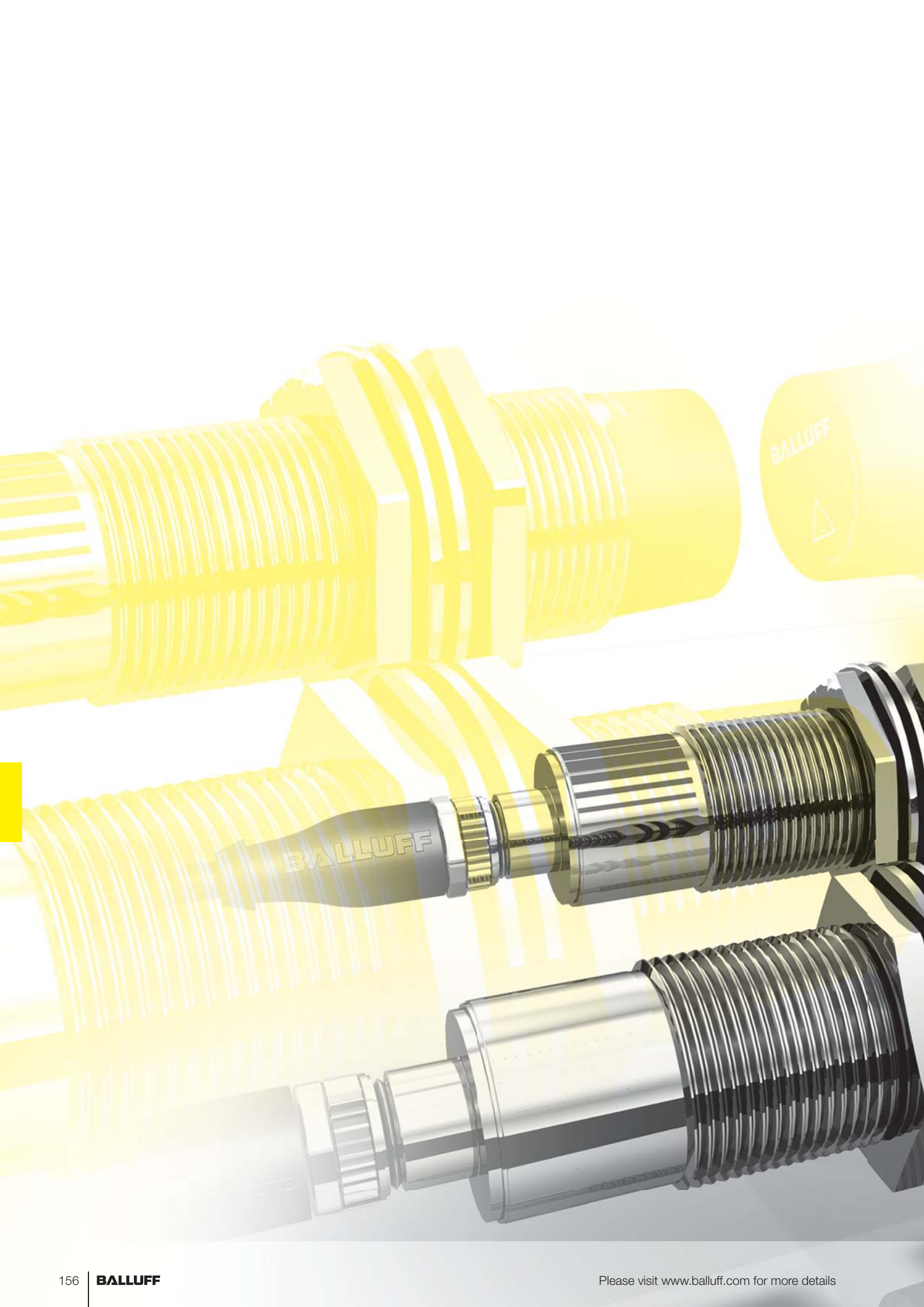
BALLUFF
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Inductive Couplers
Contents

Balluff inductive couplers BIC are extremely suitable for the quick connection and disconnection of modules. New requirements can be implemented within a very short period and with maximum flexibility.
BIC couplers are installed ad hoc via plug-and-play, making retrofitting extremely simple. Even maintenance is much easier. Cable breaks and mechanical wear are a thing of the past.
Units are easy to disconnect, safe and powerful. Power and signals are transferred reliably over an air gap.

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Inductive Couplers
Rapid disconnection of power and signals

For maximum flexibility –
Non-contact power transmission and reliable data transfer
If you need modules that offer signal routing and are quick to disconnect and reconnect, you can count on Balluff BIC inductive couplers. These quick-release units are capable of meeting new demands quickly and with extreme flexibility as well as transmitting power and signals over an air gap of 5mm quickly, reliably and with high performance.

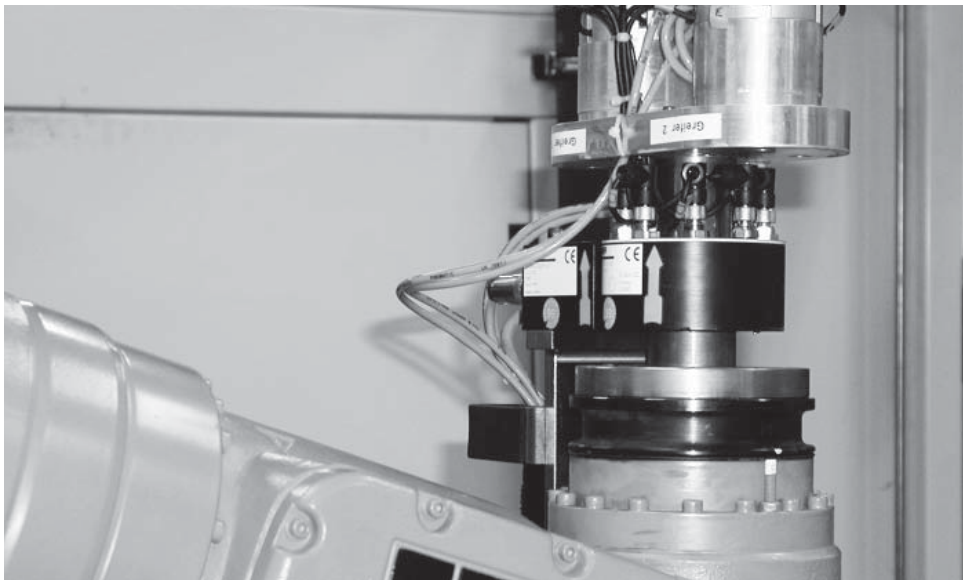
Retrofitting is simple: BIC is plug-and-play. Your maintenance costs are reduced to a minimum because cable breaks and mechanical wear are a thing of the past.

Benefit from the IO-Link interface, which allows up to 16 sensors per system and lets you connect to the bus environment

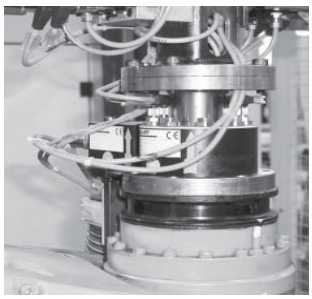
Choose from a variety of power classes in the compact housing – just the way you need it.

Take advantage of additional features
- Simple wiring of rotary index tables, interchangeable stamping heads, etc.
- Plug-in connection for M12
- Control of capacitive loads
- More power in the same size

Robot gripper
The sensor determines whether the gripper has collected the workpiece. The switching state of the sensors is transmitted without contact.



Robots are indispensable for the precision loading and unloading of parts in machining centers.
The high movement speed of the gripper often leads to problems with the sensor cabling. Federal Mogul Friedberg GmbH has taken on the problem and installed a radial power remote system at the interface between the gripper and robot arm.
The energy for powering the sensors and the position information is coupled inductively. This concept ensures reliable transmission, whether stationary or in motion.



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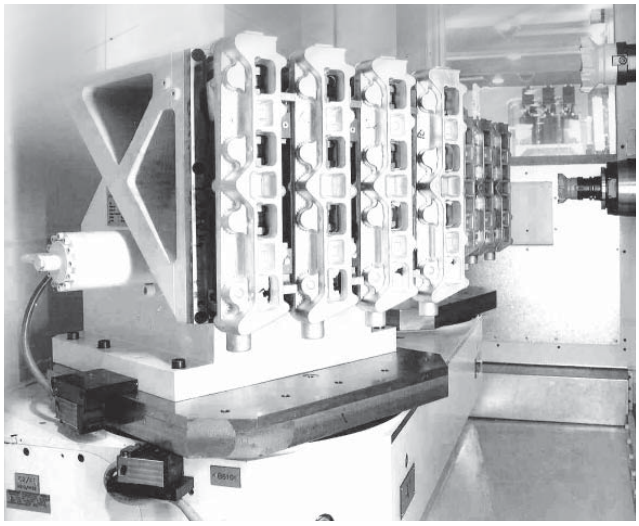
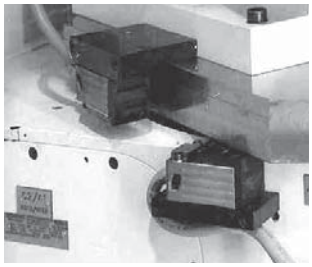
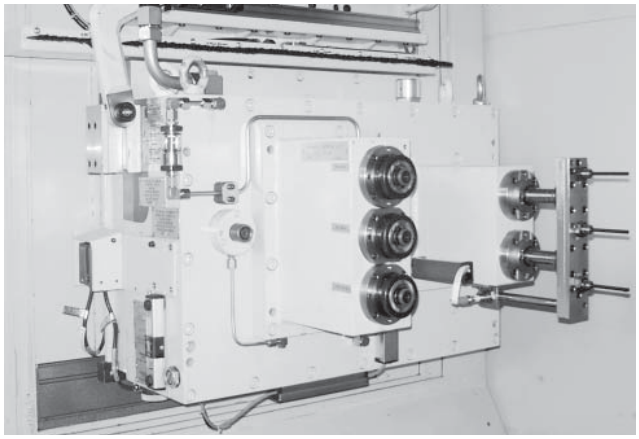
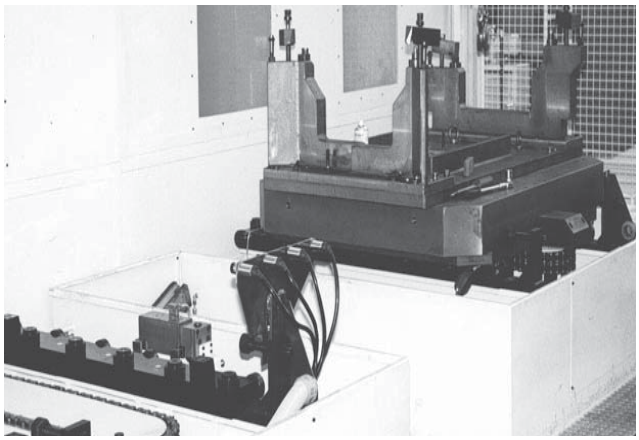




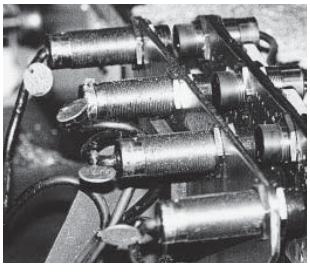
Monitoring clamping jaws in the working area of a 2-spindle machining center.
Clamping jaws can also be monitored during machining using BIC inductive couplers. Information from 8 sensors on each of two rotary tables on the swing table is sent to the control. Power for the sensor function is also provided inductively. The separable inductive coupling of power and signals also guarantees greater flexibility in machining centers.

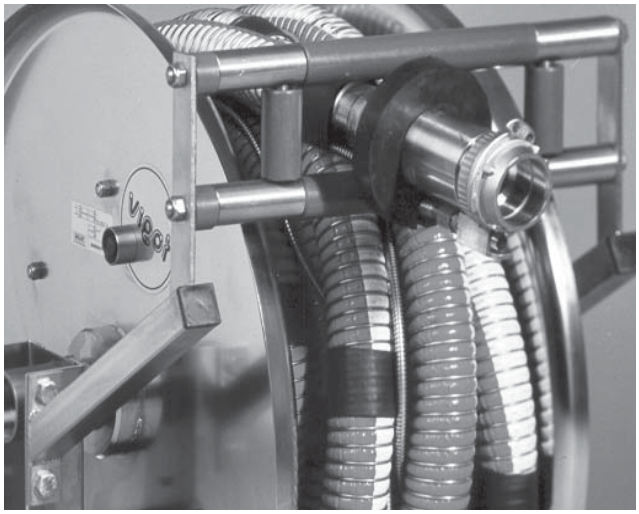


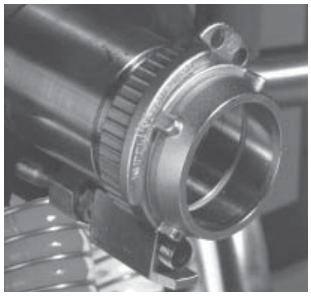
Reliable workpiece position detection in machining centers at MTU Friedrichshafen
A system for the automatic detection of workpieces on the pallet using BIC inductive couplers was developed to manage a wide range of components. Up to 16 sensors detect the positions and recognize the part to be machined based on certain features. After loading, the pallet is conveyed into the machining area where the recorded information is used to execute the machining program.



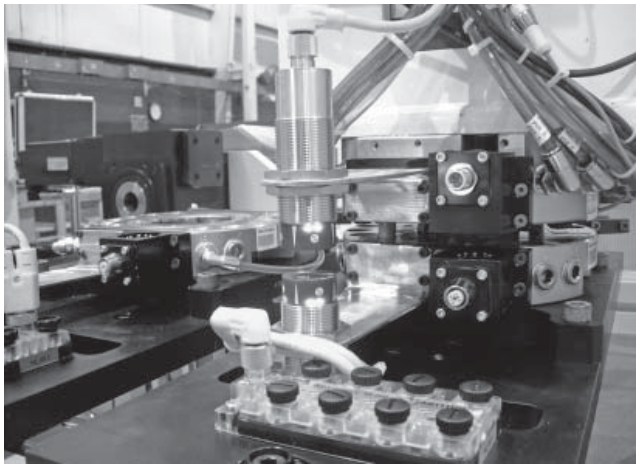
Checking slide settings on an interchangeable drill head
The inductive coupler system supplies power to inductive sensors and sends back sensor information.
When the drill head is automatically changed, no connections need to be disconnected because the inductive BIC system initiates rapid disconnection.

