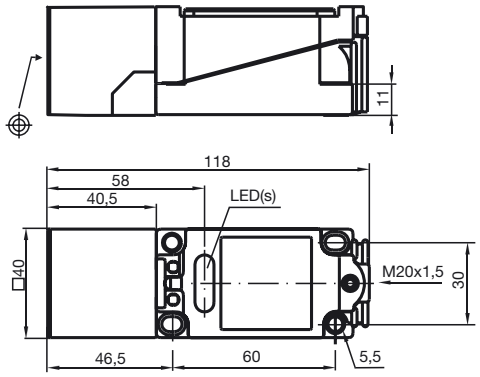
Inductive proximity switches

NJ15+U1+A2-3D

Comfort series
15 mm embeddable

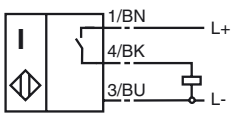


CE

General specifications	
Switching element function	PNP Make function
Rated operating distance s_n	15 mm
Installation	embeddable
Output polarity	DC
Assured operating distance s_a	0 ... 12.15 mm
Reduction factor r_{Al}	0.3
Reduction factor r_{Cu}	0.25
Reduction factor r_{V2A}	0.75
Nominal ratings	
Operating voltage U_B	10 ... 60 V
Switching frequency f	0 ... 150 Hz
Hysteresis H	1 ... 10 typ. 5 %
Reverse polarity protection	protected against reverse polarity
Short-circuit protection	pulsing
Voltage drop U_d	≤ 2.8 V
Design data	
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	≤ 10 mA
Operating voltage display	LED, green
Indication of the switching state	LED, yellow
Standard conformity	
Standards	IEC / EN 60947-5-2:2004
Ambient conditions	
Ambient temperature	-25 ... 70 °C (248 ... 343 K)
Storage temperature	-25 ... 85 °C (248 ... 358 K)
Mechanical specifications	
Connection type	terminal compartment
Core cross-section	up to 2.5 mm^2
Housing material	PBT
Sensing face	PBT
Protection degree	IP67
General information	
Use in the hazardous area	see instruction manuals
Category	3D

Connection type:

E2



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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
Directive conformity	94/9/EG
Standard conformity	EN 50281-1-1 Protection via housing Use is restricted to the following stated conditions
CE symbol	CE
Ex-identification	Ex II 3D IP67 T 113 °C X
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.
Maintenance	No changes can be made to apparatus, which are operated in hazardous areas. Repairs to these apparatus are not possible.
[Fett]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 UBmax	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	43 °C
at U_{Bmax}=60 V, I_L=100 mA	39 °C
at U_{Bmax}=30 V, I_L=200 mA	27 °C
at U_{Bmax}=30 V, I_L=100 mA	24 °C
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 mechanically damaged.
Connections for external wire	Terminal connection: Minimum conductor cross-section: 0.5 mm^2, maximum conductor cross-section: 2.5 mm^2. The ends of the conductor must be provided with cable sleeves.
Lead insertion	The cable entry must be such, that no tension load or twist is applied to the cable The protection category must be in accordance with EN 60529 and as stated in the data sheet. The cable entry must be designed so that there are no sharp edges to damage the cable and impair the level of protection of the sensor. The cable entry must be in accordance with the relevant European standard for industrial cable and lead entries.. In addition, in the case of flexible leads, the points of entry of the cable must be rounded off over an angle of at least 75°, with a radius (R), which is at least one quarter of the maximum permissible cable diameter for the entry, but not greater than 3 mm.

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