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TECHNOLOGY GROUP

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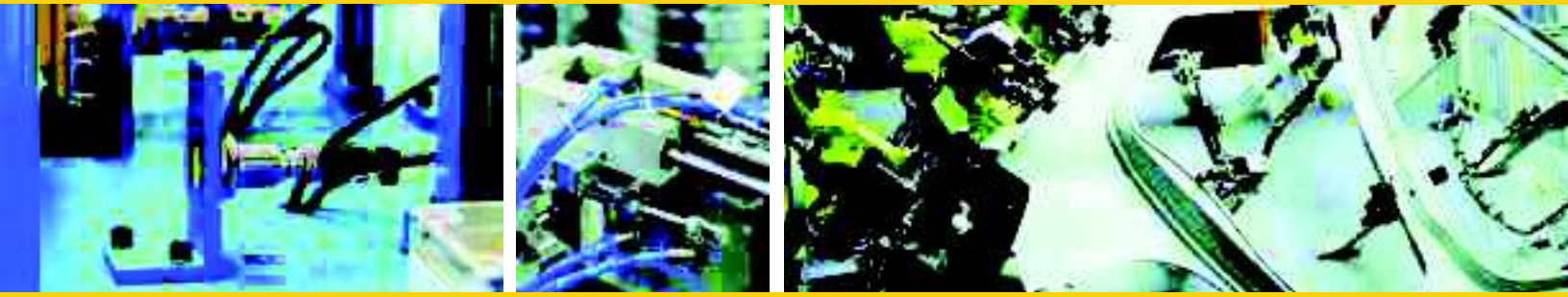
Expert team | Trust guarantee | 100% satisfaction

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Find the *Turck Bi0.8-G05-AP6X-V1331* at our website: *Click HERE*

Your Global Automation Partner

TURCK



Sensors Catalog
Proximity

A Global Leader in Industrial Automation

Turck's sensors, connectivity, and fieldbus technology products are built to be the best. As one of the most **prominent** sensor manufacturers **in the world**, we even back our sensors with a **lifetime warranty**. Turck works by bringing **rugged engineering** solutions to your industrial automation applications.

85,000+
SOLUTIONS

50+
YEARS OF INNOVATION

2,000+
EXPERIENCED SALES REPRESENTATIVES

Pioneer in non-contact
sensing technology

Developed innovative connectivity
solutions in response to our customers' needs

Recognized the need for advanced I/O
in harsh duty environments



SUPPORT &
DEDICATED SERVICE

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4,000+
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RESPOND and SOLVE over **1,200** inquiries per day

Strategically placed manufacturing facilities in the
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GLOBAL BUT LOCAL...

60 representations worldwide

Innovative Sensing Solutions

At Turck, we understand that every application is unique, which is why we dedicate ourselves to finding the optimal engineered solution for all applications. Whether you need a sensor, cordset, or network I/O, Turck's range of innovative manufacturing capabilities and engineering expertise allows us to work beyond the scope of our competitors. We utilize the most up-to-date manufacturing processes, including EDM, molding, and laser trimming, ensuring that our products not only survive, but thrive in the harshest of conditions.

Complimentary Sensor Audits

We consider it our job to help our customers decrease failures and reduce operation downtime, which is why we offer a complimentary audit program. The audit helps to identify, evaluate, and solve problem areas where sensors and cordsets are continually damaged or destroyed. This reduction in downtime will reduce your costs and ensure you get the most value out of your production processes.

Lifetime Warranty

We have the utmost confidence in our products, and you should, too! Solutions from Turck are not only built to work, but built to last. All of our products come with extensive warranties, and many of our sensors have an optional lifetime warranty against sensor failure, so you can rest easy knowing that you have invested in a dependable solution.

GLOBAL LEADERS

PROVIDING CUSTOMERS WITH SENSING SOLUTIONS

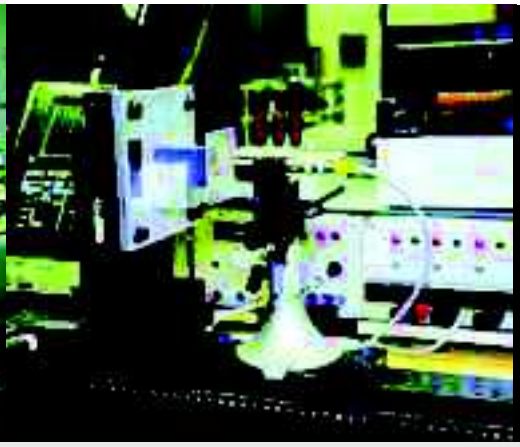
- Sensing ranges from .08 – 100 mm
- Overmolds
- Custom designed sensor housings
- Pigtails / Mold-ons
- Mating cordsets
- Free software and support
- Wide range of accessories
- Kitting

MATERIALS

BUILT TO LAST IN THE HARSHEST ENVIRONMENTS

- Stainless steel
- Overmolds
- Viton
- PUR/TPU/TPE
- Armored Cable
- PTFE and Weldguard coating
- FDA Approved Washdown







SHIPPING

SHIP ONE-TO-ONE MILLION, WITH NO LIMIT

We understand that some applications require less parts, which is why we offer flexible minimum orders to ensure you only receive the number of parts you need.

TESTING

OUR PRODUCTS UNDERGO EXTENSIVE TESTING

To continuously deliver solutions of only the highest quality, Turck products undergo a rigorous set of tests. These tests are in accordance to national and international standards, such as IEC and UL. Our products meet and exceed industry standards, ensuring their survivability and dependability in all applications.

INVENTORY

USE TURCKS VAST NETWORK OF DISTRIBUTORS, OR...

Get immediate access to your Turck products with your own on-site Turck vending machine. Convenient access to your most used products can help save money and reduce downtime.

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Specialty Sensors C1

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Ultrasonics Sensors F1

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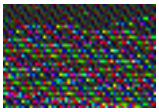
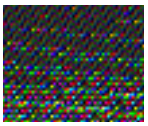
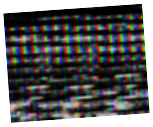
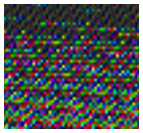
Mating Cordsets H1

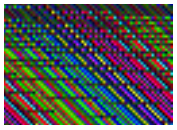
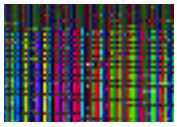
Accessories I1

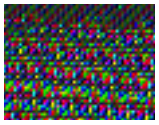
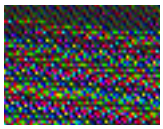
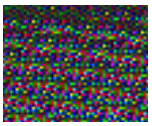
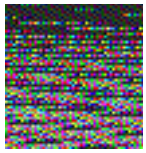
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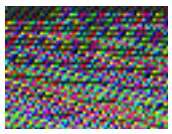
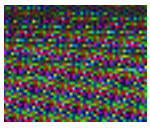
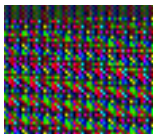
Index K1

Rectangular Inductive Sensor Selection Guide

Rectangular Style Sensors					
					
Housing	4.7 mm	5.5 mm	6 mm	8 mm	10 mm
Sensing Range	2 mm	2 - 3.5 mm	3 mm	5 - 8 mm	2 - 5 mm
Pages	A11	A11	A11	A13 - 16	A17
Features				Uprox+	Uprox+

Rectangular Style Sensors					
					
Housing	Variable, with pigtail	10 mm	12 mm	14 mm	20 mm
Sensing Range	2 - 7 mm	2 - 4 mm	2 - 5 mm	10 - 20 mm	15 - 25 mm
Pages	A19	A21	A23	A25	A27 - 30
Features			Uprox+		

Rectangular Style Sensors					
					
Housing	18 mm	25 mm	30 mm	40 mm	40 mm
Sensing Range	5 - 10 mm	10 mm	15 mm	20 mm	15 - 50 mm
Pages	A31	A31	A31	A33	A35 - 40
Features				Uprox+	Uprox+

Rectangular Style Sensors					
					IS
Housing	40 mm	80 mm	80 mm	90 mm	Variable
Sensing Range	15 - 50 mm	40 - 75 mm	50 - 75 mm	60 - 100 mm	2 - 50 mm
Pages	A41 - 46	A47 - 50	A51	A53	A55 - 58
Features	Uprox+	Uprox+	Uprox+		Intrinsically Safe

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensor Part Number Key

B	i	15		-	Q	20		-	A	P	6	X2	Wiring Option*	Special Option Code**

Mounting
B = embeddable
N = nonembeddable

Principle of Operation
i = inductive

Rated Operating Distance (mm)

Sensing Characteristics
S = side sensing on Q10S sensor
U = Uprox® Sensor

Housing Style

Rectangular
K = smooth
Q = metal or plastic, various rectangular styles

Limit Switch
CA = Stubby®, short aluminum housing, connector
CK = Stubby, short plastic housing, connector
CP = Combiprox®, plastic housing, terminal chamber base with removable sensor

Housing Height (mm)

Number of LEDs
(blank) = no LEDs
X = 1 LED
X2 = 2 LEDs

Voltage Range

AC/DC: (No SCP)**
3 = 20-250 VAC, 10-300 VDC
31 = 20-250 VAC, 10-300 VDC, plastic barrel

AC/DC: (Latched SCP)
30 = 20-250 VAC, 10-300 VDC 400 mA
32 = 20-250 VAC, 10-300 VDC 400 mA

DC:
4 = 10-65 VDC, polarity protected, pulsed SCP**
6 = 10-30 VDC, polarity protected, pulsed SCP
**SCP = short-circuit and overload protection

Output
D = 2-wire DC (transistor output)
DZ = 2-wire AC/DC, (power MOSFET output)
N = NPN transistor (current sinking)
P = PNP transistor (current sourcing)
Z = 2-wire AC or 2-wire AC/DC

Output Function
A = normally open (N.O.)
F = connection programmable (N.O. or N.C.)
V = complementary outputs: one N.O., one N.C.
Y0 = NAMUR output, requires switching amplifier
Y1 = NAMUR output, requires switching amplifier/ATEX approved

Secondary Housing Modifier
SR = straight terminal chamber

NOTE:
Part number keys are to assist in identification only.
Verify new part numbers with factory; some configurations are not possible.

Wiring Options*

A. Connectorized Sensor

Bi15 - Q20 - AN6X2 - | H1 | 1 | 4 | 1 |

Connector Family
B1 = Minifast®, Metal, Male
B2 = Minifast, Plastic, Male
B3 = Microfast®, Metal, Male
H1 = Eurofast®, Metal or Plastic, Male
V1 = Picofast®, Metal, Male
V2 = Picofast, Snap and M8x1, Male (Q08 Only)

Connector/Sensor Transition
1 = straight

Wiring Configuration

Example:
1 = Standard
3 = N.C. DC Output on Pin 4 (for US)

Number of Pins

B. Potted Cable

Bi15 - Q20 - AN6X2 - | 7M |

Cable Length
Blank = 2 meter cable
7M = 7 meter cable

Special Option Codes**

Bi - 5 - Q08 - AN6XS | /S34 |

Option Code

Example:
/S34 = Weld Field Immune
/S97 = -40 °C (-40 °F) Operating Temperature
/S100 = +100 °C (+212 °F) Operating Temperature
/S1590 = CK/CA40 sensors with Weldguard laminate
/S1591 = CA40 sensors with Weldguard and Armorguard

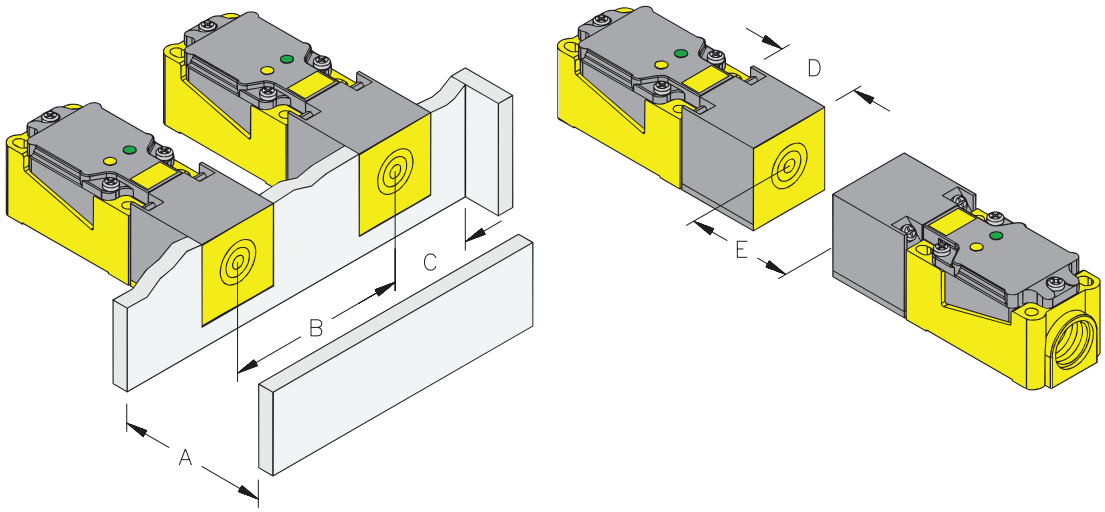
We reserve the right to make technical alterations without prior notice.

Mounting

Turck inductive proximity sensors are manufactured with a shielded coil, designated by "Bi" in the part number, and a nonshielded coil, designated by "Ni" in the part number (see page A2). Embeddable (shielded) units may be safely flush-mounted in metal. Nonembeddable (nonshielded) units require a metal free area around the sensing face. Because of possible interference of the electromagnetic fields generated by the oscillators, minimum spacing is required between adjacent or opposing sensors.

It is good engineering practice to mount sensors horizontally or with the sensing face looking down. Avoid sensors that look up wherever possible, especially if metal filings and chips are present.

Embeddable Mounting Characteristics - Rectangular Housings



Flush Mountable - CK40 and CP40

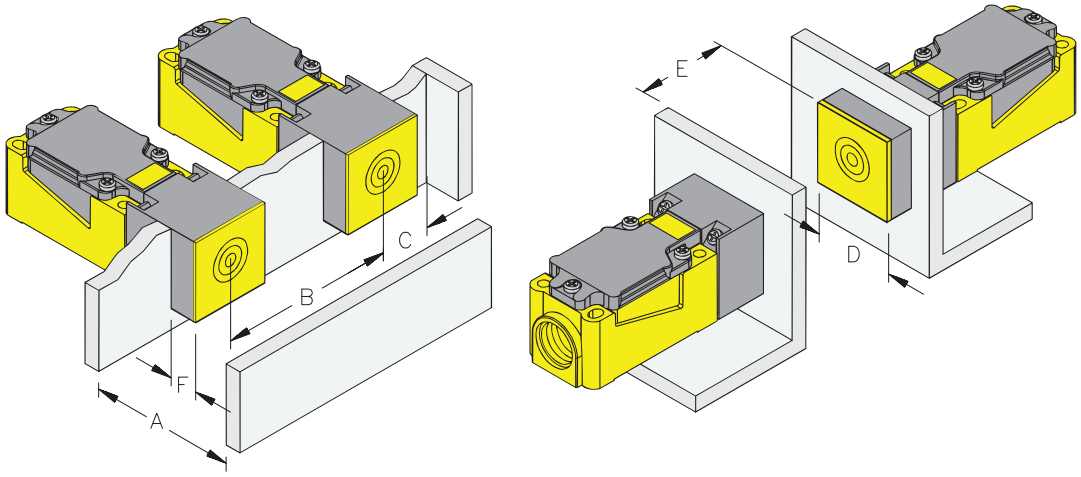
Housing Type	Sensor Type	A	B	C	D	E
CP40/CK40	Bi15U	45.00	80.00	40.00	40.00	90.00
CP40/CK40	Bi15	45.00	80.00	40.00	40.00	90.00
CP40/CK40/CA40	Bi20U	60.00	80.00	40.00	40.00	120.00
CP40	Bi20	60.00	80.00	40.00	40.00	120.00
CP40/CK40	Bi30U	90.00	80.00	40.00	40.00	180.00

Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors

Nonembeddable Mounting Characteristics - Rectangular Housings

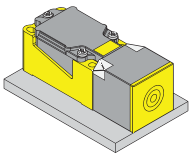


Non - Flush Mountable - CA25, CK40, and CP40

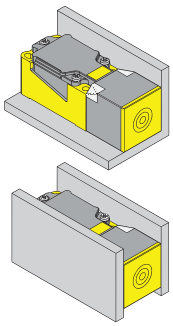
Housing Type	Sensor Type	A	B	C	D	E	F	1-Side	2-Side	3-Side	4-Side
CP/CK40	Ni20	60.00	120.00	60.00	40.00	120.00	20.00				
CP/CK40	Ni25U	75.00	240.00	60.00	40.00	150.00	30.00	Sr=22 mm*	Sr=20 mm*	Sr=17 mm*	Sr=13 mm*
CP/CK40	Ni25	75.00	120.00	60.00	40.00	150.00	40.00				
CP/CK40	Ni35U	105.00	240.00	60.00	40.00	210.00	30.00	Sr=28 mm*	Sr=24 mm*	Sr=19 mm*	
CP/CK40	Ni35	105.00	180.00	60.00	40.00	210.00	40.00				
CP/CK40	Ni40U	120.00	240.00	60.00	40.00	240.00	30.00				
CP/CK40	Ni40	120.00	180.00	60.00	40.00	240.00	40.00				
CP/CK40	Ni50U	105.00	240.00	60.00	40.00	240.00	30.00	Sr=35 mm*	Sr=25 mm*	Sr=20 mm*	Sr=15 mm*

Dimensions are in mm.
*Uprox Non-embeddable flush mounting guidelines. The above Uprox Ni sensors with DC ouptuts can be flush mounted because the sensor automatically compensates for metal alongside its sensing face by decreasing the sensing range, preventing the output from locking on.

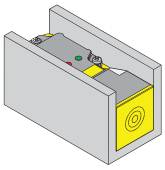
1-Side



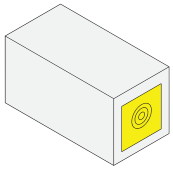
2-Side



3-Side

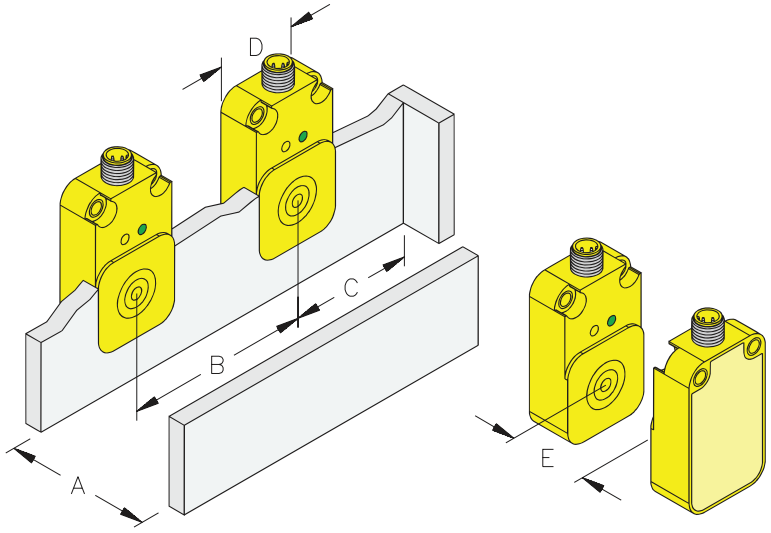


4-Side



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Embeddable Mounting Characteristics - Rectangular Housings



Flush Mountable

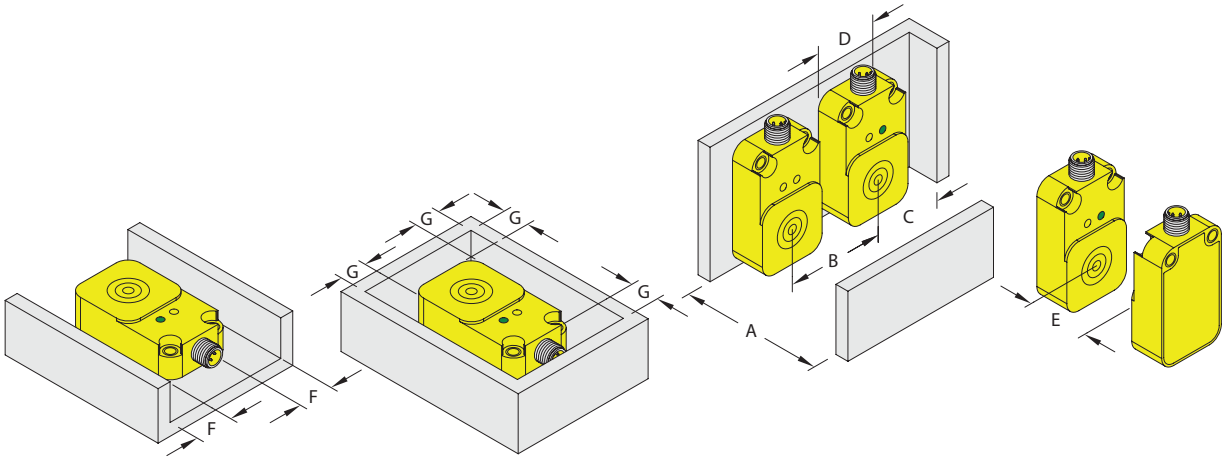
Housing Type	Sensor Type	A	B	C	D	E
Q4.7	Bi2	6.00	16.00	12.00	8.00	12.00
Q5.5	Bi2	6.00	16.00	8.00	8.00	12.00
Q06	Bi3	9.00	35.00	17.00	17.30	18.00
Q08	Bi5	15.00	40.00	20.00	20.00	30.00
Q08	Bi5U	15.00	40.00	20.00	20.00	30.00
Q08	Bi7	21.00	40.00	20.00	20.00	42.00
Q10	Bi8	24.00	50.00	25.00	25.00	48.00
Q10	Bi8U	24.00	50.00	25.00	25.00	48.00
Q14	Bi10	30.00	45.00	30.00	30.00	60.00
Q14	Bi10U	30.00	45.00	30.00	30.00	60.00
Q20	Bi15	45.00	60.00	40.00	40.00	90.00
Q20	Bi15U	45.00	60.00	40.00	40.00	90.00
CP80	Bi40	120.00	160.00	80.00	80.00	240.00
Q80	Bi50U	150.00	240.00	80.00	80.00	300.00

Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors

Embeddable Mounting Characteristics - Rectangular Housings

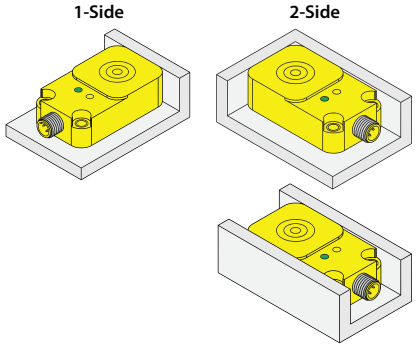


Non-flush Mountable - Minimum Distances - Q5.5, Q14, Q20, CP80, Q80 and K90

Housing Type	Sensor Type	A	B	C	D	E	F	G	1-Side	2-Side	3 & 4-Side
Q5.5	Ni3.5	11.00	24.00	12.00	8.00	21.00	4.00	8.00			
Q14	Ni20	60.00	90.00	45.00	30.00	120.00	20.00	40.00			
Q20	Ni25	75.00	120.00	60.00	40.00	150.00	25.00	50.00			
CP80	Ni40	120.00	240.00	120.00	80.00	240.00	80.00	80.00			
Q80	Ni75U	225.00	240.00	60.00	80.00	450.00	80.00	80.00	Sr=50 mm*	Sr=45 mm*	Sr=40 mm*
CP80	Ni75U	225.00	240.00	120.00	80.00	450.00	80.00	80.00			
K90	Ni60	180.00	270.00	135.00	90.00	360.00	60.00	90.00			
K90SR	Ni100U	300.00	270.00	90.00	90.00	600.00	100.00	200.00	Sr=70 mm*		

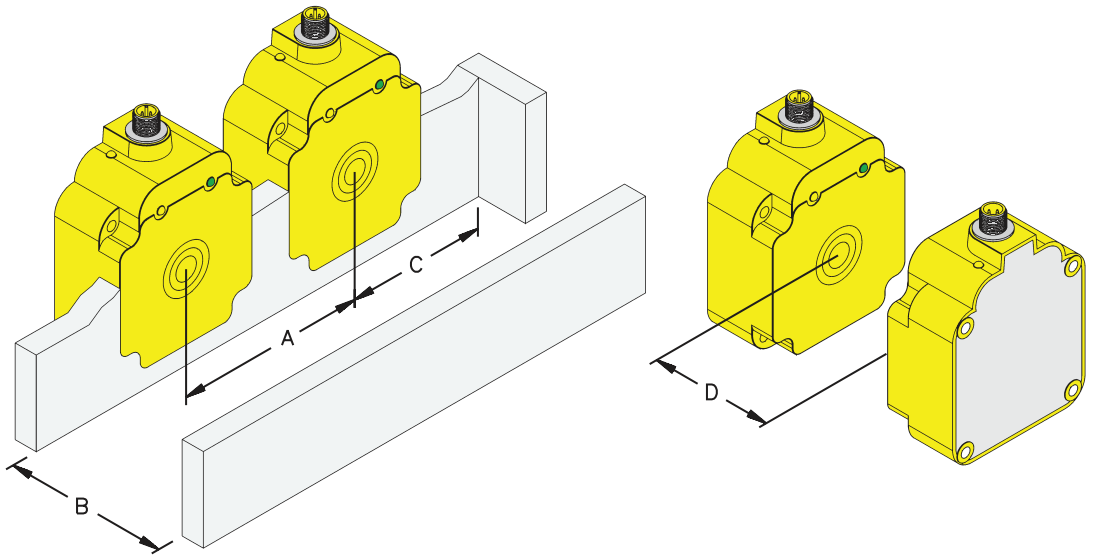
Dimensions are in mm.

*Uprox Non-embeddable flush mounting guidelines. The above Uprox Ni sensors with DC ouputs can be flush mounted because the sensor automatically compensates for metal alongside its sensing face by decreasing the sensing range, preventing the output from locking on.



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Embeddable Mounting Characteristics

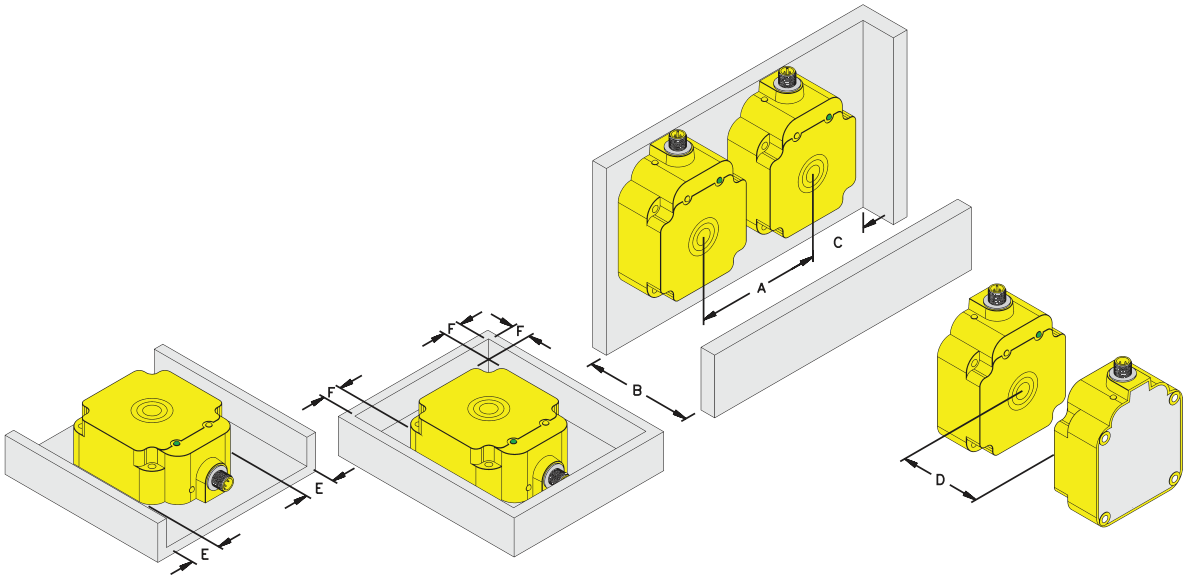


Embeddable, Square Sensors

Part Number	A	B	C	D
Bi50U-Q80	240.00	150.00	80.00	300.00

Dimensions are in mm.

Nonembeddable Mounting Characteristics



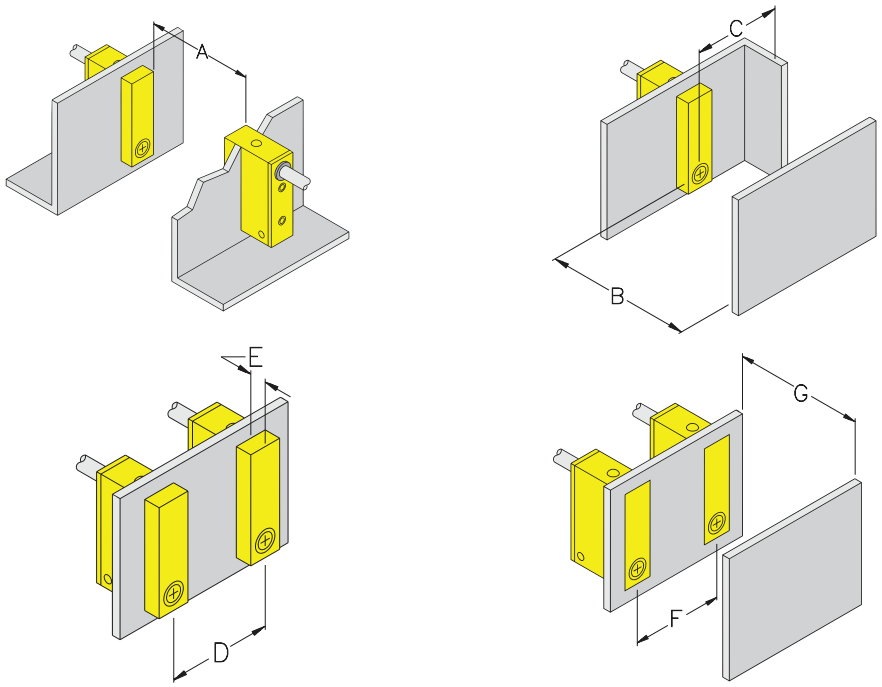
Nonembeddable, Square Sensors

Part Number	A	B	C	D	E	F
Ni75U-Q80	240.00	225.00	60.00	450.00	80.00	80.00

Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Embeddable Mounting Characteristics - Rectangular Housings



Flush Mountable

Housing Type	Sensor Type	Housing	A	C	F	G
Q6.5	Bi1	6.50	6.00	7.00	13.00	3.00
Q10S	Bi2	10.00	12.00	10.00	20.00	6.00
Q12	Bi2	12.00	12.00	12.00	24.00	6.00

Dimensions are in mm.

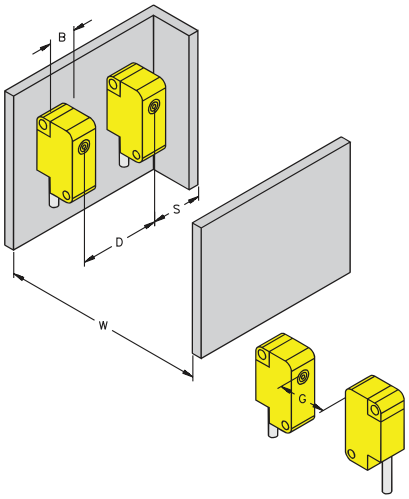
Non-Flush Mountable

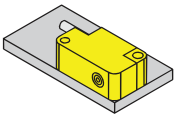
Housing Type	Sensor Type	Housing	A	B	C	D	E
Q6.5	Ni2	6.50	12.00	6.00	10.00	20.00	4.00
Q9.5	Ni2	9.50	12.00	6.00	14.00	19.00	4.00
Q12	Ni4	12.00	24.00	12.00	18.00	24.00	8.00
Q25	Ni10	25.00	60.00	30.00	38.00	75.00	20.00
Q30	Ni15	30.00	90.00	45.00	45.00	90.00	30.00

Dimensions are in mm.

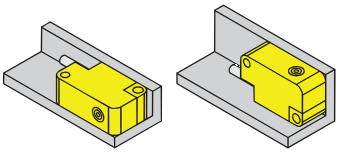
We reserve the right to make technical alterations without prior notice.

Embeddable Mounting Characteristics

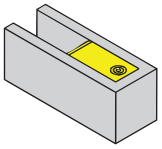




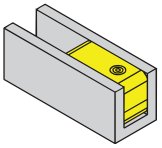
1-side mounting
Sn=3



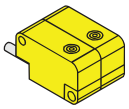
2-side mounting
Sn=3 mm



4-side mounting
Sn=2.3 mm



3-side mounting
Sn=2.6 mm

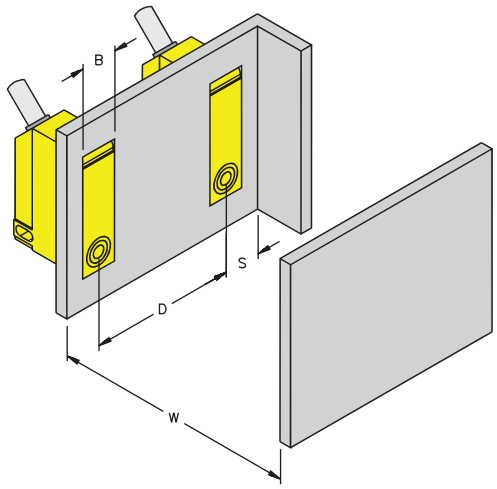


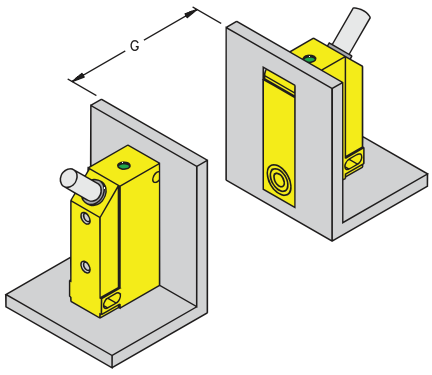
In many cases sensors have to be mounted in close proximity to fulfill the monitoring work. In order to avoid mutual interferences, Turck offers the Q10S-ZP shield (Q10S only).

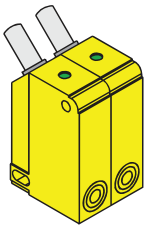
Nonembeddable, Square Sensors

Part Number	D	W	S	G	B Width of Active Face
Ni5U-Q10S	31.00	15.00	15.30	30.00	10.20

Dimensions are in mm.







Embeddable, Square Sensors

Part Number	D	W	S	G	B Width of Active Face
Bi5U-Q12	48.00	25.00	12.00	50.00	12.00

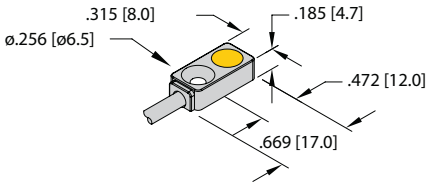
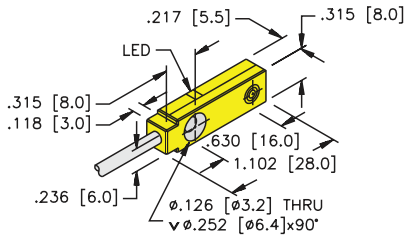
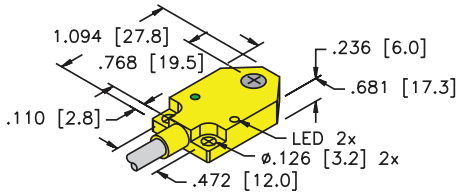
Dimensions are in mm.

We reserve the right to make technical alterations without prior notice.

Notes

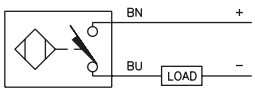
Rectangular Inductive Sensors | Q4.7, Q5.5, & Q06

Top Sensing Subminiature Qpak Housing

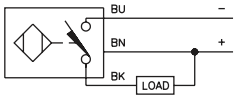
Housing Style	Dimension Drawings
	A  4.7 mm - Embeddable, Potted-In Cable
B  5.5 mm - Embeddable/Nonembeddable, Potted-In Cable	C  6.0 mm - Embeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

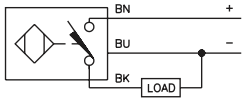
1



2



3



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q4.7, Q5.5, & Q06

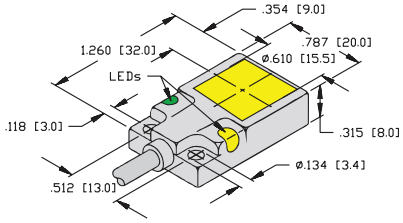
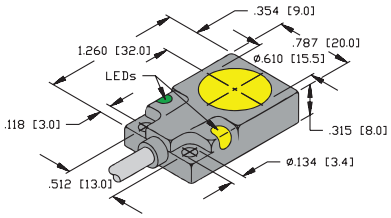
Top Sensing Subminiature Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q4.7-AN6X 1614001		•	2	3-wire DC NPN	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	2M/TPU	A	2	A4
Bi2-Q4.7-AP6X 1614000		•	2	3-wire DC NPN	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	2M/TPU	A	3	A4
Bi2-Q5.5-AG6X 1613108		•	2	2-wire DC	10-30 VDC	1000	≤50	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	1	A2
Bi2-Q5.5-AN6X 1613100		•	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	2M/TPU	B	2	A4
Bi2-Q5.5-AN6X/S34 1613101	WFI	•	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	2	A4
Ni3.5-Q5.5-AN6X 4613610			3.5	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	2	A4
Bi2-Q5.5-AP6X 1613000		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	2M/TPU	B	3	A4
Bi2-Q5.5-AP6X/S34 1613001	WFI	•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	3	A4
Ni3.5-Q5.5-AP6X 4613601			3.5	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	B	3	A4
Bi3-Q06-AN6X2 1620150		•	3	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	PBT	PA	GN	YE	2M/TPU	C	2	A4
Bi3-Q06-AP6X2 1620100		•	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PBT	PA	GN	YE	2M/TPU	C	3	A4

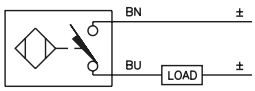
We reserve the right to make technical alterations without prior notice.

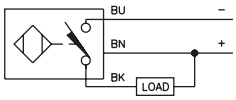
Rectangular Inductive Sensors | Q08

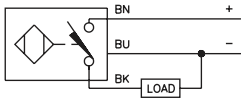
Top Sensing Qpak Housing with Potted-in Cable

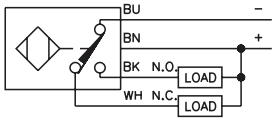
Housing Style	Dimension Drawings
	A  8.0 mm - Embeddable, Potted-In Cable
B  8.0 mm - Embeddable, Potted-In Cable	

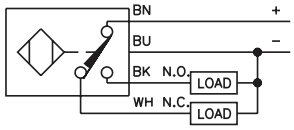
Wiring Diagrams/Mating Cordsets

1 

2 

3 

4 

5 

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V Polarized (AG) ≤4.2 V	Transient Protection:	Per EN 60947-5-2
		Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current ≥170 mA on 150 mA Load Current ≥120 mA on 100 mA Load Current	Transient Protection:	Per EN 60947-5-2
		Temperature Drift:	≤±10%
		Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular) ≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q08

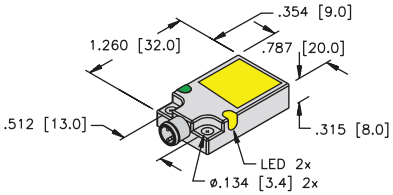
Top Sensing Qpak Housing with Potted-in Cable

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-Q08-AN6X2 1608911	Uprox	•	5	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	2	A4
Bi5U-Q08-AP6X2 1608901	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	3	A4
Bi5-Q08-AD4X/S34 4414550	WFI	•	5	2-wire DC	10-65 VDC	50	≤100	-25 to +70	IP67	Zinc	PA 12	N/A	YE	2M/TPU	B	1	A2
Bi5-Q08-VN6X2 1600200	Comp. Outputs	•	5	4-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	4	A4
Bi5-Q08-VP6X2 1600100	Comp. Outputs	•	5	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	5	A4
Bi7-Q08-AN6X2 1601620	Ext. Range	•	7	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	2	A4
Bi7-Q08-AP6X2 1601600	Ext. Range	•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	3	A4
Bi7-Q08-VN6X2 1600920	Ext. Range	•	7	4-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	4	A4
Bi7-Q08-VP6X2 1600900	Ext. Range	•	7	4-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	2M/TPU	B	5	A4
Bi8U-Q08-AN6X2 1662007	Uprox+	•	8	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA12	GN	YE	2M/TPU	A	2	A4
Bi8U-Q08-AP6X2 1662006	Uprox+	•	8	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA12	GN	YE	2M/TPU	A	3	A4

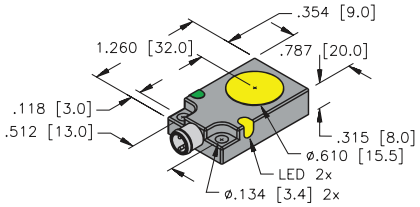
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q08

Top Sensing Qpak Housing with Integral Connector

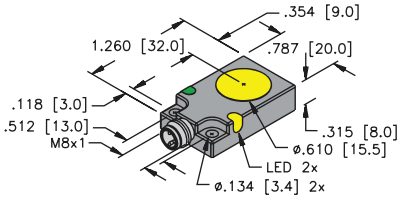
Housing Style	Dimension Drawings
	A  8.0 mm - Embeddable, Picofast Connector