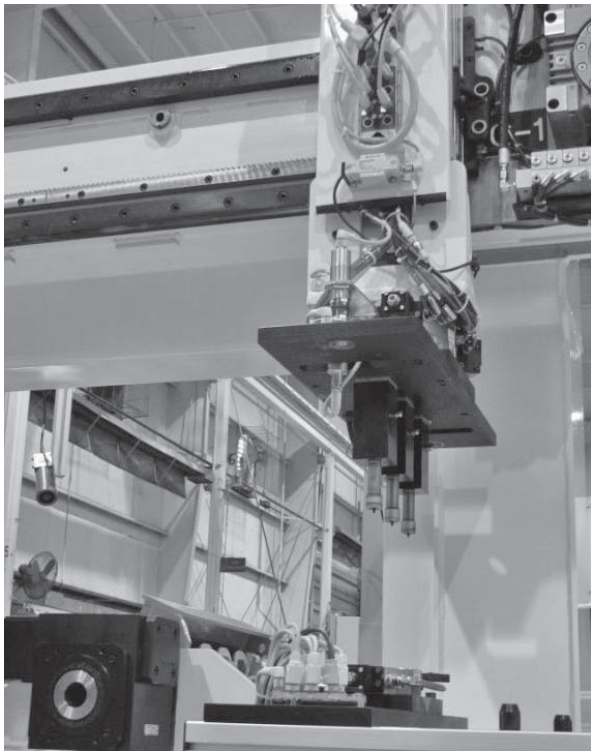






Secure connection – application at Böhringer Ingelheim Pharma KG
The distribution of liquid products in chemical companies is fraught with risk because different materials are filled into tanks via hose and coupling stations. Activating a valve without a hose connection can have serious consequences.
The inductive coupler BIC allows you to define exactly when the hose is connected to guarantee automatic process control.
The signal is transmitted wear-free between the moving drum and accompanying frame in two position settings. The connection is verified by an inductive sensor.





Flexible production – wireless sensor/actuator connection for greater freedom of design
High-speed tool changes require non-contact transmission. Inductive couplings with IO-Link signal transmission
have been developed precisely for this purpose.
When a tool is changed, no mechanical parts are required for signal contacting. Wear and faulty contacts are not expected as a result.

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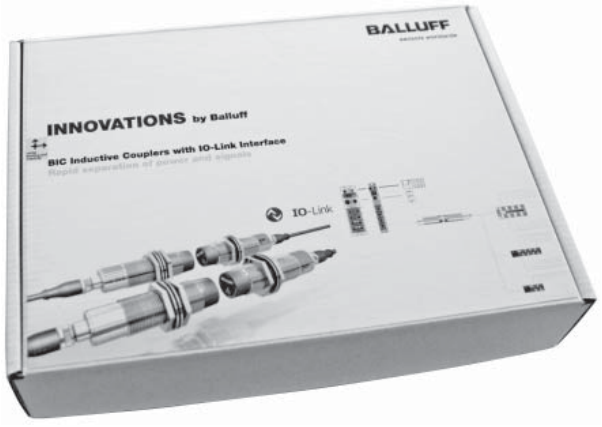
The innovation

BIC with IO-Link – a proven method for reducing operating costs and maintaining efficient productivity.

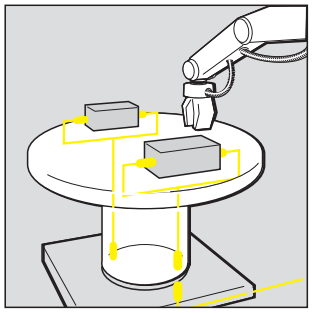
- Simple wiring of rotary index tables, interchangeable stamping heads, etc.
- Plug-in connection for M12
- Control of capacitive loads
- More power in the same size

Take the opportunity to familiarize yourself with the technology by ordering a starter kit and discover the benefits at your leisure. Benefit from the IO-Link interface, which allows up to 16 sensors per system and lets you connect to the bus environment

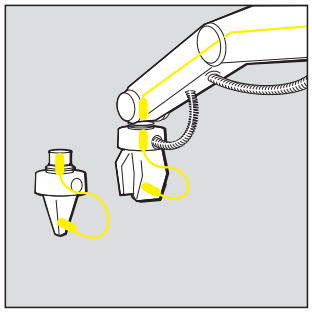
The starter kit includes the following products:
- 1× BIC 1I0-I2A50-M30MI3-SM4A4A
- 1× BIC 2I0-I2A50-M30MI3-SM4A5A
- 1× BNI PBS-507-000-Z011
- 1× BNI IOL-101-S01-K018
- 2× BCC M415-M413-3A-300-PX0334-003
- 2× BCC M313-M313-30-300-PX0334-003
- 2× BES M08MI-PSC20B-S49G



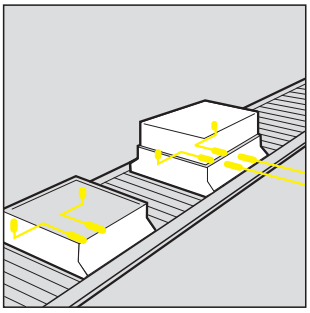
BIC004L
BIC Z-SK-IOL-01



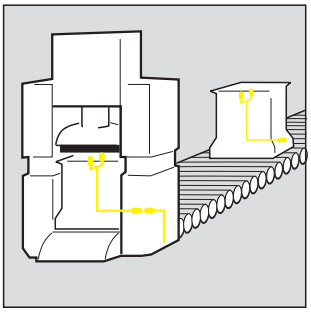
Indexing table
The sensor determines whether the workpiece is in the correct position and sends the signals without making contact.



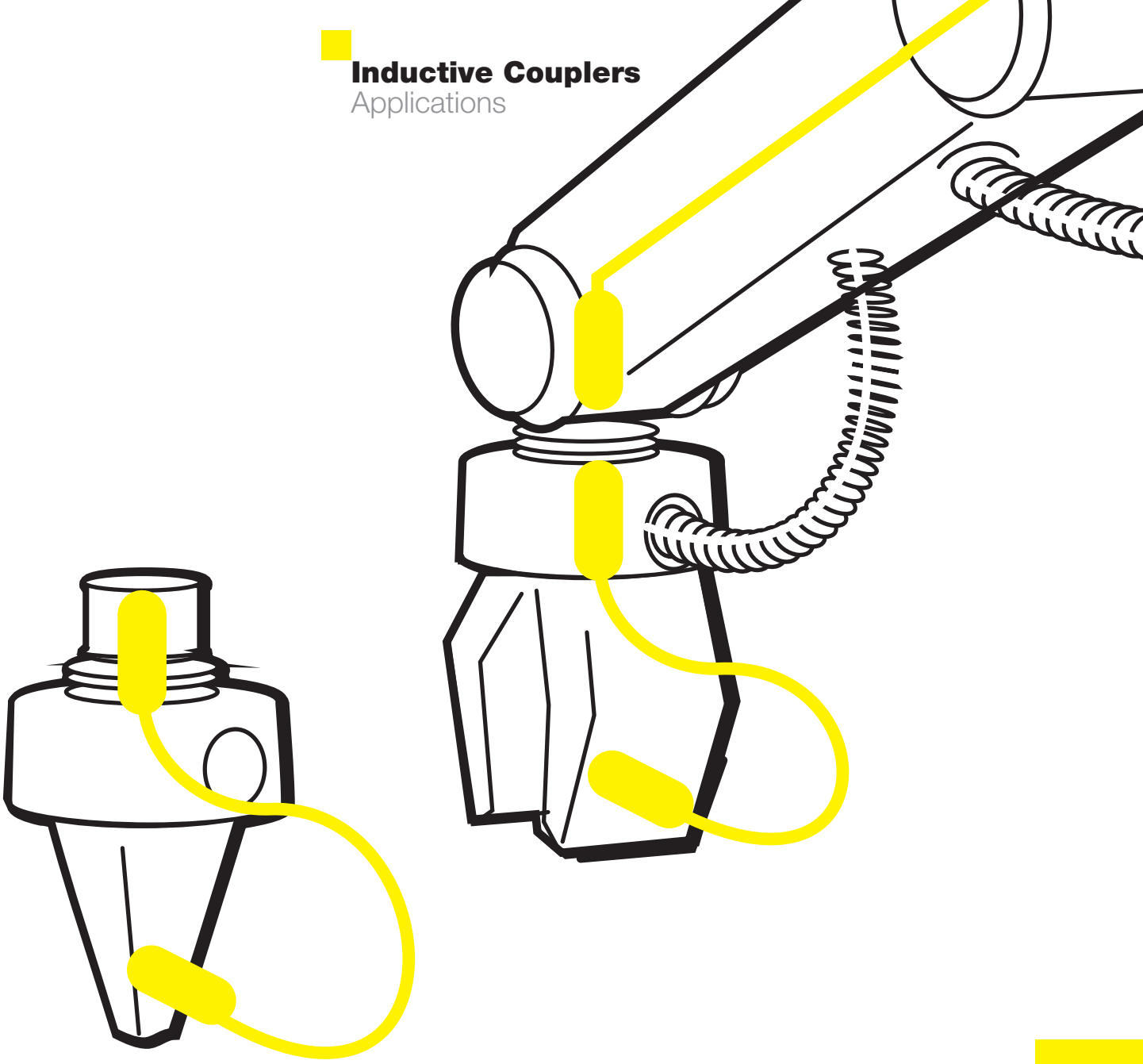
Robot gripper
The sensor determines whether the gripper has collected the workpiece. The switching state of the sensors is transmitted without contact.

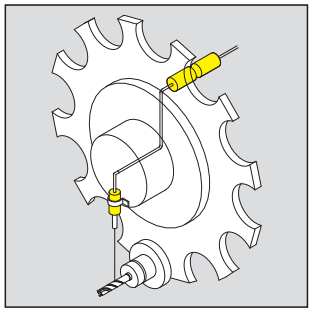


Material flow
The sensor detects the presence of parts on moving objects.

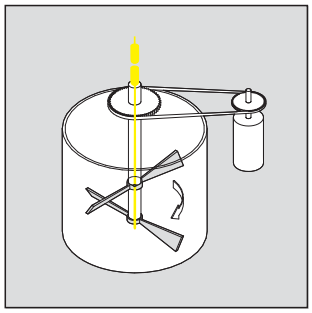


Pressing
The sensor determines the presence of the material and transfers the signals outwards without making contact to help place the sheet metal in the correct position.

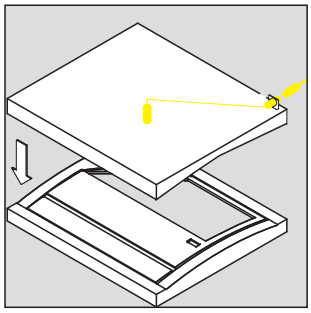




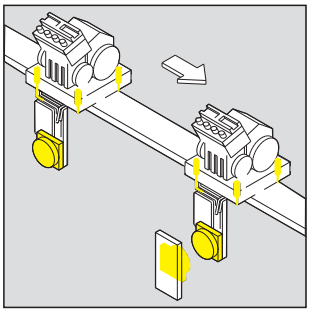
Tool changers
The presence of a tool in a tool changer is verified.
If the tool is not present, mechanical damage may occur.



Temperature sensing
Temperature sensing in a stirring tank.



Material detection
Material detection and monitoring of the ejected part in a mold.



Inductive coupling
Inductive sensors can be used to identify the workpiece and determine its position by the shape.
The BIC system uses an inductive coupling to transmit this information to the stationary side.
The detachable mechanical interface is bridged as a result.

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Inductive Couplers
Overview

Flexible automation often requires sensors that can follow the movements of the machine. Fixed wiring of the sensors is a hindrance in these applications. Contacts and cables are subject to stress from the movement. Furthermore, not all locations are easily accessible.
Remote sensors from Balluff meet these requirements.

In principle, the system consists of three parts:

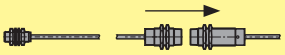
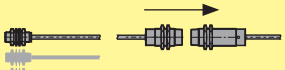
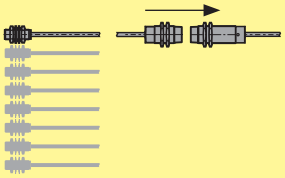
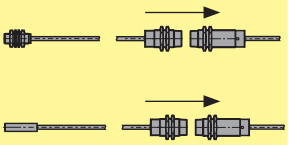
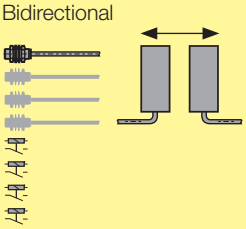
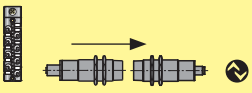
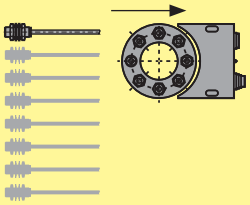
- The sensor: mechanical, inductive, optical, magnetic or capacitive.
- The remote unit installed on the moving member as the link to the sensors. Depending on the version, various output sensors can be connected.
- The base is the partner of the remote and inductively provides the necessary power to the transmitter side while simultaneously receiving status information from the sensors inductively in order to transmit it to the connected controller.

Power only
Only power transmitting units for actuators, load units or an energy supply.

Unidirectional
Means signal transmission in one direction. Two or three-wire sensors are connected depending on the version.
The power is supplied by the remote sensor. 1, 4 or 8 digital signals are transmitted depending on the system.
Special systems for analog signals or PT100 temperature sensors are also available.

Bidirectional
For the transmission of signals in two directions. Four sensors and four independent control signals are processed on the moving side. Power and signals are coupled inductively.

Active unit
Connectable IO-Link systems that operate as unidirectional collectors. The use of sensor hubs gives easy access to a maximum of 16 sensors.
Power and signals are inductively coupled.

