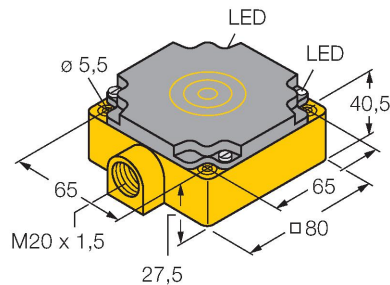


NI75U-CP80-FDZ30X2

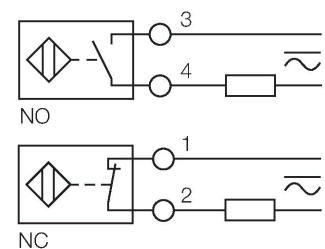
Inductive Sensor – With Increased Switching Distance



Features

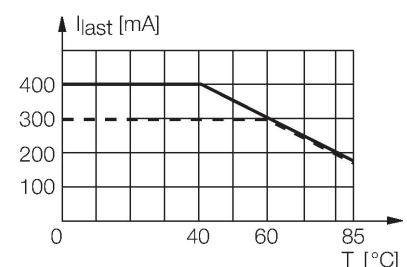
- Rectangular, height 41 mm
- Plastic, PBT-GF30-V0
- Factor 1 for all metals
- Resistant to magnetic fields
- Large coverage
- Extended temperature range
- High switching frequency
- AC 2-wire, 20...250 VAC
- DC 2-wire, 10...300 VDC
- NC/NO programmable
- Terminal chamber

Wiring diagram



Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. Approx Factor 1 sensors have significant advantages due to their patented ferrite-coreless multi-coil system. They detect all metals at the same large switching distance and are resistant to magnetic fields.



Technical data

Type	NI75U-CP80-FDZ30X2
ID	4280900
General data	
Rated switching distance	75 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2 \%$ of full scale
Temperature drift	$\leq \pm 10 \%$
	$\leq \pm 15 \%, \leq -25^\circ\text{C} \vee \geq +70^\circ\text{C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	20...250 VAC
Operating voltage U_B	10...300 VDC
AC rated operational current	≤ 400 mA
DC rated operating current I_o	≤ 300 mA
Frequency	$\geq 50 \dots \leq 60$ Hz
Residual current	≤ 1.7 mA
Isolation test voltage	1.5 kV
Surge current	≤ 3 A (≤ 20 ms max. 5 Hz)
Short-circuit protection	yes/Latching
Voltage drop at I_o	≤ 6 V
Wire break/reverse polarity protection	yes/Complete
Output function	2-wire, Connection programmable, 2-wire
DC field stability	300 mT
AC field stability	300 mT _{SS}
Smallest operating current	≥ 3 mA
Insulation class	□

Technical data

Switching frequency	0.01 kHz
Mechanical data	
Design	Rectangular, CP80
Dimensions	80 x 80 x 41 mm
Housing material	Plastic, PBT-GF30-V0
Active area material	PBT-GF30-V0
Electrical connection	Terminal chamber
Clamping ability	≤ 2.5 mm²
Environmental conditions	
Ambient temperature	-30...+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	LED, Green
Switching state	LED

Mounting instructions

Mounting instructions/Description

The image contains four isometric diagrams illustrating different mounting methods for the CP80 sensor:

- Top-left diagram:** Shows a single sensor unit mounted on a wall. Dimension **A** indicates the distance from the wall to the front of the unit. Dimension **C** indicates the distance from the wall to the back of the unit.
- Top-right diagram:** Shows a single sensor unit mounted inside a rectangular panel. Dimension **C** indicates the distance from the panel's inner face to the back of the unit. Dimension **S** indicates the distance from the panel's inner face to the front of the unit.
- Bottom-left diagram:** Shows two sensor units mounted side-by-side on a wall. Dimension **B** is the height of the units. Dimension **D** is the distance between the two units. Dimension **S** is the distance from the wall to the front of the units. Dimension **W** is the total width of the mounting area. A separate diagram below shows the sensor unit and its mounting plate with dimensions **G** (width of the unit) and **B** (height of the unit).

Distance D	4 x B
Distance W	3 x Sn
Distance S	1.5 x B
Distance G	6 x Sn
Distance A	1 x B
Distance C	1 x B
Width active area	80 mm
B	