B



8.0 mm - Embeddable, M8 snap-on Picofast Connector

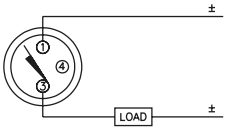
C



8.0 mm - Embeddable, M8 thread-on Picofast Connector

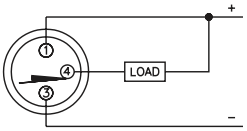
Wiring Diagrams/Mating Cordsets

1



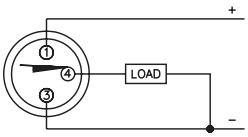
Mating Cordset: PKG 3Z-*; PKG 3M-*

2



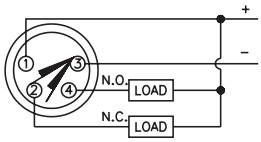
Mating Cordset: PKG 3Z-*; PKG 3M-*

3



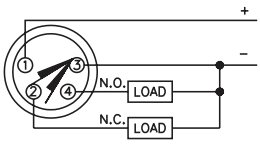
Mating Cordset: PKG 3Z-*; PKG 3M-*

4



Mating Cordset: PKG 4Z-*

5



Mating Cordset: PKG 4Z-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V Polarized (AG) ≤4.2 V	Transient Protection:	Per EN 60947-5-2
		Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current ≥170 mA on 150 mA Load Current ≥120 mA on 100 mA Load Current	Transient Protection:	Per EN 60947-5-2
		Temperature Drift:	≤±10%
		Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular) ≤20 mA (Uprox+, Uprox 3)	Repeatability:	≤2% of Rated Operating Distance
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q08

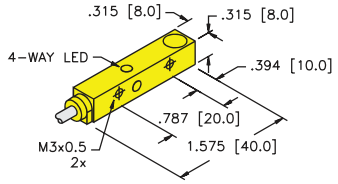
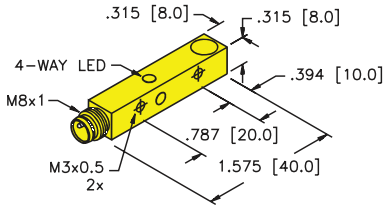
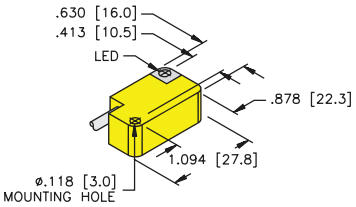
Top Sensing Qpak Housing with Integral Connector

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Mating Cord	Dimension Drawings	Wiring Diagrams	Spec List
Bi5U-Q08-AN6X2-V1131 1608910	Uprox	•	5	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	2	A4
Bi5U-Q08-AP6X2-V1131 1608900	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	3	A4
Bi5U-Q08-AN6X2-V2131 1608904	Uprox	•	5	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	2	A4
Bi5U-Q08-AP6X2-V2131 1608905	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	3	A4
Bi5-Q08-AD4X-V1130 4414551		•	5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	Zinc	PA 12	N/A	YE	PKG 3Z-*	B	1	A2
Bi5-Q08-AN6X2-V1131 1600600		•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	2	A4
Bi5-Q08-AP6X2-V1131 1600500		•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	3	A4
Bi5-Q08-VN6X2-V1141 1600400	Comp. Outputs	•	5	4-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	4	A4
Bi5-Q08-VP6X2-V1141 1600300	Comp. Outputs	•	5	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	5	A4
Bi5-Q08-AD4X-V2130 4414553		•	5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	Zinc	PA 12	N/A	YE	PKG 3M-*	C	1	A2
Bi5-Q08-AN6X2-V2131 1600602		•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	2	A4
Bi5-Q08-AP6X2-V2131 1600502		•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	3	A4
Bi7-Q08-AN6X2-V1131 1601622	Ext. Range	•	7	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	2	A4
Bi7-Q08-AP6X2-V1131 1601602	Ext. Range	•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3Z-*	B	3	A4
Bi7-Q08-AN6X2-V2131 1601623	Ext. Range	•	7	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	2	A4
Bi7-Q08-AP6X2-V2131 1601603	Ext. Range	•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 3M-*	C	3	A4
Bi7-Q08-VN6X2-V1141 1600922	Ext. Range	•	7	4-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	4	A4
Bi7-Q08-VP6X2-V1141 1600902	Ext. Range	•	7	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	PKG 4Z-*	B	5	A4
Bi8U-Q08-AN6X2-V1131 1662008	Uprox+	•	8	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA 12	GN	YE	PKG 3Z-*	A	2	A4
Bi8U-Q08-AP6X2-V1131 1662005	Uprox+	•	8	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	Zinc	PA 12	GN	YE	PKG 3Z-*	A	3	A4

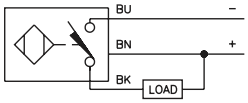
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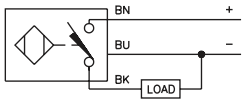
Rectangular Inductive Sensors | Q8SE & Q10S

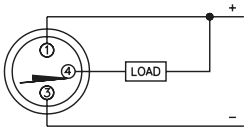
Side Sensing Qpak Housing

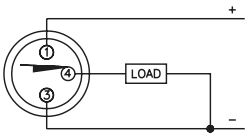
Housing Style	Dimension Drawings
	A  8.0 mm - Nonembeddable, Potted-In Cable
B  8.0 mm - Nonembeddable, M8 Picofast Connector	C  10 mm - Embeddable/Nonembeddable, Potted-In Cable

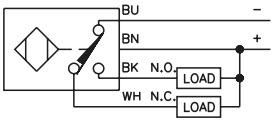
Wiring Diagrams/Mating Cordsets

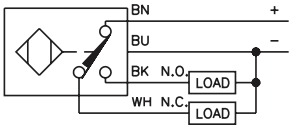
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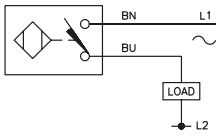
2 

3  Mating Cordset: PKG 3Z-*

4  Mating Cordset: PKG 3Z-*

5 

6 

7 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q8SE & Q10S

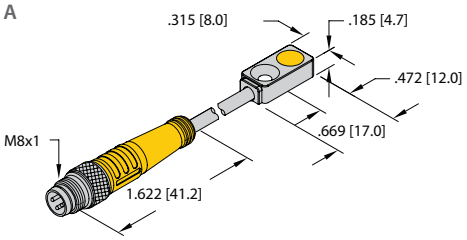
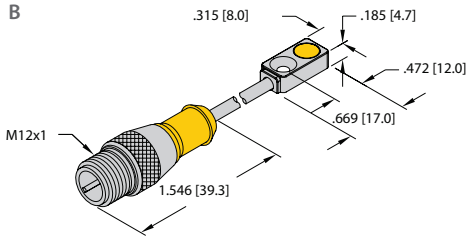
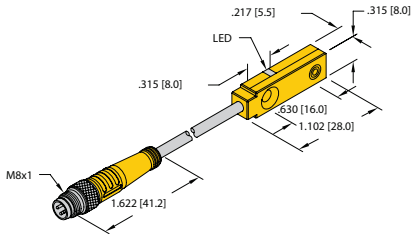
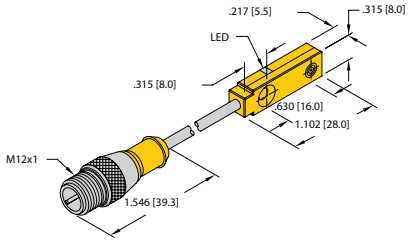
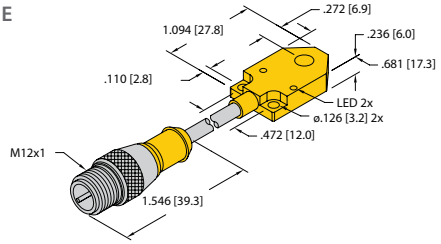
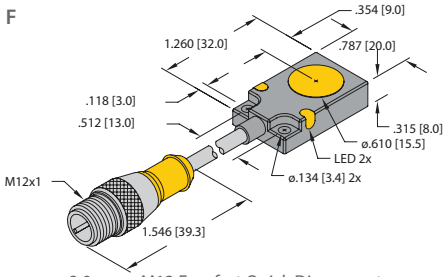
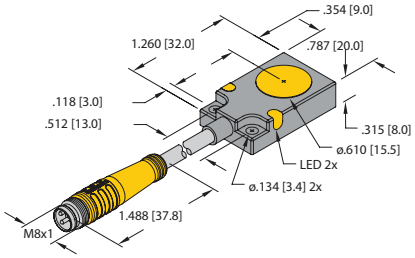
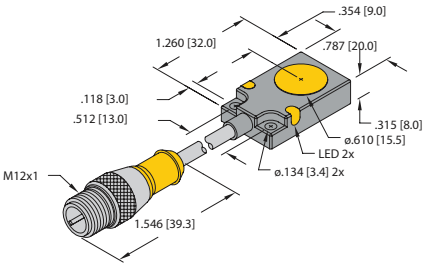
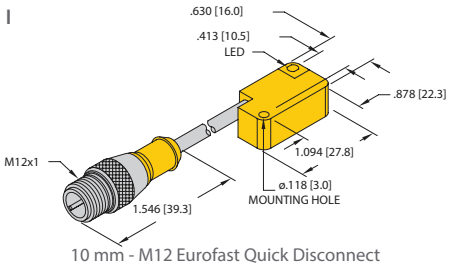
Side Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni4U-Q8SE-AN6X 4635809	Uprox+		4	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	2M/TPU	A	1	A4
Ni4U-Q8SE-AP6X 4635807	Uprox+		4	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	2M/TPU	A	2	A4
Ni4U-Q8SE-AN6X-V1131 4635810	Uprox+		4	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	- -	B	3	A4
Ni4U-Q8SE-AP6X-V1131 4635808	Uprox+		4	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	PP	PP	N/A	YE	- -	B	4	A4
Bi2-Q10S-AN6X 1619310		•	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	2M/TPU	C	1	A4
Bi2-Q10S-AP6X 1609360		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	2M/TPU	C	2	A4
Bi2-Q10S-VN6X 1609341	Comp. Outputs	•	2	4-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	2M/TPU	C	5	A4
Bi2-Q10S-VP6X 1609340	Comp. Outputs	•	2	4-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP-GF20	N/A	YE	2M/TPU	C	6	A4
Bi2-Q10S-AZ31X 1309100		•	2	2-wire AC	20-250 VAC/10-300 VDC	60	≤100	-25 to +70	IP67	PP-GF20	PP-GF20	N/A	RD	2M/TPU	C	7	A6
Ni5U-Q10S-AN6X 1609365	Uprox+		5	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	PP-GF20	PP-GF20	N/A	YE	2M/TPU	C	1	A4
Ni5U-Q10S-AP6X 1609364	Uprox+		5	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	PP-GF20	PP-GF20	N/A	YE	2M/TPU	C	2	A4

We reserve the right to make technical alterations without prior notice.

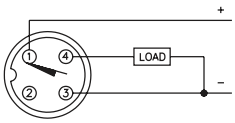
Rectangular Inductive Sensors | Small Rectangular

Sensor with Molded Connector

Housing Style	Dimension Drawings	
	A  4.7 mm - M8 Picofast Quick Disconnect	B  4.7 mm - M12 Eurofast Quick Disconnect
C  5.5 mm - M8 Picofast Quick Disconnect	D  5.5 mm - M12 Eurofast Quick Disconnect	E  6.0 mm - M12 Eurofast Quick Disconnect
F  8.0 mm - M12 Eurofast Quick Disconnect	G  8.0 mm - M8 Picofast Quick Disconnect	H  8.0 mm - M12 Eurofast Quick Disconnect
I  10 mm - M12 Eurofast Quick Disconnect		

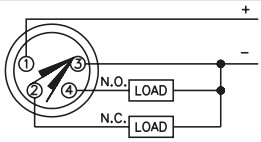
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4T-*

2



Mating Cordset: PKG 3M-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Small Rectangular

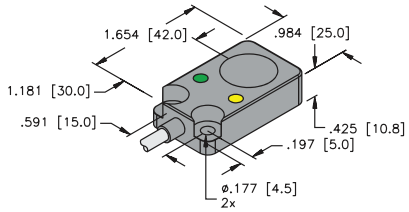
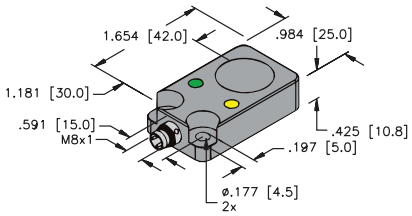
Sensor with Molded Connector

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q4.7-AP6X-0.3-PSG3M 1614000		•	2	3-wire DC PNP	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	0.3M/TPU	A	2	A4
Bi2-Q4.7-AP6X-0.3-RS4T 16140024		•	2	3-wire DC PNP	10-30 VDC	1000	≤100	0 to +85	IP67	Zinc	PA	N/A	YE	0.3M/TPU	B	1	A4
Bi2-Q5.5-AP6X-0.2-PSG3M 1613099		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	0.2M/TPU	C	2	A4
Bi2-Q5.5-AP6X-0.2-RS4T 1613094		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +85	IP67	PP	PP	N/A	YE	0.2M/TPU	D	1	A4
Bi3-Q06-AP6X2-0.2-RS4T 1620193		•	3	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	PBT	PA	GN	YE	0.2M/TPU	E	1	A4
Bi5U-Q08-AP6X2-0.2-RS4T 1608990	Uprox	•	5	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	Zinc	PA 12	GN	YE	0.2M/TPU	F	1	A4
Bi5-Q08-AP6X2-0.2-PSG3F 1600592		•	5	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	0.2M/TPU	G	2	A4
Bi7-Q08-AP6X2-0.2-RS4T 1601683		•	7	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	Zinc	PA 12	GN	YE	0.2M/TPU	H	1	A4
Bi2-Q10S-AP6X-0.2-RS4T 1609390		•	2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	PP-GF20	PP	N/A	YE	0.2M/TPU	I	1	A4

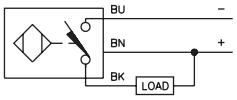
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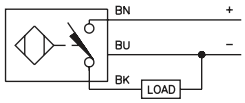
Rectangular Inductive Sensors | Q10

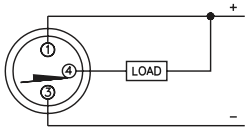
Top Sensing Qpak Housing

Housing Style	Dimension Drawings
	A  10 mm - Embeddable, Potted-In Cable
B  10 mm - Embeddable, M8 Picofast Connector	

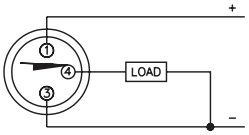
Wiring Diagrams/Mating Cordsets

1


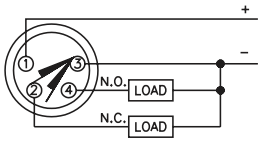
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3


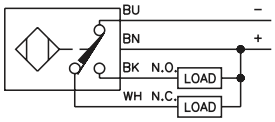
Mating Cordset: PKG 3Z-*

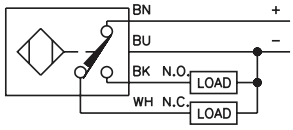
4


Mating Cordset: PKG 3Z-*

5


Mating Cordset: PKG 4Z-*

6


7


A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q10

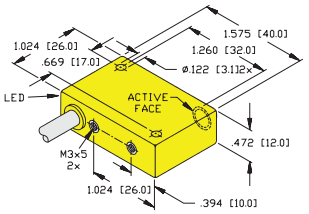
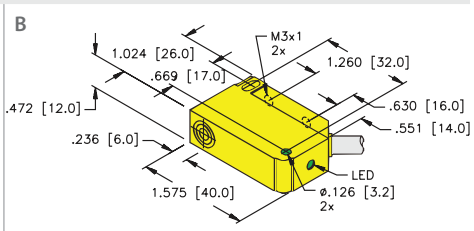
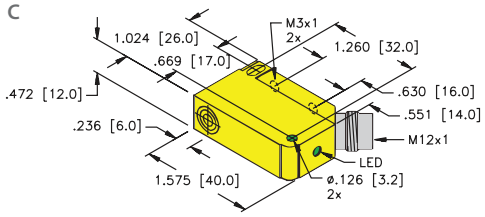
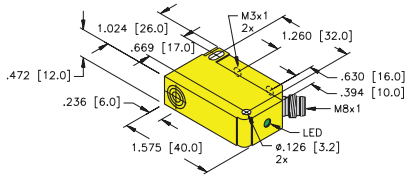
Top Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-Q10-AN6X2 1662003	Uprox	•	8	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	1	A4
Bi8U-Q10-AP6X2 1662001	Uprox	•	8	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4
Bi8U-Q10-AN6X2-V1131 1662004	Uprox	•	8	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	3	A4
Bi8U-Q10-AP6X2-V1131 1662002	Uprox	•	8	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	4	A4
Bi8-Q10-VN6X2 4616410	Comp. Outputs	•	8	4-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	6	A4
Bi8-Q10-VP6X2 4616401	Comp. Outputs	•	8	4-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	7	A4
Bi8-Q10-VP6X2-V1141 4616402	Comp. Outputs	•	8	4-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	5	A4

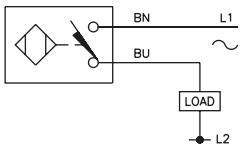
We reserve the right to make technical alterations without prior notice.

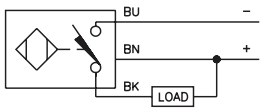
Rectangular Inductive Sensors | Q12

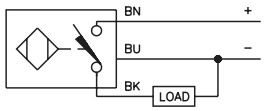
Side Sensing Qpak Housing

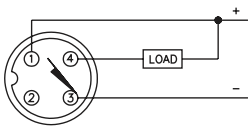
Housing Style	Dimension Drawings	
	A  12 mm - Embeddable/Nonembeddable, Potted-In Cable	B  12 mm - Embeddable, Potted-In Cable
C  12 mm - Embeddable, M12 Eurofast Connection	D  12 mm - Embeddable, M8 Picofast Connection	

Wiring Diagrams/Mating Cordsets

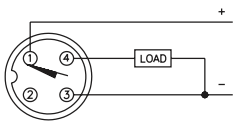
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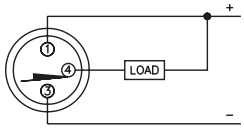
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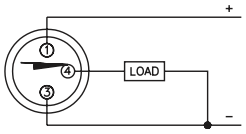
Mating Cordset: RK 4T-*

5


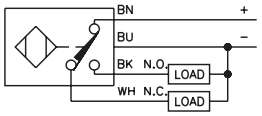
Mating Cordset: RK 4T-*

6


Mating Cordset: PKG 3Z-*

7


Mating Cordset: PKG 3Z-*

8


A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q12

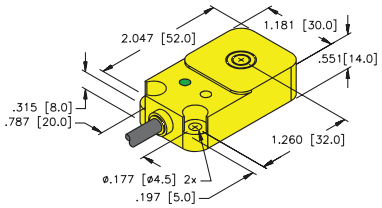
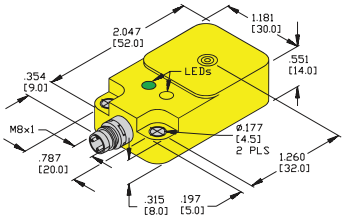
Side Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q12-AZ31X 13100		•	2	2-wire AC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/ PVC	A	1	A6
Ni4-Q12-AZ31X 13102			4	2-wire AC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/ PVC	A	1	A6
Bi5U-Q12-AN6X2 1635523	Uprox+	•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	2M/ TPU	B	2	A4
Bi5U-Q12-AP6X2 1635522	Uprox+	•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	2M/ TPU	B	3	A4
Bi5U-Q12-VP6X2 1635533	Uprox+	•	5	4-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	PA 12-GF30	GN	YE	2M/ TPU	B	8	A4
Bi5U-Q12-AN6X2-H1141 1635527	Uprox+	•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	C	4	A4
Bi5U-Q12-AP6X2-H1141 1635526	Uprox+	•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	C	5	A4
Bi5U-Q12-AN6X2-V1131 1635525	Uprox+	•	5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	D	6	A4
Bi5U-Q12-AP6X2-V1131 1635524	Uprox+	•	5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP68	PA 12-GF30	LCP	GN	YE	- -	D	7	A4

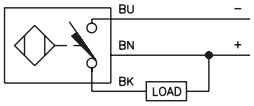
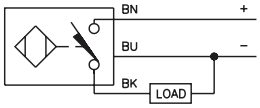
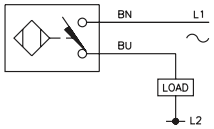
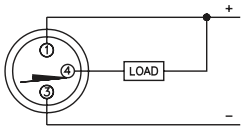
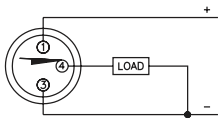
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q14

Top Sensing Qpak Housing

Housing Style	Dimension Drawings
	A  14 mm - Potted-In Cable
B  14 mm - Embeddable/Nonembeddable, M8 Picofast Connector	