Group	Series	Signal type	Number of channels	
Axial	Power only 	–	0	
Axial	Unidirectional 	digital	1	
		–	1	
		–	4	
		–	4	
		–	8	
		–	8	
		–	8	
		–	8	
		–	8	
		–	8	
Axial		Analog	1	
		–	1	
Axial	Bidirectional 	Digital	4+4	
Axial	Active unit 	IO-Link IN	16	
Radial	Unidirectional 	Digital	8	
		Analog	4	
Axial	Programmable cams 	–	–	

	Output voltage of remote	Output current of remote	Connection of	Remote (moving)	Base (stationary)	Page
	24 V DC	500 mA	Consumer	BIC 2P0-P2A50-M30MI3-SM4A4A	BIC 1P0-P2A50-M30MI3-SM4A4A	186
	–	–	Special detectors or mechanical switches	BIC 2I0-D1001-M12ME1-BPX02-050 BIC 2I0-D1001-M18ME1-BPX02-050	BIC 1I0-P2001-M12MM1-BPX03-050 BIC 1I0-P2001-M18MI-BPX03-050	168
	12 V DC	30 mA	2-wire and 3-wire sensors, inductive	BIC 2I0-P2A02-M18ME-BPX03-020 BIC 2I0-P2A05-M30MF-BPX03-030	BIC 1I0-P2A02-M18MI-BPX03-050 BIC 1I0-P2A02-M30MI-BPX03-050	171
	12 V DC	30 mA	2-wire and 3-wire sensors, inductive, capacitive, optical or mechanical switches	BIC 2I2-P2A02-M18MF2-EPX07-050	BIC 1I2-P2A02-M18MN2-EPX07-050	172
	12 V DC	40 mA		BIC 2I2-P2A03-M30MF2-EPX07-050	BIC 1I2-P2A03-M30MO2-EPX07-050	172
	–	–	Special detectors or mechanical switches	BIC 2I3-P2A40-M18MF2-BPX09-050 BIC 2I3-P2A40-M30ME2-BPX09-050	BIC 1I3-P2A40-M18MN2-BPX0B-050 BIC 1I3-P2A40-M30MO2-BPX0B-050	169
	12 V DC	100 mA	2-wire and 3-wire sensors, inductive, capacitive, optical or mechanical switches	BIC 2I3-P2A05-Q80KA-GPX0C-050	BIC 1I3-P2A05-Q80KA-GPX0C-050	173
	12 V DC	150 mA		BIC 2I3-P2A15-M30MI2-BPX0B-050	BIC 1I3-P2A15-M30MM3-BPX0B-050	174
	12 V DC	200 mA		BIC 2I3-P2A20-Q40AA-GPX0B-050 BIC 2I3-P2A20-Q40AC-GPX0B-050	BIC 1I3-P2A20-Q40AA-GPX0B-050 BIC 1I3-P2A20-Q40AC-GPX0B-050	174
	24 V DC	300 mA		BIC 2I3-P2A30-Q90AA-GPX0B-050	BIC 1I3-P2A30-Q90AA-GPX0B-050	175
	24 V DC	500 mA		BIC 2I3-P2A50-M30MI3-SM4ACA	BIC 1I3-P2A50-M30MI3-SM4ACA	187
	18 V DC	15 mA	0 … 10 VDC	BIC 2I0-V1A01-M18MI2-BPX03-050	BIC 1I0-V1003-M18MN2-BPX03-050	182
	–	–	PT100	BIC 2I0-R1002-M18MF2-BPX03-050 BIC 2I0-R2002-M18MF2-BPX03-050 BIC 2I0-R3002-M18MF2-BPX03-050	BIC 1I0-C1A02-M18MN2-BPX03-050	183
	24 V DC	300 mA	2-wire and 3-wire sensors, inductive, capacitive, optical or mechanical switches	BIC 2B2-P2A30-Q90AQ-GPX0B-050	BIC 1B2-P2A30-Q90AQ-GPX0B-050	176
	24 V DC	500 mA	Sensor hub IN	BIC 2I0-I2A50-M30MI3-SM4A5A	BIC 1I0-I2A50-M30MI3-SM4A4A	187
	24 V DC	160 mA	2-wire and 3-wire sensors, inductive, capacitive, optical or mechanical switches	BIC 2I3-P2A16-R01K01-SM3A30	BIC 1I3-P2A16-R01K01-C03	178
	18 V DC	180 mA	0 … 10 VDC	BIC 2I2-V1A18-R01K01-SM3A30	BIC 1I2-V1A18-R01K01-C01	180
	–	–	Mechanical switches	BPN 18M-F-02-03 BPN 18M-F-03-PU-03 BPN 30M-B-04-PU-03	BES 516-326-B0-C-02 BES 516-326-B0-C-02 BES 516-114-G-S4-H	166

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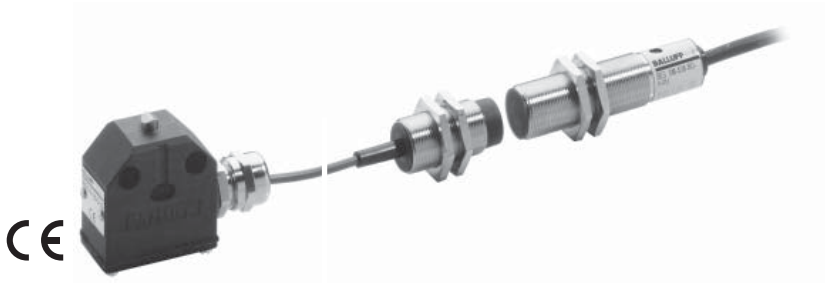
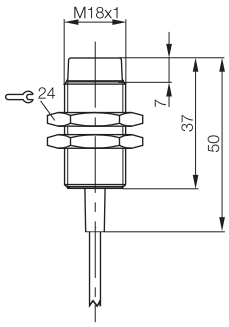


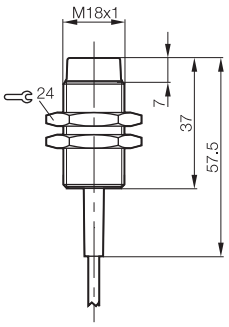
Size		**M18×1**	**M18×1**	**M30×1.5**
Mounting		Not flush	Not flush	Not flush
Rated operating distance S_n		**4 mm**	**4 mm**	**4 mm**
Assured switching distance S_a		1...3.5 mm	1...3.5 mm	5...10 mm
Programmable cams	**Ordering code**	**BIC0004**	**BIC0005**	**BIC0006**
	Part number	BPN 18M-F-02-03	BPN 18M-F-03-PU-03	BPN 30M-B-04-PU-03
Ambient temperature range T_a		–25...+70 °C	–25...+70 °C	–25...+70 °C
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67
Housing material		Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Connection type		3 m PVC cable	3 m PUR cable	3 m PUR cable
No. of wires × cross-section		2×0.14 mm²	2×0.34 mm²	2×0.34 mm²

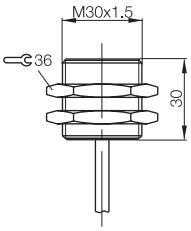
In combination with inductive sensor BES 516-326-B0-C-02, see Object detection catalog

In combination with inductive sensor BES 516-326-B0-C-02, see Object detection catalog

In combination with inductive sensor BES 516-114-G-S4-H, see Object detection catalog

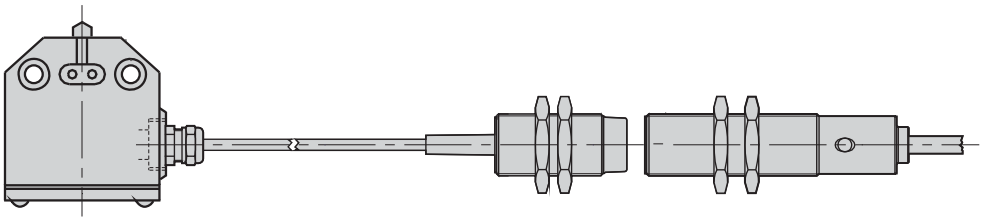






Simple principle for non-contact transmission of the switching state of a mechanical switch.

– Switch open, sensor damped
– Switch closed, sensor undamped



Mechanical switch

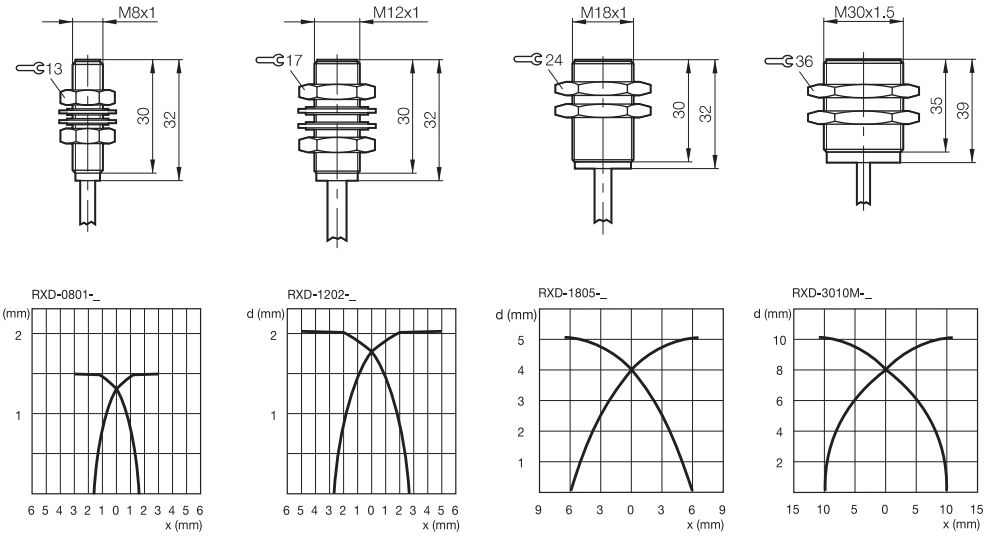
Programmable cams

Inductive sensor as output sensor

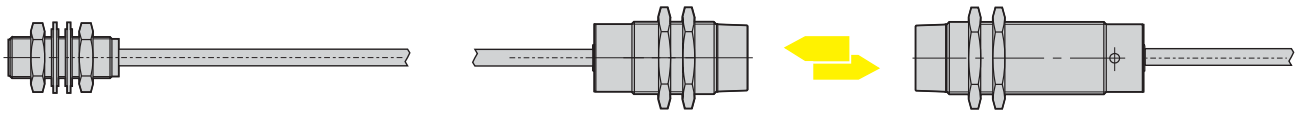
CE

Size		**M8 × 1**	**M12×1**	**M18×1**	**M30×1.5**
Mounting		Flush	Flush	Flush	Flush
Rated operating distance S_n		**1.5 mm**	**2 mm**	**5 mm**	**10 mm**
Assured switching distance S_a		1.2 mm	1.6 mm	4.1 mm	8.1 mm
N.O.	**Ordering code**	**BIC0035**	**BIC003E**	**BIC003J**	**BIC003L**
	Part number	BIC 915-D1-M08EE-EPX02-010	BIC 902-D1-M12ME-EPX02-010	BIC 905-D1-M18ME-EPX02-010	BIC 910-D1-M30F-EPX02-010
Ambient temperature range T_a		0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67	IP 67
Housing material		Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Connection type		1 m PUR cable	1 m PUR cable	1 m PUR cable	1 m PUR cable
Switching hysteresis H		≤ 20 % of s_r	≤ 20 % of s_r	≤ 20 % of s_r	≤ 20 % of s_r

Other cable lengths and PVC cable jacket material on request.



Switching and transmission distances



BIC 9 ... BIC 2 ... BIC 1 ...

Detector				**Remote**			**Base**		
Ordering code	Size	Rated switching distance		Ordering code	Size	Transmission distance	Ordering code	Size	Output circuit
BIC0035	M8	1.5 mm		BIC0012	M18	5 mm	BIC0011	M18	PNP/NO
BIC003E	M12	2 mm		BIC003W	M12	2 mm	BIC002T	M12	PNP/NO
BIC003J	M18	5 mm		BIC003Z	M18	5 mm	BIC002P	M18	PNP/NO
BIC003L	M30	10 mm		BIC000Y	M30	10 mm	BIC000W	M30	PNP/NO

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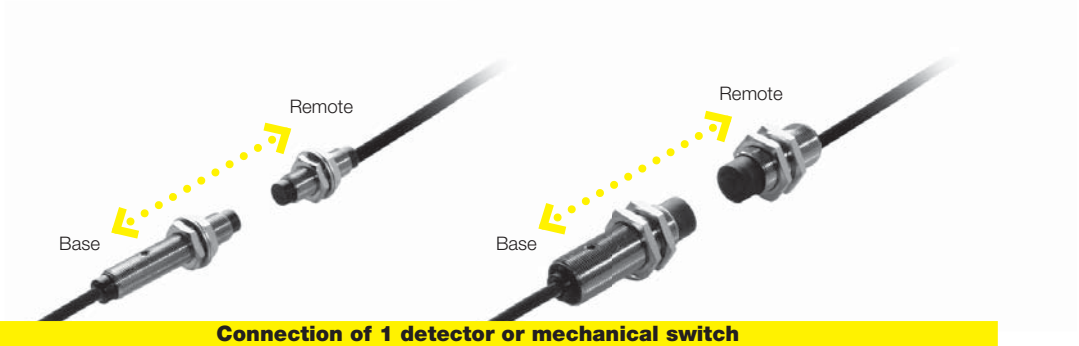
Inductive Couplers
for 1 detector



Connection of 1 detector or mechanical switch					
Size		**M12×1**	**M12×1**	**M18×1**	**M18×1**
Working range		**2 mm**		**5 mm**	
Mounting		Flush/not flush	Flush/not flush	Flush/not flush	Flush/not flush
Remote	**Ordering code**	**BIC003W**		**BIC003Z**	
	Part number	BIC 2I0-D1001-M12ME1-BPX02-050		BIC 2I0-D1001-M18ME1-BPX02-050	
Base	**Ordering code**		**BIC002T**		**BIC002P**
PNP	Part number		BIC 1I0-P2001-M12MM1-BPX03-050		BIC 1I0-P2001-M18MI-BPX03-050
Power supply U_B incl. ripple			24 V ±5 %		24 V ±5 %
Rated operating current I_e			≤ 100 mA		≤ 100 mA
No-load supply current I_0 max.			≤ 25 mA		≤ 25 mA
Max. current load per output			≤ 50 mA		≤ 50 mA
Short-circuit protected			Yes		Yes
Rated insulation voltage U_i		75 V DC		75 V DC	
Operational readiness			40 ms		40 ms
Ambient temperature range T_a		0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
Storage temperature range		–25...+75 °C	–25...+75 °C	–25...+75 °C	–25...+75 °C
Switching frequency f			25 Hz		25 Hz
Function/Supply voltage indicator			Yes		Yes
Tightening torque		15 Nm	15 Nm	40 Nm	40 Nm
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67	IP 67
Housing material		Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Material of sensing face		ABS/PBT	ABS/PBT	PA 12	PA 12
Connection type		5 m PUR cable	5 m PUR cable	5 m PUR cable	5 m PUR cable
No. of wires × cross-section		2×0.5 mm²	3×0.3 mm²	2×0.5 mm²	3×0.3 mm²

