

**BALLUFF**

**B** *innovating automation*

Washdown  
Select Series

**SOLUTIONS FOR  
FOOD & BEVERAGE**





# CONTENTS

## 12 SENSORS



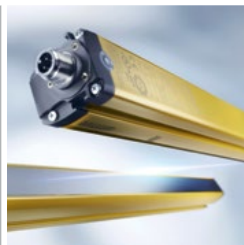
- 14 Inductive sensors
- 22 Photoelectric sensors
- 78 Reflectors for photoelectric sensors
- 80 Background light for vision systems
- 82 Capacitive sensors
- 94 Magnetic field sensors
- 101 Mounting bracket for BMF sensors
- 102 Magnetostrictive sensors
- 110 Floats for magnetostrictive sensors
- 111 Mounting accessories for magnetostrictive sensors
- 114 Pressure sensors

## 116 RFID



- 120 HF (13.56 MHz) data carriers
- 128 HF (13.56 MHz) read/write head with processor
- 130 LF (125 kHz) data carriers
- 132 LF (125 kHz) read/write head with processor
- 134 UHF (860...960 MHz) data carriers

## 134 SAFETY



- 138 Transponder coded interlocks
- 140 Inductive safety sensor
- 142 Transponder coded safety sensors

## 142 INDUSTRIAL NETWORKING



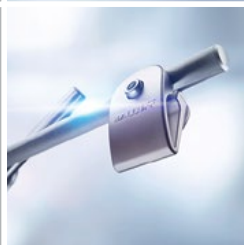
- 146 Network blocks
- 148 IO-Link sensor actuator hubs
- 150 Universal IO-Link interface
- 152 Protective cap

## 152 CONNECTIVITY



- 156 Sensor cables
- 180 Power cables
- 182 Bus cables
- 184 Splitters

## 184 ACCESSORIES



- 188 Universal mounting system
- 192 Universal bracket
- 193 Background light for vision

### **WARNING**

- Read, understand, and follow warnings and manual. Failure to do so could result in serious injury or death.
- NEVER USE AS A SENSING DEVICE FOR PERSONNEL PROTECTION
- Does NOT include self-checking redundancy circuitry required for use in personnel safety applications
- Does NOT meet OSHA and ANSI standards for point-of-operation devices



BCS 20MG10-  
XPATY-88  
10-30 V DC  
1.50 mA



## Washdown Select Series

# STAINLESS & IP69K RATED PRODUCTS FOR THE FOOD & BEVERAGE INDUSTRY.



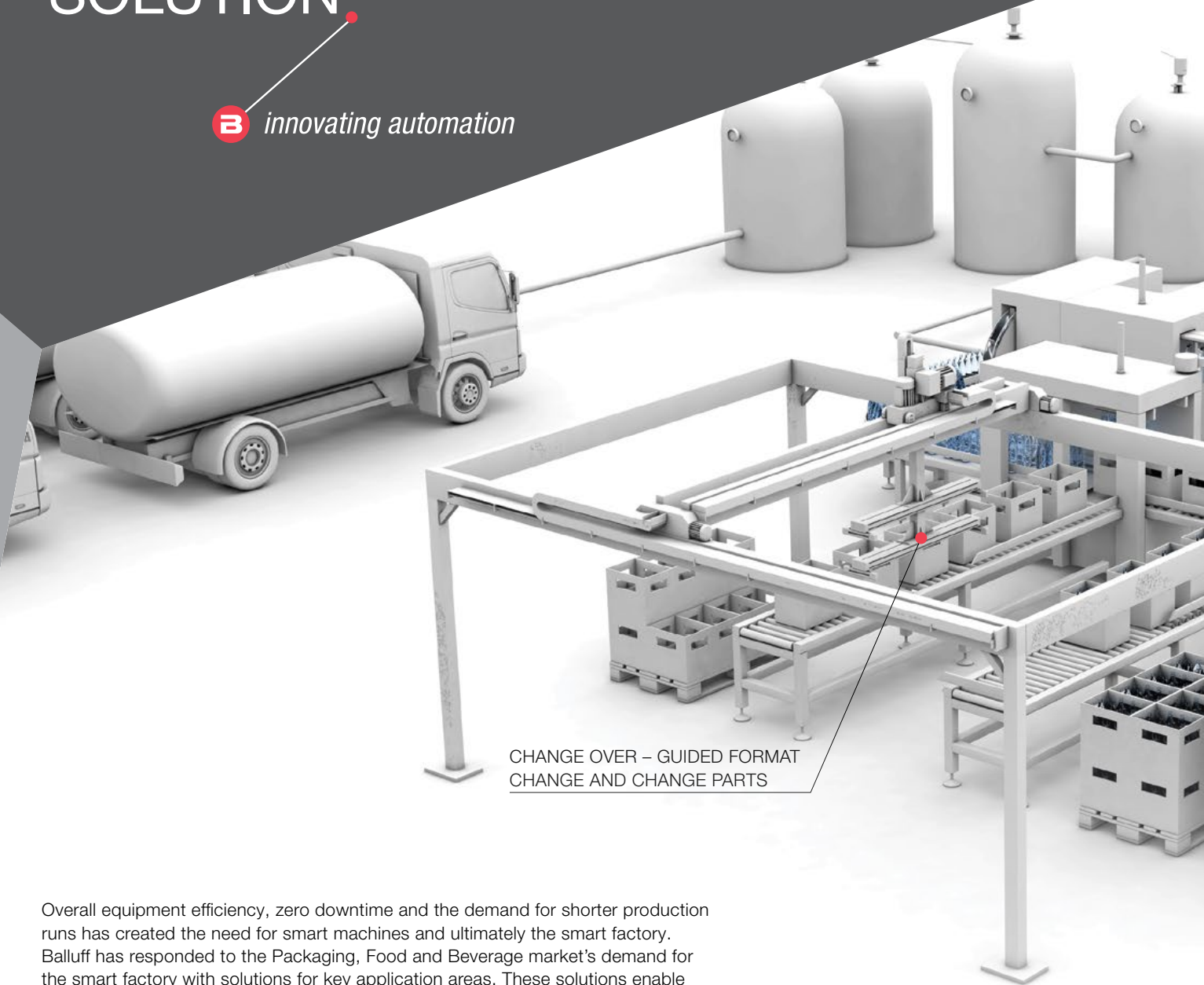
When working in automated food and beverage manufacturing segments like dairy, meat, filling and bottling, components that can survive in sanitary, hygienic and aseptic environments become necessary. Specifications for equipment look to reduce and remove areas for harboring bacteria. Poor survivability for automation components during washdown can become a major cause of downtime and lost production during changeovers and cleaning processes.

Balluff is utilized to improve manufacturing automation in four distinct applications inside a food and beverage facility: process automation, factory automation, flexible manufacturing and traceability.

- Sensing technologies like photoelectric, inductive, capacitive, and linear position
- Industrial RFID technologies and connectivity technologies
- Individual products with testing and ratings: FDA, 3-A, EHEDG, ECOLAB
- RFID technologies can be used to support FSAM hazard analysis and risk-based preventive controls implementations

# THE SMART FACTORY SOLUTION

**B** innovating automation



CHANGE OVER – GUIDED FORMAT CHANGE AND CHANGE PARTS

Overall equipment efficiency, zero downtime and the demand for shorter production runs has created the need for smart machines and ultimately the smart factory. Balluff has responded to the Packaging, Food and Beverage market's demand for the smart factory with solutions for key application areas. These solutions enable smart factory concepts today.

## CONTROLS ARCHITECTURE

- Eliminates analog wiring and reduces costs by 15% to 20%
- Simplifies trouble shooting
- Enables visibility down to the sensor/device
- Simplifies retrofits
- Reduces terminations
- Eliminates manual configuration of devices and sensors

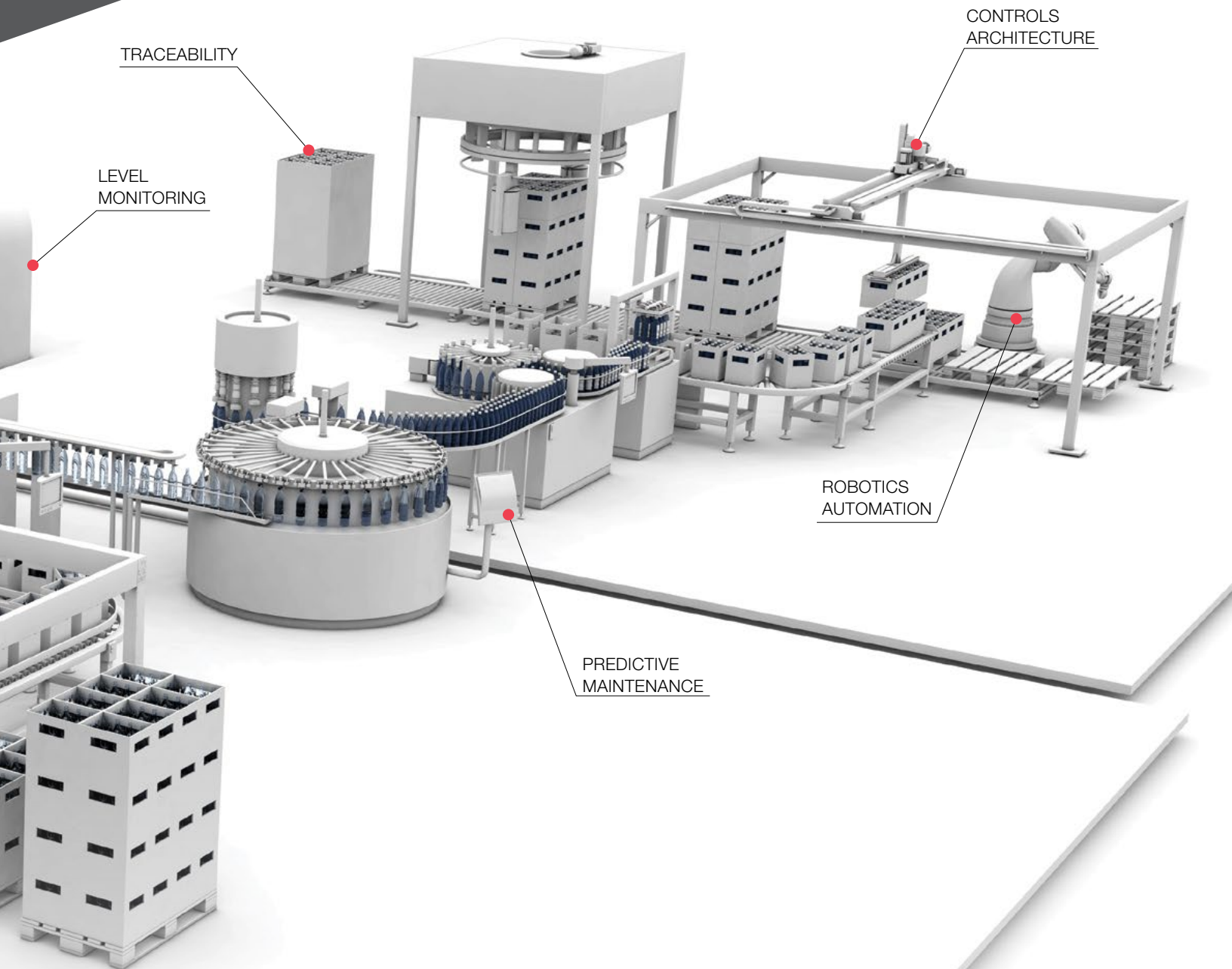
## CHANGE OVER – GUIDED FORMAT CHANGE AND CHANGE PARTS

- Eliminates changeover errors
- Reduces planned downtime to perform changeover
- Reduces product waste from start up after changeover
- Consistent positioning every time
- Ensures proper change parts are swapped out

## PREDICTIVE MAINTENANCE

- Enhances diagnostics
- Reduces unplanned downtime
- Provides condition monitoring
- Provides more accurate data
- Reduces equipment slows and stops
- Reduces product waste





TRACEABILITY

CONTROLS  
ARCHITECTURE

LEVEL  
MONITORING

ROBOTICS  
AUTOMATION

PREDICTIVE  
MAINTENANCE

#### LEVEL MONITORING

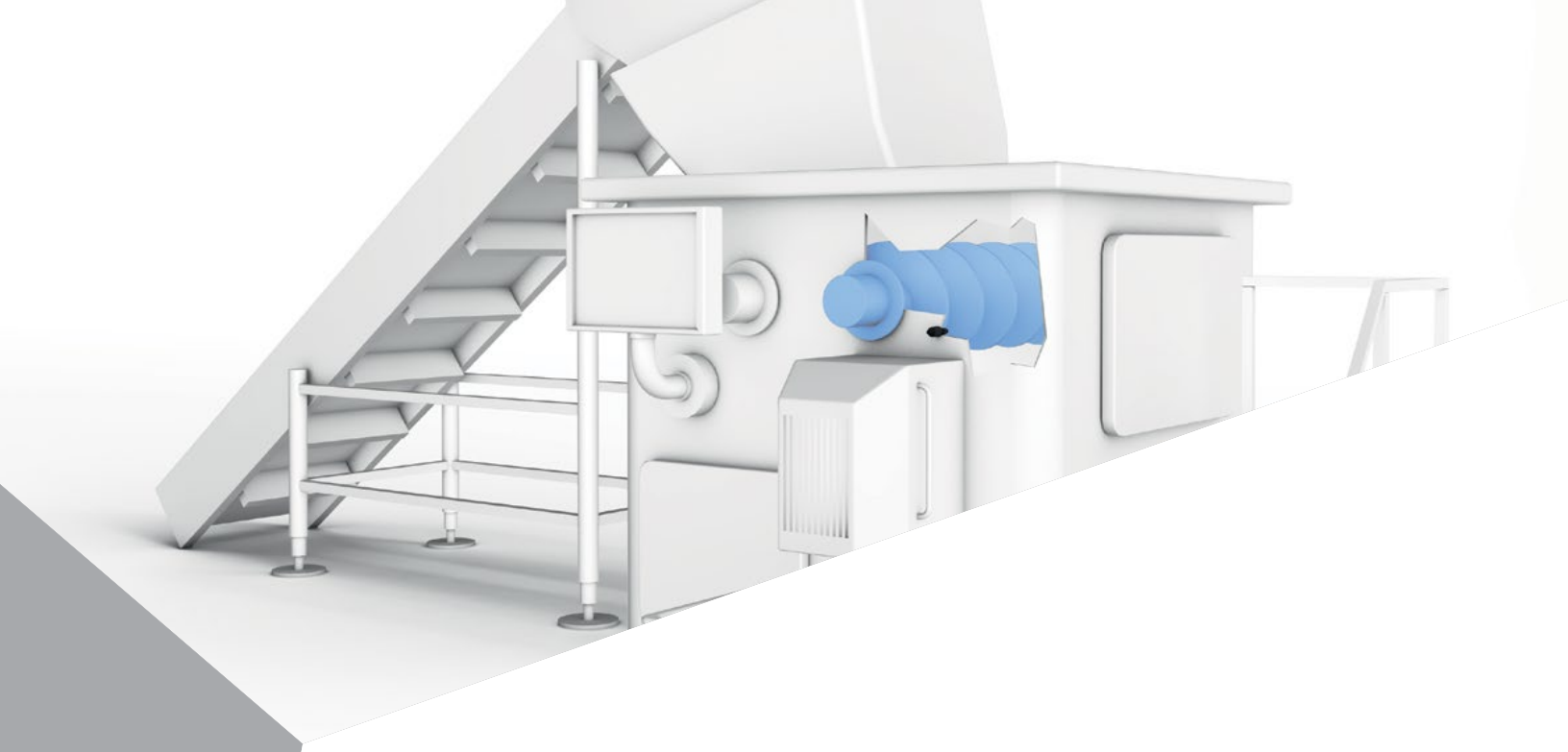
- Eliminates false triggers
- Dynamic and precise
- Conforms to hygienic and FDA guidelines
- Compact design
- Easy to retrofit
- Multi-function with condition monitoring available

#### ROBOTICS AUTOMATION

- Reduces wiring
- Reduces weight
- Integrates with robotics controller
- Simplifies installation
- Connectorless quick disconnect for easy swap out of end of arm tooling
- Provides continuous diagnostics

#### TRACEABILITY

- Delivers accurate data and reduced errors
- Tracks raw materials and finished goods
- Date and lot code accuracy for potential product recall
- Allows robust tags to be embedded in totes, pallets, containers and fixtures
- Increases security with access control

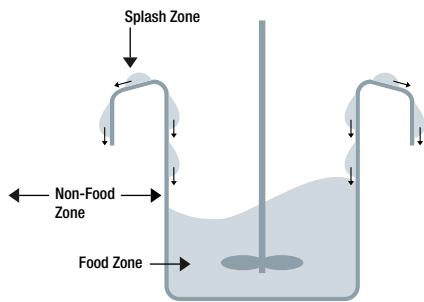


# Solutions for food safety

Food safety is an extremely important aspect of food and beverage manufacturing and is defined as a set of guidelines and procedures on how to properly handle foodstuffs in order to prevent foodborne illnesses from contamination caused by bacteria, viruses and fungi.

When working in automated food and beverage segments, such as dairy, meat, poultry, frozen foods, filling and bottling, it is important to understand the sanitation and washdown requirements in order to provide the best possible solution.

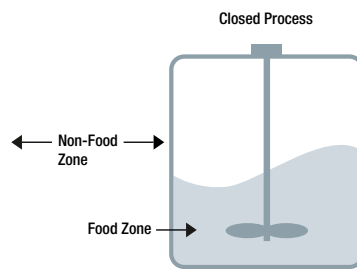




### FOOD CONTACT ZONES

There are three primary food contact zones in the production process. The food contact zones define the level of potential contamination that could occur based on the amount of contact with foodstuffs the production equipment is exposed to. Identifying the proper food contact zone is vital in specifying the proper solution for the application.

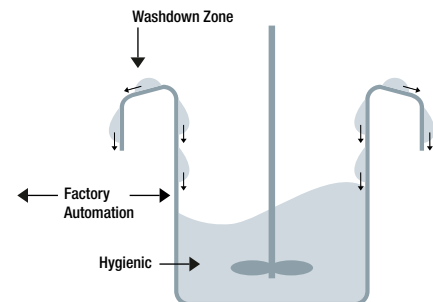
- **Food Zone**  
This is the surface in direct contact with food or where other substances can flow, drip, distribute, diffuse or be drawn. This also includes surfaces where condensed liquids can drop back into or onto the product as well as surfaces that are in contact with product touching packaging materials.
- **Splash Zone**  
This is the surface or machinery that can indirectly come in contact with food and liquid where the product cannot end up back in the main food product production. Contamination of these surfaces can cause indirect contamination of the food and also needs to be addressed.
- **Non-Food Zone**  
Any surface of the food production machine that does not come in contact with the food product.



### CLOSED AND OPEN PRODUCTION

When discussing food contact zones, it is also important to discuss the open and closed production processes in order to properly access the correct food contact zone and machine cleaning requirements.

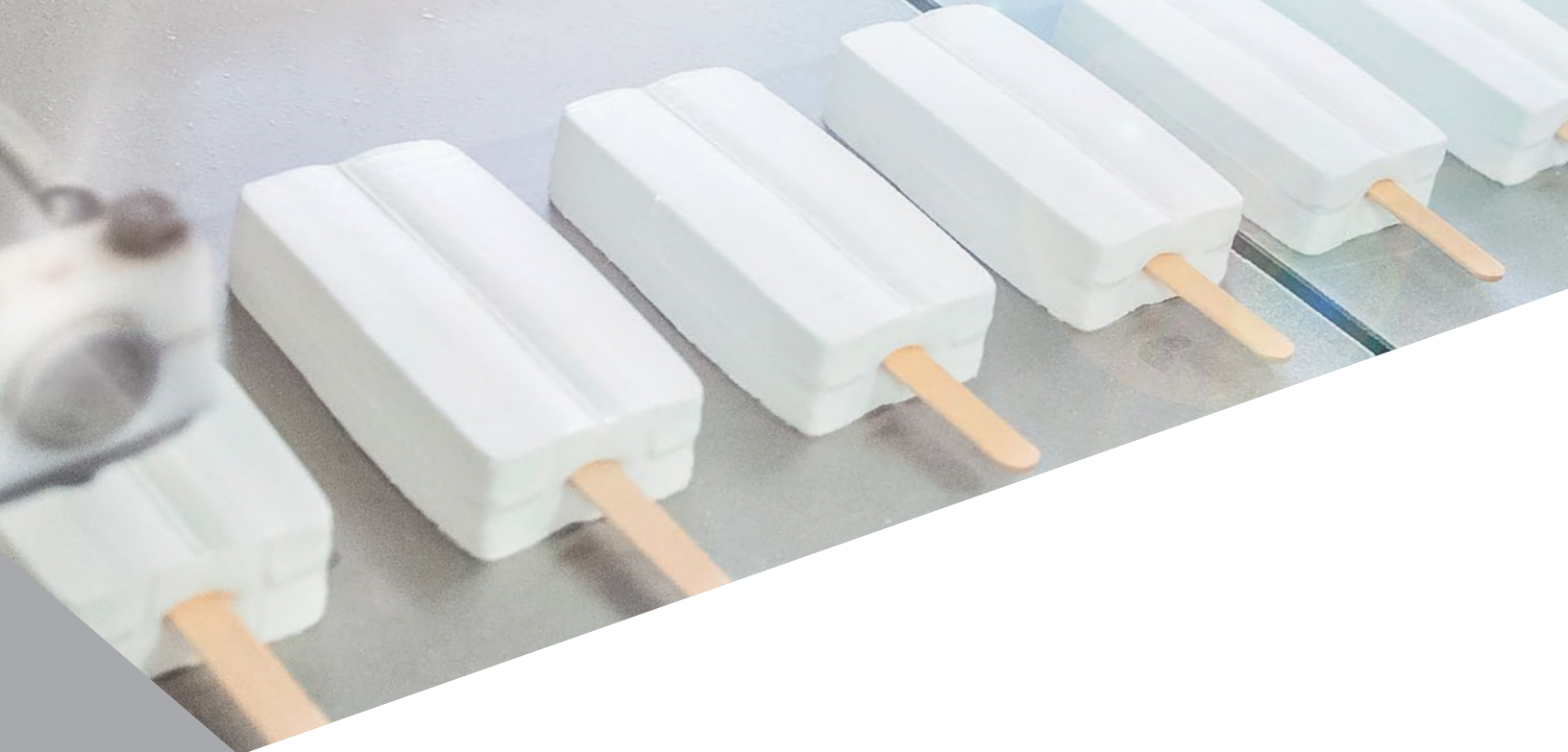
- **Closed Process**  
This is probably the easiest to handle in the production since the product does not come in contact with the environment. Food contact zones are the inner surfaces of tanks, pipelines, valves, pumps and sensors. Outside is the non-food zone, which does not come in contact with food. Nothing can unintentionally enter the process from the outside.
- **Open Process**  
Food has contact with the environment outside the machine. Hygienic design of the process environment and the surfaces of the apparatus and components is necessary.



### RATINGS, STANDARDS, AND CERTIFICATIONS

Based on the food contact zone and open or closed process, it can be determined which ratings, standards or certification are required for proper cleaning.

- **Hygienic – Food Contact Zone**  
IP69K  
FDA  
3-A  
EHEDG
- **Washdown – Food Splash Zone**  
IP69K  
ECOLAB
- **Factory Automation – Non-Food Zone**  
IP67  
IP65



The Food and Drug Administration (FDA) is a federal agency of the United States Department of Health and Human Services, one of the United States federal executive departments.

The FDA is responsible for protecting and promoting public health through the regulation and supervision of food safety, tobacco products, dietary supplements, prescription and over-the-counter pharmaceutical drugs (medications), vaccines, biopharmaceuticals, blood transfusions, medical devices, electromagnetic radiation emitting devices (ERED), cosmetics, animal foods & feed and veterinary products.

FDA approved means all materials in the product have been approved for contact with food.



Ecolab is a global leader in providing products and services in the area of industrial cleaning and hygiene.

Due to the wide use of cleaning agents worldwide, the ECOLAB certification of components has become a standard.

In an Ecolab certification the components are brought into contact with various cleaning and disinfecting agents according to defined steps and classified based on the effect on the parts according to a specified scheme.

The goal of the test is to verify the suitability of the parts in later practical use and if necessary to preclude destruction of the parts or contamination of the surroundings.

**Ecolab resistant means:**

Survived 28 days in various cleaning and disinfecting agents without swelling, brittleness, or discoloring.



# FOOD SAFE RATINGS- WHAT THEY MEAN



The EHEDG (European Hygienic Equipment and Design Group) is a community of experts from machine and component manufacturers, specialists from the food industry as well as research institutes and health agencies.

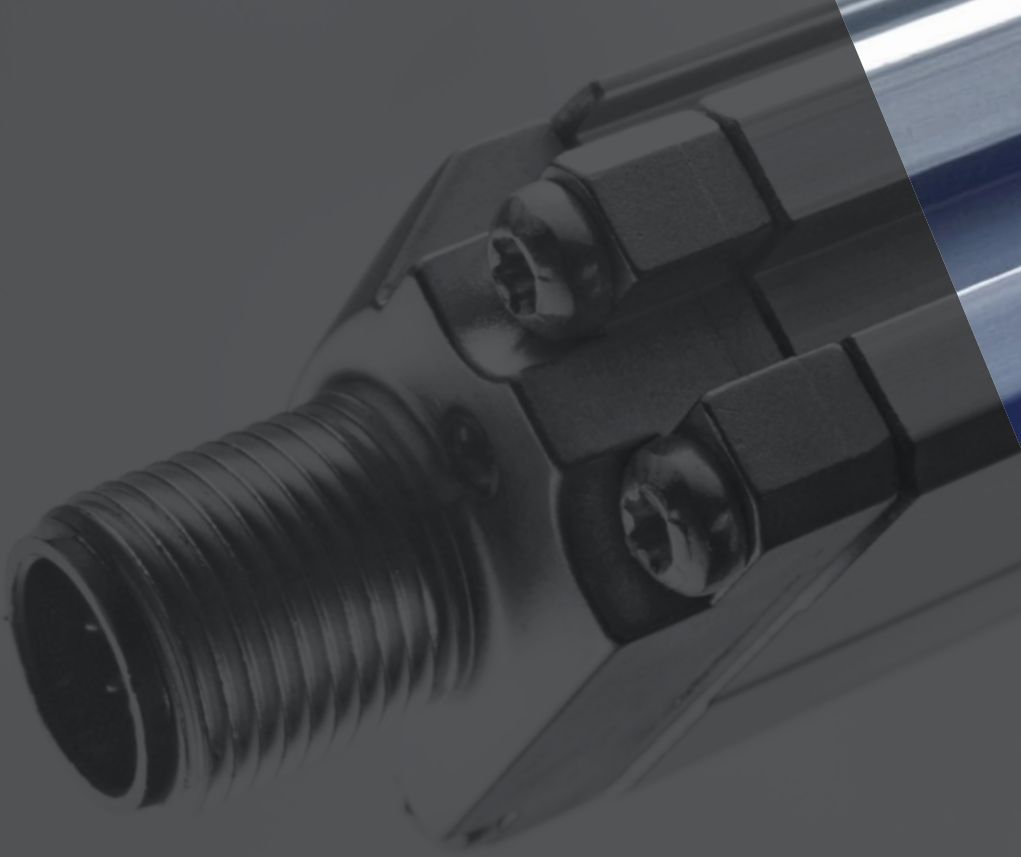
The organization was founded in 1989 for the purpose of strengthening hygiene in the processing and packaging of food articles.

The main task of the EHEDG is to contribute to hygienic design and layout in all areas of food production and thereby to ensure safe production of food articles.

The EHEDG also supports the European legislation and its requirement for hygienic handling, processing and packaging of foods using hygienically designed machines and in hygienic premises (EC Directive 2006/42/EC for machines, EN 1672-2 and EN ISO 14159 for hygienic requirements).



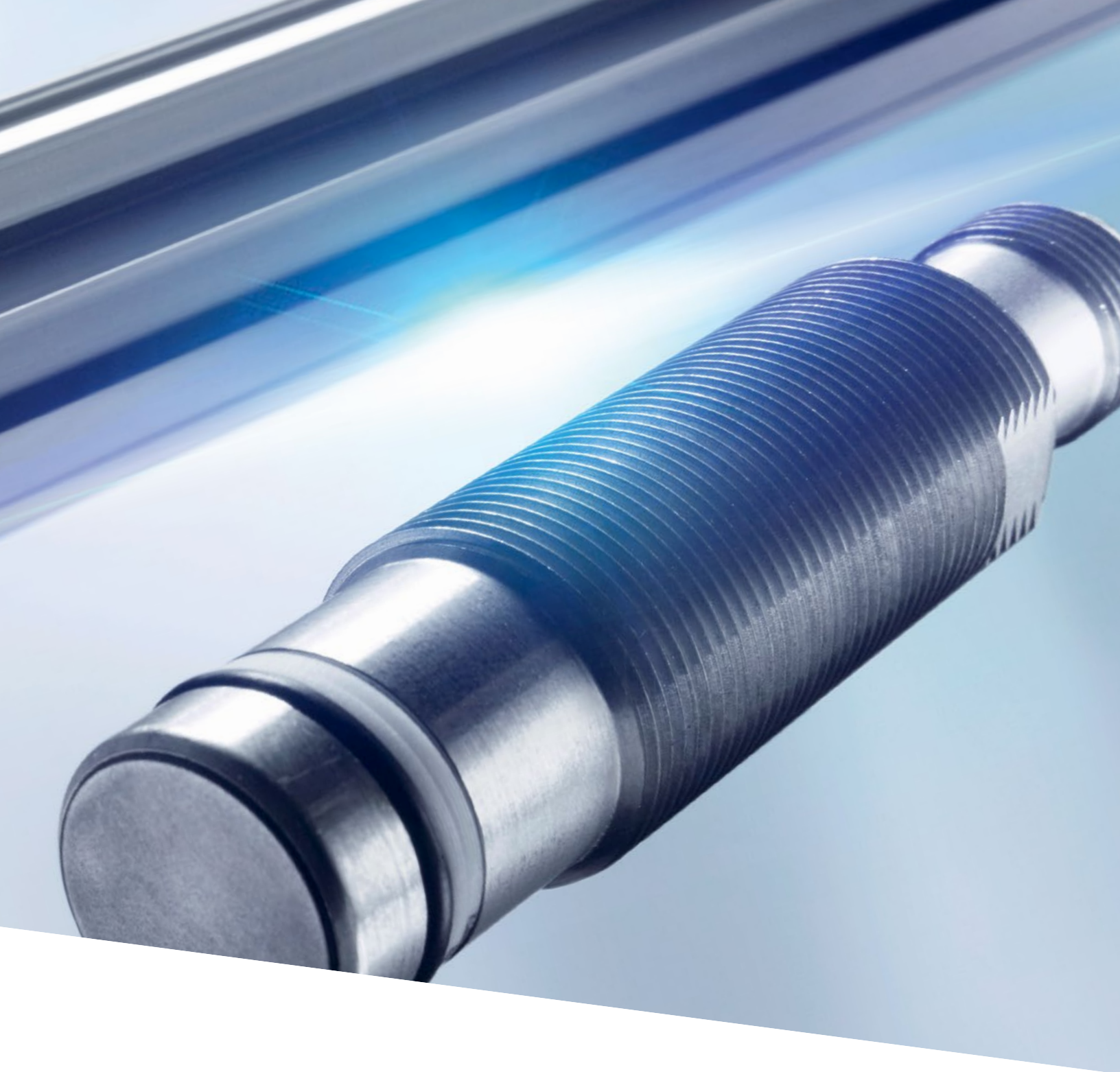
3A USA, an independent, not-for-profit corporation dedicated to advancing hygienic equipment design for the food, beverage, and pharmaceutical industries, representing the association of three organizations, the IAFIS (International Association Of Food Industry Suppliers), IAFP (International Association for Food Protection) and MIF (Milk Industry Foundation). 3A approved products are sanitary and hygienic, making them safe for food contact zones.



Comprehensive solutions for food and beverage industry

# SENSORS.

 *innovating automation*



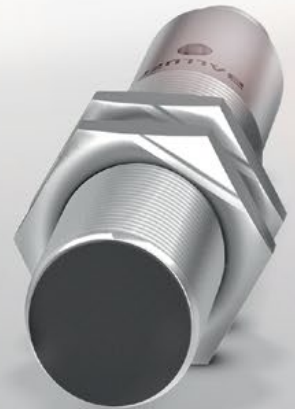
In the field of sensor technology, Balluff handles the full range of technological diversity with its various operating principles. We provide you with high-quality sensors for any application or requirements. From distance measurement to object detection, and level, temperature and pressure monitoring, we offer solutions for everyday industrial uses as well as tough applications in critical environments.

Our quality management regime is DIN EN ISO 9001:2008 certified. All Balluff sensors are tested in our in-house, accredited laboratory. Balluff sensors meet regional as well as international standards and are used throughout the world.

#### **Your Balluff solutions**

- Inductive sensors
- Photoelectric sensors
- Capacitive sensors
- Magnetic field sensors
- Magnetostrictive sensors
- Pressure sensors





Harsh environment sensors

# INDUCTIVE SENSORS WITH SPECIAL PROPERTIES



Inductive sensors are used more and more in aggressive environments including in machine tools, the chemical industry, packaging machines, and the food industry. Balluff harsh environment sensors are ideal for applications where aggressive cleaning agents, in connection with high-pressure cleaning devices, are used. Our inductive sensors are built tough. Their stainless steel housing stops aggressive media in its tracks.

Sensors used in the food industry, as well as in medical and pharmaceutical technology, must meet special requirements including FDA conformity and testing according to the Ecolab standard.



