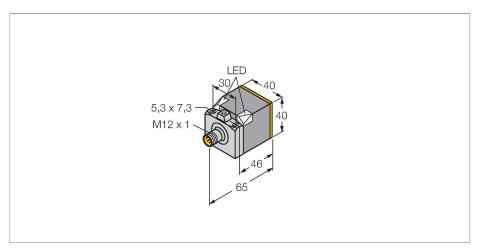


BI15U-CK40-AD4X-H1144 Inductive Sensor



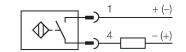


D	Туре	BI15U-CK40-AD4X-H1144
Rated switching distance 15 mm Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤±10 % ≤±15 %, ≤-25 °C v≥+70 °C Hysteresis 320 % Electrical data Operating voltage U₀ 1065 VDC Ripple U₃ ≤10 % U₃ MA Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I₀ ≤5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40		4280032
Mounting conditions Flush Secured operating distance ≤ (0.81 × Sn) mm Repeat accuracy ≤ 2 % of full scale Temperature drift ≤ ±10 % ≤±15 %, ≤-25 °C v ≥ +70 °C Hysteresis 320 % Electrical data Operating voltage Us 1065 VDC Ripple Uss ≤ 10 % Usmax DC rated operating current Is ≤ 100 mA Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at Is ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mTss Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40	General data	
Secured operating distance $\leq (0.81 \times \text{Sn}) \text{ mm}$ Repeat accuracy $\leq 2 \%$ of full scale Temperature drift $\leq \pm 10 \%$ $\leq \pm 15 \%, \leq -25 \text{ °C V} \geq +70 \text{ °C}$ Hysteresis 320% Electrical data Operating voltage U_B 1065 VDC Ripple U_{BB} $\leq 10 \% U_{BBB}$ DC rated operating current I_B $\leq 100 \text{ mA}$ Residual current $\leq 0.8 \text{ mA}$ Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I_B $\leq 5 \text{ V}$ Wire break/reverse polarity protection 0.00 contact , $0.00 conta$	Rated switching distance	15 mm
Repeat accuracy ≤ 2 % of full scale Temperature drift $\leq \pm 10$ % $\leq \pm 15$ %, ≤ -25 °C v ≥ +70 °C Hysteresis 320 % Electrical data Operating voltage U _s 1065 VDC Ripple U _{ss} ≤ 10 % U _{smax} DC rated operating current I _s ≤ 100 mA Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I _s ≤ 5 V Wire break/reverse polarity protection Complete Output function 2 -wire, NO contact, 2 -wire DC field stability 300 mT AC field stability 300 mT Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40	Mounting conditions	Flush
Temperature drift ≤±10 % ≤±15 %, ≤-25 °C v≥+70 °C Hysteresis 320 % Electrical data Operating voltage U ₈ 1065 VDC Ripple U _{ss} ≤ 10 % U _{bmax} DC rated operating current I ₈ ≤ 100 mA Residual current ≤ 0.8 mA Isolation test voltage Short-circuit protection Voltage drop at I ₈ ≤ 5 V Wire break/reverse polarity protection Complete Output function DC field stability 300 mT AC field stability 300 mT Smallest operating current ≥ 3 mA Switching frequency Nechanical data Design Rectangular, CK40	Secured operating distance	≤ (0.81 × Sn) mm
$\leq \pm 15 \ \%, \leq -25 \ ^{\circ}\text{C} \ \text{V} \geq +70 \ ^{\circ}\text{C}$ Hysteresis $320 \ \%$ Electrical data $Operating \ voltage \ U_{\scriptscriptstyle B} \qquad 1065 \ \text{VDC}$ Ripple $U_{\scriptscriptstyle SS} \qquad \leq 10 \ \% \ U_{\scriptscriptstyle Bmax}$ $DC \ rated \ operating \ current \ I_{\scriptscriptstyle O} \qquad \leq 100 \ \text{mA}$ Residual current $\leq 0.8 \ \text{mA}$ Isolation test voltage $0.5 \ \text{kV}$ Short-circuit protection $ \text{yes/Cyclic} $ $Voltage \ drop \ at \ I_{\scriptscriptstyle O} \qquad \leq 5 \ \text{V}$ Wire break/reverse polarity protection $ \text{Complete} $ $Output \ function \qquad 2-\text{wire}, \ \text{NO contact}, \ 2-\text{wire} $ $DC \ field \ stability \qquad 300 \ \text{mT} $ $AC \ field \ stability \qquad 300 \ \text{mT} $ $AC \ field \ stability \qquad 300 \ \text{mT} $ $Smallest \ operating \ current \qquad \geq 3 \ \text{mA} $ $Switching \ frequency \qquad 0.01 \ \text{kHz} $ $ \text{Mechanical data} $ $ \text{Design} \qquad \text{Rectangular, CK40} $	Repeat accuracy	≤ 2 % of full scale
Hysteresis 320 % Electrical data 1065 VDC Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _e ≤ 100 mA Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I _e ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT ss Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	Temperature drift	≤ ±10 %
Electrical data Operating voltage U _B Ripple U _{ss} ≤ 10 % U _{Bmax} DC rated operating current I _e Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection Voltage drop at I _e ✓ 5 V Wire break/reverse polarity protection Output function DC field stability AC field stability Smallest operating current ≥ 3 mA Switching frequency No contact, 2-wire 0.01 kHz Mechanical data Design Rectangular, CK40		≤ ± 15 %, ≤ -25 °C v ≥ +70 °C
Operating voltage U_{ss} 1065 VDC Ripple U_{ss} ≤ 10 % U_{smax} DC rated operating current I_{e} ≤ 100 mA Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I_{e} ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	Hysteresis	320 %
Ripple U _{ss} ≤ 10 % U _{smax} DC rated operating current I _e ≤ 100 mA Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I _e ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT _{ss} Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	Electrical data	
DC rated operating current I₀ ≤ 100 mA Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I₀ ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mTss Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	Operating voltage U _B	1065 VDC
Residual current ≤ 0.8 mA Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I₀ ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mTss Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40	Ripple U _{ss}	≤ 10 % U _{Bmax}
Isolation test voltage 0.5 kV Short-circuit protection yes/Cyclic Voltage drop at I₀ ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mTss Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	DC rated operating current I _o	≤ 100 mA
Short-circuit protection yes/Cyclic Voltage drop at I₀ ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT₅s Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	Residual current	≤ 0.8 mA
Voltage drop at I₀ ≤ 5 V Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT₅ss Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	Isolation test voltage	0.5 kV
Wire break/reverse polarity protection Complete Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT _{ss} Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Rectangular, CK40	Short-circuit protection	yes/Cyclic
Output function 2-wire, NO contact, 2-wire DC field stability 300 mT AC field stability 300 mT₅s Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40	Voltage drop at I _e	≤ 5 V
DC field stability 300 mT AC field stability 300 mT _{ss} Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40	Wire break/reverse polarity protection	Complete
AC field stability Smallest operating current ≥ 3 mA Switching frequency Mechanical data Design Rectangular, CK40	Output function	2-wire, NO contact, 2-wire
Smallest operating current ≥ 3 mA Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40	DC field stability	300 mT
Switching frequency 0.01 kHz Mechanical data Design Rectangular, CK40	AC field stability	300 mT _{ss}
Mechanical data Design Rectangular, CK40	Smallest operating current	≥ 3 mA
Design Rectangular, CK40	Switching frequency	0.01 kHz
	Mechanical data	
Dimensions 65 x 40 x 40 mm	Design	Rectangular, CK40
	Dimensions	65 x 40 x 40 mm



