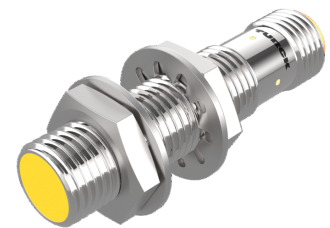
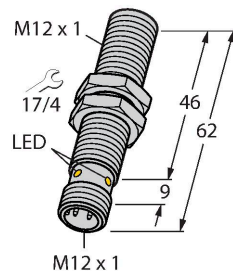


# BIM-EM12E-AP6X-H1141/S1751

## Magnetic Field Sensor – Magnetic-inductive Proximity Sensor With FM Approval



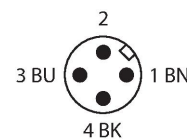
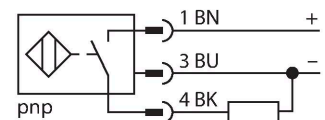
### Technical data

|                                        |                                                  |
|----------------------------------------|--------------------------------------------------|
| Type                                   | BIM-EM12E-AP6X-H1141/S1751                       |
| ID                                     | 100001278                                        |
| Special version                        | S1751 Corresponds to:FM — Class I Div 2 approval |
| <b>General data</b>                    |                                                  |
| 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 %                                         |
| <b>Electrical data</b>                 |                                                  |
| Operating voltage $U_B$                | 10...30 VDC                                      |
| Ripple $U_{ss}$                        | ≤ 10 % $U_{Bmax}$                                |
| DC rated operating current $I_o$       | ≤ 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 $I_o$                  | ≤ 1.8 V                                          |
| Wire break/reverse polarity protection | yes/Complete                                     |
| Output function                        | 3-wire, NO contact, PNP                          |
| Switching frequency                    | 1 kHz                                            |
| <b>Mechanical data</b>                 |                                                  |
| Design                                 | Threaded barrel, M12 x 1                         |
| Dimensions                             | 62 mm                                            |
| Housing material                       | Stainless steel, 1.4301 (AISI 304)               |

### 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

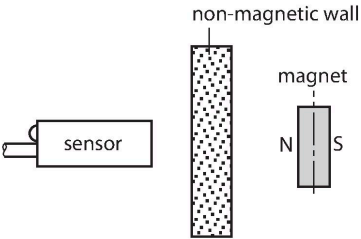


### Functional principle

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. 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.

Technical data

|                                       |                                            |
|---------------------------------------|--------------------------------------------|
| 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                                |



Mounting instructions

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

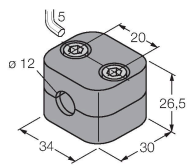
Accessories

|            |                                                                                                                                                                                                                                                                    |            |                                                                                                                                                                                                                                                                    |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DMR20-10-4 | 6900214                                                                                                                                                                                                                                                            | DMR31-15-5 | 6900215                                                                                                                                                                                                                                                            |
|            | 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 |            | 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                                                                                                                                                                                                                                                            | DM-Q12     | 6900367                                                                                                                                                                                                                                                            |
|            | 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  |            | 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               |

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)