Wiring Diagrams/Mating Cordsets

1	2	3
		
4	**5**	
 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*	

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q14

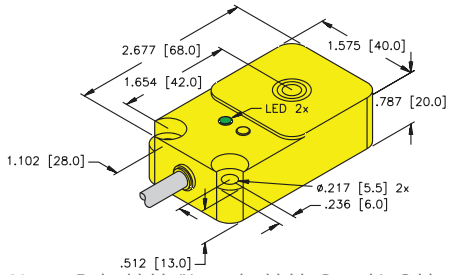
Top Sensing Qpak Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-Q14-AN6X2 1608710	Uprox	•	10	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/ TPU	A	1	A4
Bi10U-Q14-AP6X2 1608700	Uprox	•	10	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/ TPU	A	2	A4
Bi10U-Q14-AN6X2-V1131 1608510	Uprox	•	10	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	4	A4
Bi10U-Q14-AP6X2-V1131 1608500	Uprox	•	10	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	- -	B	5	A4
Bi10-Q14-AN6X2 1608320		•	10	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	1	A4
Bi10-Q14-AP6X2 1608720		•	10	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	2	A4
Bi10-Q14-ADZ32X2 4256220		•	10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	RD	2M/ TPU	A	3	A5
Bi10-Q14-ADZ32X2/S34 4256225	WFI	•	10	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	RD	2M/ TPU	A	3	A5
Bi10-Q14-AP6X2-V1131 1608530		•	10	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	5	A4
Ni20-Q14-AP6X2-V1131 4690210			20	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	- -	B	5	A4
Ni20-Q14-AN6X2 4690220			20	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	1	A4
Ni20-Q14-AP6X2 4690205		•	20	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/ TPU	A	2	A4
Ni20-Q14-ADZ32X2 4205410		•	20	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	RD	2M/ TPU	A	3	A5

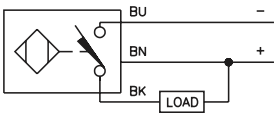
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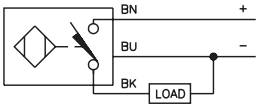
Rectangular Inductive Sensors | Q20

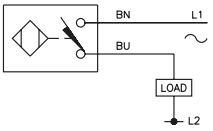
Top Sensing Qpak Housing with Potted-in Cable

Housing Style	Dimension Drawings
	A  20 mm - Embeddable/Nonembeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1 

2 

3 

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q20

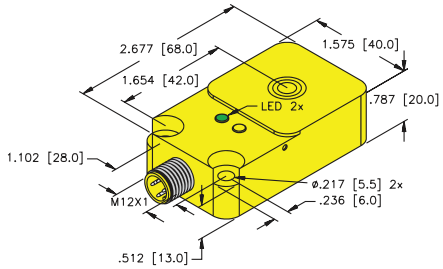
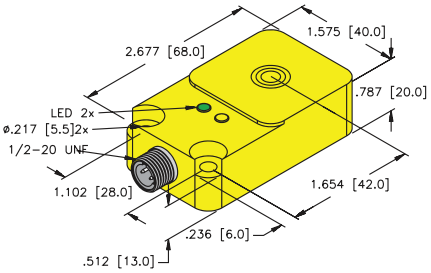
Top Sensing Qpak Housing with Potted-in Cable

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-Q20-AN6X2 1608810	Uprox	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	1	A4
Bi15U-Q20-AP6X2 1608800	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4
Bi15-Q20-AP6X2 1608300		•	15	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4
Bi15-Q20-ADZ32X2 4256250		•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	3	A5
Ni25-Q20-AN6X2 1602800			25	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	1	A4
Ni25-Q20-AP6X2 1602700			25	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	2M/TPU	A	2	A4

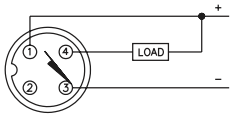
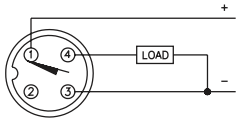
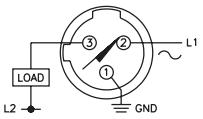
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q20

Top Sensing Qpak Housing with Integral Connector

Housing Style	Dimension Drawings
	A  20 mm - Embeddable/Nonembeddable, M12 Eurofast Connector
B  20 mm - Embeddable, 1/2-20UNF Microfast Connector	

Wiring Diagrams/Mating Cordsets

1	2	3
 Mating Cordset: RK 4T-*	 Mating Cordset:RK 4T-*	 Mating Cordset: KB 3T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q20

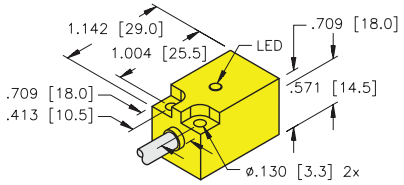
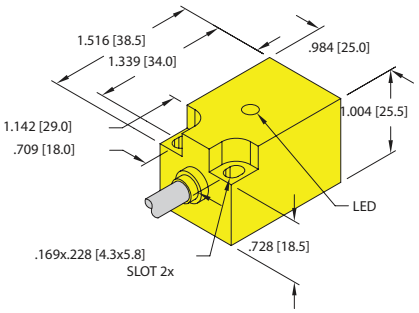
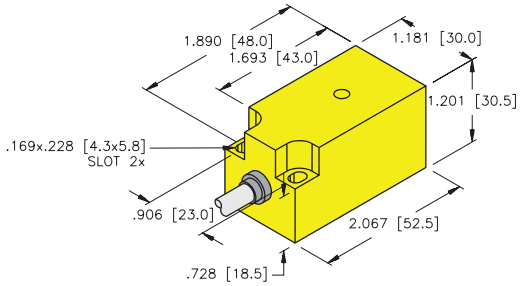
Top Sensing Qpak Housing with Integral Connector

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-Q20-AN6X2-H1141 1608610	Uprox	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15U-Q20-AP6X2-H1141 1608600	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-Q20-AN6X2-H1141 1608315		•	15	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-Q20-AP6X2-H1141 1608305		•	15	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-Q20-ADZ32X2-B3131 4256251		•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	B	3	A5
Ni25-Q20-AN6X2-H1141 1602802			25	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni25-Q20-AP6X2-H1141 1602702			25	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4

We reserve the right to make technical alterations without prior notice.

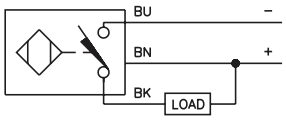
Rectangular Inductive Sensors | Q18, Q25, & Q30

Side Sensing Qpak Housing

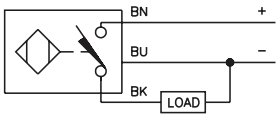
Housing Style	Dimension Drawings
	A  18 mm - Nonembeddable, Potted-In Cable
B  25 mm - Nonembeddable, Potted-In Cable	C  30 mm - Nonembeddable, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1



2



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q18, Q25, & Q30

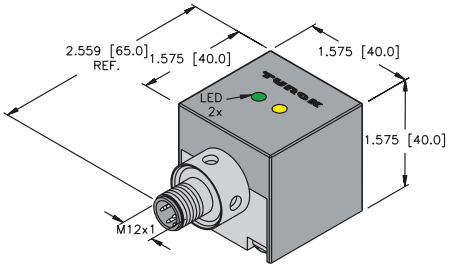
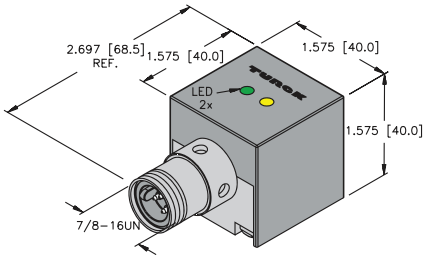
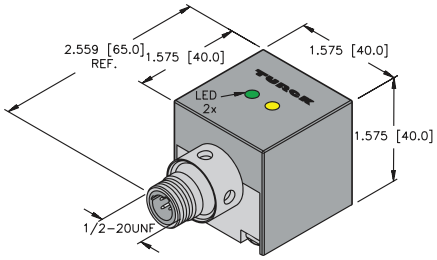
Side Sensing Qpak Housing

Part Number/ ID Number	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni5-Q18-AN6X 4614607	5	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	A	1	A4
Ni5-Q18-AP6X 4614606	5	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	A	2	A4
Ni10-Q25-AN6X 4652330	10	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	B	1	A4
Ni10-Q25-AP6X 4652225	10	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	B	2	A4
Ni15-Q30-AN6X 4659330	15	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	C	1	A4
Ni15-Q30-AP6X 4659325	15	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/PVC	C	2	A4

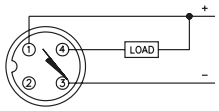
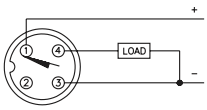
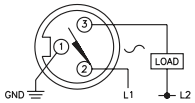
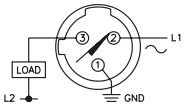
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CA40

Rotatable Sensing Head with Metal Housing

Housing Style	Dimension Drawings
	A  CA40 - Embeddable, Eurofast Connector
B  CA40 - Embeddable, Minifast Connector	C  CA40 - Embeddable, Microfast Connector

Wiring Diagrams/Mating Cordsets

1	2	3	4
			
Mating Cordset: RK 4T-*	Mating Cordset: RK 4T-*	Mating Cordset: RKM 30-*M	Mating Cordset: KB 3T-*

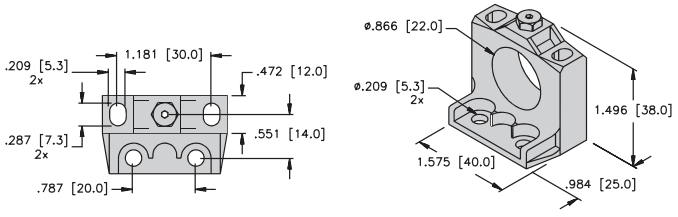
A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

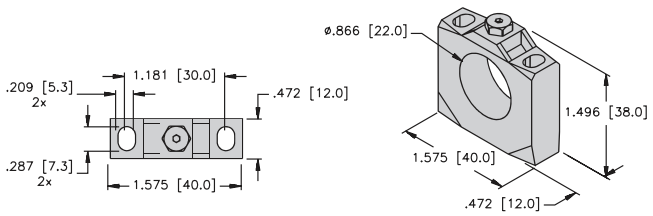
A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

BS 2.1 Mounting Bracket



BS 2.0 Mounting Bracket



We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CA40

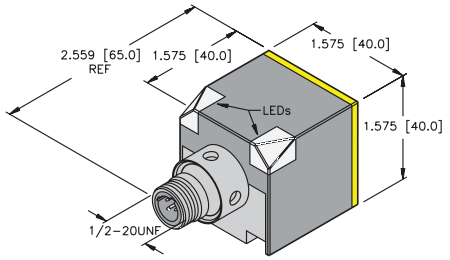
Rotatable Sensing Head with Metal Housing

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi20U-CA40-AN6X2-H1141 W/BS2.1 1627390	Uprox	•	20	3-wire DC NPN	10-30 VDC	250	≤200	0 to +70	IP67	AL	TP	GN	YE	A	1	A4
Bi20U-CA40-AP6X2-H1141 W/BS2.1 1627290	Uprox	•	20	3-wire DC PNP	10-30 VDC	250	≤200	0 to +70	IP67	AL	TP	GN	YE	A	2	A4
Bi20U-CA40-AP6X2-H1141/S1590 W/BS2.0 1627297	Weldguard®	•	20	3-wire DC PNP	10-30 VDC	250	≤200	0 to +70	IP67	AL	WG	GN	YE	A	2	A4
Bi20U-CA40-ADZ30X2-B1131 W/BS2.1 4283290	Uprox	•	20	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	AL	TP	GN	YE	B	3	A5
Bi20U-CA40-ADZ30X2-B3131 W/BS2.1 4283292	Uprox	•	20	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	AL	TP	GN	YE	C	4	A5

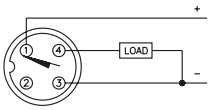
We reserve the right to make technical alterations without prior notice.

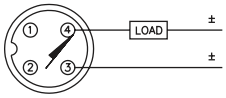
Rectangular Inductive Sensors | CK40

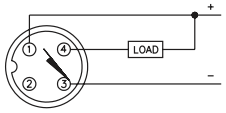
Rotatable Sensing Head with 2 and 3-wire DC Outputs

Housing Style	Dimension Drawings
	A  CK40 - Embeddable/Nonembeddable, Eurofast Connector

Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4T-*

2 
Mating Cordset: RK 4.2T-*

3 
Mating Cordset: RK 4T-*

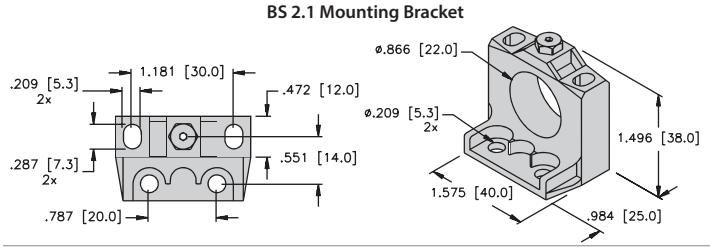
A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

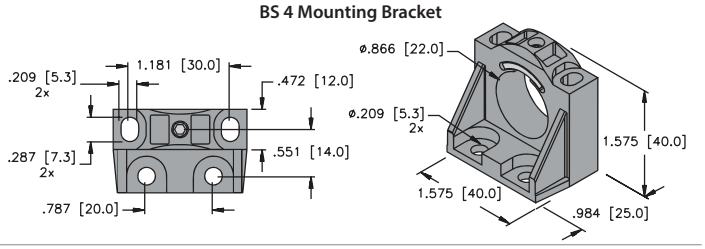
A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

BS 2.1 Mounting Bracket



BS 4 Mounting Bracket



We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CK40

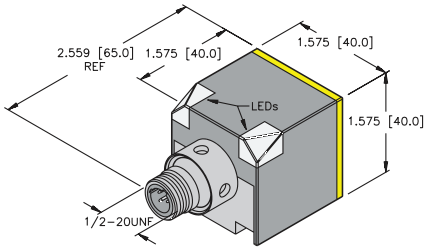
Rotatable Sensing Head with 2 and 3-wire DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CK40-AN6X2-H1141 W/BS2.1 1625690	Uprox	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Bi15U-CK40-AP6X2-H1141 W/BS2.1 1625689	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Bi15-CK40-AN6X2-H1141 W/BS2.1 1625190		•	15	3-wire DC NPN	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Bi15-CK40-AP6X2-H1141 W/BS2.1 1625090		•	15	3-wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CK40-AD4X-H1141 W/BS2.1 4465090		•	15	2-wire DC	10-65 VDC	150	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A2
Bi20U-CK40-AN6X2-H1141 1627231	Uprox+	•	20	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Bi20U-CK40-AP6X2-H1141 W/BS2.1 1627288	Uprox+	•	20	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Bi30U-CK40-AN6X2-H1141 1625820	Uprox+	•	30	3-wire DC NPN	10-30 VDC	250	≤200	-10 to +60	IP68	PBT	PBT	GN	YE	A	3	A4
Bi30U-CK40-AP6X2-H1141 1625829	Uprox+	•	30	3-wire DC PNP	10-30 VDC	250	≤200	-10 to +60	IP68	PBT	PBT	GN	YE	A	1	A4
Ni20-CK40-AN6X2-H1141 W/BS2.1 1625390			20	3-wire DC NPN	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Ni20-CK40-AP6X2-H1141 W/BS2.1 1625290			20	3-wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni20-CK40-AD4X-H1141 W/BS2.1 4465290			20	2-wire DC	10-65 VDC	200	≤100	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A2
Ni25U-CK40-AN6X2-H1141 W/BS2.1 1625789	Uprox		25	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Ni25U-CK40-AP6X2-H1141 W/BS2.1 1625790	Uprox		25	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Ni35U-CK40-AP6X2-H1141 1625800	Uprox		35	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A4
Ni35U-CK40-AN6X2-H1141 1625810	Uprox		35	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	3	A4
Ni50U-CK40-AN6X2-H1141 1625823	Uprox+		50	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	3	A4
Ni50U-CK40-AP6X2-H1141 1625868	Uprox+		50	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	1	A4

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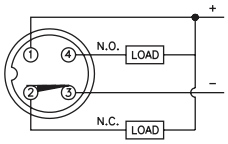
Rectangular Inductive Sensors | CK40

Rotatable Sensing Head with Complementary Outputs

Housing Style	Dimension Drawings
	A  CK40 - Embeddable/Nonembeddable, Eurofast Connector

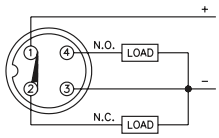
Wiring Diagrams/Mating Cordsets

1



Mating Cordset: RK 4.4T-*

2

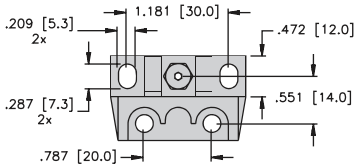


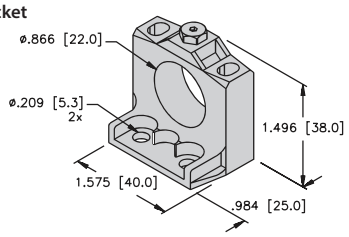
Mating Cordset: RK 4.4T-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

BS 2.1 Mounting Bracket





We reserve the right to make technical alterations without prior notice.

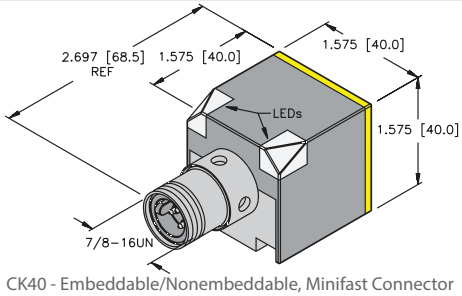
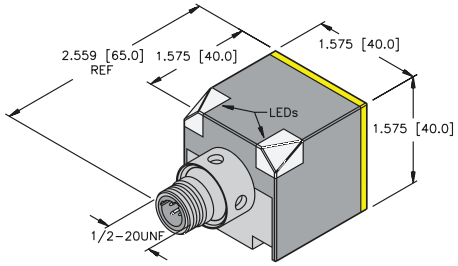
Rectangular Inductive Sensors | CK40

Rotatable Sensing Head with Complementary Outputs

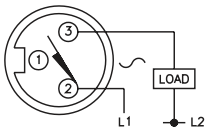
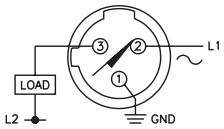
Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-CK40-VN4X2-H1141 W/BS2.1 1550190	Comp. Outputs	•	15	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CK40-VP4X2-H1141 W/BS2.1 1550091	Comp. Outputs	•	15	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni20-CK40-VN4X2-H1141 W/BS2.1 1550390	Comp. Outputs		20	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni20-CK40-VP4X2-H1141 W/BS2.1 1550290	Comp. Outputs		20	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni35U-CK40-VP6X2-H1141 1625815	Uprox, Comp. Outputs		35	4-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni50U-CK40-VN4X2-H1141 1625806	Uprox+, Comp. Outputs		50	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	1	A4
Ni50U-CK40-VP4X2-H1141 1538302	Uprox+, Comp. Outputs		50	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4

We reserve the right to make technical alterations without prior notice.

Rotatable Sensing Head with AC/DC Outputs

Housing Style	Dimension Drawings
	A  CK40 - Embeddable/Nonembeddable, Minifast Connector
B  CK40 - Embeddable/Nonembeddable, Microfast Connector	

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: RKM 30-*M	 Mating Cordset: KB 3T-*

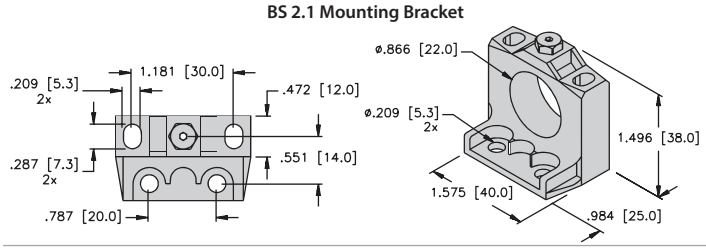
A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

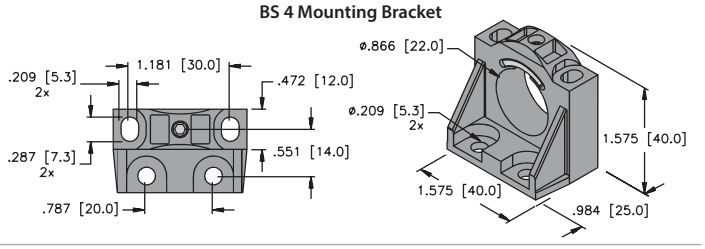
A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

BS 2.1 Mounting Bracket



BS 4 Mounting Bracket



We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CK40

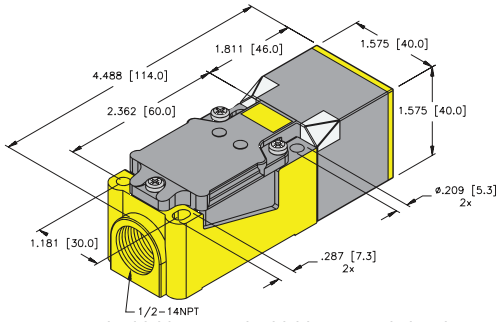
Rotatable Sensing Head with AC/DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CK40-ADZ30X2-B1131 W/BS2.1 4280090	Uprox	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A5
Bi15U-CK40-ADZ30X2-B3131 W/B 2.1 4280091	Uprox	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	B	2	A5
Bi15-CK40-AZ3X2-B1131 W/BS2.1 1335091		•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CK40-AZ3X2-B3131 W/BS2.1 1335095		•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	2	A6
Ni20-CK40-AZ3X2-B1131 W/BS2.1 1335291			20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CK40-AZ3X2-B3131 W/BS2.1 1335290			20	2-Wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	2	A6
Ni25U-CK40-ADZ30X2-B1131 W/BS2.1 4280290	Uprox		25	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A5
Ni25U-CK40-ADZ30X2-B3131 W/BS2.1 4280291	Uprox		25	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	B	2	A5
Ni35U-CK40-ADZ30X2-B1131 4280410	Uprox		35	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A5

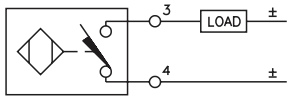
We reserve the right to make technical alterations without prior notice.