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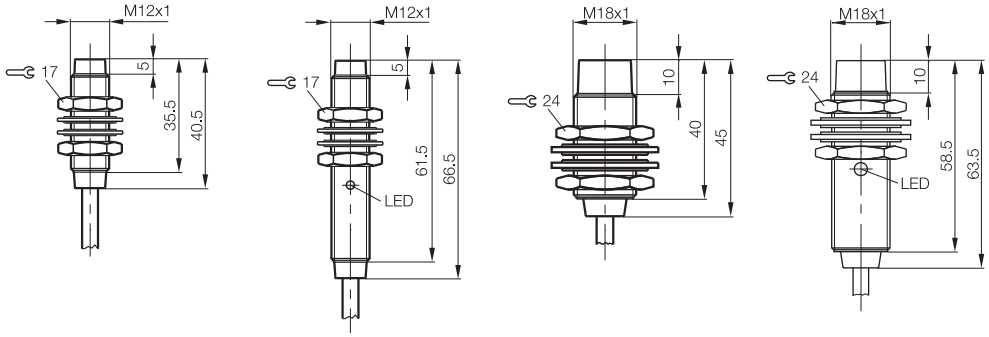
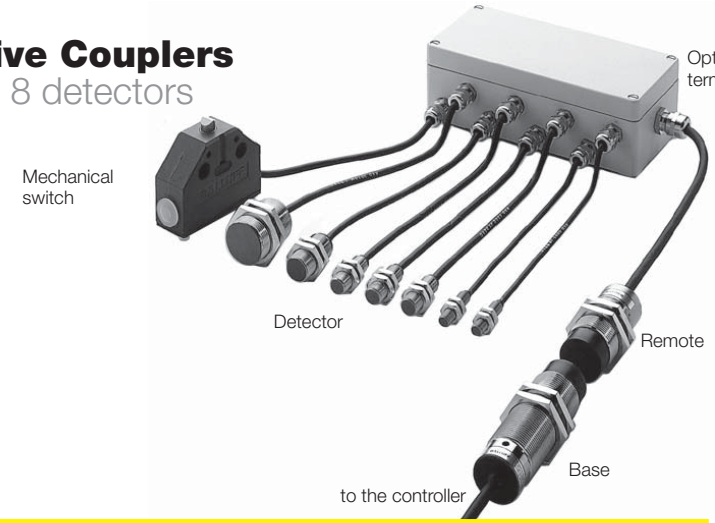


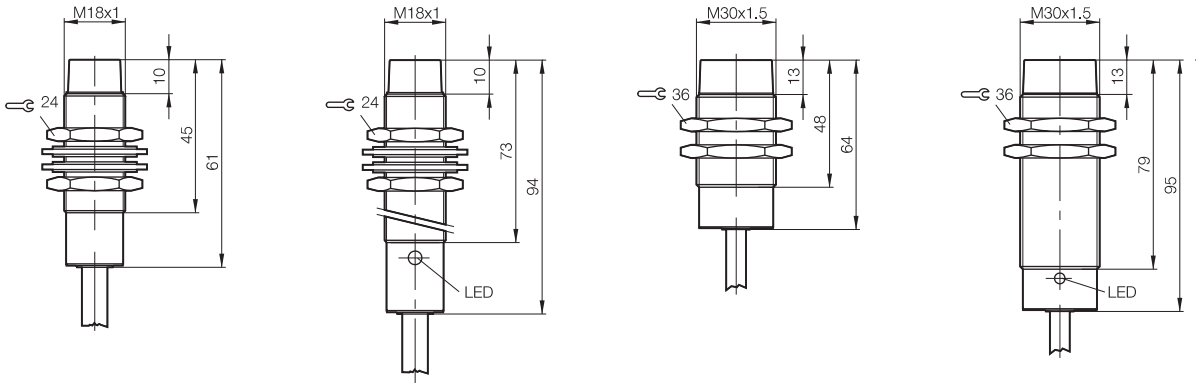
Switching and transmission distances

Detector				Remote			Base		
Ordering code	Size	Rated switching distance		Ordering code	Size	Transmission distance	Ordering code	Size	Output circuit
BIC0035	M8	1.5 mm							
BIC003E	M12	2 mm		BIC003W	M12	2 mm	BIC002T	M12	PNP/NO
BIC003J	M18	5 mm		BIC003Z	M18	5 mm	BIC002P	M18	PNP/NO
BIC003L	M30	10 mm							

Inductive Couplers
for max. 8 detectors



Connection of max. 8 detectors or mechanical switches			
M18×1	**M18×1**	**M30×1.5**	**M30×1.5**
5 mm		**10 mm**	
Flush/not flush	Flush/not flush	Flush/not flush	Flush/not flush
BIC0012		**BIC000Y**	
BIC 2I3-P2A40-M18MF2-BPX09-050		BIC 2I3-P2A40-M30ME2-BPX09-050	
	BIC0011		**BIC000W**
	BIC 1I3-P2A40-M18MN2-BPX0B-050		BIC 1I3-P2A40-M30M02-BPX0B-050
	24 V ±5 %		24 V ±5 %
	≤ 100 mA		≤ 100 mA
	≤ 25 mA		≤ 25 mA
	≤ 50 mA		≤ 50 mA
	Yes		Yes
75 V DC		75 V DC	
	300 ms		300 ms
0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
–25...+75 °C	–25...+75 °C	–25...+75 °C	–25...+75 °C
	3.2 Hz		3.2 Hz
	Yes		Yes
40 Nm	40 Nm	40 Nm	40 Nm
IP 67	IP 67	IP 67	IP 67
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
PA 12	PA 12	PA 12	PA 12
2 m PVC cable	2 m PVC cable	2 m PVC cable	2 m PVC cable
12×0.18 mm²	12×0.18 mm²	12×0.18 mm²	12×0.18 mm²



Other cable lengths and PUR cable jacket material on request.

Detector				Remote			Base		
Ordering code	Size	Rated switching distance		Ordering code	Size	Transmission distance	Ordering code	Size	Output circuit
BIC0035	M8	1.5 mm							
BIC003E	M12	2 mm		BIC0012	M18	5 mm	BIC0011	M18	PNP/NO
BIC003J	M18	5 mm		BIC000Y	M30	10 mm	BIC000W	M30	PNP/NO
BIC003L	M30	10 mm							

CE

Size		
Working range		
Mounting		
Remote	**Ordering code**	
	Part number	
Base PNP	**Ordering code**	
	Part number	
Power supply U_B incl. ripple		
Rated operating current I_e		
No-load supply current I_0 max.		
Max. current load per output		
Short-circuit protected		
Remote output voltage		
Power supply, continuous output current		
Rated insulation voltage U_i		
Operational readiness		
Ambient temperature range T_a		
Storage temperature range		
Offset		
Switching frequency f		
Function/Power indicator		
Tightening torque		
Degree of protection as per IEC 60529		
Housing material		
Material of sensing face		
Connection type		
No. of wires × cross-section		

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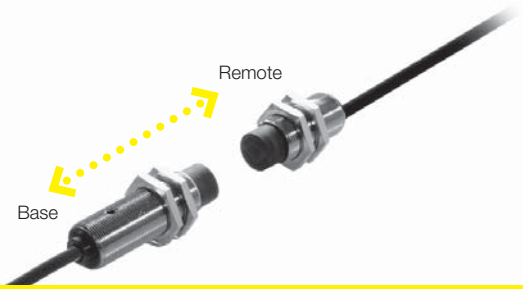
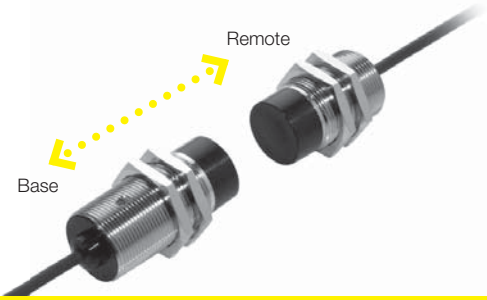
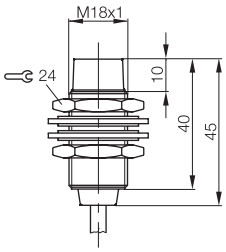
please request a copy of the user's guide!
Other cable lengths on request.

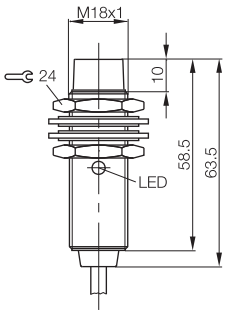
Inductive Couplers
for 1 sensor

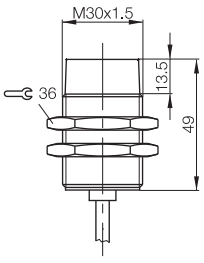


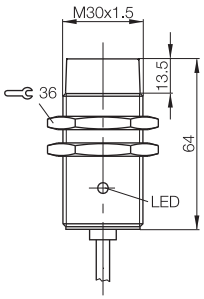


Connection for 1 sensor			
M18×1	**M18×1**	**M30×1.5**	**M30×1.5**
4 mm		**8 mm**	
Not flush	Not flush	Not flush	Not flush
BIC002K		**BIC0044**	
BIC 2I0-P2A02-M18ME-BPX03-020		BIC 2I0-P2A05-M30MF-BPX03-030	
	BIC0029		**BIC002E**
	BIC 1I0-P2A02-M18MI-BPX03-050		BIC 1I0-P2A02-M30MI-BPX03-050
	24 V DC ±5 %		24 V DC ±5 %
	≤ 250 mA		≤ 250 mA
	≤ 150 mA		≤ 150 mA
	≤ 50 mA		≤ 50 mA
	Yes		Yes
12 ±1.5 V DC		12 ±1.5 V DC	
≤ 5 mA / ≤ 20 mA / ≤ 30 mA		≤ 5 mA / ≤ 20 mA / ≤ 30 mA	
75 V DC		75 V DC	
	40 ms		40 ms
0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
±3 mm / ±2.5 mm / ±2 mm		±5 mm / ±4 mm / ±3 mm	
	25 Hz		25 Hz
	Yes/yes		Yes/yes
40 Nm	40 Nm	40 Nm	40 Nm
IP 67	IP 67	IP 67	IP 67
Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
ABS/PBT	ABS/PBT	ABS/PBT	ABS/PBT
2 m PUR cable	5 m PUR cable	3 m PUR cable	5 m PUR cable
3×0.34 mm²	3×0.34 mm²	3×0.34 mm²	3×0.34 mm²









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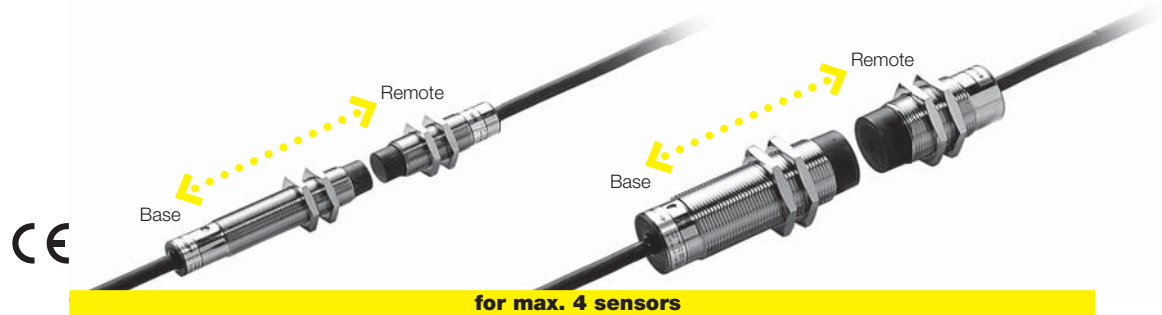
Inductive Couplers
for max. 4 sensors



		for max. 4 sensors			
Size		**M18×1**	**M18×1**	**M30×1.5**	**M30×1.5**
Working range		**3 mm**		**5 mm**	
Mounting		Not flush	Not flush	Not flush	Not flush
Remote	**Ordering code**	**BIC001N**		**BIC001T**	
	Part number	BIC 2I2-P2A02-M18MF2-EPX07-050		BIC 2I2-P2A03-M30MF2-EPX07-050	
Base	**Ordering code**		**BIC0015**		**BIC001A**
PNP	Part number		BIC 1I2-P2A02-M18MN2-EPX07-050		BIC 1I2-P2A03-M30MO2-EPX07-050
Power supply U_B incl. ripple			24 V DC ±5 %		24 V DC ±5 %
Rated operating current I_e			≤ 700 mA		≤ 700 mA
No-load supply current I_0 max.			≤ 170 mA		≤ 150 mA
Max. current load per output			≤ 50 mA		≤ 50 mA
Short-circuit protected			Yes		Yes
Remote output voltage		12 ±1.5 V DC		12 ±1.5 V DC	
Power supply, continuous output current		≤ 20 mA	≤ 30 mA	≤ 30 mA	≤ 40 mA
Rated insulation voltage U_i		75 V DC		75 V DC	
Operational readiness			40 ms		40 ms
Ambient temperature range T_a		0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
Storage temperature range		–25...+75 °C	–25...+75 °C	–25...+75 °C	–25...+75 °C
Offset		±2.5 mm	±2.5 mm	±6 mm	±4 mm
Switching frequency f			30 Hz		30 Hz
Function/Supply voltage indicator			Yes/yes		Yes/yes
Tightening torque		40 Nm	40 Nm	40 Nm	40 Nm
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67	IP 67
Housing material		Nickel-plated brass	Nickel-plated brass	Nickel-plated brass	Nickel-plated brass
Material of sensing face		PA 12	PA 12	PA 12	PA 12
Connection type		5 m PUR cable	5 m PUR cable	5 m PUR cable	5 m PUR cable
No. of wires × cross-section		7×0.3 mm²	7×0.3 mm²	7×0.3 mm²	7×0.3 mm²

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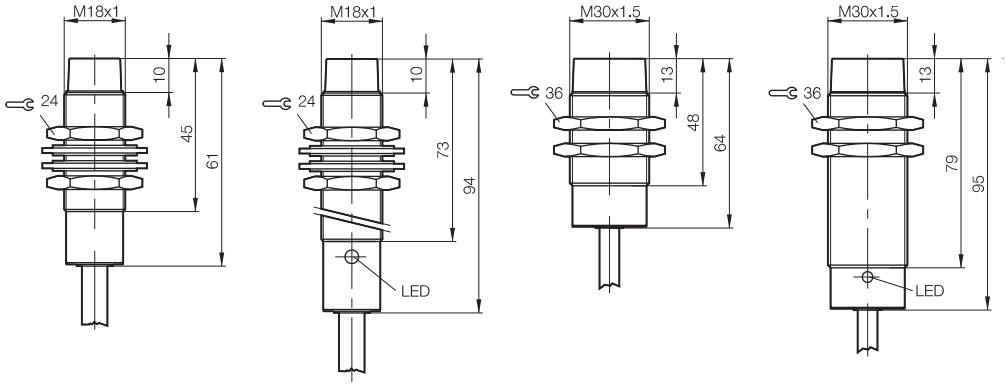
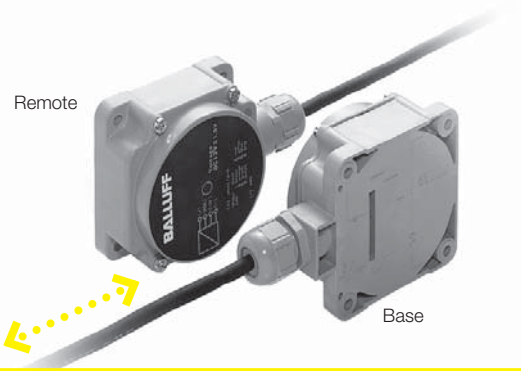
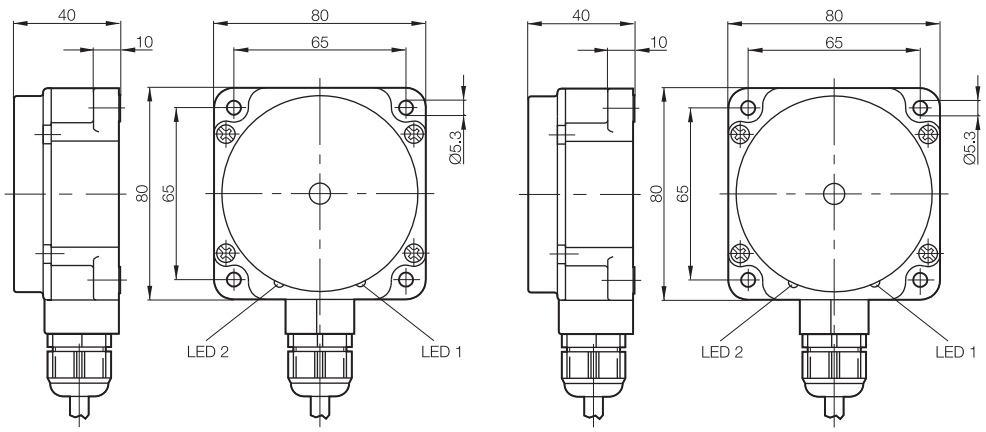


