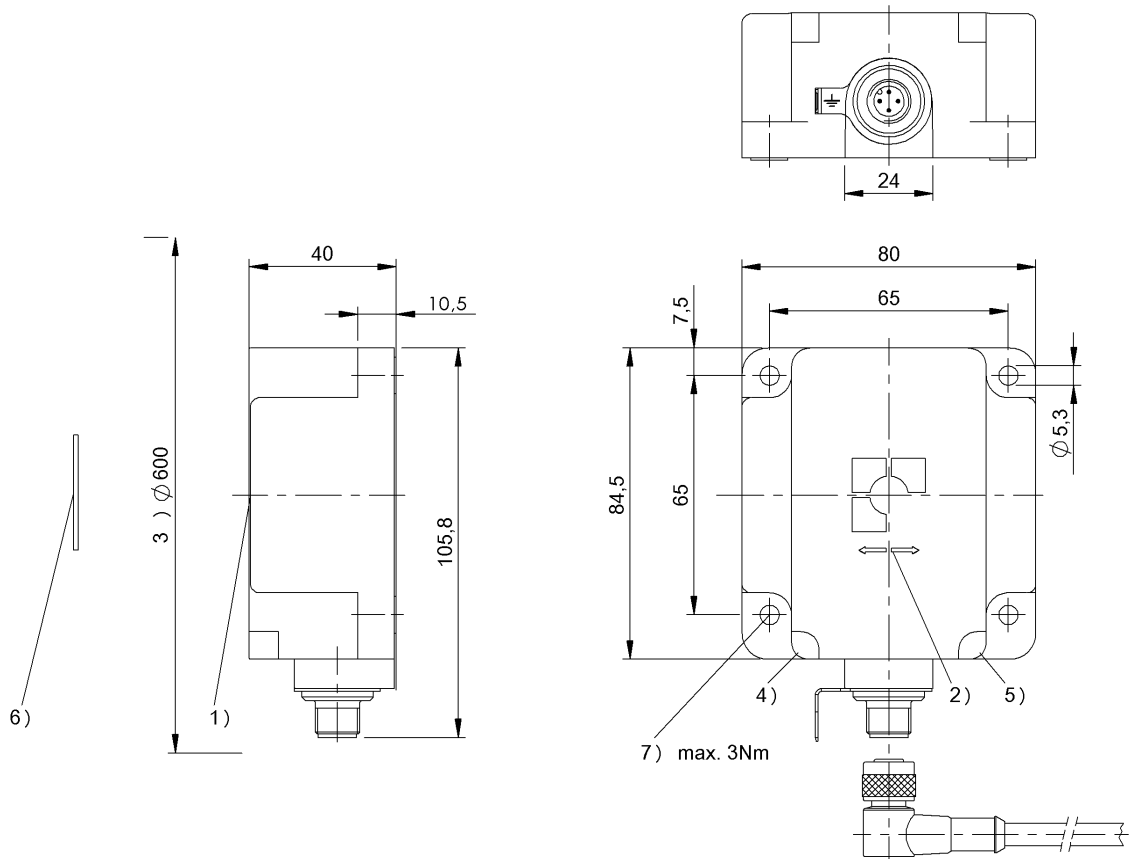


HF (13.56 MHz)  
 BIS M-451-045-001-07-S4  
 Order Code: BIS00LM

**BALLUFF**



1) Sensing surface, 2) Read/write axis, 3) Clear zone, 4) LED (Power), 5) LED (TP), 6) Data carrier on steel, 7) Tightening torque



**Basic features**

Antenna type	Rod
Approval/Conformity	CE UKCA FCC Part 15 IC (Radio) cULus WEEE MIC KC NBTC IMDA
EN 55022	Gr. 1, Cl. A
Principle of operation	Processor unit

**Display/Operation**

Function indicator	Power (ON) Green LED TP (Tag Present) LED yellow
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**Electrical connection**

Connection	M12x1-Male, 4-pin, A-coded
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**Electrical data**

Current consumption max. at 24 V DC	150 mA
Operating voltage $U_b$	18...30 VDC Supports only LPS/ Class 2
Residual ripple max.	1.3 Vpp
Transfer rate	COM2 (38.4 kBaud)

**HF (13.56 MHz)**  
**BIS M-451-045-001-07-S4**  
**Order Code: BIS00LM**



**Environmental conditions**

Altitude max.	2000 m
Ambient temperature	0...70 °C
Area of operation	Indoor
Contamination scale	2
Continuous shock load	yes
EN 60068-2-27, Shock	yes
EN 60068-2-32 Free fall	yes
EN 60068-2-6, Vibration	yes
IP rating	IP67
Relative humidity	0...90 %, non-condensing
Storage temperature	-20...85 °C

**Functional Characteristics**

Supported data carrier types	DIN ISO 15693
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**IO-Link**

IO-Link Profil IDs	N/A
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**Interface**

