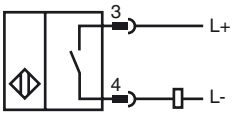
Model Number

NCB5-18GM40-Z0-V1-3G-3D

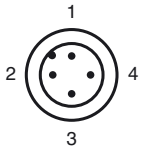
Features

- **Comfort series**
- **5 mm flush**

Connection



Pinout



Wire colors in accordance with EN 60947-5-2

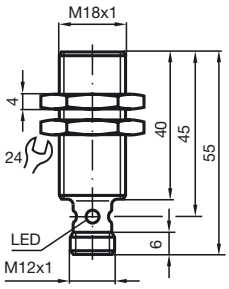
1	BN	(brown)
2	WH	(white)
3	BU	(blue)
4	BK	(black)

Accessories

EXG-18
Quick mounting bracket with dead stop

BF 18
Mounting flange, 18 mm

Dimensions



Technical Data

General specifications		
Switching element function		DC NO
Rated operating distance	s_n	5 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 4.05 mm
Reduction factor r_{Al}		0.37
Reduction factor r_{Cu}		0.33
Reduction factor r_{304}		0.7
Nominal ratings		
Operating voltage	U_B	5 ... 60 V
Switching frequency	f	0 ... 350 Hz
Hysteresis	H	1 ... 15 typ. 5 %
Reverse polarity protected		tolerant
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 5 V
Operating current	I_L	2 ... 100 mA
Off-state current	I_r	0 ... 0.5 mA typ.
Indication of the switching state		Multihole-LED, yellow
Ambient conditions		
Ambient temperature		-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications		
Connection type		Device connector M12 x 1 , 4-pin
Housing material		Stainless steel 1.4305 / AISI 303
Sensing face		PBT
Protection degree		IP67
General information		
Use in the hazardous area		see instruction manuals
Category		3G; 3D
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		Certified by China Compulsory Certification (CCC)

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ATEX 3G (nA)

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 3G (nA)	for use in hazardous areas with gas, vapour and mist
Directive conformity	94/9/EG
Standard conformity	EN 60079-0:2006, EN 60079-15:2005 Ignition protection category "n" Use is restricted to the following stated conditions
CE symbol	CE
Ex-identification	Ex II 3G Ex nA IIC T6 X The Ex-significant identification is on the enclosed adhesive label
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 observed!
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.
Special 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 UB max is restricted to the values in the following list. Tolerances are not permissible.
Maximum permissible ambient temperature T_{Umax}	dependant of the load current I_L and the max. operating voltage $U_{Bmax.}$ Information can be taken from the following list.
at U_{Bmax}=60 V, I_L=100 mA	51 °C (123.8 °F)
at U_{Bmax}=60 V, I_L=50 mA	57 °C (134.6 °F)
at U_{Bmax}=60 V, I_L=25 mA	60 °C (140 °F)
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.
Protection from mechanical danger	The sensor must not be exposed to **ANY FORM** of mechanical danger.
Protection from UV light	The sensor and the connection cable must be protected from damaging UV-radiation. This can be achieved when the sensor is used in internal areas.
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.

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ATEX 3D (tD)

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 3D	for use in hazardous areas with combustible dust
Directive conformity	94/9/EG
Standard conformity	EN 61241-0:2006, EN 61241-1:2004 Protection via housing "tD" Use is restricted to the following stated conditions
CE symbol	CE
Ex-identification	Ex II 3D Ex tD A22 IP67 T80°C X The Ex-significant identification is on the enclosed adhesive label
General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The maximum surface temperature has been determined in accordance with method A without a dust layer on the equipment. 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.

Special 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 permissible ambient temperature T_{Umax}	dependant of the load current I_L and the max. operating voltage $U_{Bmax.}$ Information can be taken from the following list.
at U_{Bmax}=60 V, I_L=100 mA	51 °C (123.8 °F)
at U_{Bmax}=60 V, I_L=50 mA	57 °C (134.6 °F)
at U_{Bmax}=60 V, I_L=25 mA	60 °C (140 °F)
Plug connector	The plug connector must not be withdrawn under voltage. The proximity switch is identified as follows: "WARNING - DO NOT SEPARATE WHEN ENERGIZED". With the plug connector disconnected, soiling of the internal area must be prevented.(i.e. the area that is inaccessible when the connector is inserted) 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).
Protection from mechanical danger	The sensor must not be exposed to **ANY FORM** of mechanical danger.
Protection from UV light	The sensor and the connection cable must be protected from damaging UV-radiation. This can be achieved when the sensor is used in internal areas.
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.

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