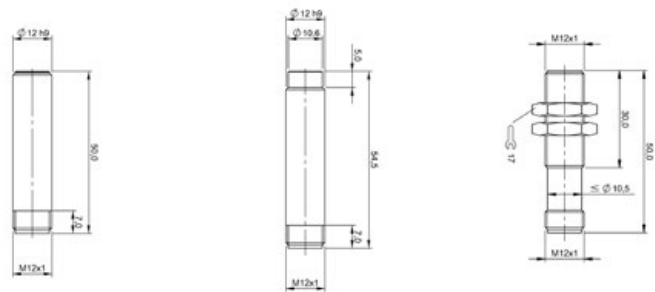
#### Features

- Extended temperature range
- Safe to clean according to Ecolab
- FDA conformity
- Resistant to high-pressure cleaners
- Stainless steel 1.4571 (316Ti equivalent) and 1.4404 (316L equivalent)
- IP 69K
- IP 68 as per BWN
- H<sub>2</sub>O<sub>2</sub> resistant

HYGIENIC INDUCTIVE SENSORS



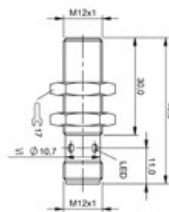
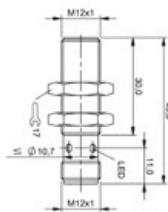
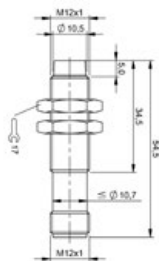
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Dimension	Ø 12 x 50 mm	Ø 12 x 54.5 mm	Ø 12 x 50 mm
Style	D12.0	D12.0	M12x1
Installation	For flush mounting	Non-flush	For flush mounting
Range	2 mm	4 mm	2 mm
Switching output	PNP Normally open (NO)	PNP Normally open (NO)	PNP Normally open (NO)
Switching frequency	800 Hz	400 Hz	800 Hz
Housing material	Stainless steel (316Ti)	Stainless steel (316Ti)	Stainless steel (316Ti)
Surface protection			
Material sensing surface	PEEK	PEEK	PEEK
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC
Ambient temperature	-40...105 °C	-40...105 °C	-40...105 °C
IP rating	IP68; IP69K	IP68; IP69K	IP68; IP69K
Approval/Conformity	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; FDA compliant; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC







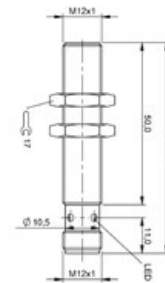
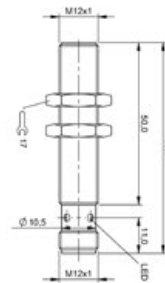
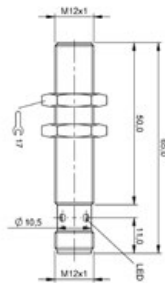
BES0443 BES M12EE1-PSY40F-S04G-L01	BES0432 BES M12EE-POC40B-S04G-L01	BES0433 BES M12EE-PSC40B-S04G-L01		
Ø 12 x 54.5 mm	Ø 12 x 45 mm	Ø 12 x 45 mm		
M12x1	M12x1	M12x1		
Non-flush	For flush mounting	For flush mounting		
4 mm	4 mm	4 mm		
PNP Normally open (NO)	PNP Normally closed (NC)	PNP Normally open (NO)		
400 Hz	2000 Hz	2000 Hz		
Stainless steel (316Ti)	Stainless steel (316L)	Stainless steel (316L)		
PEEK	LCP	LCP		
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole		
10...30 VDC	10...30 VDC	10...30 VDC		
-40...105 °C	-25...85 °C	-25...85 °C		
IP68; IP69K	IP68; IP69K	IP68; IP69K		
CE; cULus; FDA compliant; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; FDA compliant; EAC		



INDUCTIVE SENSORS

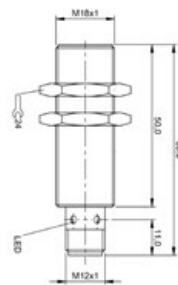
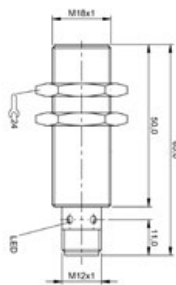
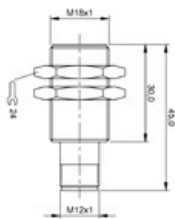


	<b>BES0434</b> BES M12EI-POC40B-S04G-L01	<b>BES0435</b> BES M12EI-PSC40B-S04G-L01	<b>BES0436</b> BES M12EI-NSC40B-S04G-L01
Dimension	Ø 12 x 65 mm	Ø 12 x 65 mm	Ø 12 x 65 mm
Style	M12x1	M12x1	M12x1
Installation	For flush mounting	For flush mounting	For flush mounting
Range	4 mm	4 mm	4 mm
Switching output	PNP Normally closed (NC)	PNP Normally open (NO)	NPN Normally open (NO)
Switching frequency	1000 Hz	1000 Hz	1000 Hz
Housing material	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)
Surface protection			
Material sensing surface	LCP	LCP	LCP
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC
Ambient temperature	-25...85 °C	-25...85 °C	-25...85 °C
IP rating	IP68; IP69K	IP68; IP69K	IP68; IP69K
Approval/Conformity	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; FDA compliant; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC





BES0441 BES M18EE1-PSY50B-S04G-L01	BES0438 BES M18EI-POC80B-S04G-L01	BES0437 BES M18EI-PSC80B-S04G-L01		
Ø 18 x 45 mm	Ø 18 x 65 mm	Ø 18 x 65 mm		
M18x1	M18x1	M18x1		
For flush mounting	For flush mounting	For flush mounting		
5 mm	8 mm	8 mm		
PNP Normally open (NO)	PNP Normally closed (NC)	PNP Normally open (NO)		
500 Hz	700 Hz	700 Hz		
Stainless steel (316Ti)	Stainless steel (316L)	Stainless steel (316L)		
PEEK	PEEK	PEEK		
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole		
10...30 VDC	10...30 VDC	10...30 VDC		
-40...105 °C	-40...85 °C	-40...85 °C		
IP68; IP69K	IP68; IP69K	IP68; IP69K		
CE; cULus; FDA compliant; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC		

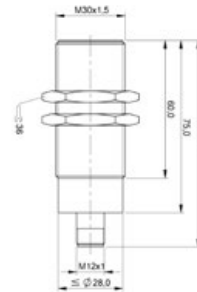
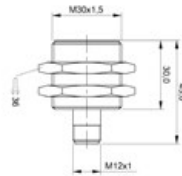






INDUCTIVE SENSORS

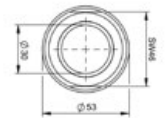
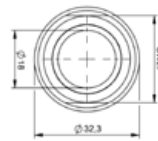
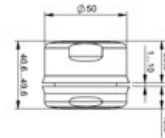
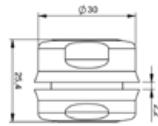
	<b>BES02F0</b> BES 515-327-E5-T-S4	<b>BES02F2</b> BES 515-327-SA20-S4-T	
Dimension	Ø 30 x 45 mm	Ø 30 x 90 mm	
Style	M30x1.5	M30x1.5	
Installation	For flush mounting	For flush mounting	
Range	10 mm	10 mm	
Interface			
Switching output	PNP Normally open (NO)	PNP Normally open (NO)	
Switching frequency	200 Hz	200 Hz	
Repeat accuracy			
Non-linearity max.			
Housing material	Stainless steel (316Ti)	Stainless steel (316Ti)	
Surface protection			
Material sensing surface	PA 12	PA 12	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	
Ambient temperature	-40...105 °C	-40...85 °C	
Pressure rating max.			
IP rating	IP68; IP69K	IP68; IP69K	
Approval/Conformity	CE; cULus; EAC	CE; EAC	





PROX MOUNTS WITHOUT FIXED STOP

	<b>BAM0349</b> BAM MC-XA-049-D18,0-5	<b>BAM034A</b> BAM MC-XA-049-D30,0-5	
Use	For sensors Ø18 mm	For sensors Ø30 mm	
Material	Stainless steel (1.4404) Silicone SI 70/101	Stainless steel (1.4404) Silicone SI 70/101	
Dimension	Ø 30 x 25.5 mm	Ø 50 x 40 mm	
Mounting	Screws, clamps	Screws, clamps	
Ambient temperature	-20...80 °C	-20...80 °C	
Approval/Conformity	EHEDG conformal	EHEDG conformal	



Generous detection range for high reliability

# PHOTOELECTRIC SENSORS

Photoelectric sensors from Balluff reliably recognize the presence of objects. They check shape, color, distance or thickness equally reliably. This is because they have a significantly greater detection range compared to inductive or capacitive technology.

We offer a wide variety of photoelectric sensors including those using all light types from red light to infrared to laser technology sensors with the widest ranges, sensors with and without background suppression, as well as many different form factors. Mini-sensors, color sensors, light band and contrast sensors, and those for speciality applications round out our portfolio. With Balluff products you achieve not only the highest reliability, but also the greatest flexibility.

## Features

- All light types, all principles
- Different ranges from near to far
- Tailored to the requirements of automation, mounting and handling
- Robust and reliable even under adverse environmental conditions
- Flexibility for planning and installation



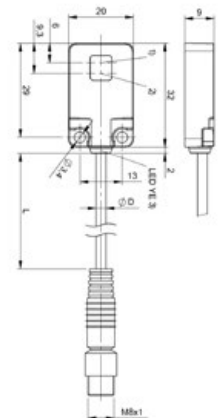
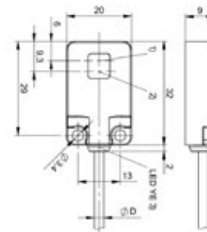
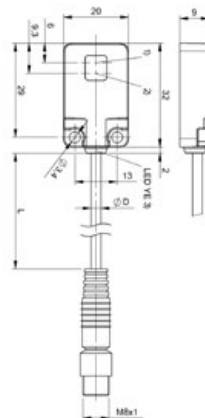




PHOTOELECTRIC  
DIFFUSE SENSORS /  
BACKGROUND SUPPRESSION

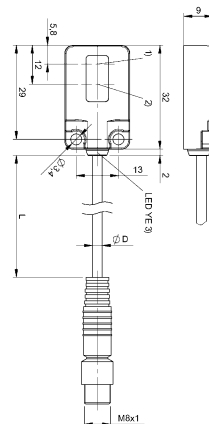
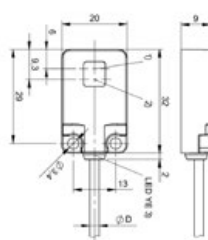
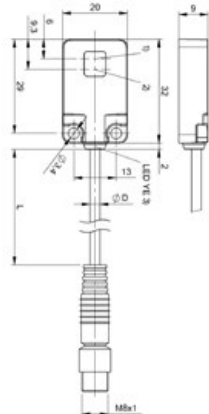
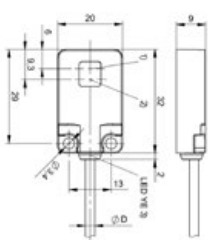


	<b>BOS021J</b> BOS R01E-PS-KD20-00,2-S49	<b>BOS021K</b> BOS R01E-PS-KD20-02	<b>BOS021Y</b> BOS R01E-PO-KD20-00,2-S49
Series	R01E	R01E	R01E
Dimension	20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm
Interface	PNP Normally open (NO)	PNP Normally open (NO)	PNP Normally closed (NC)
Input function			
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Principle of optical operation	Diffuse sensor, (energetic)	Diffuse sensor, (energetic)	Diffuse sensor, (energetic)
Special optical feature			
Beam characteristic	Divergent	Divergent	Divergent
Light type	LED Red light	LED Red light	LED Red light
Light spot size	Ø 3.0 mm Light exit	Ø 3.0 mm Light exit	Ø 3.0 mm Light exit
Range	1...100 mm	1...100 mm	1...100 mm
Connection	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR
Housing material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
Material sensing surface	PA	PA	PA
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC
IP rating	IP67; Housing IP69K, Connector IP67	IP67; IP69K	IP67; Housing IP69K, Connector IP67
Approval/Conformity	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC





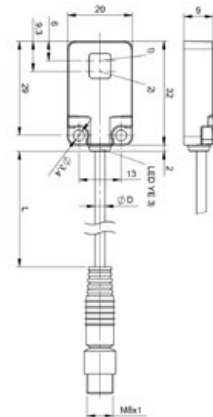
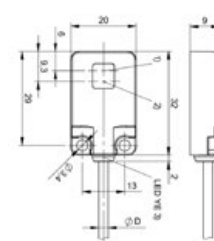
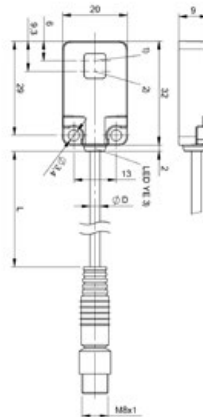
BOS021Z BOS R01E-PO-KD20-02	BOS0220 BOS R01E-NS-KD20-00,2-S49	BOS0221 BOS R01E-NS-KD20-02	BOS0265 BOS R01E-UI-KH22-00,2-S49	
R01E	R01E	R01E	R01E	
20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm	
PNP Normally closed (NC)	NPN Normally open (NO)	NPN Normally open (NO)	IO-Link 1.1 PNP Normally open (NO)	
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Diffuse sensor, (energetic)	Diffuse sensor, (energetic)	Diffuse sensor, (energetic)	Diffuse sensor, Triangulation	
			Background suppression	
Divergent	Divergent	Divergent	Divergent	
LED Red light	LED Red light	LED Red light	LED Red light	
Ø 3.0 mm Light exit	Ø 3.0 mm Light exit	Ø 3.0 mm Light exit	Ø 3.0 mm Light exit	
1...100 mm	1...100 mm	1...100 mm	1...100 mm	
Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	
Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	
PA	PA	PA	PA	
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
IP67; IP69K	IP67; Housing IP69K, Connector IP67	IP67; IP69K	IP67; IP69K	
CE; cULus; Ecolab; EAC	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab	



PHOTOELECTRIC  
RETROREFLECTIVE SENSORS

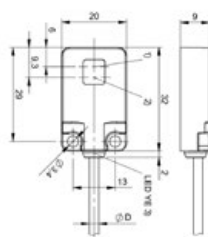
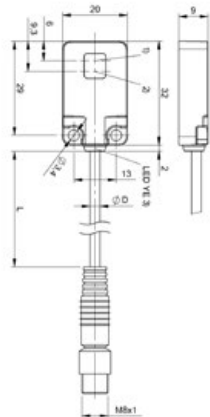
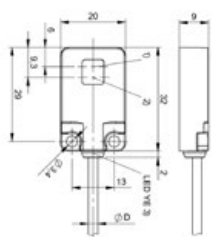


	<b>BOS021L</b> BOS R01E-PS-KR20-00,2-S49	<b>BOS021M</b> BOS R01E-PS-KR20-02	<b>BOS0222</b> BOS R01E-PO-KR20-00,2-S49	
Series	R01E	R01E	R01E	
Dimension	20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm	
Interface	PNP Normally open (NO)	PNP Normally open (NO)	PNP Normally closed (NC)	
Input function				
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Retroreflective sensor	Retroreflective sensor	Retroreflective sensor	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	Ø 3.0 mm Light exit	Ø 3.0 mm Light exit	Ø 3.0 mm Light exit	
Range	1 m	1 m	1 m	
Connection	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	
Housing material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	
Material sensing surface	PA	PA	PA	
Operating voltage Ub	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; Housing IP69K, Connector IP67	IP67; IP69K	IP67; Housing IP69K, Connector IP67	
Approval/Conformity	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	





BOS0223 BOS R01E-PO-KR20-02	BOS0224 BOS R01E-NS-KR20-00,2-S49	BOS0225 BOS R01E-NS-KR20-02		
R01E	R01E	R01E		
20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm		
PNP Normally closed (NC)	NPN Normally open (NO)	NPN Normally open (NO)		
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor		
Retroreflective sensor	Retroreflective sensor	Retroreflective sensor		
Divergent	Divergent	Divergent		
LED Red light	LED Red light	LED Red light		
Ø 3.0 mm Light exit	Ø 3.0 mm Light exit	Ø 3.0 mm Light exit		
1 m	1 m	1 m		
Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	Cable, 2.00 m, PUR		
Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)		
PA	PA	PA		
10...30 VDC	10...30 VDC	10...30 VDC		
IP67; IP69K	IP67; Housing IP69K, Connector IP67	IP67; IP69K		
CE; cULus; Ecolab; EAC	CE; cULus; Ecolab	CE; cULus; Ecolab		

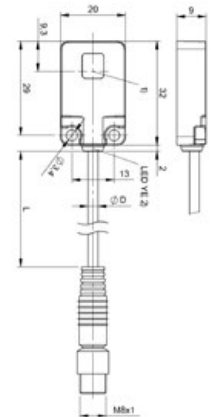
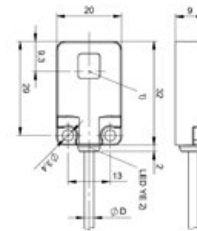
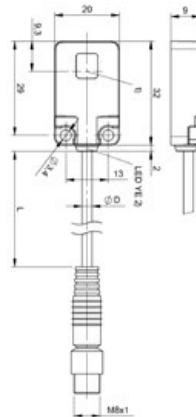




PHOTOELECTRIC  
THROUGH-BEAM SENSORS

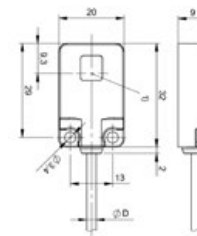
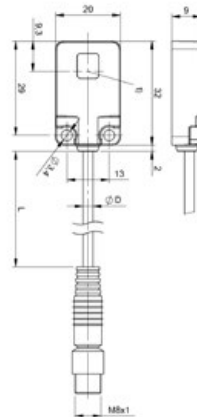
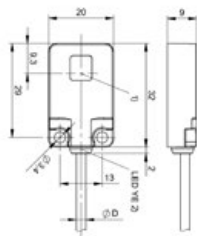
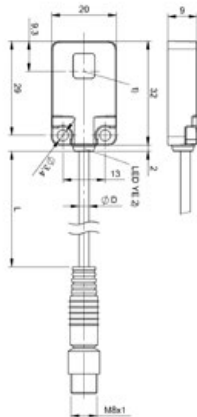
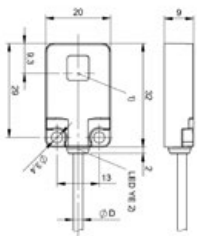


	<b>BOS021N</b> BOS R01E-PS-KE20-00,2-S49	<b>BOS021P</b> BOS R01E-PS-KE20-02	<b>BOS0226</b> BOS R01E-P0-KE20-00,2-S49	
Series	R01E	R01E	R01E	
Dimension	20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm	
Interface	PNP Normally open (NO)	PNP Normally open (NO)	PNP Normally closed (NC)	
Input function				
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Through-beam sensor	Through-beam sensor	Through-beam sensor	
Special optical feature				
Beam characteristic				
Light type	LED Red light	LED Red light	LED Red light	
Light spot size				
Range	0...2.2 m	0...2.2 m	0...2.2 m	
Connection	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	
Housing material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	
Material sensing surface	PA	PA	PA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; Housing IP69K, Connector IP67	IP67; IP69K	IP67; Housing IP69K, Connector IP67	
Approval/Conformity	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	





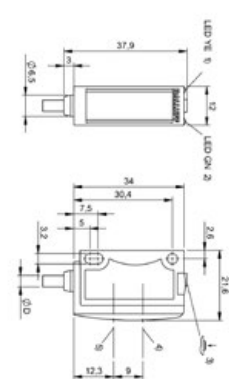
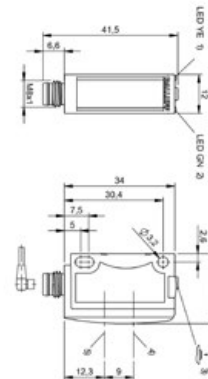
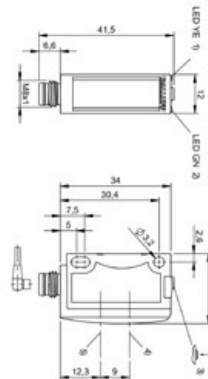
BOS0227 BOS R01E-P0-KE20-02	BOS0228 BOS R01E-NS-KE20-00,2-S49	BOS022F BOS R01E-NS-KE20-02	BOS021R BOS R01E-X-KS20-00,2-S49	BOS021T BOS R01E-X-KS20-02
R01E	R01E	R01E	R01E	R01E
20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm	20 x 32 x 9 mm
PNP Normally closed (NC)	NPN Normally open (NO)	NPN Normally open (NO)		
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Through-beam sensor	Through-beam sensor	Through-beam sensor	Through-beam sensor	Through-beam sensor
			Divergent	Divergent
LED Red light	LED Red light	LED Red light	LED Red light	LED Red light
			Ø 3.0 mm Light exit	Ø 3.0 mm Light exit
0...2.2 m	0...2.2 m	0...2.2 m	0...2.2 m	0...2.2 m
Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	Cable, 2.00 m, PUR	Cable with connector, M8x1-Male, 3-pole, 0.20 m, PUR	Cable, 2.00 m, PUR
Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
PA	PA	PA	PA	PA
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
IP67; IP69K	IP67; Housing IP69K, Connector IP67	IP67; IP69K	IP67; Housing IP69K, Connector IP67	IP67; IP69K
CE; cULus; Ecolab; EAC	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC



PHOTOELECTRIC DIFFUSE SENSORS WITH BACKGROUND SUPPRESSION

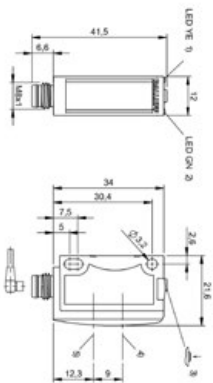


	<b>BOS01KW</b> BOS 6K-PU-RH10-S49	<b>BOS01KY</b> BOS 6K-PU-RH10-S75	<b>BOS01LO</b> BOS 6K-PU-RH10-02	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	
Special optical feature	Background suppression	Background suppression	Background suppression	
Beam characteristic	Focus, typical at 50 mm	Focus, typical at 50 mm	Focus, typical at 50 mm	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	5 x 5 mm at focal point	5 x 5 mm at focal point	5 x 5 mm at focal point	
Range	1...200 mm	1...200 mm	1...200 mm	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus; Ecolab	CE; cULus	CE; cULus; Ecolab	





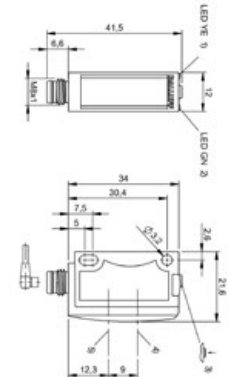
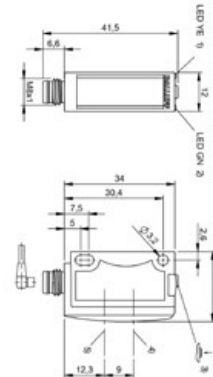
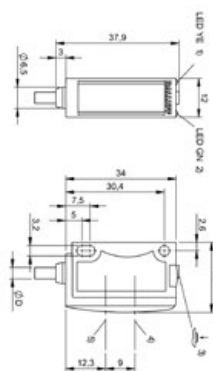
<b>BOS01KZ</b> BOS 6K-NU-RH10-S75				
6K				
12 x 41.5 x 21.6 mm				
NPN NO/NC				
Photoelectric sensor				
Diffuse sensor, Triangulation				
Background suppression				
Focus, typical at 50 mm				
LED Red light				
5 x 5 mm at focal point				
1...200 mm				
Connector, M8x1-Male, 4-pole				
ABS				
PMMA				
10...30 VDC				
IP67; IP69K				
CE; cULus				



PHOTOELECTRIC DIFFUSE SENSORS WITH BACKGROUND SUPPRESSION



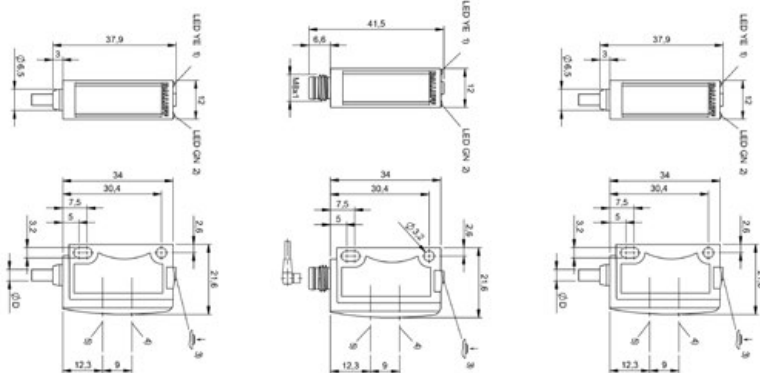
	<b>BOS01L1</b> BOS 6K-NU-RH10-02	<b>BOS01L2</b> BOS 6K-PU-RH11-S49	<b>BOS01L3</b> BOS 6K-PU-RH11-S75	
Series	6K	6K	6K	
Dimension	12 x 37.9 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	
Interface	NPN NO/NC	PNP NO/NC	PNP NO/NC	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	
Special optical feature	Background suppression	Background suppression	Background suppression	
Beam characteristic	Focus, typical at 50 mm	Focus, typical at 60 mm	Focus, typical at 60 mm	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	5 x 5 mm at focal point	8 x 8 mm at focal point	8 x 8 mm at focal point	
Range	1...200 mm	3...400 mm	3...400 mm	
Connection	Cable, 2.00 m, PVC	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus; Ecolab	CE; cULus	CE; cULus	







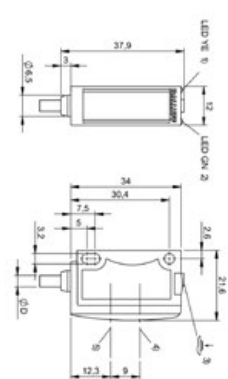
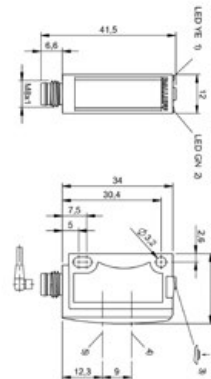
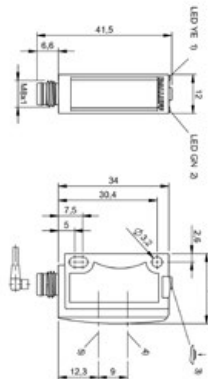
BOS01L5 BOS 6K-PU-RH11-02	BOS01L4 BOS 6K-NU-RH11-S75	BOS01L6 BOS 6K-NU-RH11-02		
6K	6K	6K		
12 x 37.9 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm		
PNP NO/NC	NPN NO/NC	NPN NO/NC		
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor		
Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation		
Background suppression	Background suppression	Background suppression		
Focus, typical at 60 mm	Focus, typical at 60 mm	Focus, typical at 60 mm		
LED Red light	LED Red light	LED Red light		
8 x 8 mm at focal point	8 x 8 mm at focal point	8 x 8 mm at focal point		
3...400 mm	3...400 mm	3...400 mm		
Cable, 2.00 m, PVC	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC		
ABS	ABS	ABS		
PMMA	PMMA	PMMA		
10...30 VDC	10...30 VDC	10...30 VDC		
IP67; IP69K	IP67; IP69K	IP67; IP69K		
CE; cULus; Ecolab	CE; cULus	CE; cULus; Ecolab		



PHOTOELECTRIC DIFFUSE SENSORS WITH BACKGROUND SUPPRESSION

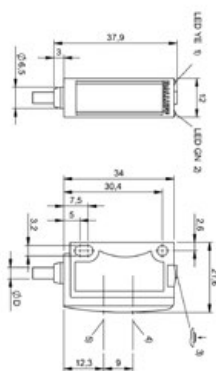
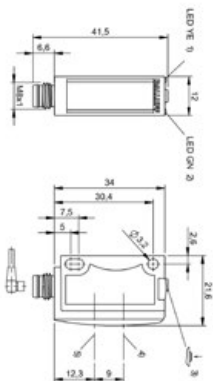


	<b>BOS0263</b> BOS 6K-PU-LH10-S49	<b>BOS01LE</b> BOS 6K-PU-LH10-S75	<b>BOS01LH</b> BOS 6K-PU-LH10-02	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	
Special optical feature	Background suppression	Background suppression	Background suppression	
Beam characteristic	Focused	Focused	Focused	
Light type	Laser Red light, Class 1	Laser Red light, Class 1	Laser Red light, Class 1	
Light spot size	Ø 1.2 mm at 120 mm	Ø 1.2 mm at 120 mm	Ø 1.2 mm at 120 mm	
Range	4...120 mm	4...120 mm	4...120 mm	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus	CE; cULus	CE; cULus; Ecolab	





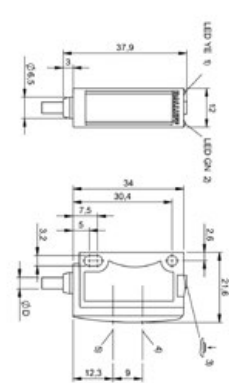
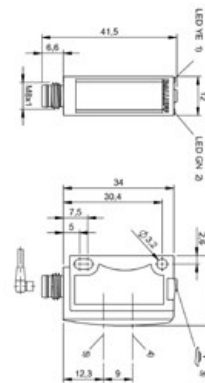
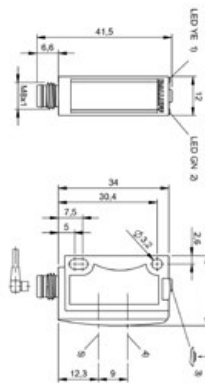
BOS01LF BOS 6K-NU-LH10-S75	BOS01LJ BOS 6K-NU-LH10-02			
6K	6K			
12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm			
NPN NO/NC	NPN NO/NC			
Photoelectric sensor	Photoelectric sensor			
Diffuse sensor, Triangulation	Diffuse sensor, Triangulation			
Background suppression	Background suppression			
Focused	Focused			
Laser Red light, Class 1	Laser Red light, Class 1			
Ø 1.2 mm at 120 mm	Ø 1.2 mm at 120 mm			
4...120 mm	4...120 mm			
Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC			
ABS	ABS			
PMMA	PMMA			
10...30 VDC	10...30 VDC			
IP67; IP69K	IP67; IP69K			
CE; cULus	CE; cULus; Ecolab			



PHOTOELECTRIC  
DIFFUSE SENSORS

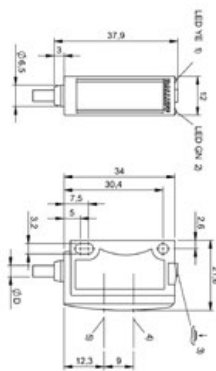
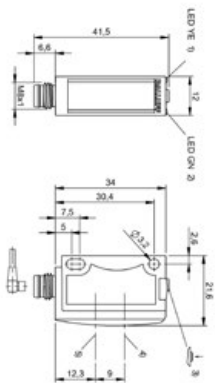


	<b>BOS01LK</b> BOS 6K-PU-RD10-S49	<b>BOS01LL</b> BOS 6K-PU-RD10-S75	<b>BOS01LN</b> BOS 6K-PU-RD10-02	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Input function	Same function as button; Key disable on/off	Same function as button; Key disable on/off	Same function as button; Key disable on/off	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Diffuse sensor, (energetic)	Diffuse sensor, (energetic)	Diffuse sensor, (energetic)	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	20 x 20 mm at 180 mm	20 x 20 mm at 180 mm	20 x 20 mm at 180 mm	
Range	0...800 mm	0...800 mm	0...800 mm	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus; EAC	CE; cULus; EAC	CE; cULus; EAC; Ecolab	





BOS01LM BOS 6K-NU-RD10-S75	BOS01LP BOS 6K-NU-RD10-02			
6K	6K			
12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm			
NPN NO/NC	NPN NO/NC			
Same function as button, Key disable on/off	Same function as button, Key disable on/off			
Photoelectric sensor	Photoelectric sensor			
Diffuse sensor, (energetic)	Diffuse sensor, (energetic)			
Divergent	Divergent			
LED Red light	LED Red light			
20 x 20 mm at 180 mm	20 x 20 mm at 180 mm			
0...800 mm	0...800 mm			
Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC			
ABS	ABS			
PMMA	PMMA			
10...30 VDC	10...30 VDC			
IP67; IP69K	IP67; IP69K			
CE; cULus; EAC	CE; cULus; EAC; Ecolab			

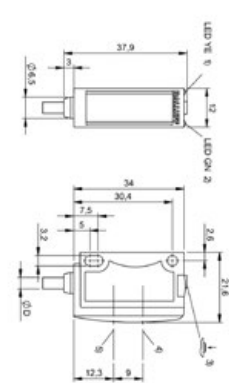
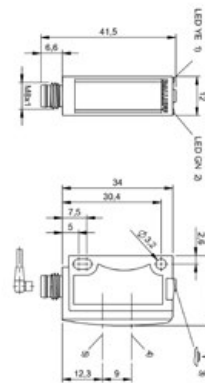
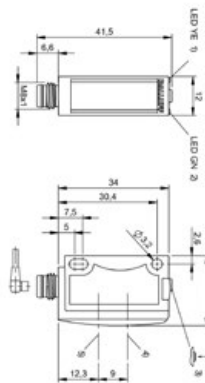




PHOTOELECTRIC  
RETROREFLECTIVE SENSORS

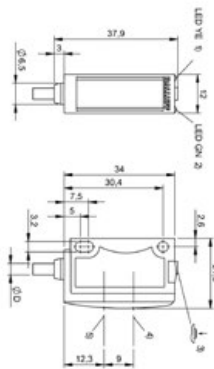
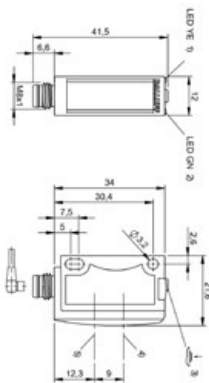


	<b>BOS01MH</b> BOS 6K-PU-PR10-S49	<b>BOS01MJ</b> BOS 6K-PU-PR10-S75	<b>BOS01ML</b> BOS 6K-PU-PR10-02	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Input function	Key disable on/off; Same function as button	Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Retroreflective sensor	Retroreflective sensor	Retroreflective sensor	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	600 x 600 mm at 7 m	600 x 600 mm at 7 m	600 x 600 mm at 7 m	
Range	0...6 m	0...6 m	0...6 m	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus	CE; cULus	CE; cULus; Ecolab	





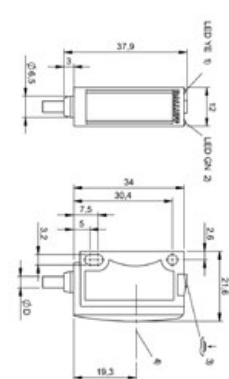
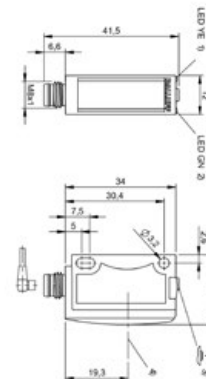
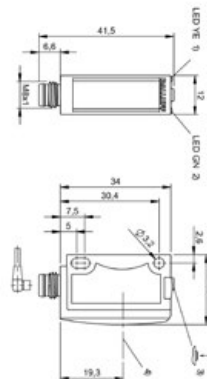
BOS01MK BOS 6K-NU-PR10-S75	BOS01MM BOS 6K-NU-PR10-02			
6K	6K			
12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm			
NPN NO/NC	NPN NO/NC			
Key disable on/off; Same function as button	Key disable on/off; Same function as button			
Photoelectric sensor	Photoelectric sensor			
Retroreflective sensor	Retroreflective sensor			
Divergent	Divergent			
LED Red light	LED Red light			
600 x 600 mm at 7 m	600 x 600 mm at 7 m			
0...6 m	0...6 m			
Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC			
ABS	ABS			
PMMA	PMMA			
10...30 VDC	10...30 VDC			
IP67; IP69K	IP67; IP69K			
CE; cULus	CE; cULus; Ecolab			



PHOTOELECTRIC  
RETROREFLECTIVE SENSORS

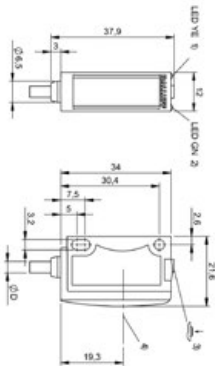


	<b>BOS01L7</b> BOS 6K-PU-PT10-S49	<b>BOS01L8</b> BOS 6K-PU-PT10-S75	<b>BOS01LA</b> BOS 6K-PU-PT10-02	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Input function	Key disable on/off; Same function as button	Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Retroreflective sensor	Retroreflective sensor	Retroreflective sensor	
Special optical feature	Coaxial optics; Transparency detection	Coaxial optics; Transparency detection	Coaxial optics; Transparency detection	
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	50 x 50 mm at 2 m	50 x 50 mm at 2 m	50 x 50 mm at 2 m	
Range	0...2 m	0...2 m	0...2 m	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus	CE; cULus	CE; cULus; Ecolab	





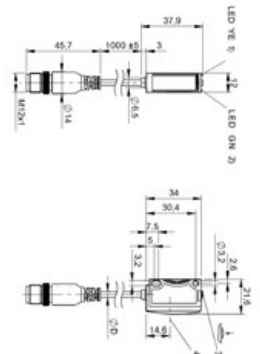
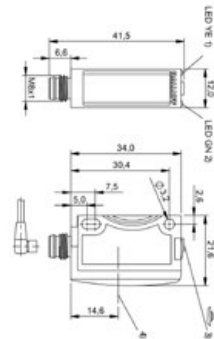
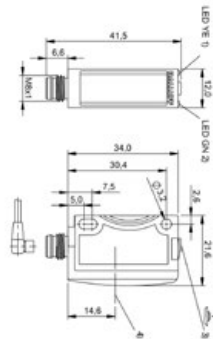
BOS01L9 BOS 6K-NU-PT10-S75	BOS01LC BOS 6K-NU-PT10-02			
6K	6K			
12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm			
NPN NO/NC	NPN NO/NC			
Key disable on/off; Same function as button	Key disable on/off; Same function as button			
Photoelectric sensor	Photoelectric sensor			
Retroreflective sensor	Retroreflective sensor			
Coaxial optics, Transparency detection	Coaxial optics, Transparency detection			
Divergent	Divergent			
LED Red light	LED Red light			
50 x 50 mm at 2 m	50 x 50 mm at 2 m			
0...2 m	0...2 m			
Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC			
ABS	ABS			
PMMA	PMMA			
10...30 VDC	10...30 VDC			
IP67; IP69K	IP67; IP69K			
CE; cULus	CE; cULus; Ecolab			



PHOTOELECTRIC  
RETROREFLECTIVE SENSORS

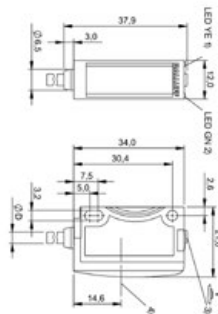
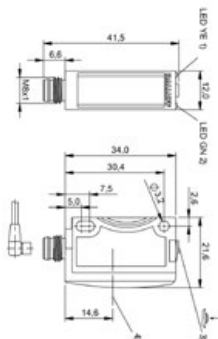
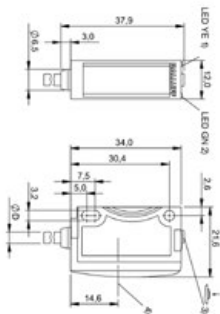


	<b>BOS01MN</b> BOS 6K-PU-LK10-S49	<b>BOS01M4</b> BOS 6K-PU-LK10-S75	<b>BOS024F</b> BOS 6K-PU-LK10-01-S4	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Input function	Key disable on/off; Same function as button	Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Retroreflective sensor	Retroreflective sensor	Retroreflective sensor	
Special optical feature	Coaxial optics	Coaxial optics	Coaxial optics	
Beam characteristic	Collimated	Collimated	Collimated	
Light type	Laser Red light	Laser Red light	Laser Red light	
Light spot size	Ø 2 mm at 2.5 m	Ø 2 mm at 2.5 m	Ø 1 mm at focal point	
Range	0...4 m	0...4 m	0...4 m	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable with connector, M12x1-Male, 4-pole, 1.00 m, PUR	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage Ub	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus	CE; cULus	CE; cULus	





