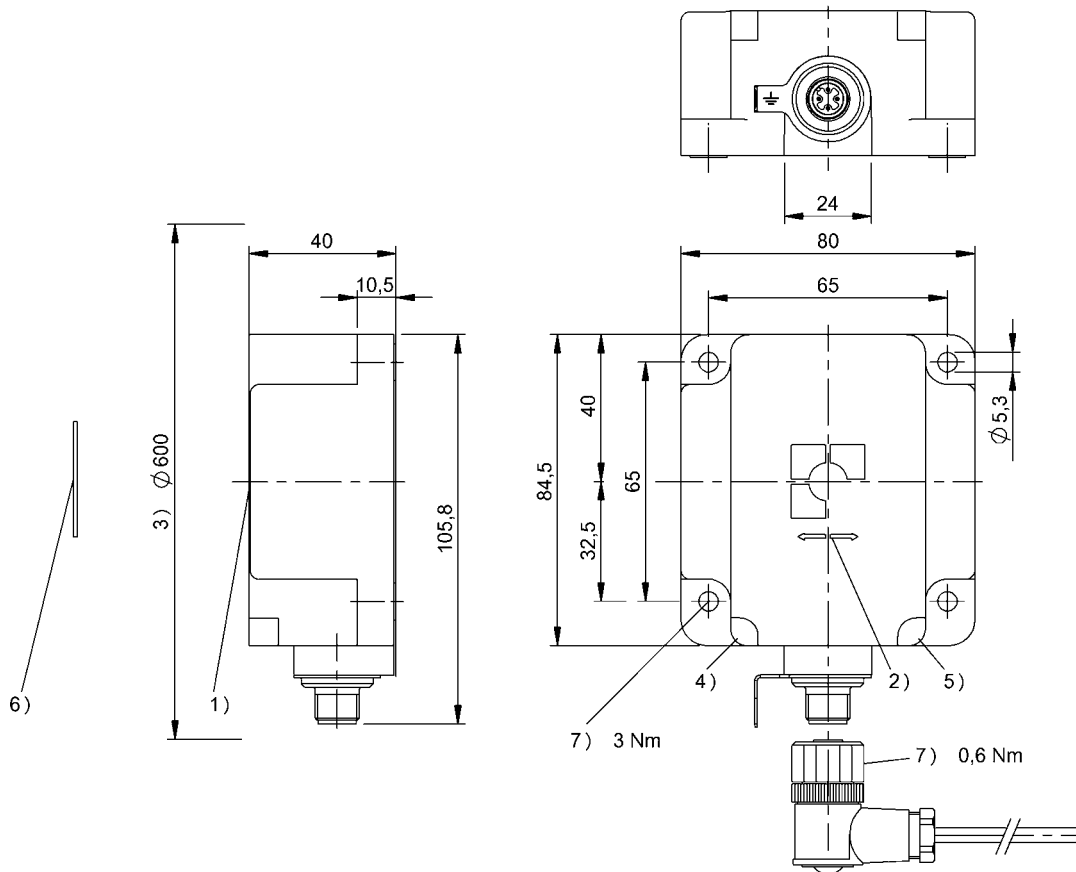


HF (13.56 MHz)
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- 1) Sensing surface
- 2) Read/write axis
- 3) Clear zone
- 4) LED (Power)
- 5) LED (CP)
- 6) Data carrier
- 7) Tightening torque



Basic features

| | |
|------------------------|----------------------------|
| Antenna type | Rod |
| Approval/Conformity | CE cULus EAC WEEE |
| Principle of operation | Read/write head |

Display/Operation

| | |
|--------------------|---|
| Function indicator | Operating, LED yellow flashing CP (Code tag present), LED yellow Power, LED green |
|--------------------|---|

Electrical connection

| | |
|------------|-------------|
| Connection | Male, 4-pin |
|------------|-------------|

Electrical data

| | |
|-------------|---------------|
| EN 300330-1 | Power Class 5 |
|-------------|---------------|

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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 |
| IP rating | IP67 |
| Storage temperature | -20...85 °C |

Functional Characteristics

| | |
|------------------------------|---------------|
| Supported data carrier types | DIN ISO 15693 |
| | DIN |
| | ISO |
| | 15693 |
| | (High Memory) |

