

## Datasheet - EX-BNS 180-12Z-2187-2-3G/D 5,0M

Safety sensors / EX-BNS 180



- Ex certified
- Thermoplastic enclosure
- Suitable for food processing industry only in combination with BP 15 SS
- Ø M18
- Particularly large switching distance
- Long life
- no mechanical wear
- Insensitive to transverse misalignment
- Insensitive to soiling

(Minor differences between the printed image and the original product may exist!)

### Ordering details

|                          |                                 |
|--------------------------|---------------------------------|
| Product type description | EX-BNS 180-12Z-2187-2-3G/D 5,0M |
| Article number           | 101192525                       |
| EAN Code                 | 4030661352657                   |
| eCl@ss                   | 27-27-24-02                     |

### Approval


|          |      |
|----------|------|
| Approval | ATEX |
|----------|------|

### Classification

|  |  |
|--|--|
| Standards  | EN ISO 13849-1   |
| B10d Normally-closed contact/Normally open contact (NC/NO) | 25.000.000   |
| - notice   | at max. 20% contact load   |
| Mission time   | 20 Years   |
| notice   | $MTTF_d = \frac{B_{10d}}{0,1 \times n_{op}}$ $n_{op} = \frac{d_{op} \times h_{op} \times 3600 \text{ s/h}}{t_{cycle}}$ |

### Global Properties

|                 |  |
|-----------------|--|
| Permanent light | EX-BNS 180   |
| Standards       | IEC 60947-5-3, EN 60079-0, EN 60079-15, EN 60079-31, BG-GS-ET-14 |

Compliance with the Directives (Y/N) 

Yes

#### Materials

|   |   |
|---|---|
| - Material of the housings                      | Plastic, glass-fibre reinforced thermoplastic |
| - Material of the cable mantle                  | PVC   |
| Housing construction form                       | cylinder, thread                              |
| Weight  | 235   |
| Coding available (Y/N)                          | No  |
| Monitoring function of downstream devices (Y/N) | No  |
| Prerequisite evaluation unit                    |   |
| Recommended safety-monitoring module            |   |
| Recommended actuator                            | BP 6, BP 8, BP 10, BP 15 SS                   |

### Mechanical data

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|                                      |   |
|--------------------------------------|---|
| Design of electrical connection      | Cable                                     |
| Cable length                         | 5   |
| Conductors                           | 6 x 0,25                                  |
| AWG-Number                           | 23  |
| mechanical installation conditions   | quasi-flush                               |
| Active area                          | front side                                |
| Ensured switch distance ON $S_{ao}$  | 8 mm / 18 mm                              |
| - Actuating magnet BP 15 SS          | 18  |
| - Actuating magnet BP 6              | 8   |
| - Actuating magnet BP 8              | 8   |
| - Actuating magnet BP 10             | 18  |
| Ensured switch distance OFF $S_{ar}$ | 22 mm / 32 mm                             |
| - Actuating magnet BP 10             | 28  |
| - Actuating magnet BP 8              | 20  |
| - Actuating magnet BP 15 SS          | 28  |
| - Actuating magnet BP 6              | 20  |
| Type of actuation                    | Magnet                                    |
| Direction of motion                  | head-on with regard to the active surface |
| restistance to shock                 | 30 g / 11 ms                              |
| Resistance to vibration              | 10 ... 55 HZ, Amplitude 1 mm              |
| Impact energy                        | max. 2 Nm                                 |

### Ambient conditions

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|  |      |
|--|------|
| Ambient temperature                      |      |
| - Min. environmental temperature         | -25  |
| - Max. environmental temperature         | +70  |
| Storage and transport temperature        |      |
| - Min. Storage and transport temperature | -25  |
| - Max. Storage and transport temperature | +70  |
| Protection class                         | IP67 |

### Electrical data

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|  |                 |
|--|-----------------|
| Integrated Safety monitoring module available (Y/N)    | No              |
| Cross circuit/short circuit recognition possible (Y/N) | Yes             |
| Voltage type   | VAC/DC          |
| Switch frequency                                       | max. 5 HZ       |
| Switching voltage                                      | max. 120 VAC/DC |
| Switching current                                      | max. 250 mA     |

Switching capacity max. 5 W

## Outputs

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|  |   |
|--|---|
| Design of control output                 |   |
| Number of shutters                       | 1 |
| Number of openers                        | 2 |
| Design of output signal switching device |   |

## Electrical data - Safety outputs

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|   |   |
|---|---|
| Number of secure semi-conductor outputs | 0 |
| Number of secure outputs with contact   | 2 |

## Electrical data - Diagnostic output

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|   |   |
|---|---|
| Number of semi-conductor outputs with signaling function              | 0 |
| Number of outputs with signaling function that already have a contact | 1 |

## LED switching conditions display

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|  |    |
|--|----|
| LED switching conditions display (Y/N) | No |
|--|----|

## ATEX

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|   |  |
|---|--|
| EX-marking                                | EX II 3D Ex tc IIIC T80°C Dc X<br>EX II 3G Ex nC IIC T6 Gc X |
| Explosion protection categories for gases | 3G   |
| Explosion protection Zones for gases      | 2  |
| Explosion protected category for dusts    | 3D   |
| Explosion protection Zones for dusts      | 22   |

## Dimensions

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|                          |     |
|--------------------------|-----|
| Dimensions of the sensor |     |
| - Length of sensor       | 36  |
| - Diameter of sensor     | M18 |

## notice

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Contact symbols shown for the closed condition of the guard device.