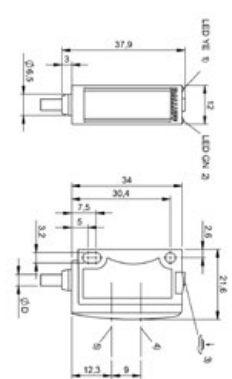
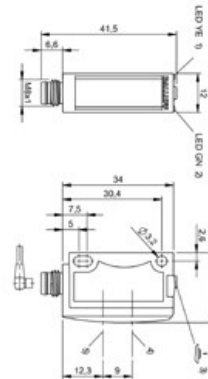
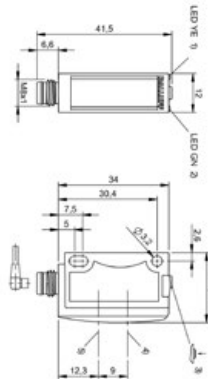
BOS01M6 BOS 6K-PU-LK10-02	BOS01M5 BOS 6K-NU-LK10-S75	BOS01M7 BOS 6K-NU-LK10-02		
6K	6K	6K		
12 x 37.9 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm		
PNP NO/NC	NPN NO/NC	NPN NO/NC		
Key disable on/off; Same function as button	Key disable on/off; Same function as button	Key disable on/off; Same function as button		
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor		
Retroreflective sensor	Retroreflective sensor	Retroreflective sensor		
Coaxial optics	Coaxial optics	Coaxial optics		
Collimated	Collimated	Collimated		
Laser Red light	Laser Red light	Laser Red light		
Ø 1 mm at focal point	Ø 2 mm at 2.5 m	Ø 1 mm at focal point		
0...4 m	0...4 m	0...4 m		
Cable, 2.00 m, PVC	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC		
ABS	ABS	ABS		
PMMA	PMMA	PMMA		
10...30 VDC	10...30 VDC	10...30 VDC		
IP67; IP69K	IP67; IP69K	IP67; IP69K		
CE; cULus; Ecolab	CE; cULus	CE; cULus; Ecolab		



PHOTOELECTRIC  
THROUGH-BEAM SENSORS (RECEIVERS)



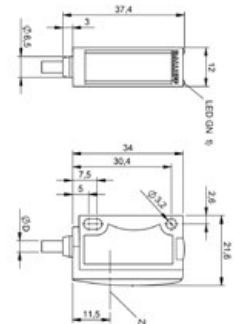
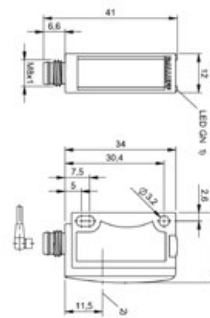
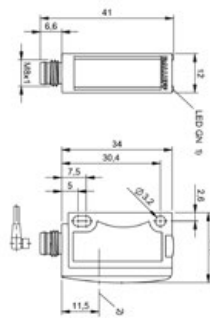
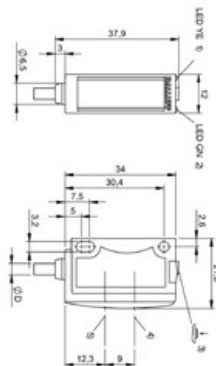
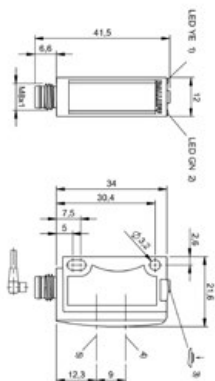
	<b>BOS01M8</b> BOS 6K-PU-RE10-S49	<b>BOS01M9</b> BOS 6K-PU-RE10-S75	<b>BOS01MC</b> BOS 6K-PU-RE10-02
Series	6K	6K	6K
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC
Input function		Key disable on/off; Same function as button	Key disable on/off; Same function as button
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Principle of optical operation	Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (receiver)
Special optical feature			
Beam characteristic			
Light type	LED Red light	LED Red light	LED Red light
Light spot size			
Range	0...13 m	0...13 m	0...13 m
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC
Housing material	ABS	ABS	ABS
Material sensing surface	PMMA	PMMA	PMMA
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K
Approval/Conformity	CE; cULus; EAC	CE; cULus; EAC	CE; cULus; Ecolab; EAC







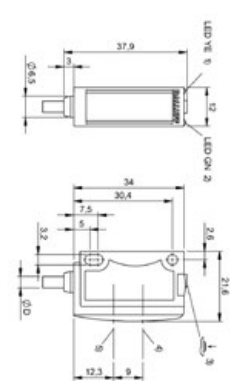
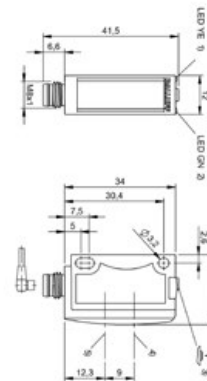
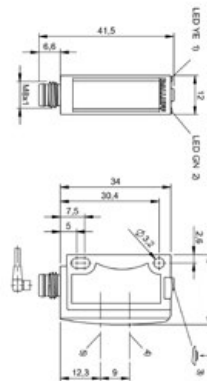
BOS01MA BOS 6K-NU-RE10-S75	BOS01ME BOS 6K-NU-RE10-02	BOS01MF BOS 6K-XT-RS10-S49	BOS01LR BOS 6K-XT-RS10-S75	BOS01LT BOS 6K-XT-RS10-02
6K	6K	6K	6K	6K
12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	12 x 41 x 21.6 mm	12 x 41 x 21.6 mm	12 x 37.4 x 21.6 mm
NPN NO/NC	NPN NO/NC			
Key disable on/off; Same function as button	Key disable on/off; Same function as button			
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)
		Divergent	Divergent	Divergent
LED Red light	LED Red light	LED Red light	LED Red light	LED Red light
		1.2 x 1.2 mm at 15 m	1.2 x 1.2 mm at 15 m	1.2 x 1.2 mm at 15 m
0...13 m	0...13 m	0...13 m	0...13 m	0...13 m
Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC
ABS	ABS	ABS	ABS	ABS
PMMA	PMMA	PMMA	PMMA	PMMA
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
IP67; IP69K	IP67; IP69K	IP67; IP69K	IP67; IP69K	IP67; IP69K
CE; cULus; EAC	CE; cULus; Ecolab; EAC	CE; cULus; EAC	CE; cULus; EAC	CE; cULus; Ecolab; EAC



PHOTOELECTRIC  
THROUGH-BEAM SENSORS (RECEIVERS)

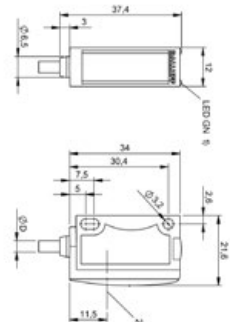
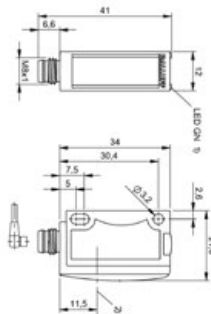
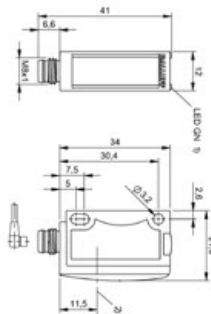
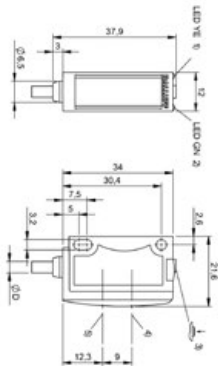
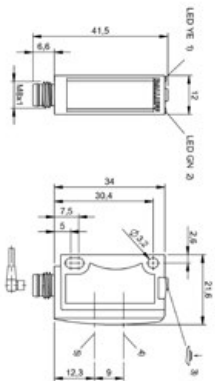


	<b>BOS01LU</b> BOS 6K-PU-LE10-S49	<b>BOS01LW</b> BOS 6K-PU-LE10-S75	<b>BOS01LZ</b> BOS 6K-PU-LE10-02	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Input function		Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (receiver)	
Special optical feature				
Beam characteristic				
Light type	Laser Red light	Laser Red light	Laser Red light	
Light spot size				
Range	0...18 m	0...18 m	0...18 m	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus	CE; cULus	CE; cULus; Ecolab	





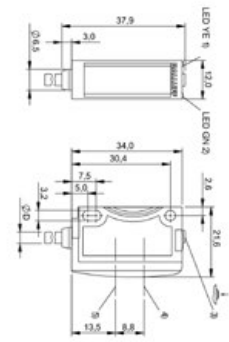
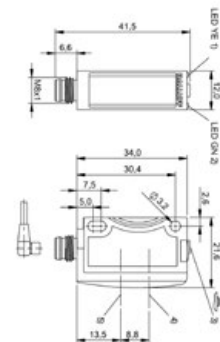
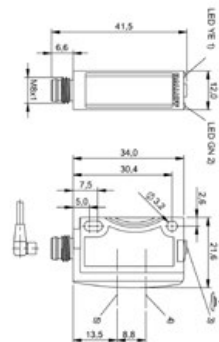
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6K	6K	6K	6K	6K
12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	12 x 41 x 21.6 mm	12 x 41 x 21.6 mm	12 x 37.4 x 21.6 mm
NPN NO/NC	NPN NO/NC			
Key disable on/off; Same function as button	Key disable on/off; Same function as button			
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)
		Divergent	Divergent	Divergent
Laser Red light	Laser Red light	Laser Red light, Class 1	Laser Red light, Class1	Laser Red light, Class 1
		14 x 14 mm at 20 m	14 x 14 mm at 20 m	14 x 14 mm at 20 m
0...18 m	0...18 m	0...18 m	0...18 m	0...18 m
Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC
ABS	ABS	ABS	ABS	ABS
PMMA	PMMA	PMMA	PMMA	PMMA
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
IP67; IP69K	IP67; IP69K	IP67; IP69K	IP67; IP69K	IP67; IP69K
CE; cULus	CE; cULus; Ecolab	CE; cULus	CE; cULus	CE; cULus; Ecolab



PHOTOELECTRIC  
CONTRAST SENSORS

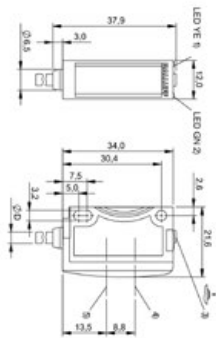
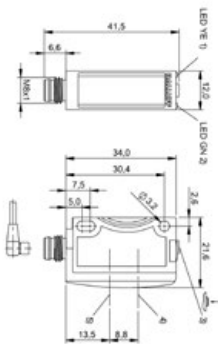


	<b>BKT000Z</b> BKT 6K-002-P-S49	<b>BKT0010</b> BKT 6K-002-P-S75	<b>BKT0012</b> BKT 6K-002-P-02	
Series	6K	6K	6K	
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Input function	Key disable on/off; Same function as button	Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Contrast sensor	Contrast sensor	Contrast sensor	
Principle of optical operation	Diffuse sensor, Focused	Diffuse sensor, Focused	Diffuse sensor, Focused	
Special optical feature				
Beam characteristic	Focused	Focused	Focused	
Light type	Laser Red light	Laser Red light	Laser Red light	
Light spot size	0.7 x 0.7 mm at 250 mm	0.7 x 0.7 mm at 250 mm	0.7 x 0.7 mm at 250 mm	
Range	1...250 mm	1...250 mm	1...250 mm	
Connection	Connector, M8x1-Male, 3-pole	Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC	
Housing material	ABS	ABS	ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K	
Approval/Conformity	CE; cULus	CE; cULus	CE; cULus; Ecolab	





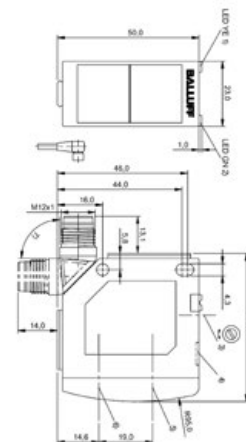
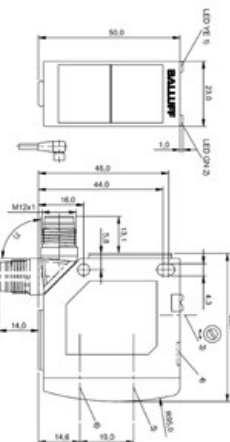
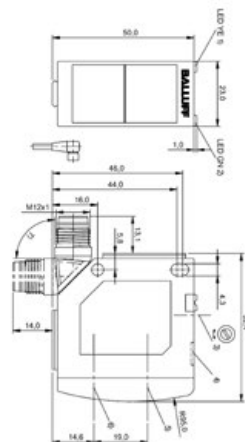
BKT0011 BKT 6K-002-N-S75	BKT0013 BKT 6K-002-N-02			
6K	6K			
12 x 41.5 x 21.6 mm	12 x 37.9 x 21.6 mm			
NPN NO/NC	NPN NO/NC			
Key disable on/off; Same function as button	Key disable on/off; Same function as button			
Contrast sensor	Contrast sensor			
Diffuse sensor, Focused	Diffuse sensor, Focused			
Focused	Focused			
Laser Red light	Laser Red light			
0.7 x 0.7 mm at 250 mm	0.7 x 0.7 mm at 250 mm			
1...250 mm	1...250 mm			
Connector, M8x1-Male, 4-pole	Cable, 2.00 m, PVC			
ABS	ABS			
PMMA	PMMA			
10...30 VDC	10...30 VDC			
IP67; IP69K	IP67; IP69K			
CE; cULus	CE; cULus; Ecolab			



PHOTOELECTRIC DIFFUSE SENSORS WITH BACKGROUND SUPPRESSION

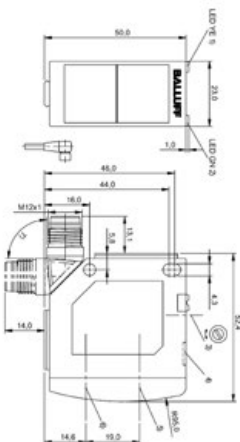


	<b>BOS01FL</b> BOS 23K-PA-RH10-S4	<b>BOS0178</b> BOS 23K-PU-RH10-S4	<b>BOS0179</b> BOS 23K-NU-RH10-S4
Series	23K	23K	23K
Dimension	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	NPN NO/NC
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Principle of optical operation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation
Special optical feature	Background suppression	Background suppression	Background suppression
Beam characteristic	Focus, typical at 500 mm	Focus, typical at 500 mm	Focus, typical at 500 mm
Light type	LED Red light	LED Red light	LED Red light
Light spot size	15 x 15 mm at focal point	15 x 15 mm at focal point	15 x 15 mm at focal point
Range	3...800 mm	3...800 mm	3...800 mm
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Housing material	PC ABS	PC ABS	PC ABS
Material sensing surface	PMMA	PMMA	PMMA
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC
IP rating	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K
Approval/Conformity	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab





<b>BOS017A</b> BOS 23K-GI-RH10-S4				
23K				
23 x 51 x 52.4 mm				
IO-Link PNP/NPN NO/NC				
Photoelectric sensor				
Diffuse sensor, Triangulation				
Background suppression				
Focus, typical at 500 mm				
LED Red light				
15 x 15 mm at focal point				
1.2 m Adjustable				
Connector, M12x1 -Male, 4-pole				
PC ABS				
PMMA				
18...30 VDC				
IP6x; IPx9K				
CE; cULus; Ecolab; EAC				

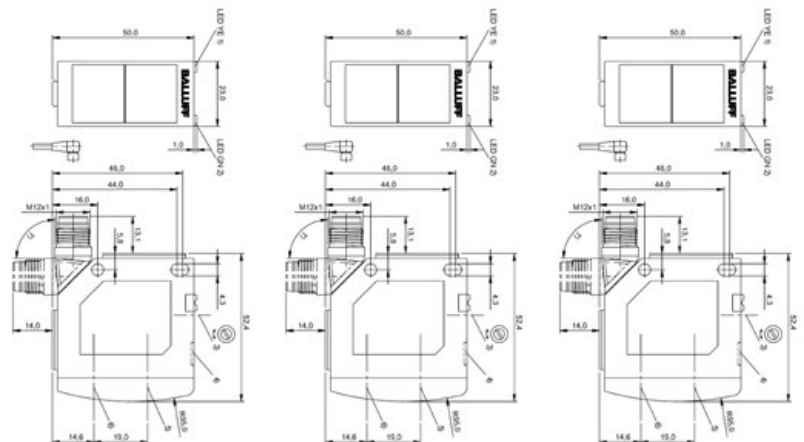




PHOTOELECTRIC DIFFUSE SENSORS WITH BACKGROUND SUPPRESSION

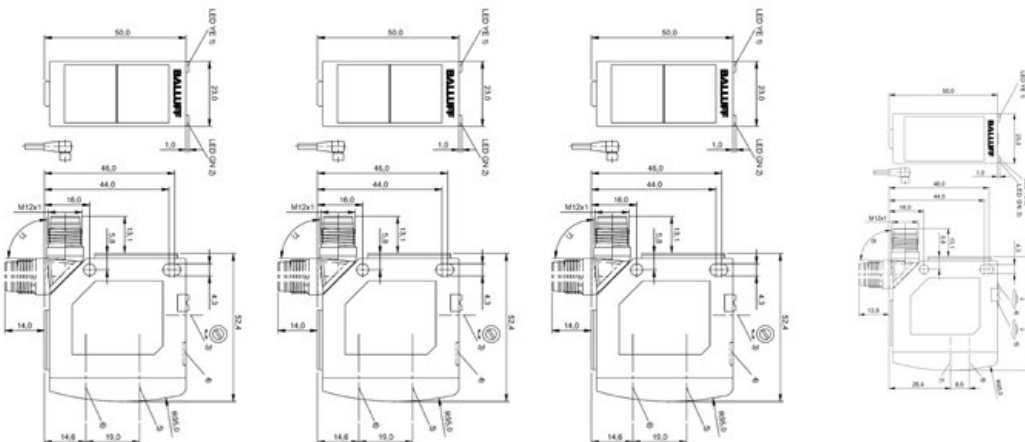


	<b>BOS01FR</b> BOS 23K-PA-LH10-S4	<b>BOS017C</b> BOS 23K-PU-LH10-S4	<b>BOS017E</b> BOS 23K-NU-LH10-S4
Series	23K	23K	23K
Dimension	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	NPN NO/NC
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Principle of optical operation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation
Special optical feature	Background suppression	Background suppression	Background suppression
Beam characteristic	Collimated	Collimated	Collimated
Light type	Laser Red light, Class 1	Laser Red light, Class 1	Laser Red light, Class 1
Light spot size	2.2 x 2.2 mm at 800 mm	2.2 x 2.2 mm at 800 mm	2.2 x 2.2 mm at 800 mm
Range	5...800 mm	5...800 mm	5...800 mm
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Housing material	PC ABS	PC ABS	PC ABS
Material sensing surface	PMMA	PMMA	PMMA
Operating voltage $U_b$	12...30 VDC	10...30 VDC	10...30 VDC
IP rating	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K
Approval/Conformity	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab





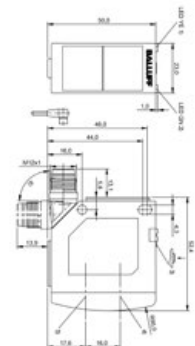
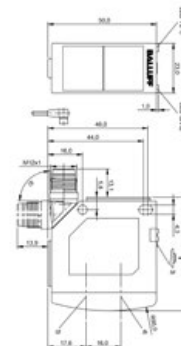
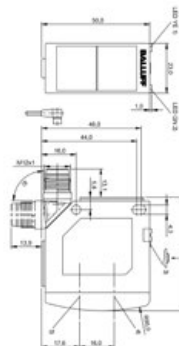
BOS01FT BOS 23K-PA-LH20-S4	BOS017H BOS 23K-PU-LH20-S4	BOS017J BOS 23K-NU-LH20-S4	BOS01UW BOS 23K-UU-LH11-S92	
23K	23K	23K	23K	
23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	
PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	NPN NO/NC	NO/NC	
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Diffuse sensor, Triangulation	Light time-of-flight	
Background suppression	Background suppression	Background suppression	Background suppression	
Collimated	Collimated	Collimated	Divergent	
Laser Red light, Class 1	Laser Red light, Class 1	Laser Red light, Class 2	Laser Red light	
2.5 x 3.5 mm at 800 mm	2.5 x 3.5 mm at 800 mm	2.5 x 3.5 mm at 800 mm	∅ 7 mm at 5 m	
5...800 mm	5...800 mm	5...800 mm	undefined	
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector	
PC ABS	PC ABS	PC ABS	PC ABS	
PMMA	PMMA	PMMA	PMMA	
12...30 VDC	12...30 VDC	12...30 VDC	18...30 VDC	
IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	
CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab; EAC	



PHOTOELECTRIC  
DIFFUSE SENSORS

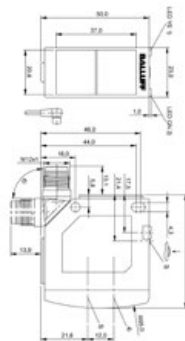
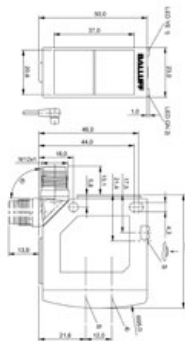
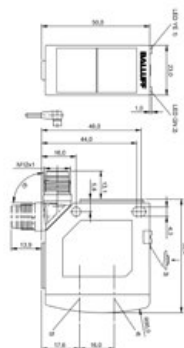


	<b>BOS01FM</b> BOS 23K-PA-RD10-S4	<b>BOS016Z</b> BOS 23K-PU-RD10-S4	<b>BOS0170</b> BOS 23K-NU-RD10-S4	
Series	23K	23K	23K	
Dimension	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	NPN NO/NC	
Input function		Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Diffuse sensor (energetic)	Diffuse sensor (energetic)	Diffuse sensor (energetic)	
Special optical feature				
Beam characteristic	Focus, typical at 500 mm	Focus, typical at 500 mm	Focus, typical at 500 mm	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	15 x 15 mm at focal point	15 x 15 mm at focal point	15 x 15 mm at focal point	
Range	0...2000 mm	0...2000 mm	0...2000 mm	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	PC ABS	PC ABS	PC ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	
Approval/Conformity	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab	





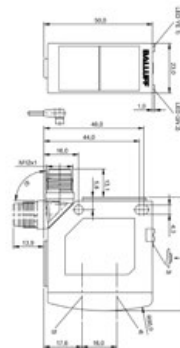
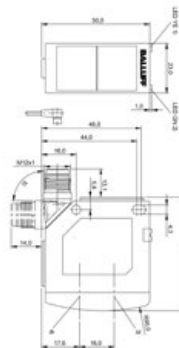
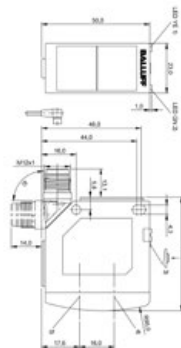
BOS0171 BOS 23K-GI-RD10-S4	BOS0175 BOS 23K-PU-LD20-S4	BOS0176 BOS 23K-NU-LD20-S4		
23K	23K	23K		
23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm		
IO-Link PNP/NPN NO/NC	PNP NO/NC	NPN NO/NC		
Key disable on/off; Same function as button	Key disable on/off; Same function as button	Key disable on/off; Same function as button		
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor		
Diffuse sensor (energetic)	Diffuse sensor (energetic)	Diffuse sensor (energetic)		
Focus, typical at 600 mm	Collimated	Collimated		
LED Red light	Laser Red light, Class 1	Laser Red light, Class 1		
14 x 14 mm at 600 mm	2.2 x 2.2 mm at 800 mm	2.2 x 2.2 mm at 800 mm		
0...2000 mm	5...1200 mm	5...1200 mm		
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole		
PC ABS	PC ABS	PC ABS		
PMMA	PMMA	PMMA		
18...30 VDC	10...30 VDC	10...30 VDC		
IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K		
CE; cULus; Ecolab; EAC	CE; cULus; Ecolab	CE; cULus; Ecolab		



PHOTOELECTRIC  
RETROREFLECTIVE SENSORS

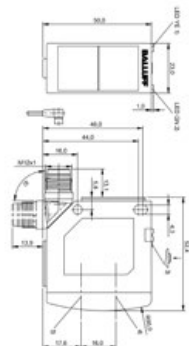
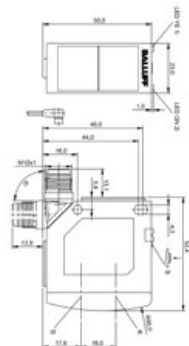


	<b>BOS01FN</b> BOS 23K-PA-RR10-S4	<b>BOS01FW</b> BOS 23K-PA-RR10-SA1-S4S	<b>BOS016P</b> BOS 23K-PU-RR10-S4	
Series	23K	23K	23K	
Dimension	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	
Input function			Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Retroreflective sensor	Retroreflective sensor	Retroreflective sensor	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	300 x 300 mm at 12 m	300 x 300 mm at 12 m	300 x 300 mm at 12 m	
Range	0...14 m	0...14 m	0...14 m	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	PC ABS	PC ABS	PC ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	
Approval/Conformity	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab	





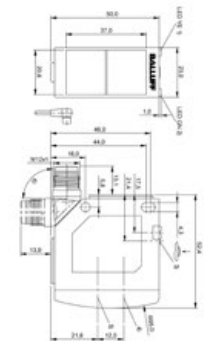
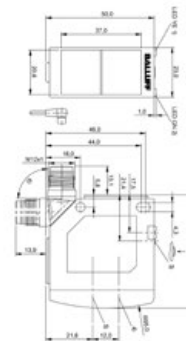
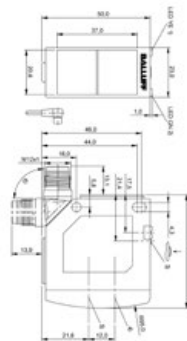
BOS016R BOS 23K-NU-RR10-S4	BOS016T BOS 23K-GI-RR10-S4			
23K	23K			
23 x 51 x 52.4 mm	23 x 51 x 52.4 mm			
NPN NO/NC	IO-Link PNP/NPN NO/NC			
Key disable on/off; Same function as button	Key disable on/off; Same function as button			
Photoelectric sensor	Photoelectric sensor			
Retroreflective sensor	Retroreflective sensor			
Divergent	Divergent			
LED Red light	LED Red light			
300 x 300 mm at 12 m	300 x 300 mm at 12 m			
0...14 m	0...12 m			
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole			
PC ABS	PC ABS			
PMMA	PMMA			
10...30 VDC	18...30 VDC			
IP6x; IPx9K	IP6x; IPx9K			
CE; cULus; Ecolab	CE; cULus; Ecolab			



PHOTOELECTRIC  
RETROREFLECTIVE SENSORS



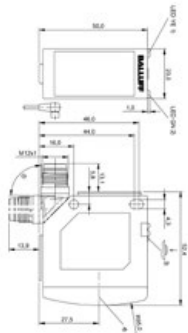
	<b>BOS01HJ</b> BOS 23K-PA-LR10-S4	<b>BOS016U</b> BOS 23K-PU-LR10-S4	<b>BOS016W</b> BOS 23K-NU-LR10-S4	
Series	23K	23K	23K	
Dimension	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	NPN NO/NC	
Input function		Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Retroreflective sensor	Retroreflective sensor	Retroreflective sensor	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	Laser Red light, Class 1	Laser Red light, Class 1	Laser Red light, Class 1	
Light spot size	17 x 19 mm at 14 m	9 x 9 mm at 12 mm	9 x 9 mm at 12 mm	
Range	0...14 m	0...14 m	0...14 m	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	PC ABS	PC ABS	PC ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	
Approval/Conformity	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab	







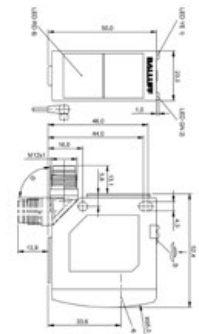
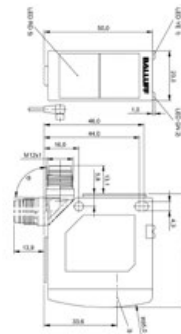
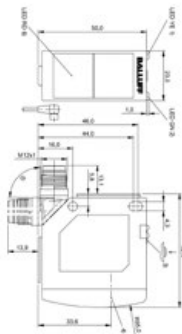
<b>BOS01NC</b> BOS 23K-PA-LK10-S4				
23K				
23 x 51 x 52.4 mm				
PNP Normally open (NO) PNP Normally closed (NC)				
Photoelectric sensor				
Retroreflective sensor				
Divergent				
Laser Red light, Class 1				
Ø 22 mm at 20 m				
0...20 m				
Connector, M12x1 -Male, 4-pole				
PC ABS				
PMMA				
10...30 VDC				
IP6x; IPx9K				
CE; cULus; Ecolab				



PHOTOELECTRIC  
THROUGH-BEAM SENSORS (RECEIVERS)

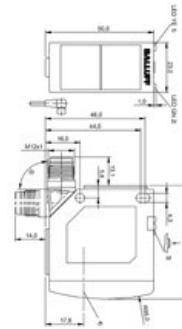
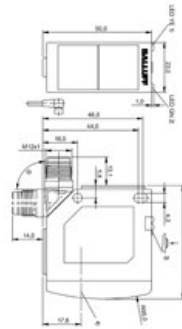
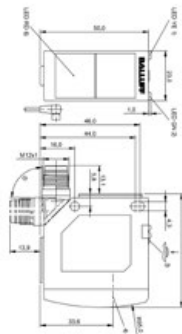
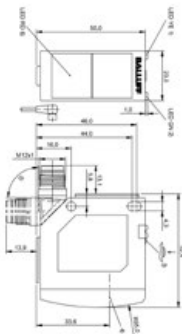


	<b>BOS01FP</b> BOS 23K-PA-RE10-S4	<b>BOS01FY</b> BOS 23K-PA-RE10-SA1-S4S	<b>BOS016F</b> BOS 23K-PU-RE10-S4
Series	23K	23K	23K
Dimension	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	PNP NO/NC
Input function			Key disable on/off; Same function as button
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Principle of optical operation	Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (receiver)
Special optical feature			
Beam characteristic			
Light type	LED Red light	LED Red light	LED Red light
Light spot size			
Range	0...25 m	0...25 m	0...25 m
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Housing material	PC ABS	PC ABS	PC ABS
Material sensing surface	PMMA	PMMA	PMMA
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC
IP rating	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K
Approval/Conformity	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab





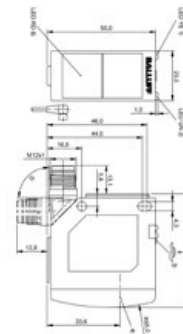
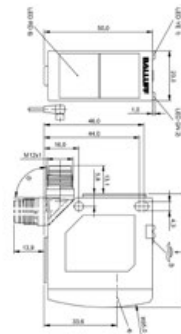
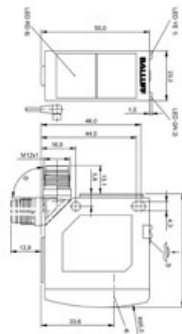
BOS016H BOS 23K-NU-RE10-S4	BOS016J BOS 23K-GI-RE10-S4	BOS01UT BOS 23K-XI-RS11-S4	BOS016E BOS 23K-XT-RS11-S4	
23K	23K	23K	23K	
23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	
NPN NO/NC	PNP/NPN NO/NC IO-Link 1.1	IO-Link		
Key disable on/off; Same function as button	Key disable on/off; Same function as button	Test (Emitter off)	Test (Emitter off)	
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)	
		Divergent	Divergent	
LED Red light	LED Red light	LED Red light	LED Red light	
		600 x 600 mm at 20 m	600 x 600 mm at 20 m	
0...25 m	0...20 m	0...20 m	0...25 m	
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
PC ABS	PC ABS	PC ABS	PC ABS	
PMMA	PMMA	PMMA	PMMA	
10...30 VDC	18...30 VDC	18...30 VDC	10...30 VDC	
IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	
CE; cULus; Ecolab	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab	



PHOTOELECTRIC  
THROUGH-BEAM SENSORS (RECEIVERS)

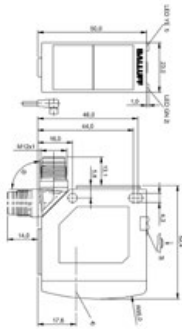


	<b>BOS01FU</b> BOS 23K-PA-LE10-S4	<b>BOS016L</b> BOS 23K-PU-LE10-S4	<b>BOS016M</b> BOS 23K-NU-LE10-S4	
Series	23K	23K	23K	
Dimension	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	23 x 51 x 52.4 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	NPN NO/NC	
Input function	Key disable on/off; Same function as button	Key disable on/off; Same function as button	Key disable on/off; Same function as button	
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (receiver)	
Special optical feature				
Beam characteristic				
Light type	Laser Red light, Class 1	Laser Red light, Class 1	Laser Red light, Class 1	
Light spot size				
Range	0...30 m	0...30 m	0...30 m	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	PC ABS	PC ABS	PC ABS	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP6x; IPx9K	IP6x; IPx9K	IP6x; IPx9K	
Approval/Conformity	CE; cULus; Ecolab	CE; cULus; Ecolab	CE; cULus; Ecolab	





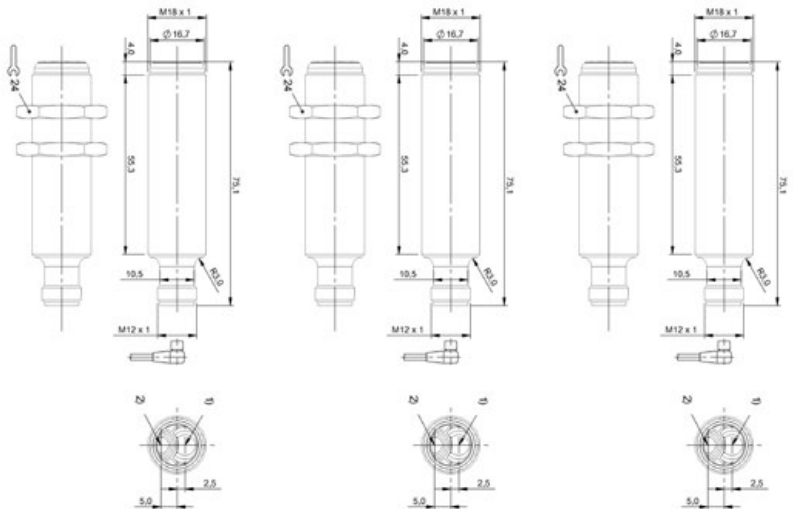
<b>BOS016K</b> BOS 23K-XT-LS11-S4				
23K				
23 x 51 x 52.4 mm				
Test (Emitter off)				
Photoelectric sensor				
Through-beam sensor (Emitter)				
Divergent				
Laser Red light				
30 x 30 mm at 25 m				
0...30 m				
Connector, M12x1-Male, 4-pole				
PC ABS				
PMMA				
10...30 VDC				
IP6x; IPx9K				
CE; cULus; Ecolab				



PHOTOELECTRIC  
DIFFUSE SENSORS

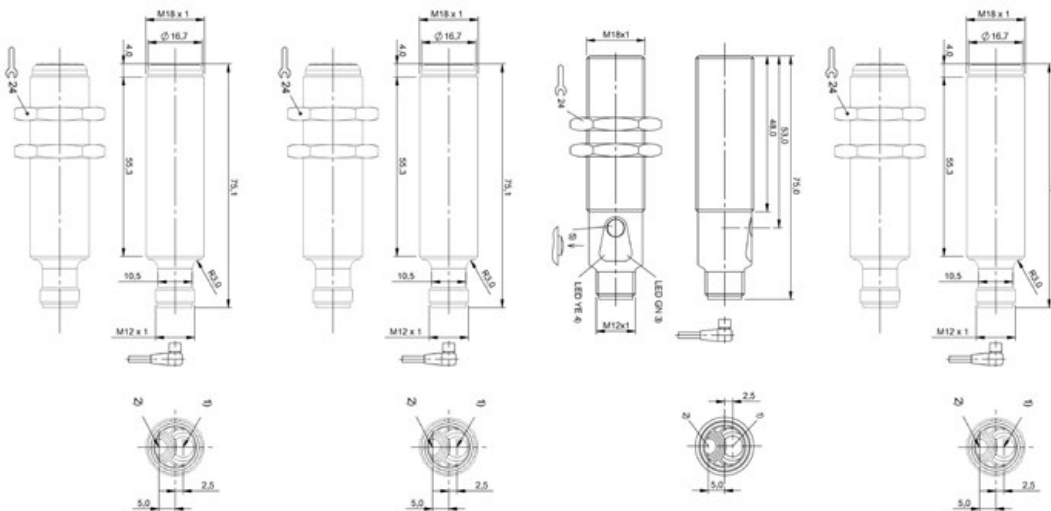


	<b>BOS023R</b> BOS 18E-PA-RD30-S4	<b>BOS023T</b> BOS 18E-PA-RD31-S4	<b>BOS023Z</b> BOS 18E-PA-ID30-S4	
Series	18E	18E	18E	
Dimension	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	PNP NO/NC	
Input function				
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Diffuse sensor (energetic)	Diffuse sensor (energetic)	Diffuse sensor (energetic)	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	Infrared	
Light spot size	Ø 50 mm at 600 mm	Ø 50 mm at 600 mm		
Range	500 mm	250 mm	700 mm	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	cULus; Ecolab	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab	





