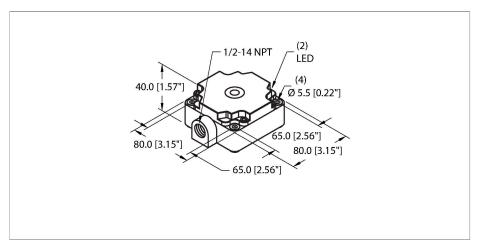
NI75U-CP80-VN4X2/S10 Inductive uprox®+ sensor – With increased switching distance



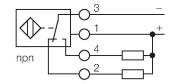
Technical data

Ident. no. 1540811 Special version \$10 = Mounting base with 1/2-14NPT thread Rated switching distance 75 mm Mounting conditions Non-flush Secured operating distance \$(0,81 x Sn) mm Repeat accuracy \$2 % of full scale Temperature drift \$\pm\$ 10 % \$\pm\$ 2 ± 15 %, \$< -25 °C v ≥ +70 °C Hysteresis \$315 % Ambient temperature -30+85 °C Operating voltage \$1065 VDC Residual ripple \$10 % U _s DC rated operational current \$200 mA No-load current \$15 mA Residual current \$0.1 mA Isolation test voltage \$0.5 kV Short-circuit protection yes / Cyclic Voltage drop at \$1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class \$\bigcircle{\pi}\$ Switching frequency \$0.25 kHz Design Rectangular, CP80 Dimensions \$80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0 Active area material PBT-GF30-V0	Туре	NI75U-CP80-VN4X2/S10
thread Rated switching distance 75 mm Mounting conditions Non-flush Secured operating distance \$\leq (0.81 \times		1540811
Mounting conditions Non-flush Secured operating distance ≤ (0,81 x Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤± 10 % ≤± 15 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1065 VDC Residual ripple ≤ 10 % U₃ DC rated operational current ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular, CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Special version	3
Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 \text{ °C V} \geq +70 \text{ °C}$ Hysteresis 315% Ambient temperature $-30+85 \text{ °C}$ Operating voltage 1065 VDC Residual ripple $\leq 10 \% \text{ U}_{ss}$ DC rated operational current $\leq 200 \text{ mA}$ No-load current $\leq 15 \text{ mA}$ Residual current $\leq 0.1 \text{ mA}$ Isolation test voltage $\leq 0.5 \text{ kV}$ Short-circuit protection $yes / Cyclic$ Voltage drop at $\leq 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $yes / Complete$ Output function 4 -wire, Complementary contact, NPN Protection class \square Switching frequency 0.25 kHz Design Rectangular, CP80 Dimensions $80 \times 80 \times 41 \text{ mm}$ Housing material	Rated switching distance	75 mm
Repeat accuracy≤ 2 % of full scaleTemperature drift≤ ± 10 %≤ ± 15 %, ≤ -25 °C v ≥ +70 °CHysteresis315 %Ambient temperature-30+85 °COperating voltage1065 VDCResidual ripple≤ 10 % UaDC rated operational current≤ 200 mANo-load current≤ 15 mAResidual current≤ 0.1 mAIsolation test voltage≤ 0.5 kVShort-circuit protectionyes / CyclicVoltage drop at≤ 1.8 VWire breakage/Reverse polarity protectionyes / CompleteOutput function4-wire, Complementary contact, NPNProtection class□Switching frequency0.25 kHzDesignRectangular,CP80Dimensions80 x 80 x 41 mmHousing materialPlastic, PBT-GF30-V0	Mounting conditions	Non-flush
Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 ^{\circ}\text{C} \text{v} \geq +70 ^{\circ}\text{C}$ Hysteresis 315% Ambient temperature $-30+85 ^{\circ}\text{C}$ Operating voltage 1065VDC Residual ripple $\leq 10 ^{\circ}\text{U}_{\text{s}}$ DC rated operational current $\leq 200 \text{mA}$ No-load current $\leq 15 \text{mA}$ Residual current $\leq 0.1 \text{mA}$ Isolation test voltage $\leq 0.5 \text{kV}$ Short-circuit protection 20.5kV Short-circuit protection 20.5kV Wire breakage/Reverse polarity protection 20.5kV Wire breakage/Reverse polarity protection 20.5kV Protection class 20.5kV Switching frequency 20.5kHz Design Rectangular,CP80 Dimensions 20.5kHz Dimensions 20.5kHz Dimensions 20.5kHz Plastic, PBT-GF30-V0	Secured operating distance	≤ (0,81 x Sn) mm
$≤ ± 15 \%, ≤ -25 °C v ≥ +70 °C$ Hysteresis 315% Ambient temperature $-30+85 °C$ Operating voltage $1065 VDC$ Residual ripple $≤ 10 \% U_s$ DC rated operational current $≤ 200 \text{ mA}$ No-load current $≤ 15 \text{ mA}$ Residual current $≤ 0.1 \text{ mA}$ Isolation test voltage $≤ 0.5 \text{ kV}$ Short-circuit protection $yes / Cyclic$ Voltage drop at $≤ 1.8 \text{ V}$ Wire breakage/Reverse polarity protection $yes / Complete$ Output function $4-wire, Complementary contact, NPN$ Protection class $□$ Switching frequency 0.25 kHz Design $Rectangular, CP80$ Dimensions $80 \times 80 \times 41 \text{ mm}$ Housing material	Repeat accuracy	≤ 2 % of full scale
