BALLUFF

sensors worldwide

BIC Inductive Couplers

Rapid separation of power and signals

BIC Inductive Couplers
Rapid separation of power and signals

For maximum flexibility –
Non-contact power transmission and reliable data transfer
Whenever modules need to be quickly disconnected and reliably reconnected, you are on the safe side with Balluff BIC inductive couplers. With these quick-disconnect units you not only meet new demands quickly and with extreme flexibility. Also transmit power and signals over an air gap of 5 mm fast, reliably and with high performance.

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

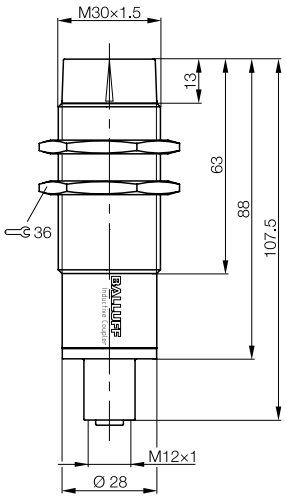
Take advantage of additional features
- Simple wiring of rotary index tables, interchangeable stamping heads, etc.
- Plug-in connection for M12
- Drive capacitive loads
- More power in the same size

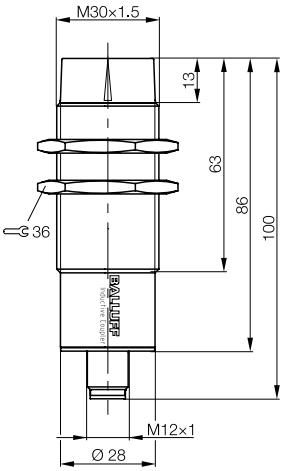
And profit from the IO-Link interface, which allows up to 16 sensors per system and lets you connect to the bus world.

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

BIC Inductive Couplers
Power-only

	Power-only with 0.5 A power	
Housing size	**M30×1.5**	**M30×1.5**
Working range	**0...5 mm**	**0...5 mm**
Installation type	not-flush	not-flush
Ordering code	**BIC0007**	**BIC0008**
Part number	BIC 1P0-P2A50-M30MI3-SM4A4A	BIC 2P0-P2A50-M30MI3-SM4A5A
Supply voltage U_B incl. ripple	24 V DC ±10 %	
Rated operating current I_e	max. 1 A	
No-load supply current I_0 max.	approx. 100 mA	
Max. current load per output		
Short circuit protected	yes	yes
Output voltage Remote		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	–25...+75 °C	–25...+75 °C
Offset		±4 mm
Switching frequency f	10	10
Function/supply voltage indicator	yes/yes	yes/yes
Tightening torque	70 Nm	70 Nm
Degree of protection per IEC 60529	IP 67	IP 67
Housing material	CuZn coated	CuZn coated
Material of sensing face	PC	PC
Wiring	M12 connector, 4-pin female 	M12 connector, 5-pin male 

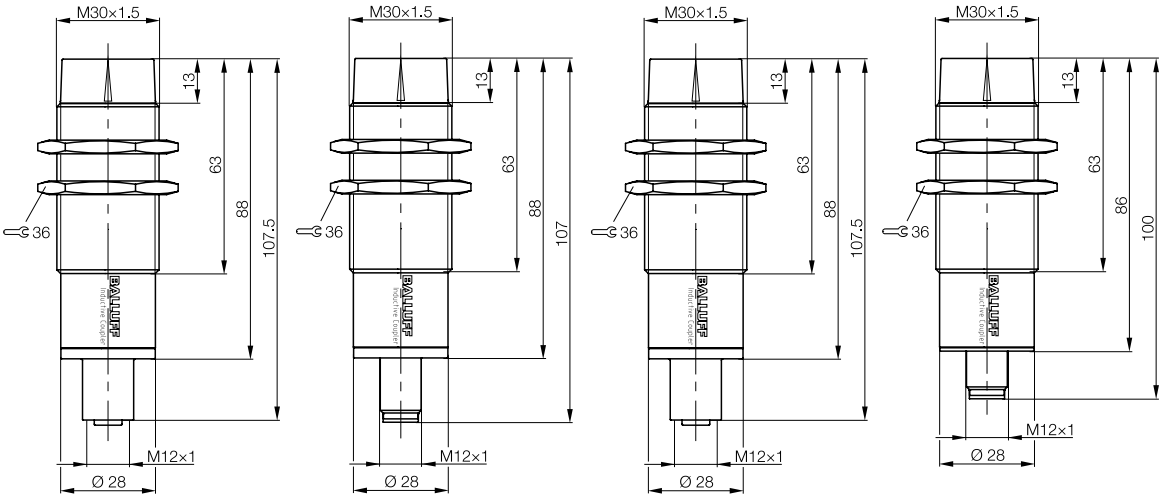




more added value

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

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,	M12 connector,	M12 connector,	M12 connector,
12-pin female	12-pin male	4-pin female	5-pin male
			