Material

| | |
|------------------|-----|
| Housing material | PBT |
|------------------|-----|

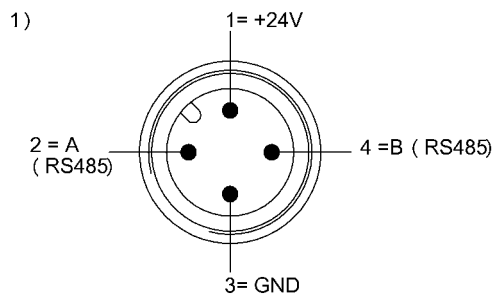
Mechanical data

| | |
|--------------------|-------------------------|
| Application weight | 360.00 g |
| Dimension | 80 x 40 x 84.5 mm |
| Installation | metal-free (clear zone) |

Remarks

Only for data carriers acc. to ISO 15693.
For basic equipment: Accessories see www.balluff.com
Values are under rated conditions unless otherwise specified.
For installation in metal: Observe clear zone.
Only together with BIS V-6xxx

Connector Drawings

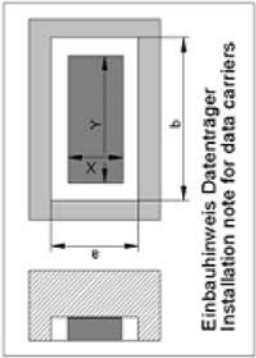


1) View towards connector

Help Views

BIS VM-351-401

| | 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 >200 | >200 >200 |
| Freizone Datenträger in mm (b) Data carrier clear zone in mm | >200 >200 | >200 >200 | >200 >200 | >200 >200 |
| Datenträger Metall-Montagefläche 40x22 Data carrier metal mounting surface 40x22 | 0-52 0-52 | 0-52 0-52 | 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 | 0-52 0-52 | 0-52 0-52 | 0-52 0-52 |
| Lesabstand in mm Read distance in mm | 0-52 0-52 | 0-52 0-52 | 0-52 0-52 | 0-52 0-52 |
| Versatz in mm bei Abstand von | X Y | Y X | X Y | Y X |
| | 0 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 5 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 12 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 15 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 18 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 20 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 22 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 25 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 30 ±60 ±25 | ±60 ±25 | ±60 ±25 | ±60 ±25 |
| | 32 ±50 ±25 | ±50 ±25 | ±50 ±25 | ±50 ±25 |
| | 35 ±50 ±25 | ±50 ±25 | ±50 ±25 | ±50 ±25 |
| | 40 ±50 ±20 | ±50 ±20 | ±50 ±20 | ±50 ±20 |
| | 45 ±25 ±20 | ±25 ±20 | ±25 ±20 | ±25 ±20 |
| | 50 ±25 ±20 | ±25 ±20 | ±25 ±20 | ±25 ±20 |
| | 52 ±25 ±8 | ±25 ±8 | ±25 ±8 | ±25 ±8 |
| | 60 | | | |
| | 65 | | | |



HF (13.56 MHz)

