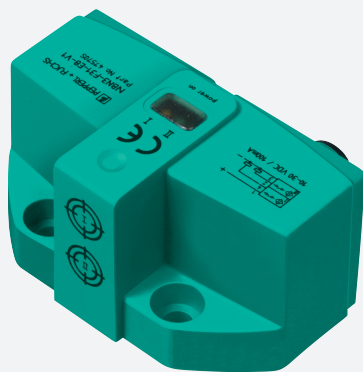


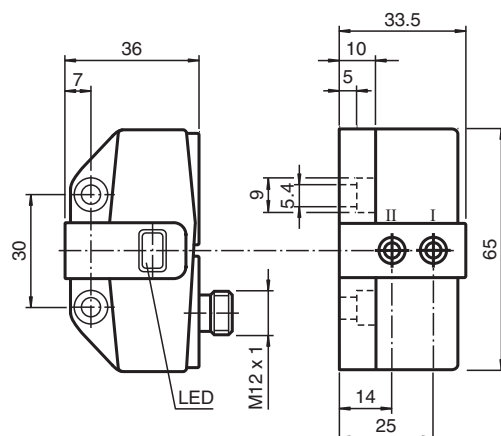


Inductive sensor NCN3-F31-N4-V1

- Direct mounting on standard actuators
- Fixed setting
- Usable up to SIL 2 acc. to IEC 61508
- ATEX & IECEx certifications



Dimensions



Technical Data

General specifications

Switching function		2 x normally closed (NC)
Output type		NAMUR
Rated operating distance	s_n	3 mm
Installation		flush mountable
Assured operating distance	s_a	0 ... 2.4 mm
Actual operating distance	s_r	2.7 ... 3.3 mm typ.
Actuating element		Stainless steel 1.4305 / AISI 303 8.5 mm x 8.5 mm x 0.5 mm
Reduction factor r_{Al}		0.5
Reduction factor r_{Cu}		0.4
Reduction factor r_{304}		1
Reduction factor r_{St37}		1.3
Reduction factor r_{Brass}		0.6
Output type		2-wire

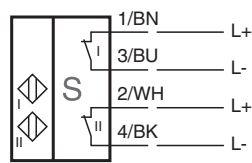
Nominal ratings

Nominal voltage	U_o	8.2 V (R_i approx. 1 k Ω)
Switching frequency	f	0 ... 3 kHz

Technical Data

Hysteresis	H	typ. 5 %
Reverse polarity protection		reverse polarity protected
Short-circuit protection		yes
Suitable for 2:1 technology		yes , Reverse polarity protection diode not required
Current consumption		
Measuring plate not detected		≥ 3 mA
Measuring plate detected		≤ 1 mA
Time delay before availability	t _v	≤ 1.1 ms
Switching state indicator		LED, yellow
Functional safety related parameters		
Safety Integrity Level (SIL)		SIL 2
MTTF _d		1470 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
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		
IECEX approval		
Equipment protection level Ga		IECEX TUN 17.0021X
Equipment protection level Gb		IECEX TUN 17.0021X
Equipment protection level Da		IECEX TUN 17.0021X
Equipment protection level Mb		IECEX TUN 17.0021X
ATEX approval		
Equipment protection level Ga		TÜV 99 ATEX 1479 X
Equipment protection level Gb		TÜV 99 ATEX 1479 X
Equipment protection level Da		TÜV 99 ATEX 1479 X
EAC conformity		TR CU 012/2011
UL approval		cULus Listed, General Purpose
CCC approval		
Hazardous Location		2020322315002262
NEPSI approval		
NEPSI certificate		GYJ19.1410X
Ambient conditions		
Ambient temperature		-25 ... 100 °C (-13 ... 212 °F) Note: Under the same product name but with a different part no., this product has a predecessor with a restricted temperature range (up to +70 °C). The temperature range specified here (up to +100°C) only applies to sensors with part no. 2239**.
Storage temperature		-40 ... 100 °C (-40 ... 212 °F)
Mechanical specifications		
Connection (system side)		4-pin, M12 x 1 connector
Housing material		PBT
Sensing face		PBT
Degree of protection		IP67
Tightening torque, fastening screws		4 Nm ... 5 Nm
General information		
Use in the hazardous area		see instruction manuals

Connection



Accessories

	BT65A	Activator for F31 series
	BT65B	Activator for F31 series
	BT65X	Activator for F31 series
	BT115A	Activator for F31 series
	BT115B	Activator for F31 series
	BT115X	Activator for F31 series