Inductive Couplers
for max. 8 sensors



for max. 8 sensors			
80×80×40 mm		**80×80×40 mm**	
15 mm			
Not flush		Not flush	
BIC001Y			
BIC 2I3-P2A05-Q80KA-GPX0C-050			
		BIC001J	
		BIC 1I3-P2A05-Q80KA-GPX0C-050	
		24 V DC ±5 %	
		≤ 950 mA	
		≤ 300 mA	
		≤ 50 mA	
		Yes	
12 ±1.5 V DC			
≤ 50 mA	≤ 100 mA		
75 V DC			
		40 ms	
0...+50 °C		0...+50 °C	
–25...+75 °C		–25...+75 °C	
±8 mm	±6 mm		
		30 Hz	
		Yes/yes	
IP 67		IP 67	
PBT		PBT	
PBT		PBT	
5 m PUR cable		5 m PUR cable	
12×0.18 mm²		12×0.18 mm²	



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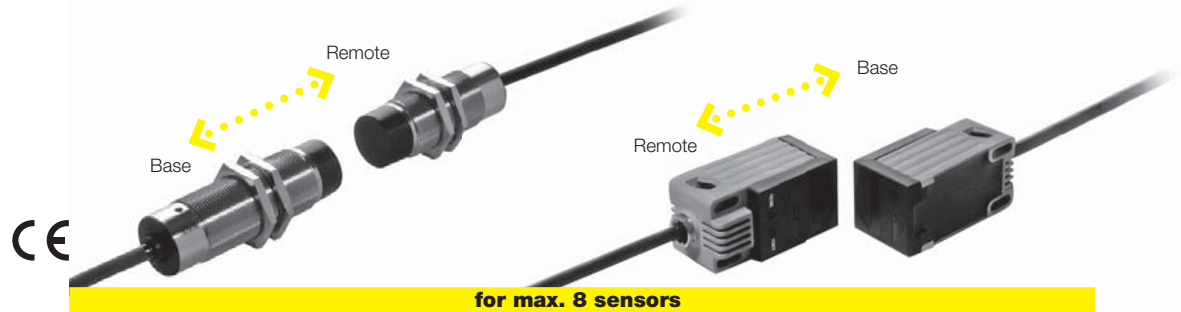
Inductive Couplers
Power for max. 8 sensors



		for max. 8 sensors			
Size		**M30×1.5**	**M30×1.5**	**40×75×40 mm**	**40×75×40 mm**
Working range		**5 mm**		**8 mm**	
Mounting		Not flush	Not flush	Not flush	Not flush
Remote	**Ordering code**	**BIC0045**		**BIC0021**	
	Part number	BIC 2I3-P2A15-M30MI2-BPX0B-050		BIC 2I3-P2A20-Q40AA-GPX0B-050*	
Base	**Ordering code**		**BIC0048**		**BIC0027**
PNP	Part number		BIC 1I3-P2A15-M30MM3-BPX0B-050		BIC 1I3-P2A20-Q40AA-GPX0B-050*
Power supply U_B incl. ripple			24 V DC ±10 %		24 V DC ±10 %
Rated operating current I_e			≤ 1 A		≤ 1.2 A
No-load supply current I_0 max.			≤ 400 mA		≤ 500 mA
Max. current load per output			≤ 50 mA		≤ 50 mA
Short-circuit protected			Yes		Yes
Remote output voltage		12 ±1.5 V DC		12 ±1.5 V DC	
Power supply, continuous output current		≤ 150 mA		≤ 200 mA	
Rated insulation voltage U_i		75 V DC		75 V DC	
Operational readiness			20 ms		20 ms
Ambient temperature range T_a		0...+50 °C	0...+50 °C	0...+50 °C	0...+50 °C
Storage temperature range		–25...+75 °C	–25...+75 °C	–25...+75 °C	–25...+75 °C
Offset		±3 mm		±3 mm	
Switching frequency f			60 Hz		60 Hz
Function/Supply voltage indicator			Yes/no		Yes/yes
Tightening torque		40 Nm	40 Nm	40 Nm	40 Nm
Degree of protection as per IEC 60529		IP 67	IP 67	IP 67	IP 67
Housing material		Nickel-plated brass	Nickel-plated brass	Al	Al
Material of sensing face		ABS/PBT	PA 12	ABS/PBT	ABS/PBT
Connection type		5 m PUR cable	5 m PUR cable	5 m PUR cable	5 m PUR cable
No. of wires × cross-section		9×0.18 mm² + 2×0.5 mm²	9×0.18 mm² + 2×0.5 mm²	9×0.18 mm² + 2×0.5 mm²	9×0.18 mm² + 2×0.5 mm²

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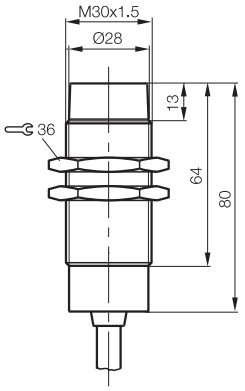
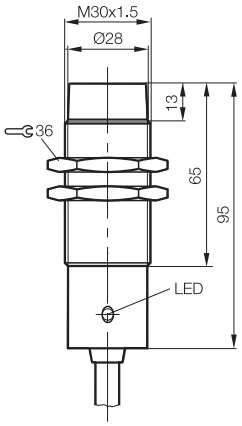
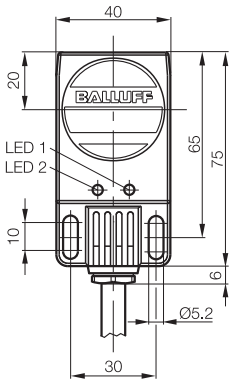
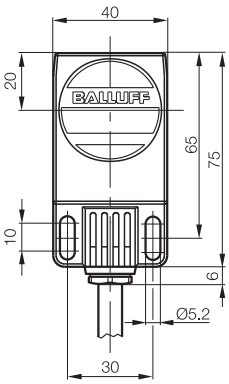
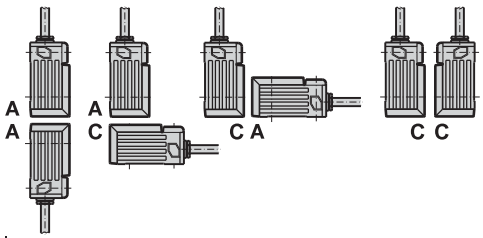
Other cable lengths on request.





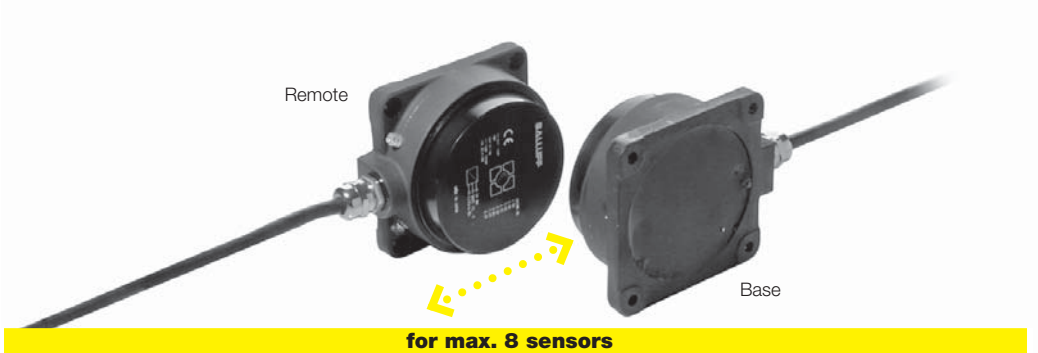




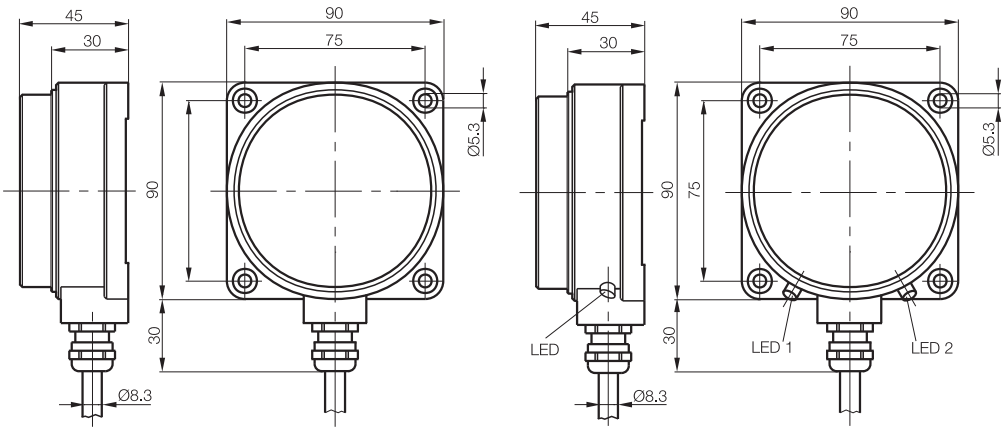


*For types BIC 2I3-P2A20-Q40A**A**-GPX0B-050, select between versions **A** or **C**
Version A: sensing face, front
Version B: sensing face, side
Ordering example: BIC 1I3-P2A20-Q40A**C**-GPX0B-050

Inductive Couplers
Power for max. 8 sensors



for max. 8 sensors		
90×90×45 mm	**90×90×45 mm**	
12 mm		
Not flush	Not flush	
BIC0023		
BIC 2I3-P2A30-Q90AA-GPX0B-050		
	BIC0028	
	BIC 1I3-P2A30-Q90AA-GPX0B-050	
	24 V DC ±5 %	
	≤ 1.5 A	
	≤ 800 mA	
	≤ 50 mA	
	Yes	
24 ±1.5 V DC		
≤ 300 mA		
75 V DC		
	20 ms	
0...+50 °C	0...+50 °C	
–25...+75 °C	–25...+75 °C	
±6 mm		
	60 Hz	
	Yes/yes	
IP 67	IP 67	
Al	Al	
ABS/PBT	ABS/PBT	
5 m PUR cable	5 m PUR cable	
9×0.18 mm² + 2×0.5 mm²	9×0.18 mm² + 2×0.5 mm²	



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Inductive Couplers
Bidirectional
4 + 4

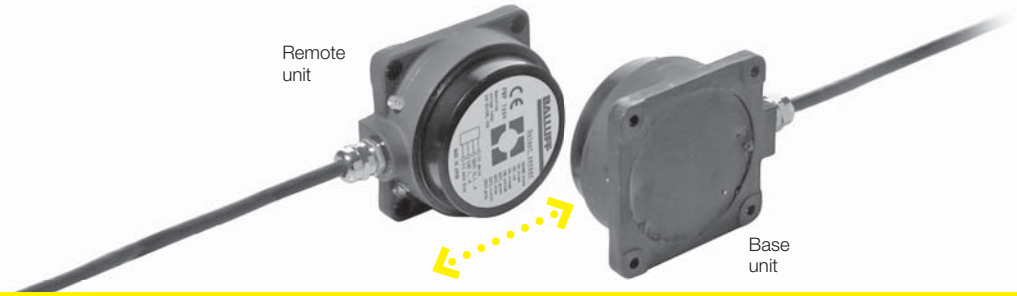
BIC is a bidirectional coupling system for 4 sensor signals and 4 actuator control signals.
This system inductively transmits signals in both directions. Previously only the sensors could be accessed. The remote unit can now also be used for controlling individual sensors and clamping units. From the stationary side base, up to four signals can be transmitted, and four channels can be independently controlled.

CE

Size		
Working range		
Mounting		
Remote PNP	**Ordering code**	
	Part number	
Base PNP	**Ordering code**	
	Part number	
Power supply U_B incl. ripple		
Rated operating current I_e		
No-load supply current I_0 max.		
Max. current load per output		
Short-circuit protected		
Output voltage		
Power supply, continuous output current		
Rated insulation voltage U_i		
Operational readiness		
Ambient temperature range T_a		
Storage temperature range		
Offset		
Switching frequency f		
Function/Power indicator		
Degree of protection as per IEC 60529		
Housing material		
Material of sensing face		
Connection type		
No. of wires × cross-section		

For all your electrical planning requirements, please request a copy of the user's guide

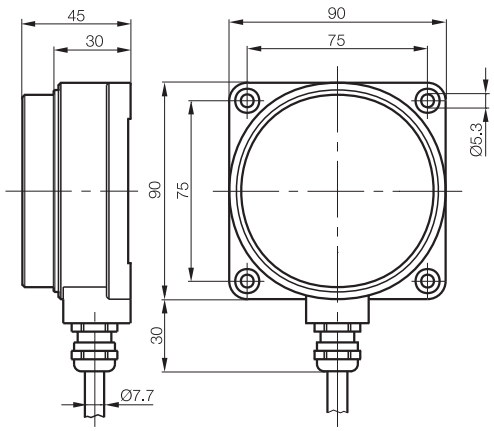
Inductive Couplers
Bidirectional
4 + 4

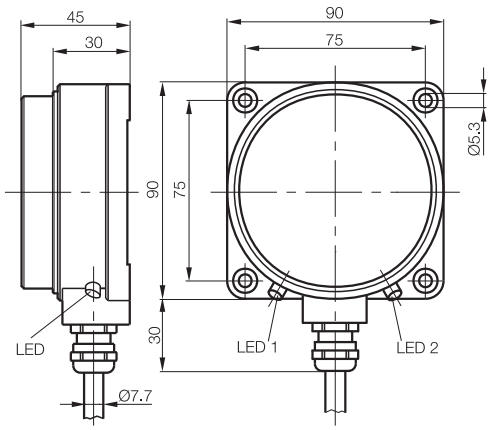


Connection of max. 4 sensors + 4 actuators		
90×90×45 mm	**90×90×45 mm**	
3...11 mm		
Not flush	Not flush	
BIC0039		
BIC 2B2-P2A30-Q90AQ-GPX0B-050		
	BIC003C	
	BIC 1B2-P2A30-Q90AQ-GPX0B-050	
	24 V DC ±10 %	
	≤ 1.5 A	
	≤ 800 mA	
	≤ 50 mA	
	Yes	
24 ±1.5 V DC		
≤ 300 mA		
75 V DC		
	30 ms	
0...+50 °C	0...+50 °C	
–25...+75 °C	–25...+75 °C	
±7 mm		
	40 Hz	
	Yes/yes	
IP 67	IP 67	
Al	Al	
ABS/PBT	ABS/PBT	
5 m PUR cable	5 m PUR cable	
9×0.18 mm² + 2×0.5 mm²	9×0.18 mm² + 2×0.5 mm²	

The remote unit is attached on the moving side where the sensors and actuators are located.