Features

- Rectangular, height 40 mm
- Variable orientation of active face in 5 directions
- Plastic, PBT-GF30-V0
- Factor 1 for all metals
- Resistant to magnetic fields
- DC 2-wire, 10...65 VDC
- ■NO contact
- ■M12 x 1 male connector





Functional principle

Inductive sensors are designed for wear-free and contactless detection of metal objects. uprox+ sensors have significant advantages due to their patented multi-coil system. They excel thanks to their optimum switching distances, maximum flexibility and operational reliability as well as efficient standardization.

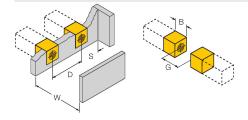


Technical data

	variable orientation of active face in 5 directions
Housing material	Plastic, PBT-GF20-V0, Black
Active area material	Plastic, PA12-GF30, yellow
Electrical connection	Connector, M12 × 1
Environmental conditions	
Ambient temperature	-25+70 °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
Switching state	2 × LEDs, Yellow
Included in delivery	BS1-CK40

Mounting instructions

Mounting instructions/Description



Distance D	80 mm
Distance W	45 mm
Distance S	1 x B
Distance G	90 mm
Width active area B	40 mm

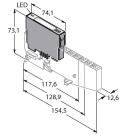
Since the uprox+ 2-wire DC sensors work at a low operating voltage of 8 VDC (with limited load current of 50 mA), the use of isolating switching amplifiers is possible.

The sensors can be operated with the Turck remote I/O fieldbus system BL20. The use of a BL20-4DI-NAMUR slice, allows wire-break or short-circuit to be detected immediately.

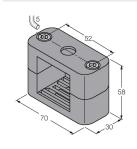
Accessories

BL20-4DI-NAMUR 6827212

4 digital inputs acc. to EN 60947-



4 digital inputs acc. to EN 60947-5-6 For NAMUR sensors, de-energized contacts or uprox®+ 2-wire DC sensors.



BSS-CP40

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

6901318



Accessories

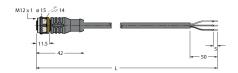
Dimension drawing

Type

RKC4T-2/TEL

6625010

Connection cable, M12 female



Connection cable, M12 female connector, straight, 3-pin, cable length: 2 m, jacket material: PVC, black; cULus approval