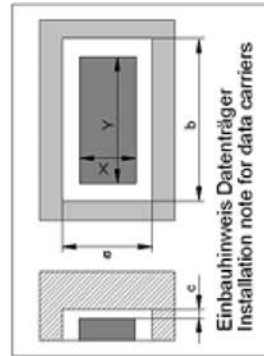
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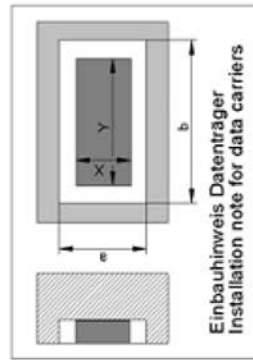
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| | BIS M-152-03/A | BIS M-153-02/A | BIS M-153-02/A | BIS M-153-1x/A | BIS M-157-17/A |
|---|----------------|----------------|----------------|----------------|----------------|
| passende Datenträger Appropriate data carriers | | | | | |
| Freizone Datenträger in mm (a) Data carrier clear zone in mm | >200 >200 | >240 >240 | >240 >240 | >240 >240 | >200 >200 |
| Freizone Datenträger in mm (b) Data carrier clear zone in mm | >200 >200 | >480 >480 | >480 >480 | >480 >480 | >200 >200 |
| Freizone Datenträger in mm (c) Data carrier clear zone in mm | >50 >50 | >50 >50 | >0 >0 | >50 >50 | >50 >50 |
| Schreibabstand in mm Write distance in mm | 0-36 0-36 | 0-100 0-100 | 0-110 0-110 | 0-60 0-60 | 0-25 0-25 |
| Leseabstand in mm Read distance in mm | 0-36 0-36 | 0-100 0-100 | 0-110 0-110 | 0-60 0-60 | 0-25 0-25 |
| Versatz in mm bei Abstand von | X Y | X Y | X Y | X Y | X Y |
| | 0 ±45 ±23 | ±110 ±50 | ±120 ±50 | ±70 ±30 | ±35 ±21 |
| | 5 ±45 ±23 | ±110 ±50 | ±120 ±50 | ±70 ±30 | ±35 ±21 |
| | 10 ±45 ±23 | ±110 ±50 | ±120 ±50 | ±70 ±30 | ±35 ±21 |
| | 15 ±45 ±23 | ±110 ±50 | ±120 ±50 | ±70 ±30 | ±33 ±19 |
| | 20 ±40 ±20 | ±110 ±50 | ±120 ±50 | ±70 ±30 | ±23 ±13 |
| | 25 ±40 ±20 | ±100 ±50 | ±100 ±50 | ±60 ±30 | ±7 ±5 |
| | 30 ±36 ±18 | ±100 ±50 | ±100 ±50 | ±60 ±30 | |
| | 36 ±20 ±10 | ±100 ±50 | ±100 ±50 | ±60 ±30 | |
| | 40 | ±100 ±50 | ±100 ±50 | ±60 ±30 | |
| | 45 | ±100 ±50 | ±100 ±50 | ±50 ±25 | |
| | 50 | ±100 ±50 | ±100 ±50 | ±50 ±25 | |
| | 60 | ±80 ±35 | ±80 ±35 | ±15 ±10 | |
| | 70 | ±80 ±35 | ±80 ±35 | | |
| | 80 | ±80 ±35 | ±80 ±35 | | |
| | 90 | ±80 ±35 | ±80 ±35 | | |
| | 100 | ±35 ±15 | ±80 ±35 | | |
| | 110 | | ±25 ±15 | | |



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| | BIS M-155-1x/A | BIS M-155-1x/A | BIS M-156-1x/A | BIS M-156-1x/A |
|---|----------------|----------------|----------------|----------------|
| passende Datenträger | | | | |
| Appropriate data carriers | | | | |
| Freizone Datenträger in mm (a) | | | | |
| Data carrier clear zone in mm | >200 | >200 | >200 | >200 |
| Freizone Datenträger in mm (b) | | | | |
| Data carrier clear zone in mm | >200 | >200 | >200 | >200 |
| Datenträger Metall-Montagefläche 40x22 | 0-40 | 0-40 | 0-42 | 0-42 |
| Data carrier metal mounting surface 40x22 | | | | |
| Datenträger Metall-Montagefläche ≥ 200x200 | 0-50 | 0-50 | | |
| Data carrier metal mounting surface ≥ 200x200 | | | | |
| Schreibabstand in mm | 0-40 | 0-40 | 0-42 | 0-42 |
| Write distance in mm | | | | |
| Leseabstand in mm | 0-40 | 0-40 | 0-42 | 0-42 |
| Read distance in mm | | | | |
| Versatz in mm bei Abstand von | 0-40 | 0-40 | 0-42 | 0-42 |
| Offset in mm at distance | | | | |
| | X | Y | Y | X |
| 0 | ±50 | ±24 | ±55 | ±25 |
| 5 | ±50 | ±24 | ±55 | ±25 |
| 12 | ±50 | ±24 | ±55 | ±25 |
| 15 | ±50 | ±24 | ±55 | ±25 |
| 18 | ±50 | ±24 | ±55 | ±22 |
| 20 | ±50 | ±24 | ±55 | ±22 |
| 22 | ±40 | ±22 | ±50 | ±22 |
| 25 | ±40 | ±22 | ±50 | ±22 |
| 30 | ±40 | ±22 | ±50 | ±19 |
| 32 | ±40 | ±22 | ±40 | ±19 |
| 35 | ±40 | ±22 | ±40 | ±19 |
| 40 | ±20 | ±10 | ±40 | ±10 |
| 42 | | | ±40 | ±10 |
| 50 | | | ±20 | ±10 |
| 52 | | | | |
| 60 | | | | |
| 65 | | | | |



