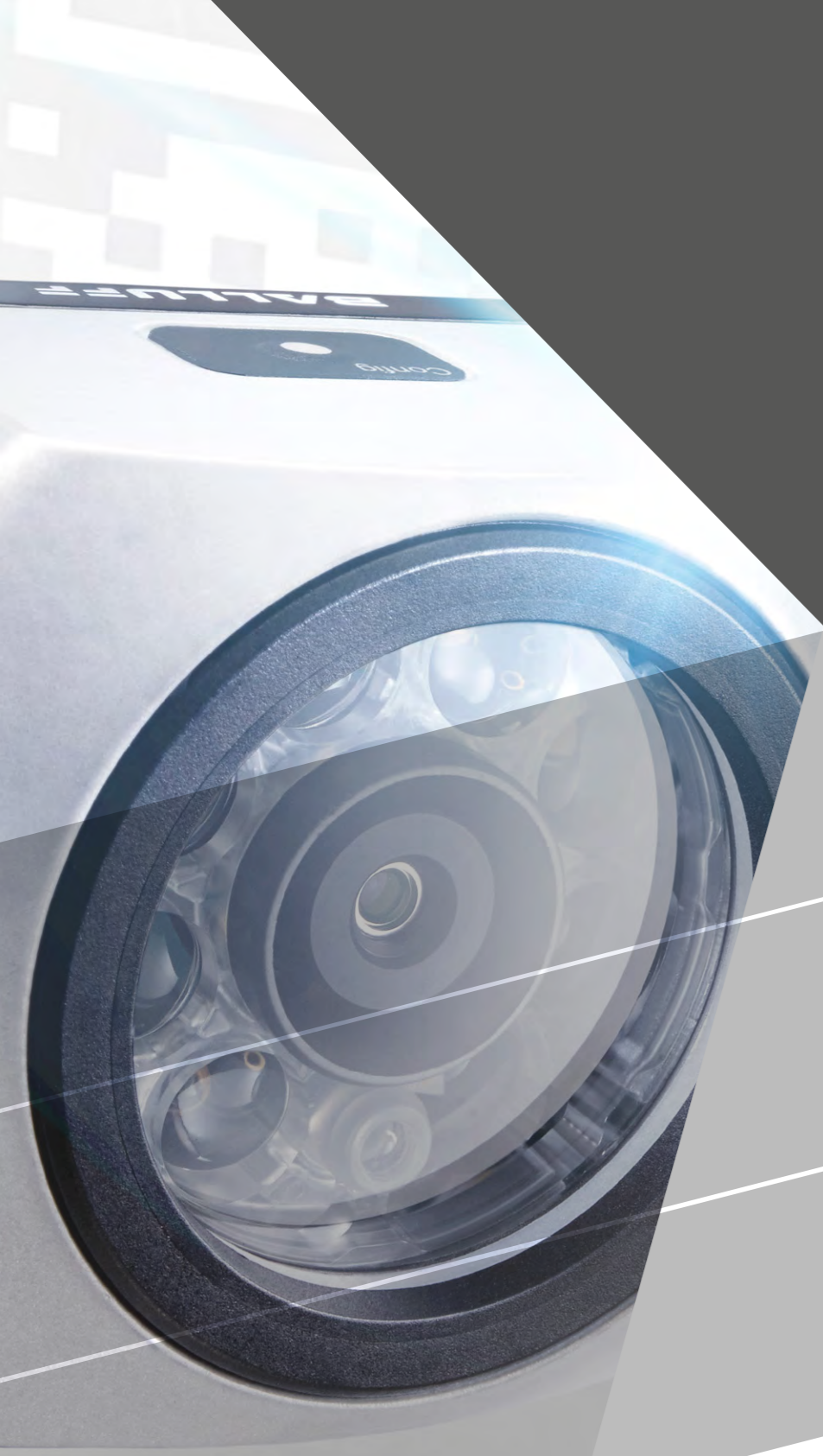
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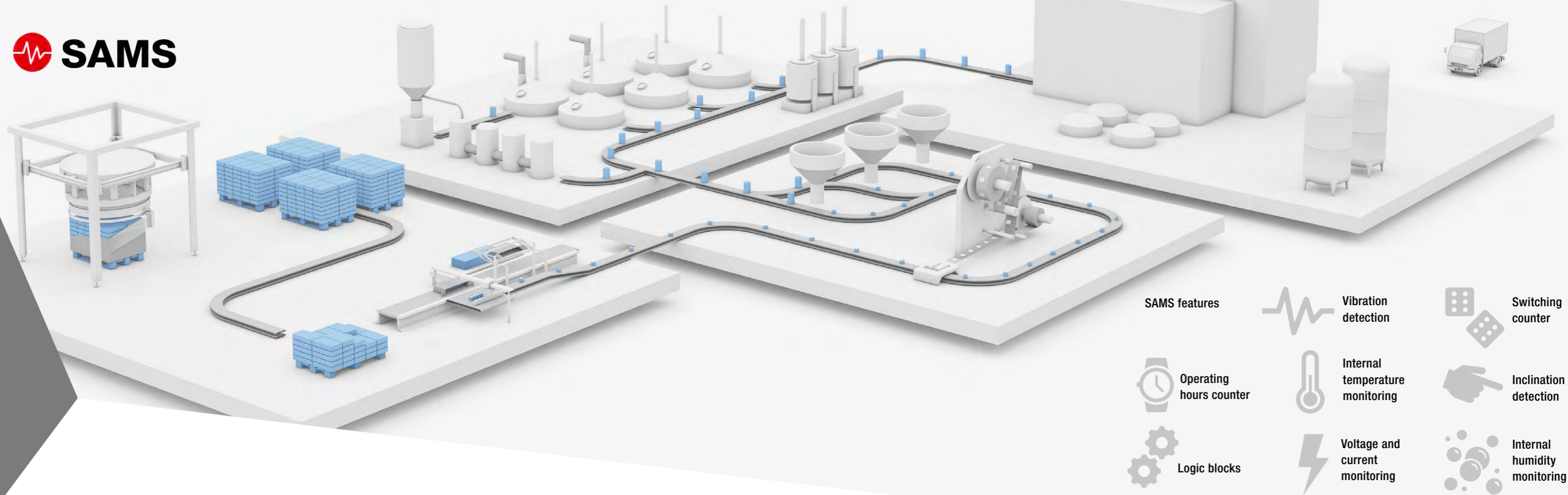


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SAMS features

-  Vibration detection
-  Switching counter
-  Operating hours counter
-  Internal temperature monitoring
-  Logic blocks
-  Voltage and current monitoring
-  Inclination detection
-  Internal humidity monitoring

Switch to optimal performance now

SMART AUTOMATION AND MONITORING SYSTEM

High-performance, multifunctional solutions are required to increase the efficiency of machines and plants. Solutions that not only serve to control the machine, but also provide data on the condition of the machine. With the information gained from this, you can optimize the performance of each machine and thus of the entire plant by designing processes efficiently and flexibly. The innovative Smart Automation and Monitoring System (SAMS) from Balluff provides you with a system that enables you to implement automation of the entire production line in a uniform manner.

Your Balluff SAMS solutions

- Inductive sensors
- Photoelectric sensors
- Digital position indicators
- RFID
- Network blocks
- Inductive couplers
- I/O blocks
- Magnetostrictive position measuring systems

Look and Feel

With a consistent housing, connectors and mounting design, SAMS components are easy to install and connect. The consistent operating and configuration concept increases machine flexibility and availability, because all devices can be parameterized and configured via standard data profiles and even taught in contact-free with a mobile terminal. Machine damage and production downtime due to incorrect handling are thus reduced to a minimum.

Smart Features

Once commissioned, the devices with additional functions become data sources that you use to ensure the reliable operation of your plant – e.g. via temperature monitoring, humidity and tilt detection, vibration monitoring, signal quality display, operating hours counter or time functions. These features provide additional monitoring capabilities without the need for additional specialized devices to gain an overview. In addition, each component can be clearly localized in the plant via device recognition, so that, a sensor can be quickly located in the plant.

Health

Our intelligent components open up new possibilities, such as condition monitoring of machines and systems or predictive maintenance. The status data of your machines is available to you uniformly, everywhere and immediately – whether via colored LED signal display directly on the device or on dashboards for further analysis. In this way, you remain informed about every single sensor, every machine and the entire production, recognize trends and can significantly improve the performance of your production on a secure basis. In combination with powerful network technology and cloud computing from Balluff, smart manufacturing in the sense of the Industrial Internet of Things (IIoT) becomes a reality.












Continuously monitor the condition of machines, plants and processes

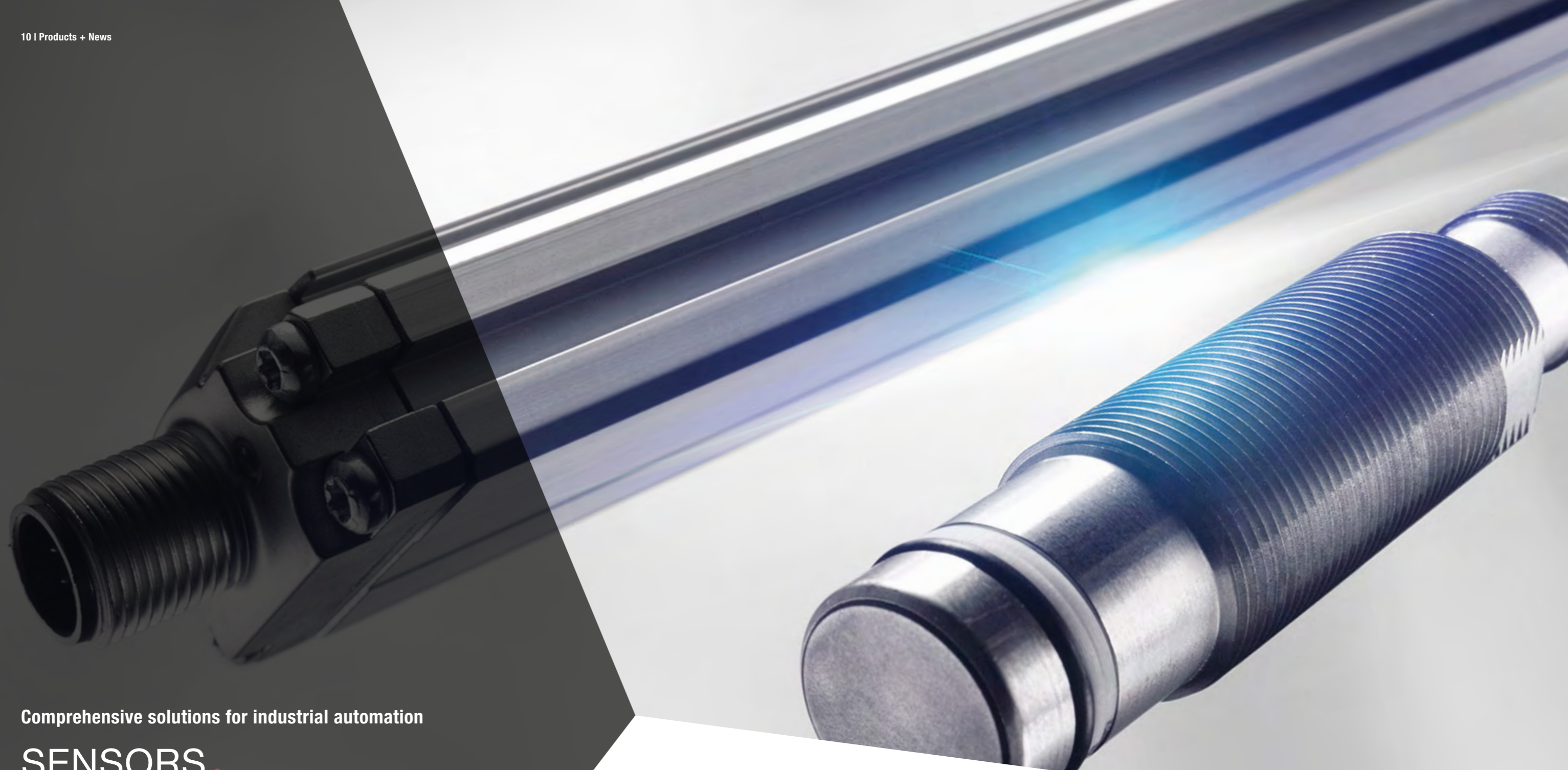
CONDITION MONITORING

Condition monitoring systems and their components contribute to the efficient and trouble-free operation of machines and plants in industry. Disruptions in the production process due to unplanned downtimes can be prevented by using sensors. Monitoring devices such as vibration, temperature, pressure and level sensors, provide data on the condition of a plant. When processed, this data provides information for the upkeep of machines and thus enables preventative and predictive maintenance. These condition monitoring systems allow changes, such as wear on individual components, to be detected more quickly and machine maintenance to be better coordinated.

The goal is to increase reliability in the automation and digitalization of your production, and Balluff offers the right solution for monitoring your machines and systems. From a simple standardized solution to the mapping of individual complex systems, our condition monitoring solutions set the standard.



WHAT IS MEASURED/ MONITORED	TYPICAL MACHINES/ASSET TO BE MONITORED	SENSOR TYPE
 Vibrations, oscillations and accelerations	Motor, bearing, conveyor, pump, fan, spindle, compressor, gearbox, robot, machine tool, press	Condition monitoring sensors Smart automation and monitoring system sensors
 Temperature	Motor, bearing, conveyor, pump, fan, spindle, compressor, gearbox, machine tool, electronics cabinet, oven, furnace	Temperature sensors Condition monitoring sensors
	Internal sensor measurement	Smart automation and monitoring system sensors
 Pressure	Lubricant, coolant or hydraulic fluid reservoir or line, pump, valve	Pressure sensors
	Cabinet, container or vessel ambient air pressure	Condition monitoring sensors Smart automation and monitoring system sensors
 Flow rate	Coolant, lubricant, hydraulic fluid or pneumatic line, pump, valve	Flow sensors
 Humidity	Electronics cabinet, packaging machine, dryer	Condition monitoring sensors
	Internal sensor measurement	Smart automation and monitoring system sensors
 Voltage and current	Internal sensor measurement	Smart automation and monitoring system sensors Power supplies
 Speed	Motor, conveyor, pump, fan, spindle	Encoders Inductive sensors
 Level	Lubricant, coolant or hydraulic fluid reservoir, leak detection, pump, valve	Capacitive sensors Ultrasonic sensors Magnetostrictive sensors
 Displacement and distance	Machine tool, press, robot, conveyor	Inductive sensors Ultrasonic sensors Magnetostrictive sensors
 Inclination	Conveyor, press, machine tool	Smart automation and monitoring system sensors Inclination sensors



Comprehensive solutions for industrial automation

SENSORS

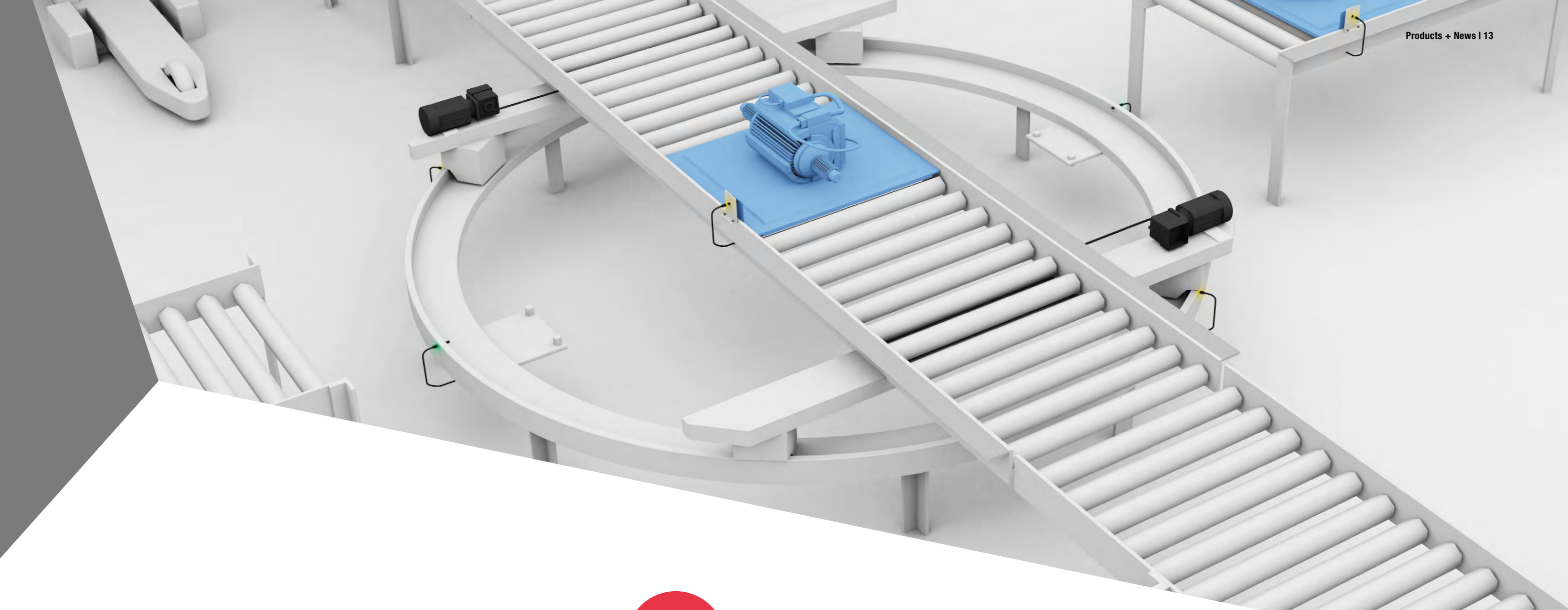
 *innovating automation*

In the field of sensor technology, Balluff offers a complete portfolio to meet the diverse array of sensor operating principles, modes, and form factors needed to dependably meet your application requirements. We offer high-value sensors for any application or requirement: from linear measurement to object detection to level, temperature and pressure monitoring. We can fulfill all of your sensor needs, for everyday industrial uses as well as for tough applications in critical environments.

