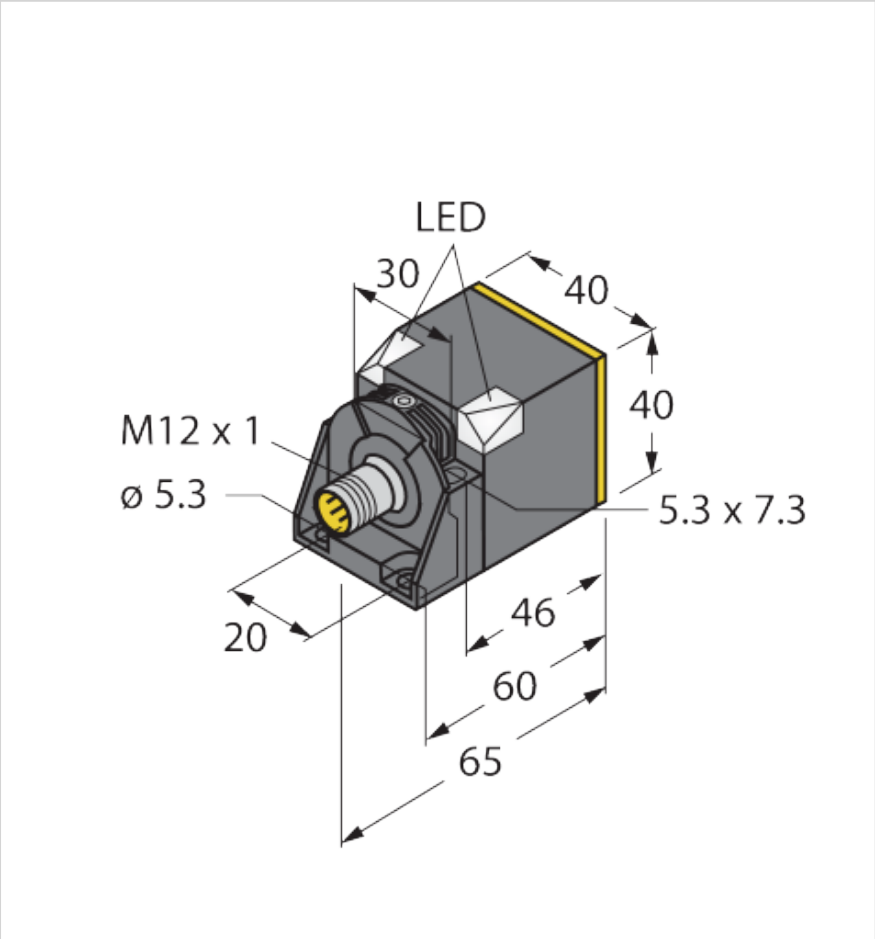
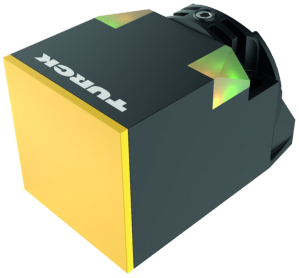
NI50U-CK40-AP6X2-H1141

Inductive Sensor
With Extended Switching Distance





Type designation	NI50U-CK40-AP6X2-H1141
Ident-No.	1625837

Technical data

Application area	
Magnetic field immune	Immune to magnetic AC and DC fields
Detection area/measuring range	
Rated switching distance	50 mm
Secured operating distance	≤ (0.81 × Sn) mm
Power supply	
Operating voltage U_B	10...30 VDC

Features

- Rectangular, height 40 mm
- Variable orientation of active face in 5 directions
- Plastic, PBT-GF30-V0
- High luminance corner LEDs
- Optimum view on supply voltage and switching state from any position
- Factor 1 for all metals
- Increased switching distance
- Protection class IP68
- Resistant to magnetic fields
- Auto-compensation protects against predamping

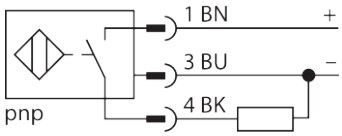
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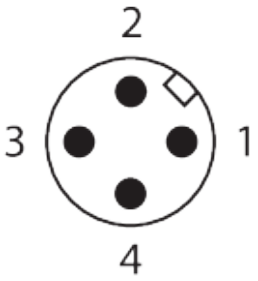
Technical data

