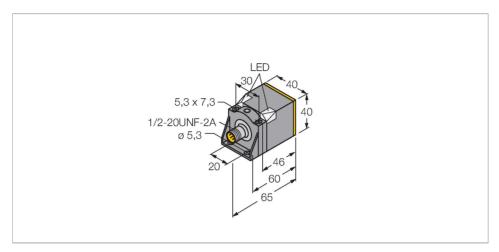


NI35U-CK40-ADZ30X2-B3131 w/BS4 Inductive Sensor - With Extended Switching Distance



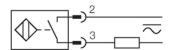


ID 4280431 General data Rated switching distance 35 mm Mounting conditions Non-flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % Leparating drift ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Electrical data 20250 VAC Operating voltage U₀ 20250 VAC Operating voltage U₀ 10300 VDC AC rated operational current ≤ 400 mA DC rated operating current I₀ ≤ 300 mA Frequency ≥ 50≤ 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 I₀ ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT	Туре	NI35U-CK40-ADZ30X2-B3131 w/BS4
Rated switching distance Mounting conditions Non-flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Electrical data Operating voltage U ₈ 20250 VAC Operating voltage U ₈ 10300 VDC AC rated operational current ≤ 400 mA DC rated operating current I ₈ ≤ 300 mA Frequency ≥ 50≤ 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 Voltage drop at I ₈ ≤ 6 V Wire break/reverse polarity protection Output function 2-wire, NO contact, 2-wire	ID	4280431
Mounting conditions Non-flush Secured operating distance ≤ $(0.81 \times Sn)$ mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ± 10 % ≤ ± 20 %, ≤ -25 °C v ≥ +70 °C Hysteresis 315 % Electrical data Operating voltage U ₈ 20250 VAC Operating voltage U ₈ 10300 VDC AC rated operational current ≤ 400 mA DC rated operating current I ₉ ≤ 300 mA Frequency ≥ 50≤ 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 ₉ ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	General data	
Secured operating distance $\leq (0.81 \times Sn) \text{ mm}$ Repeat accuracy $\leq 2 \% \text{ of full scale}$ Temperature drift $\leq \pm 10 \%$ $\leq \pm 20 \%, \leq -25 \text{ °C V} \geq +70 \text{ °C}$ Hysteresis 315% Electrical data Operating voltage U_8 20250 VAC Operating voltage U_8 10300 VDC AC rated operational current $\leq 400 \text{ mA}$ DC rated operating current I_6 $\leq 300 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 3 \text{ A} (\leq 20 \text{ ms max. 5 Hz})$ Short-circuit protection $\leq 6 \text{ V}$ Wire break/reverse polarity protection $\leq 6 \text{ V}$ Wire break/reverse polarity protection $\leq -2 \text{ wire, NO contact, 2-wire}$	Rated switching distance	35 mm
Repeat accuracy≤ 2 % of full scaleTemperature drift≤ ± 10 %≤ ± 20 %, ≤ -25 °C v ≥ +70 °CHysteresis315 %Electrical data20250 VACOperating voltage U $_{\rm B}$ 20250 VACOperating voltage U $_{\rm B}$ 10300 VDCAC rated operational current≤ 400 mADC rated operating current I $_{\rm e}$ ≤ 300 mAFrequency≥ 50≤ 60 HzResidual current≤ 1.7 mAIsolation test voltage1.5 kVSurge current≤ 3 A (≤ 20 ms max. 5 Hz)Short-circuit protectionyes/LatchingVoltage drop at I $_{\rm e}$ ≤ 6 VWire break/reverse polarity protectionyes/CompleteOutput function2-wire, NO contact, 2-wire	Mounting conditions	Non-flush
Temperature drift $\leq \pm 10 \%$ $\leq \pm 20 \%, \leq -25 ^{\circ}\text{C V} \geq +70 ^{\circ}\text{C}$ Hysteresis 315% Electrical data Operating voltage U_B 20250 VAC Operating voltage U_B 10300 VDC AC rated operational current $\leq 400 \text{ mA}$ DC rated operating current I_B $\leq 300 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 3 \text{ A } (\leq 20 \text{ ms max. 5 Hz})$ Short-circuit protection $\leq 60 \text{ V}$ Wire break/reverse polarity protection $\leq 60 \text{ V}$ Wire break/reverse polarity protection $\leq 60 \text{ V}$ Output function $\leq 60 \text{ V}$ Output function $\leq 60 \text{ V}$	Secured operating distance	≤ (0.81 × Sn) mm
$ \leq \pm 20 \text{ %, } \leq -25 \text{ °C v} \geq +70 \text{ °C} $ Hysteresis $ 315 \text{ %} $ Electrical data $ Operating \text{ voltage U}_{\text{B}} \qquad 20250 \text{ VAC} $ Operating voltage U _B $ 10300 \text{ VDC} $ AC rated operational current $ \leq 400 \text{ mA} $ DC rated operating current I _e $ \leq 300 \text{ mA} $ Frequency $ \geq 50 \leq 60 \text{ Hz} $ Residual current $ \leq 1.7 \text{ mA} $ Isolation test voltage $ 1.5 \text{ kV} $ Surge current $ \leq 3 \text{ A } (\leq 20 \text{ ms max. 5 Hz}) $ Short-circuit protection $ \text{yes/Latching} $ Voltage drop at I _e $ \leq 6 \text{ V} $ Wire break/reverse polarity protection $ \text{yes/Complete} $ Output function $ 2\text{-wire, NO contact, 2-wire} $	Repeat accuracy	≤ 2 % of full scale
Hysteresis 315 % Electrical data Operating voltage U _B 20250 VAC Operating voltage U _B 10300 VDC AC rated operational current ≤ 400 mA DC rated operating current I _B ≤ 300 mA Frequency ≥ 50≤ 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 _B ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Temperature drift	≤ ±10 %
Electrical data Operating voltage U _B 20250 VAC Operating voltage U _B 10300 VDC AC rated operational current ≤ 400 mA DC rated operating current I _B ≤ 300 mA Frequency ≥ 50≤ 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 Voltage drop at I _B Voltage drop at I _B Voltage drop at I _B Output function 2-wire, NO contact, 2-wire		≤ ± 20 %, ≤ -25 °C v ≥ +70 °C
Operating voltage U_B 20250 VAC Operating voltage U_B 10300 VDC AC rated operational current $\leq 400 \text{ mA}$ DC rated operating current I_B $\leq 300 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 3 \text{ A } (\leq 20 \text{ ms max. 5 Hz})$ Short-circuit protection yes/Latching Voltage drop at I_B $\leq 6 \text{ V}$ Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Hysteresis	315 %
Operating voltage U_B 10300 VDC AC rated operational current ≤ 400 mA DC rated operating current I_B ≤ 300 mA Frequency ≥ 50≤ 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_B ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Electrical data	
AC rated operational current $\leq 400 \text{ mA}$ DC rated operating current I $_{\circ}$ $\leq 300 \text{ mA}$ Frequency $\geq 50 \leq 60 \text{ Hz}$ Residual current $\leq 1.7 \text{ mA}$ Isolation test voltage 1.5 kV Surge current $\leq 3 \text{ A} (\leq 20 \text{ ms max. 5 Hz})$ Short-circuit protectionyes/LatchingVoltage drop at I $_{\circ}$ $\leq 6 \text{ V}$ Wire break/reverse polarity protectionyes/CompleteOutput function2-wire, NO contact, 2-wire	Operating voltage U _B	20250 VAC
DC rated operating current I _e ≤ 300 mA Frequency ≥ 50≤ 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 _e ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Operating voltage U _B	10300 VDC
Frequency ≥ 50≤ 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 _e ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	AC rated operational current	≤ 400 mA
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 I₀ ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	DC rated operating current I _e	≤ 300 mA
Isolation test voltage 1.5 kV Surge current \leq 3 A (\leq 20 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I $_{\circ}$ \leq 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Frequency	≥ 50≤ 60 Hz
Surge current \leq 3 A (\leq 20 ms max. 5 Hz) Short-circuit protection yes/Latching Voltage drop at I₀ \leq 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Residual current	≤ 1.7 mA
Short-circuit protection yes/Latching Voltage drop at I₀ ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Isolation test voltage	1.5 kV
Voltage drop at I₀ ≤ 6 V Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Surge current	≤ 3 A (≤ 20 ms max. 5 Hz)
Wire break/reverse polarity protection yes/Complete Output function 2-wire, NO contact, 2-wire	Short-circuit protection	yes/Latching
Output function 2-wire, NO contact, 2-wire	Voltage drop at I _e	≤ 6 V
•	Wire break/reverse polarity protection	yes/Complete
DC field stability 300 mT	Output function	2-wire, NO contact, 2-wire
	DC field stability	300 mT



