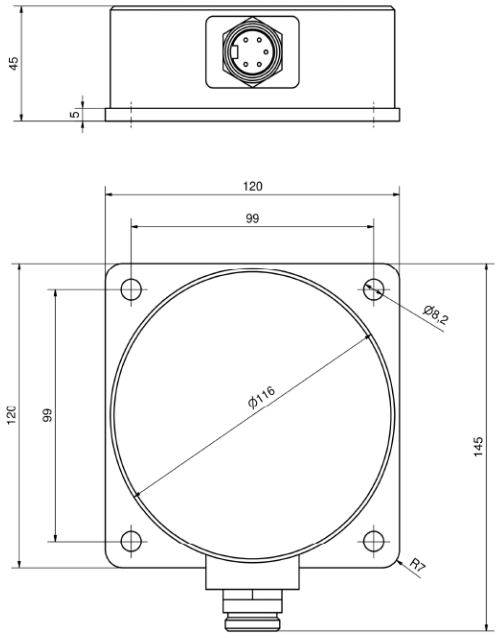
BIC 1P0-P25A0-Q120AE-SA3A_XX
BIC 2P0-P25A0-Q120AE-SA3A_XX

5A Power Only
User's Guide



Inhaltsverzeichnis

1 Safety

1.1 Installation and Startup

Caution!
Installation and startup are to be performed by trained technical personnel only. Skilled specialists are people who are familiar with the work such as installation and the operation of the product and have the necessary qualifications for these tasks. Any damage resulting from unauthorized tampering or improper use shall void warranty and liability claims against the manufacturer. The operator is responsible for ensuring that the valid safety and accident prevention regulations are observed in specific individual cases.

Note
- Function of the BIC system and all connected components must be regularly checked.
- In the event of functional defects the BIC system must be set to out of operation and the connection cable must be disconnected.
- Device must be protected against unauthorized use.
- Mounting must be checked and adjusted if needed.

1.2 General Safety Notes

Commissioning and inspection
The operating company shall be responsible for observance of locally applicable safety regulations.
Before commissioning, carefully read the User's Guide.
The system must not be used in applications in which the safety of persons depends on the function of the device.

Intended use
Warranty and liability claims against the manufacturer shall be rendered void by damage from:
- Unauthorized tampering
- Improper use
- Use, installation or handling contrary to the instructions provided in this User's Guide.

Obligations of the owner/operator!
The device is a piece of equipment in accordance with EMC Class A. Such equipment may generate RF noise. The owner/operator must take appropriate precautionary measures against this for its use. The device may be used only with a power supply approved for this. Only approved cables may be connected.

Malfunctions
In the event of defects and device malfunctions that cannot be rectified, the device must be taken out of operation and protected against unauthorized use.

Dangerous Voltage

Caution!
Before working on the device, switch off its power supply.

Approved Use

Caution!
Inductive coupling systems (BIC) are devices for contact-free energy and signal transmission in industrial environments.

Use is particularly not allowed:
- In environments with explosive atmospheres,
- in application in which the safety of people or machines can be affected by transmitted signals. (Safety-related circuits).

1.3 Safety Precautions

Caution!
Metallic objects must not get in Zone A, B (cf. Section 3.2) or between the sensing surfaces of the base and remote. Fire hazard!