BOS01KE BOS 18E-PA-RD20-S4	BOS01KF BOS 18E-PA-RD21-S4	BOS023E BOS 18E-PI-RD30-S4	BOS0239 BOS 18E-PA-ID20-S4	
18E	18E	18E	18E	
Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	
PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	IO-Link 1.1 PNP NO/NC	PNP NO/NC	
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Diffuse sensor (energetic)	Diffuse sensor (energetic)	Diffuse sensor (energetic)	Diffuse sensor (energetic)	
Divergent	Divergent	Divergent	Divergent	
LED Red light	LED Red light	LED Red light	Infrared	
Ø 50 mm at 600 mm		Ø 50 mm at 600 mm		
500 mm	250 mm	1...500 mm	700 mm	
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316Ti)	Stainless steel (316L)	
Glass	Glass	Glass	Glass	
10...30 VDC	10...30 VDC	18...30 VDC	10...30 VDC	
IP68; IPx9K	IP68; IPx9K	IP67; IPx9K	IP68; IPx9K	
CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab	CE; cULus; Ecolab; FDA compliant; Ecolab	

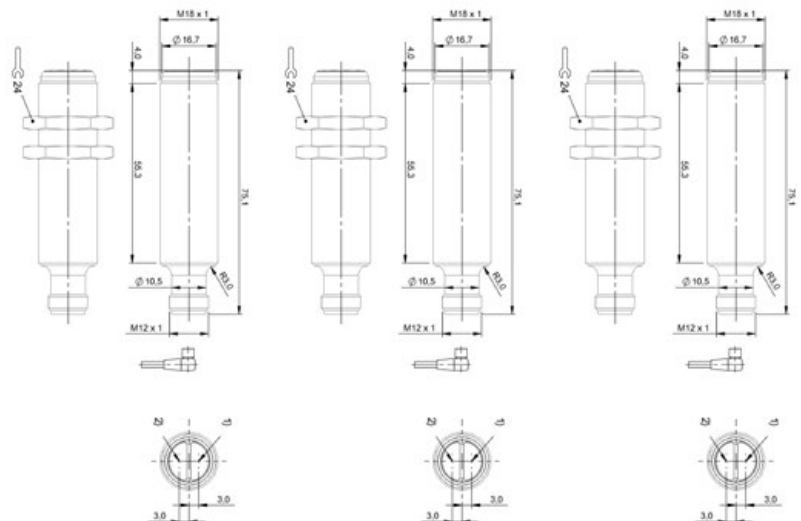




PHOTOELECTRIC  
RETROREFLECTIVE SENSORS

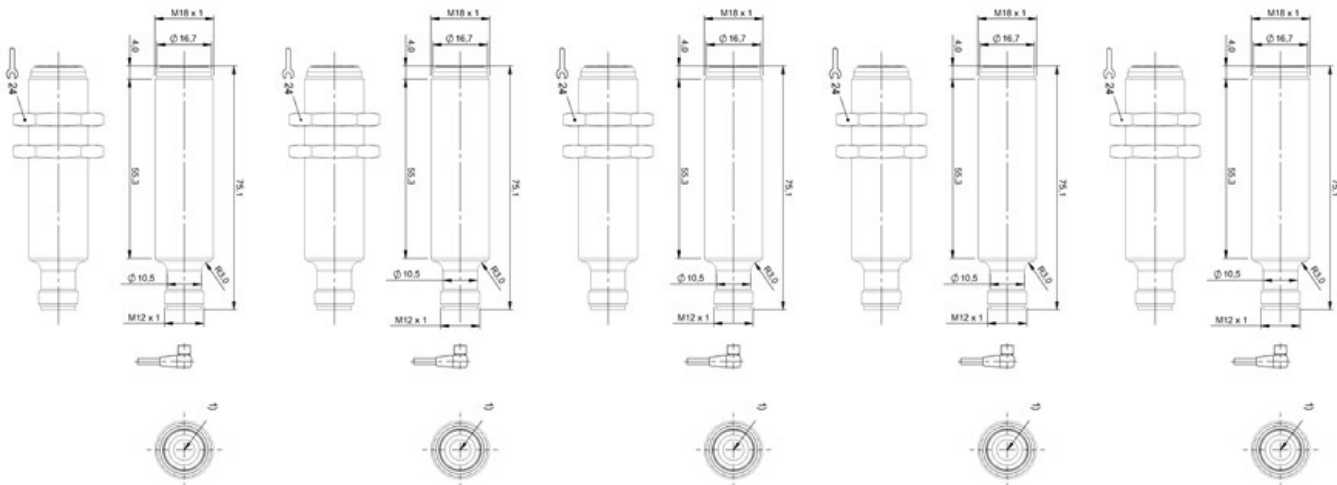


	<b>BOS023Y</b> BOS 18E-PA-PR30-S4	<b>BOS01KL</b> BOS 18E-PA-PR20-S4	<b>BOS023F</b> BOS 18E-PI-PR30-S4	
Series	18E	18E	18E	
Dimension	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	IO-Link 1.1 PNP NO/NC	
Input function				
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Retroreflective sensor	Retroreflective sensor	Retroreflective sensor	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	LED Red light	
Light spot size	Ø 300 mm at 7 m	Ø 300 mm at 7 m	Ø 300 mm at 7 m	
Range	5 m	5 m	0...5 m	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316Ti)	
Material sensing surface	PMMA	Glass	Glass	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	18...30 VDC	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab	





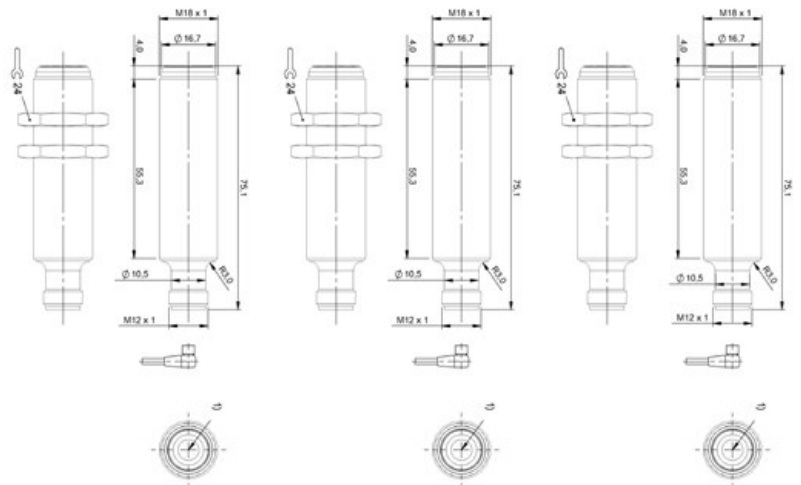
BOS023W BOS 18E-PA-RE30-S4	BOS023U BOS 18E-X-RS30-S4	BOS01KM BOS 18E-PA-RE20-S4	BOS023H BOS 18E-PI-RE30-S4	BOS01KT BOS 18E-X-RS20-S4
18E	18E	18E	18E	18E
Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm
PNP Normally open (NO) PNP Normally closed (NC)		PNP NO/NC	IO-Link 1.1 PNP NO/NC	
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Through-beam sensor (receiver)	Through-beam sensor (Emitter)	Through-beam sensor (receiver)	Through-beam sensor (receiver)	Through-beam sensor (Emitter)
	Divergent			Divergent
LED Red light	LED Red light	LED Red light	LED Red light	LED Red light
0...20 m	0...20 m	0...20 m	0...20 m	0...20 m
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316Ti)	Stainless steel (316L)
PMMA	PMMA	Glass	Glass	Glass
10...30 VDC	10...30 VDC	10...30 VDC	18...30 VDC	10...30 VDC
IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K
CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab	CE; cULus; Ecolab; FDA compliant; EAC



PHOTOELECTRIC  
THROUGH-BEAM SENSORS (EMITTERS)

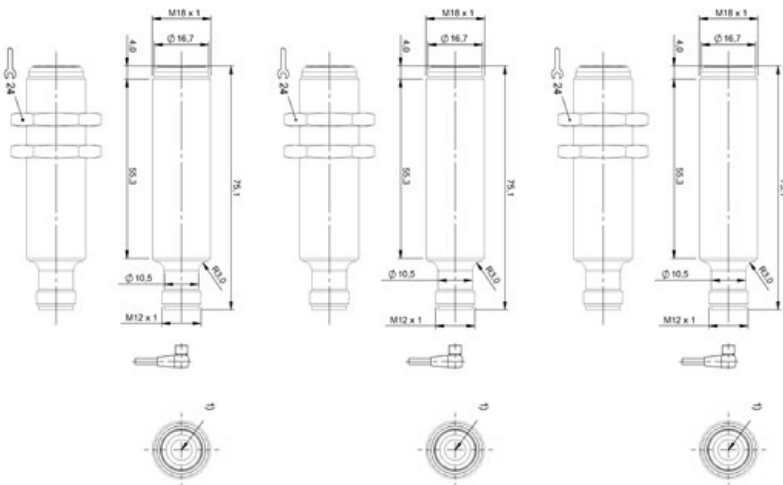


	<b>BOS0235</b> BOS 18E-XT-RS20-S4	<b>BOS023J</b> BOS 18E-XI-RS30-S4	<b>BOS023A</b> BOS 18E-PA-IE20-S4	
Series	18E	18E	18E	
Dimension	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	
Interface		IO-Link 1.1	PNP Normally open (NO) PNP Normally closed (NC)	
Input function	Test (Emitter off)			
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)	Through-beam sensor (receiver)	
Special optical feature				
Beam characteristic	Divergent			
Light type	Red light	LED Red light	Infrared	
Light spot size				
Range	0...50 m	0...20 m	0...50 m	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	Stainless steel (316L)	Stainless steel (316Ti)	Stainless steel (316L)	
Material sensing surface	Glass	Glass	Glass	
Operating voltage $U_b$	10...30 VDC	18...30 VDC	10...30 VDC	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; EAC	CE; cULus; Ecolab; FDA compliant; EAC	





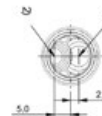
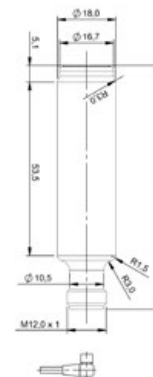
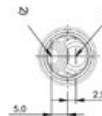
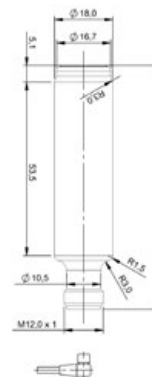
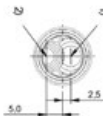
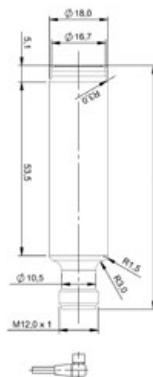
BOS0261 BOS 18E-PA-IE20-S4S	BOS0236 BOS 18E-X-IS20-S4	BOS0237 BOS 18E-XT-IS20-S4		
18E	18E	18E		
Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm		
PNP Normally open (NO) PNP Normally closed (NC)				
		Test (Emitter off)		
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor		
Through-beam sensor (receiver)	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)		
	Divergent	Divergent		
Infrared	Infrared	Infrared		
0...50 m	0...50 m	0...50 m		
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole		
Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)		
Glass	Glass	Glass		
10...30 VDC	10...30 VDC	10...30 VDC		
IP68; IPx9K	IP68; IPx9K	IP68; IPx9K		
CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC		



PHOTOELECTRIC  
DIFFUSE SENSORS

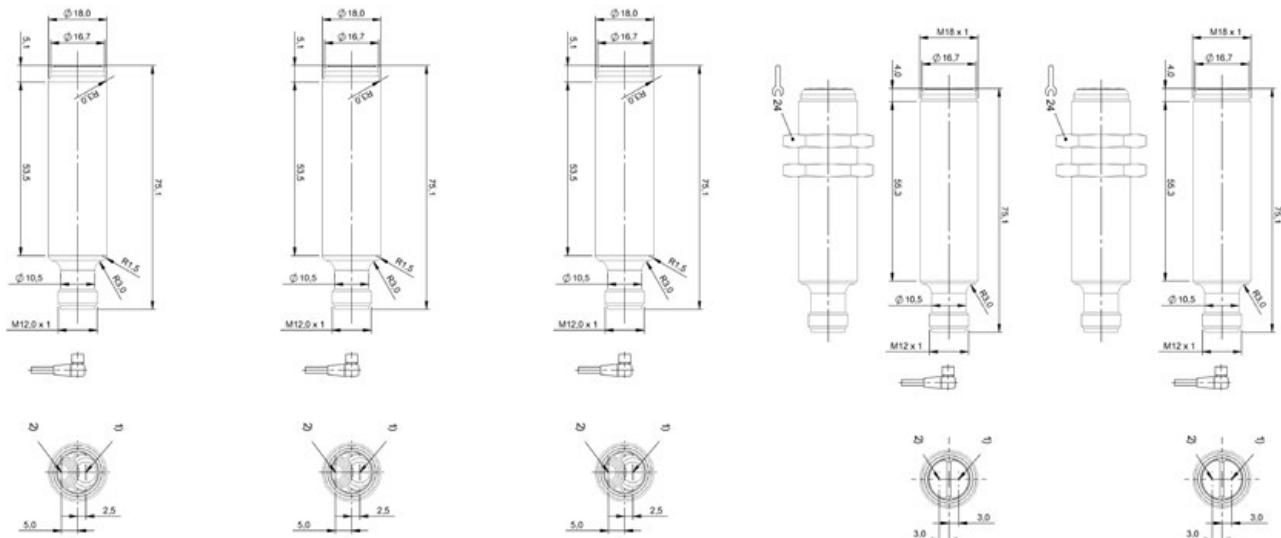


	<b>BOS0240</b> BOS G18E-PA-RD30-S4	<b>BOS0241</b> BOS G18E-PA-RD31-S4	<b>BOS0244</b> BOS G18E-PA-ID30-S4	
Series	G18E	G18E	G18E	
Dimension	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	PNP NO/NC	
Input function				
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Diffuse sensor (energetic)	Diffuse sensor (energetic)	Diffuse sensor (energetic)	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	LED Red light	Infrared	
Light spot size				
Range	500 mm	250 mm	700 mm	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	





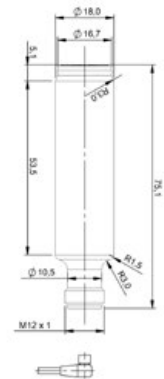
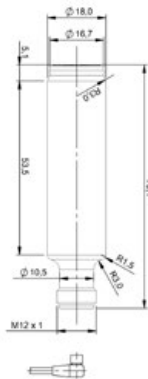
BOS01KH BOS G18E-PA-RD20-S4	BOS01KJ BOS G18E-PA-RD21-S4	BOS023M BOS G18E-PA-ID20-S4	BOS0245 BOS G18E-PA-PR30-S4	BOS01KK BOS G18E-PA-PR20-S4
G18E	G18E	G18E	G18E	G18E
Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm
PNP Normally open (NO) PNP Normally closed (NC)	PNP NO/NC	PNP NO/NC	PNP NO/NC	PNP NO/NC
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Diffuse sensor (energetic)	Diffuse sensor (energetic)	Diffuse sensor (energetic)	Retroreflective sensor	Retroreflective sensor
Divergent	Divergent	Divergent	Divergent	Divergent
LED Red light	LED Red light	Infrared	LED Red light	LED Red light
Ø 50 mm at 600 mm	Ø 50 mm at 600 mm		Ø 300 mm at 7 m	Ø 300 mm at 7 m
500 mm	250 mm	700 mm	5 m	5 m
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)
Glass	Glass	Glass	PMMA	Glass
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K
CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC



PHOTOELECTRIC  
THROUGH-BEAM SENSORS (RECEIVERS)

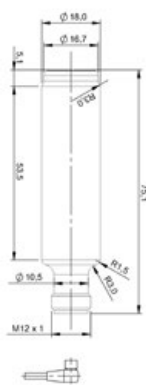
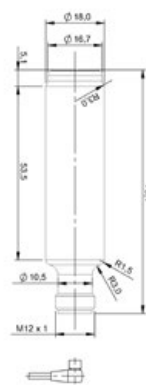
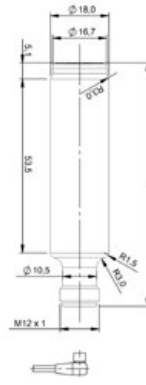


	<b>BOS0243</b> BOS G18E-PA-RE30-S4	<b>BOS0242</b> BOS G18E-X-RS30-S4	<b>BOS01KR</b> BOS G18E-PA-RE20-S4	
Series	G18E	G18E	G18E	
Dimension	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	
Interface	PNP Normally open (NO) PNP Normally closed (NC)		PNP NO/NC	
Input function				
Principle of operation	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	
Principle of optical operation	Through-beam sensor (receiver)	Through-beam sensor (Emitter)	Through-beam sensor (receiver)	
Special optical feature				
Beam characteristic		Divergent		
Light type	LED Red light	LED Red light	LED Red light	
Light spot size				
Range	0...20 m	0...20 m	0...20 m	
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	
Housing material	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	
Material sensing surface	PMMA	PMMA	Glass	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; FDA compliant; EAC	





<b>BOS01KU</b> BOS G18E-X-RS20-S4	<b>BOS023P</b> BOS G18E-XT-RS20-S4	<b>BOS023N</b> BOS G18E-PA-IE20-S4	<b>BOS023K</b> BOS G18E-X-IS20-S4	<b>BOS023L</b> BOS G18E-XT-IS20-S4
G18E	G18E	G18E	G18E	G18E
Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm	Ø 18 x 75 mm
		PNP Normally open (NO) PNP Normally closed (NC)		
	Test (Emitter off)			Test (Emitter off)
Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor	Photoelectric sensor
Through-beam sensor (Emitter)	Through-beam sensor (Emitter)	Through-beam sensor (receiver)	Through-beam sensor (Emitter)	Through-beam sensor (Emitter)
Divergent	Divergent		Divergent	Divergent
LED Red light	Red light	Infrared	Infrared	Infrared
0...20 m	0...50 m	0...50 m	0...50 m	0...50 m
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)
Glass	Glass	Glass	Glass	Glass
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC
IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K
CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC	CE; cULus; Ecolab; FDA compliant; EAC

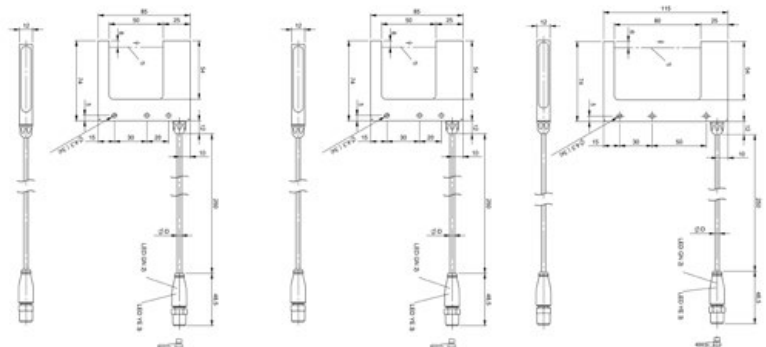




PHOTOELECTRIC  
FORK SENSORS

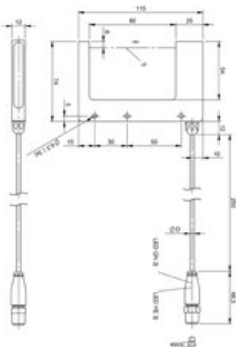


	<b>BGL004L</b> BGL 50F-001-00,2-S4	<b>BGL004M</b> BGL 50F-007-00,2-S4	<b>BGL004P</b> BGL 80F-007-00,2-S4	
Series	F	F	F	
Dimension	12 x 85 x 86 mm	12 x 85 x 86 mm	12 x 115 x 86 mm	
Fork opening	50 mm	50 mm	80 mm	
Interface	PNP NO/NC	PNP NO/NC	PNP NO/NC	
Principle of operation	Fork sensor	Fork sensor	Fork sensor	
Principle of optical operation	Fork sensor	Fork sensor	Fork sensor	
Special optical feature				
Beam characteristic	Divergent	Divergent	Divergent	
Light type	LED Red light	Infrared	Infrared	
Light spot size	Ø 1.25 mm Light exit	Ø 2.0 mm Light exit	Ø 2.5 mm Light exit	
Range				
Connection	Cable with connector, M12x1-Male, 4-pole, 0.25 m, PUR	Cable with connector, M12x1-Male, 4-pole, 0.25 m, PUR	Cable with connector, M12x1-Male, 4-pole, 0.25 m, PUR	
Housing material	Stainless steel (316L)	Stainless steel (316L)	Stainless steel (316L)	
Material sensing surface	PMMA	PMMA	PMMA	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
IP rating	IP67/IP69K	IP67/IP69K	IP67/IP69K	
Approval/Conformity	CE; Ecolab	CE; Ecolab	CE; Ecolab	





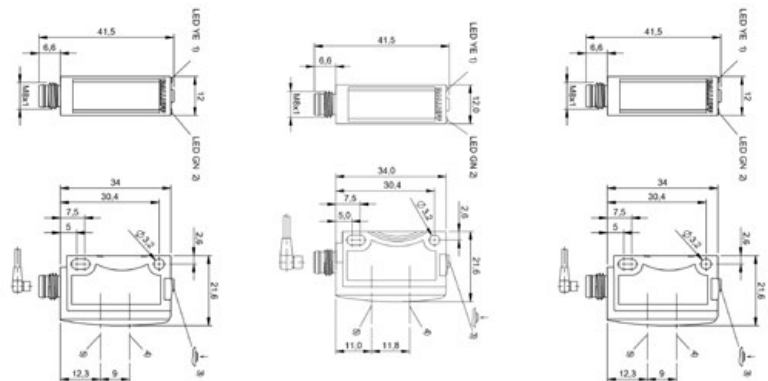
<b>BGL004N</b> BGL 80F-001-00,2-S4				
F				
12 x 115 x 86 mm				
80 mm				
PNP NO/NC				
Fork sensor				
Fork sensor				
Divergent				
LED Red light				
Ø 1.75 mm Light exit				
Cable with connector, M12x1-Male, 4-pole, 0.25 m, PUR				
Stainless steel (316L)				
PMMA				
10...30 VDC				
IP67/IP69K				
CE; Ecolab				



PHOTOELECTRIC  
DISTANCE SENSORS

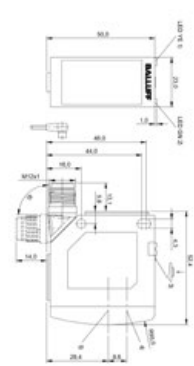
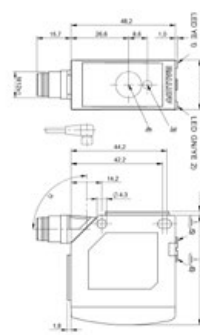
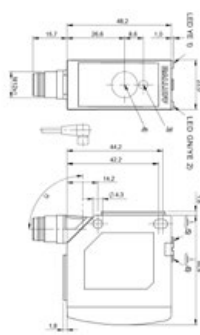
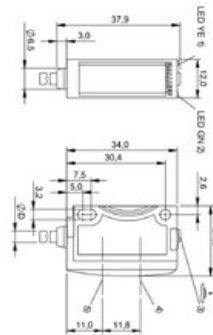
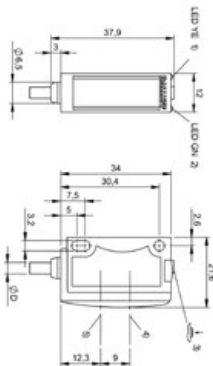


	<b>BOD001L</b> BOD 6K-RA02-S75	<b>BOD001R</b> BOD 6K-RA03-S75	<b>BOD001Z</b> BOD 6K-RA04-S75
Series	6K	6K	6K
Dimension	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm	12 x 41.5 x 21.6 mm
Interface	Analog, voltage 1...10 V PNP NO/NC	Analog, voltage 1...10 V PNP NO/NC	Analog, voltage 1...10 V PNP NO/NC
Principle of operation	Photoelectric distance sensor BOD	Photoelectric distance sensor BOD	Photoelectric distance sensor BOD
Principle of optical operation	Triangulation	Triangulation	Triangulation
Beam characteristic	Divergent	Divergent	Divergent
Light type	LED Red light	LED Red light	LED Red light
Light spot size	Ø 5 mm at 50 mm	Ø 9.5 mm at 100 mm	Ø 5 mm at 50 mm
Range	20...80 mm	30...200 mm	10...85 mm
Repeat accuracy	0.5 % FS	0.5 % FS	0.59 % FS
Resolution	≤ 120 µm	≤ 0.68 mm	≤ 0.15 mm
Connection	Connector, M8x1-Male, 4-pole	Connector, M8x1-Male, 4-pole	Connector, M8x1-Male, 4-pole
Housing material	ABS	ABS	ABS
Operating voltage $U_b$	13...30 VDC	13...30 VDC	13...30 VDC
IP rating	IP67; IP69K	IP67; IP69K	IP67; IP69K
Approval/Conformity	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC





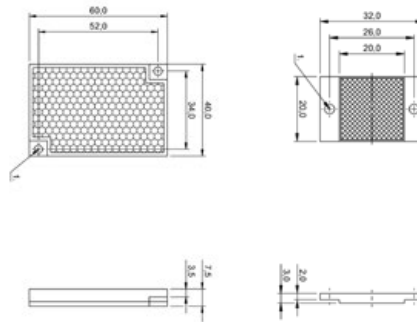
BOD001M BOD 6K-RA02-02	BOD001T BOD 6K-RA03-02	BOD001N BOD 23K-LA01-S92	BOD001P BOD 23K-LB01-S92	BOD0020 BOD 23K-LI01-S4
6K	6K	23K	23K	23K
12 x 37.9 x 21.6 mm	12 x 37.9 x 21.6 mm	51 x 23 x 52.4 mm	51 x 23 x 52.4 mm	51 x 23 x 52.4 mm
Analog, voltage 1...10 V PNP NO/NC	Analog, voltage 1...10 V PNP NO/NC	Analog, voltage 0...10 V PNP/NPN/Auto-Detect NO/NC	Analog, current 4...20 mA PNP/NPN/Auto-Detect NO/NC	PNP/NPN/Auto-Detect NO/NC IO-Link 1.1
Photoelectric distance sensor BOD	Photoelectric distance sensor BOD	Photoelectric distance sensor BOD	Photoelectric distance sensor BOD	Photoelectric distance sensor BOD
Triangulation	Triangulation	Light time-of-flight	Light time-of-flight	Light time-of-flight
Divergent	Divergent	Collimated	Collimated	Collimated
LED Red light	LED Red light	Laser Red light	Laser Red light	Laser Red light
Ø 5 mm at 50 mm	Ø 9.5 mm at 100 mm	5.5 x 7 mm at 5 m	5.5 x 7 mm at 5 m	5.5 x 7 mm at 5 m
20...80 mm	30...200 mm	100...5000 mm	100...5000 mm	100...5000 mm
0.5 % FS	0.5 % FS	0.024 % FS	0.024 % FS	0.024 % FS
≤ 120 µm	≤ 0.68 mm	≤ 5.0 mm	≤ 5.0 mm	≤ 5 mm
Cable, 2.00 m, PVC	Cable, 2.00 m, PVC	Connector, M12x1-Male, 5-pole	Connector, M12x1-Male, 5-pole	Connector, M12x1-Male, 4-pole
ABS	ABS	ABS	ABS	ABS
13...30 VDC	13...30 VDC	18...30 VDC	18...30 VDC	18...30 VDC
IP67; IP69K	IP67; IP69K	IP67; IP69K	IP67; IP69K	IP67; IP69K
CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC	CE; cULus; Ecolab; EAC



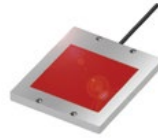


REFLECTORS

	<b>BAM01HE</b> BOS R-44	<b>BAM023T</b> BOS R-55		
Version	Cube corner 4 mm	Cube corner 1.1 mm		
Use	For retro-reflective sensor	For retro-reflective sensor; Laser		
Style	Square; 2 mounting holes	Square; 2 mounting holes		
Dimension	40 x 60 x 7.5 mm	20 x 32 x 3 mm		
Sensing surface	19.9 cm <sup>2</sup>	2.7 cm <sup>2</sup>		
Ambient temperature	-20...140 °C	-20...140 °C		
Material sensing surface	Solidchem	Solidchem		
Material	Solidchem	Solidchem		
Light type	Non-polarized light, also for polarized light	Non-polarized light, also for polarized light		
Mounting	Glue; Screw M3	Screw M3		
Approval/Conformity	Solidchem, TÜV Rheinland; Ecolab	Solidchem, TÜV Rheinland; Ecolab		

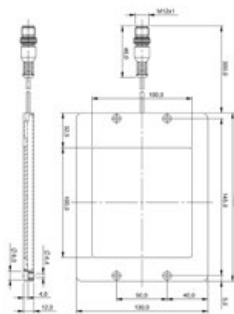


Other non washdown versions available. Check our website at [www.balluff.com](http://www.balluff.com)

BACKGROUND LIGHT FOR VISION SYSTEMS

	<b>BAE00JF</b> BAE LX-VS-HR100-E			
Connection	Cable with connector, M12x1-Male, 4-pole			
Version	Background light			
Dimension	130 x 12 x 155 mm			
Rated operating voltage Ue DC	24 V			
Current draw max.	416 mA			
Digital inputs	Trigger			
Material	Stainless steel (1.4301) Glass PMMA			
Illumination area	100 x 100 mm			
Light type	LED Red light			
Wave length	617 nm			
Illuminance (0.1 m)	3700 Lux			
Beam angle	55° x 55°			
Ambient temperature	-10...55 °C			
Approval/Conformity	CE; EAC			
IP rating	IP69K			



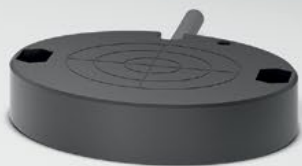






Object and level detection with patented technology

# CAPACITIVE SENSORS



Balluff's capacitive sensors detect fluids, granulates and powders in direct contact or through a non-metallic container wall. As stick-on sensors, they fit flexibly to the housing shape and are easily removable. Moisture, foam and deposits of any kind are compensated for, even through glass and plastic walls up to 10 mm thick. This makes them ideal for level detection of conductive media while guaranteeing high application security.

Our capacitive sensors are available in various form factors, even especially small ones.

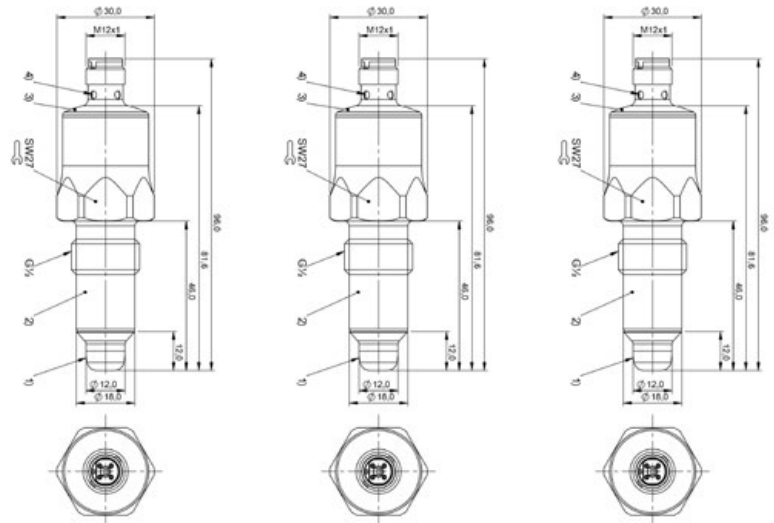
## Features

- Contact-free and, therefore, wear-free
- Bounceless output signal
- Foam and residue compensation

CAPACITIVE LEVEL SENSORS WITH CONTACT



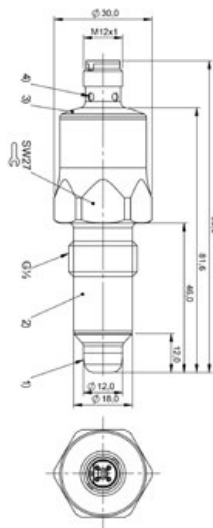
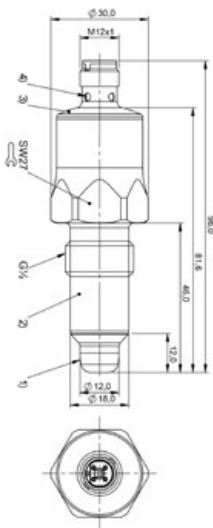
	<b>BCS011F</b> BCS S04K501-PSCFNG-S04G-T50	<b>BCS011H</b> BCS S04K501-POCFNG-S04G-T50	<b>BCS011J</b> BCS S04K501-NSCFNG-S04G-T50
Dimension	Ø 30 x 96 mm	Ø 30 x 96 mm	Ø 30 x 96 mm
Size	D30.0	D30.0	D30.0
Installation	Non-flush	Non-flush	Non-flush
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Switching output	PNP Normally open (NO)	PNP Normally closed (NC)	NPN Normally open (NO)
Switching frequency	5 Hz	5 Hz	5 Hz
Interface			
Sensitivity	Teachable depending on media	Teachable depending on media	Teachable depending on media
Additional features	Electrical conductive media; Foam and residue compensation	Electrical conductive media; Foam and residue compensation	Electrical conductive media; Foam and residue compensation
Housing material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
Material sensing surface	PEEK	PEEK	PEEK
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C
Operating voltage $U_b$	12...30 VDC	12...30 VDC	12...30 VDC
Approval/Conformity	CE; FDA compliant; EHEDG conformal	CE; FDA compliant; EHEDG conformal	CE; FDA compliant; EHEDG conformal
IP rating	IP68 media side IP69K with suitable cable	IP68 media side IP69K with suitable cable	IP68 media side IP69K with suitable cable





 IO-Link

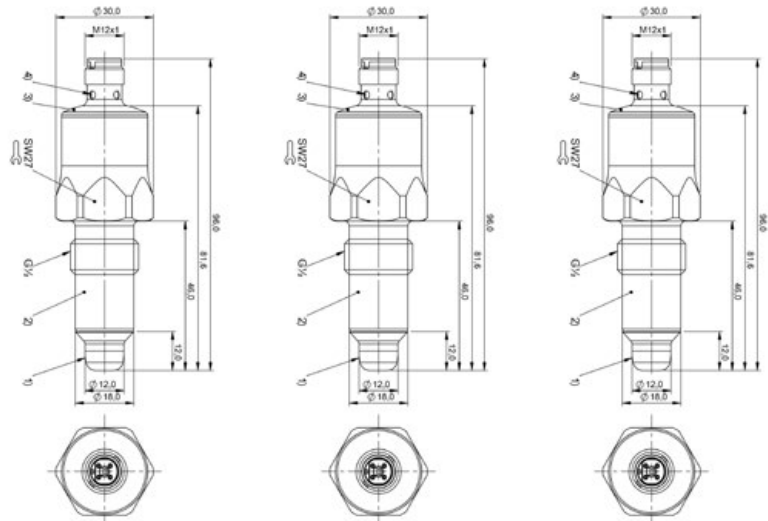
BCS011K BCS S04K501-NOCFNG-S04G-T50	BCS011E BCS S04K501-PICFNG-S04G-T50			
Ø 30 x 96 mm	Ø 30 x 96 mm			
D30.0	D30.0			
Non-flush	Non-flush			
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole			
NPN Normally closed (NC)	PNP Normally open (NO)			
5 Hz	5 Hz			
	IO-Link 1.1			
Teachable depending on media	Teachable depending on media			
Electrical conductive media; Foam and residue compensation	Electrical conductive media; Foam and residue compensation			
Stainless steel (1.4404)	Stainless steel (1.4404)			
PEEK	PEEK			
-40...85 °C	-40...85 °C			
12...30 VDC	18...30 VDC			
CE; FDA compliant; EHEDG conformal	IO-Link; CE; FDA compliant; EHEDG conformal			
IP68 media side IP69K with suitable cable	IP68 media side IP69K with suitable cable			



CAPACITIVE LEVEL SENSORS WITH CONTACT



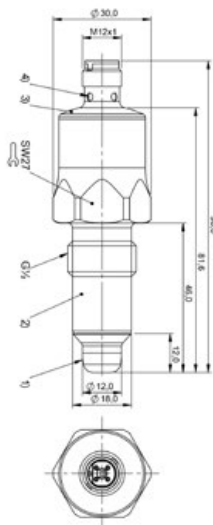
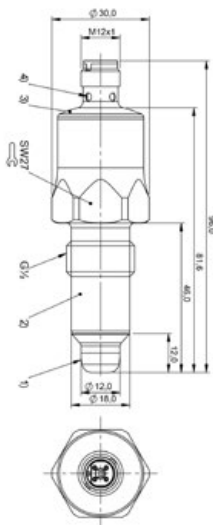
	<b>BCS011M</b> BCS S04K501-PSCFNG-S04G-T51	<b>BCS011N</b> BCS S04K501-POCFNG-S04G-T51	<b>BCS011P</b> BCS S04K501-NSCFNG-S04G-T51
Dimension	Ø 30 x 96 mm	Ø 30 x 96 mm	Ø 30 x 96 mm
Size	D30.0	D30.0	D30.0
Installation	Non-flush	Non-flush	Non-flush
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Switching output	PNP Normally open (NO)	PNP Normally closed (NC)	NPN Normally open (NO)
Switching frequency	5 Hz	5 Hz	5 Hz
Interface			
Sensitivity	Teachable depending on media	Teachable depending on media	Teachable depending on media
Additional features	Oil based media	Oil based media	Oil based media
Housing material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
Material sensing surface	PEEK	PEEK	PEEK
Ambient temperature	-10...85 °C	-10...85 °C	-10...85 °C
Operating voltage $U_b$	12...30 VDC	12...30 VDC	12...30 VDC
Approval/Conformity	CE; FDA compliant; EHEDG conformal	CE; FDA compliant; EHEDG conformal	CE; FDA compliant; EHEDG conformal
IP rating	IP68 media side IP69K with suitable cable	IP68 media side IP69K with suitable cable	IP68 media side IP69K with suitable cable





