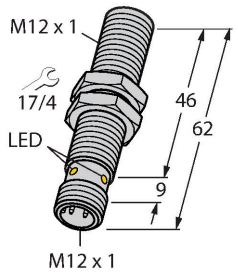
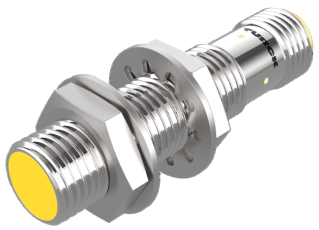
# BIM-EM12E-AP6X-H1141/S1751
# Magnetic Field Sensor – Magnetic-inductive Proximity Sensor With FM Approval



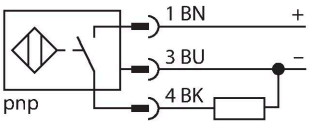
## Technical data

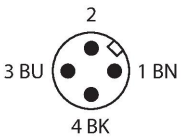
| | |
|---|---|
| Type | BIM-EM12E-AP6X-H1141/S1751 |
| ID | 100001278 |
| Special version | S1751 Corresponds to:FM — Class I Div 2 approval |
| **General data** | |
| Rated switching distance | 90 mm |
| | In conjunction with magnet DMR31-15-5 |
| Repeat accuracy | ≤ 0.3 % of full scale |
| Temperature drift | ≤ ±15 % |
| Hysteresis | 1…10 % |
| **Electrical data** | |
| Operating voltage $U_B$ | 10…30 VDC |
| Ripple $U_{ss}$ | ≤ 10 % $U_{Bmax}$ |
| DC rated operating current $I_e$ | ≤ 200 mA |
| No-load current | ≤ 15 mA |
| Residual current | ≤ 0.1 mA |
| Isolation test voltage | 0.5 kV |
| Short-circuit protection | yes/Cyclic |
| Voltage drop at $I_e$ | ≤ 1.8 V |
| Wire break/reverse polarity protection | yes/Complete |
| Output function | 3-wire, NO contact, PNP |
| Switching frequency | 1 kHz |

## Features

- Threaded barrel, M12 x 1
- Stainless steel, 1.4301
- Rated operating distance 90 mm with DMR31-15-5 magnet
- DC 3-wire, 10…30 VDC
- NO contact, PNP output
- Male connector, M12 x 1

## Wiring diagram




## Functional principle

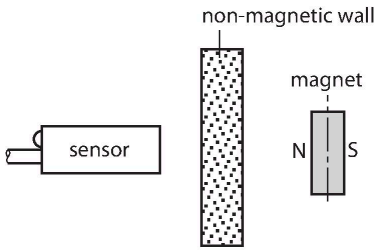
Magnetic inductive proximity sensors are actuated by magnetic fields and are thus capable of detecting permanent magnets through non-ferromagnetic materials (e.g. wood, plastic, non-ferrous metals, aluminium, stainless steel).
Thus it is possible to achieve large switching distances even with smaller housing styles.

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## Technical data

| Mechanical data | |
|---|---|
| Design | Threaded barrel, M12 x 1 |
| Dimensions | 62 mm |
| Housing material | Stainless steel, 1.4301 (AISI 304) |
| Active area material | Plastic, PBT-GF30 |
| Max. tightening torque of housing nut | 10 Nm |
| Electrical connection | Connector, M12 × 1 |
| **Environmental conditions** | |
| Ambient temperature | -25…+70 °C |
| Vibration resistance | 55 Hz (1 mm) |
| Shock resistance | 30 g (11 ms) |
| Protection class | IP67 |
| MTTF | 2283 years acc. to SN 29500 (Ed. 99) 40 °C |
| Switching state | LED, Yellow |

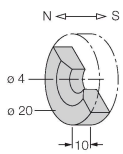
In combination with the actuation magnet DMR31-15-5 TURCK sensors feature a relatively high switching distance. Thus there are multiple detection possibilities, particularly if the mounting space is limited or other difficult sensing conditions prevail.

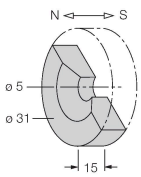


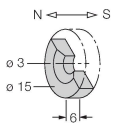

## Mounting instructions

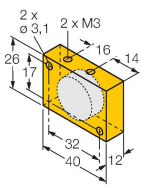
| Mounting instructions/Description | | |
|---|---|---|
| | Diameter active area B | Ø 12 mm |

## Accessories

| DMR20-10-4 | 6900214 |
|---|---|
|  | Actuation magnet; Ø 20 mm (Ø 4 mm), h: 10 mm; attainable switching distance 59 mm on BIM-(E)M12 magnetic field sensors or 50 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3…4 mm |

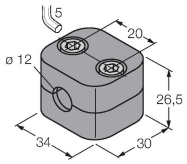
| DMR31-15-5 | 6900215 |
|---|---|
|  | Actuation magnet, Ø 31 mm (Ø 5 mm), h: 15 mm; attainable switching distance 90 mm on BIM-(E)M12 magnetic field sensors or 78 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3…5 mm |

| DMR15-6-3 | 6900216 |
|---|---|
|  | Actuation magnet, Ø 15 mm (Ø 3 mm), h: 6 mm; attainable switching distance 36 mm on BIM-(E)M12 magnetic field sensors or 32 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3…4 mm |

| DM-Q12 | 6900367 |
|---|---|
|  | Actuator, rectangular, plastic, attainable switching distance 58 mm on BIM-(E)M12 magnetic field sensors or 49 mm on BIM-EG08 magnetic field sensors; for Q25L linear position sensors: recommended distance between the sensor and magnet: 3…5 mm |

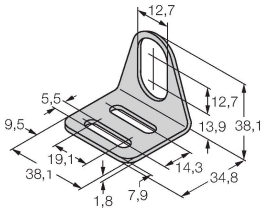
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| BSS-12 | 6901321 |
|---|---|




Mounting clamp for smooth and threaded barrel sensors; material: Polypropylene

| MW12 | 6945003 |
|---|---|




Mounting bracket for threaded barrel sensors; material: Stainless steel A2 1.4301 (AISI 304)

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