The base unit is connected on the stationary side to the power supply and the controller.





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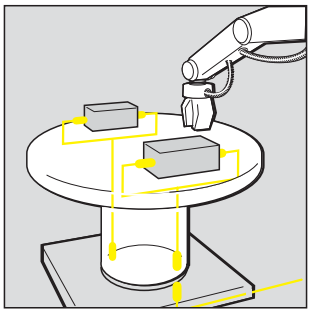
Inductive Couplers
Radial type system for max. 8 sensors

Non-contact power and data transmission
The system has a modular design for non-contact transmission of energy for powering up to 8 digital PNP sensors on rotating shafts, axles or tables. The switching state of each sensor is transmitted over the air gap to the stationary component. The system works independently of the rotation speed, and transmission is reliable even under the harshest ambient conditions.
Since no mechanically contacting parts are used, this technology completely eliminates all service and maintenance procedures.

- No slip rings necessary
- Intelligent, compact and noise-immune system: inductive, non-contact and wear-free
- Connects up to 8 sensors
- Integrated power supply for the sensors
- Connect, turn on, process data



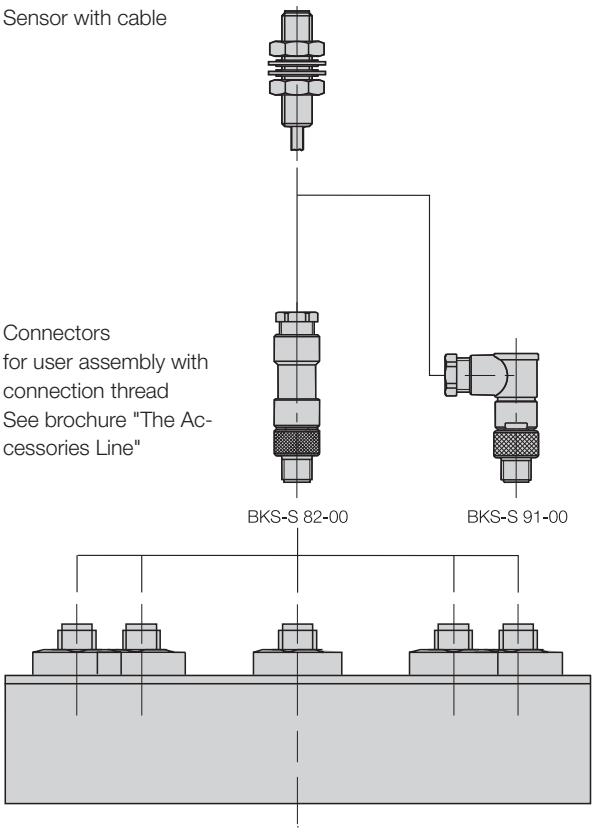
CE

Size		
Working range		
Mounting		
Remote PNP	**Ordering code**	
	Part number	
Base PNP	**Ordering code**	
	Part number	
Power supply U_B incl. ripple		
Rated operating current I_e		
No-load supply current I_0 max.		
Max. current load per output		
Short-circuit protected		
Output voltage		
Power supply, continuous output current		
Rated insulation voltage U_i		
Operational readiness		
Ambient temperature range T_a		
Storage temperature range		
Offset		
Switching frequency f		
Function/Power indicator		
Degree of protection as per IEC 60529		
Housing material		
Material of sensing face		
Connection type		
Recommended connectors		
Weight		

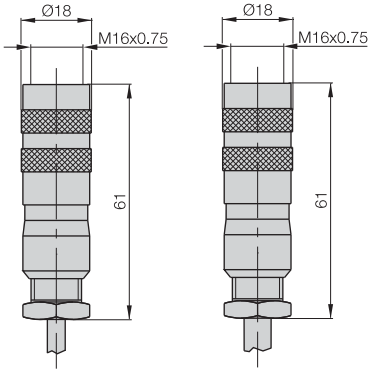
For all your electrical planning requirements, please request a copy of the user's guide

Sensor with cable

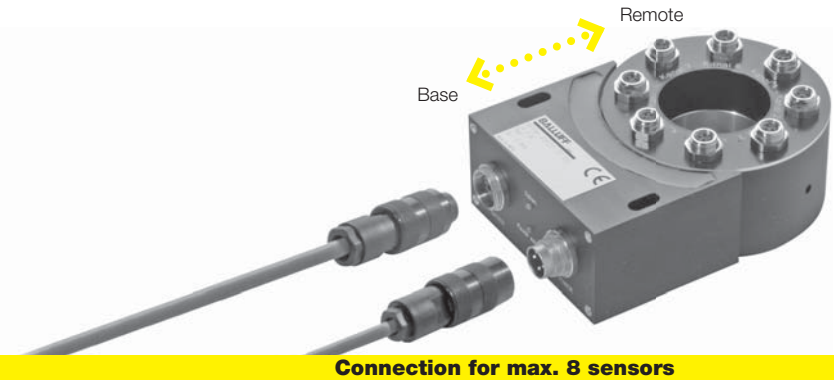
Connectors
for user assembly with connection thread
See brochure "The Accessories Line"



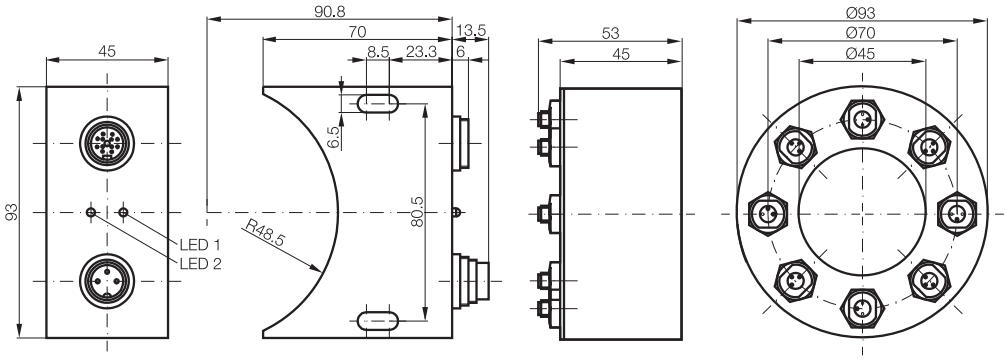
Connectors
BKS-S 96-PU-_ _ **BKS-S 97-PU-_ _**



Inductive Couplers
Radial type system for max. 8 sensors



Connection for max. 8 sensors		
Ø 93	**93×83×45 mm**	
2 mm		
on shaft Ø 45 mm	stationary	
BIC003P		
BIC 2I3-P2A16-R01K01-SM3A30		
	BIC003N	
	BIC 1I3-P2A16-R01K01-C03	
	24 V DC ±5 %	
	≤ 700 mA	
	≤ 700 mA	
	≤ 30 mA	
Yes	Yes	
24 V DC		
≤ 160 mA		
75 V DC		
	2 ms	
0...+70 °C	0...+70 °C	
–25...+75 °C	–25...+75 °C	
±1 mm		
	1000 Hz	
	Yes/yes	
IP 67	IP 67	
PETP	PETP	
PETP	PETP	
Connectors	Connectors	
BKS-S 82-00/BKS-S 91-00	1× BKS-S 96 and 1× BKS-S 97	
755 g	340 g	



Cover cap
BAM0113
for unused inputs
(please order separately)

Inductive Couplers

Radial type system for max. 4 analog signals 0...10 V DC

Non-contact inductive energy and analog signal transmission for applications where cables are not permitted

The transmission of sensor signals from rotating machine parts or from interchangeable tools often represents a difficult challenge for the designer.

The same applies to the power supply for the sensors and actuators in such applications. Conventional approaches are usually based on solutions prone to contact and wear such as slip rings or mechanical connections. Electronic solutions are non-contact, wear-free and are for the most part immune to contamination.

Availability of a reliable and time quick-disconnect link for power and data is indispensable in such circumstances.

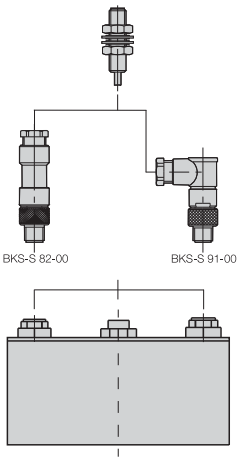
The remote system from Balluff offers a wear-free, non-contact alternative. This flexible solution approach with the option of radial or axial coupling gives the user a new lease of freedom. One new feature is the transmission of up to 4 independent analog signals with a single radial system. The greater level of power provided for the sensors makes it possible to connect different analog systems. Non-contact signal transmission from BAW inductive distance sensors or BIL magneto-inductive displacement sensors is no longer a problem. BTL linear transducers with analog output can also be connected without restrictions.

CE

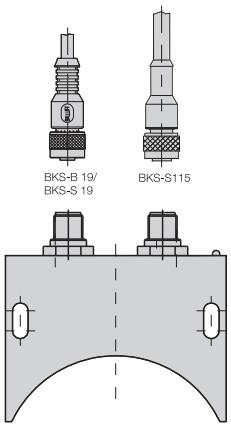
Size		
Working range		
Mounting		
Remote	**Ordering code**	
PNP	Part number	
Base PNP	**Ordering code**	
	Part number	
Power supply U_B incl. ripple		
Rated operating current I_e		
No-load supply current I_0 max.		
Load resistance R_L (per output)		
Resolution		
Measuring range	Input voltage	
	Output voltage	
Short-circuit protected		
Output voltage		
Power supply, continuous output current		
Rated insulation voltage U_i		
Operational readiness		
Ambient temperature range T_a		
Storage temperature range		
Offset		
Switching frequency f		
Function/Power indicator		
Degree of protection as per IEC 60529		
Housing material		
Material of sensing face		
Connection type		
Recommended connectors		
Weight		

For all your electrical planning requirements, please request a copy of the user's guide

Connectors BKS-S 82-00 or BKS-S 91-00



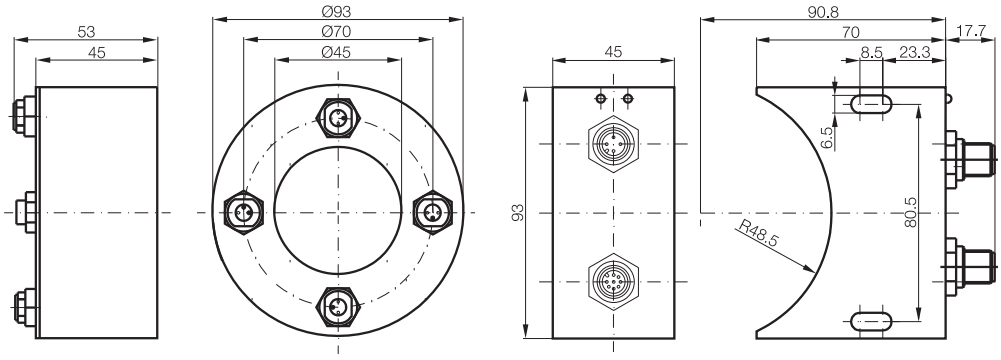
Connectors BCC M415-000... and BKS-S115



Please visit www.balluff.com for more details

Inductive Couplers
Radial type system for max. 4 analog signals 0...10 V DC

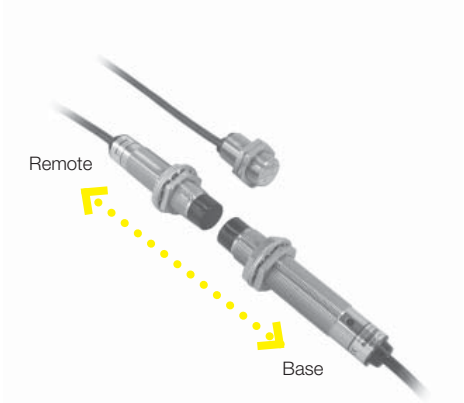
Connection for max. 4 analog sensors		
Ø 93	**93×70×45 mm**	
2 mm		
on shaft Ø 45 mm	stationary	
BIC004A		
BIC 2I2-V1A18-R01K01-SM3A30		
	BIC0049	
	BIC 1I2-V1A18-R01K01-C01	
	24 V DC ±5 %	
	≤ 800 mA	
	≤ 250 mA	
	1 kΩ	
12 bits	12 bits	
4×0...10.65 V DC		
	4×0...10.65 V DC	
Yes	Yes	
24 V DC		
≤ 180 mA		
75 V DC		
	≤ 10 ms	
0...+70 °C	0...+70 °C	
–25...+75 °C	–25...+75 °C	
±1 mm	±1 mm	
	250 Hz/channel	
	Yes/yes	
IP 67	IP 67	
PETP	PETP	
PETP	PETP	
Connectors	Connectors	
BKS-S 82-00/BKS-S 91-00	1× BKS-B 19-1-PU-_ _ and 1× BKS-S115-PU-_ _	
650 g	250 g	



Cover cap
BAM0113
for unused inputs
(please order separately)

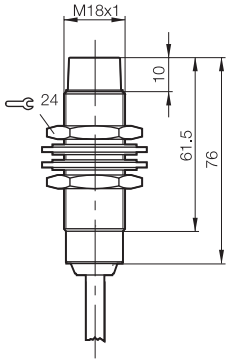
Inductive Couplers
for 1 analog distance sensor 0...10 V DC

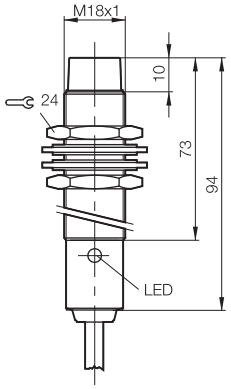
Remote sensor – detect moving components
Not only digital switching points can be detected by a remote system. Now analog signals can also be processed.
The necessary power for the BAW inductive distance sensor series is inductively coupled for the BAW sensor with 0...10 V DC output voltage and this analog signal transmitted back over the same air gap.
Now you can use BAW sensors with moving components to monitor the clamping distance during machining for example. The transmitter and output sensor located in the axis send power and information regardless of the turning speed.



