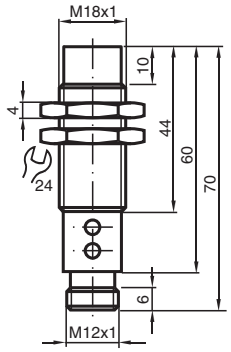


Inductive sensor

NCN8-18GM60-B3B-V1

- Comfort series
- A/B node with extended addressing possibility for up to 62 nodes
- Cylindrical
- NO/NC selectable
- Pre-fault message
- Installation help
- On/Off delay (disconnectable)
- Oscillator monitoring

Dimensions



Technical Data

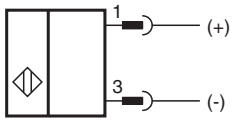
General specifications		
Switching function		Normally open/closed (NO/NC) programmable
Output type		AS-Interface
Rated operating distance	s_n	8 mm
Installation		non-flush
Assured operating distance	s_a	0 ... 6.48 mm
Actual operating distance	s_r	7.2 ... 8.8 mm typ. 8 mm
Reduction factor r_{Al}		0.42
Reduction factor r_{Cu}		0.4
Reduction factor r_{304}		0.72
Node type		A/B node
AS-Interface specification		V3.0
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 ... 100 Hz

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Technical Data

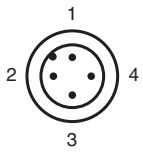
Hysteresis	H	1 ... 15 % typ. 5 %
Reverse polarity protection		reverse polarity protected
Voltage drop at I_L		
Voltage drop I_L = 20 mA, switching element on	U_d	3.4 ... 5 V typ. 4.3 V
Time delay before availability	t_v	≤ 1000 ms
Operating voltage indicator		dual-LED, green
Switching state indicator		dual-LED, yellow/red
Error indicator		dual-LED, red
Safety-relevant product characteristics		
$MTTF_d$		926 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Compliance with standards and directives		
Standard conformity		
Electromagnetic compatibility		EN 50295:1999-10
Standards		EN IEC 60947-5-2
Approvals and certificates		
UL approval		cULus Listed Load Type: General Purpose Circuitry: Class 2 Power Source Enclosure Type Rating: Type 1 Supply/Switching Voltage: 31.9 V DC
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		Stainless steel 1.4305 / AISI 303
Sensing face		PBT
Degree of protection		IP67
Connector		
Threading		M12 x 1
Number of pins		4
Dimensions		
Length		60 mm
Diameter		18 mm

Connection Assignment



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Connection Assignment



Wire colors in accordance with EN 60947-5-2

1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Additional Information

Programming Instructions

Adress 00 preset, alterable
via Busmaster
or programming units

IO-Code	0
ID-Code	A
ID1-Code	7
ID2-Code	E

Data bit

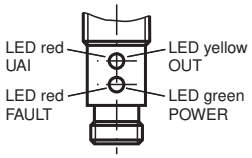
Bit	Function
D0	Switching state
D1	Prefailure message (dynamic)
D2	Oscillator monitoring
D3	Object too close

Parameter bit

Bit	Function
P0	ON / Off delay activated* / deactivated
P1	Switching element function NO* / NC
P2	not used
P3	not used

*Standard setting

Indicators



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Additional Information

Indication depending on the distance to the object and switching element function (P1)

Distance to the object	Function	Parameter P1	yellow LED (OUT)	red LED (UAI)	Data bit D0	Data bit D3
> 1.2 S_n	NO	1	off	off	0	1
1 S_n - 1.2 S_n		1	off	flashing	0	1
0.8 S_n - 1 S_n		1	flashing	flashing	1	1
0.1 S_n - 0.8 S_n		1	on	off	1	1
0 S_n - 0.1 S_n		1	flashing	flashing	1	0
> 1,2 S_n	NC	0	on	off	1	1
1 S_n - 1.2 S_n		0	flashing	flashing	1	1
0.8 S_n - 1 S_n		0	off	flashing	0	1
0.1 S_n - 0.8 S_n		0	off	off	0	1
0 S_n - 0.1 S_n		0	off	flashing	1	0

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

*: D0, D1, D3 will be set to 0

Dynamic pre-fault indication:

While normal operation D1=1. If the switch is damped critically, i.e. the object has passed uncompletely the unsafe sensing range of 0.8 S_n - 1.2 s_n during damping, changes D1 to 0 and signals that an adjustment is necessary. See the following diagram:

Monitoring "object too near":

D3 serves as signalling: Object too near too the sensor, danger of damage, adjustment necessary. In normal mode D3=1. If the object reaches the 0 - 0.1 s_n range, D3=0. If the object leaves this range, D3=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).

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