Features

- Rectangular, height 40 mm
- Variable orientation of active face in 5 directions
- Plastic, PBT-GF30-V0
- Only use the included plastic clip BS4-CK40
- Factor 1 for all metals
- Increased switching distance
- Protection class IP68



Increased switching distance
Protection class IP68
Large coverage
Resistant to magnetic fields
Extended temperature range
High switching frequency
AC 2-wire, 20...250 VAC
DC 2-wire, 10...300 VDC
NO contact
1/2" male connector

Wiring diagram

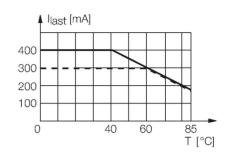
Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox 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

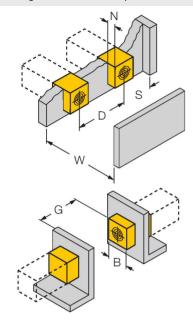
AC field stability	300 mT _{ss}
Smallest operating current	≥ 3 mA
Insulation class	
Switching frequency	0.01 kHz
Mechanical data	
Design	Rectangular, CK40
Dimensions	65 x 40 x 40 mm
	variable orientation of active face in 5 directions
Housing material	Plastic, PBT-GF20-V0, Black
Active area material	Plastic, PA6-GF30-X, yellow
Connector housing	metal, CuZn, nickel-plated
Electrical connection	Connector, 1/2"
Environmental conditions	
Ambient temperature	-30+85 °C
Vibration resistance	55 Hz (1 mm)
Shock resistance	30 g (11 ms)
Protection class	IP68
MTTF	874 years acc. to SN 29500 (Ed. 99) 40 °C
Power-on indication	2 × LEDs, Green
Switching state	2 × LEDs, Yellow
Included in delivery	BS4-CK40





Mounting instructions

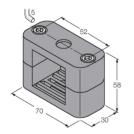
Mounting instructions/Description



Distance D	120 mm
Distance W	105 mm
Distance S	60 mm
Distance G	210 mm
Distance N	30 mm
Width active area B	40 mm

Accessories

BSS-CP40



Mounting clamp for rectangular housings 40 x 40 mm; material: Polypropylene

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