



BNS 16 ST1-AS V

- connector plug M12, bottom, 4-pole
- 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

Data

Ordering data

EAN (European Article Number)	4030661308005
eCl@ss number, Version 9.0	27-27-24-02
eCl@ss number, Version 11.0	27-27-24-02
ETIM number, version 6.0	EC002544
ETIM number, version 7.0	EC002544

Approval - Standards

Certificates	TÜV cULus ASi-SaW EAC
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General data

Standards	IEC 61508 IEC 60947-5-3 EN 62026-2 EN ISO 13849-1
Active principle	Magnetic drive
Installation conditions (mechanical)	quasi-flush
Enclosure material	Glass-fibre, reinforced thermoplastic
Gross weight	138.6 g
Reaction time, maximum	100 ms

General data - Features

Coding	Yes
Integral System Diagnostics, status	Yes

Safety appraisal

Standards	IEC 61508
Performance level, up to	e
Control category to EN13849	4
PFH-value	7.42×10^{-9} /h
Note (PFH-value)	up to max. 500,000 switching cycles/year
Safety Integrity Level (SIL), suitable for applications in	3
Mission Time	20 Year(s)

Mechanical data

Active area	front side
Actuating element	Magnet
Repeat accuracy ρ	$\leq 0.1 \times S_{a0}$
Direction of motion	Head-on to the active surface

Mechanical data - Switching distances according IEC 60947-5-3

Ensured switch distance "ON" S_{ao}	8 mm
Ensured switch distance "OFF" S_{ar}	18 mm

Mechanical data - Connection technique

Terminal Connector	Connector plug M12, 4-pole, (A-coding)
Connector position	Bottom

Mechanical data - Dimensions

Length of sensor	38.5 mm
Width of sensor	40 mm
Height of sensor	90 mm

Ambient conditions

Degree of protection	IP67 to EN 60529
Ambient temperature, minimum	-25 °C
Ambient temperature, maximum	+60 °C
Storage and transport temperature, minimum	-25 °C
Storage and transport temperature, maximum	+70 °C
Resistance to vibrations to EN 60068-2-6	10 ... 55 Hz, amplitude 1 mm
Resistance to shock	30 g / 11 ms
Protection rating	II

Ambient conditions - Insulation value

Rated insulation voltage U_i	32 VDC
Rated impulse withstand voltage U_{imp}	0.8 kV

Overvoltage category	III
Degree of pollution to VDE 0100	3

Electrical data - AS Interface

AS-i Operating voltage, minimum	18 VDC
AS-i Operating voltage AS-i maximum	31.6 VDC
Note (AS-i Operating voltage)	Protection against polarity reversal
AS-i Current consumption, maximum	50 mA

Electrical data - AS-Interface specification

AS-i Specification	Safety-Slave
AS-i Version	V 2.1
AS-i Profile	S-0.B.F.E
AS-i, IO-Code	0x0
AS-i, ID-Code	0xB
AS-i, ID-Code1	0xF
AS-i, ID-Code2	0xE
AS-i Input, Channel 1	Data bits DI 0 / DI 1 = dynamic code transmission
AS-i Input, Channel 2	Data bits DI 2 / DI 3 = dynamic code transmission
AS-i Outputs, DO 0 ... DO 3	No Function
AS-i Parameter bits, P0 ... P3	No function
Note (AS-i Parameter bits)	Set the parameter outputs to "1111" (0xF) FID: periphery error
AS-i Input module address	0
Note (AS-i Input module address)	Preset to address 0, can be changed through AS-interface bus master or hand-held programming device

Status indication

Note (LED switching conditions display)

(1) LED yellow: Channel 1 / AS-i SaW Bit 0.1

(2) LED green/red (AS-i duo LED): Supply voltage / communication error / slave address = 0 / periphery error detected

(3) LED yellow: Channel 2 / AS-i SaW Bit 2.3

Pin assignment

PIN 1	AS-i +
PIN 2	n.c.
PIN 3	AS-Interface -
PIN 4	n.c.

Scope of delivery

Included in delivery	Actuators must be ordered separately.
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Accessory

Recommendation (actuator)	BPS 16
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The details and data referred to have been carefully checked. Images may diverge from original. Further technical data can be found in the manual. Technical amendments and errors possible.

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