Interface	IO-Link 1.1
Process data IN	10 bytes

**Material**

Housing material	PBT
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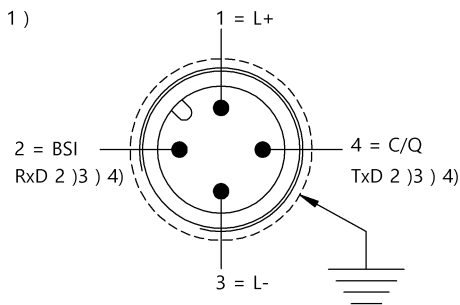
**Mechanical data**

Application weight	380.00 g
Dimension	80 x 40 x 84.5 mm
Installation	metal-free (clear zone)

**Remarks**

For basic equipment see IO-Link catalog.  
 When installing, the technical standards and regulations of the corresponding countries must be observed.  
 Values are under rated conditions unless otherwise specified.  
 Order accessories separately.  
 For installation in metal: Observe clear zone.  
 This device is intended to be supplied by a UL-listed or CSA-certified power supply unit with "Class 2" or LPS power source.  
 The devices must be installed permanently.  
 1. Determine a suitable mounting position.  
 2. Fasten the device with suitable mounting material.  
 The device can be cleaned with a slightly damp cloth.  
 Regularly check the function of the device and all associated components through visual and functional tests.  
 - Shut down the device in the event of malfunctions.  
 - Secure the system against unauthorized use.  
 - Check fastening and tighten if necessary.  
 The product is maintenance-free.

**Connector Drawings**



- 1) View towards connector
- 2) BSI service interface
- 3) Do not connect power
- 4) (Only for Balluff Service)

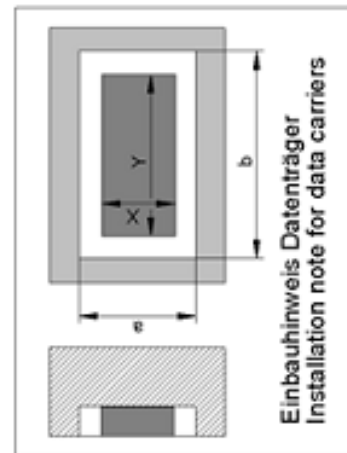
HF (13.56 MHz)  
BIS M-451-045-001-07-S4  
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Help Views

**BIS M-451-**

	BIS M-150-02/A	BIS M-151-02/A	BIS M-150-02/A	BIS M-151-02/A	
passende Datenträger Appropriate data carriers					
Freizone Datenträger in mm ( a ) Data carrier clear zone in mm	>200	>200	>200	>200	>200
Freizone Datenträger in mm ( b ) Data carrier clear zone in mm	>200	>200	>200	>200	>200
Datenträger Metall-Montagefläche 40x22 Data carrier metal mounting surface 40x22	0-52	0-52	0-52	0-52	
Datenträger Metall-Montagefläche ≥ 200x200 Data carrier metal mounting surface ≥ 200x200					
Schreibabstand in mm Write distance in mm	0-52	0-52	0-65	0-65	0-65
Leseabstand in mm Read distance in mm	0-52	0-52	0-65	0-65	0-65
Versatz in mm bei Abstand von	0-52	0-52	0-65	0-65	0-65
	X	Y	X	Y	X
0	±60	±25	±60	±25	±65
5	±60	±25	±60	±25	±65
12	±60	±25	±60	±25	±65
15	±60	±25	±60	±25	±65
18	±60	±25	±60	±25	±65
20	±60	±25	±60	±25	±65
22	±60	±25	±60	±25	±65
25	±60	±25	±60	±25	±65
30	±60	±25	±60	±25	±65
32	±50	±25	±50	±25	±65
35	±50	±25	±50	±25	±65
40	±50	±20	±50	±20	±50
45	±25	±20	±25	±20	±50
50	±25	±20	±25	±20	±50
52	±25	±8	±25	±8	±25
60			±25	±10	±25
65			±25	±10	±25



**BIS M-451-\_\_**

	BIS M-152-03/A	BIS M-152-03/A	BIS M-153-02/A	BIS M-152-03/A	
passende Datenträger Appropriate data carriers					
Freizone Datenträger in mm ( a ) Data carrier clear zone in mm	>200	>200	>240	>10	>240
Freizone Datenträger in mm ( b ) Data carrier clear zone in mm	>200	>200	>480	>50	>480
Freizone Datenträger in mm ( c ) Data carrier clear zone in mm	>50	>50	>50	>2	>50
Schreibabstand in mm Write distance in mm	0-30	0-30	0-100	15-30	0-100
Leseabstand in mm Read distance in mm	0-30	0-30	0-100	15-30	0-100
Versatz in mm bei Abstand von	X	Y	X	Y	X
Offset in mm at distance	0 ±35	±20	±60	±20	±60
	5 ±35	±20	±60	±20	±60
	10 ±35	±20	±60	±20	±60
	15 ±35	±20	±60	±15	±60
	20 ±35	±20	±60	±15	±60
	25 ±20	±12	±60	±15	±60
	30 ±20	±12	±60	±15	±60
	35		±60	±20	±60
	40		±60	±20	±60
	45		±60	±20	±60
	50		±60	±20	±60
	60		±60	±20	±60
	70		±60	±20	±60
	80		±60	±20	±60
	90		±40	±20	±60
	100		±40	±20	±60

