



Model Number

NBB20-L2-B3B-V1

Features

- Sensor head bidirectional and rotatable
- 20 mm flush
- A/B slave with extended addressing possibility for up to 62 slaves
- NO/NC programmable
- Oscillator monitoring
- On/Off delay (disconnectable)

Accessories

V1-G

Female connector, M12, 4-pin, field attachable

V1-W

Female connector, M12, 4-pin, field attachable

V1-G-2M-PUR

Female cordset, M12, 4-pin, PUR cable

V1-W-2M-PUR

Female cordset, M12, 4-pin, PUR cable

MHW 01

Modular mounting bracket

MH 02-L

Mounting aid

Technical Data

General specifications

Switching element function		NO/NC programmable
Rated operating distance	s_n	20 mm
Installation		flush
Output polarity		AS-Interface
Assured operating distance	s_a	0 ... 16.2 mm
Reduction factor r_{Al}		0.33
Reduction factor r_{Cu}		0.31
Reduction factor r_{304}		0.74
Reduction factor r_{Brass}		0.41
Slave type		A/B slave
AS-Interface specification		V3.0
Required master specification		$\geq V2.1$

Nominal ratings

Operating voltage	U_B	26.5 ... 31.9 V via AS-i bus system
Switching frequency	f	0 ... 150 Hz
Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
No-load supply current	I_0	≤ 40 mA
Time delay before availability	t_v	≤ 1000 ms
Operating voltage display		LED, green
Switching state indication		LED, yellow
Fault indication		LED, red

Functional safety related parameters

MTTF _d		1330 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %

Ambient conditions

Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)

Mechanical specifications

Connection type		Connector M12 x 1, 4-pin
Housing material		PA
Sensing face		PA
Protection degree		IP69K
Mass		130 g

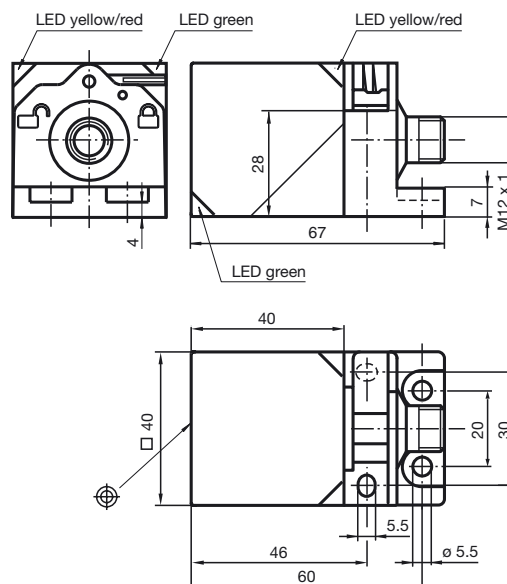
Compliance with standards and directives

Standard conformity		
Standards		EN 60947-5-2:2007 IEC 60947-5-2:2007

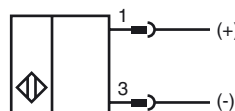
Approvals and certificates

UL approval		cULus Listed, General Purpose
CSA approval		cCSAus Listed, General Purpose
CCC approval		CCC approval / marking not required for products rated ≤ 36 V

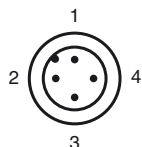
Dimensions



Electrical Connection



Pinout



Programming Instructions

Address 00 preset, alterable via Busmaster or programming units
 IO-Code 0
 ID-Code A
 ID1-Code 7
 ID2-Code E

Data bit

Bit	Function
D0	switching state ¹⁾ (0 = damped; 1 = undamped)
D1	not used
D2	oscillator monitoring (0= oscillator defective, 1=normal operation)
D3	not used

Parameter bit

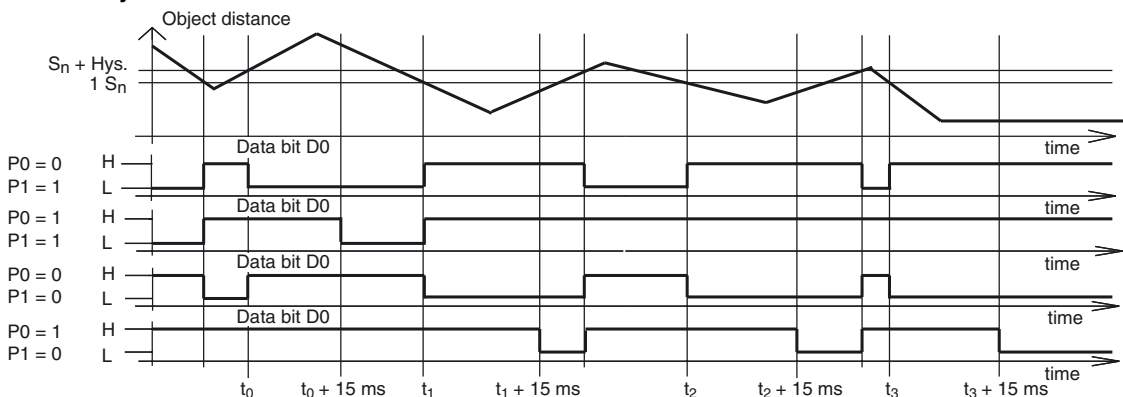
Bit	Function
P0	ON / Off delay activated* / deactivated
P1	switching element function ²⁾ (0 = NC; 1 = NO)
P2	not used
P3	not used

1) Applies to NO funktion (P1 = 1; preset), with NC funktion (P1 = 0) reversed characteristics
 2) Default setting: NO

Indication depending on the operation mode

Symptoms	green LED (POWER)	red LED (FAULT)	Data bit D2
normal operation	on	off	1
Oscillator defect	flashing	flashing	0
no communication	off	on	1

On/off delay:



The on/off delay is preset and switched on (P0=1). On delay approx.15 ms, when P0=1 and NO function (P1=1). Off delay approx.15 ms, when P0=1 and NC function (P1=0).

Release date: 2013-07-10 09:35 Date of issue: 2013-07-10 226318_eng.xml