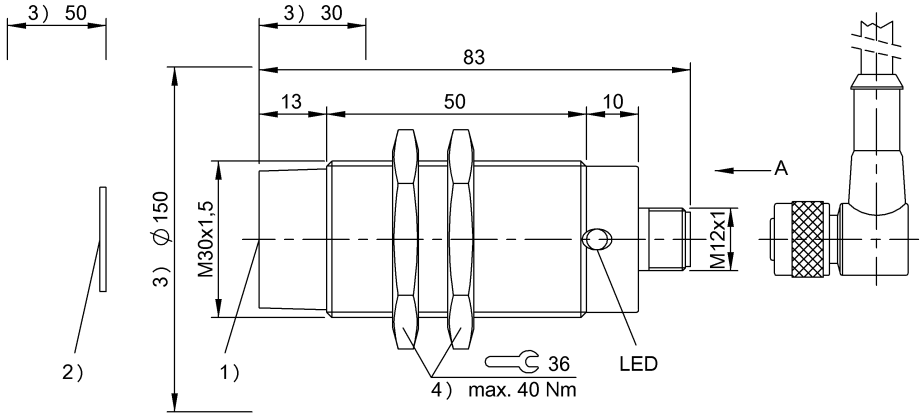
HF (13.56 MHz)

# BIS M-400-045-001-07-S4
# Order Code: BIS00LH




1) Sensing surface, 2) Data carrier, 3) Clear zone, 4) Tightening torque

## Basic features

| | |
|---|---|
| **Antenna type** | round |
| **Approval/Conformity** | CE<br>cULus<br>FCC<br>IC<br>WEEE |
| **EN 55022** | Size 1, Cl. A |

## Display/Operation

| | |
|---|---|
| **Function indicator** | Power (ON)<br>Green LED<br>TP (Tag Present)<br>LED yellow |

## Electrical connection

| | |
|---|---|
| **Connection** | M12x1-Male, 4-pin, A-coded |

## Electrical data

| | |
|---|---|
| **Current consumption max. at 24 V DC** | 150 mA |
| **EN 300330-1** | Power Class 5 |
| **Operating voltage Ub** | 18...30 VDC Supports only LPS/ Class 2 |
| **Residual ripple max.** | 1.3 Vpp |

## Environmental conditions

| | |
|---|---|
| **Ambient temperature** | 0...70 °C |
| **Continuous shock load** | yes |
| **EN 60068-2-27, Shock** | yes |
| **EN 60068-2-32 Free fall** | yes |
| **EN 60068-2-6, Vibration** | yes |
| **Protection degree** | IP67 |
| **Storage temperature** | -20...85 °C |

## Functional Characteristics

| | |
|---|---|
| **Supported data carrier types** | DIN<br>ISO<br>14443<br>DIN ISO 15693 |

## Functional safety

| | |
|---|---|
| **MTTF (40 °C)** | 154 a |

## Material

| | |
|---|---|
| **Housing material** | Brass, Nickel-plated brass nuts, nickel plated |
| **Housing material, surface protection** | nickel plated |

## Mechanical data

| | |
|---|---|
| **Application weight** | 100.00 g |
| **Dimension** | Ø 30 x 83 mm |
| **Installation** | metal-free (clear zone) |
| **Size** | M30x1.5 |

# BIS M-400-045-001-07-S4
# Order Code: BIS00LH

## Output/Interface

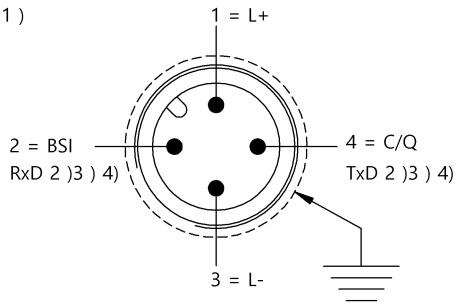
| | |
|---|---|
| **IO-Link version** | 1.1 |
| **Interface** | IO-Link 1.1 |
| **Process data IN** | 10 bytes |

## Remarks

When installing, the technical standards and regulations of the corresponding countries must be observed.
Use included nuts for installation.
Values are under rated conditions unless otherwise specified.
For basic equipment: Accessories see www.balluff.com
For installation in metal: Observe clear zone.
For more information about MTTF and B10d see MTTF / B10d Certificate

Indication of the MTTF- / B10d value does not represent a binding composition and/or life expectancy assurance; these are simply experiential values with no warranty implications. These declared values also do not extend the expiration period for defect claims or affect it in any way.