The safety sensor must be mounted in such a way that actuation with another magnet is impossible (concealed mounting according to EN 1088)

## Included in delivery

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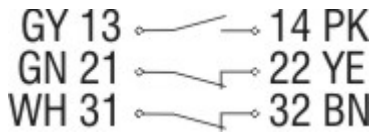
Actuators must be ordered separately.

## Keywords

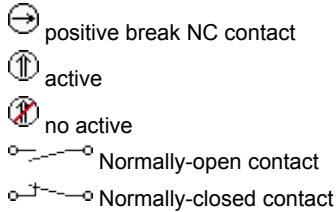
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|          |  |
|----------|--|
| Keywords | Ex, EEx, ATEX, Ex BNS180, EX BNS 180, BNS 180 Ex, BNS180ex, BNS 180 ex, ATEX BNS 180 |
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## Diagram



Note Diagram



## Documents

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**Operating instructions and Declaration of conformity (de)** 477 kB, 09.11.2017

Code: mrl\_ex-bns180\_de

**Operating instructions and Declaration of conformity (pt)** 488 kB, 12.01.2018

Code: mrl\_ex-bns180\_pt

**Operating instructions and Declaration of conformity (fr)** 480 kB, 09.09.2014

Code: mrl\_ex-bns180\_fr

**Operating instructions and Declaration of conformity (es)** 500 kB, 19.12.2017

Code: mrl\_ex-bns180\_es

**Operating instructions and Declaration of conformity (it)** 494 kB, 16.01.2018

Code: mrl\_ex-bns180\_it

**Operating instructions and Declaration of conformity (en)** 500 kB, 09.11.2017

Code: mrl\_ex-bns180\_en

**Operating instructions and Declaration of conformity (nl)** 500 kB, 07.08.2018

Code: mrl\_ex-bns180\_nl

**Operating instructions and Declaration of conformity (pl)** 534 kB, 27.03.2018

Code: mrl\_ex-bns180\_pl

**Operating instructions and Declaration of conformity (jp)** 595 kB, 09.09.2014

Code: mrl\_ex-bns180\_jp

**Brochure (de)** 7 MB, 19.10.2016

Code: b\_atep01\_de

**Brochure (en)** 7 MB, 19.10.2016

Code: b\_atep01\_en

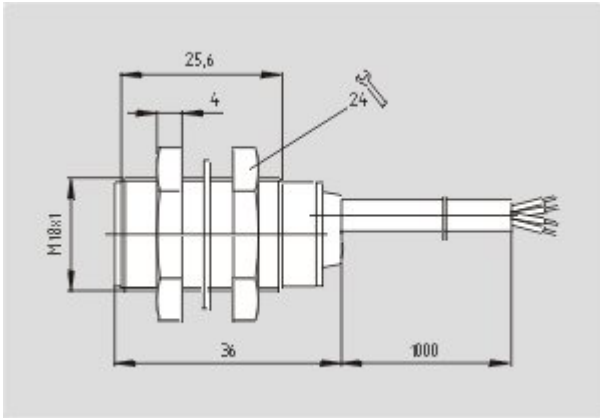
**Brochure (it)** 3 MB, 20.07.2007

Code: b\_atep05

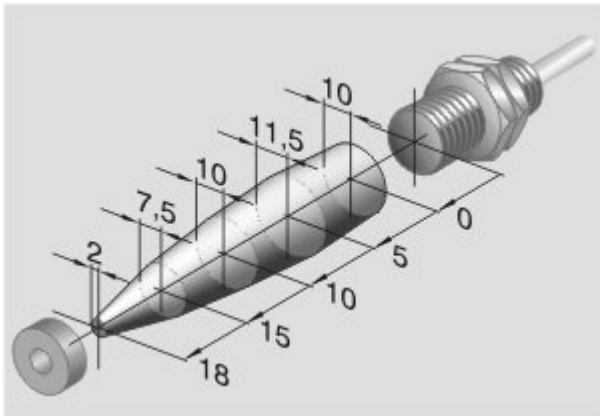
**Brochure (es)** 5 MB, 18.08.2009

Code: b\_atep09

## Images



Dimensional drawing (basic component)



Characteristic curve

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The data and values have been checked thoroughly. Technical modifications and errors excepted.

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