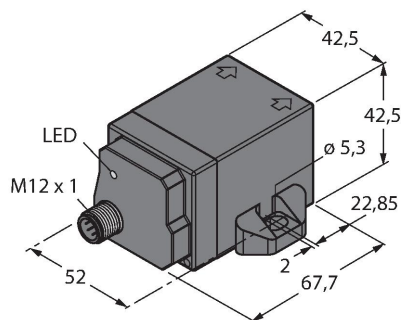


NI50U-Q42FWD-VP6X-H1141

Inductive Sensor – For the Food Industry



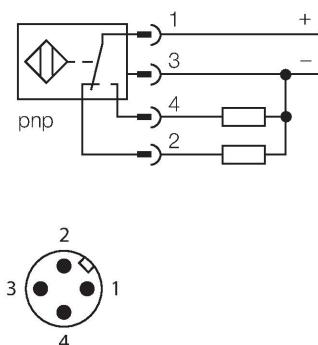
Features

- Rectangular, height 42.5 mm
- Active face in front
- Plastic, PA12-GF30
- Factor 1 for all metals
- Resistant to magnetic fields
- Auto-compensation protects against pre-damping
- Partially embeddable
- Extended temperature range
- High protection class IP69K for harsh environments
- Protection against all common acidic and alkaline cleaning agents
- Laser engraved label, permanently legible
- Suitable for applications in the food industry
- DC 4-wire, 10...30 VDC
- Changeover contact, PNP output
- M12 x 1 male connector

Technical data

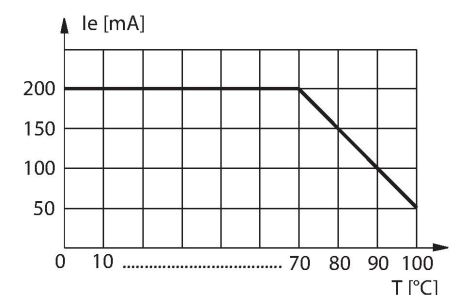
Type	NI50U-Q42FWD-VP6X-H1141
ID	1538305
General data	
Rated switching distance	50 mm
Mounting conditions	Non-flush, partially embeddable
Secured operating distance	$\leq (0.81 \times S_n)$ mm
Repeat accuracy	$\leq 2\%$ of full scale
Temperature drift	$\leq \pm 10\%$ $\leq \pm 20\%$, $-25\text{ °C} \leq T \leq +70\text{ °C}$
Hysteresis	3...15 %
Electrical data	
Operating voltage U_B	10...30 VDC
Ripple U_{ss}	$\leq 10\% U_{Bmax}$
DC rated operating current I_o	$\leq 200\text{ mA}$
No-load current	$\leq 25\text{ mA}$
Residual current	$\leq 0.1\text{ mA}$
Isolation test voltage	0.5 kV
Short-circuit protection	yes/Cyclic
Voltage drop at I_o	$\leq 1.8\text{ V}$
Wire break/reverse polarity protection	yes/Complete
Output function	4-wire, Complementary contact, PNP
DC field stability	300 mT
AC field stability	300 mT _{ss}
Switching frequency	0.25 kHz
Mechanical data	
Design	Rectangular, Q42
Dimensions	67.7 x 42.5 x 42.5 mm

Wiring diagram



Functional principle

The inductive sensors for the food industry are absolutely tight and resistant to cleaning agents and disinfectants. The stainless steel connector and the proven housing materials ensure durability and ruggedness.



Technical data

Housing material	Plastic, PA12-GF30, Black
Active area material	Plastic, PA12-GF30, black
Plug adapter	metal, 1.4404 (AISI 316L)
Tightening torque fixing screw	4 Nm
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-40...+100 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68 IP69K
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Switching state	LED, Yellow

Mounting instructions

Mounting instructions/Description

Distance D	$6 \times B$
Distance W	$3 \times S_n$
Distance S	$1.5 \times B$
Distance G	$6 \times S_n$
Width active area B	42 mm

up to 2-side flush mounting possible
 1-side flush mounting: $S_r = 30 \text{ mm}$; $D = 240 \text{ mm}$
 2-side flush mounting: $S_r = 25 \text{ mm}$; $D = 240 \text{ mm}$

Recessed mounting in metal:

$x = 10 \text{ mm}$: $S_r = 20 \text{ mm}$
 $x = 20 \text{ mm}$: $S_r = 20 \text{ mm}$
 $x = 30 \text{ mm}$: $S_r = 20 \text{ mm}$
 $x = 40 \text{ mm}$: $S_r = 20 \text{ mm}$

Protruded mounting:

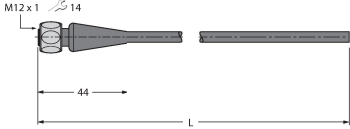
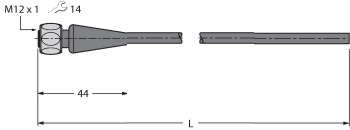
$y = 10 \text{ mm}$: $S_r = 40 \text{ mm}$
 $y = 20 \text{ mm}$: $S_r = 50 \text{ mm}$
 $y = 30 \text{ mm}$: $S_r = 50 \text{ mm}$
 $y = 40 \text{ mm}$: $S_r = 50 \text{ mm}$

Mounting position in aperture plate:

$T = 150 \text{ mm}$

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

Accessories

Dimension drawing	Type	ID	
	RKH4.4-2/TFE	6934473	Connection cable, M12 female connector, straight, 4-pin, stainless steel coupling nut, cable length: 2 m, jacket material: PVC, gray; temperature range: -25...+80 °C
	RKH4.4-2/TFG	6933086	Connection cable, M12 female connector, straight, 4-pin, stainless steel coupling nut, cable length: 2 m, jacket material: TPE, gray; temperature range: -40...+105 °C