Hysteresis 315 % Ambient temperature -30+85 °C Operating voltage 1065 VDC Residual ripple ≤ 10 % U _s DC rated operational current ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Temperature drift	≤±10%
Ambient temperature -30+85 °C Operating voltage 1065 VDC Residual ripple ≤ 10 % U _s DC rated operational current ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection Voltage drop at Wire breakage/Reverse polarity protection Vultage drop at Vultage drop at Wire breakage/Reverse polarity protection Protection class Switching frequency Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Operating voltage Residual ripple ≤ 10 % U _s DC rated operational current ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Hysteresis	315 %
Residual ripple ≤ 10 % U _{ss} DC rated operational current ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular, CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Ambient temperature	-30+85 °C
DC rated operational current ≤ 200 mA No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Operating voltage	1065 VDC
No-load current ≤ 15 mA Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Residual ripple	≤ 10 % U _{ss}
Residual current ≤ 0.1 mA Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	DC rated operational current	≤ 200 mA
Isolation test voltage ≤ 0.5 kV Short-circuit protection yes / Cyclic Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	No-load current	≤ 15 mA
Short-circuit protection Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection Output function 4-wire, Complementary contact, NPN Protection class Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material	Residual current	≤ 0.1 mA
Voltage drop at ≤ 1.8 V Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class □ Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Isolation test voltage	≤ 0.5 kV
Wire breakage/Reverse polarity protection yes / Complete Output function 4-wire, Complementary contact, NPN Protection class Switching frequency 0.25 kHz Design Rectangular, CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Short-circuit protection	yes / Cyclic
Output function 4-wire, Complementary contact, NPN Protection class Switching frequency 0.25 kHz Design Rectangular, CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Voltage drop at	≤ 1.8 V
Protection class Switching frequency 0.25 kHz Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Wire breakage/Reverse polarity protection	yes / Complete
Switching frequency Design Rectangular,CP80 Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Output function	4-wire, Complementary contact, NPN
DesignRectangular,CP80Dimensions80 x 80 x 41 mmHousing materialPlastic, PBT-GF30-V0	Protection class	
Dimensions 80 x 80 x 41 mm Housing material Plastic, PBT-GF30-V0	Switching frequency	0.25 kHz
Housing material Plastic, PBT-GF30-V0	Design	Rectangular, CP80
	Dimensions	80 x 80 x 41 mm
Active area material PBT-GF30-V0	Housing material	Plastic, PBT-GF30-V0
	Active area material	PBT-GF30-V0

Features

- Rectangular, height 41 mm
- Plastic, PBT-GF30-V0
- Thread, 1/2-14 NPT
- Factor 1 for all metals
- Protection class IP67
- Resistant to magnetic fields
- Extended temperature range
- High switching frequency
- DC 4-wire, 10...65 VDC
- Changeover contact, NPN output
- Terminal chamber

Wiring diagram



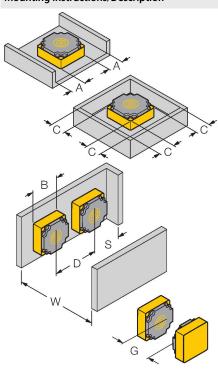
Functional principle

Inductive sensors detect metal objects contactless and wear-free. Due to the 3-coil system without ferrite core, uprox®+ factor 1 sensors have significant advantages. They detect all metals at the same switching distance, are magnetic field immune and feature large switching distances.

Electrical connection

Clamping ability	≤ 2.5 mm²
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, Yellow
Mounting instructions	
Mounting instructions/Description	

Terminal chamber



Distance D	3 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 B	80 mm