CE

Model Number

NJ2-12GM40-E2-V1-3D

Features

- **Comfort series**
- **2 mm flush**

Accessories

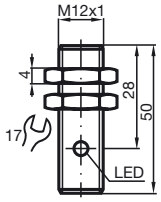
BF 12
Mounting flange, 12 mm

EXG-12
Quick mounting bracket with dead stop

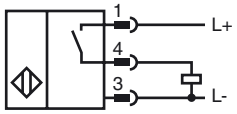
Technical Data

General specifications		
Switching element function		PNP NO
Rated operating distance	s_n	2 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 1.62 mm
Reduction factor r_{Al}		0.23
Reduction factor r_{Cu}		0.21
Reduction factor r_{304}		0.7
Nominal ratings		
Operating voltage	U_B	10 ... 60 V
Switching frequency	f	0 ... 3000 Hz
Hysteresis	H	1 ... 10 typ. 3 %
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 = 100 mA, switching element on U_d		1.2 ... 2.5 V
Operating current	I_L	0 ... 200 mA
No-load supply current	I_0	≤ 11 mA
Time delay before availability	t_v	≤ 20 ms
Switching state indicator		LED, yellow
Standard conformity		
Standards		IEC / EN 60947-5-2:2004
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Storage temperature		-40 ... 85 °C (-40 ... 185 °F)
Mechanical specifications		
Housing material		Stainless steel
Sensing face		PBT
Degree of protection		IP67
General information		
Use in the hazardous area		see instruction manuals
Category		3D

Dimensions



Electrical Connection



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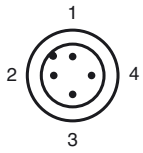
Pinout



Wire colors in accordance with EN 60947-5-2

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

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ATEX 3D

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 3D	for use in hazardous areas with non-conducting combustible dust
CE marking	CE
ATEX marking	Ex II 3D IP67 T 105 °C (221 °F) X The Ex-significant identification is on the enclosed adhesive label
Directive conformity	94/9/EG
Standards	EN 50281-1-1 Protection via housing Use is restricted to the following stated conditions
General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The data stated in the data sheet are restricted by this operating instruction! The special conditions must be adhered to!
Installation, Comissioning	Laws and/or regulations and standards governing the use or intended usage goal must be observed. The adhesive label provided must be affixed in the immediate vicinity of the sensor! The surface to which the label is applied must be clean, flat and free from grease! The affixed adhesive label must be readable and durable, taking account of the possibility of chemical corrosion!
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
Specific conditions	
Maximum operating current I_L	The maximum permissible load current must be restricted to the values given in the following list. High load currents and load short-circuits are not permitted.
Maximum operating voltage U_{Bmax}	The maximum permissible operating voltage UBmax must be restricted to the values given in the following list. Tolerances are not permitted.
Maximum heating (Temperature rise)	dependant of the load current I_L and the max. operating voltage U_{Bmax}. Information can be taken from the following list. The maximum surface temperature at maximum ambient temperature is given in the Ex identification of the apparatus.
at U_{Bmax}=60 V, I_L=200 mA	35 K
at U_{Bmax}=60 V, I_L=100 mA	24 K
at U_{Bmax}=60 V, I_L=50 mA	23 K
at U_{Bmax}=30 V, I_L=200 mA	26 K
at U_{Bmax}=30 V, I_L=100 mA	16 K
Protection from mechanical danger	The sensor must not be mechanically damaged.
Electrostatic charging	Electrostatic charges must be avoided on the mechanical housing components. Dangerous electrostatic charges on the mechanical housing components can be avoided by incorporating these in the equipotential bonding.
Plug connector	The plug connector must not be disconnected under voltage. The proximity switch is marked as follows: “DO NOT DISCONNECT UNDER VOLTAGE!” When the plug connector is disconnected the ingress of dirt into the inner areas (i.e. the areas, which are not accessible in the plugged-in condition) must be prevented. The plug connection can only be separated using a tool. This is achieved by using the locking protection V1-Clip (Mounting accessory from Pepperl + Fuchs).

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