

## Overview

- 8 mm
- NPN make function (NO)
- cable, 2 m
- 40 ... 85 °C
- Protection class IP68 / IP69K



*Picture similar*



## Technical data

### General data

Mounting type	Flush
Special type	Vehicle
Nominal sensing distance S <sub>n</sub>	8 mm
Hysteresis	3 ... 10 % of S <sub>r</sub>
Output indicator	LED red
Approvals/certificates	EN 60947-5-2:2007, Sec 8.6 EN 13309:2010 <sup>1) 3)</sup> EN ISO 14982:2009 <sup>1) 2)</sup> ISO 13766:2006 <sup>1)</sup>

### Electrical data

Switching frequency	< 800 Hz
Voltage supply range +V <sub>s</sub>	7 ... 48 VDC
Current consumption max. (no load)	10 mA
Output circuit	NPN make function (NO)
Voltage drop V <sub>d</sub>	< 2 VDC
Output current	< 200 mA
Short circuit protection	Yes
Reverse polarity protection	Yes
Off-Highway Electromag- netic immunity	ISO 11452-4: 200mA ISO 11452-2: 100V/m Based on UN / ECE R10 Rev 5 ch. 6.8 (no ECE type approval available)

### Electrical data

Off-Highway Emission	EN 55011 Based on UN / ECE R10 Rev 5 ch. 6.5, 6.6 (no ECE type approval available)
Conducted interference	ISO 7637-2, ISO 16750-2, details see section "Test pulses"

### Mechanical data

Type	Cylindrical threaded
Material (sensing face)	PBT
Housing material	Brass nickel plated
Dimension	18 mm
Housing length	50 mm
Connection types	Cable, L=2 m
Tightening torque max.	40 Nm (A: 28 Nm, B: 28 Nm)

### Ambient conditions

Operating temperature	-40 ... +85 °C
Protection class	IP 68 (sensing face/sensor) IP 68 (1,5 m, 24 h) IP 69K (sensing face)

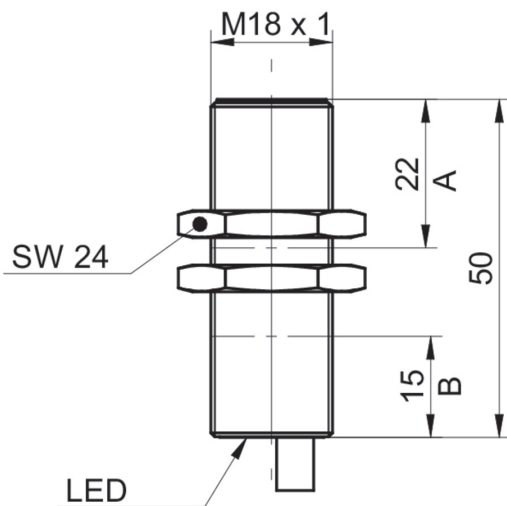
#### Remarks

- 1) only for use in machines with centralized load dump suppression (58 V DC)
- 2) shall not be used in the direct control and modification of the state of function of the machine
- 3) not for operations during engine start phase in 12 VDC / 24 VDC vehicle power

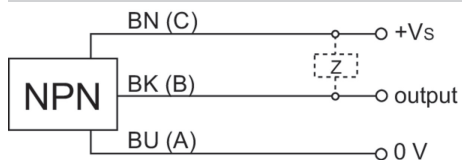
#### Test pulses

Test pulse (ISO 7637-2, ISO 16750-2)	1	2a	2b	3a	3b	4	5b
Severity level	IV	III	IV	III	III	III	
Functional status (12V/24V System)	C	A	C	A	A	C/B	A

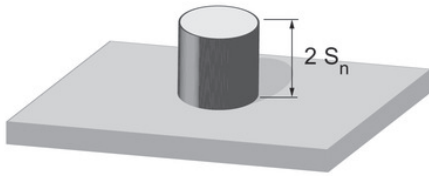
#### Dimension drawing



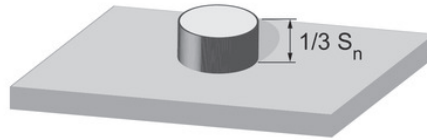
#### Connection diagram



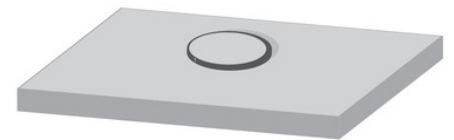
**Correction factors for different mounting situation (approx.)**



Mounting material	Correction factor
Mild steel	100 %
Stainless steel	100 %
Aluminum	100 %



Mounting material	Correction factor
Mild steel	105%
Stainless steel	95 %
Aluminum	95 %



Mounting material	Correction factor
Mild steel	not possible
Stainless steel	95 %
Aluminum	80 %

**Mounting instructions**

