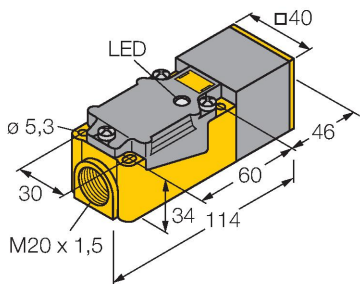


NI20-CP40-Y2X

Inductive Sensor



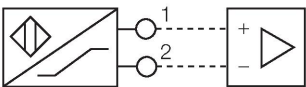
Technical data

Type	NI20-CP40-Y2X
ID	1011122
General data	
Rated switching distance	20 mm
Mounting conditions	Non-flush
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Correction factors	St37 = 1; Al = 0.3; stainless steel = 0.7; Ms = 0.4
Repeat accuracy	≤ 2 % of full scale
Temperature drift	$\leq \pm 10$ %
Hysteresis	1...10 %
Electrical data	
Output function	2-wire, NAMUR
Switching frequency	0.15 kHz
Voltage	Nom. 8.2 VDC
Non-actuated current consumption	≥ 2.1 mA
Actuated current consumption	≤ 1.2 mA
Approval acc. to	BVS 04 ATEX E 202
Internal capacitance (C _i)/inductance (L _i)	250 nF/350 μ H
Device marking	EX IM1 Ex ia I
	(max. U _i = 15 V, I _i = 60 mA, P _i = 200 mW)
Mechanical data	
Design	Rectangular, CP40
Dimensions	114 x 40 x 40 mm
Housing material	Plastic, PBT-GF30-V0, Black
Active area material	Plastic, PBT-GF30-V0, yellow
Electrical connection	Terminal chamber

Features

- Rectangular, height 40 mm
- Variable orientation of active face in 9 directions
- Plastic, PBT-GF30-V0
- High-luminance corner LEDs
- Optimum view of operating voltage and switching state from any position
- DC 2-wire, nom. 8.2 VDC
- Output acc. to DIN EN 60947-5-6 (NAMUR)
- Terminal chamber
- ATEX category I M1, mining

Wiring diagram



Functional principle

Inductive sensors detect metal objects contactless and wear-free. For this, they use a high-frequency electromagnetic AC field that interacts with the target. Inductive sensors generate this field via an RLC circuit with a ferrite coil.

Technical data

Clamping ability	≤ 2.5 mm ²
Environmental conditions	
Ambient temperature	-25...+70 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP67
MTTF	6198 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

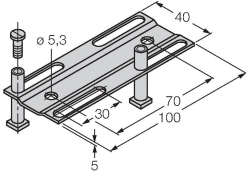
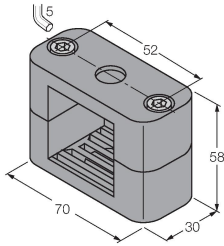
Mounting instructions

Mounting instructions/Description

The image contains two isometric diagrams illustrating the mounting of a yellow sensor unit (CK/CP40) on a grey rectangular housing. The top diagram shows the sensor mounted on a flat surface. Dimensions are indicated: 'N' is the height of the sensor, 'D' is the distance between the sensor and the housing, 'S' is the distance from the sensor to the edge of the housing, and 'W' is the width of the housing. The bottom diagram shows the sensor mounted on a raised surface. Dimensions are indicated: 'G' is the distance from the sensor to the edge of the housing, and 'B' is the width of the sensor.

Distance D	$3 \times B$
Distance W	$3 \times S_n$
Distance S	$1.5 \times B$
Distance G	$6 \times S_n$
Distance N	$1 \times B$
Width active area B	40 mm

Accessories

JS025/037	69429	BSS-CP40	6901318
Adjusting bar for rectangular housings CK/CP40; material: VA 1.4301		Mounting clamp for rectangular housings 40 x 40 mm; material: Polypropylene	
			

Accessories

Dimension drawing	Type	ID	
	IMX12-DI01-2S-2T-0/24VDC	7580020	Isolating switching amplifier, 2-channel; SIL2 acc. to IEC 61508; Ex-proof version; 2 transistor outputs; input Namur signal; ON/OFF switchable monitoring of wire-break and short-circuit; toggle between NO/NC mode; signal doubling; removable screw terminals; 12.5 mm wide; 24 VDC power supply

Instructions for use

Intended use	This device fulfills the directive 2014/34/EC and is suited for use in explosion hazardous areas according to EN 60079-0 (2012), EN 60079-11 (2012) and EN 50303 (2000).In order to ensure correct operation to the intended purpose it is required to observe the national regulations and directives.
For use in explosion hazardous areas conform to classification	I M 1 (Group I, Category M 1, electrical equipment for mining).
Marking (see device or technical data sheet)	 I M 1 and Ex ia I acc. to EN 60079-11
Installation/Commissioning	These devices may only be installed, connected and operated by trained and qualified staff. Qualified staff must have knowledge of protection classes, directives and regulations concerning electrical equipment designed for use in explosion hazardous areas.Please verify that the classification and the marking on the device comply with the actual application conditions. This device is only suited for connection to approved Exi circuits according to EN 60079-0 and EN 60079-11. Please observe the maximum admissible electrical values.After connection to other circuits the sensor may no longer be used in Exi installations. When interconnected to (associated) electrical equipment, it is required to perform the "Proof of intrinsic safety" (EN60079-14).
Installation and mounting instructions	Avoid static charging of cables and plastic devices. Please only clean the device with a damp cloth. Do not install the device in a dust flow and avoid build-up of dust deposits on the device.If the devices and the cable could be subject to mechanical damage, they must be protected accordingly. They must also be shielded against strong electro-magnetic fields.The pin configuration and the electrical specifications can be taken from the device marking or the technical data sheet.In order to avoid contamination of the device, please remove possible blanking plugs of the cable glands or connectors only shortly before inserting the cable or opening the cable socket.
Service/Maintenance	Repairs are not possible. The approval expires if the device is repaired or modified by a person other than the manufacturer. The most important data from the approval are listed.