Size		**M18×1**	**M18×1**
Working range		**2.5 mm**	
Mounting		Not flush	Not flush
Remote	**Ordering code**	**BIC0043**	
	Part number	BIC 2I0-V1A01-M18MI2-BPX03-050	
Base	**Ordering code**		**BIC0046**
	Part number		BIC 1I0-V1003-M18MN2-BPX03-050
Power supply U_B incl. ripple			24 V DC ±5 %
No-load supply current I_0 max.			≤ 150 mA
Output signal			0...10 V DC
Short-circuit protected			Yes
Signal input		0...10 V DC	
Load resistance R_L		≥ 2 kΩ	
max. non-linearity		≤ ±0.8 % of U_a max.	
Resolution		≤ ±0.05 V DC	≤ 0.1 %
Temperature drift		≤ ±0.04 %/°C	
Power supply, continuous output current		≤ 10 mA	
Rated insulation voltage U_i		75 V DC	
Operational readiness			200 ms
Ambient temperature range T_a		0...+60 °C	0...+60 °C
Storage temperature range		–25...+75 °C	–25...+75 °C
Offset		±2 mm	
Switching frequency f			25 Hz
Function/Power indicator			Yes/yes
Tightening torque		40 Nm	40 Nm
Degree of protection as per IEC 60529		IP 67	IP 67
Housing material		Nickel-plated brass	Nickel-plated brass
Material of sensing face		ABS/PBT	ABS/PBT
Connection type		5 m PUR cable	5 m PUR cable
No. of wires × cross-section		3×0.34 mm²	3×0.34 mm²

For all your electrical planning requirements, please request a copy of the user's guide





Examples of compatible inductive distance sensors

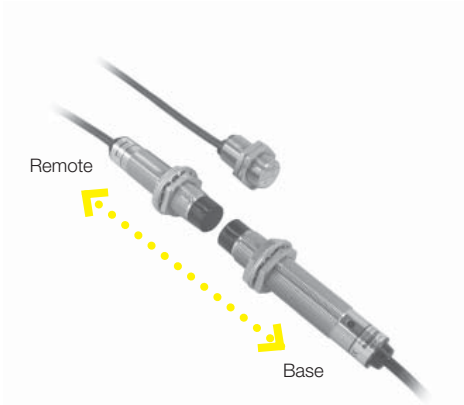
Part number	Size	Output signal	Linear range S_l
BAW M08EI-UAD15B-	M8 × 1	0...10 V	0.5...1.5 mm
BAW M12MG2-UAC20B-	M12×1	0...10 V	0.5...2.0 mm
BAW M12MF2-UAC40F-	M12×1	0...10 V	1.0...4.0 mm
BAW M18MI-UAC50B-S04G	M18×1	0...10 V	1.0 ... 5.0 mm
BAW M18ME-UAC50B-	M18×1	0...10 V	1.0 ... 5.0 mm
BAW M18MG-UAC80F-S04G	M18×1	0...10 V	2.0...8.0 mm
BAW M30ME-UAC10B-S04G	M30×1.5	0...10 V	2.0 ... 10.0 mm

See Displacement and Distance Measurement brochure

Inductive Couplers
Single thermal

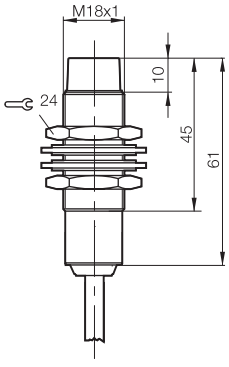
Remote sensor – non-contact transmission of temperature values

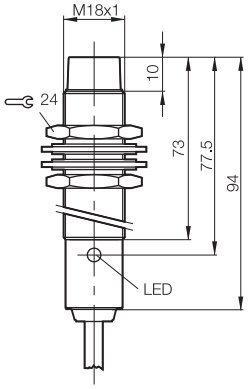
The thermal remote sensors are compatible with PT100 thermocouples for sensing temperature on moving components while they are being processed. The thermocouple detects the temperature of the object and changes its resistance value, which is processed by the transmitter. The digitized information is passed to the output sensor. The latter converts the digital values into an analog signal (4...20 mA) and transmits it to the external controller.



Size		**M18×1**	**M18×1**
Working range		**1...4 mm**	
Mounting		Not flush	Not flush
Remote	**Ordering code**	**BIC0042**	
	Part number	BIC 2I0-R2002-M18MF2-BPX03-050	
Base	**Ordering code**		**BIC0033**
	Part number		BIC 1I0-C1A02-M18MN2-BPX03-050
Power supply U_B incl. ripple			24 V DC ±5 %
Rated operating current I_e			≤ 200 mA
No-load supply current I_0 max.			≤ 150 mA
Output signal			4...20 mA
Short-circuit protected			Yes
Load resistance R_L			≤ 400 Ω
Measurement deviation			≤ ±0.8 % of I_a max.
Delay time		0.5 s	
Temperature drift			≤ ±0.04 %/°C
Rated insulation voltage U_i		75 V DC	
Operational readiness			2 s
Ambient temperature range T_a		0...+60 °C	0...+60 °C
Storage temperature range		–25...+75 °C	–25...+75 °C
Offset		±2.5 mm	
Switching frequency f			25 Hz
Function/Power indicator			Yes/yes
Tightening torque		20 Nm	20 Nm
Degree of protection as per IEC 60529		IP 67	IP 67
Housing material		Nickel-plated brass	Nickel-plated brass
Material of sensing face		ABS/PBT	ABS/PBT
Connection type		5 m PUR cable	5 m PUR cable
No. of wires × cross-section		3×0.3 mm²	3×0.3 mm²

For all your electrical planning requirements, please request a copy of the user's guide





Compatible PT100 thermocouples

If required, thermocouples with a temperature measuring range of 0...+100 °C, 0...+200 °C or 0...+300 °C can be operated with a corresponding transmitter.

Remote

Ordering code	Part number	Temperature measuring range
BIC0041	BIC 2I0-R1002-M18MF2-BPX03-050	0...+100 °C
BIC0042	BIC 2I0-R2002-M18MF2-BPX03-050	0...+200 °C
BIC004C	BIC 2I0-R3002-M18MF2-BPX03-050	0...+300 °C

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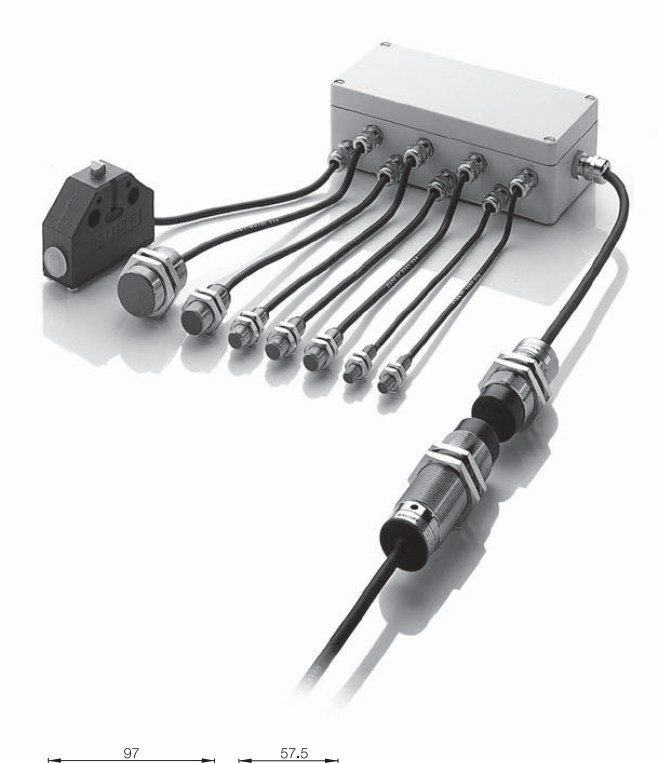
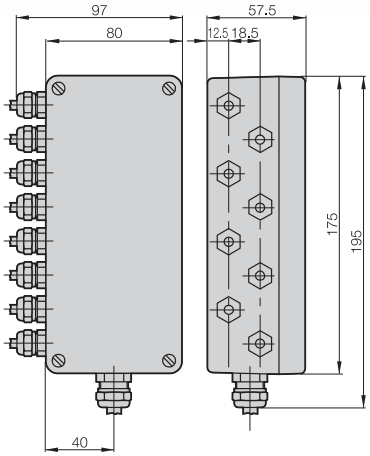
Inductive Couplers
Terminal boxes

Terminal boxes are not only required for the functionality of the remote unit. They can also be used when there is no other way to connect the sensors to the remote unit.



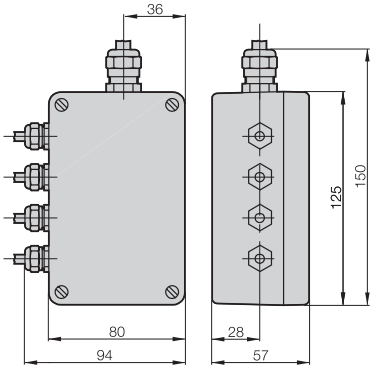
Terminal box
BPI006A
BPI 821020-6M-IC-THSC

for detectors
– 8 × PG 7
– 1 × PG 9
– IP 65
– Attach using 2 M4 screws



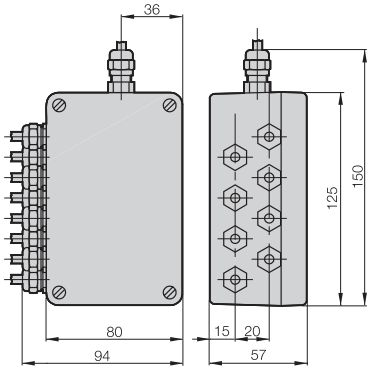
Terminal box
BPI006E
BPI 421030-3M-IC-THSC

for 4-way power remote
– 4 × PG 7
– 1 × PG 9
– IP 65
– Attach using 2 M4 screws



Terminal box
BPI0068
BPI 821030-6M-IC-THSC

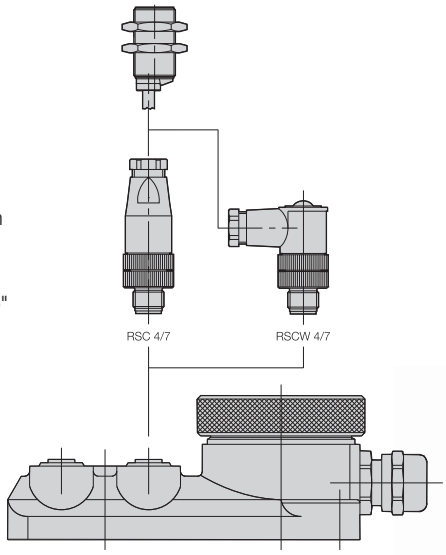
for 8-way remote
– 8 × M8
– 1 × PG 9
– IP 65
– Attach using 2 M4 screws

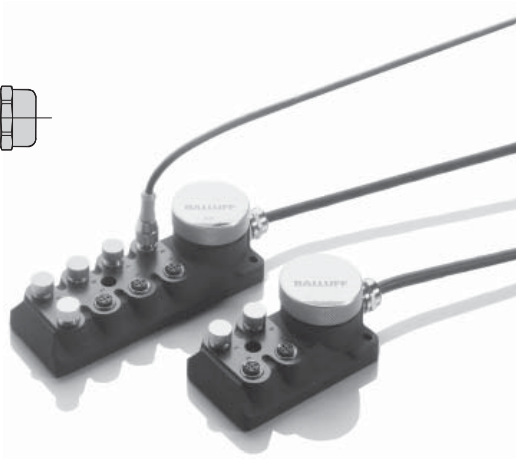


Rugged splitter boxes for easy connection of the sensors to the remote with cable outlet.
The remote sensor is connected using a terminal block with spring clamps – no screws required.
The sensors are connected using standard M12 connectors.

Sensor with cable

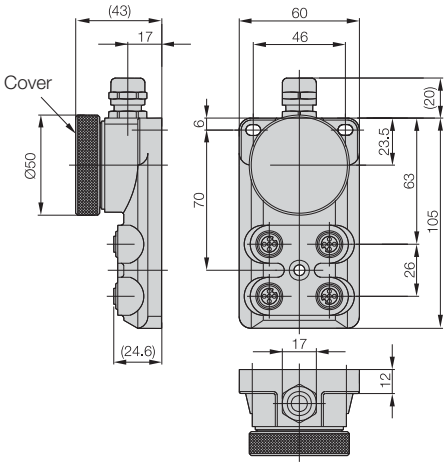
Connectors
for user assembly with connection thread
See brochure
"The Accessories Line"





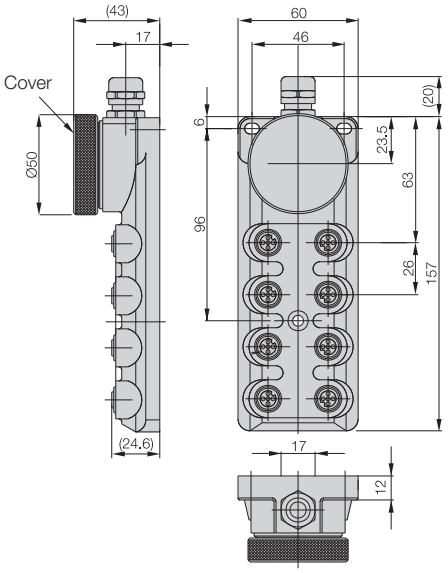
Splitter box
BPI0069
BPI 4M4A40-2M-IC-THF7

(4-way)
Sensor connection possible via BCC, RSC or RSCW.



Splitter box
BPI006C
BPI 8M4A40-2M-IC-THFC

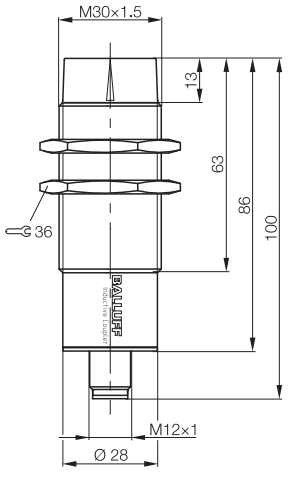
(8-way)
Sensor connection possible via BCC, RSC or RSCW.