## Connector Drawings

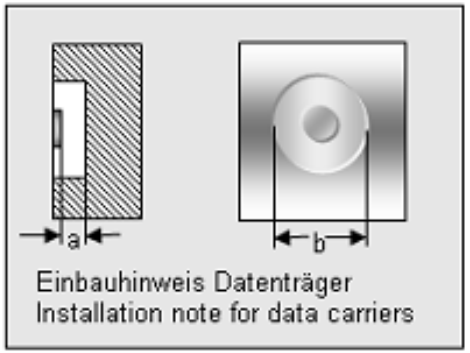



1 ) View towards connector
2) BSI service interface
3) Do not connect power
4) (Only for Balluff Service)

## Help Views

# BIS M-400-xxx-001-__

| passende Datenträger<br>Appropriate data carriers | | BIS M-101-01/L | | | BIS M-102-01/L | | | BIS M-105-01/A | | | BIS M-105-02/A | | | BIS M-108-02/L | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Abstand Datenträger zu Metall in mm ( **a** )<br>Data carrier distance to metal in mm | | >25 | >10 | >5 | >50 | >15 | >10 | >20 | >5 | | >20 | >5 | | >25 | >0 | |
| Freizone Datenträger in mm ( **b** )<br>Data carrier clear zone in mm | | >100 | >60 | >50 | >150 | >90 | >70 | >100 | >100 | | >100 | >100 | | >100 | >0 | |
| Schreibabstand in mm<br>Write distance in mm | | 0-20 | 0-15 | 0-12 | 0-28 | 0-20 | 0-12 | 0-7 | 0-6 | | 0-11 | 0-7 | | 0-28 | 0-16 | |
| Leseabstand in mm<br>Read distance in mm | | 0-20 | 0-15 | 0-12 | 0-28 | 0-20 | 0-12 | 0-7 | 0-6 | | 0-11 | 0-7 | | 0-28 | 0-16 | |
| Versatz in mm | 0 | ±14 | ±10 | ±6 | ±20 | ±15 | ±6 | ±7 | ±6 | | ±9 | ±6 | | ±16 | ±10 | |
| bei Abstand von | 5 | ±14 | ±10 | ±6 | ±20 | ±15 | ±6 | ±7 | ±6 | | ±8 | ±6 | | ±16 | ±10 | |
| | 9 | ±14 | ±8 | ±4 | ±20 | ±15 | ±3 | | | | ±5 | | | ±14 | ±8 | |
| Offset in mm | 12 | ±10 | ±4 | ±2 | ±20 | ±13 | ±2 | | | | | | | ±14 | ±6 | |
| at distance | 15 | ±10 | ±2 | | ±20 | ±10 | | | | | | | | ±14 | ±6 | |
| | 16 | ±8 | | | ±18 | ±3 | | | | | | | | ±14 | ±4 | |
| | 18 | ±6 | | | ±16 | | | | | | | | | ±14 | | |
| | 20 | ±5 | | | ±15 | | | | | | | | | ±14 | | |
| | 22 | | | | ±15 | | | | | | | | | ±12 | | |
| | 25 | | | | ±10 | | | | | | | | | ±12 | | |
| | 30 | | | | | | | | | | | | | | | |
| | 32 | | | | | | | | | | | | | | | |
| | 35 | | | | | | | | | | | | | | | |
| | 40 | | | | | | | | | | | | | | | |
| | 43 | | | | | | | | | | | | | | | |
| | 45 | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | |
| | 52 | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | |
| | 65 | | | | | | | | | | | | | | | |
| | 70 | | | | | | | | | | | | | | | |



Einbauhinweis Datenträger
Installation note for data carriers

BALLUFF

## BIS M-400-xxx-001-__

| passende Datenträger<br>Appropriate data carriers | BIS M-107-03/L-H200 | | BIS M-140-02/A-xx | | BIS M-142-02/A-xx | | BIS M-143-02/A-xx | | BIS M-144-02/A-xx | |
|---|---|---|---|---|---|---|---|---|---|---|
| Abstand Datenträger zu Metall in mm ( a )<br>Data carrier distance to metal in mm | >25 | >0 | >0 | | >0 | | >0 | | >0 | |
| Freizone Datenträger in mm ( b )<br>Data carrier clear zone in mm | >100 | >100 | >100 | | >100 | | >100 | | >100 | |
| Schreibabstand in mm<br>Write distance in mm | 0-27 | 0-13 | 0-22 | | 0-22 | | 0-13 | | 0-22 | |
| Leseabstand in mm<br>Read distance in mm | 0-27 | 0-13 | 0-22 | | 0-22 | | 0-13 | | 0-22 | |
| Versatz in mm<br>bei Abstand von | 0 | ±16 | ±10 | ±13 | | ±13 | | ±10 | | ±13 |
| | 5 | ±16 | ±10 | ±13 | | ±13 | | ±10 | | ±13 |
| | 10 | ±16 | ±7 | ±13 | | ±13 | | ±9 | | ±13 |
| Offset in mm<br>at distance | 13 | ±14 | ±5 | ±11 | | ±11 | | ±5 | | ±11 |
| | 15 | ±14 | | ±11 | | ±11 | | | | ±11 |
| | 18 | ±14 | | ±11 | | ±11 | | | | ±11 |
| | 20 | ±14 | | ±7 | | ±7 | | | | ±7 |
| | 22 | ±12 | | ±7 | | ±7 | | | | ±7 |
| | 25 | ±12 | | | | | | | | |
| | 27 | ±5 | | | | | | | | |
| | 30 | | | | | | | | | |
| | 32 | | | | | | | | | |
| | 35 | | | | | | | | | |
| | 40 | | | | | | | | | |
| | 43 | | | | | | | | | |
| | 45 | | | | | | | | | |
| | 50 | | | | | | | | | |
| | 52 | | | | | | | | | |
| | 60 | | | | | | | | | |
| | 65 | | | | | | | | | |
| | 70 | | | | | | | | | |