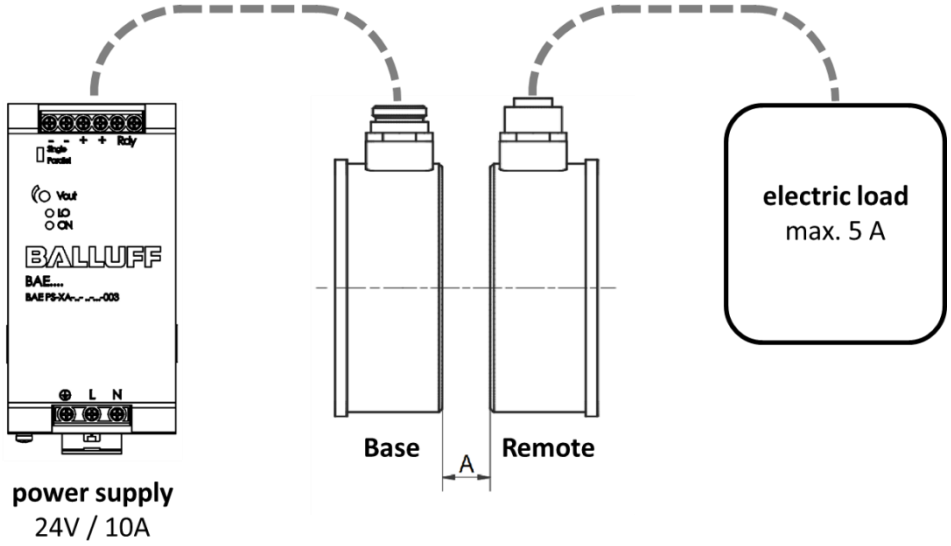
Protection from electromagnetic fields

Protection from electromagnetic fields during operation and assembly
The permitted values in accordance with VDE 0848 part 3-1 are maintained starting at a distance of > 70 mm. The magnetic fields emitted by the BIC system may pose a health hazard to persons with medical aids such as a pacemaker. The minimum distance for people with such equipment is > 100 mm. It is the responsibility of the operator to take suitable measures to ensure that this minimum distance is also maintained during operation.

Note
In the interest of continuous improvement of the product,
Balluff GmbH reserves the right to change the technical data of the product and the content of these instructions at any time without notice.

2 System Overview

2.1 System overview



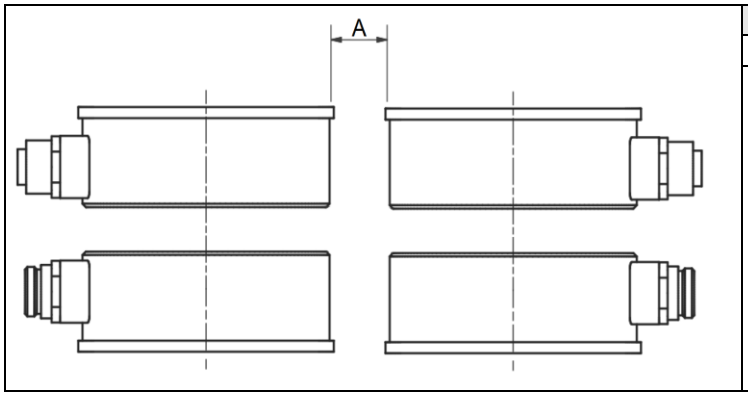
The BIC system transmits electrical power up to max. 120 W from the stationary unit (base) over an air gap to the mobile unit (remote). The transmission distance (A) between Base and Remote must not be more than 4 mm with a permissible axial offset of ≥ 4 mm.
The BIC system includes internal temperature monitoring to protect the BIC system from overheating. After the temperature monitor has been triggered due to overheating, a restart is automatically performed as soon as the BIC system has cooled.
A short circuit or overcurrent on the Base unit causes power transmission to be turned off. The automatic restart is performed only after the cause or the fault has been eliminated.
An LED on the Base unit connector indicates the operating status of the BIC system.

Note
The BIC system can be operated without additional cooling in ambient temperatures up to 50°C. For special applications (up to 70°C) sufficient heat dissipation must be provided.

3 Installation

3.1 Mutual Interference

To prevent mutual interference from adjacent BIC systems, the specified minimum separation must be maintained:



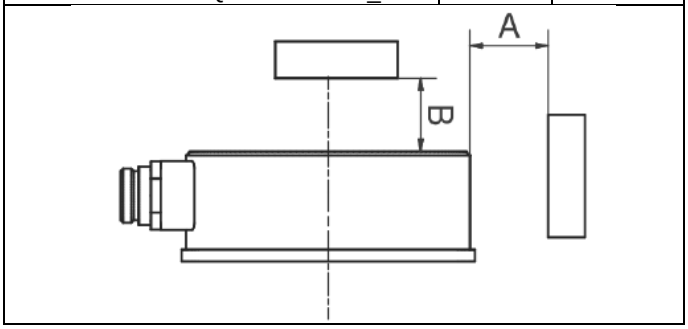
A (mm)
≥ 8

3.2 Installation in metal

Device damage due to induction effects!
Metallic objects in front of and between the sensing surfaces get very hot.

Install the components so that no metallic objects are in the zone produced by distances A and B. Distances A and B must be maintained independently of each other!