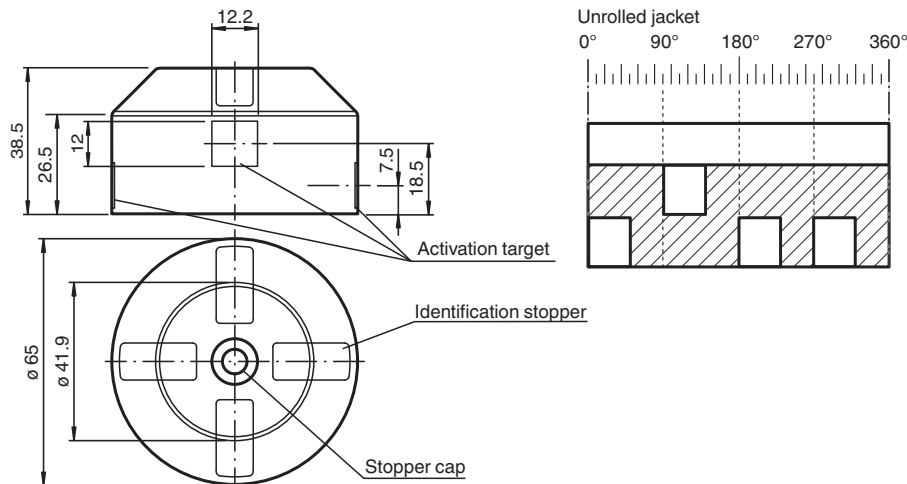
Activator

BT65A

- Four fixed actuating lugs, offset by 90°
- For right and left rotating drives with 180° rotational motion

Activator for F31 series

Dimensions



Technical Data

General specifications	
Ring diameter	max. 65 mm
Spring ring height	max. 6 mm
Ambient conditions	
Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
Mechanical specifications	
Shaft diameter	< 58 mm
Shaft height	20 mm and 30 mm
Mounting hole pattern	30 x 80 mm
Material	
Housing	Mounting component: PA
Spacer disk	PA (1 unit, 10 mm strong)
Stopper cap	PE (1 unit black)
Identification stopper	PA (2 units yellow, 2 units black)
Mounting screw	for activator: 1.4305 / AISI 303 (1 piece M6 x 25) for sensors - F31: 1.4305 / AISI 303 (4 pieces M5 x 16) (2 pieces M5 x 12)
Activation target	Stainless steel 1.4305 / AISI 303 (integrated)
Mass	40 g



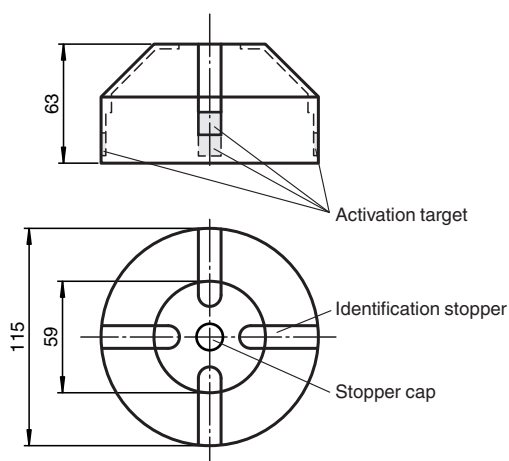
Activator

BT115A

- For right and left rotating drives with 180° rotational motion
- Four fixed actuating lugs, offset by 90°

Activator for F31 series

Dimensions



Technical Data

General specifications

Ring diameter	max. 110 mm
Spring ring height	max. 7 mm

Ambient conditions

Ambient temperature	-25 ... 70 °C (-13 ... 158 °F)
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Mechanical specifications

Shaft diameter	< 90 mm
Shaft height	30 mm and 50 mm
Mounting hole pattern	30 x 130 mm
Material	
Housing	Mounting component: PA
Spacer disk	PA (2 units, 10 mm strong)
Stopper cap	PE (1 unit black)
Identification stopper	PA (2 units yellow, 2 units black)
Mounting screw	for activator: 1.4305 / AISI 303 (1 piece M6 x 25) for sensors - F31: 1.4305 / AISI 303 (4 pieces M5 x 16) (2 pieces M5 x 12)
Activation target	Stainless steel 1.4305 / AISI 303 (integrated)
Mass	120 g
Tightening torque, fastening screws	1.5 Nm