Our quality management regime is DIN EN ISO 9001:2015 certified. All Balluff sensors are tested in our in-house, accredited laboratory. They also meet regional and international standards and are successfully used in applications around the world.

Your Balluff solutions

- Inductive sensors
- Capacitive sensors
- Photoelectric sensors
- Magnetic field sensors
- Cam switches
- Ultrasonic sensors
- Magnetic encoders
- Magnetostrictive sensors
- Inclination sensors
- Pressure sensors
- Temperature sensors
- Flow sensors
- Condition monitoring sensors
- Position indicators
- Encoders



Simple and good

THE STANDARD PORTFOLIO FOR INDUCTIVE SENSORS



From mechanical engineering and electronics manufacturing to intralogistics, assembly and handling technology, woodworking and textile processing, automation is hardly conceivable without inductive sensors. Wherever automation takes place, detecting the presence of metallic objects, operating without contact or wear, and high reliability are in demand. You can now choose from a new entry-level portfolio of BES inductive sensors from Balluff.

These precise sensors are designed for normal factory environments and offer an excellent price/performance ratio. This makes them particularly suitable for applications that are not technically demanding, but which are more demanding in terms of price and volume, like in material handling or (intra-)logistics.

After the sensor has been mounted easily with its simple clamp holder, its specially developed plastic backend with LEDs gives you a 360° functional display of the sensor status. In addition to the switching status, it also shows the power supply status and the fault condition, e.g. short circuit. This means you have everything in view to identify errors more quickly, reduce downtimes, and increase system availability.

Features

- Universal use in normal factory environments
- Optimal performance for price point
- Reliable object detection due to double switching distance
- Optimized visual monitoring with operating voltage display and 360° light
- Easy to mount and replace using clamp holder with fixed stop (optional)
- Environmentally friendly multi-piece packaging for higher quantities (from 25 sensors)



INDUCTIVE SENSORS



	BES060N	BES060T	BES060R	BES060U	BES060P	BES060M
Dimension	M8 × 45 mm	M8 × 65 mm	M12 × 45 mm	M12 × 65 mm	M18 × 45 mm	M18 × 65 mm
Installation	Flush		Flush		Flush	
Range	2 mm		4 mm		8 mm	
Switching output	PNP NO		PNP NO		PNP NO	
Switching frequency	600 Hz		350 Hz		300 Hz	
Housing material	Nickel-plated die-cast zinc		Nickel-plated die-cast zinc		Nickel-plated die-cast zinc	
Material sensing surface	PBT		PBT		PBT	
Connection	Connector, M8 male, 3-pin		Connector, M12 male, 3-pin		Connector, M12 male, 3-pin	
Operating voltage U_b	10...30 V DC		10...30 V DC		10...30 V DC	
Ambient temperature	-25...70 °C		-25...70 °C		-25...70 °C	
IP rating	IP67		IP67		IP67	
Approval/conformity	CE, UKCA, cULus		CE, UKCA, cULus		CE, UKCA, cULus	

Acquire positions quickly, precisely, compactly and without interference

RAPID INDUCTIVE POSITION MEASURING SYSTEM FOR A WIDE RANGE OF APPLICATIONS

NEW

The fast BIR inductive position measuring system from Balluff enables measuring rates of more than 10 KHz. Balluff's system boasts a large, adjustable measuring range and high signal stability built into a particularly compact, flat housing with small blind zones as well as high signal stability.

Ready for the factory of the future

The technical parameters and the mechanics of the measuring system were specially developed for the increasing requirements in the industry. The system can be used flexibly because the target runs on the housing, giving you greater freedom for installation. In addition, the BIR includes internal condition monitoring sensors that make it part of Balluff's Smart Automation and Manufacturing System (SAMS). It's ready for the IIoT and the factory of the future.

Detect injection movement on molds particularly quickly

The BIR helps ensure the fast and reliable filling of injection molds. To do this, the system monitors the path of the injection axis with precision, with high measuring frequency and repeatability. The injection profile can be precisely adjusted, for example, to produce high-quality thin-walled parts. And after filling, a gentle mold closure reduces wear, which extends the service life of the mold.

Features

- Easy to integrate thanks to compact design
- Excellent price-performance ratio
- High measuring frequency > 10 kHz
- High resolution, repeatability and linearity
- Very compact housing with small blind zones
- Flexible interfaces for various evaluation systems (analog, IO-Link, SSI)
- Excellent EMC properties
- Continuous condition monitoring as well as simplified parameterization via IO-Link

INDUCTIVE POSITION MEASURING SYSTEM



	BIR0004	BIR0005	BIR0006	BIR0007
Dimension	35 x 353 x 25 mm	35 x 353 x 25 mm	35 x 353 x 25 mm	35 x 353 x 25 mm
Style	Profile	Profile	Profile	Profile
Sensing face material	M12 connector, 4-pin	M12 connector, 5-pin	M12 connector, 5-pin	M12 connector, 8-pin
Housing material	Aluminum with PBT GF30	Aluminum with PBT GF30	Aluminum with PBT GF30	Aluminum with PBT GF30
Measuring range	0...300 mm	0...300 mm	0...300 mm	0...300 mm
Measuring frequency	> 10 kHz	> 10 kHz	> 10 kHz	> 10 kHz
Output	IO-Link	Analog 0...10 V with IO-Link	Analog 4...20 mA with IO-Link	SSI with IO-Link
Repeat accuracy	< 1 μm	< 1 μm or < 360 μV	< 1 μm or < 670 μV	< 1 μm
Linearity deviation	≤ ±100 μm	≤ ±100 μm	≤ ±100 μm	≤ ±100 μm
Operating voltage U _b	18...30 V DC	10...30 V DC	10...30 V DC	10...30 V DC
Ambient temperature	-40...+85 °C	-40...+85 °C	-40...+85 °C	-40...+85 °C
IP rating	IP67	IP67	IP67	IP67
Approval/Conformity	CE, UKCA, cULus	CE, UKCA, cULus	CE, UKCA, cULus	CE, UKCA, cULus
Measuring length	300 mm ¹	300 mm ¹	300 mm ¹	300 mm ¹

¹ Further measuring lengths available

Level detection sensors ideal for non-conductive media or for object detection

CAPACITIVE SENSORS IN CUBIC DESIGN WITH IO-LINK

NEW

Capacitive sensors from Balluff are dependable choices for object and fill level detection. Our series of uniflat Q40 sensors perform their task without contact through plastic and glass container walls up to 4 mm thickness. They are versatile in many possible application, with a large detection range that makes them reliable in various applications.

Their uniflat design makes them easy to mount directly on a flat surface or on pipes by using zip ties, requiring very little space. Their sensitivity can be easily adjusted via IO-Link or a teach-in wire.

New possibilities with IO-Link

The ability to load settings remotely enables, among other things, parameters to be adjusted dynamically during operation or to automatically transfer settings to a replaced sensor. Extended diagnostic options allow you to quickly identify faulty devices/processes or initiate preventive maintenance, thus increasing your machine availability.

Reliably detect fill levels and objects and prevent downtimes

For trouble-free production, containers must always be sufficiently filled, but also must not overflow. This requires reliable monitoring, even for containers that are difficult to access. Capacitive sensors from Balluff are a reliable solution here. For level detection, two sensors are simply placed at high and low points outside the container. The capacitive sensor detects, when the level falls below or exceeds the limit so that you can react and reduce machine downtimes.

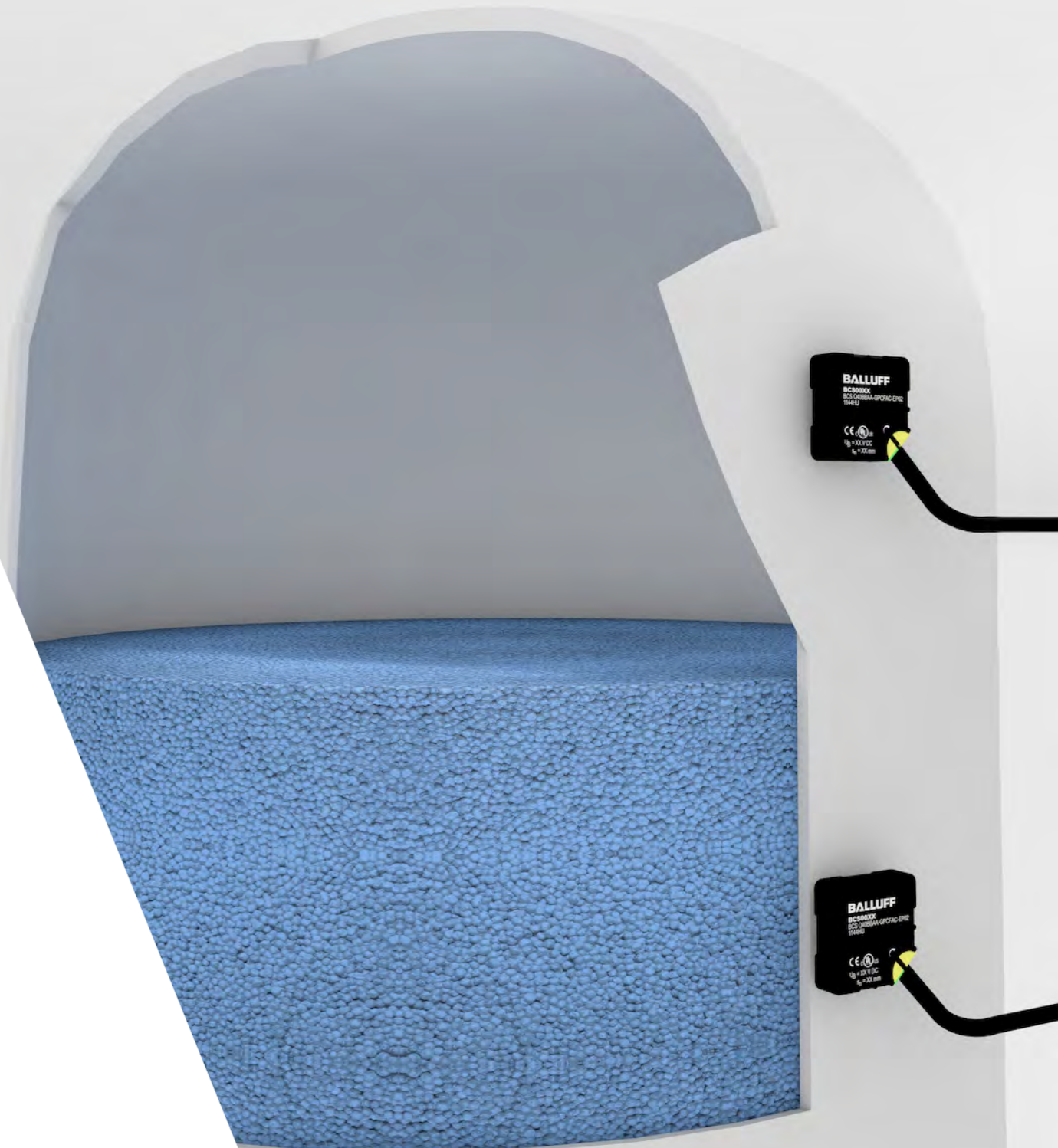
Features

- Non-contact object or level detection
- Leak detector: Detect smallest liquid quantities
- Simple parameterization via IO-Link or teach-in wire
- Flexible output signals: PNP, NPN, push-pull and IO-Link
- Extended diagnostic options such as switch counter, current/voltage monitoring, signal delay, etc.



CAPACITIVE SENSORS

	BCS01AJ
Dimension	40 x 40 x 10 mm
Installation	Flush
Connection	0.3 m PUR cable with M12 connector, 4-pin
Switching output	Push-pull PNP/NPN, NO/NC, programmable
Switching frequency	50 Hz
Interface	IO-Link 1.1
Range	1...20 mm
Sensitivity	Switching distance teachable
Housing material	PBT
Material sensing surface	PBT
Ambient temperature	-20...+85 °C
Operating voltage U _b	10...30 V DC
Approval/Conformity	CE, UKCA, cULus
IP rating	IP67



Highly accurate, robust and fast, even in the tightest spaces

FLAT MAGNETIC TARGETS FOR ANGLE MEASUREMENT SYSTEMS

NEW

Compact BML magnetic encoder systems from Balluff were developed for precise positioning and speed detection in highly dynamic applications. These particularly thin magnetically encoded disks expand Balluff's portfolio. Balluff's magnetically coded disks are characterized by their precision and high-quality magnetization. They work without using a reference point, so the exact position of the drive is known at all times. Even on large diameters, the system maintains its high accuracy, and their small size makes them easy to integrate into extremely compact electric drives and drive axes. For high volume applications, these disks with absolute encoding can be easily combined with commercially available off-axis encoder ICs, or you can choose one of Balluff's matching sensor modules.

Rotary magnetic encoder systems from Balluff with flat magnetic disk targets are the perfect solution here: the disks can be easily installed in the tightest of spaces, in any motor size and in harsh conditions. They record absolute rotary movements precisely for motor control and position regulation. This means the tool pivoting system in your machining centers are always positioned precisely, are also insensitive to dirt and vibration and are entirely maintenance-free, even over long periods of time.

Precise positioning for tool pivoting or motor control

Torque motors are being built in smaller and smaller sizes to match the requirements of increasingly demanding applications that require high power density. Their low-profile design is one of their greatest advantages, since it allows them to be built into applications almost invisibly. However, this design also poses a challenge for measuring systems that must be integrated into the motor to ensure precise feedback from the coil to the controller.