 IO-Link

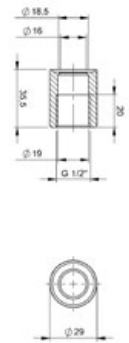
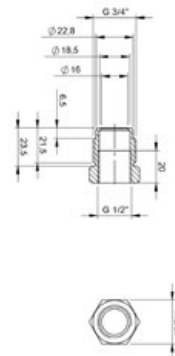
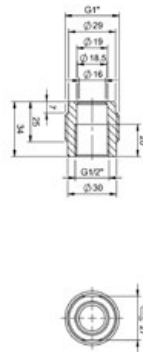
BCS011R BCS S04K501-NOCFNG-S04G-T51	BCS011L BCS S04K501-PICFNG-S04G-T51			
Ø 30 x 96 mm	Ø 30 x 96 mm			
D30.0	D30.0			
Non-flush	Non-flush			
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole			
NPN Normally closed (NC)	PNP Normally open (NO)			
5 Hz	5 Hz			
	IO-Link 1.1			
Teachable depending on media	Teachable depending on media			
Oil based media	Electrical conductive media; Foam and residue compensation; Oil based media			
Stainless steel (1.4404)	Stainless steel (1.4404)			
PEEK	PEEK			
-10...85 °C	-10...85 °C			
12...30 VDC	18...30 VDC			
CE; FDA compliant; EHEDG conformal	IO-Link; CE; FDA compliant; EHEDG conformal			
IP68 media side IP69K with suitable cable	IP68 media side IP69K with suitable cable			





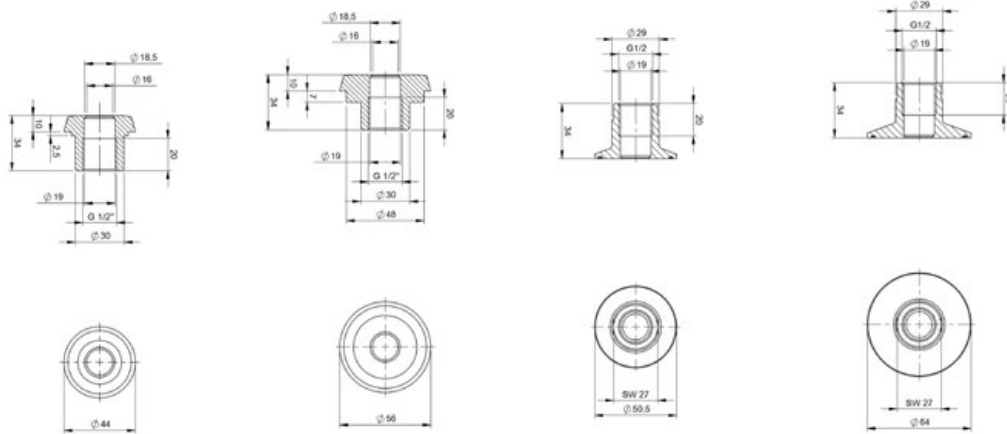
CAPACITIVE ADAPTERS

	<b>BAM0293</b> BAM AD-CS-013-1G2/1G0-5	<b>BAM0292</b> BAM AD-CS-013-1G2/3G4-5	<b>BAM0294</b> BAM AD-CS-013-1G2/D29-WLD-5	
Principle of operation	Screw-in adapter	Screw-in adapter	Weld-in adapter	
Version	G 1/2" → G 1"	G 1/2" → G 3/4"	G 1/2" → Ø 29 mm	
Use	For hygienic processes with BCS immersion sensor	For hygienic processes with BCS immersion sensor	For hygienic processes with BCS immersion sensor	
Material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	
Pressure rating max.			16 bar	
Sensor connection	G 1/2"	G 1/2"	G 1/2"	
Process connection	G 1"	G 3/4"	D29	
Approval/Conformity	EHEDG conformal	EHEDG conformal	EHEDG conformal	





BAM0295 BAM AD-CS-013-1G2/D44-TRI-5	BAM0296 BAM AD-CS-013-1G2/D58-TRI-5	BAM02NT BAM AD-CS-013-1G2/D50-TRI-5	BAM02NU BAM AD-CS-013-1G2/D64-TRI-5	
Dairy fitting per DIN 11851	Dairy fitting per DIN 11851	Tri-Clamp	Tri-Clamp	
G½" → DN25	G½" → DN40	G½" → Tri-Clamp Ø 50.5 mm	G½" → Tri-Clamp Ø 64 mm	
For hygienic processes with BCS immersion sensor	For hygienic processes with BCS immersion sensor	For hygienic processes with BCS immersion sensor	For hygienic processes with BCS immersion sensor	
Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)	
16 bar	16 bar	16 bar	16 bar	
G 1/2"	G 1/2"	G 1/2"	G 1/2"	
DN25 (DIN 11851)	DN40 (DIN11851)	Tri-Clamp Ø 50.5 mm	Tri-Clamp Ø 64 mm	
EHEDG conformal	EHEDG conformal	EHEDG conformal	EHEDG conformal	

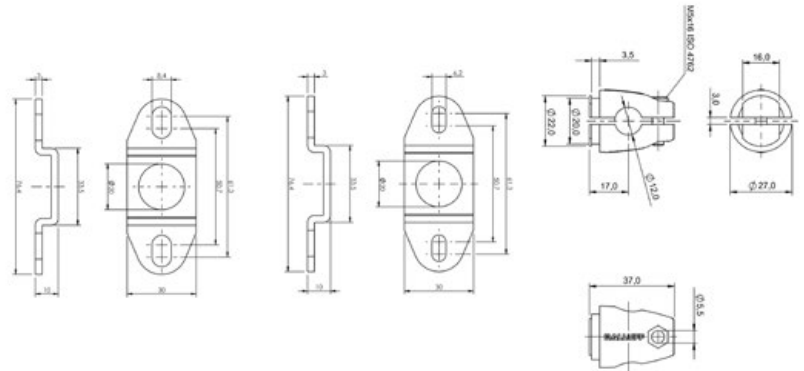




UNIVERSAL MOUNTING SYSTEM

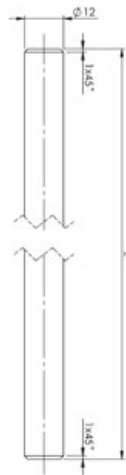
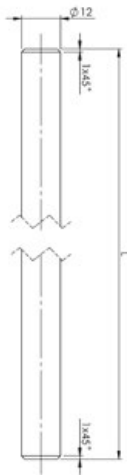


	<b>BAM0044</b> BMS CU-M-D12-I060-01	<b>BAM01CH</b> BMS CU-M-D12-I060-02	<b>BAM003Y</b> BMS CS-M-D12-IZ-01	
Principle of operation	Mounting system	Mounting system	Mounting system	
Use	For mounting system BMS	For mounting system BMS	For mounting system BMS; for holding rods with Ø12 mm	
Material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Dimension	76.4 x 10 x 30 mm	76.4 x 10 x 30 mm	Ø 27 x 37 mm	
Mounting	Screws, terminals	Screws, terminals	Screws, terminals	
Additional features				





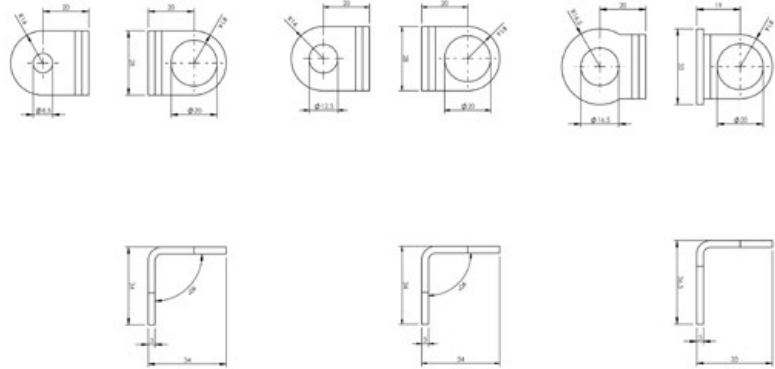
<b>BAM0045</b> BMS RS-S-D12-0150-00	<b>BAM0046</b> BMS RS-S-D12-0300-00			
Mounting system	Mounting system			
For mounting system BMS	For mounting system BMS			
Stainless steel (1.4571)	Stainless steel (1.4571)			
Ø 12 x 150 mm	Ø 12 x 300 mm			
Clamps	Clamps			



UNIVERSAL MOUNTING SYSTEM

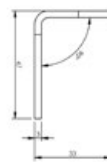
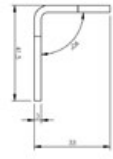
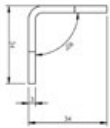
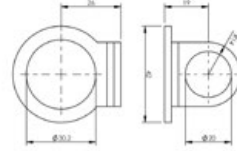
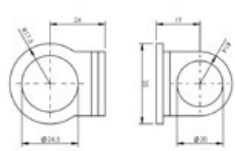
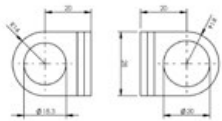


	<b>BAM0036</b> BMS CS-M-D12-ID08-01	<b>BAM0037</b> BMS CS-M-D12-ID12-01	<b>BAM003K</b> BMS CS-M-D12-ID16-01	
Principle of operation	Mounting system	Mounting system	Mounting system	
Use	For sensors Ø8 mm; for positive stop M8	For M12 sensors	For M16 sensors	
Material	Stainless steel	Stainless steel	Stainless steel	
Dimension	Ø 28 x 34 mm	Ø 28 x 34 mm	Ø 33 x 36.5 mm	
Mounting	Clamps	Clamps	Clamps	
Additional features				





<b>BAM0032</b> BMS CS-M-D12-ID18-01	<b>BAM003L</b> BMS CS-M-D12-ID24-01	<b>BAM0033</b> BMS CS-M-D12-ID30-01		
Mounting system	Mounting system	Mounting system		
For M18 sensors	For M24 sensors	For M30 sensors		
Stainless steel	Stainless steel	Stainless steel		
Ø 28 x 34 mm	Ø 35 x 41.5 mm	Ø 42 x 47 mm		
Clamps	Clamps	Clamps		





Sure position detection even at high speeds

# MAGNETIC FIELD SENSORS



Balluff tubular magnetic field sensors offer reliable and wear-free position detection in washdown applications. They are immune to vibration and sense through alloy and aluminum walls with no reduction in switching distance. Additionally, they provide a significantly greater switching distance than inductive sensors of the same physical size and can be flush mounted in steel.

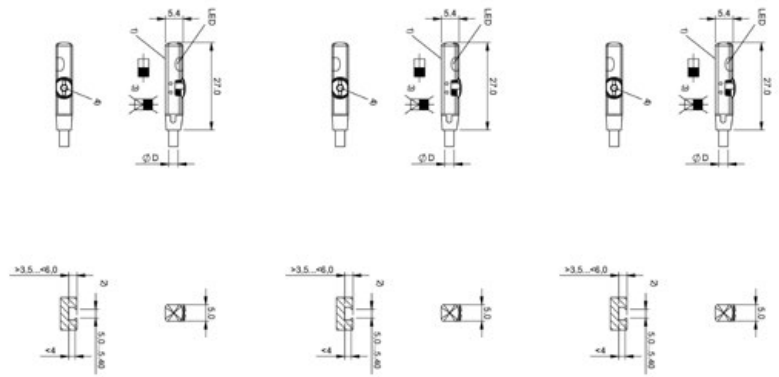
#### Features

- Wear-free detection
- Immune to vibration
- Sense through alloy and aluminum walls
- Can be flush mounted in steel

MAGNETIC FIELD  
T-SLOT SENSORS

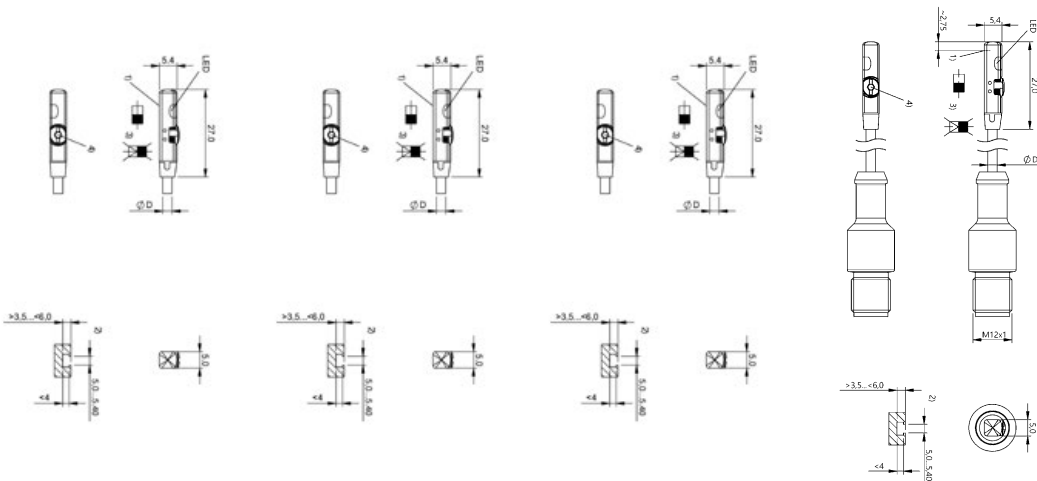


	<b>BMF00LW</b> BMF 405KF-PO-C-2A-EY-02	<b>BMF00LY</b> BMF 405KF-PO-C-2A-EY-05	<b>BMF00LZ</b> BMF 405KF-PO-C-2A-EY-10	
Dimension	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	
Connection				
Cable	TPE-V, 2 m	TPE-V, 5 m	TPE-V, 10 m	
Application				
Mounting				
Housing material	PP	PP	PP	
Interface				
Switching output	PNP Normally closed (NC)	PNP Normally closed (NC)	PNP Normally closed (NC)	
Switching frequency	10000 Hz	10000 Hz	10000 Hz	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
Ambient temperature	-40...100 °C	-40...100 °C	-40...100 °C	
Magnetic field immune				
IP rating	IP68; IP69K	IP68; IP69K	IP68; IP69K	
Approval/Conformity	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	





BMF00M0 BMF 405KF-PS-C-2A-EY-02	BMF00M1 BMF 405KF-PS-C-2A-EY-05	BMF00M2 BMF 405KF-PS-C-2A-EY-10	BMF00M5 BMF 405KF-PS-C-2A-S4-00,3	
5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	
			M12x1-Male, 3-pole, A-coded	
TPE-V, 2 m	TPE-V, 5 m	TPE-V, 10 m	TPE-V, 0.3 m	
PP	PP	PP	PP	
PNP Normally open (NO)	PNP Normally open (NO)	PNP Normally open (NO)	PNP Normally open (NO)	
10000 Hz	10000 Hz	10000 Hz	10000 Hz	
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
-40...100 °C	-40...100 °C	-40...100 °C	-40...100 °C	
IP68; IP69K	IP68; IP69K	IP68; IP69K	IP68; IP69K	
CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	

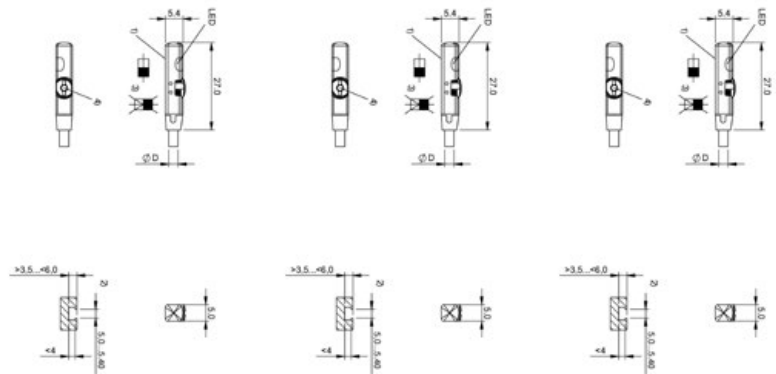




MAGNETIC FIELD  
T-SLOT SENSORS

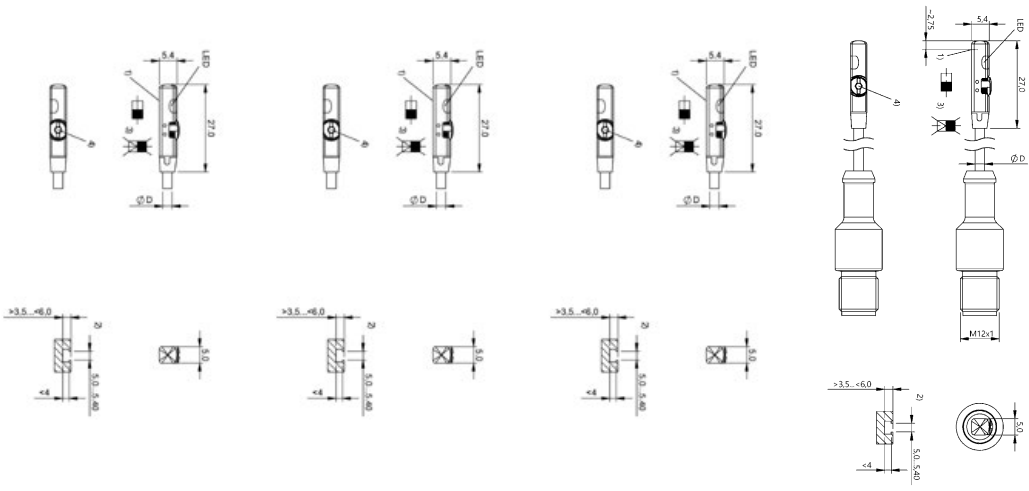


	<b>BMF00LM</b> BMF 405KF-NO-C-2A-EY-02	<b>BMF00LN</b> BMF 405KF-NO-C-2A-EY-05	<b>BMF00LP</b> BMF 405KF-NO-C-2A-EY-10	
Dimension	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	
Connection				
Cable	TPE-V, 2 m	TPE-V, 5 m	TPE-V, 10 m	
Application				
Mounting				
Housing material	PP	PP	PP	
Interface				
Switching output	NPN Normally closed (NC)	NPN Normally closed (NC)	NPN Normally closed (NC)	
Switching frequency	10000 Hz	10000 Hz	10000 Hz	
Operating voltage $U_b$	10...30 VDC	10...30 VDC	10...30 VDC	
Ambient temperature	-40...100 °C	-40...100 °C	-40...100 °C	
Magnetic field immune				
IP rating	IP68; IP69K	IP68; IP69K	IP68; IP69K	
Approval/Conformity	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	





BMFOOLR BMF 405KF-NS-C-2A-EY-02	BMFOOLT BMF 405KF-NS-C-2A-EY-05	BMFOOLU BMF 405KF-NS-C-2A-EY-10	BMF00M6 BMF 405KF-NS-C-2A-S4-00,3	
5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	5 x 5.4 x 27 mm	
			M12x1-Male, 3-pole, A-coded	
TPE-V, 2 m	TPE-V, 5 m	TPE-V, 10 m	TPE-V, 0.3 m	
PP	PP	PP	PP	
NPN Normally open (NO)	NPN Normally open (NO)	NPN Normally open (NO)	NPN Normally open (NO)	
10000 Hz	10000 Hz	10000 Hz	10000 Hz	
10...30 VDC	10...30 VDC	10...30 VDC	10...30 VDC	
-40...100 °C	-40...100 °C	-40...100 °C	-40...100 °C	
IP68; IP69K	IP68; IP69K	IP68; IP69K	IP68; IP69K	
CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	CE; cULus; Ecolab; RoHS	



MAGNETIC FIELD  
TUBULAR SENSORS



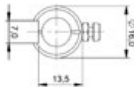
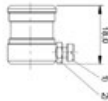
	<b>BMF001Z</b> BMF 10E-PS-D-2-SA1-S49		
Dimension	Ø 10 x 32 mm		
Connection	M8x1-Male, 3-pole		
Cable			
Application			
Mounting			
Housing material	Stainless steel (1.4571)		
Switching output	PNP Normally open (NO)		
Switching frequency	10000 Hz		
Operating voltage $U_b$	10...30 VDC		
Ambient temperature	-40...85 °C		
IP rating	IP69K		
Approval/Conformity	CE; cULus; Ecolab		



MOUNTING BRACKET FOR BMF SENSORS



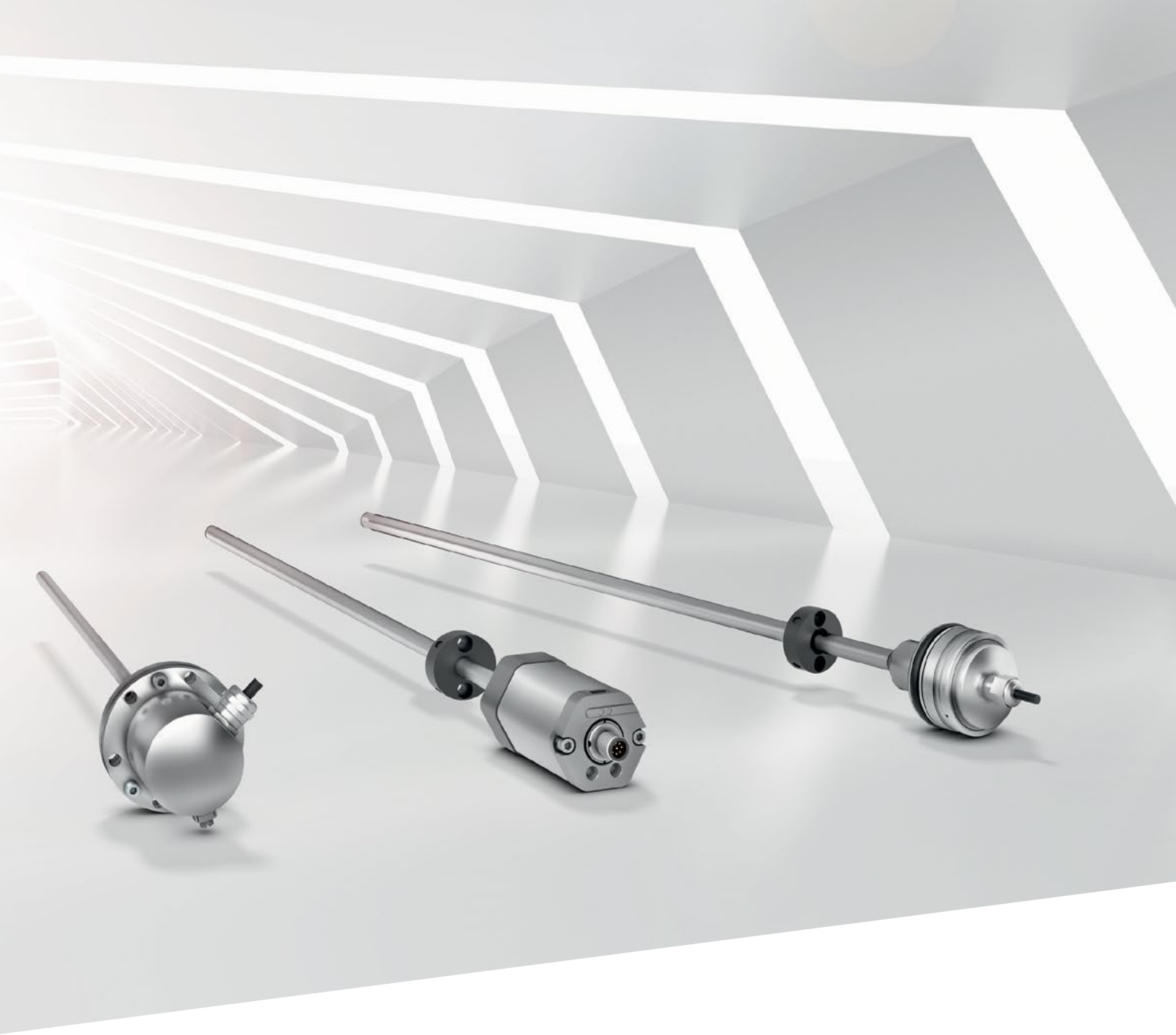
	<b>BAM00KR</b> BMF 10E-HW-19		
Principle of operation	BMF mounting bracket		
Application	Pneumatic cylinder, round without groove or tie rod; Piston diameter 8 - 63 mm		
Use	For magnetic sensors BMF 10E		
Material	Stainless steel (1.4305)		
Ambient temperature	-40...85 °C		





Sanitary fill SF and IP69k compact rod

# MAGNETOSTRICTIVE SENSORS



Magnetostrictive sensors are used wherever high reliability and precision is demanded in position and speed measurement. Our contact-free and absolute measuring systems are suitable for all industry-standard interfaces for a wide range of applications. Even under extreme conditions, they guarantee high machine and system availability.

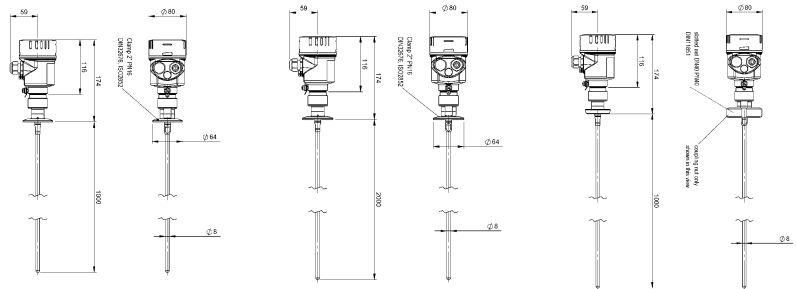
#### **Sanitary Fill SF and Compact Rod Features**

- All stainless steel housings
- Washdown rated
- Absolute position signal
- High resolution and repeatability
- Rising and falling signal available



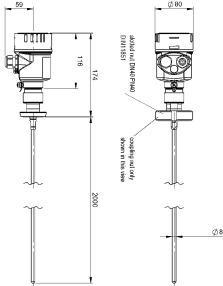
MICROWAVE SENSORS

	<b>BMD001L</b> BMD 1HLA-1000/41C-AE520A-KM20K	<b>BMD001M</b> BMD 1HLA-2000/41C-AE520A-KM20K	<b>BMD001N</b> BMD 1HLF-1000/41C-AE520A-KM20K
Probe length	1000 mm	2000 mm	1000 mm
Mounting	Tri-clamp 2" (DIN32676, ISO2852)	Tri-clamp 2" (DIN32676, ISO2852)	slotted nut DN40 (DIN11851)
Ambient temperature	-40...80 °C	-40...80 °C	-40...80 °C
Analog output	Analog, current 4...20 mA	Analog, current 4...20 mA	Analog, current 4...20 mA
Approval/Conformity	CE, EAC, FDA compliant, WEEE	CE, EAC, FDA compliant, WEEE	CE, EAC, FDA compliant, WEEE
Connection	Terminal, M20x1.5-Introduction	Terminal, M20x1.5-Introduction	Terminal, M20x1.5-Introduction
Cycle time min.	500 ms	500 ms	500 ms
Housing material	Stainless steel	Stainless steel	Stainless steel
IP rating	IP66, IP68 (0.2 bar), IP69K	IP66, IP68 (0.2 bar), IP69K	IP66, IP68 (0.2 bar), IP69K
Interface	HART	HART	HART
Non-linearity max.	±2 mm	±2 mm	±2 mm
Operating voltage Ub	16...35 VDC	16...35 VDC	16...35 VDC
Reproducibility	≤ ±1 mm	≤ ±1 mm	≤ ±1 mm





<b>BMD001P</b> BMD 1HLF-2000/41C-AE520A-KM20K				
2000 mm				
slotted nut DN40 (DIN11851)				
-40...80 °C				
Analog, current 4...20 mA				
CE, EAC, FDA compliant, WEEE				
Terminal, M20x1.5-Intro-duction				
500 ms				
Stainless steel				
IP66, IP68 (0.2 bar), IP69K				
HART				
±2 mm				
16...35 VDC				
≤ ±1 mm				







	BTL7 -SF- SERIES - ANALOG VOLTAGE
Interface	Analog, voltage
Measuring length	50...2500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nxxx = 0050...0500: ± 50 µm nxxx = 0501...2500: ± 0.01% FS
Operating voltage $U_b$	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 1 1/2" Tri-Clamp
Housing material	Stainless steel (1.4404)
Protection degree	IP67
Approval/Conformity	CE; 3-A; EAC

## BTL7-abcd-Mnnnn-f-lm

### BTL7

Magnetostrictive linear position sensor Generation 7

#### a interface

A = Voltage output 0 ... 10 V

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

10 = 2 outputs, each 1 x rising/falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm

(M0025...M2500: for rod diameter 10.2 mm)

#### f Style

SF = Level transducer, 1.5" Tri-Clamp

#### l Connection type

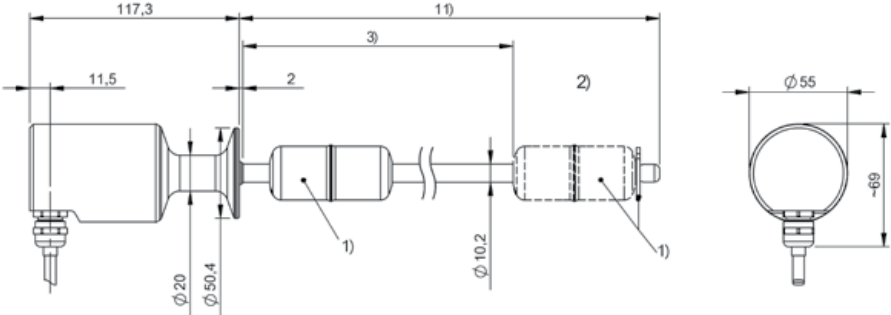
F = Cable out radial (PTFE)

#### m Connection type characteristic 1

(Length in meter)

02, 05, 10, 15, 20, 30

**BTL7-A510-Mxxxx-SF-Fxx**



- 1) Not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length

**Need more details?** In our product finder under [www.balluff.com](http://www.balluff.com) you will receive all product-specific information – including technical drawings, data sheets, operating instructions, etc. for each individual product – also available for download.



	BTL7 -SF- SERIES - ANALOG CURRENT
Interface	Analog, current
Measuring length	50...2500 mm
Repeat accuracy	± 10 µm
Linearity deviation	nnnn = 0050...0500: ± 50 µm nnnn = 0501...2500: ± 0.01% FS
Operating voltage Ub	10...30 VDC
Ambient temperature	-40...85 °C
Mechanical configuration	Fastening 1 1/2" Tri-Clamp
Housing material	Stainless steel (1.4404)
Protection degree	IP67
Approval/Conformity	CE; 3-A; EAC

## BTL7-abcd-Mnnnn-f-lm

### BTL7

Magnetostrictive linear position sensor Generation 7

#### a interface

C = Current output 0 ... 20 mA

E = Current output 4 ... 20 mA

#### b Operating voltage

5 = 10 ... 30 V

#### c + d Interface characteristic 1 + 2

00 = 1 output, rising

70 = 1 output, falling

#### Mnnnn Nominal length (4-position)

M0500 = metric in mm

(M0025...M2500: for rod diameter 10.2 mm)

#### f Style

SF = Level transducer, 1.5" Tri-Clamp

#### l Connection type

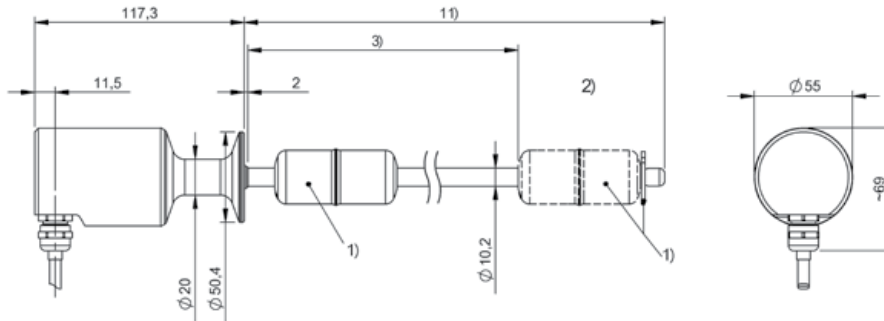
F = Cable out radial (PTFE)

#### m Connection type characteristic 1

(length in meters)

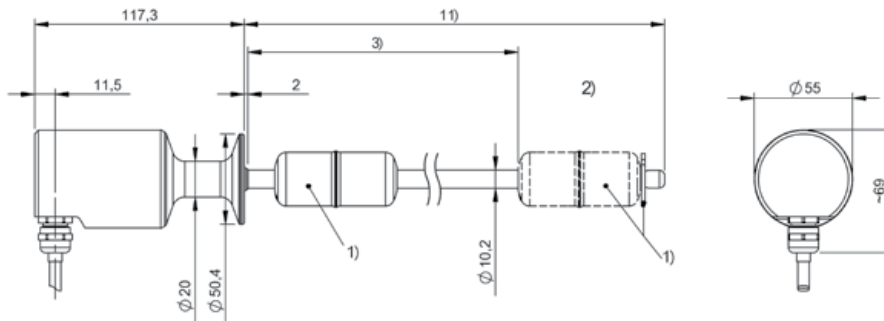
02, 05, 10, 15, 20, 50, 100

**BTL7-E500-Mxxxx-SF-Fxx**



- 1) Not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length

**BTL7-C570-Mxxxx-SF-Fxx**



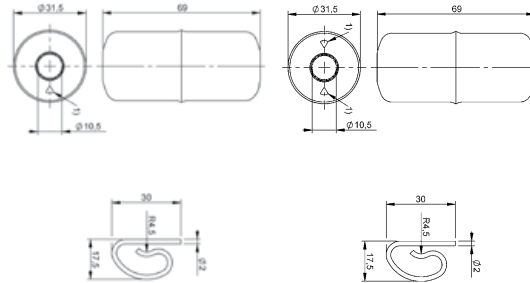
- 1) Not included in scope of delivery
- 2) Non-usable area
- 3) Nominal length = Measuring length
- 11) Installation length

**Need more details?** In our product finder under [www.balluff.com](http://www.balluff.com) you will receive all product-specific information – including technical drawings, data sheets, operating instructions, etc. for each individual product – also available for download.



MAGNET FOR MAGNETOSTRICTIVE  
ROD STYLE SENSOR

	<b>BAM01A2</b> BTL-S-3112-4Z	<b>BAM01KA</b> BTL-S-3112-4Z-SA10		
Principle of operation	BTL magnet, float	BTL magnet, float		
Pressure rating max.	4 bar	25 bar		
Material	Stainless steel (1.4404)	Stainless steel (1.4404)		
Dimension	Ø 31 x 69 mm	Ø 31 x 69 mm		
Inside diameter	11.7 mm	11.7 mm		
Ambient temperature	-20...130 °C	-20...130 °C		

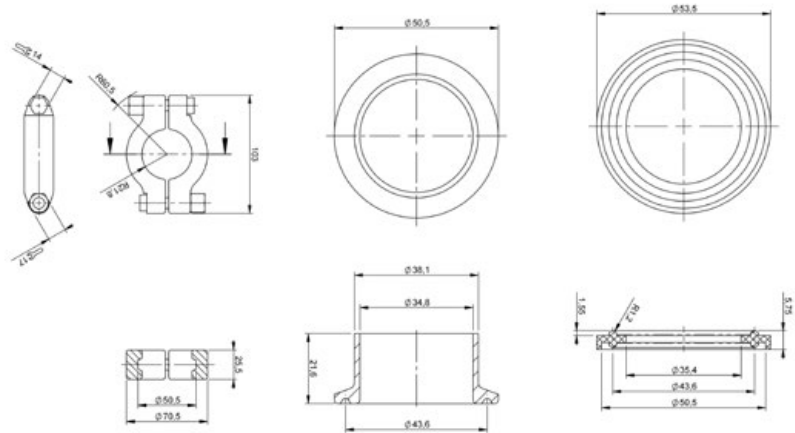




MOUNTING  
ACCESSORIES



	<b>BAM01A5</b> BAM MC-XA-006-D38,1-5	<b>BAM01A3</b> BAM AD-XA-003-D38,1-5	<b>BAM01A4</b> BAM SE-XA-002-D38,1-S	
Principle of operation	Clamp	Mounting flange	Tri-Clamp seal	
Version	Tri-Clamp	Tri-Clamp weld flange		
Use	For BTL5/7...SF	For BTL5/7...SF		
Material	Stainless steel (1.4301) Stainless steel (1.4401)	Stainless steel (1.4435)	Silicone, catalyzed platinum	
Dimension	1.5"	1.5"	1.5"	
Mounting				
Ambient temperature	150 °C	150 °C	150 °C	






Compact and convenient measurement and monitoring

# PRESSURE SENSORS





Our high-end pressure sensors are optimally suited for pressure monitoring and pressure measurement of gaseous, fluid and viscous media. With their rotatable housing and the simple, VDMA-compliant programming, they can be flexibly mounted and conveniently serviced. The bright LED display always gives you an overview of the current system pressure.

