



Model Number

NCB2-12GM40-E2-5M-3G-3D

Features

- Comfort series
- ATEX-approval for zone 2 and zone 22

Accessories

BF 12

Mounting flange, 12 mm

EXG-12

Quick mounting bracket with dead stop

Technical Data

General specifications

Switching function		Normally open (NO)
Output type		PNP
Rated operating distance	s_n	2 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 1.62 mm
Actual operating distance	s_r	1.8 ... 2.2 mm typ. 2 mm
Reduction factor r_{Al}		0.3
Reduction factor r_{Cu}		0.17
Reduction factor r_{304}		0.67
Reduction factor r_{Brass}		0.35
Output type		3-wire

Nominal ratings

Operating voltage	U_B	10 ... 30 V DC
Switching frequency	f	0 ... 2500 Hz
Hysteresis	H	3 ... 15 typ. 6 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 3 V
Voltage drop at I_L		
Voltage drop $I_L = 200$ mA, switching element on U_d		1 ... 2 V typ. 1.5 V
Design data		
Operating current	I_L	≤ 200 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.01 mA
No-load supply current	I_0	≤ 15 mA
Time delay before availability	t_v	≤ 100 ms
Switching state indicator		LED, yellow

Functional safety related parameters

MTTF _d	1507 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	cable PVC , 5 m
Core cross-section	0.34 mm ²
Housing material	Stainless steel 1.4305 / AISI 303
Sensing face	PBT
Degree of protection	IP66 / IP67
Cable	
Cable diameter	4.6 mm \pm 0.2 mm
Bending radius	> 10 x cable diameter

General information

Scope of delivery	2 self locking nuts in scope of delivery
Use in the hazardous area	see instruction manuals

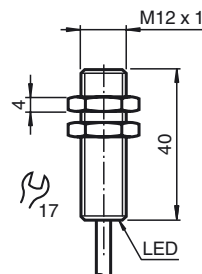
Compliance with standards and directives

Standard conformity	
Standards	EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012

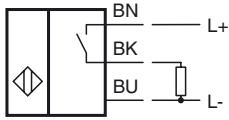
Approvals and certificates

UL approval	cULus Listed, General Purpose, Class 2 Power Source
CCC approval	CCC approval / marking not required for products rated ≤ 36 V

Dimensions



Electrical Connection



Data for application in connection with hazardous areas

Equipment protection level	Gc (nA) , Dc
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Equipment protection level Gc (nA)

Type of protection	"n"
CE marking	CE

Certificates

ATEX certificate	PF15CERT3754X
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ATEX marking	Ex II 3G Ex nA IIC T6 Gc
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Standards	EN 60079-0:2012+A11:2013 , EN 60079-15:2010
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Surge protection	The protection against transient overvoltage with amplitude U is realized. U = 500 V at 1.2/50 µs, 500 Ω
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Possible characteristics	maximum operating voltage U_{Bmax} , maximum load current I_{Lmax} , minimum series resistance R_V , maximum analog output voltage U_{Amax} , maximum analog output current I_{Amax}
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Maximum permissible ambient temperature T_{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at $U_{Bmax} = 30\text{ V}$, $I_L = 200\text{ mA}$: 43 °C (109.4 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 100\text{ mA}$: 50 °C (122 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 50\text{ mA}$: 53 °C (127.4 °F)
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Equipment protection level Dc

Type of protection	Protection by enclosure "tc"
CE marking	CE

Certificates

ATEX certificate	PF15CERT3774X
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ATEX marking	Ex II 3D Ex tc IIIC T80°C Dc
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Standards	EN 60079-0:2012+A11:2013 , EN 60079-31:2014
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Possible characteristics	maximum operating voltage U_{Bmax} , maximum load current I_{Lmax} , minimum series resistance R_V , maximum analog output current I_{Amax} , maximum analog output voltage U_{Amax}
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Maximum permissible ambient temperature T_{amb}	Also observe the maximum permissible ambient temperature stated in the general technical data. Keep to the lower of the two values. at $U_{Bmax} = 30\text{ V}$, $I_L = 200\text{ mA}$: 43 °C (109.4 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 100\text{ mA}$: 50 °C (122 °F) at $U_{Bmax} = 30\text{ V}$, $I_L = 50\text{ mA}$: 53 °C (127.4 °F)
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