Typ	A (mm)	B (mm)
BIC 1P0-P25A0-Q120AE-SA3A_XX	≥ 10	≥ 4
BIC 2P0-P25A0-Q120AE-SA3A_XX	≥ 10	≥ 4

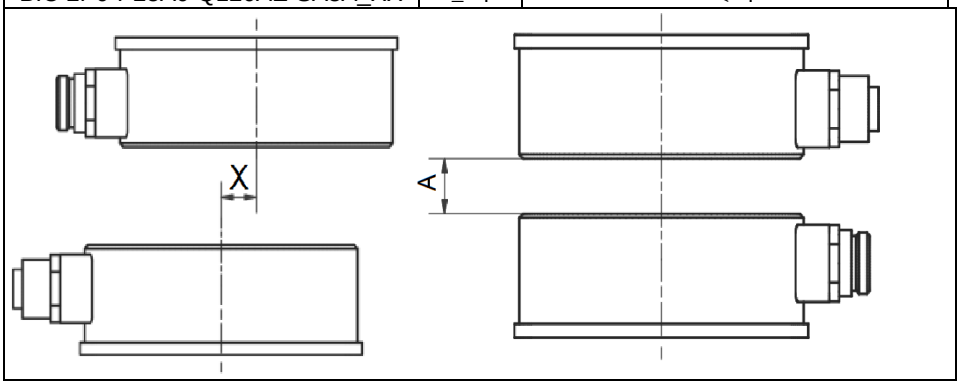


3 Installation

3.3 Distances / Offset

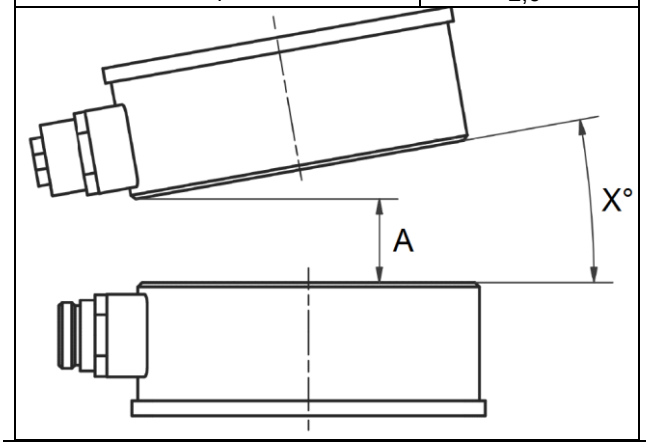
Permitted distances / offset of the axes

Typ	A (mm)	X (mm)
BIC 1P0-P25A0-Q120AE-SA3A_XX	≤ 4	< 4
BIC 2P0-P25A0-Q120AE-SA3A_XX	≤ 4	< 4



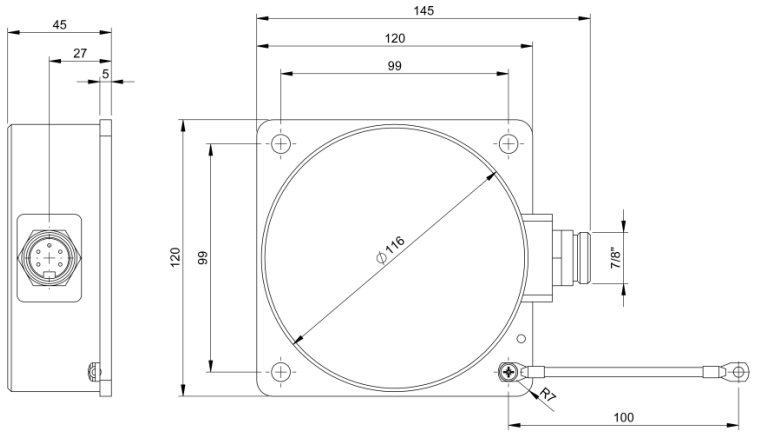
3.4 Permissible angle offset

Distance A [mm]	Angle X
0	4,9°
4	2,0°



4 Technical Data

4.1 Base



LED 1 / LED 2

LED	Indicator	Function
Green	Static	Connection established
	Slowly flashing	Power ON, no Remote found
	Quickly flashing	Overload/short-circuit

Mechanical Data

Housing material	Anodized aluminum
Housing degree of protection	IP 67 (only in plugged-in and screwed-down state)
Connection type	7/8“, male, 4/5-pin
Dimensions (W x H x D in mm)	120 x 120 x 45
Weight	approx. 850 g

Electrical Data

Operating voltage	24 V DC ±10%, corresponding to EN 61131-2
Max. current consumption	< 10 A
No-load supply current	≤ 500 mA
Overload protection	yes
Short-circuit protection	yes
Polarity reversal protection	yes
Operational readiness (ms)	< 500 ms
In Zone	Green LED

4 Technical Data

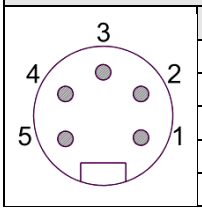
Operating conditions

Transmission distance	0 to 4 mm
Permitted offset	< 4 mm
Ambient temperature T_a Storage temperature	–10°C... 50 °C -25 C ...70°C
Interference immunity EN 61000-4-2/3/4/5/6, EN55011	3/3/3/3 severity level Size 1 CL. A

Pin assignments / male

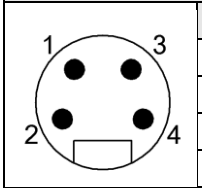
The base unit is equipped with either a 5-pin or 4-pin 7/8" connector.