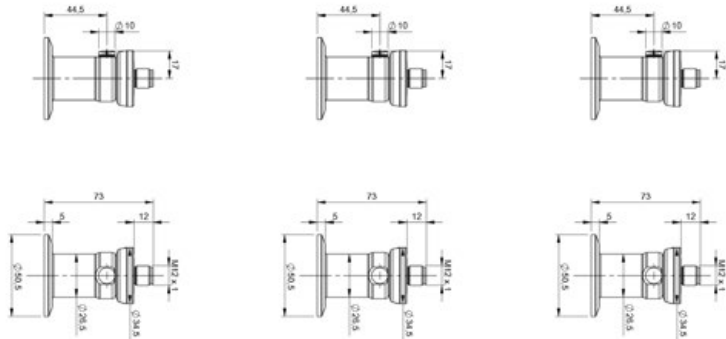
#### Features

- Compact and rugged as a transmitter
- Convenient to operate, with easy-to-read display
- Pressure range  $-1 \dots 600$  bar
- Process connection  $G\frac{1}{2}"$ ,  $G\frac{1}{2}"$ ,  $R\frac{1}{4}"$ ,  $NPT\frac{1}{4}"$
- Flush with the front surface in  $G\frac{1}{2}"$  and Tri-Clamp  $1\frac{1}{2}"$
- Output  $4 \dots 20$  mA,  $0 \dots 10$  V, switching points (NPN/PNP) and IO-Link
- Fluid temperature  $-40 \dots +125$  °C
- Enclosure rating IP67
- UL approval
- Compact with M12 connection
- Stainless steel or PVDF process connection
- Dual rotation – easily installed
- Pressure values directly via IO-Link



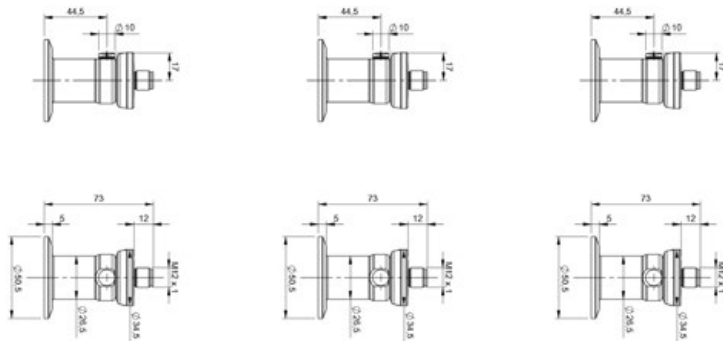
PRESSURE SENSORS

	<b>BSP00W4</b> BSP M100-ZT004-A06A1A-S4-006	<b>BSP00W5</b> BSP M250-ZT004-A06A1A-S4-006	<b>BSP00W6</b> BSP M500-ZT004-A06A1A-S4-006
Measuring range	0 bar...100 mbar	0 bar...250 mbar	0 bar...500 mbar
Accuracy	±0.18 % FSO BFSL	±0.18 % FSO BFSL	±0.18 % FSO BFSL
Operating voltage U <sub>b</sub>	8...32 VDC	8...32 VDC	8...32 VDC
Interface			
Analog output	Analog, current 4...20 mA	Analog, current 4...20 mA	Analog, current 4...20 mA
Switching output			
Connection	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole
Process connection	1 1/2" Clamp	1 1/2" Clamp	1 1/2" Clamp
Process connection material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
Housing material	Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)
Media temperature	-10...125 °C	-10...125 °C	-10...125 °C
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C
IP rating	IP69K	IP69K	IP69K
Approval/Conformity	CE	CE	CE





<b>BSP00W7</b> BSP M750-ZT004-A06A1A-S4-006	<b>BSP00W2</b> BSP B001-ZT004-A06A1A-S4-006	<b>BSP00W3</b> BSP B002-ZT004-A06A1A-S4-006		
0 bar...750 mbar	0...1 bar	0...2 bar		
±0.18 % FSO BFSL	±0.18 % FSO BFSL	±0.18 % FSO BFSL		
8...32 VDC	8...32 VDC	8...32 VDC		
Analog, current 4...20 mA	Analog, current 4...20 mA	Analog, current 4...20 mA		
Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole	Connector, M12x1-Male, 4-pole		
1 1/2" Clamp	1 1/2" Clamp	1 1/2" Clamp		
Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)		
Stainless steel (1.4404)	Stainless steel (1.4404)	Stainless steel (1.4404)		
-10...125 °C	-10...125 °C	-10...125 °C		
-40...85 °C	-40...85 °C	-40...85 °C		
IP69K	IP69K	IP69K		
CE	CE	CE		



Automatic identification and tracking in production

# RFID – RADIO FREQUENCY IDENTIFICATION

 *innovating automation*





For more than 30 years Balluff RFID systems have provided customers all over the globe with actionable data. In turn, these organizations were equipped with reliable information which is required to make complex business decisions.

Balluff RFID systems are designed for some of the toughest environments and can connect to most control networks. With the widest selection of tags, antennas, and processors, Balluff can address almost any identification application in the plant. From the stalwart BIS C system, which has revolutionized the machining center, to the BIS U, which can read tags at distances up to about 6m, Balluff has the system that is right for the job.

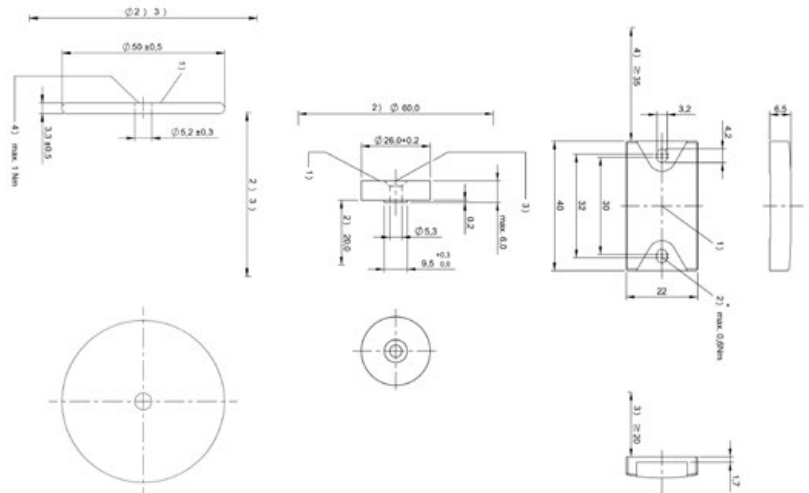
#### **Your Balluff solutions**

- Machine access control
- Read/write heads with integrated processor
- Data carriers

HF (13.56 MHz)  
DATA CARRIERS

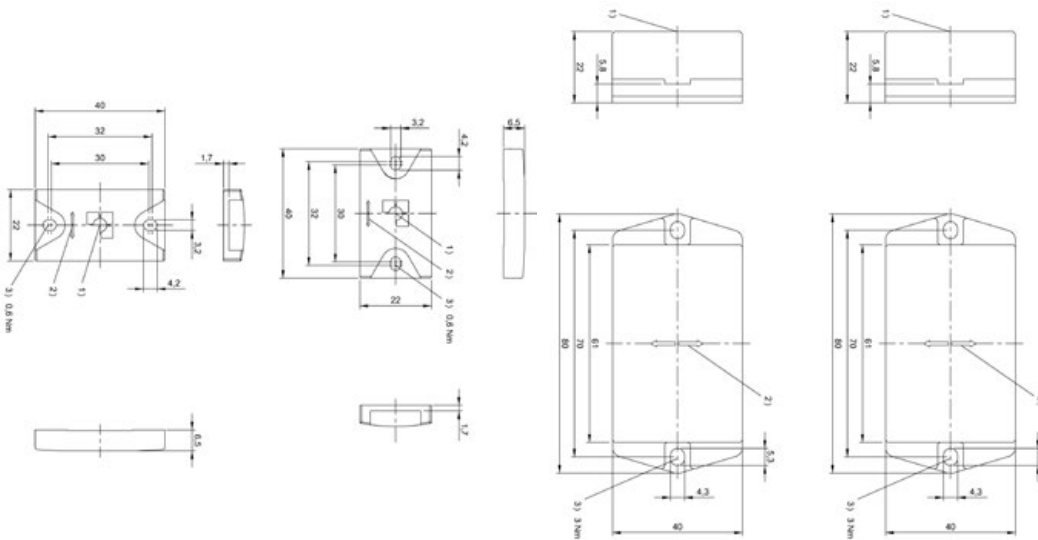


	<b>BIS0158</b> BIS M-112-02/L-SA1	<b>BIS0143</b> BIS M-128-03/L	<b>BIS00LC</b> BIS M-107-03/L-H200	
Product Group	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	
Dimension	Ø 50 x 3.3 mm	Ø 26 x 6 mm	22 x 6.5 x 40 mm	
UID serial number, read only	8 Byte	8 Byte	8 Byte	
User memory, writeable	2000 Byte	112 Byte	112 Byte	
User memory type	FRAM	EEPROM	EEPROM	
Supported data carrier types		DIN ISO 14443	DIN ISO 15693	
Antenna type	Round	Round	Round	
Installation	Metal-free (clear zone)	Metal-free (clear zone)	Metal-free (clear zone)	
Storage temperature	-25...85 °C	-25...85 °C	-25...85 °C	
Ambient temperature	-25...85 °C	-25...70 °C	-25...70 °C	
Housing material	PA 6	Epoxy-resin/fiberglass	PPS, GF40, With EP potting	
IP rating	IP68	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE; Ecolab	CE	CE	





BIS004F BIS M-150-02/A	BIS004H BIS M-151-02/A	BIS00P3 BIS M-153-02/A	BIS010R BIS M-153-20/A	
HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	
22 x 6.5 x 40 mm	22 x 6.5 x 40 mm	40 x 22 x 80 mm	40 x 22 x 80 mm	
8 Byte	8 Byte	8 Byte	8 Byte	
2000 Byte	2000 Byte	2000 Byte	8192 Byte	
FRAM	FRAM	FRAM	FRAM	
DIN ISO 15693	DIN ISO 15693	DIN ISO 15693		
Rod	Rod	Rod	Rod	
Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal		
		-25...85 °C	-25...85 °C	
-25...70 °C	-25...70 °C	-25...85 °C	-25...85 °C	
PPS, GF40, With EP potting	PPS, GF40, With EP potting	POM	POM	
IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
CE	CE	CE	CE	

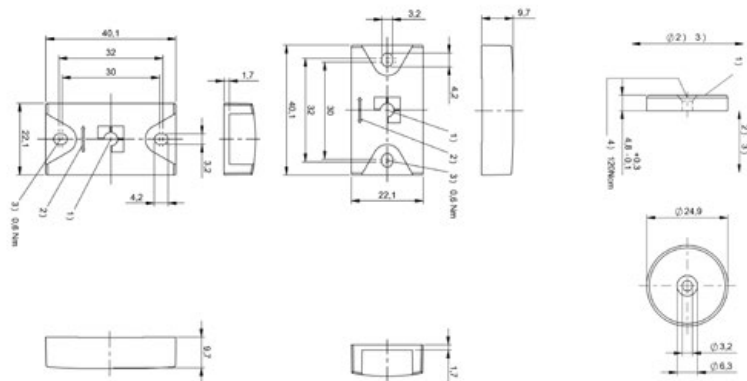


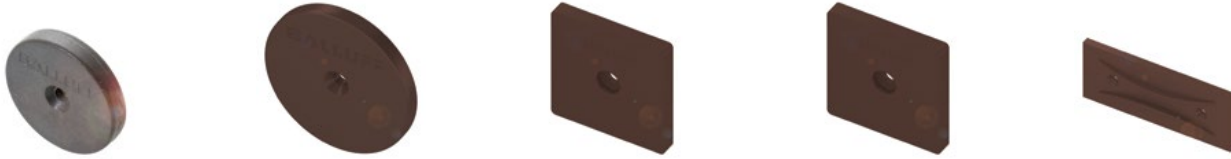


HF (13.56 MHz)  
DATA CARRIERS

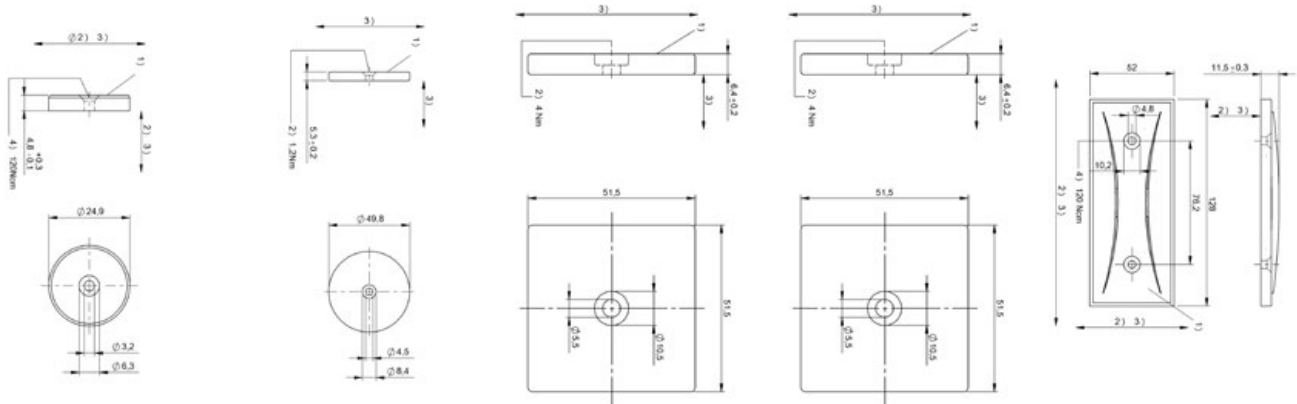


	<b>BIS0117</b> BIS M-155-20/A	<b>BIS0112</b> BIS M-156-20/A	<b>BIS00YE</b> BIS M-132-03/L-HT	
Product Group	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	
Dimension	22 x 9.7 x 40 mm	22 x 9.7 x 40 mm	Ø 24.9 x 4.8 mm	
UID serial number, read only	8 Byte	8 Byte	8 Byte	
User memory, writeable	8192 Byte	8192 Byte	112 Byte	
User memory type	FRAM	FRAM	EEPROM	
Supported data carrier types	DIN ISO 15693	DIN ISO 15693	DIN ISO 15693	
Antenna type	Rod	Rod	round	
Installation	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	Metal-free (clear zone) (in steel)	
Storage temperature			-40...220 °C	
Ambient temperature	-25...70 °C	-25...70 °C	-40...85 °C	
Housing material	PPS, GF40, With EP pot- ting	PPS, GF40, With PU pot- ting	PPS	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68	
Approval/Conformity	CE	CE	CE; Ecolab	





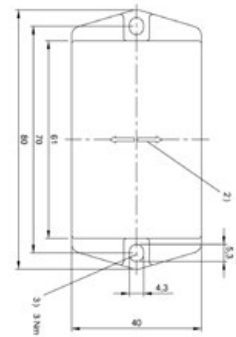
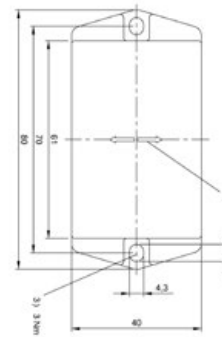
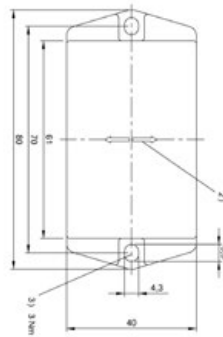
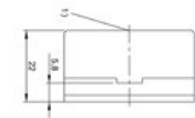
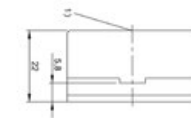
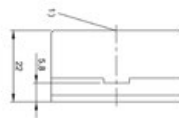
BIS00YA BIS M-132-10/L-HT	BIS00Y7 BIS M-134-10/L-HT	BIS00Y4 BIS M-135-03/L-HT	BIS00Y2 BIS M-135-07/L-HT	BIS00Y1 BIS M-136-03/L-HT
HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)
Ø 24.9 x 4.8 mm	Ø 49.8 x 5.3 mm	51.5 x 6.4 x 51.5 mm	51.5 x 6.4 x 51.5 mm	52 x 11.5 x 128 mm
4 Byte	4 Byte	8 Byte	8 Byte	8 Byte
736 Byte	736 Byte	112 Byte	992 Byte	112 Byte
EEPROM	EEPROM	EEPROM	EEPROM	EEPROM
DIN ISO 14443	DIN ISO 14443	DIN ISO 15693	DIN ISO 15693	DIN ISO 15693
Round	Round	Round	Round	Round
Metal-free (clear zone) (in steel)	Metal-free (clear zone) (in steel)	Metal-free (clear zone) (in steel)	Metal-free (clear zone) (in steel)	Metal-free (clear zone) (in steel)
-40...220 °C	-40...220 °C	-40...220 °C	-40...220 °C	-40...220 °C
-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C	-40...85 °C
PPS	PPS	PPS	PPS	PPS
IP68	IP68	IP68	IP68	IP68
CE; Ecolab	CE; Ecolab	CE; Ecolab	CE; Ecolab	CE; Ecolab

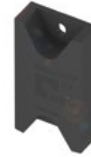


HF (13.56 MHz)  
DATA CARRIERS

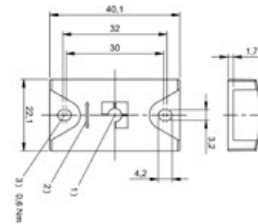
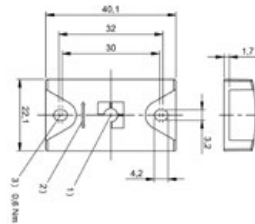
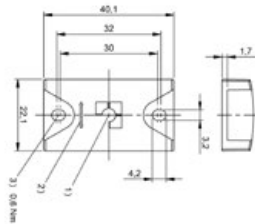
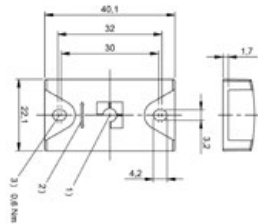
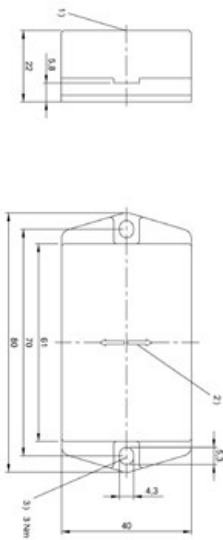


	<b>BIS011W</b> BIS M-153-11/A	<b>BIS011Y</b> BIS M-153-13/A	<b>BIS011U</b> BIS M-153-14/A	
Product Group	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	
Dimension	40 x 22 x 80 mm	40 x 22 x 80 mm	40 x 22 x 80 mm	
UID serial number, read only	8 Byte	8 Byte	8 Byte	
User memory, writeable	8192 Byte	32768 Byte	65536 Byte	
User memory type	FRAM	FRAM	FRAM	
Supported data carrier types	DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)	
Antenna type	Rod	Rod	Rod	
Installation	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	
Storage temperature	-25...85 °C	-25...85 °C	-25...85 °C	
Ambient temperature	-25...85 °C	-25...85 °C	-25...85 °C	
Housing material	POM	POM	POM	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE	CE	CE	
Product Drawing	VIU_46670_00_000.tif	VIU_46670_00_000.tif	VIU_46670_00_000.tif	





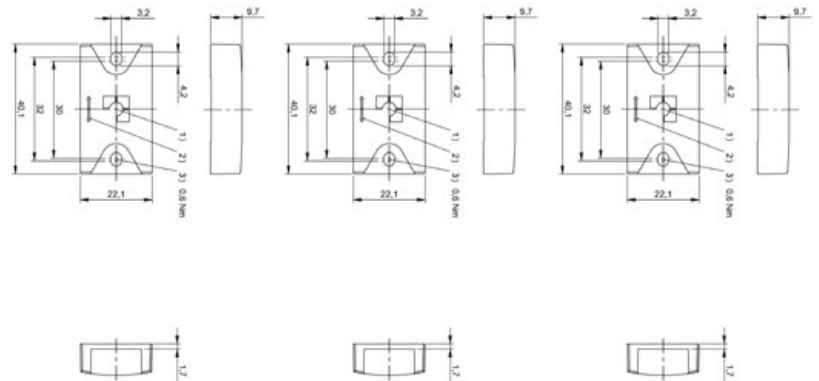
BIS013E BIS M-153-15/A	BIS011M BIS M-155-11/A	BIS011Z BIS M-155-13/A	BIS011N BIS M-155-14/A	BIS013C BIS M-155-15/A
HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)
40 x 22 x 80 mm	22 x 9.7 x 40 mm	22 x 9.7 x 40 mm	22 x 9.7 x 40 mm	22 x 9.7 x 40 mm
8 Byte	8 Byte	8 Byte	8 Byte	8 Byte
131072 Byte	8192 Byte	32768 Byte	65536 Byte	131072 Byte
FRAM	FRAM	FRAM	FRAM	FRAM
DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)
Rod	Rod	Rod	Rod	Rod
Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal
-25...85 °C				
-25...85 °C	-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C
POM	PPS, GF40, With EP potting	PPS, GF40, With EP potting	PPS, GF40, With EP potting	PPS, GF40, With EP potting
IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K
CE	CE	CE	CE	CE
VIU_46670_00_000.tif	VIU_50816_01_000.tif	VIU_50816_01_000.tif	VIU_50816_01_000.tif	VIU_50816_01_000.tif



HF (13.56 MHz)  
DATA CARRIERS

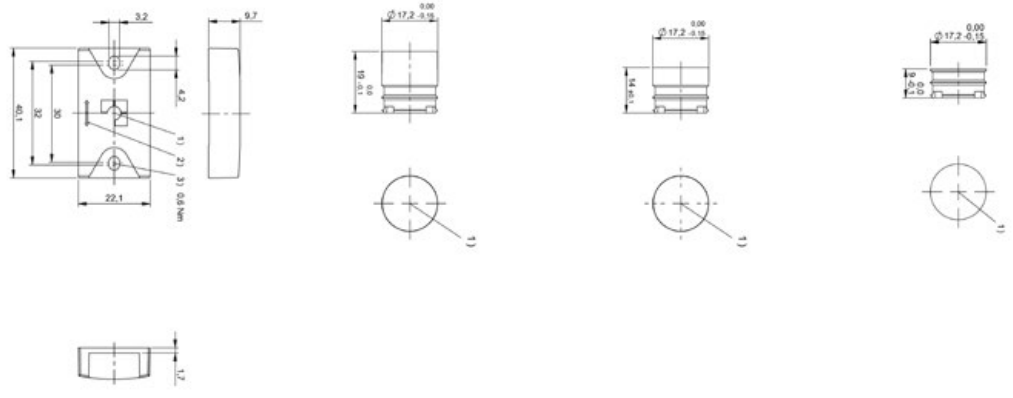


	<b>BIS012J</b> BIS M-156-11/A	<b>BIS012K</b> BIS M-156-13/A	<b>BIS012L</b> BIS M-156-14/A	
Product Group	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	
Dimension	22 x 9.7 x 40 mm	22 x 9.7 x 40 mm	22 x 9.7 x 40 mm	
UID serial number, read only	8 Byte	8 Byte	8 Byte	
User memory, writeable	8192 Byte	32768 Byte	65536 Byte	
User memory type	FRAM	FRAM	FRAM	
Supported data carrier types	DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)	DIN ISO 15693 (High Memory)	
Antenna type	Rod	Rod	Rod	
Installation	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	Metal-free (clear zone); on metal	
Storage temperature				
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
Housing material	PPS, GF40, With EP potting	PPS, GF40, With EP potting	PPS, GF40, With EP potting	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE	CE	CE	





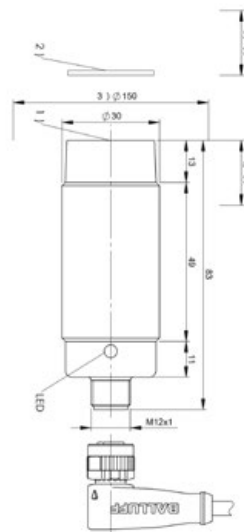
BIS013F BIS M-156-15/A	BIS00MA BIS M-140-02/A	BIS00PR BIS M-142-02/A-GY	BIS00ZM BIS M-143-02/A	
HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	HF (13.56 MHz)	
22 x 9.7 x 40 mm	Ø 17.2 x 19 mm	Ø 17.2 x 14 mm	Ø 17.2 x 9 mm	
8 Byte	8 Byte	8 Byte	8 Byte	
131072 Byte	2000 Byte	2000 Byte	2000 Byte	
FRAM	FRAM	FRAM	FRAM	
DIN ISO 15693 (High Memory)				
Rod	Round	Round	Round	
Metal-free (clear zone); on metal				
	-25...95 °C	-25...95 °C	-25...95 °C	
-25...70 °C	-25...70 °C	-25...70 °C	-25...70 °C	
PPS, GF40, With EP potting	PA 12, GF30, With PU potting	PA 12, GF30, With PU potting, gray	PA 12, GF30, With PU potting	
IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
CE	CE	CE	CE	





HF (13.56 MHz)  
READ/WRITE HEAD WITH PROCESSOR

	<b>BISO157</b> BIS M-406-045-001-07-S4		
Product Group	HF (13.56 MHz)		
Dimension	Ø 30 x 83 mm		
Installation	Metal-free (clear zone) (in steel)		
Antenna type	Round		
Supported data carrier types	DIN ISO 14443 DIN ISO 15693		
Connection	Connector, M12x1-Male, 4-pole		
Housing material	Stainless steel (1.4404), Adapter PA 6		
Interface	IO-Link 1.1		
Operating voltage U <sub>b</sub>	18...30 VDC Supports only LPS/Class 2		
Ambient temperature	0...70 °C		
IP rating	IP68; IP69K		
Approval/Conformity	UL-FILE E227256, Vol.X1, BIS; CE; Ecolab		



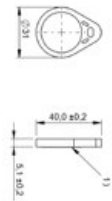
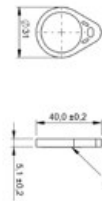
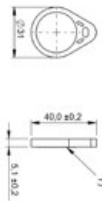




LF (125 KHZ)  
DATA CARRIERS

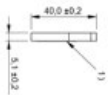


	BIS0128 BIS L-204-03/L-BK	BIS0129 BIS L-204-03/L-BU	BIS012A BIS L-204-03/L-GN	
Product Group	LF (125 kHz)	LF (125 kHz)	LF (125 kHz)	
Dimension	Ø 31 x 40 mm	Ø 31 x 40 mm	Ø 31 x 40 mm	
UID serial number, read only				
User memory, writeable				
User memory type				
Antenna type	Round	Round	Round	
Installation				
Storage temperature	-40...95 °C	-40...95 °C	-40...95 °C	
Ambient temperature	-40...85 °C	-40...85 °C	-40...85 °C	
Housing material	ABS, black	ABS, Blue	ABS, Green	
IP rating	IP67	IP67	IP67	
Approval/Conformity	CE	CE	CE	





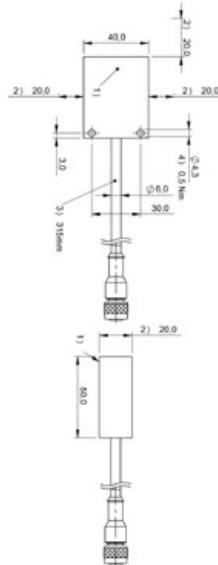
<b>BIS012C</b> BIS L-204-03/L-RD				
LF (125 kHz)				
Ø 31 x 40 mm				
Round				
-40...95 °C				
-40...85 °C				
ABS, Red				
IP67				
CE				



LF (125 KHZ)  
 READ/WRITE HEAD WITH PROCESSOR



	<b>BIS0121</b> BIS L-404-035-001-00-S115			
Product Group	LF (125 kHz)			
Dimension	50 x 20 x 40 mm			
Installation	Metal-free (clear zone)			
Antenna type	Round			
Connection	Connector, M12x1-Male, 8-pole, 0.32 m, PU			
Housing material	ABS, Interface PBT			
Interface	RS232			
Operating voltage U <sub>b</sub>	19.2...26.4 VDC			
Ambient temperature	0...70 °C			
IP rating	IP67			
Approval/Conformity	CE; UL-FILE E227256, Vol.X1, BIS			

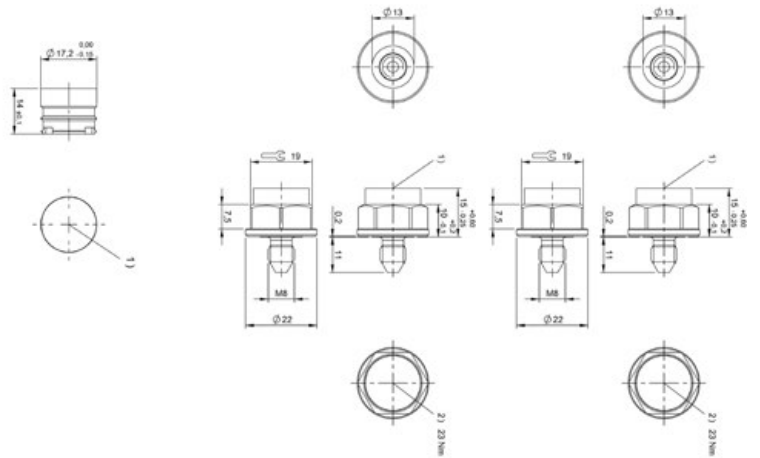




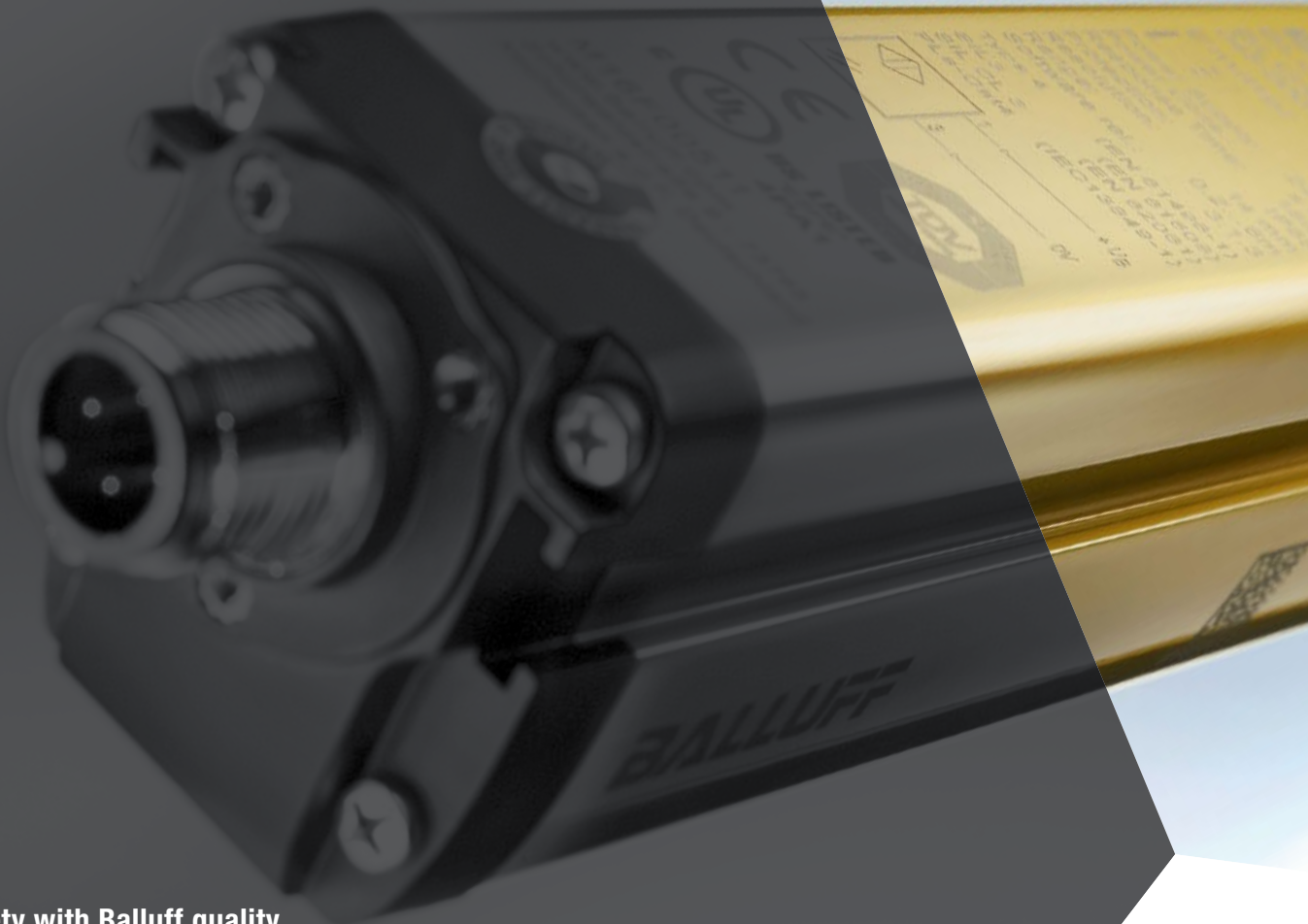
UHF (860...960 MHz)  
DATA CARRIERS



	<b>BIS0178</b> BIS U-142-A0/C1M-GY	<b>BIS013P</b> BIS U-142-06/CA-M8-GY	<b>BIS013R</b> BIS U-142-07/CA-M8-GY	
Product Group	UHF (860...960 MHz)	UHF (860...960 MHz)	UHF (860...960 MHz)	
Working frequency	902...928 MHz	865...868 MHz	902...928 MHz	
Dimension	Ø 17.2 x 14 mm	Ø 22 x 26 mm	Ø 22 x 26 mm	
User memory type	EEPROM	EEPROM	EEPROM	
User memory, writeable	512 Bit	512 Bit	512 Bit	
EPC memory, writeable	96 Bit	96 Bit	96 Bit	
TID memory, read only	64 Bit	64 Bit	64 Bit	
Antenna type	Dipol	Dipol	Dipol	
Installation	On metal	On metal	On metal	
Storage temperature	-25...95 °C	-25...95 °C	-25...95 °C	
Ambient temperature	-25...85 °C	-25...85 °C	-25...85 °C	
Housing material	PA 12, GF30	Steel, Data carrier: PA12-GF30 gray	Steel, Data carrier: PA12-GF30 gray	
IP rating	IP68; IPx9K	IP68; IPx9K	IP68; IPx9K	
Approval/Conformity	CE	CE	CE	



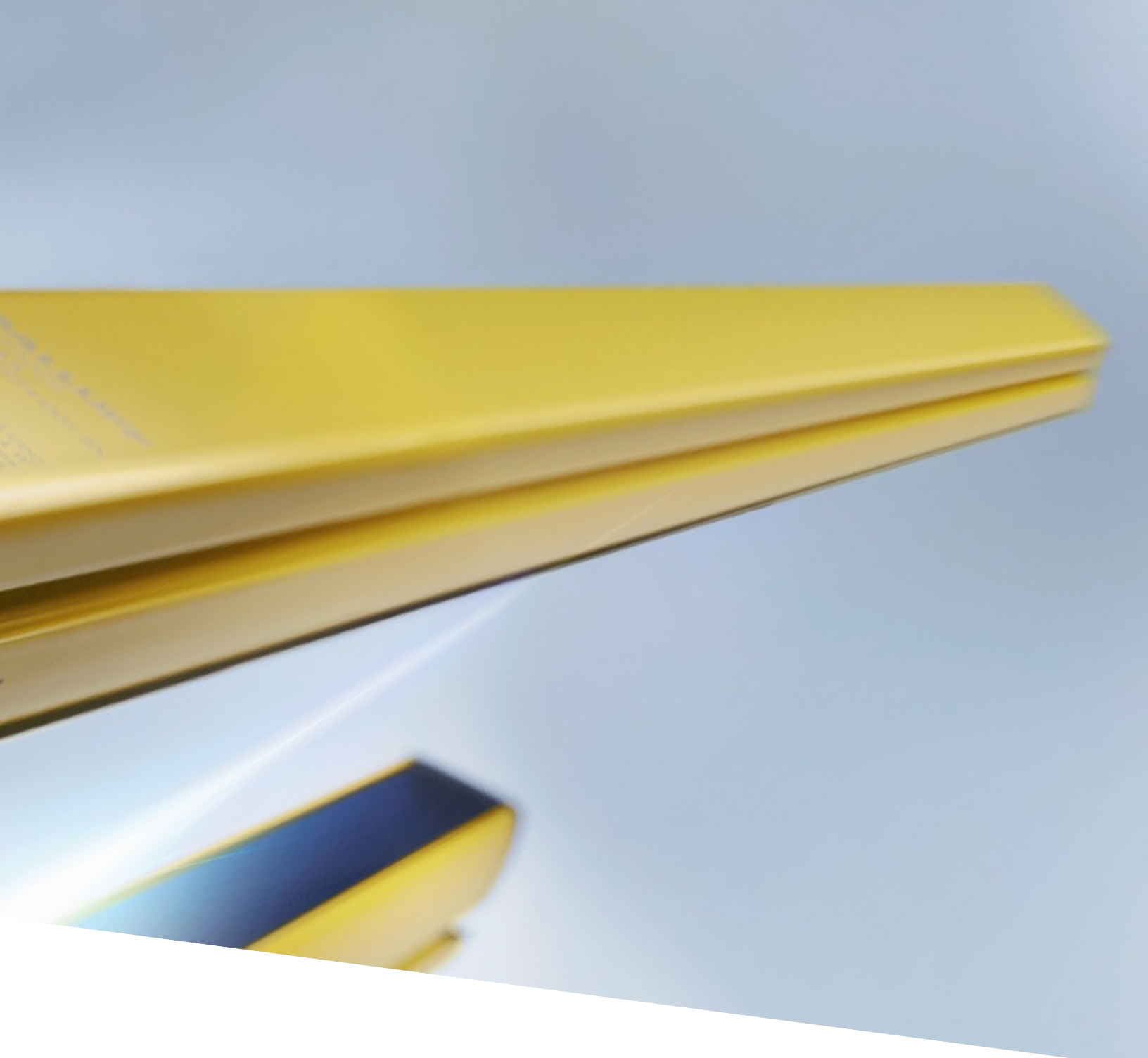




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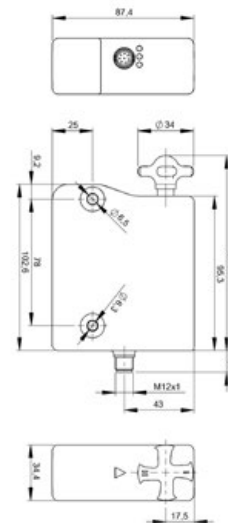
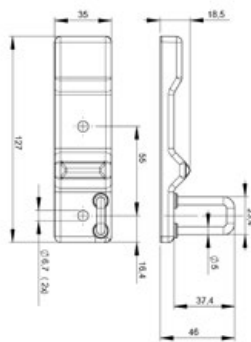
- Safety I/O module
- Protective devices





