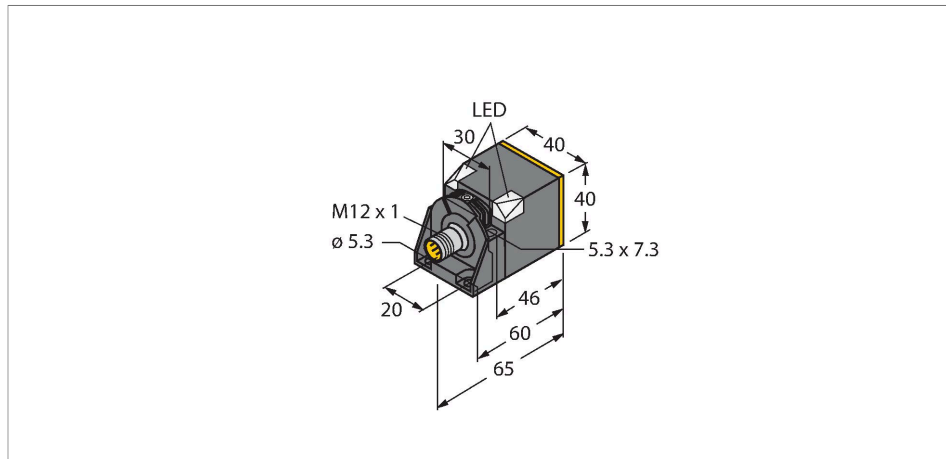


NI50U-CK40-IOL6X2-H1141

Inductive Sensor – IO-Link Communication and Configuration



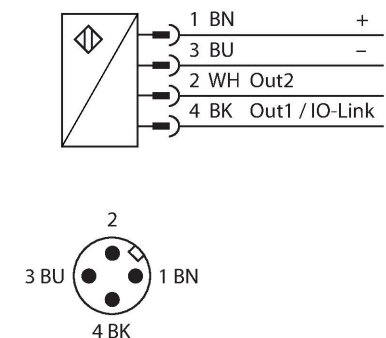
Technical data

Type	NI50U-CK40-IOL6X2-H1141
Ident. no.	1625871
Rated switching distance	50 mm
Mounting conditions	Non-flush, flush mountable
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2\%$ of full scale
Temperature drift	$\leq \pm 10\%$
	$\leq \pm 20\%, \leq -25\text{ °C} \vee \geq +70\text{ °C}$
Hysteresis	3...15 %
Ambient temperature	-25...+70 °C
Operating voltage	10...30 VDC
Residual ripple	$\leq 10\% U_s$
DC rated operational current	$\leq 150\text{ mA}$
No-load current	$\leq 20\text{ mA}$
Residual current	$\leq 0.1\text{ mA}$
Isolation test voltage	$\leq 0.5\text{ kV}$
Short-circuit protection	yes / Cyclic
Voltage drop at I_e	$\leq 1.8\text{ V}$
Wire breakage/Reverse polarity protection	yes / Complete
Communication protocol	IO-Link
Output function	4-wire, NO/NC, PNP/NPN
Output 1	Switching output or IO-Link mode
Output 2	switching output
Insulation class	□

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 pre-damping
- Partially embeddable
- DC 4-wire, 10...30 VDC
- M12 x 1 connector
- Configuration and communication via IO-Link v1.1 or via standard I/O
- Electrical outputs independently configurable
- Switching distance can be parametrized per output and hysteresis
- Identification via 32-byte memory
- Temperature monitoring with adjustable limits
- Various timer and pulse monitoring functions

Wiring diagram



Functional principle

Inductive sensors detect metal objects contactless and wear-free. *uprox*[®]3 sensors have significant advantages due to their patented ferrite-coreless multicoil system. They excel in largest switching distances, maximum flexibility and operational reliability as well as efficient standardization. In addition, the *uprox*[®]3-IO-Link sensors allow certain parameters to be set within predefined limits and various device functions to be configured to customer needs, using an IO-Link Master. For

