Model Number

NCB40-FP-N0-P1-V1

Features

- **40 mm flush**

Accessories

V1-G
Female connector, M12, 4-pin, field attachable

V1-W
Female connector, M12, 4-pin, field attachable

V1-G-N-2M-PUR
Female cordset, M12, 2-pin, NAMUR, PUR cable

V1-W-N-2M-PUR
Female cordset, M12, 2-pin, NAMUR, PUR cable

Technical Data

General specifications		
Switching function		Normally closed (NC)
Output type		NAMUR
Rated operating distance	s_n	40 mm
Installation		flush
Assured operating distance	s_a	0 ... 32 mm
Actual operating distance	s_r	36 ... 44 mm typ. 40 mm
Reduction factor r_{Al}		0.35
Reduction factor r_{Cu}		0.35
Reduction factor r_{304}		0.8
Output type		2-wire
Nominal ratings		
Installation conditions		
F		100 mm
Nominal voltage	U_o	8.2 V (R_i approx. 1 kΩ)
Switching frequency	f	0 ... 80 Hz
Hysteresis	H	0 ... 5 typ. 3 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		yes
Current consumption		
Measuring plate not detected		≥ 3 mA
Measuring plate detected		≤ 1 mA
Time delay before availability	t_v	≤ 20 ms
Switching state indicator		LED, yellow
Functional safety related parameters		
$MTTF_d$		2368 a
Mission Time (T_M)		20 a
Diagnostic Coverage (DC)		0 %
Ambient conditions		
Ambient temperature		-25 ... 100 °C (-13 ... 212 °F)
Storage temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection type		Connector plug M12 x 1 , 4-pin
Housing material		PBT
Sensing face		PBT
Housing base		PBT
Degree of protection		IP67
General information		
Use in the hazardous area		see instruction manuals
Category		1G; 2G; 1D
Compliance with standards and directives		
Standard conformity		
NAMUR		EN 60947-5-6:2000 IEC 60947-5-6:1999
Electromagnetic compatibility		NE 21:2007
Standards		EN 60947-5-2:2007 EN 60947-5-2/A1:2012 IEC 60947-5-2:2007 IEC 60947-5-2 AMD 1:2012
Approvals and certificates		
EAC conformity		TR CU 012/2011
FM approval		
Control drawing		116-0165
UL approval		
Ordinary Location		E87056
Hazardous Location		E501628
Control drawing		116-0451
CSA approval		cCSAus Listed, General Purpose
CCC approval		CCC approval / marking not required for products rated ≤36 V

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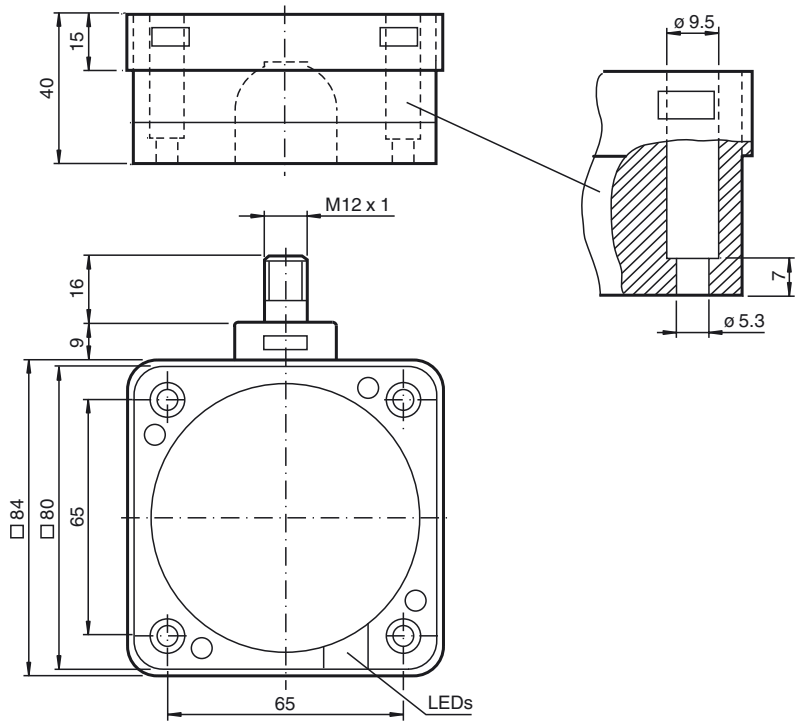
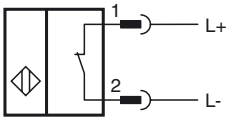
Dimensions



Electrical Connection



Wire colors in accordance with EN 60947-5-6

1	|	BN	(brown)
2	|	BU	(blue)

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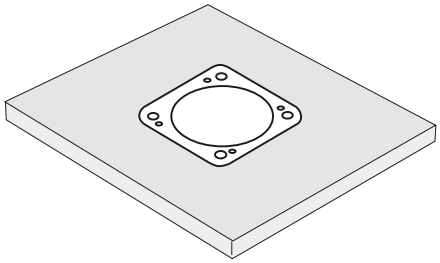
Installation Hint

These sensors are especially designed for embeddable mounting in conveyor floors. Due to its precise location in metal base plates the sensor is afforded a high degree of mechanical protection. No clearance is required between the sensor and the base plate, avoiding the need for protective guarding to prevent possible foot injury.

The large sensing range ensures positive detection, and thus provides consistent control and monitoring of the conveyor.



Equipment protection level Ga		
CE marking		CE 0102
ATEX marking		Ex II 1G Ex ia IIC T6…T1 Ga The Ex-related marking can also be printed on the enclosed label.
Standards		EN 60079-0:2012+A11:2013, EN 60079-11:2012 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions
Appropriate type		NCB40-FP-N0..
Effective internal capacitance	C_i	≤ 220 nF ; a cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 360 µH ; a cable length of 10 m is considered.
Highest permissible ambient temperature		Details of the correlation between the type of circuit connected, the maximum permissible ambient temperature, the temperature class, and the effective internal reactance values can be found on the EU-type examination certificate. **Note:** Use the temperature table for category 1 !!! The 20 % reduction in accordance with EN 1127-1 has already been applied to the temperature table for category 1.
Special conditions		
Equipment protection level Gb		
CE marking		CE 0102
ATEX marking		Ex II 1G Ex ia IIC T6…T1 Ga The Ex-related marking can also be printed on the enclosed label.
Standards		EN 60079-0:2012+A11:2013, EN 60079-11:2012 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions
Appropriate type		NCB40-FP-N0..
Effective internal capacitance	C_i	≤ 220 nF ; a cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 360 µH ; a cable length of 10 m is considered.
Maximum permissible ambient temperature	T_{amb}	Details of the correlation between the type of circuit connected, the maximum permissible ambient temperature, the temperature class, and the effective internal reactance values can be found on the EU-type examination certificate.
Special conditions		
Equipment protection level Da		
CE marking		CE 0102
ATEX marking		Ex II 1D Ex ia IIIC T135°C Da The Ex-related marking can also be printed on the enclosed label.
Standards		EN 60079-0:2012+A11:2013, EN 60079-11:2012 Ignition protection "Intrinsic safety" Use is restricted to the following stated conditions
Appropriate type		NCB40-FP-N0..
Effective internal capacitance	C_i	≤ 220 nF ; a cable length of 10 m is considered.
Effective internal inductance	L_i	≤ 360 µH ; a cable length of 10 m is considered.
Special conditions		

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