Features

- Easy to integrate thanks to low overall height
- Different diameters available
- High resolution and edge accuracy, precise absolute measurement
- Robust, dirt resistant, durable

MEASURING DISKS FOR MAGNETIC ENCODERS



	BML0ALK	BML0ALL	BML0ALJ	BML0A40	BML0A43	BML0A46	BML0A41	BML0A44	BML0A47
Pole width	1.28 mm	1.5 mm	2 mm	1.28 mm	1.5 mm	2 mm	1.28 mm	1.5 mm	2 mm
Nonius absolute coding	16/15	16/15	16/15	32/31	32/31	32/31	64/63	64/63	64/63
Number of poles master track	32	32	32	64	64	64	128	128	128
Outer diameter	17 mm	19 mm	24 mm	30 mm	34.5 mm	44 mm	56 mm	65 mm	85 mm
Inner diameter	1.5 mm	3.5 mm	8.5 mm	14.5 mm	19 mm	28.5 mm	40.5 mm	49.5 mm	69.5 mm
Inner diameter magnetic track	2.5 mm	4.5 mm	9.5 mm	15.5 mm	20 mm	29.5 mm	41.5 mm	50.5 mm	70.5 mm
Chip center to axis center	9.5 mm	11.5 mm	16.5 mm	22.5 mm	27 mm	36.5 mm	48.5 mm	57.5 mm	77.5 mm
Diameter master track	13 mm	15 mm	20 mm	26 mm	30.5 mm	40 mm	52 mm	61 mm	81 mm
Diameter nonius track	6 mm	8 mm	13 mm	19 mm	23.5 mm	33 mm	45 mm	54 mm	74 mm

MEASURING DISKS FOR COAXIAL ENCODERS¹



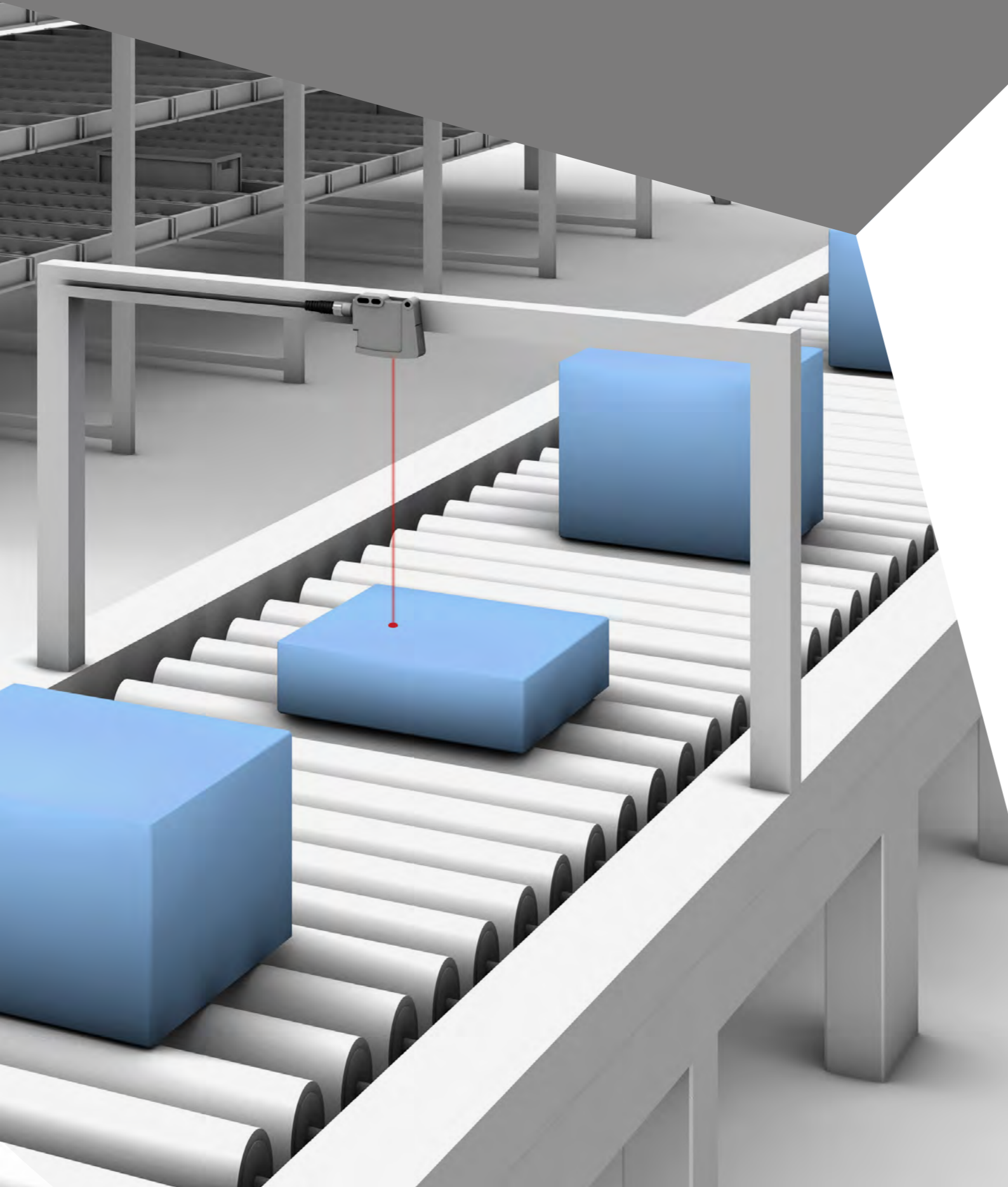
	BML0AAP	BML0AAR	BML0AAT	BML0AAU
Pole width	1.5 mm	2 mm	1.28 mm	1.5 mm
Nonius absolute coding	32/31	32/31	64/63	64/63
Number of poles master track	64	64	128	128
Outer diameter	33 mm	48 mm	53 mm	68 mm
Inner diameter	20 mm	35 mm	40 mm	55 mm
Inner diameter magnetic track	21 mm	36 mm	41 mm	56 mm
Chip center to axis center	26.75 mm	41.75 mm	46.75 mm	61.75 mm
Diameter master track	30.25 mm	45.25 mm	50.75 mm	65.25 mm
Diameter nonius track	23.25 mm	38.25 mm	43.75 mm	58.25 mm

¹ used for monitoring two independent, coaxial rotary shafts

Smart Automation and Monitoring System

PHOTOELECTRIC SENSORS WITH CONDITION MONITORING

NEW



SAMS (Smart Automation and Monitoring System) stands for Balluff's comprehensive automation philosophy. On the one hand, the Smart Automation and Monitoring System comprises a large number of additional functions and additional information for each individual component while, on the other hand, it is characterized by its uniform and standardized operating, configuration and diagnosis concept.

Part of this system is our new BOS R254K photoelectric sensor for reliable detection of objects like bottles, containers and pallets in the food industry and in the packaging sector. Designed for demanding applications, it is ideal wherever cleaning involves aggressive media and high pressure. Resistant to cleaning agents (Ecolab), it has passed the cleaning cycle according to the high Balluff standard. IP67 and IP69K ratings enable use in critical applications with harsh ambient conditions, especially in factory automation.

Another plus: its numerous additional functions provide for comprehensive condition monitoring. The sensor is self-monitoring while also providing helpful diagnostic data. You also gain valuable information related to the installed location including the application itself. All in all, the sensor ensures greater equipment uptime.

Features

- IO-Link V1.1 (Smart Sensor Profile 2)
- Additional functions: various operating modes also for demanding object detection (averaging, time and counting functions, dynamic switching threshold variation, preset switching thresholds, emitter LED monitoring, recording of extreme values)
- Designed for harsh ambient conditions
- Sensor monitors itself and its environment: temperature, humidity, vibration, inclination, contamination, function reserve

PHOTOELECTRIC SENSORS

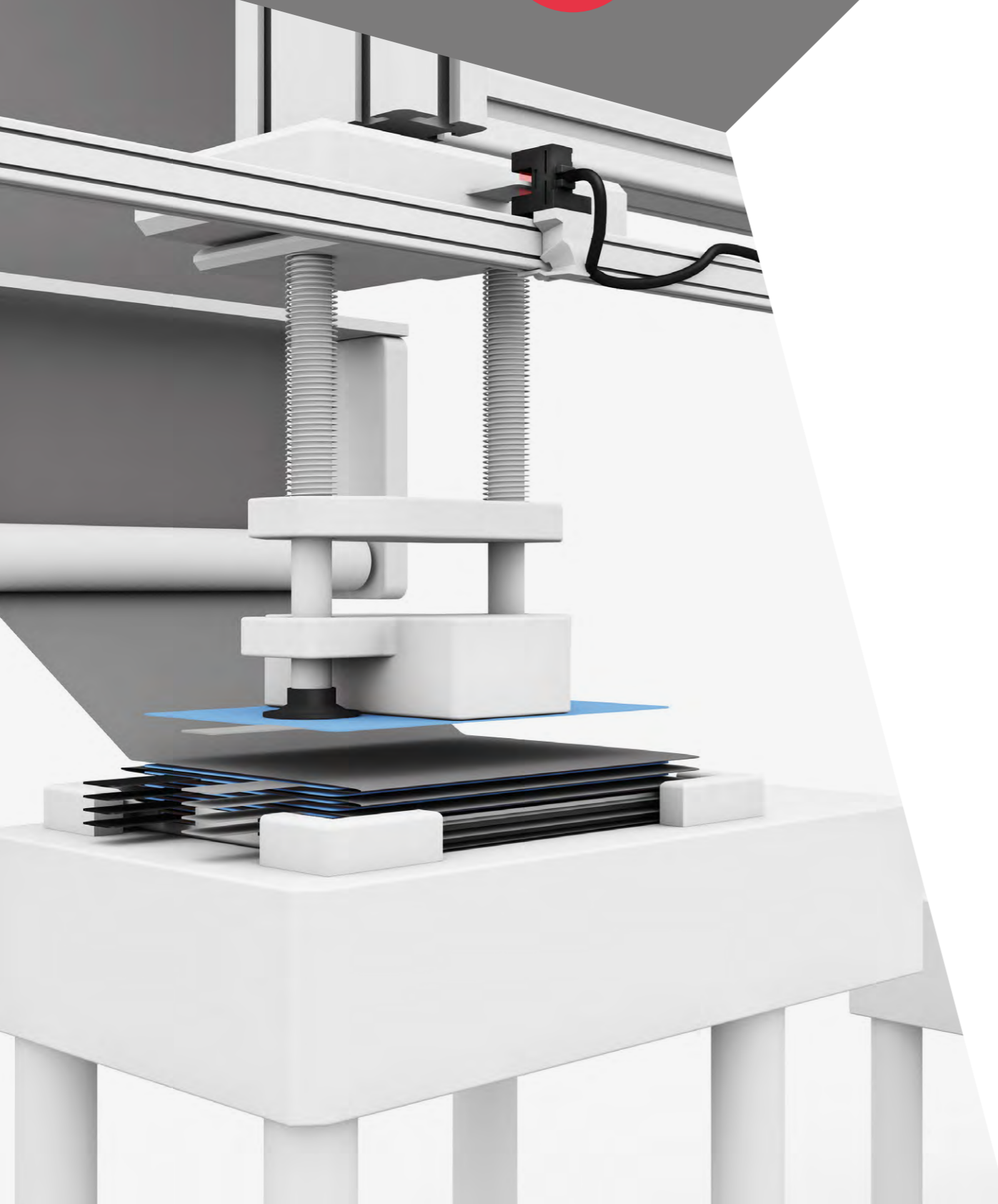


DIFFUSE SENSOR, TRIANGULATION	BOS02C3	BOS02C4	BOS0285		BOS02C2				
RETROREFLECTIVE SENSOR						BOS0286	BOS02C0		
THROUGH-BEAM SENSOR, RECEIVER								BOS0288	BOS02C5
THROUGH-BEAM SENSOR, EMITTER								BOS0289	BOS02C6
Series	R254K	R254K	R254K		R254K	R254K	R254K	R254K	R254K
Dimension	20.4 × 62.7 × 49.5 mm	20.4 × 62.7 × 49.5 mm	20.4 × 60.3 × 49.5 mm		20.4 × 62.7 × 49.5 mm	20.4 × 60.3 × 49.5 mm	20.4 × 62.7 × 49.5 mm	20.4 × 60.3 × 49.5 mm	20.4 × 62.7 × 49.5 mm
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1		IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
Switching output	Pin 4	Push-pull NO/NC	Push-pull NO/NC		Push-pull NO/NC	Push-pull NO/NC	Push-pull NO/NC	Push-pull NO/NC	Push-pull NO/NC
	Pin 2	PNP/NPN/push-pull NO/NC	PNP/NPN/push-pull NO/NC		PNP/NPN/push-pull NO/NC	PNP/NPN/push-pull NO/NC	PNP/NPN/push-pull NO/NC	PNP/NPN/push-pull NO/NC	PNP/NPN/push-pull NO/NC
Special optical feature	Background suppression	Background suppression	Background suppression		Background suppression		Autocollimation		
Beam characteristic	Divergent	Divergent	Focus at 400 mm		Collimated	Divergent	Collimated	Divergent	Collimated
Light type	LED red light	LED red light	Laser red light		Laser red light	LED red light	Laser red light	LED red light	Laser red light
Range	10...250 mm	30...500 mm	30...250 mm		30...500 mm	8 m	0...8 m	0...20 m	0...70 m
Connection	Connector, M12 male, 4-pin	Connector, M12 male, 4-pin	Connector, M12 male, 4-pin		Connector, M12 male, 4-pin	Connector, M12 male, 4-pin	Connector, M12 male, 4-pin	Connector, M12 male, 4-pin	Connector, M12 male, 4-pin
Housing material	PA 12, PA PACM 12	PA 12, PA PACM 12	PA 12, PA PACM 12		PA 12, PA PACM 12	PA 12, PA PACM 12	PA 12, PA PACM 12	PA 12, PA PACM 12	PA 12, PA PACM 12
Material sensing surface	PA PACM 12	PA PACM 12	PA PACM 12		PA PACM 12	PA PACM 12	PA PACM 12	PA PACM 12	PA PACM 12
Operating voltage U _B	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	10...30 V DC
Approval/conformity	CE, cULus, Ecolab	CE, cULus, Ecolab	CE, cULus, Ecolab		CE, cULus, Ecolab	CE, cULus, Ecolab	CE, cULus, Ecolab	CE, cULus, Ecolab	CE, cULus, Ecolab

Discover SAMS, the innovative Smart Automation and Monitoring System for optimal performance: Page 6

Flexible in the smallest space

MINISLOT MINIATURIZED FORK SENSORS



Balluff BGL fork sensors are known for precise object detection. Our comprehensive portfolio scores points with reliable solutions even for difficult and specialized applications. Now we are expanding our range to include particularly compact and versatile sensors for space-critical automation applications.

Simple setup, reliable sensing

The new BGL MiniSlot fork sensors from Balluff can be used very flexibly with their different mounting and connection options. Their good visible beam makes them simple to place correctly and adjust. The sensors are fully potted, which makes them resistant to vibrations, shocks and other environmental influences, and guarded with a IP64 protection rating. The bright LEDs also indicate the switching status and allow you to accurately read its diagnostics.

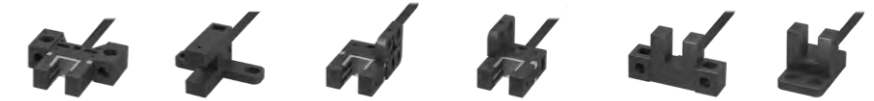
Flexibility defined

With their particularly compact size, the new BGL require significantly less installation space than conventional fork sensors. In addition, six different designs and a wide variety of connection options make the sensors even more flexible to use in a wide range of applications.

Features

- Six different designs for flexible use
- Cost-effective, robust solution for space-critical applications
- Precise detection and high repeatability
- Status indication with bright LEDs
- Unified slot width 5 mm
- Easy connection with 4-pin M8 plug, flat connector or cable
- Switching frequency up to 3 kHz for fast processes

FORK SENSORS WITH DIFFERENT CONNECTION TYPES



M8 CONNECTOR, 4-PIN WITH 0.2 M PVC CABLE	PNP NO/NC	BGL006F	BGL006R	BGL006L	BGL006N	BGL006J	BGL006U
	NPN NO/NC	BGL006E	BGL006R	BGL006K	BGL006M	BGL006H	BGL006T
FLAT CONNECTOR, 4-PIN WITH 0.5 M PVC CABLE	PNP NO/NC	BGL006C	BGL0069	BGL0063	BGL0061	BGL0065	BGL0067
	NPN NO/NC	BGL006A	BGL0068	BGL0062	BGL0060	BGL0064	BGL0066
PVC CABLE, 1 M	PNP NO/NC	BGL005R	BGL005T	BGL005U	BGL005Y	BGL005W	BGL005Z
	NPN NO/NC	BGL005J	BGL005K	BGL005L	BGL005N	BGL005M	BGL005P
Series		K-Typ	T-Typ	F-Typ	R-Typ	L-Typ	Y-Typ
Slot width		5 mm					
Standard target/hysteresis		> 1.2 × 0.8 mm / < 0.05 mm					
Light type		LED infrared (855 nm)					
Operating voltage/output current max.		5...24 V DC/50 mA					
Switching frequency		min. 1 kHz					
Ambient temperature		-25...+55 °C					
IP rating		IP64					
Housing material		PBT					
Approvals/conformity		CE, UKCA					

