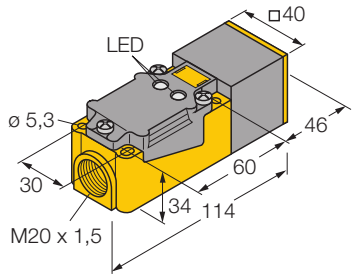
Inductive sensor
with extended temperature range
Ni20-CP40-FZ3X2/S100

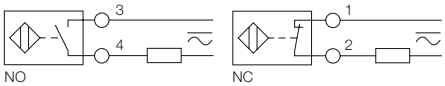
TURCK
Industrial Automation



- **rectangular, height 40 mm**
- **variable orientation of active face in 9 directions**
- **Plastic, PBT-GF30-V0**
- **for temperatures up to +100°C**
- **AC 2-wire, 20…250 VAC**
- **2-wire DC, 10…300 VDC**
- **connection programmable (n.c./ n.o.)**
- **Terminal chamber**

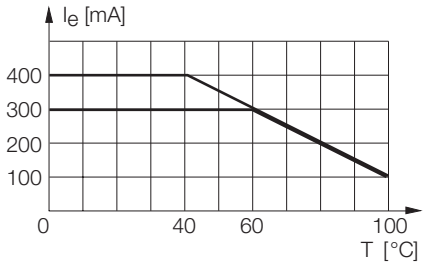
Type	Ni20-CP40-FZ3X2/S100
Ident-No.	13441
Rated operating distance Sn	20 mm
Mounting condition	non-flush
Assured sensing range	(0,81 x Sn) mm
Correction factors	St37 = 1, V2A ~ 0.7, Ms ~ 0.4, Al ~ 0.3
Repeatability	2 %
Temperature drift	± 10 %
	± 20 %, ≥ +70 °C
Hysteresis	3… 15 %
Ambient temperature	-25…+ 100 °C
Operating voltage	20… 250VAC
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	6V
Output function	2-wire, connection programmable
Smallest operating current I_m	≥ 3 mA
Switching frequency	0.02 kHz
Housing	rectangular, CP40
Dimensions	114 x 40 x 40 mm
	variable orientation of active face in 9 directions
Housing material	plastic, PBT-GF30-V0, black
Material active face	plastic, PBT-GF30-V0, yellow
Connection	Terminal chamber
Clamping ability	2.5mm^2
Vibration resistance	55 Hz (1 mm)
Shock resistance	30g (11 ms)
Degree of protection	IP67
Operating voltage display	LED green
Display switch state	LED red

Wiring diagram



Functional principle
Inductive sensors are designed for wear-free and non-contact detection of metal objects. For this purpose they use a high-frequency electro-magnetic AC field that interacts with the target. With inductive sensors, this field is generated by an LC resonant circuit with a ferrite core coil. Special inductive sensors versions can be used at temperatures of -60°C up to +250°C.

derating curve



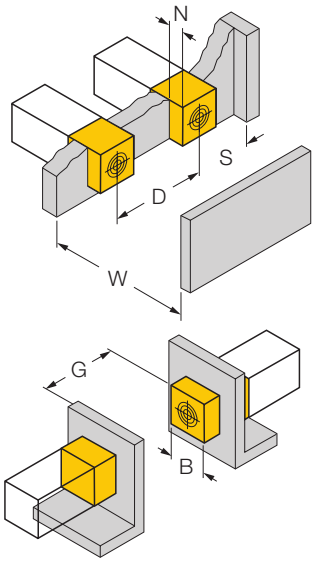
• Edition: • 08.11.2008

Casp System Sp. Z o.o., Puszkina 2, 43-603 Jaworzno, Polska, www.casp.pl, e-mail: biuro@casp.pl, tel/fax: +48 32 614 09 17

Inductive sensor
with extended temperature range
Ni20-CP40-FZ3X2/S100

Mounting instructions	minimum distances
Distance D	3 x B
Distance W	3 x Sn
Distance S	1,5 x B
Distance G	6 x Sn
Distance N	0,5 x B

Width of the active face B	40 mm

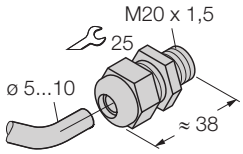
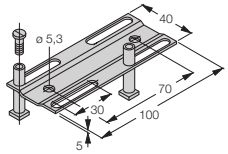
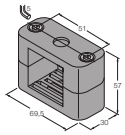


• Edition: • 08.11.2008

Inductive sensor
with extended temperature range
Ni20-CP40-FZ3X2/S100

Industrial Automation

Accessories

Type code	Ident-No.	Short text	Dimension drawing
STRM M20X1,5 SCHWARZ	6965902	cable glands M20 x 1,5	
JS 025/037	69429	mounting rail; material: VA 1.4301	
BSS-CP40	6901318	fixing clamp; material: polypropylene	

• Edition: • 08.11.2008