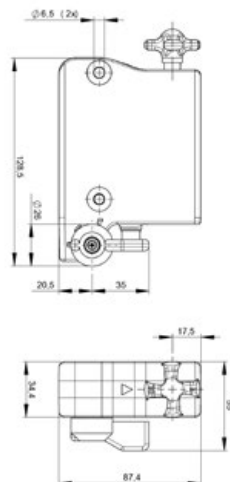
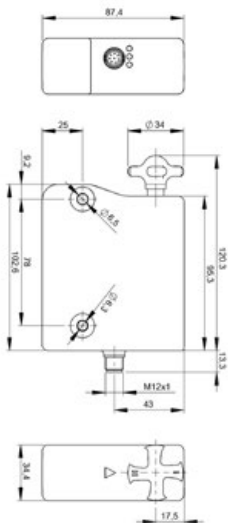
TRANSPONDER CODED INTERLOCKS

	BID0010 BID Z01K-4R3M0	BID0012 BID Z01K-4R3E3-002KZ0-S115	
Performance Level		e (for locking function); d (for retention function)	
Safety category (EN ISO 13849-1)		4 (for locking function); 2 (for retention function)	
SIL CL (EN 62061)		3 (for locking function); 2 (for retention function)	
Coding level (EN ISO 14119)		High	
Response time max.		100 ms	
Approval/Conformity	Ecolab	CE; cULus; TÜV; Ecolab	
Operating principle	non-contact (RFID)	Non-contact (RFID)	
Approach direction		Lateral	
Guard locking, principle		Operating current	
Holding force FZH		1000 N	
Auxillary release		Screwdriver	
Escape release		No	
Life expectancy mechanical		1 mil. switching operations	
Connection		Connector, M12x1, 8-pole	
Switching output		PNP Normally closed (NC); 2x PNP OSSD	
Dimension	46 x 127 x 35 mm	87.5 x 120 x 35 mm	
Ambient temperature	0...60 °C	0...60 °C	
IP rating		IP69, IP67, IP66	
Housing material	Thermoplastic, glass-fibre reinforced	Thermoplastic, glass-fibre reinforced	





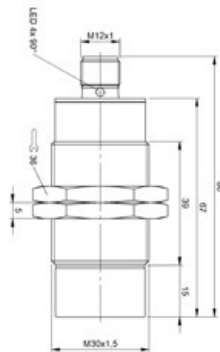
BID0011 BID Z01K-4R3M3-002KZ0-S115	BID0013 BID Z01K-4R3M3R-002KZ0-S115	
e (for locking function); d (for retention function)	e (for locking function); d (for retention function)	
4 (for locking function); 2 (for retention function)	4 (for locking function); 2 (for retention function)	
3 (for locking function); 2 (for retention function)	3 (for locking function); 2 (for retention function)	
High	High	
100 ms	100 ms	
CE; cULus; TÜV; Ecolab	CE; cULus; TÜV; Ecolab	
Non-contact (RFID)	Non-contact (RFID)	
Lateral	Lateral	
Quiescent current	Quiescent current	
1000 N	1000 N	
Screwdriver	Triangular Key	
No	Yes	
1 mil. switching operations	1 mil. switching operations	
Connector, M12x1, 8-pole	Connector, M12x1, 8-pole	
PNP Normally closed (NC); 2x PNP OSSD	PNP Normally closed (NC); 2x PNP OSSD	
87.5 x 120 x 35 mm	87.5 x 129 x 35 mm	
0...60 °C	0...60 °C	
IP69, IP67, IP66	IP69, IP67, IP66	
Thermoplastic, glass-fibre reinforced	Thermoplastic, glass-fibre reinforced	





INDUCTIVE SAFETY SENSOR

	<b>BES0577</b> BES M30EP-PFC12F-S04G-D12		
Performance Level	e		
Safety category (EN ISO 13849-1)	3		
SIL CL (EN 62061)	3		
Response time max.	200 ms		
Approval/Conformity	CE; TÜV; cULus		
Operating principle	Non-contact (inductive)		
Approach direction	Any to sensing surface		
Assured operating distance $S_{ao}$	12 mm		
Assured switch off distance $S_{ar}$	30 mm		
Connection	M12x1-Male, 4-pole, A-coded		
Switching output	2x PNP OSSD		
Installation	Non-flush		
Dimension	Ø 30 x 80 mm		
Ambient temperature	-25...70 °C, for service life ≤ 10 years 10...40 °C, for service life ≤ 20 years		
IP rating	IP68; IP69K		
Housing material	Stainless steel (1.4404)		

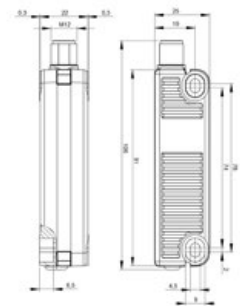
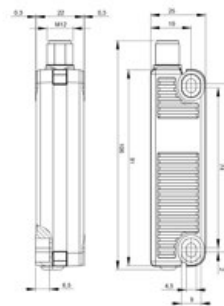
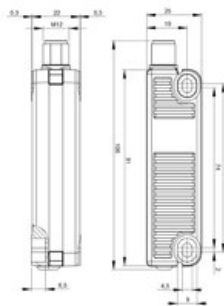






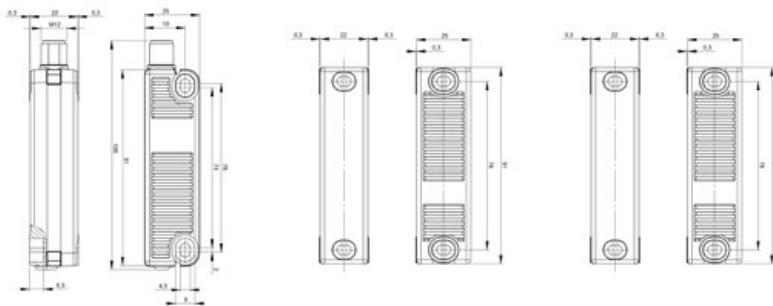
TRANSPONDER CODED SAFETY SENSORS

	<b>BID000C</b> BID R03K-4R100-020ZZ0-S92	<b>BID000E</b> BID R03K-4R1S0-020ZZ0-S92	<b>BID000F</b> BID R03K-4R300-020ZZ0-S92	
Performance Level	e	e	e	
Safety category (EN ISO 13849-1)	4	4	4	
SIL CL (EN 62061)	3	3	3	
Coding level (EN ISO 14119)	Low	Low	High	
Response time max.	100 ms	100 ms	100 ms	
Approval/Conformity	CE; cULus; TÜV; Ecolab	CE; cULus; TÜV; Ecolab	CE; cULus; TÜV; Ecolab	
Operating principle	Non-contact (RFID)	Non-contact (RFID)	Non-contact (RFID)	
Approach direction	Any to sensing surface	Any to sensing surface	Any to sensing surface	
Actuator retention force	0 N	18 N	0 N	
Assured operating distance Sao	10 mm	10 mm	10 mm	
Assured switch off distance Sar	20 mm	20 mm	20 mm	
Connection	Connector, M12x1, 5-pole	Connector, M12x1, 5-pole	Connector, M12x1, 5-pole	
Switching output	2x PNP OSSD	2x PNP OSSD	2x PNP OSSD	
Dimension	106 x 25 x 22 mm	106 x 25 x 22 mm	106 x 25 x 22 mm	
Ambient temperature	-25...70 °C	-25...70 °C	-25...70 °C	
IP rating	IP65; IP67; IP69	IP65; IP67; IP69	IP65; IP67; IP69	
Housing material	Thermoplastic, glass-fibre reinforced	Thermoplastic, glass-fibre reinforced	Thermoplastic, glass-fibre reinforced	





BID000H BID R03K-4R3S0-020ZZ0-S92	BID000Y BID R03K-4R300	BID000Z BID R03K-4R3S0		
e				
4				
3				
High				
100 ms				
CE; cULus; TÜV; Ecolab	CE; cULus; TÜV; Ecolab	CE; cULus; TÜV; Ecolab		
Non-contact (RFID)	Non-contact (RFID)	Non-contact (RFID)		
Any to sensing surface				
18 N	0 N	18 N		
10 mm				
20 mm				
Connector, M12x1, 5-pole				
2x PNP OSSD				
106 x 25 x 22 mm	91 x 25 x 22 mm	91 x 25 x 22 mm		
-25...70 °C	-25...70 °C	-25...70 °C		
IP65; IP67; IP69				
Thermoplastic, glass-fibre reinforced	Thermoplastic, glass-fibre reinforced	Thermoplastic, glass-fibre reinforced		



Reliable information exchange across all levels

# INDUSTRIAL NETWORKING



*innovating automation*



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

With an intelligent combination of high-performance industrial networking technology and the IO-Link communication standard, Balluff makes flexible and smooth communication possible in a wide range of applications.

#### **Your Balluff solutions**

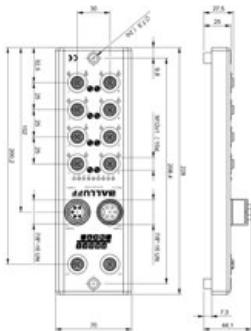
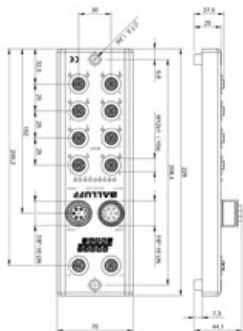
- Ethernet/IP I/O and IO-Link
- PROFINET I/O and IO-Link
- IO-Link I/O hubs







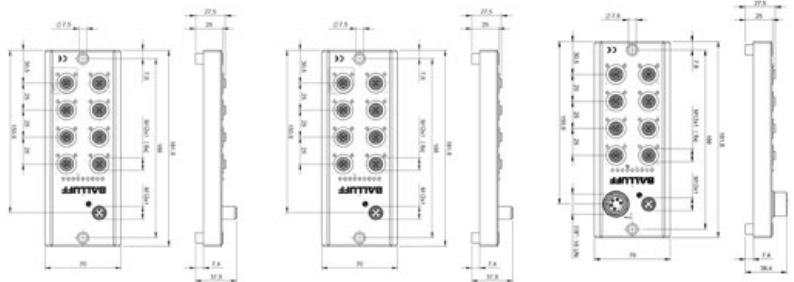
BNI009N BNI PNT-302-005-E002	BNI009M BNI PNT-508-005-E002			
Active splitter	Active splitter			
Profinet I/O	Profinet I/O			
18...30.2 VDC	18...30.2 VDC			
M12x1-Female, 4-pole, D-coded	M12x1-Female, 4-pole, D-coded			
8x M12x1-Female, 5-pole, A-coded	8x M12x1-Female, 5-pole, A-coded			
16x PNP, Type 3	16x PNP, Type 3			
16x PNP	16x PNP			
Yes	Yes			
2 A	2 A			
9.0 A	9.0 A			
Stainless steel (1.4571)	Stainless steel (1.4571)			
70 x 44.1 x 228 mm	70 x 44.1 x 228 mm			
IP69	IP69			
-5...70 °C	-5...70 °C			
	8x IO-Link			
	1.1			
	Type A			





IO-LINK SENSOR ACTUATOR HUBS

	<b>BNI00AP</b> BNI IOL-104-002-E012	<b>BNI00AR</b> BNI IOL-302-002-E012	<b>BNI00AT</b> BNI IOL-302-002-E013
Interface	IO-Link 1.1	IO-Link 1.1	IO-Link 1.1
Operating voltage $U_b$	18...30.2 VDC	18...30.2 VDC	18...30.2 VDC
Connection (COM 1)			
Connection slots			
Digital inputs	16x PNP, Type 3	16x PNP, Type 3	16x PNP, Type 3
Digital outputs		16x PNP	16x PNP
Configurable inputs/outputs	No	Yes	Yes
Output current max.		2 A	2 A
Housing material	Stainless steel (1.4571)	Stainless steel (1.4571)	Stainless steel (1.4571)
Dimension	70 x 37.9 x 185.6 mm	70 x 37.9 x 185.6 mm	70 x 38.4 x 185.6 mm
Ambient temperature	-5...55 °C	-5...55 °C	-5...55 °C
IP rating	IP69 when threaded in	IP69 when threaded in	IP69 when threaded in
Cycle time min.			
Process data IN			
Process data OUT			







UNIVERSAL IO-LINK INTERFACE

	<b>BNI00AE</b> BNI IO-L-772-002-E032			
Version				
Interface	IO-Link 1.1			
Operating voltage $U_b$	18...30.2 VDC			
Connection (COM 1)	M12x1-Male, 4-pole, A-coded			
Connection for sensor				
Cable length L	1.5 m			
Digital inputs	8x PNP, Type 3			
Digital outputs	8x IO configurable			
Configurable inputs/outputs	Yes			
Output current max.	1.6 A			
Resolution				
Housing material	Stainless steel (1.4305)			
Dimension	18 x 18 x 1775 mm			
Ambient temperature	-5...60 °C			
IP rating	IP68/IP69K			
Process data IN	1 byte Input			
Process data OUT	1 bytes			

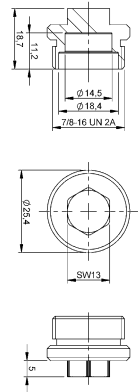
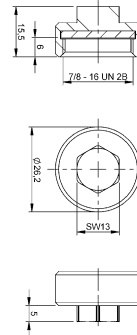
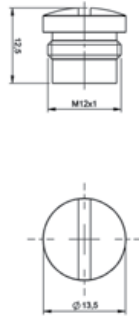






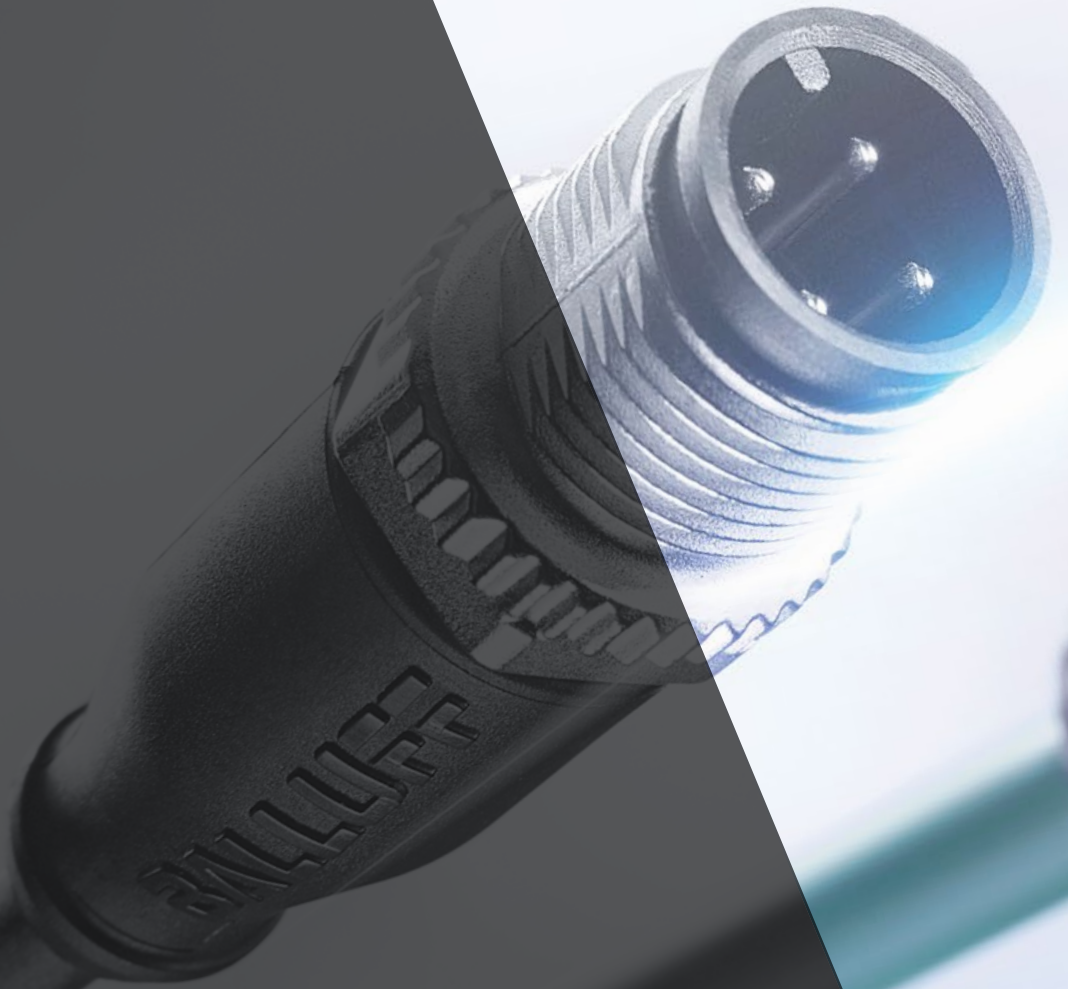
PROTECTIVE CAP

	<b>BAM02KM</b> BAM CS-XA-001-M12-5	<b>BAM039H</b> BAM CS-XA-013-U7/8-4	<b>BAM039J</b> BAM CS-XA-014-U7/8-4	
Size	M12x1	7/8"-16UN	7/8"-16UN	
Threads	External	Internal	External	
Use	For M12 female port	For 7/8" male port	For 7/8" female port	
Material	Stainless steel	Stainless steel	Stainless steel	
Dimension	Ø 13.5 x 12.5 mm	Ø 26.2 x 15.5 mm	Ø 25.4 x 18.7 mm	









Standardized connection components

# CONNECTIVITY.

 *innovating automation*



At Balluff, everything is provided as a single source including a comprehensive range of connectivity components. Balluff cordsets are designed with Ecolab approval or IP69K for sensitive fields such as the food industry. All products are suited for rugged use in the industrial environment.

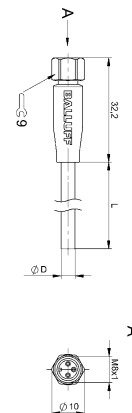
**Your Balluff solutions**

- Sensor cables
- Power cables
- BUS cables
- Splitters



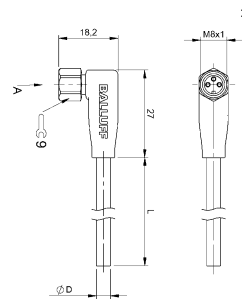
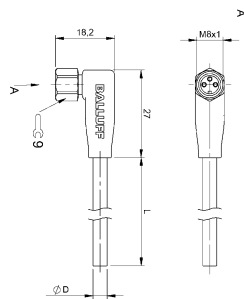
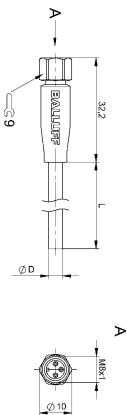
SENSOR CABLES  
3-CONDUCTOR M8 FEMALE

2 m	BCC0AH1	
3 m		
5 m	BCC0AH3	
10 m	BCC0AH4	
15 m		
Part description	BCC S313-0000-10-001-VX43T2- _ _ _	
Connection 1	M8x1-Female, straight, 3-pole, A-coded	
Connection 2	—	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PVC Yellow, Drag chain compatible	
Connector material	PUR	
Connector cover nut material	1.4404	
Number of conductors	3	
Cable temperature, fixed routing	-40...105 °C	
Cable temperature, flexible routing	-5...105 °C	
Operating voltage U <sub>b</sub>	60 VDC / 60 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP69K	
Approval/Conformity	CE, cULus, EAC, Ecolab, WEEE	





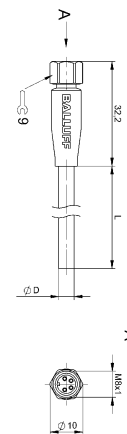
	BCC0AH5	BCC08CZ
		BCC0A2F
BCC0J09	BCC0AH6	BCC08E0
	BCC0AH7	BCC0A2H
		BCC0F5E
BCC S313-0000-10-004-PX0334-__ _	BCC S323-0000-10-001-VX43T2-__ _	BCC S323-0000-10-004-PX0334-__ _
M8x1-Female, straight, 3-pole, A-coded	M8x1-Female, angled, 3-pole, A-coded	M8x1-Female, angled, 3-pole, A-coded
—	—	—
Green LED	—	Green LED
—	—	—
LED yellow	—	LED yellow
—	—	—
PUR black, Drag chain compatible	PVC Yellow, Drag chain compatible	PUR black, Drag chain compatible
PUR	PUR	PUR
1.4404	1.4404	1.4404
3	3	3
-50...90 °C	-40...105 °C	-50...90 °C
-25...90 °C	-5...105 °C	-25...90 °C
30 VDC	60 VDC / 60 VAC	30 VDC
4.0 A	4.0 A	4.0 A
IP67, IP69K	IP67, IP69K	IP67, IP69K
CE, cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE





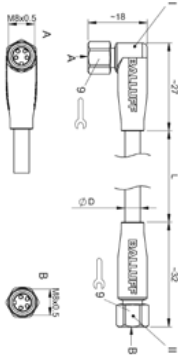
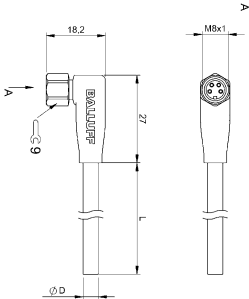
SENSOR CABLES  
4-CONDUCTOR M8 FEMALE

2 m	BCC0AKP	
5 m	BCC0AH8	
10 m	BCC0AH9	
Part description	BCC S314-0000-10-003-VX44T2- _ _ _	
Connection 1	M8x1-Female, straight, 4-pole, A-coded	
Connection 2	—	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PVC Yellow, Drag chain compatible	
Connector material	PUR	
Connector cover nut material	1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-40...105 °C	
Cable temperature, flexible routing	-5...105 °C	
Operating voltage U <sub>b</sub>	60 VDC / 60 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP69K	
Approval/Conformity	CE, cULus, EAC, Ecolab, WEEE	





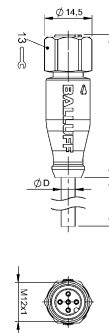
	<b>BCC0AHA</b>	<b>BCC0HEJ</b>	
	<b>BCC0AHC</b>	<b>BCC0HEK</b>	
	<b>BCC0AHE</b>		
	BCC S324-0000-10-003-VX44T2-__ _	BCC S324-S314-50-304-VX44T2-__ _	
	M8x1-Female, angled, 4-pole, A-coded	M8x1-Female, angled, 4-pole, A-coded	
	—	M8x1-Female, straight, 4-pole, A-coded	
	—	—	
	—	—	
	—	—	
	—	—	
	PVC Yellow, Drag chain compatible	PVC Yellow	
	PUR	PUR / PUR	
	1.4404	1.4404 / 1.4404	
	4	4	
	-40...105 °C	-40...105 °C	
	-5...105 °C	-5...105 °C	
	60 VDC / 60 VAC	60 VDC / 60 VAC	
	4.0 A	4.0 A	
	IP67, IP69K	IP67, IP69K/IP67, IP69K	
	CE, cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE	





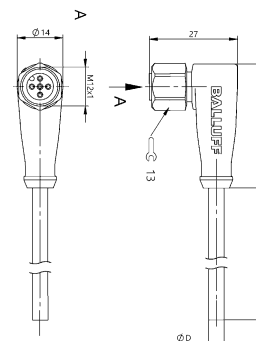
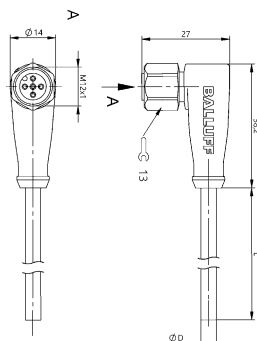
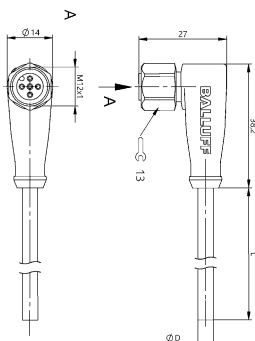
SENSOR CABLES  
3-CONDUCTOR M12 FEMALE STRAIGHT / FEMALE ANGLED

2 m		
3 m	BCC0JR7	
5 m		
10 m		
15 m		
20 m	BCC0E83	
25 m		
40 m		
Part description	BCC S415-0000-1A-004-PX0334-_-_-	
Connection 1	M12x1-Female, straight, 5-pole, A-coded	
Connection 2	—	
Power indicator	Green LED	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	LED yellow	
Interface	—	
Cable	PUR black, Drag chain compatible	
Connector material	PUR	
Connector cover nut material	1.4404	
Number of conductors	3	
Cable temperature, fixed routing	-50...90 °C	
Cable temperature, flexible routing	-25...90 °C	
Operating voltage $U_b$	30 VDC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K	
Approval/Conformity	CE, cULus, EAC, Ecolab, WEEE	





	<b>BCC08CM</b>	<b>BCC0AT0</b>	
	<b>BCC08CN</b>		
	<b>BCC08CP</b>	<b>BCC0ARR</b>	<b>BCC0A2L</b>
	<b>BCC08CR</b>	<b>BCC0ART</b>	<b>BCC0A2M</b>
	<b>BCC06UE</b>		<b>BCC06U9</b>
	<b>BCC06UF</b>	<b>BCC0ARU</b>	<b>BCC06UA</b>
	<b>BCC06UH</b>		<b>BCC06UC</b>
	<b>BCC06UJ</b>		
	BCC S425-0000-1A-004-PX0334-__ _ _	BCC S425-0000-1A-004-VX43T2-__ _ _	BCC S425-0000-1A-004-VX8334-__ _ _
	M12x1-Female, angled, 5-pole, A-coded	M12x1-Female, angled, 5-pole, A-coded	M12x1-Female, angled, 5-pole, A-coded
	—	—	—
	Green LED	Green LED	Green LED
	—	—	—
	LED yellow	LED yellow	LED yellow
	—	—	—
	PUR black, Drag chain compatible	PVC Yellow, Drag chain compatible	PVC gray, Drag chain compatible
	PUR	PUR	PUR
	1.4404	1.4404	1.4404
	3	3	3
	-50...90 °C	-40...105 °C	-40...105 °C
	-25...90 °C	-5...105 °C	-5...105 °C
	30 VDC	30 VDC	30 VDC
	4.0 A	4.0 A	4.0 A
	IP67, IP68, IP69K	IP67, IP68, IP69K	IP67, IP68, IP69K
	CE, cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE

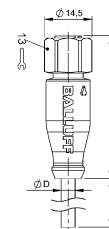






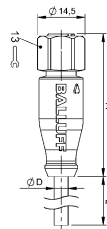
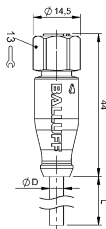
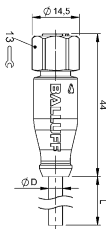
SENSOR CABLES  
4-CONDUCTOR M12 FEMALE STRAIGHT

2 m	BCC0CC1	
3 m		
5 m	BCC0CC2	
10 m	BCC0CC3	
15 m		
20 m		
25 m		
30 m		
35 m		
Part description	BCC S415-0000-1A-003-EX44T2- _ _ _	
Connection 1	M12x1-Female, straight, 5-pole, A-coded	
Connection 2	—	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	TPE Yellow, Drag chain compatible	
Connector material	PUR	
Connector cover nut material	1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-50...105 °C	
Cable temperature, flexible routing	-25...105 °C	
Operating voltage $U_b$	250 VDC / 250 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K	
Approval/Conformity	cULus, EAC, Ecolab, WEEE	





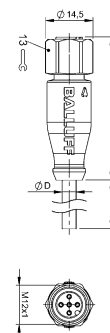
		BCC0AH2	
BCC0EZ9	BCC0AHF		BCC0EZF
BCC0EZA	BCC0AHH		BCC06M7
			BCC06M8
			BCC06M9
			BCC06MA
			BCC06MC
			BCC06ME
BCC S415-0000-1A-003-PX0434-__ _	BCC S415-0000-1A-003-VX44T2-__ _		BCC S415-0000-1A-003-VX8434-__ _
M12x1-Female, straight, 5-pole, A-coded	M12x1-Female, straight, 5-pole, A-coded		M12x1-Female, straight, 5-pole, A-coded
—	—		—
—	—		—
—	—		—
—	—		—
—	—		—
PUR black, Drag chain compatible	PVC Yellow, Drag chain compatible		PVC gray, Drag chain compatible
PUR	PUR		PUR
1.4404	1.4404		1.4404
4	4		4
-50...90 °C	-40...105 °C		-40...105 °C
-25...90 °C	-5...105 °C		-5...105 °C
250 VDC / 250 VAC	250 VDC / 250 VAC		250 VDC / 250 VAC
4.0 A	4.0 A		4.0 A
IP67, IP68, IP69K	IP67, IP68, IP69K		IP67, IP68, IP69K
cULus, EAC, Ecolab, WEEE	cULus, EAC, Ecolab, WEEE		cULus, EAC, Ecolab, WEEE





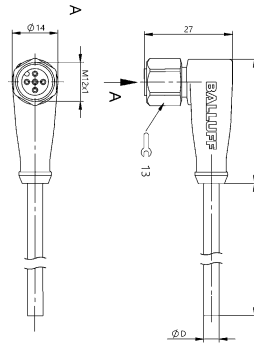
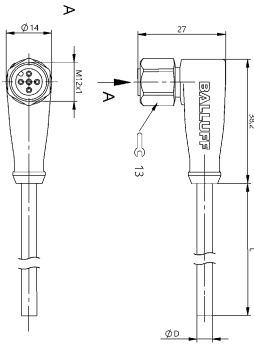
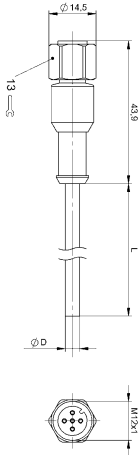
SENSOR CABLES  
4-CONDUCTOR M12 FEMALE STRAIGHT / FEMALE ANGLED

2 m	BCC0APF	
3 m		
5 m	BCC0APT	
10 m	BCC0APJ	
15 m		
20 m		
25 m		
Part description	BCC S415-0000-1A-008-VX44T2-_-_-	
Connection 1	M12x1-Female, straight, 5-pole, A-coded	
Connection 2	—	
Power indicator	Green LED	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	LED yellow	
Interface	—	
Cable	PVC Yellow, Drag chain compatible	
Connector material	PUR	
Connector cover nut material	1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-40...105 °C	
Cable temperature, flexible routing	-5...105 °C	
Operating voltage $U_b$	30 VDC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K	
Approval/Conformity	CE, cULus, EAC, Ecolab, WEEE	





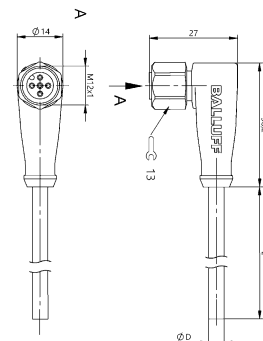
	<b>BCC0JRJ</b>	<b>BCC0CC4</b>	
	<b>BCC0JRK</b>	<b>BCC0CC5</b>	<b>BCC0EZC</b>
	<b>BCC0JRL</b>	<b>BCC0CC6</b>	<b>BCC0EZE</b>
	<b>BCC0JRM</b>		
	<b>BCC0JRN</b>		
	BCC S4B5-0000-1A-003-YX8434-_-_-C009	BCC S425-0000-1A-003-EX44T2-_-_-	BCC S425-0000-1A-003-PX0434-_-_-
	M12x1-Female, straight, 5-pole, A-coded	M12x1-Female, angled, 5-pole, A-coded	M12x1-Female, angled, 5-pole, A-coded
	—	—	—
	—	—	—
	—	—	—
	—	—	—
	—	—	—
	TPE-V gray	TPE Yellow, Drag chain compatible	PUR black, Drag chain compatible
	PP	PUR	PUR
	1.4404	1.4404	1.4404
	4	4	4
	-50...105 °C	-50...105 °C	-50...90 °C
	-25...105 °C	-25...105 °C	-25...90 °C
	250 VDC / 250 VAC	250 VDC / 250 VAC	250 VDC / 250 VAC
	4.0 A	4.0 A	4.0 A
	IP67, IP69K	IP67, IP68, IP69K	IP67, IP68, IP69K
	FDA compliant, EAC, Ecolab, WEEE	cULus, EAC, Ecolab, WEEE	cULus, EAC, Ecolab, WEEE





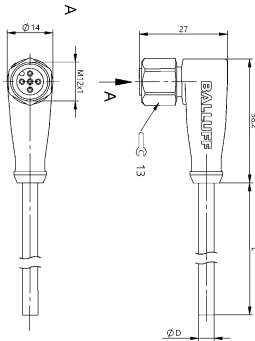
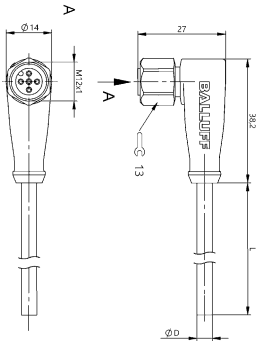
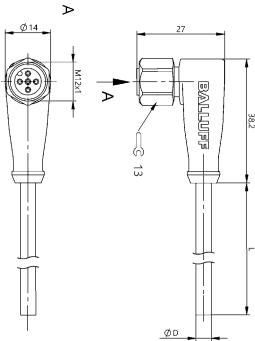
SENSOR CABLES  
4-CONDUCTOR M12 FEMALE ANGLED

2 m	BCC0AHJ	
3 m		
5 m	BCC0AHK	
10 m	BCC0AHL	
15 m		
20 m		
25 m		
30 m		
35 m		
Part description	BCC S425-0000-1A-003-VX44T2-_-_-	
Connection 1	M12x1-Female, angled, 5-pole, A-coded	
Connection 2	—	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PVC Yellow, Drag chain compatible	
Connector material	PUR	
Connector cover nut material	1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-40...105 °C	
Cable temperature, flexible routing	-5...105 °C	
Operating voltage $U_b$	250 VDC / 250 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K	
Approval/Conformity	cULus, EAC, Ecolab, WEEE	





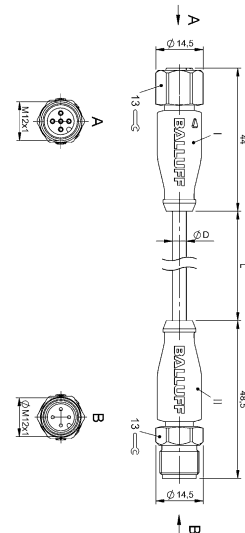
			<b>BCC0APH</b>
		<b>BCC0A2J</b>	
<b>BCC0EZH</b>	<b>BCC08CU</b>		<b>BCC0APK</b>
<b>BCC06MF</b>	<b>BCC0A2K</b>		<b>BCC0APL</b>
<b>BCC06MH</b>			
<b>BCC06MJ</b>			
<b>BCC06MK</b>			
<b>BCC06ML</b>			
<b>BCC06MM</b>			
BCC S425-0000-1A-003-VX8434-__ _	BCC S425-0000-1A-008-PX0434-__ _	BCC S425-0000-1A-008-VX44T2-__ _	
M12x1-Female, angled, 5-pole, A-coded	M12x1-Female, angled, 5-pole, A-coded	M12x1-Female, angled, 5-pole, A-coded	
—	—	—	
—	Green LED	Green LED	
—	—	—	
—	LED yellow	LED yellow	
—	—	—	
PVC gray, Drag chain compatible	PUR black, Drag chain compatible	PVC Yellow, Drag chain compatible	
PUR	PUR	PUR	
1.4404	1.4404	1.4404	
4	4	4	
-40...105 °C	-50...90 °C	-40...105 °C	
-5...105 °C	-25...90 °C	-5...105 °C	
250 VDC / 250 VAC	30 VDC	30 VDC	
4.0 A	4.0 A	4.0 A	
IP67, IP68, IP69K	IP67, IP68, IP69K	IP67, IP68, IP69K	
cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE	