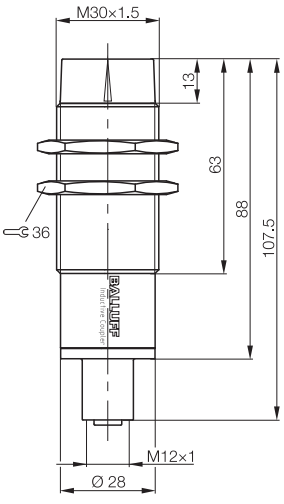


Power and signals
Applications
Overview
Programmable cams
Detectors
Couplers for detectors
Unidirectional
Bidirectional
Radial type system
Analog unidirectional
Single thermal
Terminal boxes
Power-only
Uni-Standard and IO-Link
Topology
Connectors

Inductive Couplers
Power-only

	Power-only with 0.5 A power	
Size	**M30×1.5**	**M30×1.5**
Working range	**0...5 mm**	**0...5 mm**
Mounting	Not flush	Not flush
Ordering code	**BIC0007**	**BIC0008**
Part number	BIC 1P0-P2A50-M30MI3-SM4A4A	BIC 2P0-P2A50-M30MI3-SM4A5A
Power supply U_B incl. ripple	24 V DC ±10 %	
Rated operating current I_e	max. 1 A	
No-load supply current I_0 max.	100 mA	
Max. current load per output		
Short-circuit protected	Yes	Yes
Remote output voltage		24 V DC ±5 %
Power supply, continuous output current		500 mA
Rated insulation voltage U_i	150 V DC/125 V AC	150 V DC/125 V AC
Operational readiness		100 ms
Ambient temperature range T_a	0...+55 °C	0...+55 °C
Storage temperature range	–25...+75 °C	–25...+75 °C
Offset		±4 mm
Switching frequency f	10	10
Function/Power indicator	Yes/yes	Yes/yes
Tightening torque	70 Nm	70 Nm
Degree of protection as per IEC 60529	IP 67	IP 67
Housing material	CuZn coated	CuZn coated
Material of sensing face	PC	PC
Connection	M12 connector, 4-pin plug 	M12 connector, female 5-pin 

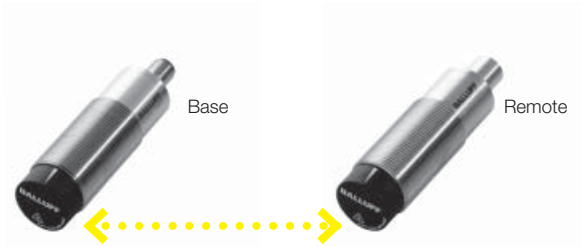




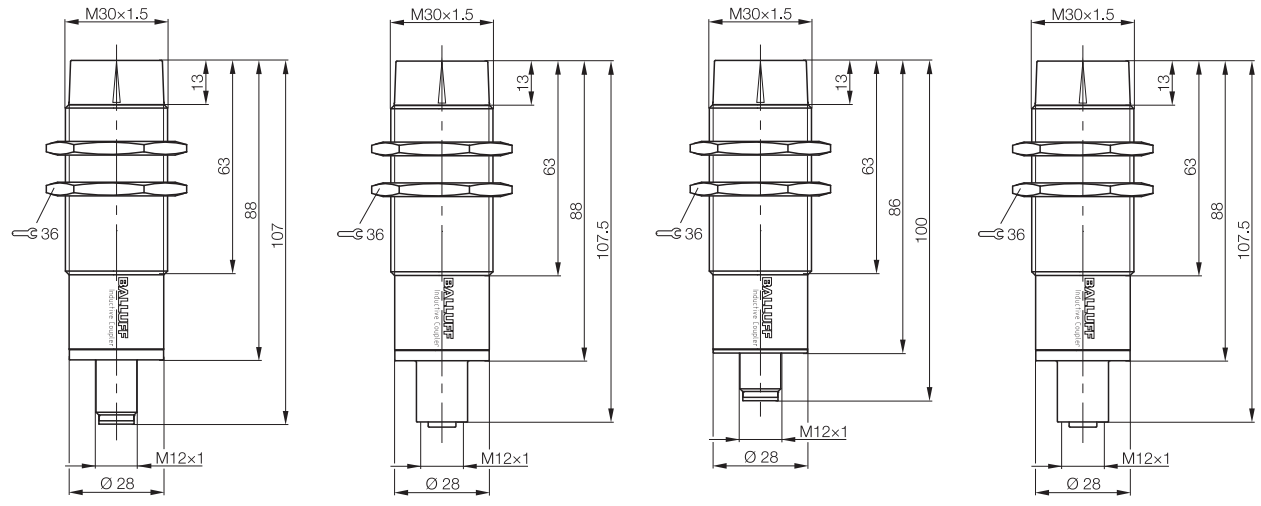
more added value

- **Simple connection, rapid installation**
- **Wear-free**
- **Robust, even in harsh environments**

Inductive Couplers
Uni-Standard and IO-Link



Uni-Standard with 0.5 A power and 8 signals		IO-Link connection	
M30×1.5	**M30×1.5**	**M30×1.5**	**M30×1.5**
0...5 mm	**0...5 mm**	**0...5 mm**	**0...5 mm**
Not flush	Not flush	Not flush	Not flush
BIC0009	**BIC000A**	**BIC000C**	**BIC000E**
BIC 1I3-P2A50-M30MI3-SM4ACA	BIC 2I3-P2A50-M30MI3-SM4ACA	BIC 1I0-I2A50-M30MI3-SM4A4A	BIC 2I0-I2A50-M30MI3-SM4A5A
24 V DC ±10 %		24 V DC ±10 %	
max. 1 A		max. 1 A	
100 mA			
50 mA			
Yes	Yes	Yes	Yes
	24 V DC ±5 %		24 V DC ±5 %
	500 mA		
150 V DC/125 V AC	150 V DC/125 V AC	150 V DC/125 V AC	150 V DC/125 V AC
	100 ms		
0...+55 °C	0...+55 °C	0...+55 °C	0...+55 °C
–25...+75 °C	–25...+75 °C	–25...+75 °C	–25...+75 °C
	±4 mm		±4 mm
40	40	IO-Link*	IO-Link*
Yes/yes	Yes/yes	Yes/yes	Yes/yes
70 Nm	70 Nm	70 Nm	70 Nm
IP 67	IP 67	IP 67	IP 67
CuZn coated	CuZn coated	CuZn coated	CuZn coated
PC	PC	PC	PC
M12 connector, male 12-pin	M12 connector, female 12-pin	M12 connector, male 4-pin	M12 connector, female 5-pin



***IO-Link**

Transfer rate	38.4 kbaud	38.4 kbaud
Process data cycle	3 ms at minimum cycle time	3 ms at minimum cycle time
Frame type	2.2	2.2

Profit from the IO-Link interface, which allows the connection of up to 16 sensors per system as well as the connection of buses.

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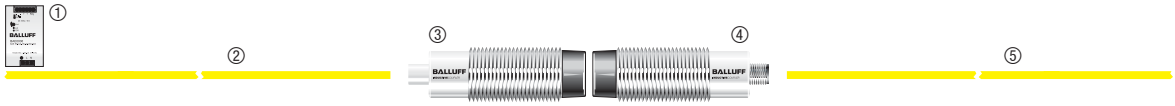
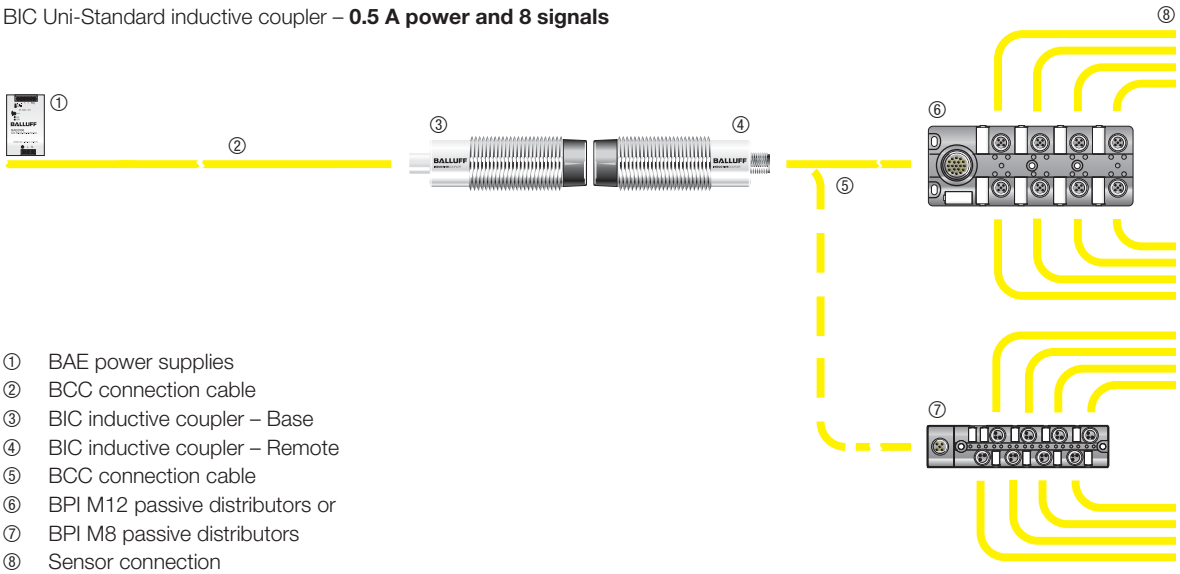
BIC Power-only inductive coupler – **0.5 A power**



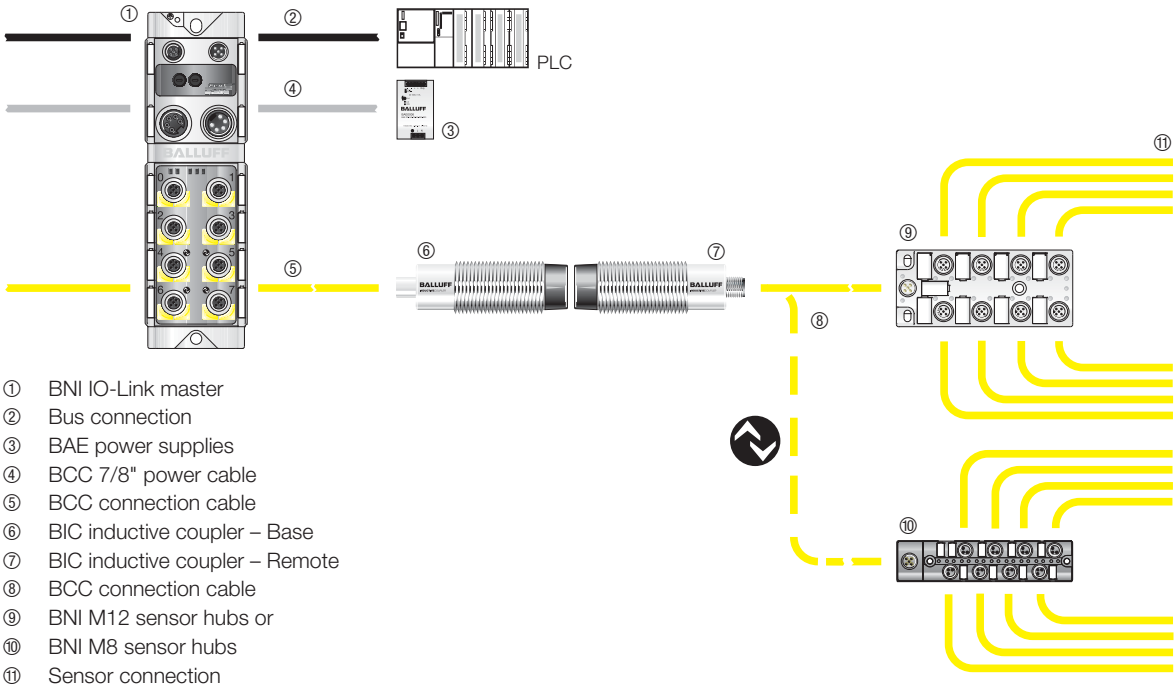
① BAE power supplies
② BCC connection cable
③ BIC inductive coupler – Base
④ BIC inductive coupler – Remote
⑤ BCC connection cable

BIC Uni-Standard inductive coupler – **0.5 A power and 8 signals**



① BAE power supplies
② BCC connection cable
③ BIC inductive coupler – Base
④ BIC inductive coupler – Remote
⑤ BCC connection cable
⑥ BPI M12 passive distributors or
⑦ BPI M8 passive distributors
⑧ Sensor connection

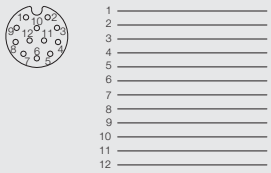
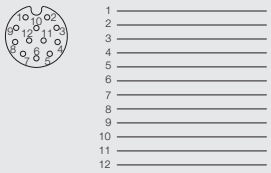
BIC inductive couplers – IO-Link **connection, 0.5 A power and 8 or 16 signals (depending on the sensor hub)**



① BNI IO-Link master
② Bus connection
③ BAE power supplies
④ BCC 7/8" power cable
⑤ BCC connection cable
⑥ BIC inductive coupler – Base
⑦ BIC inductive coupler – Remote
⑧ BCC connection cable
⑨ BNI M12 sensor hubs or
⑩ BNI M8 sensor hubs
⑪ Sensor connection

Inductive Couplers

M12 female straight connector, 12-pin
M12 male straight, 12-pin

View of female/ male side		
Rated power supply U_e	250 V DC	250 V DC
Power supply U_s	18...30 V DC	18...30 V DC
Cable	Permanently molded PUR/PVC	Permanently molded PUR/PVC
No. of wires × cross-section	12×0.25 mm²	12×0.25 mm²
Housing material	PUR	PUR
Degree of protection as per IEC 60529	IP 67	IP 67
Ambient temperature range T_a	–25...+85° C	–25...+85° C
Version	BIC0009 Base	BIC000A Remote

Cable material	Color	Length	Ordering code	
			Part number	
PUR	Black	2 m	**BCC06UK**	**BCC06UU**
			BCC M41C-0000-1A-049-PX0C25-020	BCC M41C-0000-2A-049-PX0C25-020
PUR	Black	5 m	**BCC06UL**	**BCC06UW**
			BCC M41C-0000-1A-049-PX0C25-050	BCC M41C-0000-2A-049-PX0C25-050
PUR	Black	10 m	**BCC06UM**	**BCC06UY**
			BCC M41C-0000-1A-049-PX0C25-100	BCC M41C-0000-2A-049-PX0C25-100
PVC	Gray	2 m	**BCC06UP**	**BCC06UZ**
			BCC M41C-0000-1A-049-VX8C25-020	BCC M41C-0000-2A-049-VX8C25-020
PVC	Gray	5 m	**BCC06UR**	**BCC06W0**
			BCC M41C-0000-1A-049-VX8C25-050	BCC M41C-0000-2A-049-VX8C25-050
PVC	Gray	10 m	**BCC06UT**	**BCC06W1**
			BCC M41C-0000-1A-049-VX8C25-100	BCC M41C-0000-2A-049-VX8C25-100