Einbauhinweis Datenträger
Installation note for data carriers

BALLUFF

## BIS M-400-xxx-001-__

| passende Datenträger<br>Appropriate data carriers | BIS M-110-02/L | | | BIS M-111-02/L | | | BIS M-112-02/L | | | BIS M-132-03/L-HT | | BIS M-135-03/L-HT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Abstand Datenträger zu Metall in mm ( **a** ) | | | | | | | | | | | | | |
| Data carrier distance to metal in mm | >25 | >10 | >5 | >25 | >10 | >5 | >50 | >15 | >10 | >25 | >0 | >50 | |
| Freizone Datenträger in mm ( **b** ) | | | | | | | | | | | | | |
| Data carrier clear zone in mm | >100 | >60 | >50 | >100 | >60 | >50 | >150 | >90 | >70 | >100 | >100 | >150 | |
| Schreibabstand in mm | | | | | | | | | | | | | |
| Write distance in mm | 0-20 | 0-15 | 0-8 | 0-28 | 0-18 | 0-10 | 0-38 | 0-25 | 0-15 | 0-30 | 0-8 | 0-42 | |
| Leseabstand in mm | | | | | | | | | | | | | |
| Read distance in mm | 0-20 | 0-15 | 0-8 | 0-28 | 0-18 | 0-10 | 0-38 | 0-25 | 0-15 | 0-30 | 0-8 | 0-42 | |
| Versatz in mm | 0 | ±12 | ±8 | ±6 | ±16 | ±10 | ±7 | ±22 | ±16 | ±13 | ±18 | ±8 | ±30 |
| bei Abstand von | 5 | ±12 | ±8 | ±5 | ±16 | ±10 | ±7 | ±22 | ±16 | ±13 | ±18 | ±8 | ±30 |
| | 7 | ±10 | ±6 | ±4 | ±14 | ±8 | ±2 | ±22 | ±14 | ±10 | ±18 | ±6 | ±30 |
| Offset in mm | 8 | ±10 | ±6 | ±2 | ±14 | ±8 | ±2 | ±22 | ±14 | ±10 | ±18 | ±3 | ±30 |
| at distance | 9 | ±10 | ±6 | | ±14 | ±8 | ±2 | ±22 | ±14 | ±10 | ±18 | | ±30 |
| | 10 | ±8 | ±4 | | ±14 | ±7 | ±1 | ±20 | ±13 | ±8 | ±18 | | ±30 |
| | 12 | ±8 | ±4 | | ±14 | ±7 | | ±20 | ±13 | ±8 | ±18 | | ±28 |
| | 15 | ±8 | ±2 | | ±14 | ±6 | | ±20 | ±12 | ±6 | ±18 | | ±28 |
| | 16 | ±5 | | | ±14 | ±3 | | ±20 | ±10 | | ±18 | | ±28 |
| | 18 | ±5 | | | ±14 | ±2 | | ±20 | ±10 | | ±18 | | ±28 |
| | 20 | ±5 | | | ±14 | | | ±20 | ±8 | | ±18 | | ±28 |
| | 22 | | | | ±12 | | | ±20 | ±6 | | ±16 | | ±24 |
| | 25 | | | | ±12 | | | ±20 | ±4 | | ±16 | | ±24 |
| | 30 | | | | | | | ±16 | | | ±5 | | ±24 |
| | 32 | | | | | | | ±10 | | | | | ±24 |
| | 35 | | | | | | | ±10 | | | | | ±24 |
| | 38 | | | | | | | ±5 | | | | | ±5 |
| | 42 | | | | | | | | | | | | ±5 |
| | 45 | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | |
| | 55 | | | | | | | | | | | | |




Einbauhinweis Datenträger
Installation note for data carriers