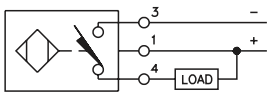
Rectangular Inductive Sensors | CP40

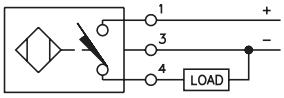
Rotatable Sensing Head with 2 and 3-wire DC Outputs and Terminal Chamber

Housing Style	Dimension Drawings
	A  CP40 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1 

2 

3 

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP40

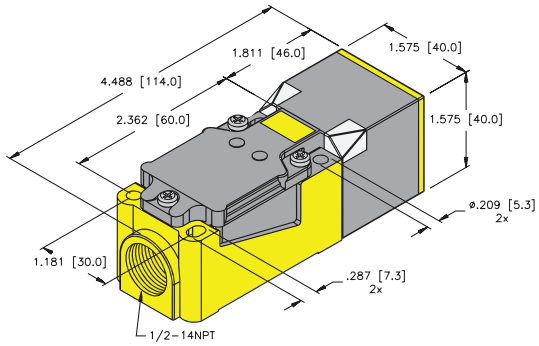
Rotatable Sensing Head with 2 and 3-wire DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CP40-AP6X2 1623502	Uprox	•	15	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Bi15-CP40-AN6X2 1623000		•	15	3-wire DC NPN	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-AN6X2/S10-S97 1623001	Low Temp. -40 °C	•	15	3-wire DC NPN	10-30 VDC	250	≤200	-40 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-AP6X2/S10 16030		•	15	3-Wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Bi15-CP40-AD4X/S10 44770		•	15	2-wire DC	10-65 VDC	150	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	A	1	A2
Bi20U-CP40-AP6X2/S10 1625826	Uprox+	•	20	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	3	A4
Bi30U-CP40-AP6X2/S10 1625825	Uprox+	•	30	3-wire DC PNP	10-30 VDC	250	≤200	-10 to +60	IP68	PBT	PBT	GN	YE	A	3	A4
Ni20-CP40-AP6X2/S10 16031			20	3-wire DC PNP	10-30 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Ni20-CP40-AD4X/S10 44771			20	2-wire DC	10-65 VDC	150	≤100	-25 to +70	IP67	PBT	PBT	N/A	YE	A	1	A2
Ni25U-CP40-AP6X2/S10 1623701	Uprox		25	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	3	A4
Ni40U-CP40-AP6X2/S10 1623602	Uprox		40	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4
Ni50U-CP40-AN6X2/S10 1625824	Uprox+		50	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4
Ni50U-CP40-AP6X2/S10 1625842	Uprox+		50	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	3	A4

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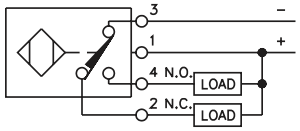
Rectangular Inductive Sensors | CP40

Rotatable Sensing Head with Complementary Outputs and Terminal Chamber

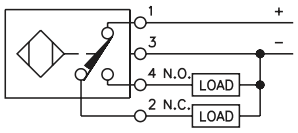
Housing Style	Dimension Drawings
	A  CP40 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1



2



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP40

Rotatable Sensing Head with Complementary Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CP40-VN4X2/S10 1540511	Uprox	•	15	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Bi15U-CP40-VP4X2/S10 1540501	Uprox	•	15	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-VN4X2/S100 15250	Comp. Outputs	•	15	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CP40-VN4X2/S100-S10 15144	High Temp. 100 °C	•	15	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A4
Bi15-CP40-VP4X2/S10 15010	Comp. Outputs	•	15	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Bi15-CP40-VP4X2/S100-S10 15019	High Temp. 100 °C	•	15	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +100	IP67	PBT	PBT	GN	YE	A	2	A4
Bi20-CP40-VN4X2/S10 1579221	Ext. Range	•	20	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Bi20-CP40-VP4X2/S10 15012	Ext. Range	•	20	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni20-CP40-VN4X2/S10 15251	Comp. Outputs		20	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni20-CP40-VP4X2/S10 15011	Comp. Outputs		20	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni20-CP40-VP4X2/S100-S10 15020	High Temp. 100 °C		20	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +100	IP67	PBT	PBT	GN	YE	A	2	A4
Ni35-CP40-VN4X2/S10 15254	Comp. Outputs		35	4-wire DC NPN	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A4
Ni35-CP40-VP4X2/S10 15014	Comp. Outputs		35	4-wire DC PNP	10-65 VDC	150	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	2	A4
Ni40U-CP40-VN4X2/S10 1540611	Uprox, Ext. Range		40	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Ni40U-CP40-VP4X2/S10 1540601	Uprox, Ext. Range		40	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	2	A4
Ni50U-CP40-VN4X2/S10 1625807	Uprox+		50	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A4
Ni50U-CP40-VP4X2 1538303	Uprox+		50	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	A	2	A4

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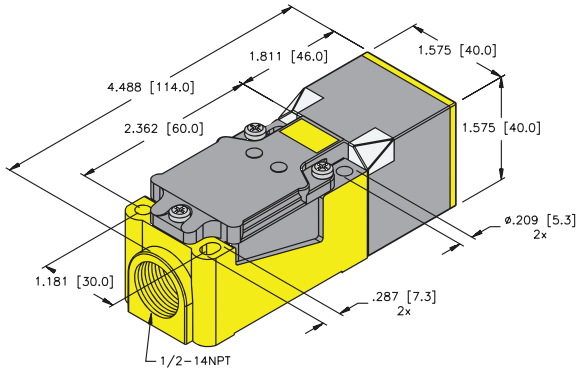
Rectangular Inductive Sensors | CP40

Rotatable Sensing Head with AC/DC Outputs and Terminal Chamber

Housing Style	Dimension Drawings

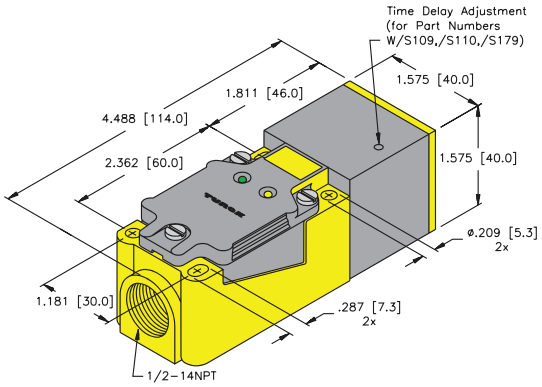


A



CP40 - Embeddable/Nonembeddable, Terminal Chamber

B



CP40 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1



A5	2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)		
Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6	2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)		
Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

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Rectangular Inductive Sensors | CP40

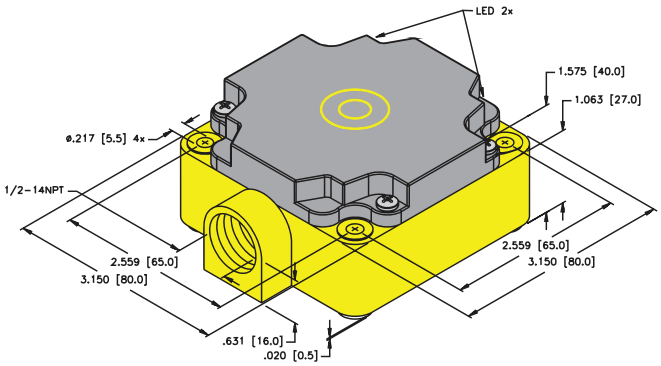
Rotatable Sensing Head with AC/DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi15U-CP40-FDZ30X2 4280601	Uprox	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CP40-FDZ30X2/S10 42241	Prog. Outputs	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CP40-FDZ30X2/S10-S97 42266	Low Temp. -40 °C	•	15	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-40 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi15-CP40-FZ3X2/S109-S10 13737	Time Delay	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Bi15-CP40-FZ3X2/S110-S10 13735	Time Delay	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Bi15-CP40-FZ3X2/S10 13410	Prog. Outputs	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Bi15-CP40-FZ3X2/S10-S97 1341010	Low Temp. -40 °C	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-40 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Bi15-CP40-FZ3X2/S100-S10 13776	High Temp. 100 °C	•	15	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CP40-FDZ30X2/S10 42242	Prog. Outputs		20	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Ni20-CP40-FZ3X2/S100 13411	Prog. Outputs		20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CP40-FZ3X2/S100-S10 13775	High Temp. 100 °C		20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6
Ni20-CP40-FZ3X2/S110-S10 13746	Time Delay		20	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Ni30-CP40-FZ3X2/S109-S10 13747	Time Delay		30	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Ni30-CP40-FZ3X2/S110-S10 13744	Time Delay		30	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	1	A6
Ni35-CP40-FDZ30X2/S10 42245	Prog. Outputs		35	2-wire AC/DC	20-250 VAC/10-300 VDC	60	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Ni35-CP40-FZ3X2/S10 13413	Prog. Outputs		35	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni40U-CP40-FDZ30X2/S10 4280801	Uprox		40	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP68	PBT	PBT	GN	YE	A	1	A5
Ni40-CP40-FZ3X2/S100-S10 1374802	High Temp. 100 °C		40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6

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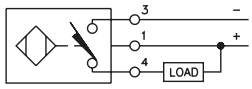
Rectangular Inductive Sensors | CP80

Top Sensing with 3 and 4-Wire DC Outputs and Terminal Chamber

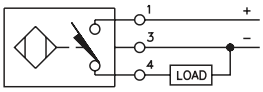
Housing Style	Dimension Drawings
	A  CP80 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

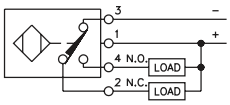
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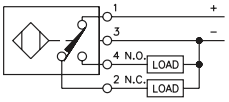
2



3



4



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP80

Top Sensing with 3 and 4-Wire DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi40-CP80-VN4X2/S10 1579800	Comp. Outputs	•	40	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Bi40-CP80-VP4X2/S10 15698	Comp. Outputs	•	40	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	4	A4
Ni40-CP80-VP4X2/S10 15015	Comp. Outputs		40	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	4	A4
Ni50-CP80-VN4X2/S10 15256	Comp. Outputs		50	4-wire DC NPN	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	3	A4
Ni50-CP80-VP4X2/S10 15016	Comp. Outputs		50	4-wire DC PNP	10-65 VDC	100	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	A	4	A4
Ni75U-CP80-AN6X2/S10 1623811	Uprox		75	3-wire DC NPN	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A4
Ni75U-CP80-AP6X2/S10 1623801	Uprox		75	3-wire DC PNP	10-30 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	2	A4
Ni75U-CP80-VN4X2/S10 1540811	Uprox		75	4-wire DC NPN	10-65 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	3	A4
Ni75U-CP80-VP4X2/S10 1540801	Uprox		75	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP67	PBT	PBT	GN	YE	A	4	A4

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Rectangular Inductive Sensors | CP80

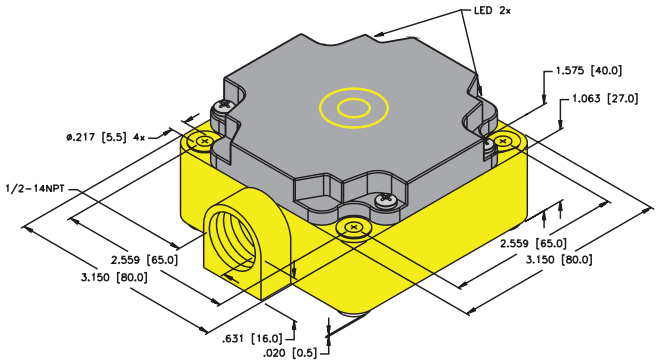
Top Sensing with AC/DC Outputs and Terminal Chamber

Housing Style



Dimension Drawings

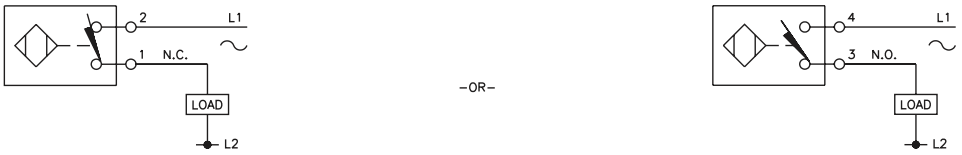
A



CP80 - Embeddable/Nonembeddable, Terminal Chamber

Wiring Diagrams/Mating Cordsets

1



A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA
	AC: ≥120 mA; DC: ≥120 mA
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (leakage) Current:	≤1.7 mA (AC)
	≤1.5 mA (DC)
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤8 A (≤10ms max. 5 Hz)
	≤1 A (≤10 ms max. 5 Hz) 12 mm
	≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | CP80

Top Sensing with AC/DC Outputs and Terminal Chamber

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi40-CP80-FDZ30X2/S10 4230901	Prog. Outputs	•	40	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Bi40-CP80-FZ3X2/S10 1340401	Prog. Outputs	•	40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni40-CP80-FZ3X2/S100 13415	Prog. Outputs		40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni40-CP80-FZ3X2/S100-S10 13453	High Temp. 100 °C		40	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A6
Ni50-CP80-FZ3X2/S10 13410	Prog. Outputs		50	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A6
Ni50-CP80-FDZ30X2/S100 42321	Prog. Outputs		50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	A	1	A5
Ni50-CP80-FDZ30X2/S100-S10 42290	High Temp. 100 °C		50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +100	IP67	PBT	PBT	GN	YE	A	1	A5
Ni75U-CP80-FDZ30X2/S10 4280901	Uprox		75	2-wire AC/DC	20-250 VAC/10-300 VDC	10	≤400/300	-30 to +85	IP67	PBT	PBT	GN	YE	A	1	A5

We reserve the right to make technical alterations without prior notice.

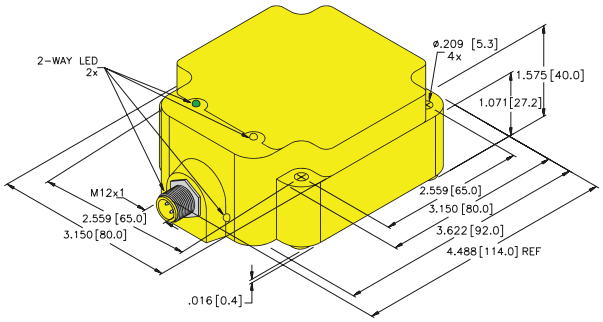
Rectangular Inductive Sensors | Q80

Top Sensing with 3 and 4-Wire DC or AC/DC Outputs

Housing Style	Dimension Drawings

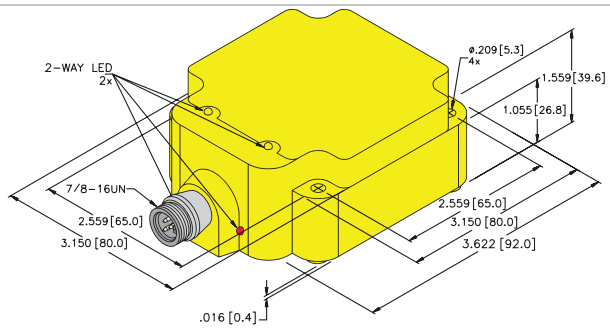


A



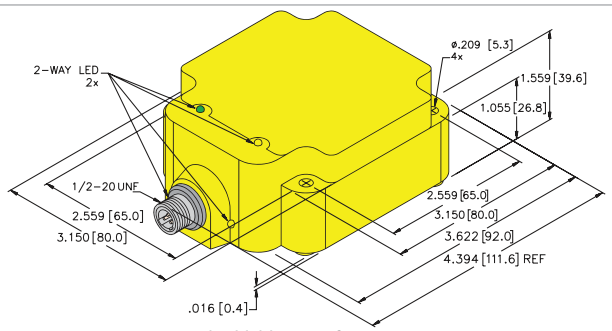
Q80 - Embeddable/Nonembeddable, Eurofast Connector

B



Q80 - Embeddable, Minifast Connector

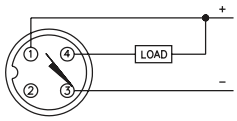
C



Q80 - Embeddable, Microfast Connector

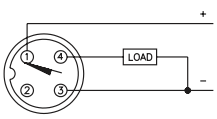
Wiring Diagrams/Mating Cordsets

1



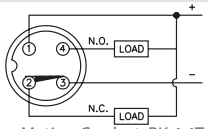
Mating Cordset: RK 4T-*

2



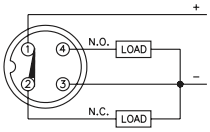
Mating Cordset: RK 4T-*

3



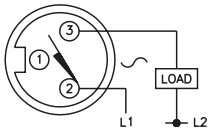
Mating Cordset: RK 4.4T-*

4



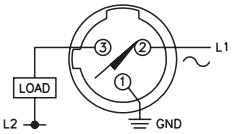
Mating Cordset: RK 4.4T-*

5



Mating Cordset: RKM 30-*M

6



Mating Cordset: KB 3T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤1.8 V
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current
	≥170 mA on 150 mA Load Current
	≥120 mA on 100 mA Load Current
Off-State (Leakage) Current:	≤0.1 mA
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)
	≤20 mA (Uprox+, Uprox 3)
Time Delay Before Availability:	≤8 ms
Power-On Effect:	Per IEC 947-5-2
Reverse Polarity Protection:	Incorporated
Wire-Break Protection:	Incorporated
Transient Protection:	Per EN 60947-5-2
Temperature Drift:	≤±10%
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz
Differential Travel (Hysteresis):	3-15% (5% typical)
Voltage Drop Across Conducting Sensor:	≤6.0 V
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA
	AC: ≥120 mA; DC: ≥120 mA
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA
	AC: ≤100 mA; DC: ≤100 mA
Off-State (Leakage) Current:	≤1.7 mA (AC)
	≤1.5 mA (DC)
Minimum Load Current:	≥3.0 mA
Inrush Current:	≤3.0 A (≤20 ms, max 5 Hz)
Power-On Effect:	Per IEC 947-5-2
Transient Protection:	Per EN 60947-5-2
Shock:	30 g, 11 ms
Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Q80

Top Sensing with 3 and 4-Wire DC or AC/DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi50U-Q80-AP6X2-H1141 1608940	Uprox+	•	50	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4
Bi50U-Q80-VN4X2-H1141 1562001	Uprox+, Comp. Outputs	•	50	4-wire DC NPN	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	3	A4
Bi50U-Q80-VP4X2-H1141 15620	Uprox+, Comp. Outputs	•	50	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	4	A4
Bi50-Q80-ADZ30X2-B1131 4200310		•	50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	5	A5
Bi50-Q80-ADZ30X2-B3131 4200311		•	50	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	C	6	A5
Ni75U-Q80-AN6X2-H1141 1625856	Uprox+		75	3-wire DC NPN	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	1	A4
Ni75U-Q80-AP6X2-H1141 1625855	Uprox+		75	3-wire DC PNP	10-30 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	2	A4
Ni75U-Q80-VP4X2-H1141 1625857	Uprox+, Comp. Outputs		75	4-wire DC PNP	10-65 VDC	250	≤200	-25 to +70	IP68	PBT	PBT	GN	YE	A	4	A4

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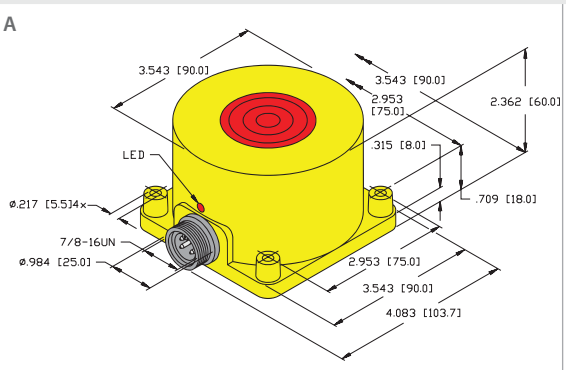
Rectangular Inductive Sensors | K90 & K90SR