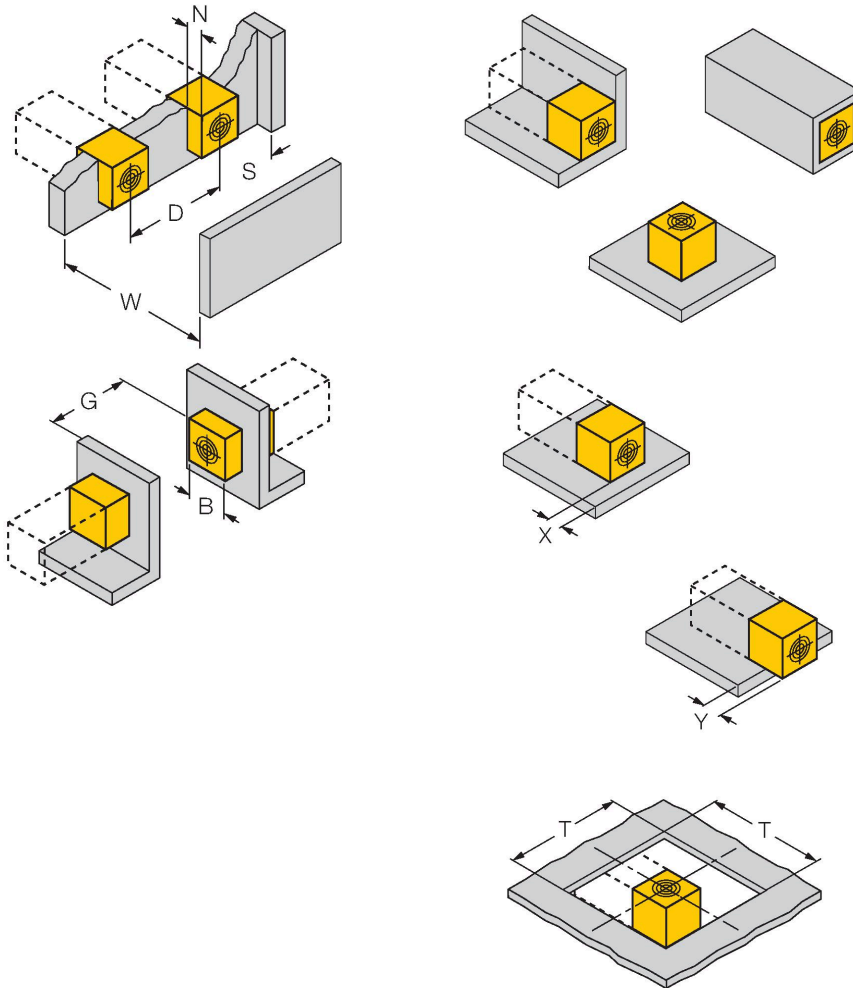
Technical data

detailed information refer to the *uprox®3-IO-Link* manual.

Switching frequency	0.5 kHz
IO-Link	
IO-Link specification	V 1.1
IO-Link port type	Class A
Communication mode	COM 2 (38.4 kBaud)
Process data width	16 bit
Switchpoint information	2 bit
Status bit information	3 bit
Frame type	2.2
Minimum cycle time	8 ms
Function Pin 4	IO-Link
Function Pin 2	DI
Maximum cable length	20 m
Included in the SIDI GSDML	Yes
Design	
Dimensions	65 x 40 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 × 1
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	
Switching state	2 × LEDs, Green
Switching state	2 × LEDs, Yellow
Included in delivery	Fixing clamp BS4-CK40

Mounting instructions

Mounting instructions/Description



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

Flush mounting

- 1-side mounting: $S_r = 35$ mm; $D = 240$ mm
- 2-side mounting: $S_r = 25$ mm; $D = 240$ mm
- 3-side mounting: $S_r = 20$ mm; $D = 80$ mm
- 4-side mounting: $S_r = 15$ mm; $D = 60$ mm

Backside as well as recessed mounting with reduced switching distance

Recessed mounting in metal:

- $x = 10$ mm: $S_r = 20$ mm
- $x = 20$ mm: $S_r = 20$ mm
- $x = 30$ mm: $S_r = 20$ mm
- $x = 40$ mm: $S_r = 20$ mm

Protruded mounting:

- $y = 10$ mm: $S_r = 40$ mm
- $y = 20$ mm: $S_r = 50$ mm
- $y = 30$ mm: $S_r = 50$ mm
- $y = 40$ mm: $S_r = 50$ mm

Mounting in aperture plate:

$T = 150$ mm:

Sensor with twisted turning angle

On metal $S_r = 50$ mm

Metal-enclosed on one side $S_r = 25$ mm

Metal-enclosed on two sides $S_r = 15$ mm

Metal-enclosed on three sides $S_r = 12$ mm

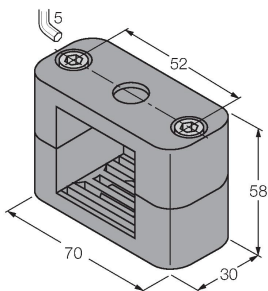
The values stated relate to a 1 mm thick steel plate.

Accessories

BSS-CP40

6901318

Mounting clamp for rectangular housings 40 x 40 mm; material: Polypropylene



Wiring accessories

Dimension drawing	Type	Ident. no.	Description
	RKC4.4T-2/TEL	6625013	Connection cable, female M12, straight, 4-pin, cable length: 2 m, sheath material: PVC, black; cULus approval; other cable lengths and qualities available, see www.turck.com