



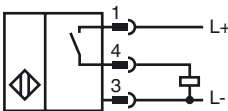
Model Number

NJ10-30GM50-E2-V1-3G-3D

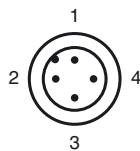
Features

- 10 mm flush
- ATEX-approval for zone 2 and zone 22

Connection



Pinout



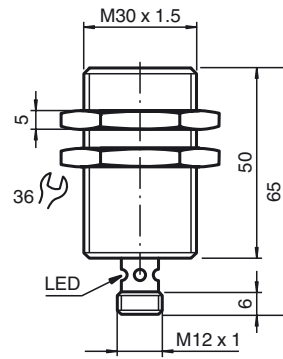
Wire colors in accordance with EN 60947-5-2

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

Accessories

- BF 30**
Mounting flange, 30 mm
- EXG-30**
Quick mounting bracket with dead stop
- V1-G**
4-pin, M12 female field-attachable connector
- V1-W**
4-pin, M12 female field-attachable connector

Dimensions



Technical Data

General specifications

Switching element function	PNP	NO
Rated operating distance	s_n	10 mm
Installation		flush
Output polarity		DC
Assured operating distance	s_a	0 ... 8.1 mm
Reduction factor r_{Al}		0.32
Reduction factor r_{Cu}		0.32
Reduction factor r_{304}		0.72
Reduction factor r_{Brass}		0.43

Nominal ratings

Operating voltage	U_B	10 ... 60 V DC
Switching frequency	f	0 ... 650 Hz
Hysteresis	H	1 ... 15 typ. 5 %
Reverse polarity protected		reverse polarity protected
Short-circuit protection		pulsing
Voltage drop	U_d	≤ 2.8 V
Operating current	I_L	0 ... 200 mA
Off-state current	I_r	0 ... 0.5 mA typ. 0.01 mA
No-load supply current	I_0	≤ 9 mA
Indication of the switching state		LED, yellow

Functional safety related parameters

MTTF _d	1220 a
Mission Time (T _M)	20 a
Diagnostic Coverage (DC)	0 %

Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Storage temperature	-25 ... 85 °C (-13 ... 185 °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)

Directive conformity

Standard conformity

for use in hazardous areas with gas, vapour and mist

94/9/EG

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

II 3G Ex nA IIC T6 X

The Ex-relevant identification may also be printed on the accompanying 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, Commissioning

Laws and/or regulations and standards governing the use or intended usage goal must be observed.

If the Ex-relevant identification is printed exclusively on the adhesive label provided, this label must be affixed in the immediate vicinity of the sensor! The background surface to which the adhesive label is to be applied must be clean and free from grease! The applied label must be durable and remain legible, with due consideration 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 U_{Bmax} 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 $U_{Bmax}=60\text{ V}$, $I_L=200\text{ mA}$

53 °C (127.4 °F)

at $U_{Bmax}=60\text{ V}$, $I_L=100\text{ mA}$

56 °C (132.8 °F)

at $U_{Bmax}=30\text{ V}$, $I_L=200\text{ mA}$

56 °C (132.8 °F)

at $U_{Bmax}=30\text{ V}$, $I_L=100\text{ mA}$

59 °C (138.2 °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.

ATEX 3D (tD)

Note	This instruction is only valid for products according to EN 61241-0:2006 and EN 61241-1:2004 Note the ex-marking on the sensor or on the enclosed adhesive label
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	
Ex-identification	 II 3D Ex tD A22 IP67 T80°C X The Ex-relevant identification may also be printed on the accompanying 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, Commissioning	Laws and/or regulations and standards governing the use or intended usage goal must be observed. If the Ex-relevant identification is printed exclusively on the adhesive label provided, this label must be affixed in the immediate vicinity of the sensor! The background surface to which the adhesive label is to be applied must be clean and free from grease! The applied label must be durable and remain legible, with due consideration 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 U_{Bmax} 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, $I_L=200$ mA	53 °C (127.4 °F)
at $U_{Bmax}=60$ V, $I_L=100$ mA	56 °C (132.8 °F)
at $U_{Bmax}=30$ V, $I_L=200$ mA	56 °C (132.8 °F)
at $U_{Bmax}=30$ V, $I_L=100$ mA	59 °C (138.2 °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.