Top Sensing with 4-Wire DC or AC/DC Outputs

Housing Style	Dimension Drawings

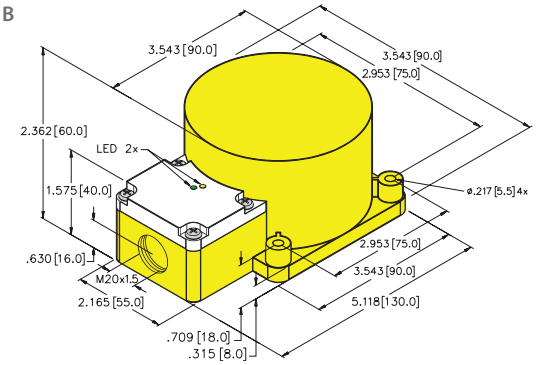


A



K90 - Nonembeddable, Minifast Connector

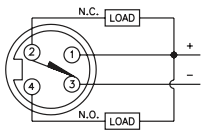
B



K90SR - Nonembeddable, Terminal Chamber

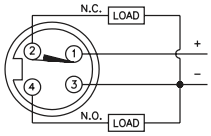
Wiring Diagrams/Mating Cordsets

1



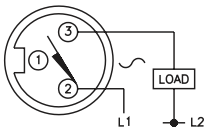
Mating Cordset: RK 40-*M

2



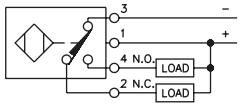
Mating Cordset: RK 40-*M

3

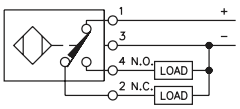


Mating Cordset: RK 30-*M

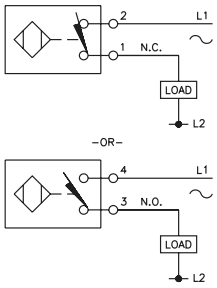
4



5



6



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Power-On Effect:	Per IEC 947-5-2
Differential Travel (Hysteresis):	3-15% (5% typical)	Reverse Polarity Protection:	Incorporated
Voltage Drop Across Conducting Sensor:	≤1.8 V	Wire-Break Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥170 mA on 150 mA Load Current	Temperature Drift:	≤±10%
	≥120 mA on 100 mA Load Current	Shock:	30 g, 11 ms
Off-State (Leakage) Current:	≤0.1 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
No-Load Current:	≤15 mA (Ferrite, Uprox, Rectangular)	Repeatability:	≤2% of Rated Operating Distance
	≤20 mA (Uprox+, Uprox 3)		
Time Delay Before Availability:	≤8 ms		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | K90 & K90SR

Top Sensing with 4-Wire DC or AC/DC Outputs

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni60-K90-VN4X-B2141 15203	Comp. Outputs		60	4-wire DC NPN	10-65 VDC	60	≤200	-25 to +70	IP67	PUR	PUR	N/A	YE	A	1	A4
Ni60-K90-VP4X-B2141 15103	Comp. Outputs		60	4-wire DC PNP	10-65 VDC	60	≤200	-25 to +70	IP67	PUR	PUR	N/A	YE	A	2	A4
Ni60-K90-AZ3X-B2131 13542			60	2-wire AC	20-250 VAC/10-300 VDC	20	≤500	-25 to +70	IP67	PBT	PBT	N/A	YE	A	3	A6
Ni60-K90SR-VN4X2 15740	Comp. Outputs		60	4-wire DC NPN	10-65 VDC	60	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	B	4	A4
Ni60-K90SR-VP4X2 15640	Comp. Outputs		60	4-wire DC PNP	10-65 VDC	250	≤200	-30 to +85	IP68	PBT	PBT	GN	YE	B	5	A4
Ni60-K90SR-FZ3X2 13429	Prog. Outputs		60	2-wire AC	20-250 VAC/10-300 VDC	20	≤400/300	-25 to +70	IP67	PBT	PBT	GN	YE	B	6	A6
Ni100U-K90SR-VP4X2 1625834	Uprox+, Comp. Outputs		100	4-wire DC PNP	10-65 VDC	60	≤200	-25 to +70	IP67	PBT	PBT	GN	YE	B	5	A4

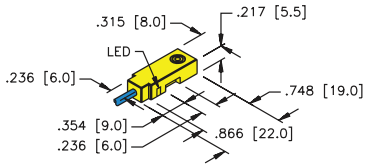
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Namur

Intrinsically Safe

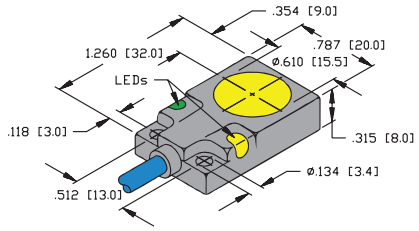
Dimension Drawings

A



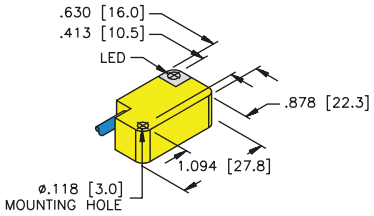
5.5 mm - Embeddable/Nonembeddable, Potted-In Cable

B



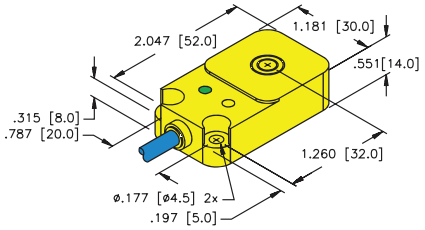
8.0 mm - Embeddable, Potted-In Cable

C



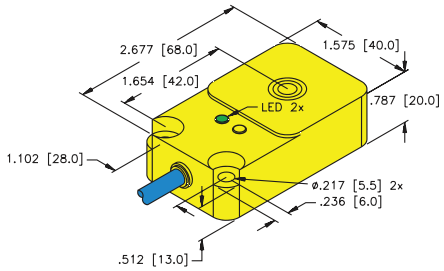
10 mm - Embeddable/Nonembeddable, Potted-In Cable

D



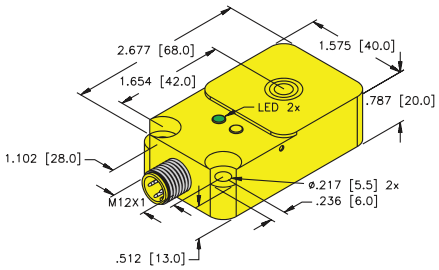
14 mm - Potted-In Cable

E



20 mm - Embeddable/Nonembeddable, Potted-In Cable

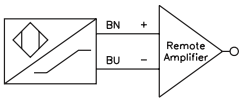
F



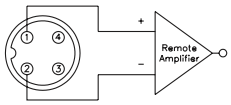
20 mm - Embeddable/Nonembeddable, Eurofast Connector

Wiring Diagrams/Mating Cordsets

1



2



Mating Cordset: RK 4.21T-*

A1 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-activated Current Consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated Current Consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Namur

Intrinsically Safe

Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-Q5.5K-Y1X 4055300		•	2	2-wire DC NAMUR	8.2 VDC nominal	2000	Remote	-25 to +70	IP67	PP	PP	N/A	YE	2M/TPU	A	1	A1
Bi5-Q08-Y1X 4054000		•	5	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	Zinc	PA 12	N/A	YE	2M/TPU	B	1	A1
Bi2-Q10S-Y1X 4012130		•	2	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PP-GF20	PP-GF20	N/A	YE	2M/PVC	C	1	A1
Bi10-Q14-Y1X 1608730		•	10	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/TPU	D	1	A1
Bi15-Q20-Y1X 1080020		•	15	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/TPU	E	1	A1
Bi15-Q20-Y1X-H1141 1080025		•	15	2-wire DC NAMUR	8.2 VDC nominal	1000	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	F	2	A1

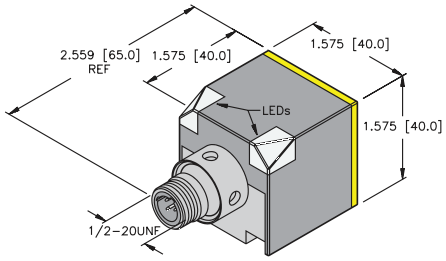
We reserve the right to make technical alterations without prior notice.

Rectangular Inductive Sensors | Namur

Intrinsically Safe

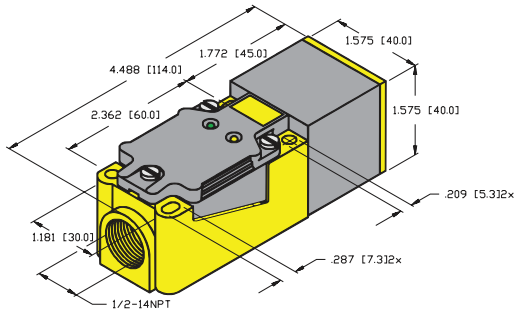
Dimension Drawings

A



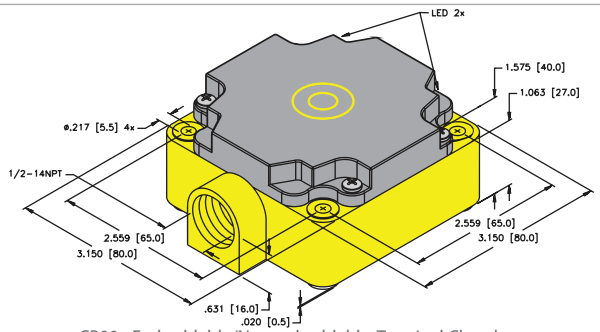
CK40 - Embeddable/Nonembeddable, Eurofast Connector

B



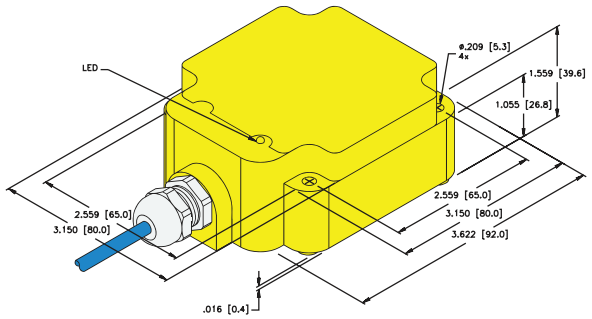
CP40 - Embeddable/Nonembeddable, Terminal Chamber

C



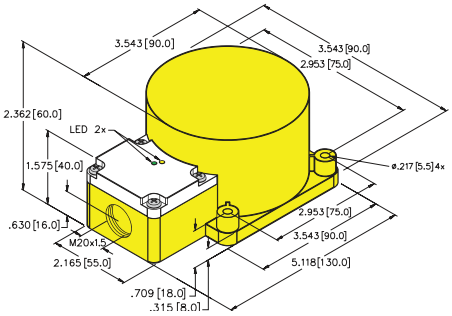
CP80 - Embeddable/Nonembeddable, Terminal Chamber

D



Q80 - Nonembeddable, Potted-In Cable

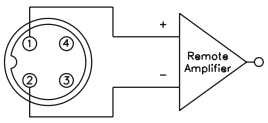
E



K90SR - Nonembeddable, Terminal Chamber

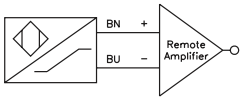
Wiring Diagrams/Mating Cordsets

1

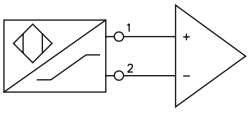


Mating Cordset: RK 4.21T-*

2



3



A1 — 2-wire DC NAMUR - (Y0 and Y1)

Differential Travel (Hysteresis):	1-10% (5% typical)	Power-On Effect:	Realized in Amplifier
Nominal Voltage:	8.2 VDC (EN60947-5-6)	Reverse Polarity Protection:	Incorporated
Load Resistance:	1000 Ω	Wire-Break Protection:	Realized in Amplifier
Non-activated current consumption:	≥2.1 mA	Transient Protection:	Realized in Amplifier
Activated current consumption:	≤1.2 mA	Shock:	30 g, 11 ms
Recommended Switching Point for		Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Remote Amplifier:	>1.2 to <2.1 mA, typ. 1.55 mA ON/1.75 mA OFF	Repeatability:	≤2% of Rated Operating Distance

Amplifier Note:
Inductive sensors with Namur outputs are typically used in hazardous locations and the approval agencies require the use of an amplifier to regulate the signals in the hazardous area. Due to the wide variety of approvals, output options, and amplifier designs, it is not possible to incorporate all of the choices in this catalog. For the most up to date information, please either search for these products under our interface technology product category (www.turck.us) or contact us by phone.

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Rectangular Inductive Sensors | Namur

Intrinsically Safe

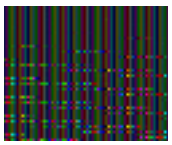
Part Number/ ID Number	Features	Embeddable	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi15-CK40-Y1X-H1141 4065000		•	15	2-wire DC NAMUR	8.2 VDC nominal	150	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	A	1	A1
Bi15-CP40-Y1X/S10 10120		•	15	2-wire DC NAMUR	8.2 VDC nominal	150	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	B	3	A1
Ni20-CP40-Y1X/S10 10121			20	2-wire DC NAMUR	8.2 VDC nominal	150	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	- -	B	3	A1
Ni35-CP40-Y1X/S100-S10 1011126	High Temp. 100 °C		35	2-wire DC NAMUR	8.2 VDC nominal	80	Remote	-25 to +100	IP67	PBT	PBT	N/A	YE	- -	B	3	A1
Ni50-CP80-Y1/S10 10401			50	2-wire DC NAMUR	8.2 VDC nominal	100	Remote	-25 to +70	IP67	PBT	PBT	N/A	N/A	- -	C	3	A1
Ni60-Q80-Y1X 1008700			60	2-wire DC NAMUR	8.2 VDC nominal	100	Remote	-25 to +70	IP67	PBT	PBT	N/A	YE	2M/ PVC	D	2	A1
Ni50-K90SR-Y1 10074			50	2-wire DC NAMUR	8.2 VDC nominal	100	Remote	-25 to +70	IP67	PBT	PBT	N/A	N/A	- -	E	3	A1

We reserve the right to make technical alterations without prior notice.

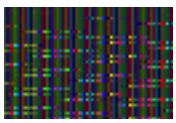
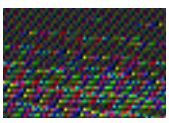
Notes

Notes

Inductive Barrel Sensor Selection Guide

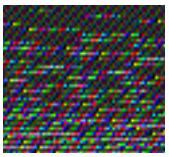
Embeddable/Nonembeddable Barrels					
					
Housing	**3 mm**	**4 mm**	**4 mm**	**4 mm**	**5 mm**
Sensing Range	**1 mm**	**1 mm**	**1 mm**	**1 mm**	**1 mm**
Pages	**B9**	**B9**	**B9**	**B11**	**B11**
Features					
2-wire					
3/4-wire	•	•	•	•	•
2-wire AC/DC					

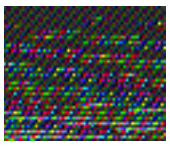
Embeddable/Nonembeddable Barrels				
				
Housing	**5 mm**	**6.5 mm**	**6.5 mm**	**8 mm**
Sensing Range	**1 mm**	**1.5 - 6 mm**	**1.5 - 6 mm**	**1.5 - 2 mm**
Pages	**B11**	**B13 - 16**	**B13 - 16**	**B17**
Features		**Uprox**	**Uprox**	
2-wire				
3/4-wire	•	•	•	•
2-wire AC/DC				

Embeddable/Nonembeddable Barrels				
				
Housing	**8 mm**	**Side Sensing**	**Side Sensing**	**8 mm**
Sensing Range	**1.5 - 2 mm**	**1 - 1.5 mm**	**1.5 mm**	**1.5 - 6 mm**
Pages	**B17**	**B19**	**B19**	**B23 - 34**
Features	**Uprox**			**Uprox**
2-wire				•
3/4-wire	•	•	•	•
2-wire AC/DC				

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensor Selection Guide

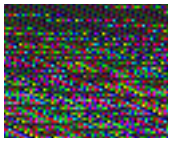
Embeddable/Nonembeddable Barrels				
				
Housing	**8 mm**	**12 mm**	**12 mm**	**12 mm**
Sensing Range	**1.5 - 6 mm**	**2 - 10 mm**	**2 - 8 mm**	**2 - 10 mm**
Pages	**B35 - 42**	**B43 - 64**	**B59**	**B65 - 72**
Features		**Uprox**	**Uprox**	
2-wire	•	•		•
3/4-wire	•	•	•	•
2-wire AC/DC		•		•

Embeddable/Nonembeddable Barrels				
				
Housing	**12 mm**	**12 mm**	**18 mm**	**18 mm**
Sensing Range	**2 - 8 mm**	**2 - 8 mm**	**5 - 15 mm**	**2 - 10 mm**
Pages	**B73**	**B75**	**B77 - 104**	**B95** / **B103**
Features	**Uprox**	**Uprox**	**Uprox**	**Uprox**
2-wire		•	•	
3/4-wire	•	•	•	•
2-wire AC/DC	•		•	

Embeddable/Nonembeddable Barrels				
				
Housing	**18 mm**	**18 mm**	**18 mm**	**18 mm**
Sensing Range	**5 - 15 mm**	**5 - 12 mm**	**5 - 10 mm**	**5 - 12 mm**
Pages	**B105 - 110**	**B99 - 112**	**B113**	**B115**
Features	**Uprox**	**Uprox**	**Uprox**	**Uprox**
2-wire	•	•		
3/4-wire	•	•	•	•
2-wire AC/DC	•	•	•	•

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Inductive Barrel Sensor Selection Guide

Embeddable/Nonembeddable Barrels				
				
Housing	30 mm	30 mm	30 mm	30 mm
Sensing Range	10 - 30 mm	10 - 20 mm	10 - 30 mm	10 - 20 mm
Pages	B117 - 132	B127 / B143	B133 - 140	B141
Features	Uprox	Uprox	Uprox	Uprox
2-wire	•	•	•	•
3/4-wire	•	•	•	•
2-wire AC/DC	•	•	•	•

Embeddable/Nonembeddable Barrels				
				
Housing	30 mm	30 mm	40 mm	47 mm
Sensing Range	10 - 20 mm	10 - 20 mm	30 mm	20 - 25 mm
Pages	B145	B145	B147	B147
Features	Uprox			
2-wire				
3/4-wire	•	•	•	•
2-wire AC/DC	•	•	•	•

Embeddable/Nonembeddable Barrels				
				IS
Housing	47 mm	40 mm	47 mm	Variable
Sensing Range	20 - 25 mm	15 - 30 mm	25 - 40 mm	1 - 15 mm
Pages	B147	B149	B149	B151 - 162
Features				
2-wire				•
3/4-wire	•	•	•	
2-wire AC/DC	•	•	•	

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensor Part Number Key

B	I	10	U	-		G	T	30		-	A	DZ	30	X2	Wiring Option*	Special Option Code**

Mounting
B = embeddable
N = nonembeddable

Principle of Operation
I = inductive

Rated Operating Distance (mm)

Sensing Characteristics
U = Uprox® sensor

Housing Material Modifier
E = stainless steel

Housing Style

Barrel - Metal
G = full threading, generally chrome plated brass
GS = threaded side sensor
H = smooth, chrome plated brass or stainless steel
HS = smooth side sensor
M = partial threading, chrome plated brass

Barrel - Plastic
K = smooth
P = full threading
S = partial threading
SK = side sensing/slot sensor, plastic housing

Primary Barrel Modifier
T = PTFE coated

Housing Diameter or Height (mm)

Secondary Barrel Modifier
CA = conduit adaptor
E = extended barrel length
EE = extra long barrel length
F = stainless steel face
FE = stainless steel face, extended barrel length
H = Stoneface®
K = short barrel length
M = medium barrel length
S = side sensing
SE = extended length
SK = right-angle terminal chamber
SR = straight terminal chamber
T = barb fitting at cable entry
TC = terminal chamber
WD = washdown IP68/IP69K

Output Function
A = normally open (N.O.)
DA = dynamic output (ring sensor), normally open
F = connection programmable (N.O or N.C.)
R = normally closed (N.C.)
V = complementary outputs: one N.O., one N.C.
Y0 = NAMUR output, requires switching amplifier
Y1 = NAMUR output, requires switching amplifier, ATEX Approved

Output
D = 2-wire DC (transistor output)
DZ = 2-wire AC/DC, (power MOSFET output)
G = 2-wire DC, low voltage drop
N = NPN transistor (current sinking)
P = PNP transistor (current sourcing)
Z = 2-wire AC or 2-wire AC/DC

Voltage Range

AC/DC: (No SCP)**
3 = 20-250 VAC, 10-300 VDC
14 = 20-132 VAC, 10-140 VDC
31 = 20-250 VAC, 10-300 VDC, plastic barrel
33 = 35-250 VAC, grounded metal barrel

AC/DC: (Latched SCP)
30 = 20-250 VAC, 10-300 VDC
32 = 20-250 VAC, 10-300 VDC
40 = 20-140 VAC/DC, high off-state current

DC:
4 = 10-65 VDC, polarity protected, pulsed SCP**
6 = 10-30 VDC, polarity protected, pulsed SCP
7 = 10-30 VDC, TTL compatible
8 = 20-30 VDC, polarity protected, pulsed SCP
41 = 10-55 VDC, polarity protected, pulsed SCP
44 = 10-55 VDC
45 = 8.4-64 Volts
**SCP = short-circuit and overload protection

Number of LEDs
(blank) = no LEDs
X = 1 LED
X2 = 2 LEDs

NOTE:
Part number keys are to assist in identification only.
Verify new part numbers with factory; some configurations are not possible.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensor Part Number Key

Wiring Options*

A. Connectorized Sensor

Bi2-M12-AN6X - H1 | 1 | 4 | 1

Connector Family

B1 = Minifast®, 7/8"-16UN, metal, male
B2 = Minifast®, 7/8"-16UN, plastic, male
B3 = Microfast®, 1/2"-20UNF, metal, male
H1 = Eurofast®, M12x1, metal or plastic, male
V1 = Picofast®, snap and M8x1, metal, male (Q08 snap only)
V2 = Picofast®, snap and M8x1, male (Q08 only)

Connector/Sensor Transition

1 = straight
3 = straight with adapter
4 = right-angle with adapter

Factory Code

Example:
0 = non-standard wiring
1 = standard wiring
3 = N.C. DC output on pin 4
4 = N.O. 2-wire DC output on pin 4

Number of Pins

B. Potted Cable

Bi2-G12-AN6X | 7M

Cable Length

(blank) = 2 meter cable
7M = 7 meter cable
*M = custom cable lengths available

C. Potted Cable with Molded Connector

Bi2-G12-Y0X - 0.2M - RS 4.21T

Cable Length

examples:
0.2M = 0.2 meters (minimum)
2M = 2 meter cable
7M = 7 meter cable

Standard Cordset Connector

AC: RSM 30 = Minifast, 7/8"-16UN, metal, male, 3-conductor
SB 3T = Microfast, 1/2"-20UNF, metal , male, 30 conductor
DC: RS 4T = Eurofast, M12x1, metal or plastic, male, 3-conductor
RS 4.2T = Eurofast, M12x1, metal or plastic, male, 2-conductor
RS 4.21T = Eurofast, M12x1, metal or plastic, male, NAMUR, 2-conductor
RS 4.4T = Eurofast, M12x1, metal or plastic, male, 4-conductor
RSM 40 = Minifast, 7/8"-16UN, metal, male, 4-conductor
PSG 3 = Picofast, snap, plastic, male, 3-conductor
PSG 3M = Picofast, M8x1, male, 3-conductor

Option Codes for Special or Custom-Built Sensors**

Bi | 2-S12-AN7X | /S100 or Bi10-M30-AN6X-H1141 | /F2

examples:
/S34 = weld field immune
/S90 = TPU cable
/S97 = -40 °C (-40 °F) operating temperature
/S100 = +100 °C (+212 °F) operating temperature
/S1589 = barrel sensors with Weldguard® laminate
/S1610 = barrel sensors with tool steel sleeve and Weldguard® laminate

example:
/F2 = alternate oscillator frequency

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors

Mounting

Turck inductive proximity sensors are manufactured with a shielded coil, designated by "Bi" in the part number, and a nonshielded coil, designated by "Ni" in the part number. Embeddable (shielded) units may be safely flush-mounted in metal. Nonembeddable (nonshielded) units require a metal free area around the sensing face. Because of possible interference of the electromagnetic fields generated by the oscillators, minimum spacing is required between adjacent or opposing sensors.