Power (7/8” 5 pin-connector)



PIN	Signal
1	0V
2	0V
3	Funktionserde
4	+ 24V
5	+ 24V

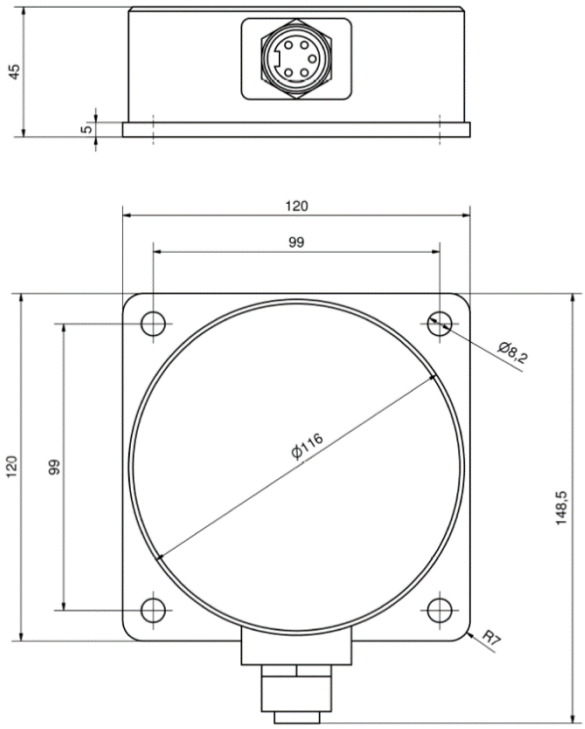
Power (7/8” 4 pin-connector)



PIN	Signal
1	+ 24V
2	+ 24V
3	0 V
4	0 V

4 Technical Data

4.2 Remote



Mechanical Data

Housing material	Anodized aluminum
Housing degree of protection	IP 67 (only in plugged-in and screwed-down state)
Connection type	Male 7/8", 4/5-pin female
Dimensions (W x H x D in mm)	120 x 120 x 45
Weight	Approx. 850 g

Electrical Data

Output voltage	24 V DC ±10%
Max. output current	5 A
Ripple	500 mV_{pp}
Short-circuit	yes
Operational readiness (ms)	< 500 ms

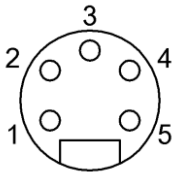
Operating conditions

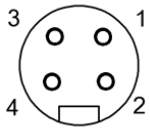
Transmission distance	0 to 4 mm
Permitted offset	< 4 mm
Ambient temperature T_a Storage temperature	-10 °C ... 50 °C -25 °C ... 70 °C
Interference immunity EN 61000-4-2/3/4/5/6, EN55011	Severity Level/3/3/3/3 Group 1 CL. A

4 Technical Data

Pin assignments / female

The base unit is equipped with either a 5-pin or 4-pin 7/8" female connector.

Power (7/8”, 5 pin female)		
	**PIN**	**Signal**
	1	0 V
	2	0 V
	3	Funktionserde
	4	+ 24V
	5	+ 24V

Power (7/8”, 4 pin female		
	**PIN**	**Signal**
	1	+ 24V
	2	+ 24V
	3	0 V
	4	0 V

5 Appendix

5.1 Ordering information

Product name	Version	Order code
BIC 1P0-P25A0-Q120AE-SA3A50 (Base)	7/8" 5-pin	BIC0073
BIC 2P0-P25A0-Q120AE-SA3A50 (Remote)	7/8" 5-pin	BIC0074
BIC 1P0-P25A0-Q120AE-SA3A40 (Base)	7/8" 4-pin	BIC0075
BIC 2P0-P25A0-Q120AE-SA3A40 (Remote)	7/8" 4-pin	BIC0076

5.2 Maintenance

Maintenance
The product is maintenance free.

.

6 Notes

www.balluff.com

Balluff GmbH
Schurwaldstrasse 9
D-73765 Neuhausen a.d.F.
Deutschland
Tel. +49 7158 173-0
Fax +49 7158 5010
balluff@balluff.de

Nr. 930813-726 DE • 01.130551 • Ausgabe K20 • Ersetzt Ausgabe H16 • Änderungen vorbehalten