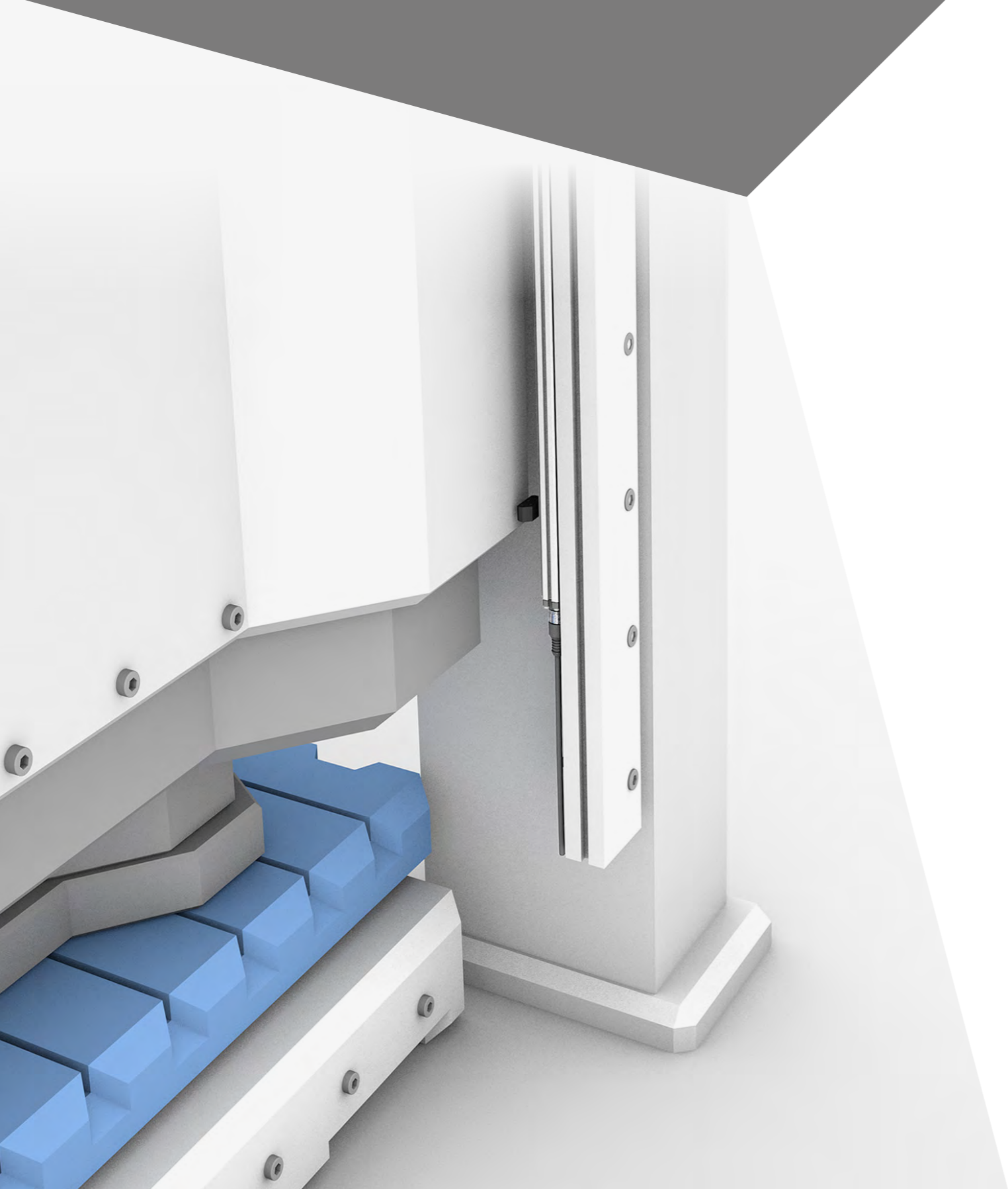
FORK SENSORS WITH CONNECTION TYPE CABLE



PVC CABLE, 1 M	PNP NO/NC	BGL005A	BGL005E	BGL005C	BGL005F	BGL005H
	NPN NO/NC	BGL0055	BGL0057	BGL0056	BGL0058	BGL0059
Series		K-Typ	U-Typ	L-Typ	F-Typ	R-Typ
Slot width		5 mm				
Standard target/hysteresis		> 1.2 × 0.8 mm / < 0.05 mm				
Light type		LED Infrared (855 nm)				
Operating voltage/output current max.		5...24 V DC/50 mA				
Switching frequency		min. 1 kHz				
Ambient temperature		-25...+55 °C				
IP rating		IP64				
Housing material		PBT				
Approvals/conformity		CE, UKCA				

Position measuring system in two optimized mechanical profile designs

MAGNETOSTRICTIVE SENSORS INTEGRATED ON MACHINE PARTS



Where the highest precision is required for position measurement in confined spaces, Balluff offers a new generation of magnetostriuctive sensors in two optimized profile designs with analog and IO-Link interfaces.

The new BTL series from Balluff impresses with its compact design. The space-saving housing design enables easy integration on machine parts for position detection. And by means of IO-Link, states such as temperature and service life can also be recorded for intelligent condition monitoring.

Position measuring systems in profile designs are ideally suited for use in the control of hydraulic presses in the field of forming technology. Since the position encoder is mounted on the moving part of the press and the profile housing with its displacement measuring element is mounted in the stationary part, both are insensitive to mechanical shocks. Their high-precision measurement and measuring frequency remain stable in any case, so that machines can be used optimally.

Features

- Fast and easy integration thanks to compact design
- Available with analog and IO-Link interface
- Easy parameterization via IO-Link
- Continuous monitoring of conditions such as temperature and service life for IO-Link-capable devices
- Simultaneous measurement of multiple positions and velocities
- Ideal for harsh industrial environments due to hermetically sealed IP67 aluminum housing
- Long service life, due to contactless operating principle

MAGNETOSTRICTIVE LINEAR POSITION SENSORS IN PROFILE HOUSING



Ordering example	BTL P...400-...-1-...-...-...
Housing geometry	Round profile PA: Ø 30 mm Flat profile PF: 35 x 20.8 mm
Housing details	Zero point at 67 mm
Measuring length	0025...4000 mm
Performance class	B1, C1
Power supply	10...30 V DC, 18...30 V DC
Interface	Analog: 0...10 V, 10...0 V, 4...20 mA, 20...4 mA, 0...20 mA, 20...0 mA IO-Link: V1.1 COM2/COM3
Approval/conformity	CE, EAC, UKCA
Connection	PUR cable, M12 connector 4-pin, M12 connector 5-pin, M12 connector 8-pin, M16 connector 6-pin, M16 connector 8-pin

Configure your magnetostriuctive sensor using the online configurator on our [website](#).

Discover SAMS, the innovative Smart Automation and Monitoring System for optimal performance: Page 6

Position measuring system in extremely compact rod design

MAGNETOSTRICTIVE SENSORS TO INSTALL IN THE HYDRAULIC CYLINDER

The new magnetostrictive sensors in compact rod design feature both analog and IO-Link interfaces. For position feedback, the innovative and extremely space-saving housing design of their electronic head enables simple integration directly in the hydraulic cylinder. Via the IO-Link interface, you can additionally record conditions such as temperature, humidity and service life, which can be used for intelligent condition monitoring as well as predictive maintenance.

By determining the piston position, the mini-rod format BTL optimizes the machining process of long or heavy turned parts supported by steady rests for a simple reason: In steady rest positioning, the actuator and sensor move together.

Features

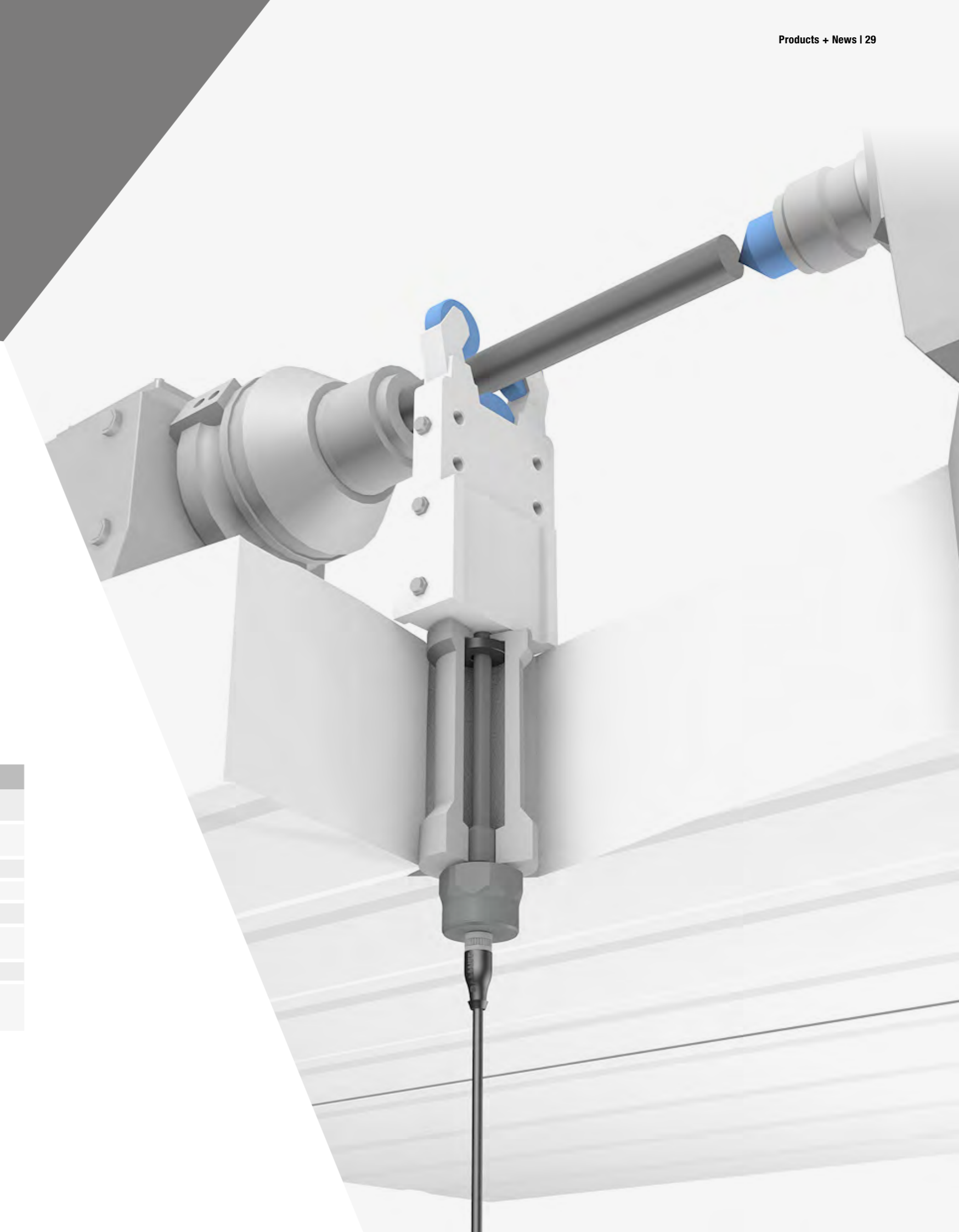
- Easy cylinder integration thanks to compact design
- Available with analog and IO-Link interface
- Simple parameterization via IO-Link
- Continuous monitoring of conditions such as temperature, humidity, and service life for IO-Link-devices
- Simultaneous measurement of several positions and speeds
- Long service life thanks to contactless operating principle

MAGNETOSTRICTIVE LINEAR POSITION SENSORS IN ROD-STYLE HOUSING




Ordering example	BTL_NC_00-____-1-____-_____
Fastening	Rod with metric mounting thread M18 x 1.5 (BN) Rod with inch thread 3/4"-16UNF (ZN)
Housing details	Zero point at 30 mm and rod end with thread, Zero point at 50.8 mm and rod end with thread
Measuring length	0025...4000 mm
Performance class	B1, C1
Power supply	10...30 V DC, 18...30 V DC
Interface	Analog: 0...10 V, 10...0 V, 4...20 mA, 20...4 mA, IO-Link: V1.1 COM2/COM3
Approval/conformity	CE, EAC
Connection	PUR cable, M12 connector, 4-pin, M12 connector, 5-pin, M12 connector, 8-pin, M16 connector, 6-pin, M16 connector, 8-pin

Configure your magnetostrictive sensor using the online configurator on our [website](#).



Automatic identification and tracking in production

RFID – RADIO FREQUENCY IDENTIFICATION

 innovating automation

Our BIS Industrial RFID systems provide you with the key technology for implementing the essential features of a modern manufacturing facility. Using RFID lets you categorize objects unambiguously and trace them at any time. Processes become transparent.

Industrial identification contributes to the interplay of all the levels involved in production and clears the path for self-controlling processes. That makes autonomous systems an important component of the Smart Factory and the IIoT.

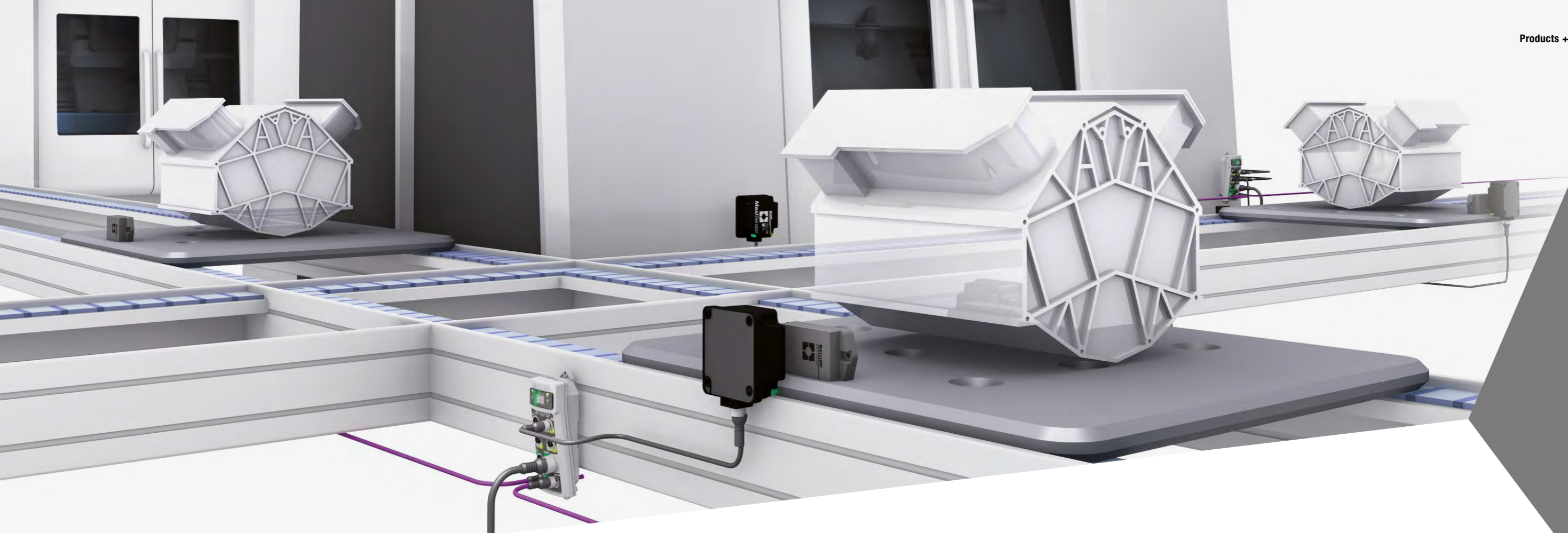
At Balluff you have access to the entire spectrum of RFID technologies with low (LF), high (HF) and ultra-high (UHF) frequency operation for virtually unlimited application. One special feature: with our BIS V multi-frequency processor unit, you can combine all our RFID systems flexibly with each other.

Another plus: our RFID Configurator lets you assemble your custom system online. And it's easy to use. Simply let yourself be guided by your own application, and in just a few clicks, you're there.

Your Balluff solutions

- UHF (860...960 MHz) BIS U
- HF (13,56 MHz) BIS M
- LF (70/455 kHz) BIS C
- LF (125 kHz) BIS L
- RFID configurator

Assemble your own system online
www.balluff.com/go/rfid-configurator



Advanced power supply in the industrial environment

RFID PROCESSORS WITH L-CODED M12 POWER PORT

Miniaturization is a major issue in many areas of automation, including cabling. The 7/8" connector concept that has been the preferred choice for a long time, is too large for many of today's applications. This applies to signal, Ethernet cables, and the power supply of the devices.

Today's power supply concepts expect compact and high-performance solutions. This is achieved with the L-coded M12 supply connection. Variants of the RFID processor units with this connector concept are available. With significantly smaller dimensions than the previous 7/8" power ports, they offer a future-oriented solution for your RFID applications. These M12 power connectors are standardized according to IEC 61076-2-111 and are supported by the PNO as the new standard power connector.

With our BIS V processor units, you can use up to four read/write heads simultaneously. Their frequency independence allows mixed operation of all frequencies (LF, HF, UHF). This means you only need to keep one type of processor unit in stock, which greatly simplifies warehousing. For industry-independent use, the evaluation unit is also available with all common bus systems worldwide. Thanks to the variable mounting concept, the BIS V can be easily mounted on DIN rails or profiles. In addition, each read/write head signals its operating status via two LEDs directly on the processor unit. Function blocks from many common control manufacturers are available for rapid deployment.