It is good engineering practice to mount sensors horizontally or with the sensing face looking down. Avoid sensors that look up wherever considered, especially if metal filings and chips are present.

Maximum Locknut Torque Specifications

The locknut torque should be considered for all threaded sensors to prevent the housing from being over stressed. The values below pertain to the locknut provided with each sensor. Liquid thread sealants of an anaerobic base, such as Loctite, are recommended if strong vibrations are likely.

Caution: Sensor barrels are typically brass. Consider break torque when selecting grade of thread sealant.

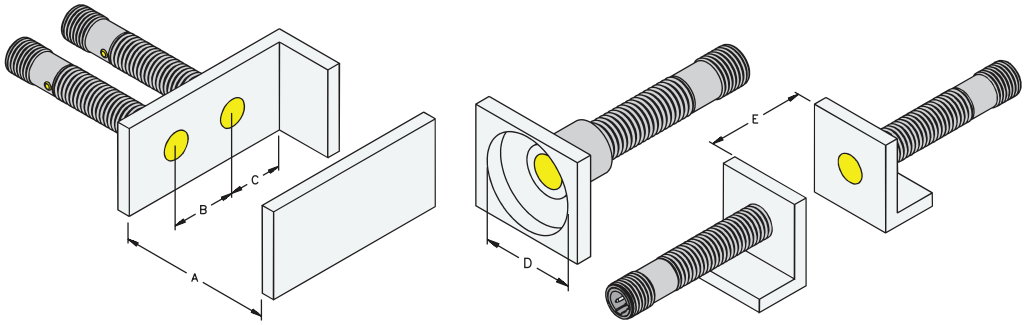
Barrel Size	Metal Barrel	Plastic Barrel
5 mm	5 Nm (3.7 ft-lb)	- - - -
8 mm	5 Nm (3.7 ft-lb)	- - - -
8 mm (M08 Ferrite)	7 Nm (5.2 ft-lb)	- - - -
12 mm	10 Nm (7.4 ft-lb)	1 Nm (0.7 ft-lb)
18 mm	25 Nm (18 ft-lb)	2 Nm (1.4 ft-lb)
30 mm	75 Nm (55 ft-lb)	5 Nm (3.7 ft-lb)
47 mm	90 Nm (66 ft-lb)	- - - -

Drill Hole Sizes for Metric Threads

Thread Size	Pitch	Thru Hole (mm)	Tap Hole Dia. (mm)	Thru Hole (in)	Tap Hole Dia. (in)
M5 x 0.5	0.5	5.0	4.5	13/64	5/32
M8 x 1	1.0	8.0	7	21/64	1/4
M12 x 1	1.0	12.0	11	31/64	13/32
M18 x 1	1.0	18.0	17	23/32	41/64
M30 x 1.5	1.5	30.0	28	1-3/16	1-5/64
PG 9	1.41	15.2	14	5/8	1/2
PG 13.5	1.41	20.4	19	13/16	23/32
PG 36	1.59	47.0	45.5	1-7/8	1-47/64

We reserve the right to make technical alterations without prior notice.

Embeddable Mounting Considerations



Flush Mountable

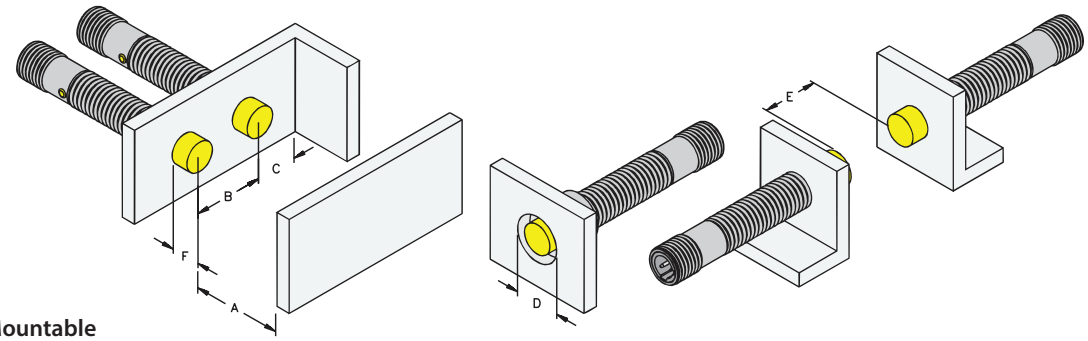
Sensor Type	Barrel Diameter	A	B	C	D	E
Bi1	3.00	3.00	6.00	4.50	9.00	9.00
Bi1U	4.00	3.00	8.00	6.00	12.00	6.00
Bi1	4.00	3.00	8.00	6.00	12.00	6.00
Bi1	5.00	3.00	10.00	8.00	15.00	6.00
Bi1U	5.00	3.00	10.00	7.50	15.00	6.00
Bi1.5U	6.50	5.00	13.00	10.00	20.00	9.00
Bi1.5	6.50	5.00	13.00	10.00	20.00	9.00
Bi2	6.50	6.00	13.00	10.00	20.00	12.00
Bi1.5U	8.00	5.00	16.00	12.00	24.00	9.00
Bi1.5	8.00	5.00	16.00	12.00	24.00	9.00
Bi2	8.00	6.00	16.00	12.00	24.00	12.00
Bi2U	8.00	6.00	16.00	12.00	24.00	12.00
Bi3U	8.00	9.00	16.00	12.00	24.00	18.00
Bi2	11.00	6.00	22.00	17.00	33.00	12.00
Bi2	12.00	6.00	24.00	18.00	36.00	12.00
Bi3U	12.00	9.00	24.00	18.00	36.00	18.00
Bi3	12.00	9.00	24.00	18.00	36.00	18.00
Bi4	12.00	12.00	24.00	18.00	36.00	24.00
Bi4U	12.00	12.00	24.00	18.00	36.00	24.00
Bi6U	12.00	18.00	24.00	18.00	36.00	36.00
Bi5U	18.00	15.00	36.00	27.00	54.00	30.00
Bi5	18.00	15.00	36.00	27.00	54.00	30.00
Bi7	18.00	21.00	36.00	27.00	54.00	42.00
Bi8U	18.00	24.00	36.00	27.00	54.00	48.00
Bi8	18.00	24.00	36.00	27.00	54.00	48.00
Bi10U	18.00	30.00	36.00	27.00	54.00	60.00
Bi10U	30.00	27.00	60.00	45.00	90.00	54.00
Bi10	30.00	30.00	60.00	45.00	90.00	60.00
Bi12	30.00	36.00	60.00	45.00	90.00	72.00
Bi15	30.00	45.00	60.00	45.00	90.00	90.00
Bi15U	30.00	45.00	60.00	45.00	90.00	90.00
Bi 20U	30.00	60.00	60.00	45.00	90.00	120.00
Bi 20	47.00	60.00	94.00	71.00	141.00	120.00
Bi 25	47.00	75.00	94.00	71.00	141.00	150.00

Dimensions are in mm.

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Inductive Barrel Sensors

Nonembeddable Mounting Characteristics

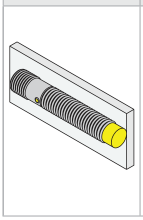
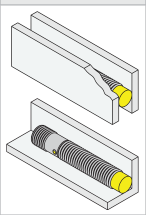
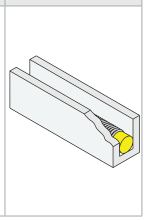


Non-Flush Mountable

Sensor Type	Barrel Diameter	A	B	C	D	E	F	1 Side	2 Side	3 Side
Ni3	6.50	9.00	20.00	10.00	20.00	18.00	6.00			
Ni3	8.00	9.00	24.00	12.00	24.00	18.00	6.00			
Ni4U	8.00	12.00	32.00	12.00	32.00	24.00	8.00			
Ni4	8.00	12.00	24.00	12.00	24.00	24.00	8.00			
Ni6U	8.00	18.00	32.00	12.00	36.00	36.00	12.00			
Ni5	11.00	15.00	33.00	17.00	33.00	30.00	10.00			
Ni4	12.00	12.00	36.00	18.00	36.00	24.00	8.00			
Ni5	12.00	15.00	36.00	18.00	36.00	30.00	10.00			
Ni8U	12.00	24.00	48.00	18.00	45.00	48.00	16.00	Sr=6 mm*		
Ni8	12.00	24.00	36.00	18.00	36.00	48.00	16.00			
Ni10U	12.00	30.00	48.00	18.00	36.00	60.00	20.00			
Ni8	18.00	24.00	54.00	27.00	54.00	48.00	16.00			
Ni10	18.00	30.00	54.00	27.00	54.00	60.00	20.00			
Ni12U	18.00	36.00	70.00	27.00	54.00	72.00	24.00			
Ni14	18.00	42.00	54.00	27.00	54.00	84.00	20.00			
Ni15U	18.00	45.00	70.00	27.00	54.00	90.00	30.00			
Ni10	20.00	30.00	60.00	30.00	60.00	60.00	20.00			
Ni15	30.00	45.00	90.00	45.00	90.00	90.00	20.00			
Ni20U	30.00	60.00	90.00	45.00	90.00	120.00	40.00	Sr=15 mm*	Sr=12 mm*	Sr=11 mm*
Ni20	30.00	60.00	90.00	45.00	90.00	120.00	20.00			
Ni30U	30.00	135.00	90.00	45.00	90.00	180.00	60.00			
Ni20	40.00	60.00	120.00	60.00	120.00	120.00	40.00			
Ni30	40.00	90.00	120.00	60.00	120.00	180.00	40.00			
Ni25	47.00	75.00	141.00	71.00	141.00	150.00	40.00			
Ni40	47.00	120.00	141.00	71.00	141.00	240.00	40.00			

Dimensions are in mm.

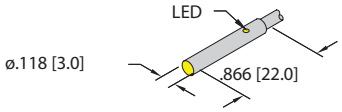
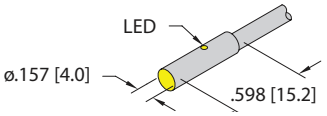
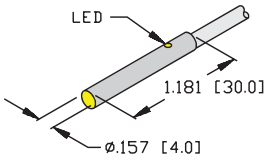
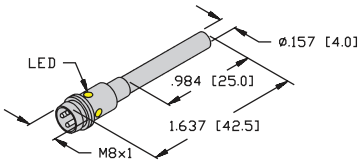
* The above Uprox Ni sensors with DC outputs and Stainless barrels can be flush mounted because the sensor automatically compensates for metal alongside its sensing face by decreasing the sensing range, preventing the output from locking on.

1 Side	2 Side	3 Side
		

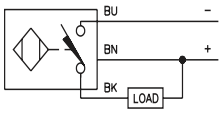
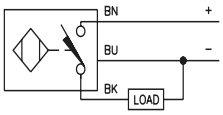
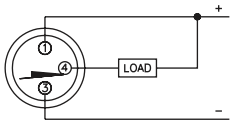
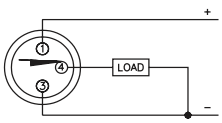
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 3 mm, 4 mm

Embeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  3 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	B  4 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable
C  4 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	D  4 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect	

Wiring Diagrams/Mating Cordsets

1	2	3	4
		 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 3 mm, 4 mm

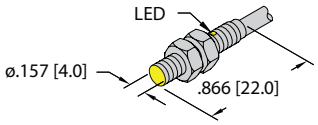
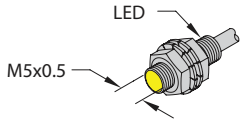
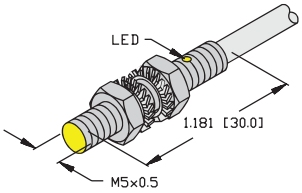
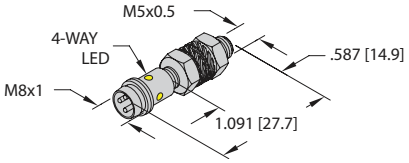
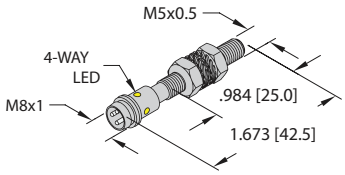
Embeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1U-EH04-AN6X 4602114	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1U-EH04-AP6X 4602112	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EH04-AN6X 4609640		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1-EH04-AP6X 4609540		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EH04K-AN6X 4609768	Short Barrel	1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1-EH04K-AP6X 4609767	Short Barrel	1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1-EH03-AN6X 1619326		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1-EH03-AP6X 1619325		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1U-EH04-AN6X-V1331 4602115	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi1U-EH04-AP6X-V1331 4602113	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Bi1-EH04-AN6X-V1331 4608540		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi1-EH04-AP6X-V1331 4608440		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4

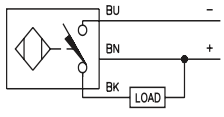
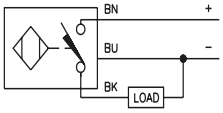
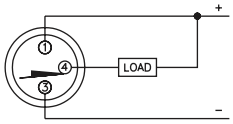
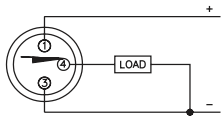
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 4 mm, 5 mm

Embeddable Threaded Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  4 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	B  5 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
C  5 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	D  5 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	E  5 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 4 mm, 5 mm

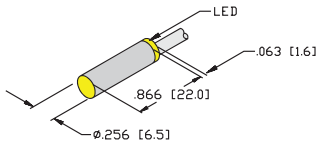
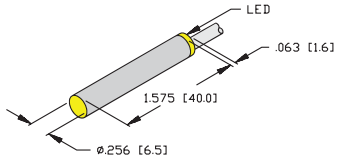
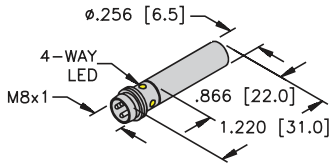
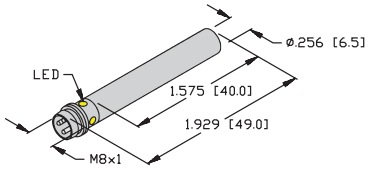
Embeddable Threaded Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1U-EG05-AN6X 4602118	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1U-EG05-AP6X 4602116	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EG05-AN6X 4609840		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1-EG05-AP6X 4609740		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-EG05K-AN6X 4609764	Short Barrel	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1-EG05K-AP6X 4609765	Short Barrel	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1-EG04-AN6X 1619328		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1-EG04-AP6X 1619327		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1U-EG05-AN6X-V1331 4602119	Uprox3	1	3-wire DC NPN	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	3	A4
Bi1U-EG05-AP6X-V1331 4602117	Uprox3	1	3-wire DC PNP	10-30 VDC	2000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	4	A4
Bi1-EG05-AN6X-V1331 4608740		1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	3	A4
Bi1-EG05-AP6X-V1331 4608640		1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	4	A4
Bi1-EG05K-AP6X-V1331 4609766	Short Barrel	1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4

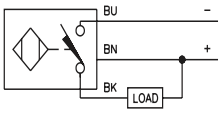
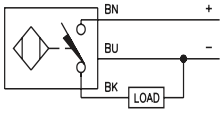
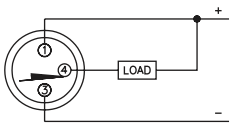
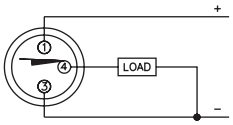
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

Embeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  6.5 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	B  6.5 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable
C  6.5 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect	D  6.5 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect	

Wiring Diagrams/Mating Cordsets

1	2	3	4
		 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

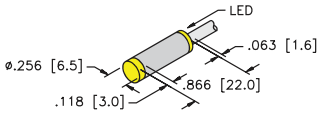
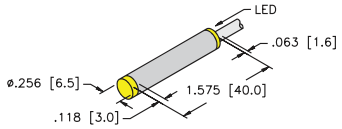
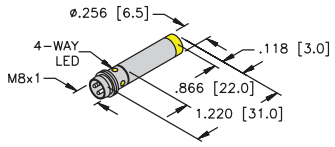
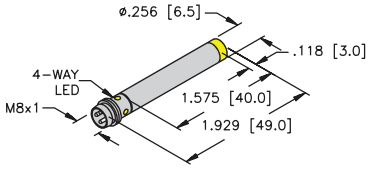
Embeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EH6.5-AN6X 4281170	Uprox	2	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/ TPU	B	1	A4
Bi2U-EH6.5-AP6X 4281150	Uprox	2	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi2-EH6.5-AN6X 4612300		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	1	A4
Bi2-EH6.5-AP6X 4612200		2	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi2-EH6.5K-AN6X 4610100	Short Barrel	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	1	A4
Bi2-EH6.5K-AP6X 4610000	Short Barrel	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	2	A4
Bi1.5-EH6.5-AN6X 4612100		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	1	A4
Bi1.5-EH6.5-AP6X 4612000		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi1.5-EH6.5-AP6X/S100 4612001	High Temp. 100 °C	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	PA 12	N/A	YE	2M/ TPU	B	2	A4
Bi1.5-EH6.5K-AN6X 4610640	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	1	A4
Bi1.5-EH6.5K-AP6X 4610540	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/ TPU	A	2	A4
Bi2U-EH6.5-AN6X-V1131 4281180	Uprox	2	3-wire DC NPN	10-30 VDC	1000	≤150	-25 to +70	IP68	SS	PA 12	N/A	YE	--	D	3	A4
Bi2U-EH6.5-AP6X-V1131 4281160	Uprox	2	3-wire DC PNP	10-30 VDC	1000	≤150	-25 to +70	IP68	SS	PA 12	N/A	YE	--	D	4	A4
Bi2-EH6.5-AN6X-V1131 4612320		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi2-EH6.5-AP6X-V1131 4612220		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Bi2-EH6.5K-AN6X-V1131 4610120	Short Barrel	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	3	A4
Bi2-EH6.5K-AP6X-V1131 4610020	Short Barrel	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	4	A4
Bi1.5-EH6.5-AN6X-V1131 4612120		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Bi1.5-EH6.5-AP6X-V1131 4612020		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Bi1.5-EH6.5K-AN6X-V1131 4610840	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	3	A4
Bi1.5-EH6.5K-AP6X-V1131 4610740	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	4	A4

