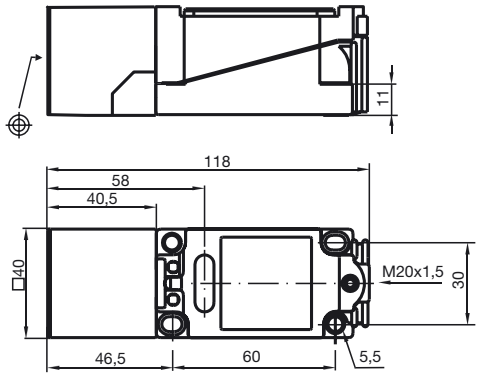
Inductive proximity switches

NJ20+U1+N

Comfort series
20 mm not embeddable

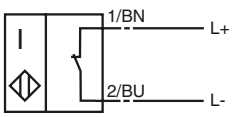


CE 0102

General specifications	
Switching element function	NAMUR NC
Rated operating distance s_n	20 mm
Installation	not embeddable
Assured operating distance s_a	0 ... 16.2 mm
Reduction factor r_{Al}	0.4
Reduction factor r_{Cu}	0.3
Reduction factor r_{V2A}	0.85
Nominal ratings	
Nominal voltage U_o	8 V
Switching frequency f	0 ... 150 Hz
Current consumption	
Measuring plate not detected	≥ 3 mA
Measuring plate detected	≤ 1 mA
Standard conformity	
EMC in accordance with	IEC / EN 60947-5-2:2004
Standards	DIN EN 60947-5-6 (NAMUR)
Ambient conditions	
Ambient temperature	-25 ... 100 °C (248 ... 373 K)
Mechanical specifications	
Connection type	terminal compartment
Core cross-section	up to 2.5 mm^2
Housing material	PBT
Sensing face	PBT
Protection degree	IP68
General information	
Use in the hazardous area	see instruction manuals
Category	1G; 2G; 1D

Connection type:

N / N0



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ATEX 1G

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 1G	for use in hazardous areas with gas, vapour and mist
Directive conformity	94/9/EG
Standard conformity	EN 50014:1997; EN 50020:1994; EN 50284:1999 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions
CE symbol	CE 0102
Ex-identification	Ex II 1G EEx ia IIC T6
EC-Type Examination Certificate	PTB 00 ATEX 2032 X
Appropriate type	NJ20+U..+N..
Effective internal capacitance C_i	≤ 150 nF ; a cable length of 10 m is considered.
Effective internal inductance L_i	≤ 130 µH ; a cable length of 10 m is considered.
General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EU prototype test certificate must be observed. The special conditions must be adhered to!
Highest permissible ambient temperature	The temperature ranges, according to temperature class, are given in the EU prototype test certificate. Note: Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1:1997 has already been accounted for in the temperature table for category 1.
Installation, Comissioning	Laws and/or regulations and standards governing the use or intended usage goal must be observed. The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety. The associated apparatus must satisfy the requirements of category ia. Due to the possible danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation of the power supply and signal circuit is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met.
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
Special conditions	
Protection from mechanical danger	When used in the temperature range below -20°C the sensor should be protected from knocks by the provision of an additional housing.
Electrostatic charging	When used in group IIC non-permissible electrostatic charges should be avoided on the plastic housing parts.

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ATEX 2G

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 2G	for use in hazardous areas with gas, vapour and mist
Directive conformity	94/9/EG
Standard conformity	EN 50014:1997, EN 50020:1994 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions
CE symbol	CE 0102
Ex-identification	Ex II 1G EEx ia IIC T6
EC-Type Examination Certificate	PTB 00 ATEX 2032 X
Appropriate type	NJ20+U..+N..
Effective internal capacitance C_i	≤ 150 nF ; a cable length of 10 m is considered.
Effective internal inductance L_i	≤ 130 µH ; a cable length of 10 m is considered.
General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EU prototype test certificate must be observed. The special conditions must be adhered to!
Highest permissible ambient temperature	The temperature ranges, according to temperature class, are given in the EU prototype test certificate.
Installation, Comissioning	Laws and/or regulations and standards governing the use or intended usage goal must be observed. The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety.
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
Special conditions	
Protection from mechanical danger	When used in the temperature range below -20°C the sensor should be protected from knocks by the provision of an additional housing.

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ATEX 1D

Instruction	**Manual electrical apparatus for hazardous areas**
Device category 1D	for use in hazardous areas with combustible dust
Directive conformity	94/9/EG
Standard conformity	IEC 61241-11:2002: draft; prEN61241-0:2002 type of protection intrinsic safety "iD" Use is restricted to the following stated conditions
CE symbol	CE 0102
Ex-identification	Ex II 1D Ex iaD 20 T 108 °C (381 K)
EC-Type Examination Certificate	ZELM 03 ATEX 0128 X
Appropriate type	NJ20+U..+N..
Effective internal capacitance C_i	≤ 150 nF ; a cable length of 10 m is considered.
Effective internal inductance L_i	≤ 130 µH ; a cable length of 10 m is considered.
General	The apparatus has to be operated according to the appropriate data in the data sheet and in this instruction manual. The EU prototype test certificate must be observed. The special conditions must be adhered to!
Maximum housing surface temperature	The maximum surface temperature of the housing is given in the EC-Type Examination Certificate.
Installation, Comissioning	Laws and/or regulations and standards governing the use or intended usage goal must be observed. The intrinsic safety is only assured in connection with an appropriate related apparatus and according to the proof of intrinsic safety. The associated apparatus must satisfy at least the requirements of category ia IIB or iaD. Because of the possibility of the danger of ignition, which can arise due to faults and/or transient currents in the equipotential bonding system, galvanic isolation in the power supply and signal circuits is preferable. Associated apparatus without electrical isolation must only be used if the appropriate requirements of IEC 60079-14 are met. The intrinsically safe circuit has to be protected against influences due to lightning. When used in the isolating wall between Zone 20 and Zone 21 or Zone 21 und Zone 22 the sensor must not be exposed to any mechanical danger and must be sealed in such a way, that the protective function of the isolating wall is not impaired. The applicable directives and standards must be observed.
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
[Fett]Special conditions	
Electrostatic charging	Electrostatic charging due to the flow of media during operation must be excluded. This can be achieved by limiting the surface area of the plastic housing exposed to the electrostatic charging to less than 100 cm².