

Datasheet - BNS 16 ST1-AS D

AS interface safety at work / Safety switchgear / Safety sensors / BNS 16 AS



- Safety sensor
- Thermoplastic enclosure
- no mechanical wear
- 40 mm x 90 mm x 39 mm
- Integrated AS-Interface
- Concealed mounting possible
- Long life
- Insensitive to transverse misalignment
- Insensitive to soiling
- AS-Interface LED and status display
- connector plug M12, bottom, 4-pole

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

Ordering details

Product type description	BNS 16 ST1-AS D
Article number	101177222
EAN Code	4030661308012
eCI@ss	27-27-24-02

Approval


Approval



Classification

Standards	EN ISO 13849-1, IEC 61508
PL	up e
Control category	bis 4
PFH	7.42 x 10 ⁻⁹ / h
- notice	up to max. 500.000 switching cycles/year
SIL	up 3
Mission time	20 Years

Global Properties

Permanent light	BNS 16 AS
Standards	EN 50295, IEC 60947-5-3, EN ISO 13849-1, IEC 61508
Compliance with the Directives (Y/N) 	Yes
Materials	
- Material of the housings	Plastic, glass-fibre reinforced thermoplastic
Weight	145
Coding available (Y/N)	Yes
Response time	< 100
Recommended actuator	BPS 16

Mechanical data

Design of electrical connection	connector plug M12, 4-pole
connector	bottom
mechanical installation conditions	quasi-flush
Active area	cover-side
Ensured switch distance ON S_{ao}	8 mm
Ensured switch distance OFF S_{ar}	18 mm
Repeat accuracy R_R	$R \leq 0,1 \times S_{ao}$
Type of actuation	Magnet
Direction of motion	head-on with regard to the active surface
resistance to shock	30 g / 11 ms
Resistance to vibration	10 ... 55 HZ, Amplitude 1 mm

Ambient conditions

Ambient temperature	
- Min. environmental temperature	-25
- Max. environmental temperature	+60
Storage and transport temperature	
- Min. Storage and transport temperature	-25
- Max. Storage and transport temperature	+70
Protection class	IP67 to IEC/EN 60529
Air clearances and creepage distances To IEC/EN 60664-1	
- Rated impulse withstand voltage U_{imp}	0,8 kV
- Rated insulation voltage U_i	32 VDC
- Overvoltage category	III
- Degree of pollution	3

Electrical data - AS interface

AS-i Supply voltage	26.5 ... 31.6 VDC, Protection against polarity reversal
AS-i operating current	≤ 50
AS-i Device insulation	internally short-circuit proof
AS-i Specification	
- version	V 2.1
- Profile	S-0.B.F.E
- IO-Code	0x0
- ID-Code	0xB
- ID-Code1	0xF
- ID-Code2	0xE
AS-i Inputs	
- Channel 1	Data bits DI 0/DI 1= dynamic code transmission

- Channel 2	Data bits DI 2/DI 3= dynamic code transmission
AS-i Outputs	DO 0 ... DO 3 not used
AS-i Parameter bits	P0 ... P3 not used
AS-i input module address	0
- Default on address 0, programmable via the AS-Interface Master or Hand-held programming device	

LED switching conditions display

LED switching conditions display (Y/N)	Yes
AS-i LED switching conditions display	
AS-i LED switching conditions display	
(1) green LED	Supply voltage
(2) red LED	Communication error / slave address = 0
(3) yellow LED	Enabling status

ATEX

Explosion protection categories for gases	None
Explosion protected category for dusts	None

Dimensions

Dimensions of the sensor	
- Width of sensor	40
- Height of sensor	90
- Length of sensor	38.5

Pin assignment

1	AS-i +
2	None
3	AS-i -
4	None

Included in delivery

Actuators must be ordered separately.