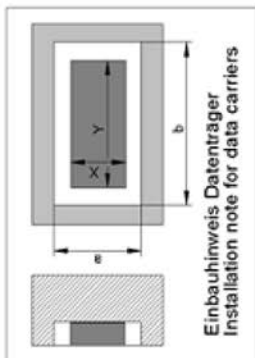
HF (13.56 MHz)

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| | BIS M-155-20/A | BIS M-155-20/A | BIS M-156-20/A | BIS M-156-20/A |
|---|----------------|----------------|----------------|----------------|
| passende Datenträger | | | | |
| Appropriate data carriers | | | | |
| Freizone Datenträger in mm (a) | | | | |
| Data carrier clear zone in mm | >200 | >200 | >200 | >200 |
| Freizone Datenträger in mm (b) | | | | |
| Data carrier clear zone in mm | >200 | >200 | >200 | >200 |
| Datenträger Metall-Montagefläche 40x22 | 0-75 | 0-75 | 0-70 | 0-70 |
| Data carrier metal mounting surface 40x22 | | | | |
| Datenträger Metall-Montagefläche ≥ 200x200 | | | | |
| Data carrier metal mounting surface ≥ 200x200 | | | | |
| Schreibabstand in mm | 0-75 | 0-75 | 0-70 | 0-70 |
| Write distance in mm | | | | |
| Leseabstand in mm | 0-75 | 0-75 | 0-70 | 0-70 |
| Read distance in mm | | | | |
| Versatz in mm | X | Y | X | Y |
| bei Abstand von | 0 | ±85 | ±35 | ±35 |
| | 5 | ±85 | ±35 | ±35 |
| | 10 | ±85 | ±35 | ±35 |
| | 15 | ±85 | ±35 | ±35 |
| | 20 | ±85 | ±35 | ±35 |
| | 25 | ±85 | ±35 | ±35 |
| | 30 | ±85 | ±35 | ±35 |
| | 35 | ±75 | ±30 | ±30 |
| | 40 | ±75 | ±30 | ±30 |
| | 45 | ±75 | ±30 | ±30 |
| | 50 | ±75 | ±30 | ±30 |
| | 54 | ±60 | ±25 | ±25 |
| | 60 | ±60 | ±25 | ±25 |
| | 65 | ±60 | ±25 | ±25 |
| | 70 | ±60 | ±25 | ±25 |
| | 75 | ±40 | ±15 | ±15 |
| | 80 | | | |



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| | BIS M-191-02/A | BIS M-191-02/A | BIS M-191-02/A |
|---|------------------|-----------------|-----------------|
| passende Datenträger Appropriate data carriers | | | |
| Freizone Datenträger in mm (a) Data carrier clear zone in mm | >27 | >27 | >27 |
| Freizone Datenträger in mm (b) Data carrier clear zone in mm | >27 | >27 | >27 |
| Montage Metallfrei Mounting non-metal | 0-57 | 0-57 | 0-27 |
| Schreibabstand in mm Write distance in mm | 0-57 | 0-57 | 0-27 |
| Leseabstand in mm Read distance in mm | 0-57 | 0-57 | 0-27 |
| Versatz in mm bei Abstand von Offset in mm at distance | X ±70 ±35 | Y ±70 ±35 | X ±40 ±20 |
| | 5 ±70 ±35 | | Y ±40 ±20 |
| | 10 ±70 ±35 | | |
| | 15 ±70 ±35 | | |
| | 20 ±70 ±35 | | |
| | 25 ±60 ±30 | | |
| | 27 ±60 ±30 | | |
| | 35 ±60 ±30 | | |
| | 40 ±60 ±30 | | |
| | 45 ±50 ±25 | | |
| | 50 ±50 ±25 | | |
| | 57 ±30 ±15 | | |
| | 60 | | |
| | 65 | | |
| | 70 | | |
| | 75 | | |