Features

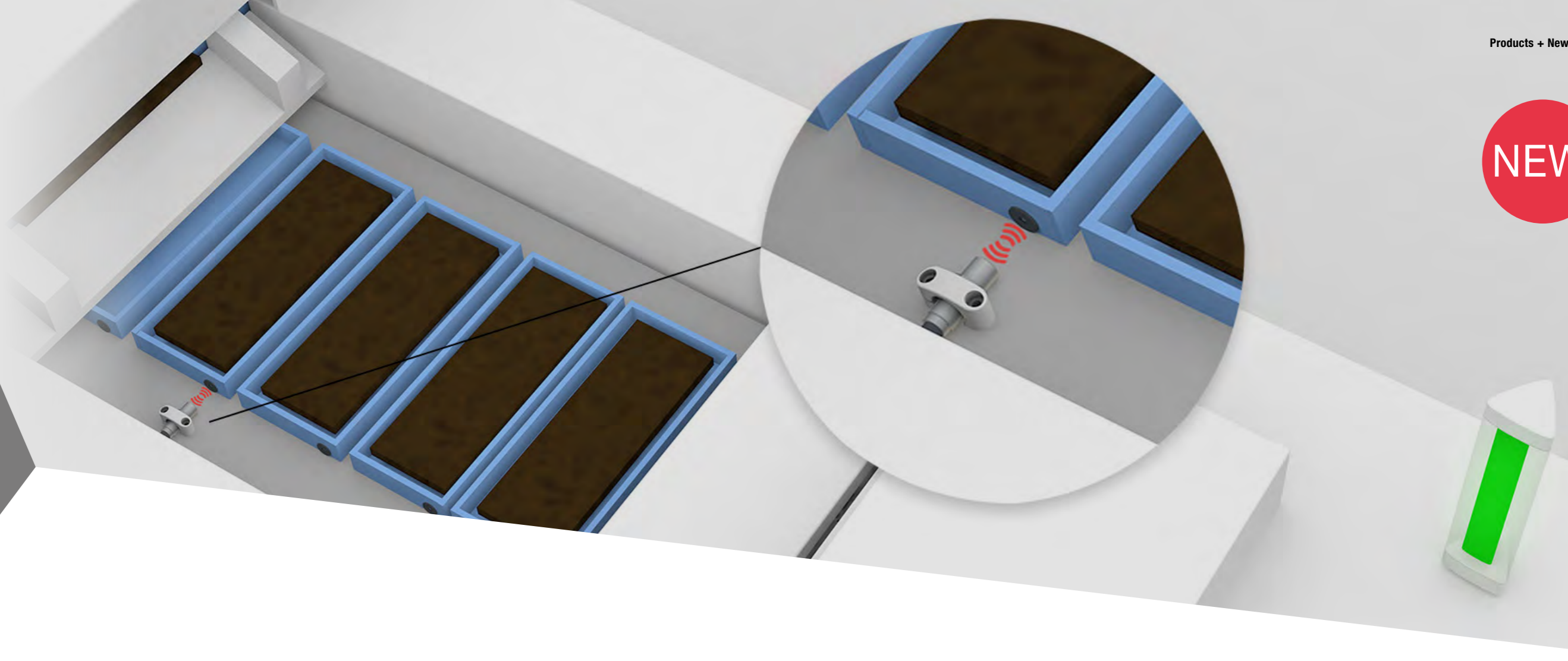
- High flexibility: one device for all established RFID technologies (LF, HF, UHF)
- Powerful voltage connections: M12 Power L-coded connectors (4 or 5-pin)
- For harsh industrial environments and perfect EMC: robust zinc die-cast housing
- Integrated IO-Link master port for connecting IO-Link-capable sensors and actuators

INDUSTRIAL RFID SYSTEMS



PROFINET	BIS01H7	BIS01H8*	BIS01AE	
ETHERCAT			BIS01H9	BIS01HA*
ETHERNET/IP	BIS01H5	BIS01H6*		
TCP/IP			BIS01AA	BIS01AC*
Usage	Power Port 4-pin	Power Port 4-pin	Power Port 5-pin	Power Port 5-pin
Compatible read/write heads	BIS VM-3 (13.56 MHz) BIS VL-3 (125 kHz)	BIS VM-3 (13.56 MHz) BIS VL-3 (125 kHz) BIS C-3 (70/455 kHz)	BIS VM-3 (13.56 MHz) BIS VL-3 (125 kHz)	BIS VM-3 (13.56 MHz) BIS VL-3 (125 kHz) BIS C-3 (70/455 kHz)
Connectable read/write heads	4	4	4	4
Power supply	24 V DC ±10 % LPS Class 2	24 V DC ±10 % LPS Class 2	24 V DC ±10 % LPS Class 2	24 V DC ±10 % LPS Class 2
Operating/Storage temperature	0...60 °C	0...60 °C	0...60 °C	0...60 °C
Protection class to IEC 60529	IP65	IP65	IP65	IP65
IO-Link master	V 1.1	V 1.1	V 1.1	V 1.1
Max. cable length read/write heads	50 m	50 m at BIS VU/VM/VL, 10 m at BIS C	50 m	50 m at BIS VU/VM/VL, 10 m at BIS C

* For read/write heads BIS C-3... with connector, the adapter cable BCC0FCK is required



Robust and flexible

RFID READ/WRITE HEADS READY FOR WASHDOWN ENVIRONMENTS

High frequency RFID read/write heads in M12, M18 and M30 designs are used for contactless identification of data tags on workpieces and workpiece carriers in the production process. This enables you to trace every single production step and every material used. All of this data is recorded and documented automatically and in real time, ensuring high product quality. This full transparency allows you to react to changes at any time.

These three robust HF readers can be used in harsh industrial environments and are ideally suited for washdown applications by being constructed with hygiene-compliant materials. They are perfectly protected from cleaning agents and water. Designed to withstand 1000 cleaning cycles, our products exceed the IP69K protection class many times over. The result: a significantly longer service life, less maintenance and, thus, significant cost savings. Thanks to the stainless steel housing, they can be mounted flush in metal, allowing the readers to be positioned flexibly without requiring clear zones. The readers are easily connected to the control level via standardized M12 connectors to our BIS V multi-frequency processing units.

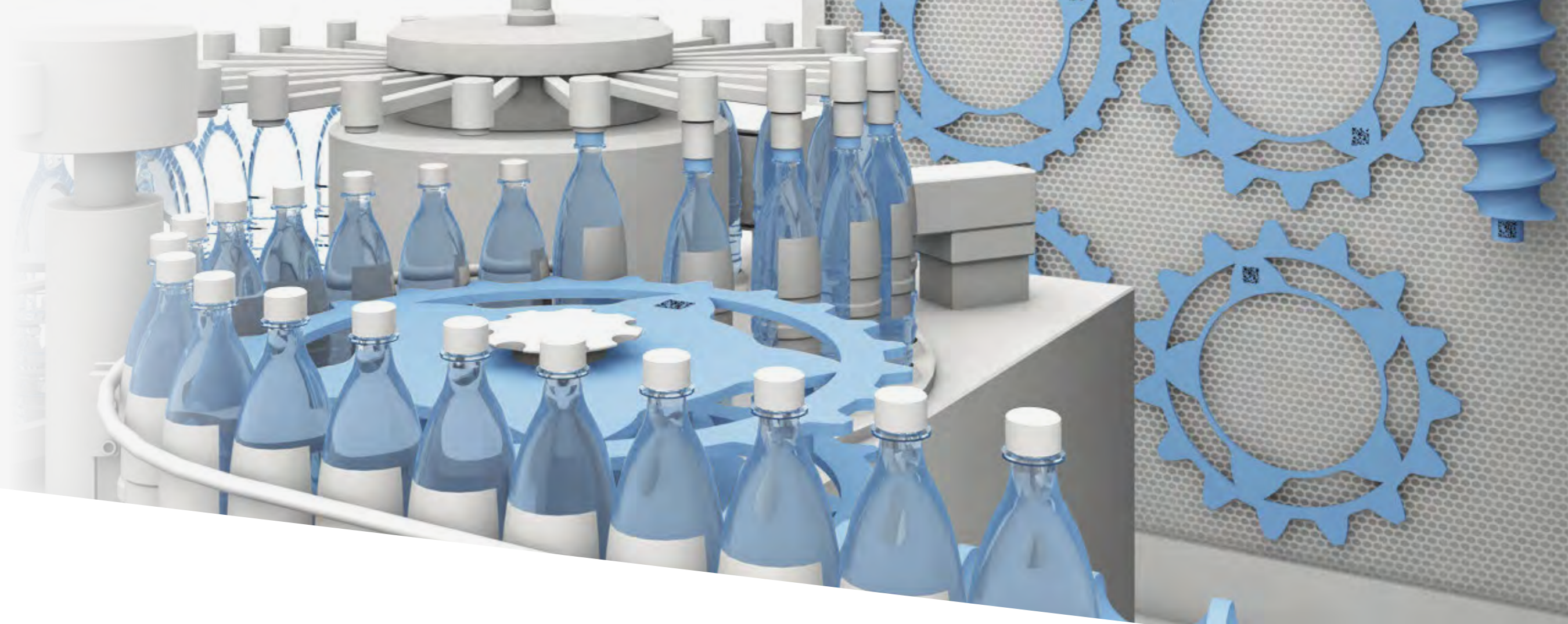
Features

- Robust stainless steel housing for flush installation
- Hygienic materials (1.4404 stainless steel, PBT)
- Designed to withstand at least 1000 cleaning cycles
- H₂O₂ resistant

INDUSTRIAL
RFID SYSTEMS



	BIS01FC	BIS01FE	BIS01FF
Product group	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)
Dimension	M12 × 65 mm	M18 × 65 mm	M30 × 65 mm
Installation	Metal-free (clear zone), on metal, flush in metal	Metal-free (clear zone), on metal, flush in metal	Metal-free (clear zone), on metal, flush in metal
Antenna type	Round	Round	Round
Supported data carrier types	DIN ISO 15693, DIN ISO 15693 (high memory)	DIN ISO 15693, DIN ISO 15693 (high memory)	DIN ISO 15693, DIN ISO 15693 (high memory)
Connection	M12 male, 4-pin	M12 male, 4-pin	M12 male, 4-pin
Housing material	1.4404 stainless steel, PBT	1.4404 stainless steel, PBT	1.4404 stainless steel, PBT
Ambient temperature	0...70 °C	0...70 °C	0...70 °C
IP rating	IP68, IP69K	IP68, IP69K	IP68, IP69K
Approval/conformity	CE, cULus, UKCA, FCC, IC, Ecolab	CE, cULus, UKCA, FCC, IC, Ecolab	CE, cULus, UKCA, FCC, IC, Ecolab



Smart Automation and Monitoring System

UHF READ/WRITE HEAD WITH INTEGRATED IO-LINK PROCESSOR UNIT

Powerful, smart sensor technology and multifunctional solutions form the basis for increasing the efficiency and effectiveness of your machines and systems.

Through Smart Features, our intelligent components provide you not only with process and condition data, but also with valuable and uniform diagnostic data, such as temperature and signal quality monitoring, as well as other multifunctions. This opens up completely new possibilities for you – from monitoring the condition of the machine and entire plants (condition monitoring) to predictive/preventive maintenance and even completely new business models.

The Smart Automation and Monitoring System (SAMS) thus represents Balluff's comprehensive automation philosophy. Thanks to its standardized operating and configuration concept, long commissioning times, high training costs and time-consuming troubleshooting in the event of unexpected device failure are also a thing of the past.


An essential component of the SAMS portfolio are our new UHF read/write heads with integrated IO-Link evaluation unit (860...960 MHz), which are used especially for identification in format part recognition. They are optimized for close range and reliably detect objects at reading

distances of up to 50 cm. Their IO-Link interface enables smooth integration by connecting to SAMS BNI master components. And thanks to the compact M30 cylinder housing, the system can also be easily installed in confined spaces.

Features

- Washdown Plus promise: Exceeds IP69K protection rating and withstands 1000 cleaning cycles
- Hygienic material (stainless steel 1.4404/PBT)
- H₂O₂-resistant
- IO-Link interface with advanced smart features

INDUSTRIAL
RFID SYSTEMS

 SAMS PRODUCTS



	BIS01E4	BIS01E8	BIS01E9
Working frequency	865.6...867.6 MHz	902...928 MHz	920.5...924.5 MHz
Radio approval	Europe	USA	China
Dimension	M30 × 98 mm	M30 × 98 mm	M30 × 98 mm
Antenna type	Patch	Patch	Patch
Polarization	Circular	Circular	Circular
Output power adjustable	-9.25...+13.75 dBmERP	-7...+16 dBmEIRP	-9.25...+13.75 dBmERP
Connection	M12 male, 4-pin, A-coded	M12 male, 4-pin, A-coded	M12 male, 4-pin, A-coded
Housing material	Stainless steel, PBT	Stainless steel, PBT	Stainless steel, PBT
Interface	IO-Link 1.1, COM 3	IO-Link 1.1, COM 3	IO-Link 1.1, COM 3
Process data IN/OUT	32/32 bytes	32/32 bytes	32/32 bytes
Operating voltage U _b	24 V DC LPS Class 2	24 V DC LPS Class 2	24 V DC LPS Class 2
Ambient temperature	0...+70 °C	0...+70 °C	0...+70 °C
IP rating	IP68/IP69K	IP68/IP69K	IP68/IP69K
Approval/conformity	CE, ETSI EN 302 208, cULus, EAC	FCC Part 15, IC RSS-210, cULus, EAC	CMIIT-Radio Transmiss. Equipm., cULus
Condition monitoring features	Vibration detection, inclination detection, internal temperature monitoring, voltage and current monitoring, signal quality check, extreme environment status, LED diagnostics		
Multi-functions	Operating hours counter, boot cycle counter, ping for visual localization of the device, Pin 2 for output of internal digital signals		


 Discover SAMS, the innovative Smart Automation and Monitoring System for optimal performance: Page 6

Image processing devices for reliable detection and recording

MACHINE VISION AND OPTICAL IDENTIFICATION

 *innovating automation*

The demands on modern production equipment are high: they must be extremely productive and flexible, while achieving maximum quality. Our Balluff Vision Solutions are designed precisely to meet these requirements. They reliably detect errors, check quality, and are suitable for reliable reading and verification of codes. They scan objects, 1D and 2D barcodes, and plain text.

The sensors are extremely flexible for parts checking in assembly or parts tracking in production. Their standardized interface mean the devices are simple to integrate and easy to use.

Your Balluff solutions

- Machine vision
- Optical identification
- 3D Machine vision

12 MPixels sensors and integrated projector for industrial 3D applications

ROBUST AND HIGH RESOLUTION 3D STEREO CAMERA

NEW



Low system costs, quick implementation, a high flexibility in the application and a robust housing characterize the 3D stereo camera. With 12 million 3D data points and a 12 MPixels resolution, the camera captures every detail and does so with a frame rate of up to 9 Hz, depending on the resolution.

In addition, the adjustable lenses on the cameras and integrated projector lead to optimal results, no matter in which workspace the camera is used. Via the GigE Vision interface, own 3D applications can be created based on the camera data. With the software library included in the scope of delivery, the 3D calculation can be automatically outsourced to a graphics card, thus increasing the camera's performance.

Features

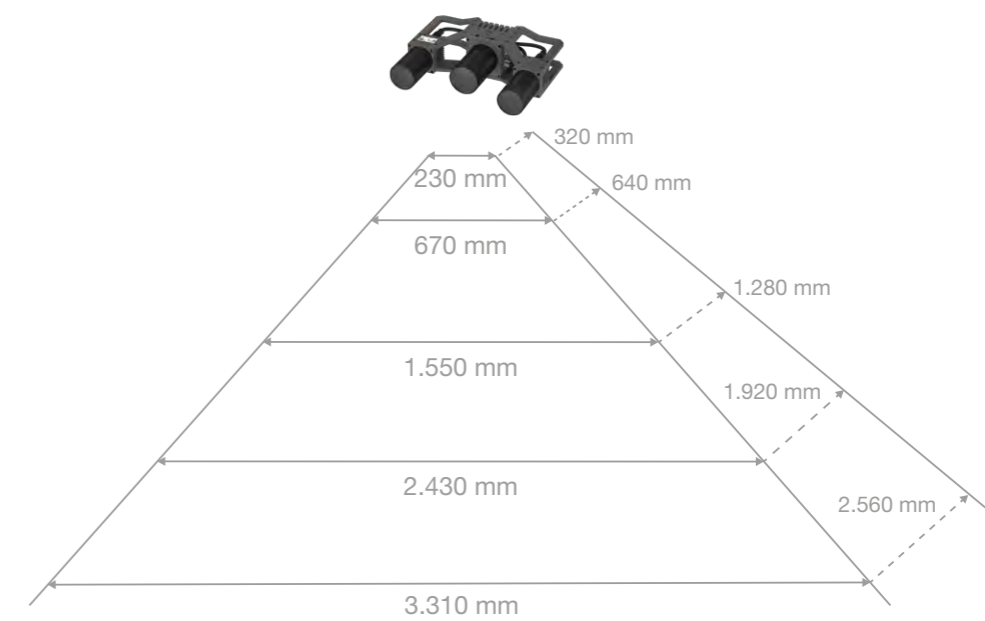
- High flexibility in application thanks to GigE Vision interface
- Performs even in harsh environments thanks to IP54 protected housing
- Enables highly accurate 3D image processing thanks to 12 MPix resolution of 3D data and 2D images
- Optimally adaptable to your workspace thanks to adjustable lenses on cameras and projector