Voltage drop at I_e	≤ 1,8 V
Electrical data	
AC field stability	300 mT_{SS}
No-load current	15 mA
Output function	3-wire, normally open NO, PNP
Short-circuit protection	yes/Cyclic
Wire break/reverse polarity protection	yes/Complete
DC field stability	300 mT
DC rated operational current	≤ 200 mA
Insulation class	II
Isolation test voltage	≤ 0,5 kV
Residual current	≤ 0,1 mA
Residual ripple	≤ 10 % U_{ss}
Switching frequency	0,25 kHz
Accuracy/deviation	
Hysteresis	3 % v. E...15 % v. E.
Temperature drift	10 %
Repeat accuracy	≤ 2 % v. E.
	≤ ± 20 %, ≤ -25 °C v ≥ +70 °C
Mechanical data	
Design	Rectangular, CK40
Construction type designation	CK40
Dimensions	65 mm x 40 mm x 40 mm
	variable orientation of active face in 5 directions
Housing material	Plastic, PBT-GF20-V0, Black
Active area material	Plastic, PA12-GF30, yellow
Electrical connection	Connector, M12 x 1
Number of pins	4
Pressure resistant	no
Mounting conditions	Non-flush, flush
Ambient conditions	
Ambient temperature	-30...+85 °C
Pollution degree	3
Shock resistance	30 g (11 ms)
Vibration resistance	55 Hz (1 mm)
Protection class	IP68

- Partially embeddable
- DC 3-wire, 10…30 VDC
- NO, PNP output
- Connector, M12 × 1

Wiring Diagram





Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

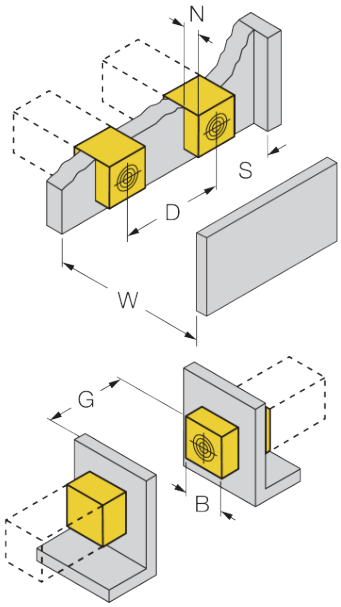
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Technical data

Tests/approvals	
MTTF	874 Years acc. to SN 29500 40 °C
Displays/controls	
Power-on indication	2 × LEDs, Green
Switching state	2 × LEDs, Yellow
Other properties	
RoHs compatibility	yes
Comments	
Included in delivery	Mounting bracket BS4-CK40

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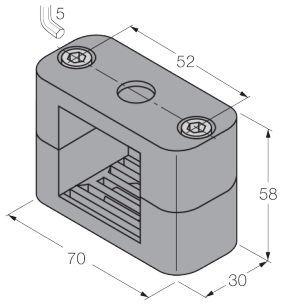
Assembly instructions



Distance D: 240 mm
Distance W: 105 mm
Distance S: 60 mm
Distance G: 300 mm
Distance N: 30 mm
Width active area B: 40 mm
Installation information:
Flush mounting possible on up to 4 sides
1-side flush mounting: Sr = 35 mm; D = 240 mm
2-side flush mounting: Sr = 25 mm; D = 240 mm
3-side flush mounting: Sr = 20 mm; D = 80 mm
4-side flush mounting: Sr = 15 mm; D = 60 mm
Rear-side mounting and set-back installation with reduced switching distance possible
Sensor mounted on metal, set back from the edge:
x = 10 mm: Sr = 20 mm
x = 20 mm: Sr = 20 mm
x = 30 mm: Sr = 20 mm
x = 40 mm: Sr = 20 mm
Sensor mounted on metal, protruding over the edge:
y = 10 mm: Sr = 40 mm
y = 20 mm: Sr = 50 mm
y = 30 mm: Sr = 50 mm
y = 40 mm: Sr = 50 mm
Installation in aperture:
T = 150 mm:
Sensor with turned rotating bracket
Surface-mounted on metal Sr = 50 mm
Surface-mounted on metal, with one side wall Sr = 25 mm
Surface-mounted on metal, with two side walls Sr = 15 mm
Surface-mounted on metal, with three side walls Sr = 12 mm
The values stated relate to a 1-mm-thick steel plate.
Sr is the switching distance that can be measured under specified temperature and supply conditions, also taking into account series variation.

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Mounting accessories

BSS-CP40	6901318
	Mounting bracket for rectangular housings 40 x 40 mm; material: Polypropylene; ambient temperature -30°C ... +90 C°

Connection accessories

RKC4T-2/TEL	6625010
	Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval

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