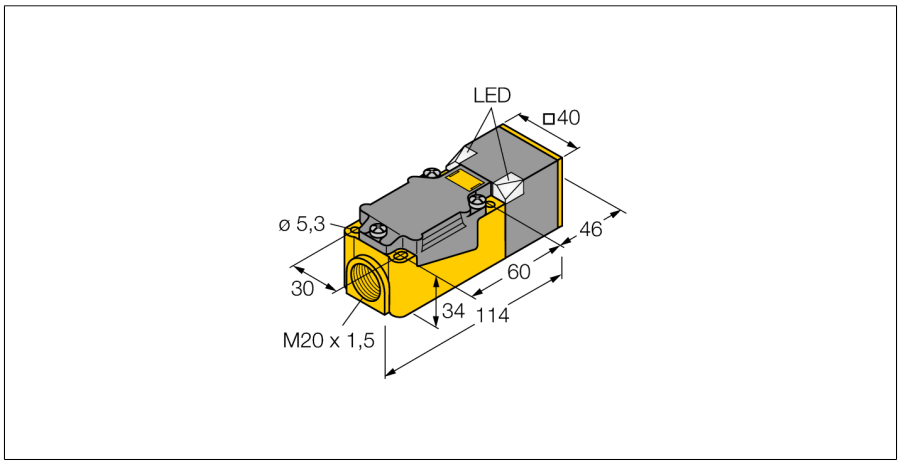
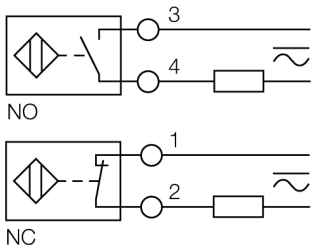
Inductive sensor
With extended temperature range
NI40-CP40-FZ3X2/S100



- **Rectangular, height 40 mm**
- **Variable orientation of active face in 9 directions**
- **Plastic, PBT-GF30-V0**
- **High luminance corner LEDs**
- **Optimum view on supply voltage and switching state from any position**
- **Temperatures up to +100 °C**
- **AC 2-wire, 20…250 VDC**
- **DC 2-wire, 10…300 VDC**
- **NC/NO programmable**
- **Terminal chamber**

Type code	NI40-CP40-FZ3X2/S100
Ident no.	1374801
Rated switching distance Sn	40 mm
Mounting conditions	non-flush
Assured switching distance	≤ (0,81 x Sn) mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeatability	≤ 2 % of full scale
Temperature drift	≤ ± 10 %
Hysteresis	3…15 %
Ambient temperature	-25…+100 °C
Operating voltage	20…250 VAC
Operating voltage	10…300VDC
AC rated operational current	≤ 400 mA
DC rated operational current	≤ 300 mA
Rated operational current	see derating curve
Frequency	≥ 50…≤ 60 Hz
Residual current	≤ 1.7 mA
Rated insulation voltage	≤ 1.5 kV
Surge current	≤ 8 A (≤ 10 ms max. 5 Hz)
Voltage drop at I_e	≤ 6 V
Output function	2-wire, connection programmable
Smallest operating current I_m	≥ 3 mA
Switching frequency	0.02 kHz
Construction	rectangular, CP40
Dimensions	114 x 40 x 40 mm
Housing material	plastic, PBT, black
Connection	Terminal chamber
Clamping ability	≤ 2.5 mm²
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
IP Rating	IP67
MTTF	2283 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	2 LEDs green
Switching state	LED red

Wiring diagram

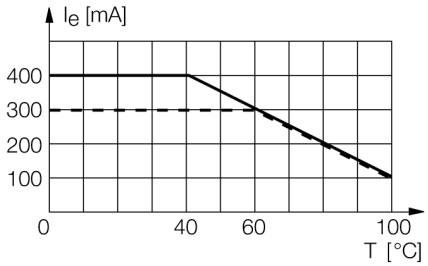


Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this purpose they use a high-frequency electromagnetic AC field that interacts with the target. The sensors hosting a ferrite core coil generate the AC field through an LC resonant circuit.

Special versions are available for ambient temperatures between -60°C and +250°C.

Derating curve



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Hans Turck GmbH & Co.KG ● D-45472 Mülheim an der Ruhr ● Witzlebenstraße 7 ● Tel. 0208 4952-0 ● Fax 0208 4952-264 ● more@turck.com ● www.turck.com

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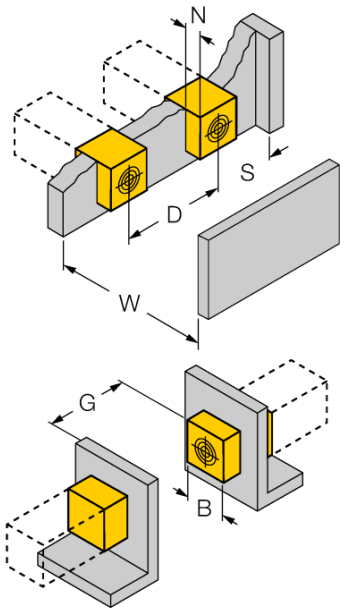
Distance D	4.5 x B
Distance W	3 x Sn
Distance S	1.5 x B
Distance G	6 x Sn
Distance N	1 x B

Width of the active face B	40 mm



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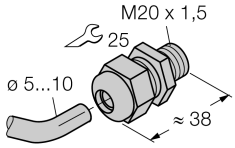
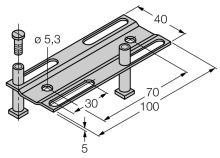
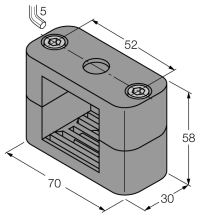
Accessories

Type code	Ident no.	Description	Design
STRM M20X1,5 BLACK	6965902	Cable glands M20 x 1.5	
Adjusting bar JS 025/037	69429	Adjusting bar for rectangular housings CK/CP40; material: VA 1.4301	
BSS-CP40	6901318	Mounting bracket for rectangular devices; material: Polypropylene	

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