Working range

Working distance

- 500 mm
- 1.000 mm
- 2.000 mm
- 3.000 mm
- 4.000 mm

BVS 3D-RV1-0124AG-1



Output data

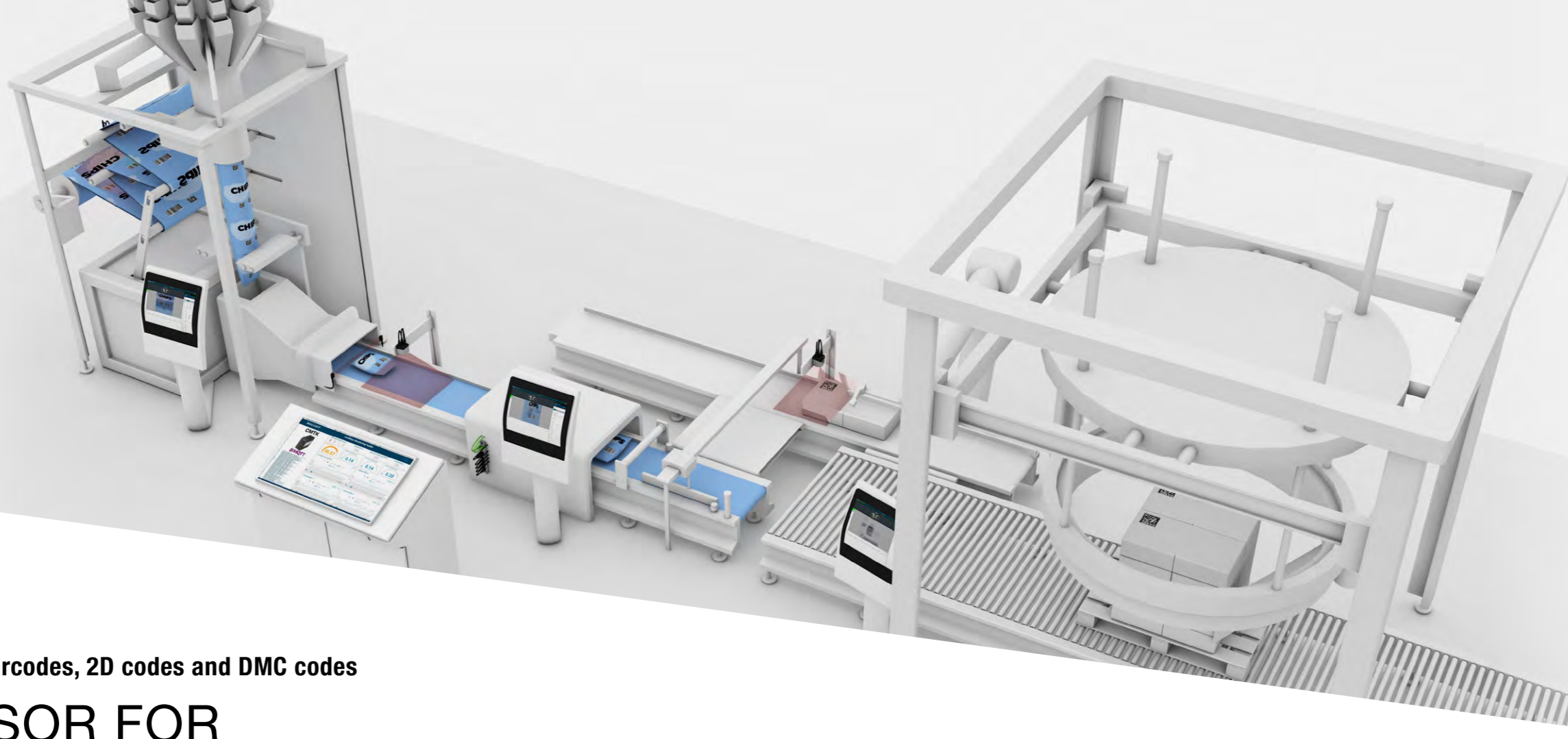
- Camera data via GigE Vision: left and right camera image, depth image (disparity image), confidence image, error image. For high-performance calculation of the depth image on the host PC, the use of a graphics card is recommended.



3D STEREO CAMERA

		BVS0199
Base distance		210 mm
Focal length		16 mm
Image resolution		4096 × 3008 pixels (12 MPixels)
Field of view	Horizontal	47°
	Vertikal	35°
Depth of the measurement range ¹		0.5 m...4.0 m

¹ The 3D stereo camera can measure into infinite space. However, with the stereo method the accuracy is reduced as a square of the distance; hence we recommend the above measurement ranges.



Developed for reading barcodes, 2D codes and DMC codes

IDENTSENSOR FOR OPTICAL IDENTIFICATION

The new BVS IdentSensor expands the existing range of stationary code readers from Balluff. Designed for precise reading of barcodes, 2D codes and DMC codes, it provides simple and flexible communication interfaces to the process and IT network. Modern, forward-looking programming interfaces (REST API, MQTT) and dedicated industrial interfaces (IO-Link, TCP, UDP) as well as additional condition monitoring information make the sensor unique and ideal for use in fast and difficult processes in automated production.

Reliably read out and transmit code contents

You can achieve reliable product identification in automated production and packaging settings via optical codes. The BVS IdentSensor from Balluff is especially suitable for these industries. Thanks to our solution, barcodes and 2D codes as well as DMC codes can be read easily, flexibly and reliably within production processes. Code contents and features as well as quality parameters are transmitted to the plant control system (PLC) or higher-level IT systems via industrial communication protocols. In addition, the BVS IdentSensor is part of Balluff's Smart Automation and Monitoring System (SAMS). So you can read out or automatically receive sensor parameters or additional condition monitoring information from the machine environment at any time via the REST API and MQTT. All in unique multi-talent within optical identification.

Capture, verify and pass on optical codes pass on

For product identification within production or logistics processes, barcodes or 2D codes are located on the product packaging or directly on the components.

With the new IdentSensor from Balluff, such optical codes can not only be read, but – code contents and types can be verified and provided or analyzed with regard to their quality, depending on the application. The results themselves can be passed on quickly and easily to the PLC or IT systems via various interface channels. The bottom line is that you ensure efficient workflows in your automated production or packaging processes.

Features

- Reliable code reading with the simplest operation
- IO-Link as process and data interface
- IIoT SAMS (Smart Automation and Monitoring System) features from Balluff
- Alternative, modern data interfaces: MQTT and REST API
- Additional condition monitoring information (vibration, temperature, code quality and operating time)



IDENTSENSOR

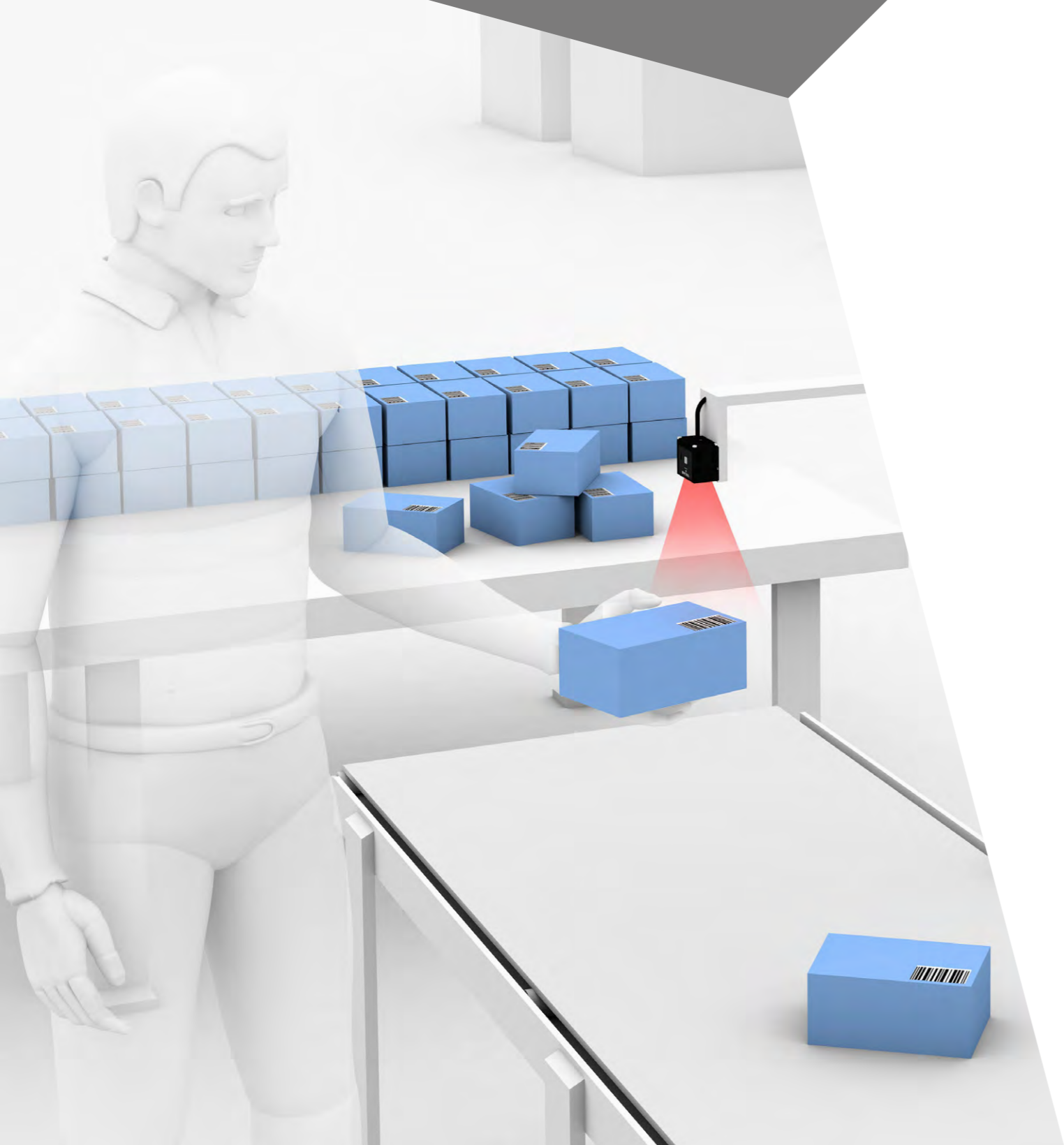


	BVS0060	BVS0061
Supported codes	Standard Barcodes, standard 2D Codes	Standard Barcodes, standard 2D Codes
Functionality	Read optical codes, analyze, verify	Read optical codes, analyze, verify
Condition monitoring	Temperature, vibration, humidity, position, signal quality, operating time	Temperature, vibration, humidity, position, signal quality, operating time
Working distance	20...600 mm	20...600 mm
Sensor resolution	1280 × 960 Pixel	1280 × 960 Pixel
Integrated lighting	white / red	white / red
Process data interface	IO-Link, EtherNet (TCP, UDP)	IO-Link, EtherNet (TCP, UDP)
IIoT interface and protocols	GigE, MQTT, REST API	GigE, MQTT, REST API
User interface	Sensor app as web client	Sensor app as web client
Dimension	56 × 56 × 65.5 mm	56 × 56 × 65.5 mm
IP rating	IP67	IP67

Discover SAMS, the innovative Smart Automation and Monitoring System for optimal performance: Page 6

Simple and good: For continuous traceability

IDENTSENSOR FOR MANUAL WORKSTATIONS



Code reading is the leading application in machine vision. This form of optical identification lets you identify components and objects, and thus control systems and processes without errors. Our IdentSensors with USB interface are ideally suited for these tasks.

The stationary sensors are ideal for manual track and trace applications, e.g. at manual workstations. They are permanently installed, easy to operate, detect bar and 2D codes – and now also score with an optimal price/performance ratio.

The ideal complement for comprehensive traceability

With our new BVS IdentSensor, less is actually more: a standard USB interface replaces more complex and costly industrial data interfaces. The reading speed is also adapted to applications such as simpler intralogistics situations.

This makes the IdentSensor with USB interface an optimal addition to your production: individual components can be tracked internally with "clear" codes. The same applies to the identification of manual incoming

goods. A green target bar assists with alignment and red LEDs act as integrated lighting for the sensor, which is compatible with all standard industrial 1D and 2D codes.

Features

- Reliable optical code reading with easy operation
- Compatible with all standard codes (1D and 2D)
- Integrated red illumination LEDs
- Triggered read-mode via keystroke or software command or automatic scan mode
- Easy installation with alignment aid and acoustic reading confirmation
- Individual product configuration with programming codes
- Plug-and-play with USB connectivity
- IP65 protection class



IDENTSENSOR USB

	BVS01A0			
Barcodes	<ul style="list-style-type: none"> ■ UPC-A ■ UPC-A Add-on ■ UPC-E ■ UPC-E Add-on ■ EAN-13 ■ EAN-13 Add-on ■ EAN-8 ■ EAN-8 Add on ■ JAN-8 ■ JAN-13 ■ Codabar/NW-7 ■ Code 11 	<ul style="list-style-type: none"> ■ Code 39 ■ Code 93 ■ Code 128 ■ GS1 DataBar ■ GS1 DataBar Limited ■ GS1 DataBar Expanded ■ Composite GS1 DataBar ■ Composite GS1-128 ■ Composite EAN ■ Composite UPC ■ IATA ■ Industrial 2 of 5 	<ul style="list-style-type: none"> ■ Interleaved 2 of 5 ■ Matrix 2 of 5 ■ MSI/Plessey ■ S-Code ■ Telepen ■ Tri-Optic ■ UK/Plessey ■ Chinese Post ■ Korean Postal Authority Code 	
2D codes	<ul style="list-style-type: none"> ■ Aztec Code ■ China Sensible Code ■ Codablock F ■ Data Matrix ECC 200 	<ul style="list-style-type: none"> ■ MaxiCode (modes 2 to 5) ■ MicroPDF417 ■ Micro QR Code ■ Passport MRZ (OCR-B) 	<ul style="list-style-type: none"> ■ PDF 417 ■ QR Code 	
Image resolution	0.4 MP (752 × 480 pixels)			
Light type	LED red light			
Interface	USB			
Housing material	ABS, black			
Dimension	41.1 × 24 × 33 mm			
IP rating	IP65			
Approval/conformity	CE, UKCA			

Reliable information exchange across all levels

INDUSTRIAL NETWORKING

 *innovating automation*

Demands on industrial networking continually increase: The rising quantities of data and ever more complex communication require high-performance components that can reliably transport the information across all levels. This is especially true when high protection ratings, robustness, use at high temperatures or special interfaces and connections for maximum security are needed.

With the intelligent combination of high-performance industrial networking technology and the IO-Link communication standard, Balluff makes flexible and smooth communication in the most varied application scenarios possible.

Your Balluff solutions

- IO-Link Wireless
- Network blocks
- Switches
- I/O modules
- Inductive couplers

Let all connections play via radio

INTELLIGENT, COMMUNICATIVE, WIRELESS: IO-LINK WIRELESS

The intelligent combination of industrial networks with the IO-Link communication standard is an essential building block for the factory of the future. Until now, sensors and actuators as well as binary and/or analog devices have been integrated via cables. IO-Link Wireless, on the other hand, is a promising, completely new standard for wireless communication in process and factory automation.