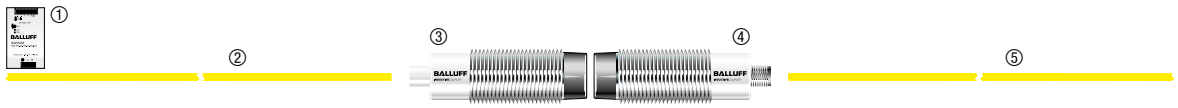


***IO-Link**

Baud 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

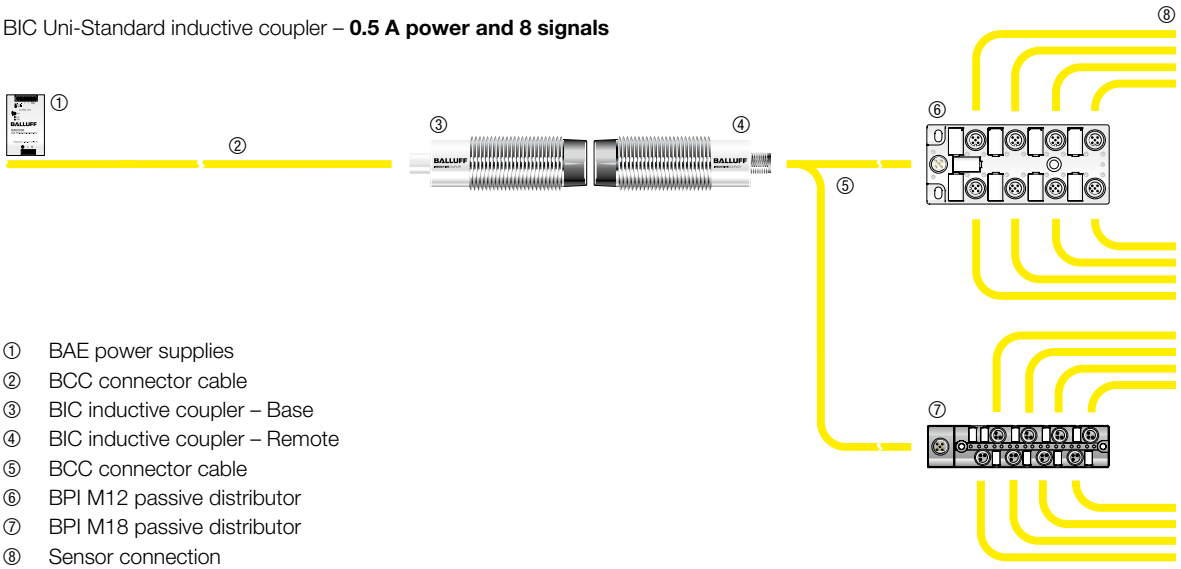
BIC Inductive Couplers
Topology

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



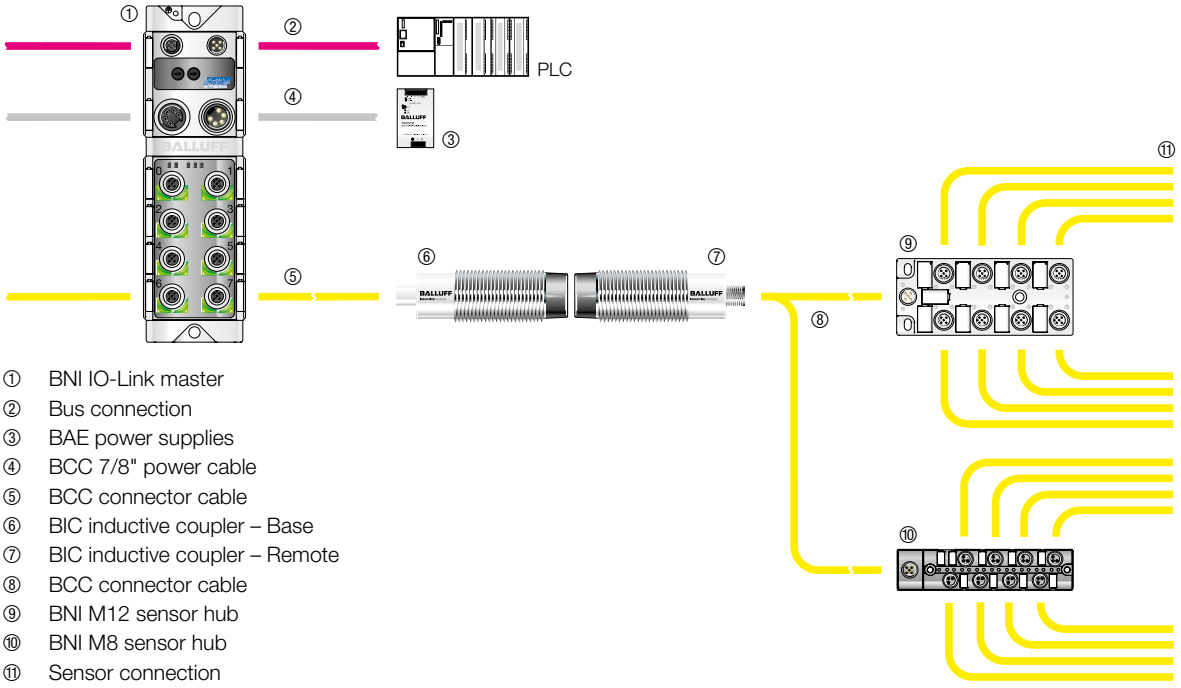
① BAE power supplies
② BCC connector cable
③ BIC inductive coupler – Base
④ BIC inductive coupler – Remote
⑤ BCC connector cable

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



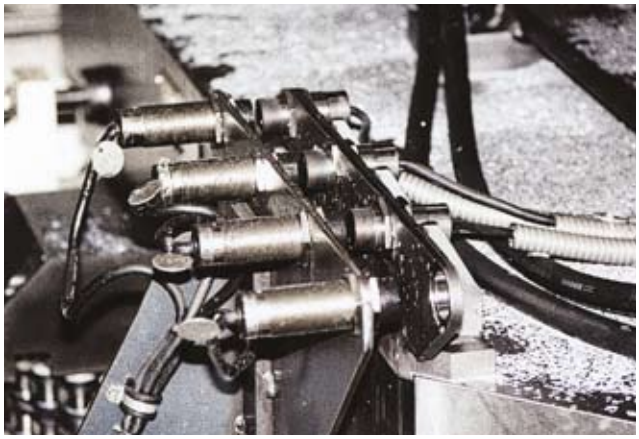
① BAE power supplies
② BCC connector cable
③ BIC inductive coupler – Base
④ BIC inductive coupler – Remote
⑤ BCC connector cable
⑥ BPI M12 passive distributor
⑦ BPI M18 passive distributor
⑧ Sensor connection

BIC inductive coupler – **IO**-Link **connection**



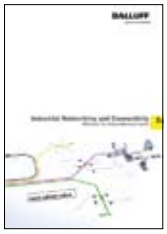
① BNI IO-Link master
② Bus connection
③ BAE power supplies
④ BCC 7/8" power cable
⑤ BCC connector cable
⑥ BIC inductive coupler – Base
⑦ BIC inductive coupler – Remote
⑧ BCC connector cable
⑨ BNI M12 sensor hub
⑩ BNI M8 sensor hub
⑪ Sensor connection

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 enables high flexibility in the machining centers as well.



Workpiece position detection in machining centers at MTU Friedrichshafen
A system for the automatic detection of workpieces on the pallet was developed using BIC inductive couplers 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 brought into the machining area where the recorded information is used to execute the machining program.

Robot gripper
The sensor determines weather the workpiece was captured by the gripper. The switching state of the sensors is transmitted without contact.



Refer to our industrial networking catalog or our website for more information on active and passive distributors, connectors, connector cables and electrical devices!

Balluff GmbH
Schurwaldstrasse 9
73765 Neuhausen a.d.F.
Germany
Phone +49 7158 173-0
Fax +49 7158 5010
balluff@balluff.com
www.balluff.com

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