Ordering code

BNS 16(1)-AS (2)

(1)

ST1	Connector bottom
ST2	male connector right
ST3	Connector left

(2)

V	Actuation front side
D	Actuation cover-side

Documents

Operating instructions and Declaration of conformity (jp) 831 kB, 09.08.2011

Code: mrl_bns16as_jp

Operating instructions and Declaration of conformity (de) 539 kB, 06.05.2010

Code: mrl_bns16as_de

Operating instructions and Declaration of conformity (es) 463 kB, 06.05.2010

Code: mrl_bns16as_es

Operating instructions and Declaration of conformity (en) 1 MB, 19.01.2010

Code: mrl_bns16as_en

Operating instructions and Declaration of conformity (nl) 485 kB, 19.08.2011

Code: mrl_bns16as_nl

Operating instructions and Declaration of conformity (fr) 791 kB, 25.01.2010

Code: mrl_bns16as_fr

Operating instructions and Declaration of conformity (pt) 264 kB, 08.05.2017

Code: mrl_bns16as_pt

Operating instructions and Declaration of conformity (fr) 276 kB, 22.12.2017

Code: mrl_bns16as-v2_fr

Operating instructions and Declaration of conformity (es) 280 kB, 22.12.2017

Code: mrl_bns16as-v2_es

Operating instructions and Declaration of conformity (pl) 274 kB, 02.12.2014

Code: mrl_bns16as-v2_pl

Operating instructions and Declaration of conformity (de) 263 kB, 16.11.2017

Code: mrl_bns16as-v2_de

Operating instructions and Declaration of conformity (pt) 264 kB, 08.05.2017

Code: mrl_bns16as-v2_pt

Operating instructions and Declaration of conformity (da) 258 kB, 14.10.2015

Code: mrl_bns16as-v2_da

Operating instructions and Declaration of conformity (jp) 441 kB, 20.12.2011

Code: mrl_bns16as-v2_jp

Operating instructions and Declaration of conformity (en) 277 kB, 16.11.2017

Code: mrl_bns16as-v2_en

Operating instructions and Declaration of conformity (nl) 277 kB, 03.08.2018

Code: mrl_bns16as-v2_nl

Operating instructions and Declaration of conformity (it) 274 kB, 22.12.2017

Code: mrl_bns16as-v2_it

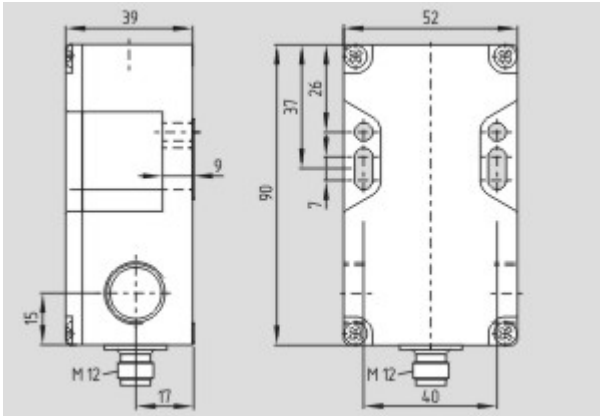
BG-test certificate (de, en) 1 MB, 24.11.2017

Code: z_bnbsp01

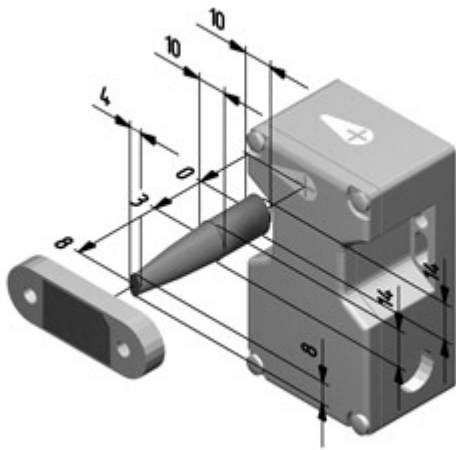
BG-test certificate (de, en) 463 kB, 03.05.2005

Code: z_bn1p01

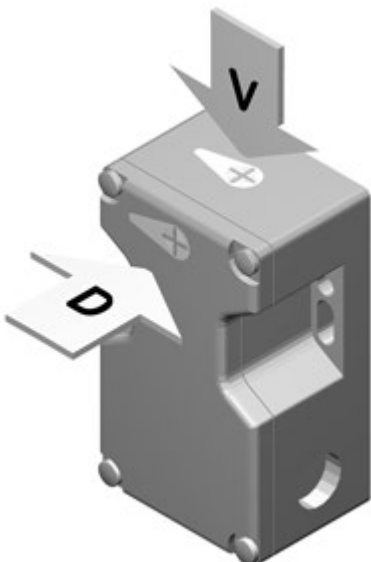
Images



Dimensional drawing (basic component)



Dimensional drawing (miscellaneous)



Operating principle

System components

Actuator

101172566 - BPS 16



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

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