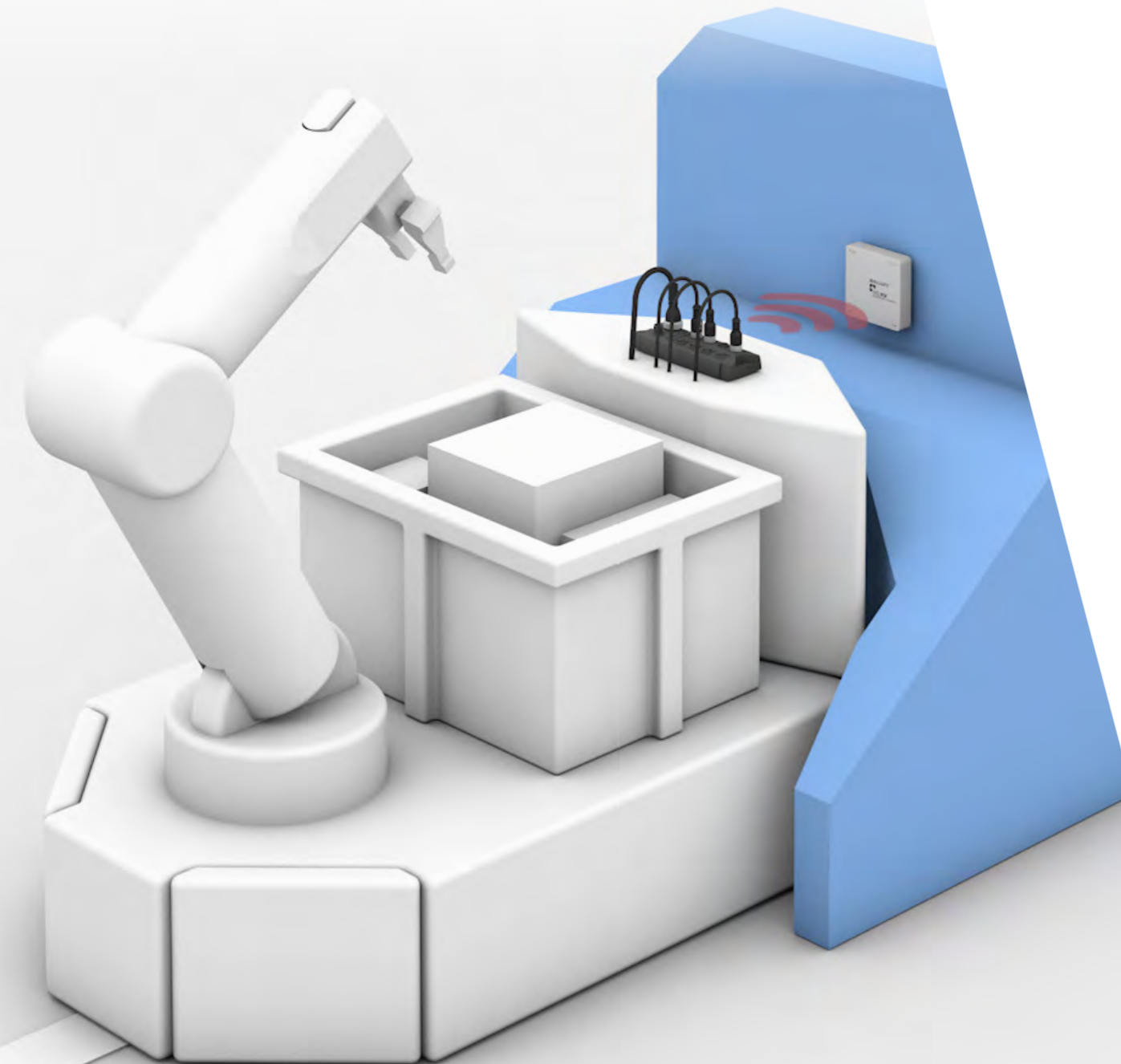
No cables – many advantages

Our wireless system consists of a master, hub and bridge. The wireless master does not receive its data by cable as usual, but receives the sensor data wirelessly via a bridge or a hub. This brings decisive advantages over a wired system, including simpler planning and installation, more flexibility in design and mobility, and no wear and tear on connectors or cables. In addition, this technology makes it much easier for you to retrofit existing systems.

In short, intelligent communication through Balluff's wireless IO-Link allows you to integrate sensors and actuators even more flexibly with the proven reliability and performance of the wired IO-Link standard. For example, you can now place compatible sensors directly on the carriage in highly dynamic transport systems, enabling even more precise monitoring of carriage movements and positioning.

Features

- Easy configuration via integrated web server
- Frequency range 2.4...2.483 GHz usable worldwide license-free
- Fast and reliable (latency 5 ms, error rate 10⁻⁹)
- Easily scalable and expandable by integrating additional devices (up to 120 devices)



MASTER

	BNI00FE
IO-Link function	IO-Link master
IO-Link version	1.1
Interface	Profinet
Operating voltage	18...30.2 V DC
Ambient temperature	-5...+50 °C
Approval/conformity	CE, EAC, IO-Link
Radio license	Europe



HUB

	BNI00FF
Principle of operation	Active splitter
IO-Link version	1.1
Process data cycle	5 ms
Ambient temperature	-5...+50 °C
Ports	8
Connection	M12
Approval/conformity	CE, EAC, UKCA



BRIDGE

	BNI00H3
IO-Link version	1.1
Operating voltage	18...32 V DC
IP rating	IP67
Ambient temperature	-5...+50 °C
Connection	M12
Approval/conformity	CE

An entry to IO-Link technology

NEW GENERATION OF IO-LINK SENSOR/ACTUATOR HUBS

Easy entry into efficient and proven IO-Link technology is made possible by the new generation of our I/O modules. Flexibly adapted to meet your needs, you can use up to 16 digital inputs or 8 digital inputs and outputs depending on the application.

Flexible exchange and easy expansion of your application

The next generation sensor/actuator hubs provide eight standardized M12 ports, four of which can be configured variably. The added value to existing Balluff IO-Link sensor/actuator hubs is primarily in the optimized housing concept and the deliberate simplicity of the new generation. Less is more – you gain simple handling and support of basic I/O functions without complex add-on functions.

Our new sustainable housing concept uses recyclable materials without potting materials in an environmentally friendly way, while still meeting all the requirements for industrial use in the usual Balluff quality.

Improved process quality with IO-Link

IO-Link brings users more flexibility and increases efficiency in automation. Our new gen IO-Link sensor/actuator hub offers you an easy entry into IO-Link technology for support of basic I/O functions. You can simply realize efficient topologies, because communication and power supply run over a single line. Our I/O modules enable the integration of standard

sensors and actuators in IO-Link topologies. Sensor/actuator hubs also offer you a high savings potential, because they reduce the number of fieldbus modules and enable efficient scaling of the application. In a nutshell, our new gen version is an ideal solution for getting started with the IO-Link standard or for completing versatile applications in a cost-effective manner.

Features

- Efficient and effective – perfectly suited for low power signal processing
- Flexible and from a single source – our new generation I/O modules are available in NPN and PNP variants
- Compact, lightweight and sustainable – optimized for use in moving applications and with Balluff's high quality
- Fast, effective signal transmission and reduced signal runtimes due to COM3 transmission standard
- Individually adapted to your needs, four of the digital ports can be flexibly configured

IO-LINK-
SENSOR/ACTUATOR HUBS



	BNI00J8	BNI00J9	BNI00JA
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
Operating voltage Ub	18...30.2 V DC	18...30.2 V DC	18...30.2 V DC
Connection (COM 1)	M12-Male, 4-pin, A-coded	M12-Male, 4-pin, A-coded	M12-Male, 4-pin, A-coded
Connection slots	8 x M12-Female, 5-pin, A-coded	8 x M12-Female, 5-pin, A-coded	8 x M12-Female, 5-pin, A-coded
Digital inputs	16 x PNP, Type 3	16 x NPN, Type 3	16 x PNP, Type 3
Digital outputs	8 x PNP	8 x NPN	8 x PNP
Configurable inputs/outputs	yes	yes	yes
Extension port	no	no	yes
Current sum US, sensor	2 A	2 A	2 A
Current sum UA, actuator	2 A	2 A	2 A
Switching current	8 x 200 mA	8 x 200 mA	8 x 200 mA
Housing material	PC Lexan, Transparent	PC Lexan, Transparent	PC Lexan, Transparent
Dimension	54 x 39.2 x 141.3 mm	54 x 39.2 x 141.3 mm	54 x 39.2 x 141.3 mm
Ambient temperature	-20...+60 °C	-20...+60 °C	-20...+60 °C
IP rating	IP67, when threaded in	IP67, when threaded in	IP67, when threaded in
Transfer rate	COM3 (230.4 kBaud)	COM3 (230.4 kBaud)	COM3 (230.4 kBaud)
Process data cycle min.	2 ms	2 ms	2 ms
Process data IN	6 bytes	6 bytes	6 bytes
Process data OUT	2 bytes	2 bytes	2 bytes

Smart Automation and Monitoring System

INDUCTIVE COUPLER WITH IO-LINK AND CONDITION MONITORING

New BIC Ø 30 mm high power inductive couplers have been developed for Balluff's Smart Automation and Monitoring Systems (SAMS). Designed for the contactless transmission of data and energy, they score with up to 1.5 A continuous output current and IO-Link interface.

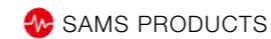
The state-of-the-art technology ensures the smooth, transparent and fast exchange of data between IO-Link device and IO-Link master as well as supplying power for sensors or actuators. A unique feature is the second configurable IO-Link channel, which you can use for condition monitoring as well as for process and diagnostic data.

Thanks to the compact IP69K stainless steel housing with Ecolab and UL approval, our inductive couplers can be used more flexibly than ever. Thanks to the extended operating temperature range from -25 to +85 °C, they can even be used in harsh conditions. No wonder that these systems leave conventional inductive couplers far behind.

Features

- Transparent, bidirectional COM2-/COM3 IO-Link communication
- Second IO-Link channel for condition monitoring
- Output current 1.5 A (max. 2 A) at 0...3 mm
- Stainless steel housing with Ø 30 mm in IP69K with Ecolab and UL approval
- IP69K solves washdown requirements
- Operating temperature range -25...+85 °C

INDUCTIVE COUPLERS



	BIC0084	BIC0085
Function	Signal transmission bi-directional	Signal transmission bi-directional
Component	Base	Remote
Interface transparent channel	IO-Link 1.1	IO-Link 1.1
Interface diagnostic channel	IO-Link 1.1	
Connection	M12 male, 4-pin, A-coded	M12 female, 5-pin, A-coded
Rated operating voltage	24 V DC	24 V DC
Output voltage	24 V DC	24 V DC
Output current max.		1.5 A
Absolute output current max.		2.2 A
Transmission distance	0...5 mm	0...5 mm
Ambient temperature	-25...+85 °C	-25...+85 °C
Housing material	Stainless steel 1.4404	Stainless steel 1.4404
Material sensing surface	LCP	LCP
IP rating	IP67, IP68, IP69K	IP67, IP68, IP69K
Transfer rate transparent channel	COM2/COM3	COM2/COM3
Transfer rate diagnostic channel	COM2	
Dimension	Ø 30 × 85 mm	Ø 30 × 85 mm
Approval/conformity	CE, EAC, cULus, Ecolab	CE, EAC, cULus, Ecolab
Condition monitoring features	Vibration detection, internal temperature monitoring, extreme environment status	
Multi-functions	Operating hours counter, boot cycle counter, ping for visual localization of the device, Pin 2 for output of digital signals or as IO-Link diagnostic channel of the BIC system	

Discover SAMS, the innovative Smart Automation and Monitoring System for optimal performance: Page 6



High-quality gear for virtually any application

ACCESSORIES

 *innovating automation*

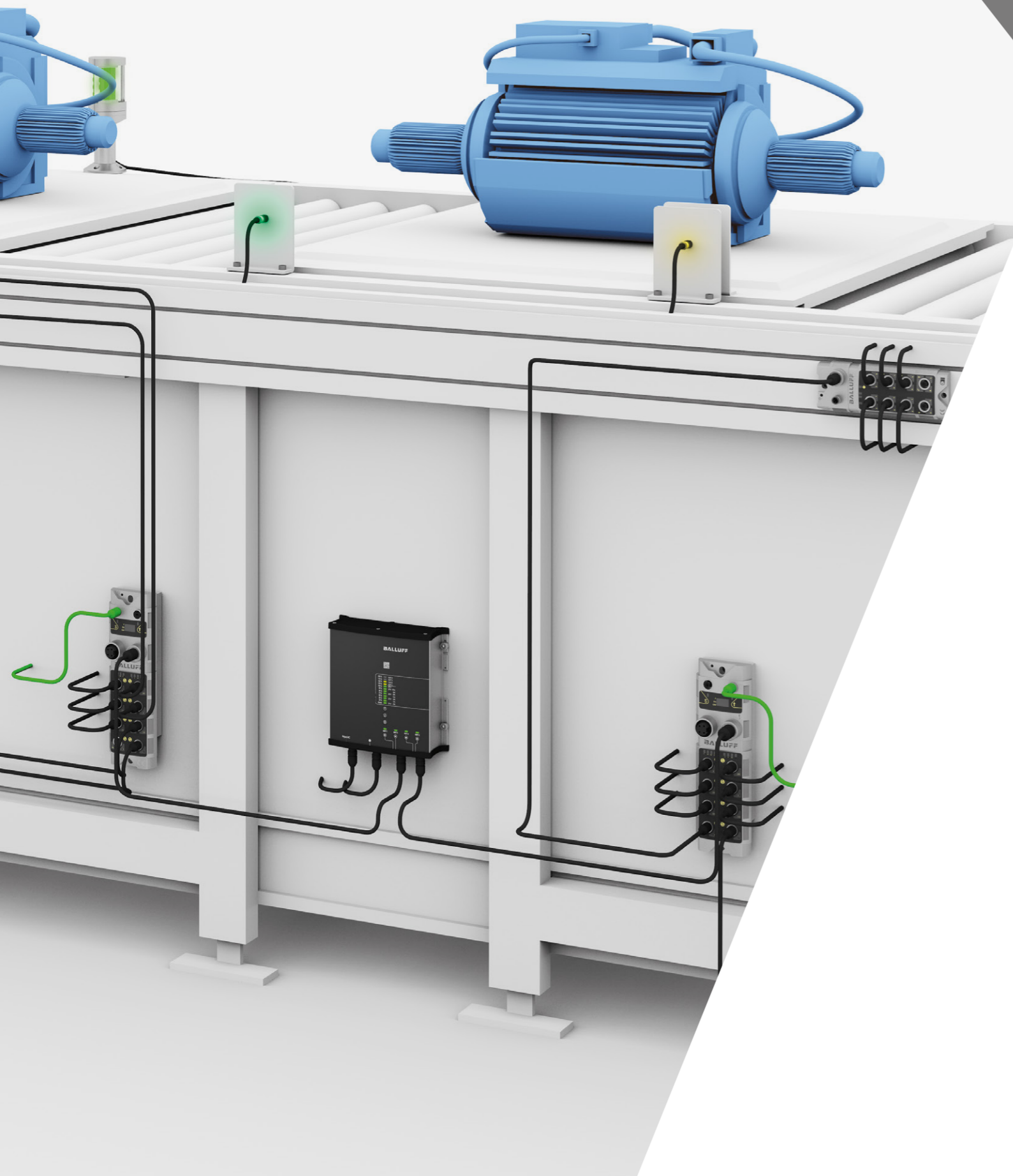
Our great selection of high-quality accessories supports you in the optimum embedding of the sensor in machines and systems through easy assembly and installation, exact positioning and high machine availability. The wide Balluff product range offers the optimum gear for nearly every application.

Your Balluff solutions

- Fastening technology
- Mechanical protection
- Reflectors, fibers, optics
- Lights for vision systems and machines
- Signal converters and communication adapters

Powerhouses of decentralized automation applications

THE NEXT GENERATION OF IP67 POWER SUPPLIES

For a reliable and efficient voltage supply, you can find a wide selection of suitable power supply units at Balluff. With the new generation of our IP67 power supplies you get the best from one source: single-phase or three-phase devices, high power classes and 7/8" and M12 power.

Decentralized, flexible, efficient

The new BAE power supplies with four integrated electronic fuses are compelling all-in-one solutions. Decentralized installation directly in the field significantly reduces your planning, logistics and cabling costs, and a small form factor saves you space. The IO-Link interface allows you remote parameterization and status monitoring.

High performers in automation

With efficiency of over 95.6 % and intelligent diagnostic options, these new IP67 power supplies from Balluff live up to their reputation as high performers in automation and help you increase the performance level of your applications in a wide variety of use cases and industries.

Both the single-phase 360 W and three-phase 600 W devices supply your system with up to 12 A of continuous output current per channel. In power boost mode, they even provide up to 40 A total power for a short time, for example for start-up currents.

Features

- IP65/IP67 potting free housing
- Up to 12 A continuous power per channel (5 s up to 40 A total power)
- Over 95.6 % efficiency
- Single-phase or three-phase devices, optionally as 7/8" or M12 variant
- 2 outputs with 4 fuse-protected channels (UA and US separated)
- Status monitoring and remote parameterization via IO-Link

FIELD POWER SUPPLIES WITH IO-LINK INTERFACE



	BAE012M	BAE012N	BAE012P	BAE012R
Output power	360 W	360 W	600 W	600 W
Adjustable output voltage	24...28 V DC	24...28 V DC	24...28 V DC	24...28 V DC
Output current	15 A	15 A	25 A	25 A
Power boost (5 s)	600 W, 25 A	600 W, 25 A	1000 W, 40 A	1000 W, 40 A
Input voltage	100...240 V AC, single-phase	100...240 V AC, single-phase	380...480 V AC, three-phase	380...480 V AC, three-phase
Efficiency	95.7 %	96.7 %	95.6 %	95.6 %
Input connector	7/8" male, 3-pin	M12 male, 3-pin, S-coded	7/8" male, 4-pin	M12 male, 4-pin, S-coded
Output connector	2 x 7/8" female, 5-pin	2 x M12 female, 5-pin, L-coded	2 x 7/8" female, 5-pin	2 x M12 female, 5-pin, L-coded
IO-Link	Condition monitoring, remote parameterization	Condition monitoring, remote parameterization	Condition monitoring, remote parameterization	Condition monitoring, remote parameterization
Dimensions	181 x 183 x 59 mm	181 x 183 x 59 mm	181 x 183 x 59 mm	181 x 183 x 59 mm
Protection class	IP65/67	IP65/67	IP65/67	IP65/67
Operating temperature	-25...+70 °C	-25...+70 °C	-25...+70 °C	-25...+70 °C
Mounting	Wall mounting	Wall mounting	Wall mounting	Wall mounting
Housing material	Aluminium alloy, hi-grade polycarbonate	Aluminium alloy, hi-grade polycarbonate	Aluminium alloy, hi-grade polycarbonate	Aluminium alloy, hi-grade polycarbonate
Certification/compliance	CE, UKCA, cULus	CE, UKCA, cULus	CE, UKCA, cULus	CE, UKCA, cULus

Generate, transport, visualize data –
create added value

SOFTWARE

 *innovating automation*



The future of automation is increasingly interlinked and digital. The growing diversity of technology, including in the private sector, means the expectations of many users are increasing while the demands on industry rise.