SENSOR CABLES  
4-CONDUCTOR M12 FEMALE-MALE STRAIGHT

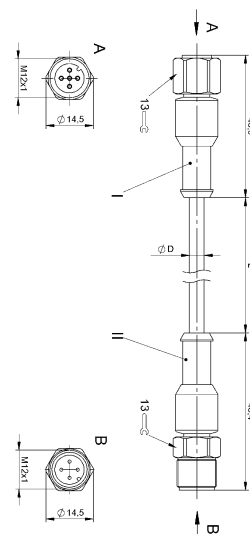
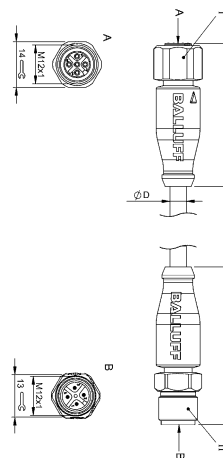
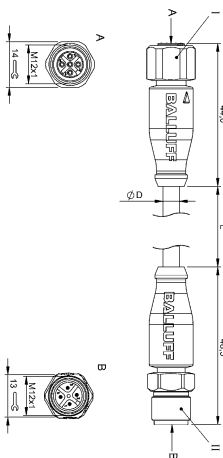
0.3 m		
0.6 m		
1 m		
1.5 m	<b>BCC0EYR</b>	
2 m		
3 m	<b>BCC0EYT</b>	
5 m	<b>BCC0EYU</b>	
Part description	BCC S415-S414-3A-304-PX0434-_-_-_-	
Connection 1	M12x1-Female, straight, 5-pole, A-coded	
Connection 2	M12x1-Male, straight, 4-pole, A-coded	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PUR black, Drag chain compatible	
Connector material	PUR / PUR	
Connector cover nut material	1.4404 / 1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-50...90 °C	
Cable temperature, flexible routing	-25...90 °C	
Operating voltage $U_b$	250 VDC / 250 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K/IP67, IP68, IP69K	
Approval/Conformity	cULus, EAC, Ecolab, WEEE	



Additional lengths available



<b>BCC0CK9</b>	<b>BCC0CK6</b>	
<b>BCC0CH9</b>	<b>BCC0CK7</b>	<b>BCC0JRY</b>
<b>BCC0CHA</b>	<b>BCC0CK8</b>	<b>BCC0KT3</b>
<b>BCC0CHC</b>	<b>BCC0CHL</b>	
<b>BCC0CHE</b>	<b>BCC0CHK</b>	<b>BCC0JRZ</b>
<b>BCC0CH8</b>	<b>BCC0CHJ</b>	<b>BCC0KRM</b>
<b>BCC0CK5</b>	<b>BCC0CHH</b>	<b>BCC0JT0</b>
BCC S415-S414-3A-304-VX44T2-_-_-	BCC S415-S414-3A-606-VX44T2-_-_-	BCC S4B5-S4B4-3A-304-YX8434-_-_-C009
M12x1-Female, straight, 5-pole, A-coded	M12x1-Female, straight, 5-pole, A-coded	M12x1-Female, straight, 5-pole, A-coded
M12x1-Male, straight, 4-pole, A-coded	M12x1-Male, straight, 4-pole, A-coded	M12x1-Male, straight, 4-pole, A-coded
—	LED green/no	—
—	—	—
—	LED yellow	—
—	—	—
PVC Yellow	PVC Yellow	TPE-V gray
PUR / PUR	PUR / PUR	PP / PP
1.4404 / 1.4404	1.4404 / 1.4404	1.4404 / 1.4404
4	4	4
-40...105 °C	-40...105 °C	-50...105 °C
-5...105 °C	-5...105 °C	-25...105 °C
250 VDC / 250 VAC	30 VDC	250 VDC / 250 VAC
4.0 A	4.0 A	4.0 A
IP67, IP68, IP69K/IP67, IP68, IP69K	IP67, IP68, IP69K/IP67, IP68, IP69K	IP67, IP69K/IP67, IP69K
cULus, EAC, Ecolab, WEEE	CE, cULus, EAC, Ecolab, WEEE	FDA compliant, EAC, Ecolab, WEEE

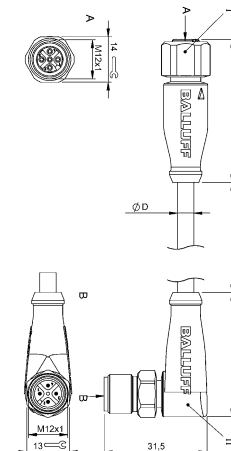






SENSOR CABLES  
4-CONDUCTOR M12 FEMALE STRAIGHT-MALE ANGLED

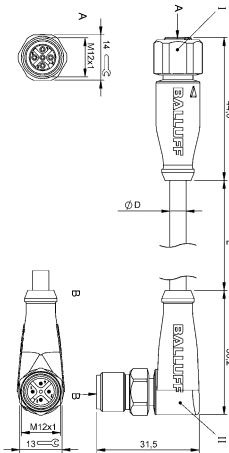
0.3 m	BCCOCHF	
0.6 m	BCCOCHT	
1 m	BCCOCHR	
1.5 m	BCCOCHP	
2 m	BCCOCHM	
3 m	BCCOCHN	
5 m	BCCOCJK	
Part description	BCC S415-S424-3A-304-VX44T2-_-_-	
Connection 1	M12x1-Female, straight, 5-pole, A-coded	
Connection 2	M12x1-Male, angled, 4-pole, A-coded	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PVC Yellow	
Connector material	PUR / PUR	
Connector cover nut material	1.4404 / 1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-40...105 °C	
Cable temperature, flexible routing	-5...105 °C	
Operating voltage $U_b$	250 VDC / 250 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K/IP67, IP68, IP69K	
Approval/Conformity	cULus, EAC, Ecolab, WEEE	



Additional lengths available



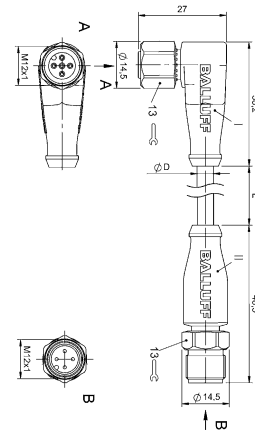
BCC0CJL Wrong image		
BCC0CJM		
BCC0CJN		
BCC0CJP		
BCC0CJO		
BCC0CHZ		
BCC0CHY		
BCC S415-S424-3A-606-VX44T2-_-_-		
M12x1-Female, straight, 5-pole, A-coded		
M12x1-Male, angled, 4-pole, A-coded		
LED green/no		
—		
LED yellow		
—		
PVC Yellow		
PUR / PUR		
1.4404 / 1.4404		
4		
-40...105 °C		
-5...105 °C		
30 VDC		
4.0 A		
IP67, IP68, IP69K/IP67, IP68, IP69K		
CE, cULus, EAC, Ecolab, WEEE		





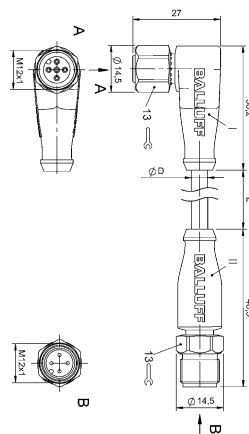
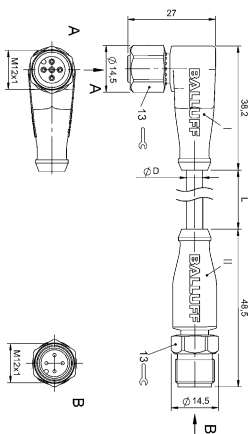
SENSOR CABLES  
4-CONDUCTOR M12 FEMALE ANGLED-MALE STRAIGHT

0.3 m	BCC0CHW	
0.6 m	BCC0CHU	
1 m	BCC0CJ5	
1.5 m	BCC0CJ4	
2 m	BCC0CJ3	
3 m	BCC0CJ2	
5 m	BCC0CJ1	
Part description	BCC S425-S414-3A-304-VX44T2-__ _	
Connection 1	M12x1-Female, angled, 5-pole, A-coded	
Connection 2	M12x1-Male, straight, 4-pole, A-coded	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PVC Yellow	
Connector material	PUR / PUR	
Connector cover nut material	1.4404 / 1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-40...105 °C	
Cable temperature, flexible routing	-5...105 °C	
Operating voltage $U_b$	250 VDC / 250 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K/IP67, IP68, IP69K	
Approval/Conformity	cULus, EAC, Ecolab, WEEE	





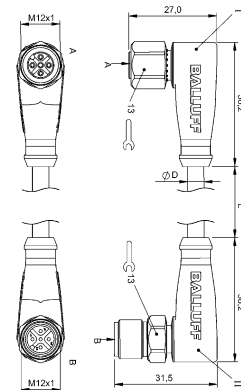
		BCC0CJA	
		BCC0CJ9	
BCC0CL9		BCC0CJ8	
		BCC0CJ7	
		BCC0CJ6	
BCC0CL8		BCC0CJJ	
BCC0CL7		BCC0CJH	
BCC S425-S414-3A-606-PX0434-_-_-		BCC S425-S414-3A-606-VX44T2-_-_-	
M12x1-Female, angled, 5-pole, A-coded		M12x1-Female, angled, 5-pole, A-coded	
M12x1-Male, straight, 4-pole, A-coded		M12x1-Male, straight, 4-pole, A-coded	
LED green/no		LED green/no	
-		-	
LED yellow		LED yellow	
-		-	
PUR black, Drag chain compatible		PVC Yellow	
PUR / PUR		PUR / PUR	
1.4404 / 1.4404		1.4404 / 1.4404	
4		4	
-50...90 °C		-40...105 °C	
-25...90 °C		-5...105 °C	
30 VDC		30 VDC	
4.0 A		4.0 A	
IP67, IP68, IP69K/IP67, IP68, IP69K		IP67, IP68, IP69K/IP67, IP68, IP69K	
CE, cULus, EAC, Ecolab, WEEE		CE, cULus, EAC, Ecolab, WEEE	





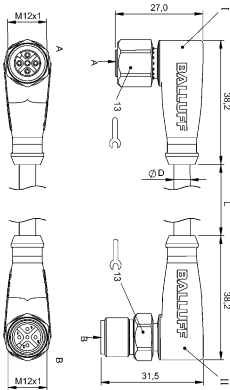
SENSOR CABLES  
4-CONDUCTOR M12 FEMALE ANGLED-MALE ANGLED

0.3 m	BCC0CJF	
0.6 m	BCC0CJE	
1 m	BCC0CJC	
1.5 m	BCC0CJW	
2 m	BCC0CJU	
3 m	BCC0CJT	
5 m	BCC0CL5	
Part description	BCC S425-S424-3A-304-VX44T2-_-_-	
Connection 1	M12x1-Female, angled, 5-pole, A-coded	
Connection 2	M12x1-Male, angled, 4-pole, A-coded	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PVC Yellow	
Connector material	PUR / PUR	
Connector cover nut material	1.4404 / 1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-40...105 °C	
Cable temperature, flexible routing	-5...105 °C	
Operating voltage $U_b$	250 VDC / 250 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP68, IP69K/IP67, IP68, IP69K	
Approval/Conformity	cULus, EAC, Ecolab, WEEE	





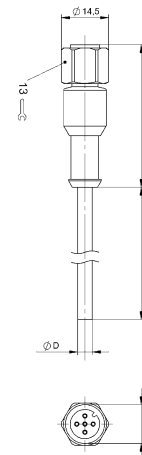
BCC0CJR		
BCC0CK3		
BCC0CK2		
BCC0CK1		
BCC0CK0		
BCC0CJZ		
BCC0CJY		
BCC S425-S424-3A-606-VX44T2-_-_-		
M12x1-Female, angled, 5-pole, A-coded		
M12x1-Male, angled, 4-pole, A-coded		
LED green/no		
—		
LED yellow		
—		
PVC Yellow		
PUR / PUR		
1.4404 / 1.4404		
4		
-40...105 °C		
-5...105 °C		
30 VDC		
4.0 A		
IP67, IP68, IP69K/IP67, IP68, IP69K		
CE, cULus, EAC, Ecolab, WEEE		





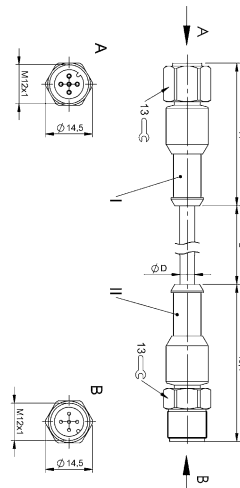
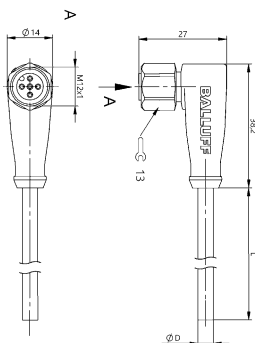
SENSOR CABLES  
5-CONDUCTOR M12 FEMALE STRAIGHT / FEMALE ANGLED / FEMALE-MALE STRAIGHT

0.6 m		
2 m	BCC0JRP	
5 m	BCC0JRR	
10 m	BCC0JRT	
15 m	BCC0JRU	
20 m	BCC0JRW	
Part description	BCC S4B5-0000-1A-034-YX8534-__-C009	
Connection 1	M12x1-Female, straight, 5-pole, A-coded	
Connection 2	—	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	TPE-V gray, 2.00 m	
Connector material	PP	
Connector cover nut material	1.4404	
Number of conductors	5	
Cable temperature, fixed routing	-50...105 °C	
Cable temperature, flexible routing	-25...105 °C	
Operating voltage U <sub>b</sub>	60 VDC / 60 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP69K	
Approval/Conformity	FDA compliant, CE, EAC, Ecolab, WEEE	





		<b>BCCOJT4</b>	
		<b>BCCOJT5</b>	
		<b>BCCOJT6</b>	
<b>BCCOHW0</b>		<b>BCCOJT7</b>	
		<b>BCCOJT8</b>	
		<b>BCCOJT9</b>	
BCC S425-0000-1A-039-PX0534-__ _		BCC S4B5-S4B5-3A-313-YX8534-__ _-C009	
M12x1-Female, angled, 5-pole, A-coded		M12x1-Female, straight, 5-pole, A-coded	
—		M12x1-Male, straight, 5-pole, A-coded	
Green LED		—	
LED white		—	
LED yellow		—	
—		—	
PUR black, 10.00 m, Drag chain compatible		TPE-V gray, 0.60 m	
PUR		PP / PP	
1.4404		1.4404 / 1.4404	
5		5	
-50...90 °C		-50...105 °C	
-25...90 °C		-25...105 °C	
30 VDC		60 VDC / 60 VAC	
4.0 A		4.0 A	
IP67, IP68, IP69K		IP67, IP69K/IP67, IP69K	
CE, cULus, EAC, Ecolab, WEEE		FDA compliant, CE, EAC, Ecolab, WEEE	

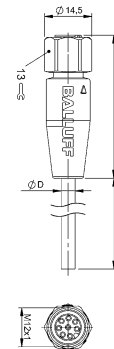






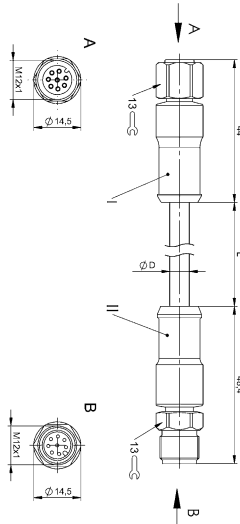
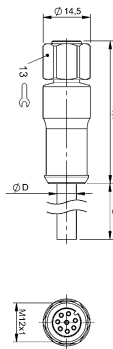
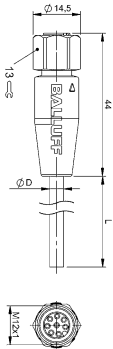
SENSOR CABLES  
8-CONDUCTOR M12 FEMALE STRAIGHT / FEMALE-MALE STRAIGHT

0.6 m		
2 m		
5 m		
10 m	<b>BCC0C74</b>	
15 m		
20 m		
Part description	BCC S418-0000-1A-069-PX0825-_-_-_-	
Connection 1	M12x1-Female, straight, 8-pole, A-coded	
Connection 2	—	
Power indicator	—	
Function indicator (Pin 2)	—	
Function indicator (Pin 4)	—	
Interface	—	
Cable	PUR black, Drag chain compatible	
Connector material	PUR	
Connector cover nut material	1.4404	
Number of conductors	8	
Cable temperature, fixed routing	-50...80 °C	
Cable temperature, flexible routing	-25...80 °C	
Operating voltage $U_b$	30 VDC / 30 VAC	
Rated current (40 °C)	2.0 A	
Protection degree	IP67, IP68, IP69K	
Approval/Conformity	CE, cULus, EAC, Ecolab, WEEE	





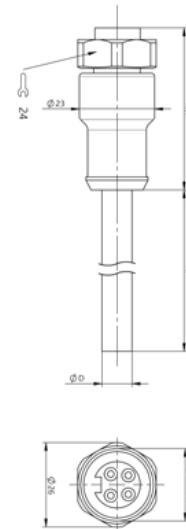
		<b>BCC0JW3</b>
	<b>BCC0JUZ</b>	<b>BCC0JW4</b>
<b>BCC0H3K</b>	<b>BCC0JW0</b>	<b>BCC0JW5</b>
<b>BCC0H3L</b>	<b>BCC0JW1</b>	<b>BCC0JW6</b>
<b>BCC0H3M</b>	<b>BCC0JW2</b>	<b>BCC0JW7</b>
<b>BCC0H3N</b>		
BCC S418-0000-1A-069-VX8825-___	BCC S4B8-0000-1A-045-YX8825-___-C009	BCC S4B8-S4B8-3A-321-YX8825-___-C009
M12x1-Female, straight, 8-pole, A-coded	M12x1-Female, straight, 8-pole, A-coded	M12x1-Female, straight, 8-pole, A-coded
—	—	M12x1-Male, straight, 8-pole, A-coded
—	—	—
—	—	—
—	—	—
PVC gray, Drag chain compatible	TPE-V gray	TPE-V gray
PUR	PP	PP / PP
1.4404	1.4404	1.4404 / 1.4404
8	8	8
-40...105 °C	-50...105 °C	-50...105 °C
-5...105 °C	-25...105 °C	-25...105 °C
30 VDC / 30 VAC	30 VDC / 30 VAC	30 VDC / 30 VAC
2.0 A	2.0 A	2.0 A
IP67, IP68, IP69K	IP67, IP69K	IP67, IP69K/IP67, IP69K
CE, cULus, EAC, Ecolab, WEEE	FDA compliant, CE, EAC, Ecolab, WEEE	FDA compliant, CE, EAC, Ecolab, WEEE





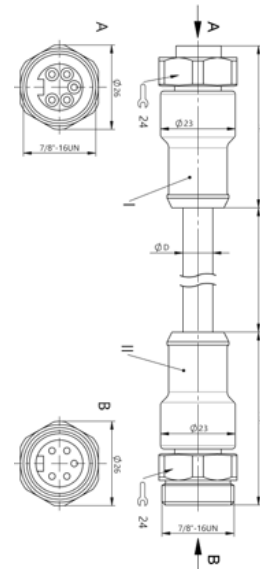
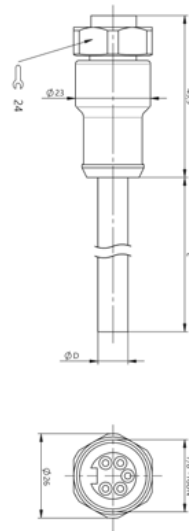
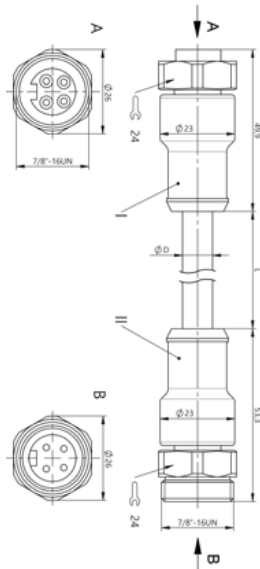
POWER CABLES

0.6 m		
2 m	<b>BCC0JTA</b>	
5 m	<b>BCC0JTC</b>	
10 m	<b>BCC0JTE</b>	
15 m	<b>BCC0JTF</b>	
20 m	<b>BCC0JTH</b>	
Part description	BCC C3B4-0000-10-003-YX84A5-__-C009	
Connection 1	7/8"-Female, straight, 4-pole	
Connection 2	—	
Cable	TPE-V gray	
Connector material	PP	
Connector cover nut material	1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-50...105 °C	
Cable temperature, flexible routing	-25...105 °C	
Operating voltage Ub	300 VDC / 300 VAC	
Rated current (40 °C)	10.0 A	
Protection degree	IP69K	
Approval/Conformity	FDA compliant, EAC, Ecolab, WEEE	





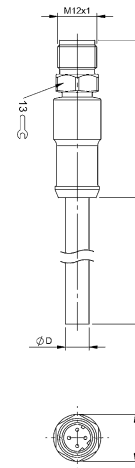
	<b>BCC0JTP</b>		<b>BCC0JTZ</b>
	<b>BCC0JTR</b>	<b>BCC0JTJ</b>	<b>BCC0JU0</b>
	<b>BCC0JTT</b>	<b>BCC0JTK</b>	<b>BCC0JU1</b>
	<b>BCC0JTU</b>	<b>BCC0JTL</b>	<b>BCC0JU2</b>
	<b>BCC0JTW</b>	<b>BCC0JTM</b>	<b>BCC0JU3</b>
	<b>BCC0JTY</b>	<b>BCC0JTN</b>	<b>BCC0JU4</b>
	BCC C3B4-C3B4-30-304-YX84A5-__-C009	BCC C3B5-0000-10-063-YX85A5-__-C009	BCC C3B5-C3B5-30-335-YX85A5-__-C009
	7/8"-Female, straight, 4-pole	7/8"-Female, straight, 5-pole	7/8"-Female, straight, 5-pole
	7/8"-Male, straight, 4-pole	—	7/8"-Male, straight, 5-pole
	TPE-V gray	TPE-V gray	TPE-V gray
	PP / PP	PP	PP / PP
	1.4404 / 1.4404	1.4404	1.4404 / 1.4404
	4	5	5
	-50...105 °C	-50...105 °C	-50...105 °C
	-25...105 °C	-25...105 °C	-25...105 °C
	300 VDC / 300 VAC	300 VDC / 300 VAC	300 VDC / 300 VAC
	10.0 A	9.0 A	9.0 A
	IP69K/IP69K	IP69K	IP69K/IP69K
	FDA compliant, EAC, Ecolab, WEEE	FDA compliant, EAC, Ecolab, WEEE	FDA compliant, EAC, Ecolab, WEEE





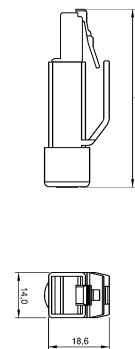
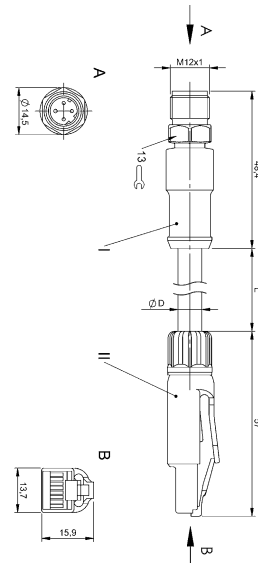
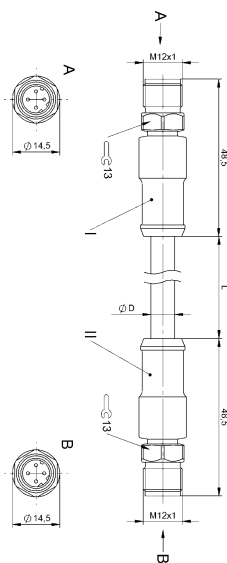
BUS CABLES

0.6 m		
2 m	<b>BCC0JU9</b>	
5 m	<b>BCC0JUA</b>	
10 m	<b>BCC0JUC</b>	
15 m	<b>BCC0JUE</b>	
20 m	<b>BCC0JUF</b>	
Part description	BCC S4B4-0000-2D-032-PS54N2-_-_-_-C009	
Connection 1	M12x1-Male, straight, 4-pole, D-coded	
Connection 2	—	
Interface	Profinet	
Cable	PUR Shielded Green, Drag chain compatible	
Connector material	PP	
Connector cover nut material	1.4404	
Number of conductors	4	
Cable temperature, fixed routing	-40...80 °C	
Cable temperature, flexible routing	-20...60 °C	
Operating voltage Ub	250 VDC / 250 VAC	
Rated current (40 °C)	4.0 A	
Protection degree	IP67, IP69K	
Approval/Conformity	EAC, Ecolab, WEEE	





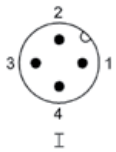
<b>BCC0JUP</b>	<b>BCC0JUH</b>	
<b>BCC0JUR</b>	<b>BCC0JUJ</b>	
<b>BCC0JUT</b>	<b>BCC0JUK</b>	
<b>BCC0JUJ</b>	<b>BCC0JUL</b>	
<b>BCC0JUW</b>	<b>BCC0JUM</b>	
<b>BCC0JUY</b>	<b>BCC0JUN</b>	<b>BCC06FH</b>
BCC S4B4-S4B4-6D-331-PS54N2-_-_-C009	BCC S4B4-E834-8G-668-PS54N2-_-_-C009	BCC E834-0000-20-000-53X4T2-000
M12x1-Male, straight, 4-pole, D-coded	M12x1-Male, straight, 4-pole, D-coded	RJ45-Male, straight, 4-pole
M12x1-Male, straight, 4-pole, D-coded	RJ45-Male, straight, 4-pole	
Profinet	Profinet	
PUR Shielded Green, Drag chain compatible	PUR Shielded Green, Drag chain compatible	Shielded
PP / PP	PP / PA	
1.4404 / 1.4404	1.4404	
4	4	4
-40...80 °C	-40...80 °C	-40...70 °C
-20...60 °C	-20...60 °C	
250 VDC / 250 VAC	125 VDC / 125 VAC	125 VDC / 125 VAC
4.0 A	1.0 A	1.0 A
IP67, IP69K/IP67, IP69K	IP67, IP69K/IP20	IP20
EAC, Ecolab, WEEE	CE, EAC, Ecolab, WEEE	cURus, EAC, WEEE



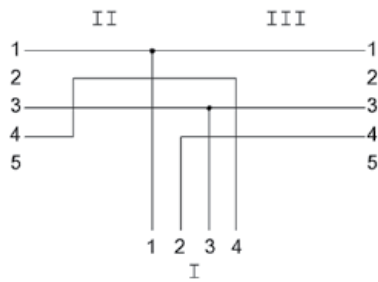
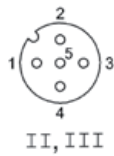
SPLITTER CABLES

Connection	
Connector configuration	
Rated voltage	
Rated current	
Predection degree	
Cover nut material	
Unshielded, without LED, 4-wire	
Approval/Conformity	

**M12-Male**

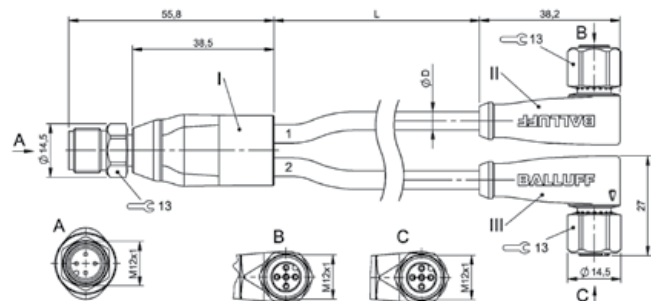
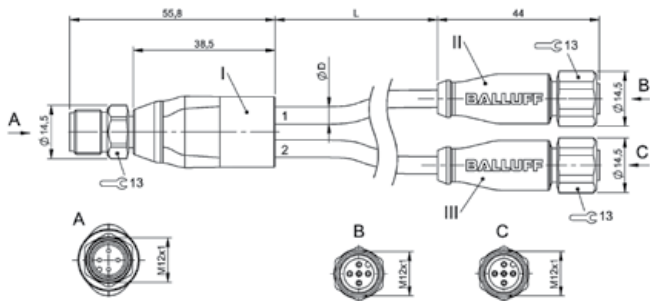


**M12-Female**





BCC S414-S415-S415 ...	BCC S414-S425-S425 ...
M12-Male, straight, 4-pole, A-coded/ M12-Female, straight, 5-pole, A-coded/ M12-Female, straight, 5-pole, A-coded	M12x1-Male, 4-pole, A-coded/ M12x1-Female, 5-pole, A-coded/ M12x1-Female, 5-pole, A-coded
Straight/straight/straight	Straight/angled/angled
250 V AC/DC	250 V AC/DC
4 A	4 A
IP69K, IP69K, IP69K	IP69K, IP69K, IP69K
Stainless steel (1.4404)/ Stainless steel (1.4404)/ Stainless steel (1.4404)	Stainless steel (1.4404)/ Stainless steel (1.4404)/ Stainless steel (1.4404)
BCC S414-S415-S415-U2043①-__ _②	BCC S414-S425-S425-U2043①-__ _②
EAC; Ecolab	EAC; Ecolab



①	Material	Color	Number of conductors × conductor cross section	Cable temperature, fixed routing	Cable temperature, flexible routing
<b>UNSHIELDED</b>					
U2043	PVC	gray	3 × 0,34 mm <sup>2</sup>	-40...+105 °C	-5...+105 °C

②	Cable length
<b>Y-SPLITTER</b>	
010	1 m
015	1.5 m
020	2 m
025	2.5 m

Additional lengths available



Mounting

# ACCESSORIES.

 *innovating automation*





Balluff mounting systems are efficient, precise and easy to assemble. We offer a wide variety of brackets and sensor protection mounting hardware to help you decrease installation costs, prolong sensor life, reduce unplanned downtime, and increase the overall performance and utility of your sensors.

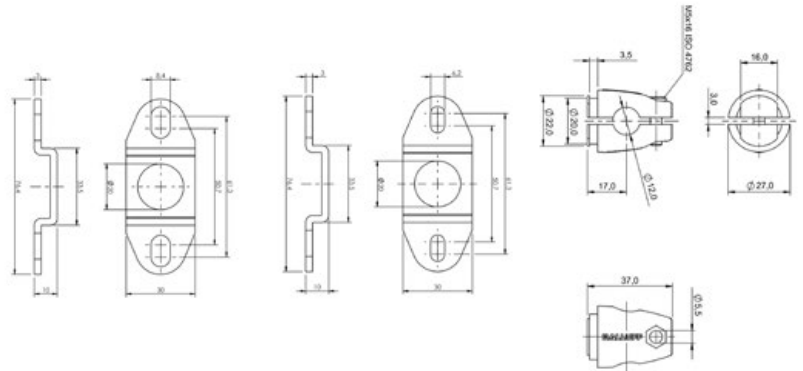
#### **Your Balluff solutions**

- Universal bracket
- Mechanical accessories
- Universal mounting system
- Background light for vision systems

UNIVERSAL MOUNTING SYSTEM

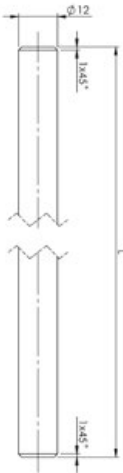
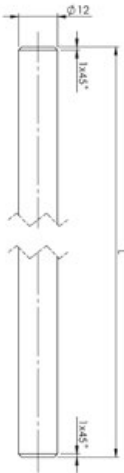


	<b>BAM0044</b> BMS CU-M-D12-I060-01	<b>BAM01CH</b> BMS CU-M-D12-I060-02	<b>BAM003Y</b> BMS CS-M-D12-IZ-01	
Principle of operation	Mounting system	Mounting system	Mounting system	
Use	For mounting system BMS	For mounting system BMS	For mounting system BMS; for holding rods with Ø12 mm	
Material	Stainless steel (1.4301)	Stainless steel (1.4301)	Stainless steel (1.4301)	
Dimension	76.4 x 10 x 30 mm	76.4 x 10 x 30 mm	Ø 27 x 37 mm	
Mounting	Screws, terminals	Screws, terminals	Screws, terminals	
Additional features				





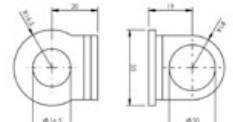
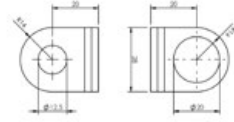
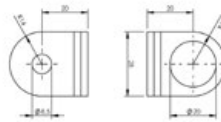
<b>BAM0045</b> BMS RS-S-D12-0150-00	<b>BAM0046</b> BMS RS-S-D12-0300-00			
Mounting system	Mounting system			
For mounting system BMS	For mounting system BMS			
Stainless steel (1.4571)	Stainless steel (1.4571)			
Ø 12 x 150 mm	Ø 12 x 300 mm			
Clamps	Clamps			



UNIVERSAL MOUNTING SYSTEM

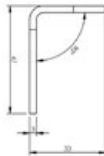
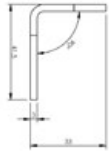
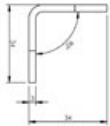
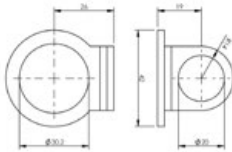
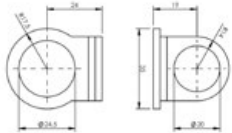
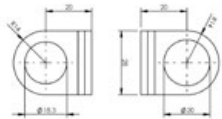


	<b>BAM0036</b> BMS CS-M-D12-ID08-01	<b>BAM0037</b> BMS CS-M-D12-ID12-01	<b>BAM003K</b> BMS CS-M-D12-ID16-01	
Principle of operation	Mounting system	Mounting system	Mounting system	
Use	For sensors Ø8 mm; for positive stop M8	For M12 sensors	For M16 sensors	
Material	Stainless steel	Stainless steel	Stainless steel	
Dimension	Ø 28 x 34 mm	Ø 28 x 34 mm	Ø 33 x 36.5 mm	
Mounting	Clamps	Clamps	Clamps	
Additional features				





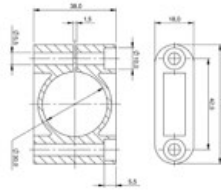
BAM0032 BMS CS-M-D12-ID18-01	BAM003L BMS CS-M-D12-ID24-01	BAM0033 BMS CS-M-D12-ID30-01		
Mounting system	Mounting system	Mounting system		
For M18 sensors	For M24 sensors	For M30 sensors		
Stainless steel	Stainless steel	Stainless steel		
Ø 28 x 34 mm	Ø 35 x 41.5 mm	Ø 42 x 47 mm		
Clamps	Clamps	Clamps		

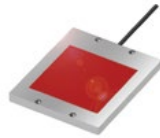




UNIVERSAL BRACKET

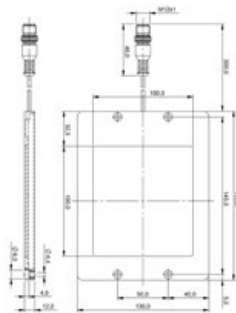
	<b>BAMOHN</b> BES 30,0-BS-1		
Version	Mounting cuff		
Use	For sensors Ø30 mm; for M30 sensors		
Material	PA 6		
Dimension	55 x 18 x 38 mm		
Mounting	Screws, terminals		





BACKGROUND LIGHT FOR VISION SYSTEMS

	<b>BAE00JF</b> BAE LX-VS-HR100-E		
Connection	Cable with connector, M12x1-Male, 4-pole		
Version	Background light		
Dimension	130 x 12 x 155 mm		
Rated operating voltage Ue DC	24 V		
Current draw max.	416 mA		
Digital inputs	Trigger		
Material	Stainless steel (1.4301) Glass PMMA		
Illumination area	100 x 100 mm		
Light type	LED Red light		
Wave length	617 nm		
Illuminance (0.1 m)	3700 Lux		
Beam angle	55° x 55°		
Ambient temperature	-10...55 °C		
Approval/Conformity	CE; EAC		
IP rating	IP69K		



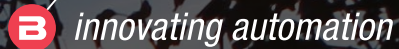


**BALLUFF**



Balluff

# OPENING NEW PERSPECTIVES



Balluff is one of the international leaders in offering high-quality sensor, identification, and network solutions. Family-owned and led since 1921, we have a passion for automation, and we represent the highest quality standards. This is accomplished with a network of 3,600 employees, representing 68 countries worldwide.

Having such a large international presence means accessibility to customers all over the world, and in turn, allows us to offer them best-in-class delivery times, exceptional delivery reliability, and transparent material flows.

In line with our motto, "Innovating Automation," we are pacemakers of automation. We work in close contact with our customers, trade associations, universities and research facilities to create new industry solutions, tailored to ensure a successful future for everyone we serve. Since the future is our focus, our processes and products aim to protect the environment and responsibly utilize our resources.

This focus on quality, reliability, and sustainability, is what our customers have come to expect from us for nearly a century, and it is how we promise to continue doing business moving forward.

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