

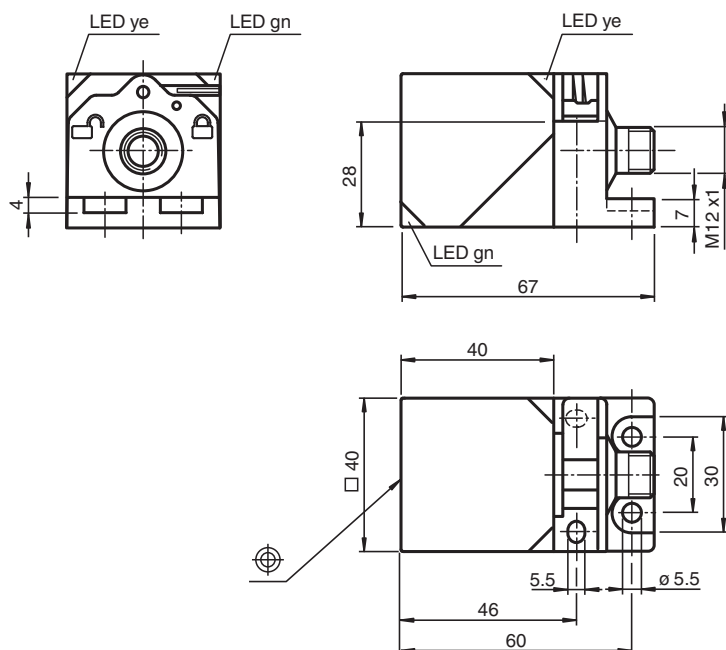


Inductive sensor NBN40-L2-B3-V1

- Sensor head bidirectional and rotatable
- Basic series
- NO/NC programmable
- Adjustable sensor head
- Oscillator monitoring
- On/Off delay (disconnectable)



Dimensions



Technical Data

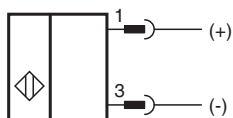
General specifications

Switching function		Normally open/closed (NO/NC) programmable
Output type		AS-Interface
Rated operating distance	s_n	40 mm
Installation		non-flush
Assured operating distance	s_a	0 ... 32.4 mm
Reduction factor r_{AI}		0.3
Reduction factor r_{Cu}		0.3
Reduction factor r_{304}		0.75
Node type		Standard node

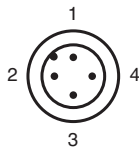
Technical Data

AS-Interface specification		V2.1
Required gateway specification		≥ V2.1
Output type		2-wire
Nominal ratings		
Operating voltage	U_B	26.5 ... 31.9 V via AS-i bus system
Switching frequency	f	0 ... 50 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 indicator		LED, green
Switching state indicator		LED, yellow
Functional safety related parameters		
MTTF _d		1330 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Compliance with standards and directives		
Standard conformity		
Standards		EN IEC 60947-5-2
Approvals and certificates		
UL approval		cULus Listed, General Purpose
CCC approval		CCC approval / marking not required for products rated ≤36 V
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Connection type		Connector plug
Housing material		PA
Sensing face		PA
Degree of protection		IP69K
Connector		
Threading		M12 x 1
Number of pins		4
Dimensions		
Height		40 mm
Width		40 mm
Length		67 mm

Connection



Connection Assignment



Additional Information

Programming Instructions

Address 00 preset, alterable via Busmaster or programming units

IO-Code 1

ID-Code 1

ID1-Code F

ID2-Code F

Data bit

Bit Function

- D0 switching state¹⁾
(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 function²⁾
(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

Operation

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).