In order to be able to cope with the increased demands, the merging of classic automation technologies (OT) with information technology (IT) is necessary and the increased use of software is the next logical step.

Balluff therefore offers you the most diverse types of software, which together with our IIoT-capable hardware brings real added value. The Balluff Engineering Tool (BET) is available for easy configuration and commissioning of IO-Link devices. And easy operation of our camera systems is served by the clearly designed user interface BVS-Cockpit.

Your Balluff solutions

- Simple commissioning and configuration

Configure IO-Link devices quickly and easily

BALLUFF ENGINEERING TOOL



Industrial networks with the IO-Link communication standard support versatile and efficient digital production, with IO-Link ensuring seamless communication from the sensor to the Internet. With an increasing number of devices in use, configuration and diagnostics are very time-consuming and require special skills. To simplify the commissioning tasks of engineers, programmers, and maintenance staff, an increase plant efficiency, making use of powerful software such as the Balluff Engineering Tool offers considerable added value. This is because it enables manufacturer-independent and centralized commissioning, configuration and parameterization of IO-Link devices according to the IO-Link standard for sensors and actuators.

Features

- Reduced commissioning time due to faster setup of IO-Link devices, even without a PLC
- Avoidance of wiring errors and reduction of time-consuming troubleshooting by testing the IO-Link wiring before commissioning
- Reduction of the complexity of IO-Link networks and simple, intuitive operation
- Central access to parameterization of all IO-Link devices and overview of the connection status of the entire IO-Link topology
- Higher efficiency – only one software for all IO-Link sensors and actuators independent of the manufacturer and for all Profinet and Ethernet/IP IO-Link network modules from Balluff
- Increased system availability due to reduced maintenance times

Simple operation

This easy-to-use software provides central access to parameterize all IO-Link devices in a network. It provides an overview of the status of all IO-Link devices and informs you about events and errors. The user can easily document the current status of the network and, without a programmable logic controller (PLC), test inputs and outputs to avoid wiring errors.

Faster commissioning

In addition, the Balluff Engineering Tool IO-Link allows device settings and even entire machine or system configurations to be saved and reused. This simplifies and speeds up commissioning and helps to quickly change settings on a device when wiring problems are detected and when testing the machine.

Shortened maintenance times

The software also helps with the maintenance or servicing of IO-Link networks: missing or incorrectly connected devices can be quickly detected, and changes in the parameterization of a device can also be analyzed and easily rectified. And if a device should ever fail, the saved parameters can be restored after a device replacement. This reduces maintenance times and increases system availability.

Ordering example: **BAI-BET-12-UDN-00-DW-STOF**

License duration	License type	Number of licenses	Payment method
P Perpetual	C Concurrent Network	0001 Single user license	1 Single payment
S Annual	N Single user license		3 Annual license, annual payment
		For network licenses:	
		0005 max. 5 users	
		0010 max. 10 users	
		0020 max. 20 users	
		0050 max. 50 users	
		0100 max. 100 users	

Balluff

YOUR PARTNER FOR SUCCESS IN AUTOMATION



B *innovating automation*

Balluff is a leading supplier of high-quality sensor, identification and image processing solutions, including network technology and software for all automation requirements. Family-run for more than 100 years, the company today employs about 3900 employees in 38 subsidiaries within sales, production, and development locations worldwide, all of whom are committed to your success. Together with our representatives, we guarantee the highest quality standards in over 60 countries so that you always get the best.

We deliver innovative solutions to increase your competitive ability. Our consistent digital orientation drives our joint progress, and our innovative spirit factors directly into your success.

We adhere to our motto "innovating automation" as pacesetters of automation, refiners and new developers, and technical trailblazers. In our strategic incubation programs (SIPs), we develop new sustainable business models according to the lean startup principle. Open exchange with associations, universities and research institutes also helps us in this process. In this way, and in close contact with our customers, we create innovative industry solutions for automation. In doing so, we dedicate ourselves not only to the classic automation areas, but also to the development of digitalization and IIoT applications for an increasingly digital and networked world.

We have the future firmly in view in everything we do. We plan with foresight, handle resources carefully and offer you long-term prospects.

You can rely on us, our commitment and Balluff quality – all in the name of a mutually beneficial partnership.

WORLDWIDE

In more than 60 countries
with 3600 employees

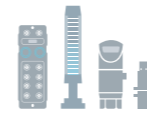
Thanks to an optimally connected worldwide presence, we guarantee our customers best-in-class delivery times, high on-time delivery reliability, transparent material flow and unambiguous responsibilities. Agile working methods are our success factor here. And we do this while maintaining consistently high quality, because that is crucial for our customers.

In addition, our local presence in these respective locations enables us to respond with particular flexibility to regional market requirements and thus meet the needs of customers and markets efficiently and with an eye to the future.



- Subsidiaries and representatives
- Distributors
- 🏭 Production facilities

Comprehensive **portfolio** of sensor, identification and image processing solutions including network technology and software



More than **30000** customers and partner worldwide



On site in over 60 countries: with own subsidiaries and numerous representatives

38

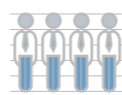
AT A GLANCE

More than **100** years Balluff: since 1921

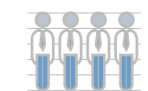
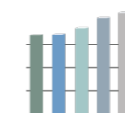


Experienced manufacturer with **7** production sites worldwide

4. generation family-owned company



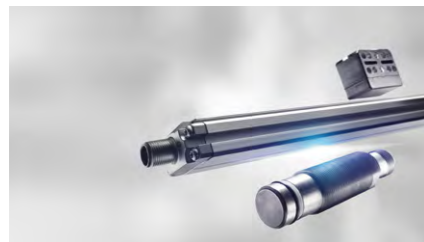
567 million EUR in group sales 2022



about **3900** employees worldwide

A high quality assortment of enormous range

PRODUCT PORTFOLIO



Sensors

In the field of sensor technology for machines and systems, Balluff offers the entire technological diversity with its different operating principles. We offer high-quality and precise sensors and systems for every application and requirement, from displacement measurement and identification to object detection and fluid measurement. Sensors for everyday industrial applications as well as for use in extreme and harsh environments. In addition, we offer you the best network and connection technology as well as an extensive range of accessories. Our sensor technology forms the basis for the automation and digitalization of your machines and plants. We offer sensors in highest precision and best quality for your processes.

Your Balluff solutions

- Inductive sensors
- Capacitive sensors
- Photoelectric sensors
- Magnetic field sensors
- Cam switches
- Ultrasonic sensors
- Magnetic encoders
- Magnetostrictive sensors
- Inclination sensors
- Pressure sensors
- Temperature sensors
- Flow sensors
- Condition monitoring sensors
- Position indicators
- Encoders



RFID

Our identification solutions BIS, offer you the key technology to implement essential requirements of modern manufacturing. With RFID technology, objects and products can be clearly assigned in the company and traced at any time. RFID systems are used to make all production steps transparent and traceable and are therefore an essential component for implementing the requirements of modern production and always keeping an eye on all data.

For unique identification and immediate traceability, a data carrier (RFID transponder) is attached to the object to be identified, which acts as a memory. The data is transmitted between the RFID transponder and the read/write head (reader) and passed on to the controller via the evaluation unit or an IO-Link network module. Our RFID solutions can be operated with almost any common controller and the evaluation units support all frequency ranges. And that is exactly what is special about RFID - the contactless exchange of information between RFID transponder and reader.

Your Balluff solutions

- UHF (860...960 MHz) BIS U
- HF (13,56 MHz) BIS M
- LF (70/455 kHz) BIS C
- LF (125 kHz) BIS L
- Multi-frequency RFID processors
- RFID configurator



Machine Vision and Optical Identification

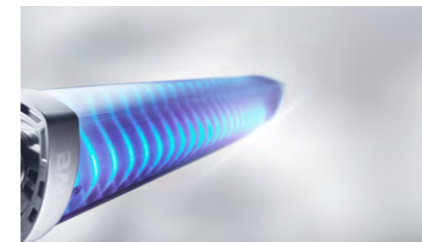
The requirements for modern production systems are high: High productivity and flexibility to maintain maximum quality. Our Balluff Vision Solutions (BVS) image processing devices are designed to meet these requirements.

They reliably detect errors, inspect quality and are suitable for reliably reading and verifying codes. Their functions include the detection of objects, 1D and 2D barcodes and the detection of plain text. With this range of capabilities, these sensors are extremely flexible.

Balluff Vision Solutions are used both in part-checking during assembly and in part-tracking during production. With standardized interfaces, the units can be easy to integrate and operate.

Your Balluff solutions

- Machine vision
- Optical identification
- 3D Machine vision



Human Machine Interfaces

Digitalisation has long since arrived in industrial production. In order to always be up to date, it is important to be able to rely on automated processes. With our signalling and display devices, you know at all times what the status of production is. They reliably visualise the status of the machine and system components to be monitored by converting the output signals of the sensors optically and acoustically. For example, a display device such as our SmartLight can be used to monitor the temperature at defined points on your machine or system. If the temperature exceeds a critical level for your machine, this is immediately indicated by the predefined optical warning signal. If the temperature continues to rise, this can also be signalled visually via the indicator.

Your Balluff solutions

- SmartLight – LED stack lights
- Displays



Industrial Networking

To reliably control and monitor your machines and systems, you need professional industrial communication and network technology. The requirements for industrial networks are extensive and diverse. The ever-increasing volume of data and complex communication require powerful and reliable components that are capable of transporting information across all levels.

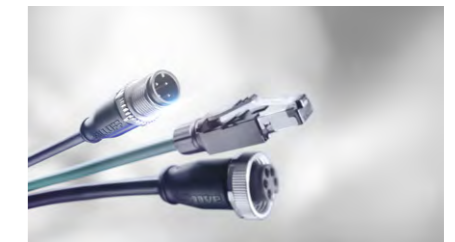
This is especially true when high protection classes, robustness, use at high temperatures or special interfaces and connections for the greatest possible safety are required.

The intelligent combination of powerful industrial networks with the IO-Link communication standard enables the reliable and flexible exchange of information in a wide range of applications.

Balluff thus enables you to optimally network your network components and provides an important building block for the industrial automation of your company.

Your Balluff solutions

- IO-Link Wireless
- Network blocks
- Switches
- I/O modules
- Inductive Couplers



Connectivity

Flexible and reliable - for us, these are essential characteristics of good connection technology. At Balluff, you get everything from a single source: sensors, systems and network technology as well as suitable connectors and connection cables for a wide range of requirements and optimal use in your industry. With our diverse, flexible and reliable connection technology, we support you with rapid integration and ensure quick and easy commissioning of your machines and systems. In our product range you will find various connection cables, distributors and connectors for reliable sealing as well as signal and data transmission. The connections are used in both mobile and robust applications in all areas of industry.

Your Balluff solutions

- Single-ended cordsets
- Double-ended cordsets
- Bulk cables
- Y-splitters Receptacles
- Tees
- Field attachables
- Bulkheads
- Receptacles
- Adapters
- Terminating resistors
- Junction blocks



Safety

The safe operation of machines and systems is elementary for employee protection, safeguarding productivity as well as liability security. To ensure both the safe operation of your machines and systems and to meet the safety requirements for machines and systems in industry, Balluff offers a comprehensive portfolio and solutions for your safety. This enables you to meet and reliably comply with the requirements of ISO 13849-1 Functional Safety as the standard for the safety verification according to the Machinery Directive 2006/42/EC.

With the installation of protective devices on machines and systems, important machine safety measures are already implemented in accordance with the Machinery Directive. From guard locking devices, safety sensors to control devices such as emergency stop and optoelectronic protective devices to safe I/O modules, Balluff enables you to create unique safety concepts for your company that provide a high level of safety up to the highest safety level PL e (Performance Level e according to ISO 13849-1:2006).

Your Balluff solutions

- Safety I/O modules
- Safety switches and safety sensors



Power supplies

With us you will find a wide selection of voltages and power levels and thus the right power supply for a reliable and efficient power supply.

For applications in the control cabinet, you can obtain 1- and 3-phase solutions in IP20 design with a wide power range from 3.15 A to 40 A and an optimum price/performance ratio.

With the new generation of our intelligent IP67 field power supplies you get the best from one source: 1 and 3 phase devices in high power classes, IO-Link functionality for condition monitoring and remote parameterization and multiple outputs, available as 7/8" and M12 variants.

Intelligent solutions with predictive maintenance are also offered by our Heartbeat® products. Here, too, the extended diagnostics can be used plant-wide via IO-Link.

Your Balluff solutions

- Heartbeat® power supply units
- Heartbeat® power supply units with IO-Link interface
- Power supplies for the control cabinet
- Field power supplies with IO-Link interface



Accessories

With our accessories you succeed in easy mounting, installation and exact positioning of our sensor technology, RFID systems, cameras as well as signalling and display devices for high machine availability. Our large selection of high-quality accessories supports you in the optimal mounting of hardware in machines and systems. The wide Balluff product range offers the optimal equipment in various designs, for almost all applications.

We not only offer accessories for precise sensor mounting, but also a wide range of machine accessories, such as protective housings or accessories for lighting, to optimally illuminate your machines, making it easier to use certain sensors and systems. The extensive portfolio of accessories is optimally matched to each version of our components and thus simplifies the design and installation of your machines and systems as well as your production processes. In addition to a wide range of reflectors and fibers for optical systems, we also offer signal converters and adapters to transport signals efficiently.

Your Balluff solutions

- Fastening Technology
- Lights for vision systems and machines
- Reflectors, Fibers, Optics
- Mechanical Protection
- Signal Converters and Communication Adapters



System Solutions

We offer our customers IIoT capable hard- and middleware in combination with powerful software. This means you benefit from system solutions for the widest variety of requirements in your production environment.

You get solutions for condition monitoring of your machines, for monitoring your production equipment or systems for tool management on injection molding machines or machine tools.

Your Balluff solutions

- Tool Management
- Monitoring



Software

The future of automation is increasingly interlinked and digital. The growing diversity of technology, including in the private sector, means the expectations of many users are increasing while the demands on industry rise.

Meeting these increasing demands necessitates the merging of traditional automation technology (OT) and information technology (IT). The increased use of software is the next logical step.

Balluff offers you a variety of software that, combined with our IIoT capable hardware, represents true added value.

Your Balluff solutions

- Setup and configuration

At home in many sectors

INDUSTRIES

Balluff sensor solutions and systems represent individual products that are optimally adapted to your industry, your application conditions and requirements. Our comprehensive sensor and networking expertise provides technological variety for use all around the globe.





More than just an online store

MY BALLUFF – WHY YOU SHOULD BE THERE

Available 24/7 My Balluff is much more than Webshop

Designed to support both existing and new customers, My Balluff users can check live stock, prices, create quotations and orders, track deliveries and download documents.

The My Balluff customer portal pays off!

Register and log in: your possibilities

As a registered customer you have access to your individual conditions in the webshop.

Create a new online account

Are you a new customer or haven't ordered online yet? After entering your e-mail address, you will receive your personal access data from us. As an existing customer you benefit directly from your individual conditions.

Additional features

- Open and manage account online
- Compare products
- Obtain customs tariff numbers
- Use your own part numbers
- Quick Entry parts list
- Add frequently used part numbers to favorites

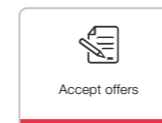
Order as guest

Choose this option if you want to make a one-time purchase without creating a permanent user account.

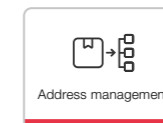
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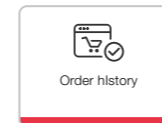
Register and take advantage of all the advantages of our My Balluff customer portal



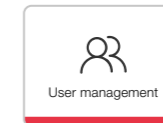
Request and manage offers



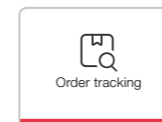
Change the Billing or Shipping address



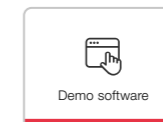
Use order history to view current and past orders



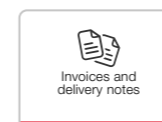
Manage team members access



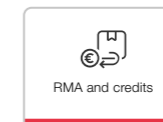
Track your delivery and get information about the current delivery date



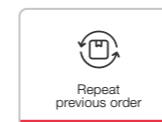
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Download and review quote, orders, invoices and delivery notes at any time



Use our new RMA form to process your return quickly and easily.



Save time, repeat orders

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