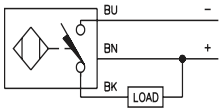
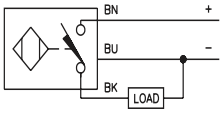
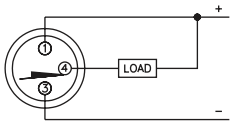
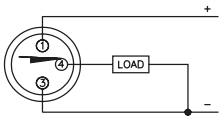
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

Nonembeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  6.5 mm - Nonembeddable, Miniature Smooth Barrel, Potted-In Cable	B  6.5 mm - Nonembeddable, Miniature Smooth Barrel, Potted-In Cable
C  6.5 mm - Nonembeddable, Miniature Smooth, M8 Picofast Quick Disconnect	D  6.5 mm - Nonembeddable, Miniature Smooth, M8 Picofast Quick Disconnect	

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 6.5 mm

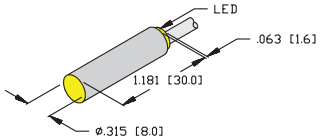
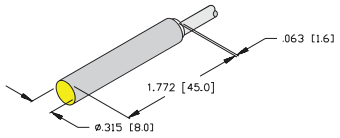
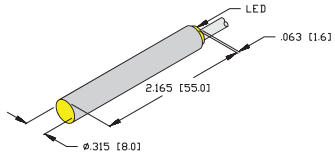
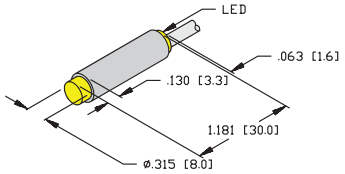
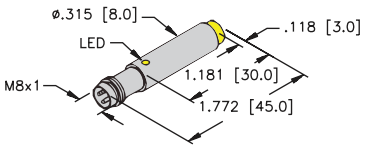
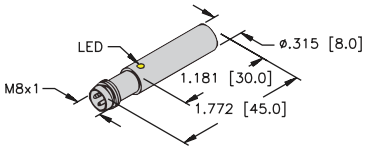
Nonembeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni4U-EH6.5-AP6X 4600680	Uprox	4	3-wire DC PNP	10-30 VDC	3000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Ni3-EH6.5-AN6X 4612500		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Ni3-EH6.5-AP6X 4612400		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Ni3-EH6.5K-AN6X 4610300	Short Barrel	3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Ni3-EH6.5K-AP6X 4610200	Short Barrel	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Ni6U-EH6.5-AP6X-V1131 4631510	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	PA 12	N/A	YE	--	D	4	A4
Ni4U-EH6.5-AN6X-V1131 4600683	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	--	D	3	A4
Ni4U-EH6.5-AP6X-V1131 4600681	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	--	D	4	A4
Ni3-EH6.5-AN6X-V1131 4612520		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	3	A4
Ni3-EH6.5-AP6X-V1131 4612420		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	D	4	A4
Ni3-EH6.5K-AN6X-V1131 4610320	Short Barrel	3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	3	A4
Ni3-EH6.5K-AP6X-V1131 4610220	Short Barrel	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	C	4	A4

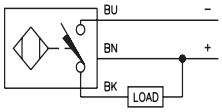
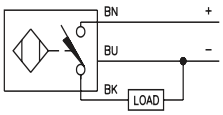
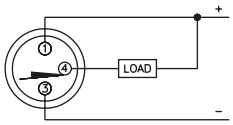
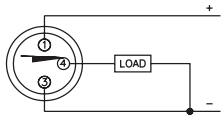
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable and Nonembeddable Smooth Metal Barrels with DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	B  8 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable
C  8 mm - Embeddable, Miniature Smooth Barrel, Potted-In Cable	D  8 mm - Nonembeddable, Miniature Smooth Barrel, Potted-In Cable	E  8 mm - Nonembeddable, Miniature Smooth, M8 Picofast Quick Disconnect
F  8 mm - Embeddable, Miniature Smooth, M8 Picofast Quick Disconnect		

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable and Nonembeddable Smooth Metal Barrels with DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-H08K-AN6X 1604341	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5-H08K-AP6X 1604331	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1.5-H08M-AP6X 1604301		1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1.5-H08-AN6X 16143		1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1.5-H08-AP6X 16043		1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Ni2-H08K-AN6X 16147	Short Barrel	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	D	1	A4
Ni2-H08K-AP6X 16047	Short Barrel	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	D	2	A4
Bi1.5-H08K-AN6X-V1131 1604340	Short Barrel	1.5	3-wire DC NPN	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PBT	N/A	YE	--	F	3	A4
Bi1.5-H08K-AP6X-V1131 1604330	Short Barrel	1.5	3-wire DC PNP	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PBT	N/A	YE	--	F	4	A4
Ni2-H08K-AN6X-V1131 16148	Short Barrel	2	3-wire DC NPN	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	3	A4
Ni2-H08K-AP6X-V1131 16048	Short Barrel	2	3-wire DC PNP	10-30 VDC	5000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	--	E	4	A4

We reserve the right to make technical alterations without prior notice.

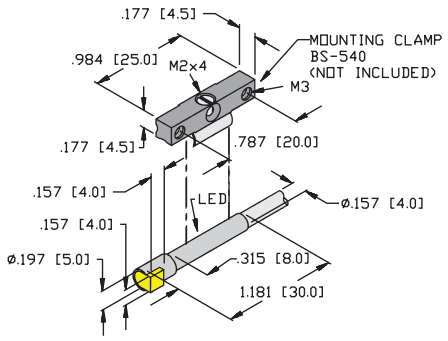
Inductive Barrel Sensors | 5 mm, 8 mm

Embeddable Side Sensing Metal Barrels with Cable and DC Outputs

Housing Style	Dimension Drawings

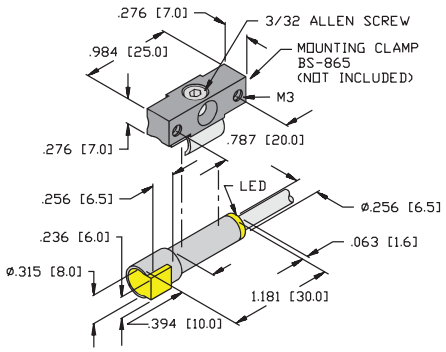


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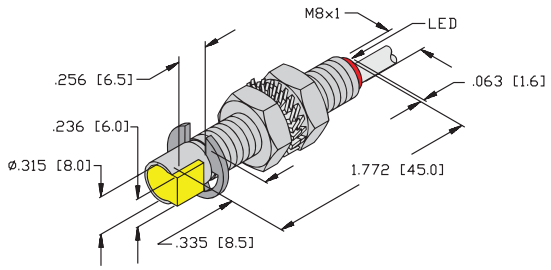
5 mm - Embeddable, Side Sensing, Miniature Smooth Barrel, Potted-In Cable

B



8 mm - Embeddable, Side Sensing, Miniature Smooth Barrel, Potted-In Cable

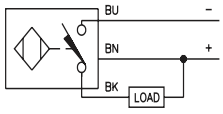
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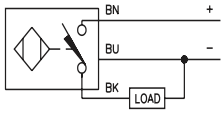
8 mm - Embeddable, Miniature Threaded Barrel, Side Sensing, Potted-In Cable

Wiring Diagrams/Mating Cordsets

1



2



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 5 mm, 8 mm

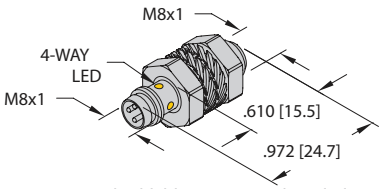
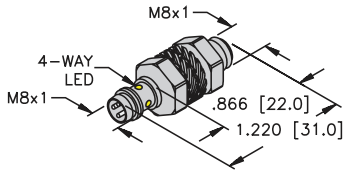
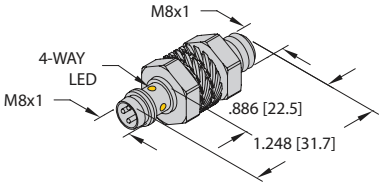
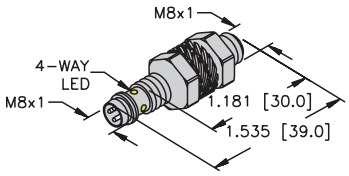
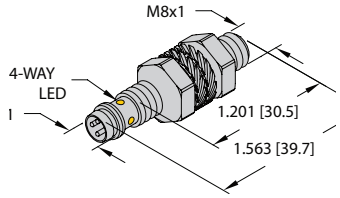
Embeddable Side Sensing Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi1.5-HS865-AN6X 4604301	Side Sensing	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1.5-HS865-AP6X 4604201	Side Sensing	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1.5-GS880-AN6X 4604501	Side Sensing	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1.5-GS880-AP6X 4604401	Side Sensing	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi1-HS540-AN6X 4604101	Side Sensing	1	3-wire DC NPN	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1-HS540-AP6X 4604001	Side Sensing	1	3-wire DC PNP	10-30 VDC	3000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4

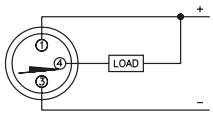
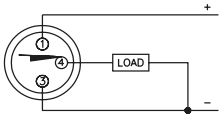
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	B  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect
C  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	D  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	E  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

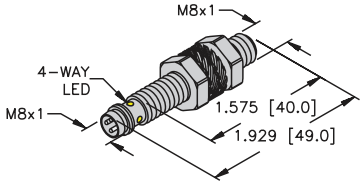
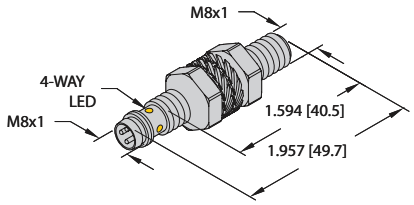
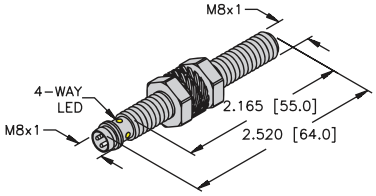
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EM08-AN6X-V1131 4602423	Uprox3	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	1	A4
Bi3U-EMT08-AN6X-V1131 4602157	Uprox3, PTFE	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	1	A4
Bi3U-EM08-AP6X-V1131 4602413	Uprox3	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	2	A4
Bi3U-EMT08-AP6X-V1131 4602156	Uprox3, PTFE	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	2	A4
Bi3-M08-AN6X-V1131 4602914		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	1	A4
Bi3-M08-AP6X-V1131 4602911		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	2	A4
Bi3-M08KK-AN6X-V1131 4602942	Short Barrel	3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	1	A4
Bi3-M08KK-AP6X-V1131 4602939	Short Barrel	3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	2	A4
Bi2-EG08K-AN6X-V1131 4669550		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	D	1	A4
Bi2-EG08K-AP6X-V1131 4669450		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	D	2	A4
Bi2-G08K-AP6X-V1131 4672803		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PBT	N/A	YE	D	2	A4
Bi2-M08K-AN6X-V1131 4602965		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	1	A4
Bi2-M08K-AP6X-V1131 4602968		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	2	A4
Bi1.5-EG08K-AN6X-V1131 4672540		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A4
Bi1.5-EG08K-AP6X-V1131 4672440		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4

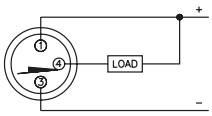
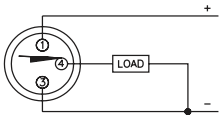
Note: Reference sensor data sheet for considerations if mounting a BI3-M08 sensor flush in steel.

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect
B  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect	C  8 mm - Embeddable, Miniature Threaded, M8 Picofast Quick Disconnect

Wiring Diagrams/Mating Cordsets	
1  Mating Cordset: PKG 3M-*	2  Mating Cordset: PKG 3M-*; PKG 3M-*/S1587

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

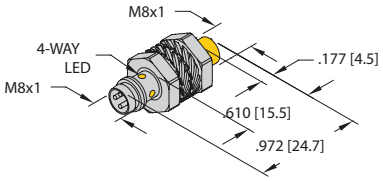
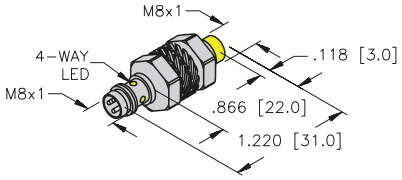
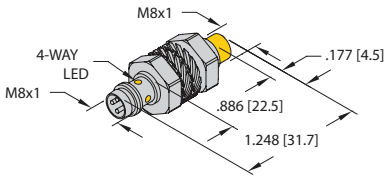
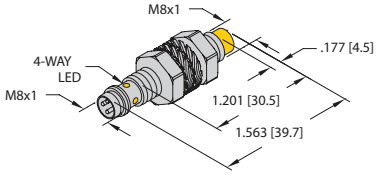
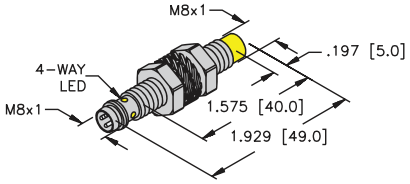
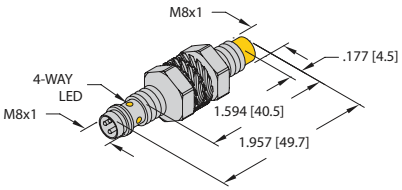
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EG08-AN6X-V1131 4602036	Uprox	2	3-wire DC NPN	10-30 VDC	1000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	C	1	A4
Bi2U-EG08-AP6X-V1131 4602033	Uprox	2	3-wire DC PNP	10-30 VDC	1000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	C	2	A4
Bi2-EG08-AN6X-V1131 4602150		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	1	A4
Bi2-EG08-AP6X-V1131 4602050		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Bi2-EG08-AP6X-V1131/S1589 46020501	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	C	2	A4
Bi2-EGT08-AP6X-V1131/S100 4602263	PTFE, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	TC	N/A	YE	C	2	A4
Bi2-EGT08-AP6X-V1131/S100/S1589 4602072	PTFE, High Temp. 100 °C, Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	WG	N/A	YE	C	2	A4
Bi2-G08-AP6X-V1131 4602002		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Bi2-M08E-AN6X-V1131 4602953		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	1	A4
Bi2-M08E-AP6X-V1131 4602956		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	2	A4
Bi1.5U-EG08-AN6X-V1131 4600530	Uprox	1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	1	A4
Bi1.5U-EG08-AP6X-V1131 4600520	Uprox	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Bi1.5-EG08-AN6X-V1131 4602350		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A4
Bi1.5-EG08-AP6X-V1131 4602220		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4

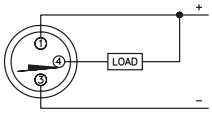
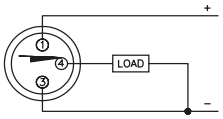
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect	B  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect
C  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect	D  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect	E  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect
F  8 mm - Nonembeddable, Miniature Threaded, M8 Picofast Quick Disconnect		

Wiring Diagrams/Mating Cordsets

1	2
 Mating Cordset: PKG 3M-*	 Mating Cordset: PKG 3M-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

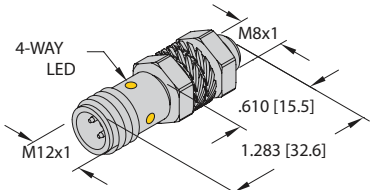
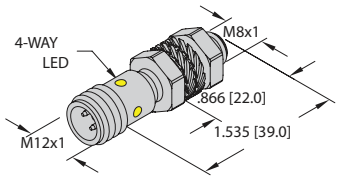
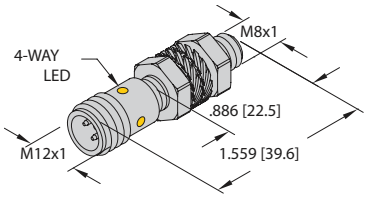
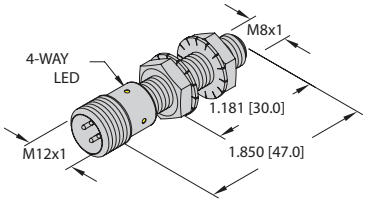
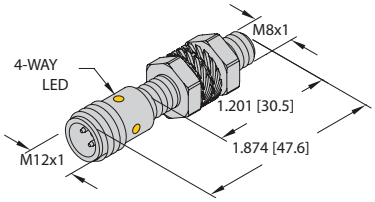
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

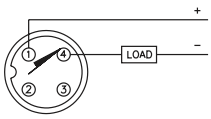
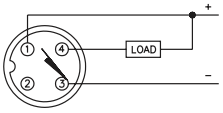
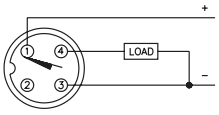
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni6U-EG08-AN6X-V1131 4635804	Uprox+	6	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	E	1	A4
Ni6U-EG08-AP6X-V1131 4635801	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	E	2	A4
Ni5-M08-AN6X-V1131 4602924		5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	D	1	A4
Ni5-M08-AP6X-V1131 4602921		5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	D	2	A4
Ni5-M08KK-AN6X-V1131 4602949	Short Barrel	5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	A	1	A4
Ni5-M08KK-AP6X-V1131 4602946	Short Barrel	5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	A	2	A4
Ni4U-EG08-AN6X-V1131 4600630	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	E	1	A4
Ni4U-EG08-AP6X-V1131 4600620	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	E	2	A4
Ni3-M08E-AN6X-V1131 4602833		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	F	1	A4
Ni3-M08E-AP6X-V1131 4602836		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	F	2	A4
Ni3-M08K-AN6X-V1131 4602849		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	C	1	A4
Ni3-M08K-AP6X-V1131 4602853		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	C	2	A4
Ni3-EG08-AN6X-V1131 4602850		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	E	1	A4
Ni3-EG08-AP6X-V1131 4602750		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	E	2	A4
Ni3-EG08K-AN6X-V1131 4669750		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A4
Ni3-EG08K-AP6X-V1131 4669650		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	B  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect
C  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	D  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	E  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets		
1  Mating Cordset: RK 4.23T-*	2  Mating Cordset: RK 4T-*	3  Mating Cordset: RK 4T-*; RK 4T-*/S1587

A2	2-wire DC - (AD, RD, AG)		
Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4	3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)		
Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

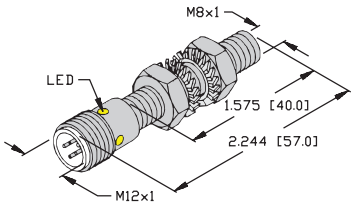
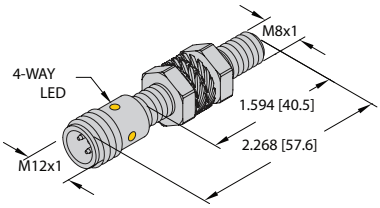
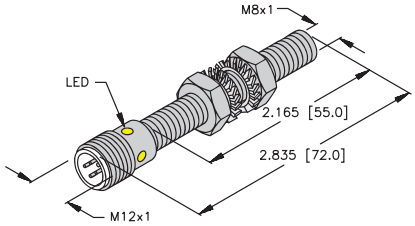
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EM08-AN6X-H1341 4602422	Uprox3	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	2	A4
Bi3U-EMT08-AN6X-H1341 4602158	Uprox3, PTFE	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	2	A4
Bi3U-EM08-AP6X-H1341 4602412	Uprox3	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	D	3	A4
Bi3U-EMT08-AP6X-H1341 4602156	Uprox3, PTFE	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	TC	N/A	YE	D	3	A4
Bi3-M08-AN6X-H1341 4602915		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	2	A4
Bi3-M08-AP6X-H1341 4602912		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	E	3	A4
Bi3-M08KK-AN6X-H1341 4602943	Short Barrel	3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	2	A4
Bi3-M08KK-AP6X-H1341 4602940	Short Barrel	3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	3	A4
Bi2-EG08K-AG41X-H1341 4562011		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A2
Bi2-EG08K-AG41X-H1341/S1589 4562090	Weldguard	2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	B	1	A2
Bi2-EGT08K-AG41X-H1341/S1589 4602599	PTFE, Short barrel, Weldguard	2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	B	1	A2
Bi2-EG08K-AN6X-H1341 4669560		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4
Bi2-EG08K-AP6X-H1341 4669460		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	3	A4
Bi2-EG08K-AP6X-H1341/S1589 4669486	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	B	3	A4
Bi2-M08K-AN6X-H1341 4602964		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	2	A4
Bi2-M08K-AP6X-H1341 4602967		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	3	A4
Bi1.5-EG08K-AN6X-H1341 4669150		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4
Bi1.5-EG08K-AP6X-H1341 4669050		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	3	A4

Note: Reference sensor data sheet for considerations if mounting a BI3-M08 sensor flush in steel.

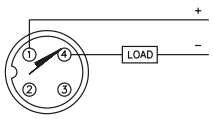
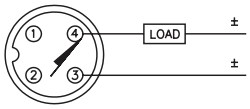
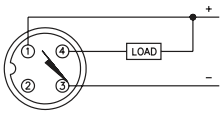
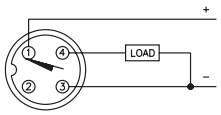
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect
B  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	C  8 mm - Embeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4.23T-*	2  Mating Cordset: RK 4.23T-*
3  Mating Cordset: RK 4T-*; RK 4T-*/S1587	4  Mating Cordset: RK 4T-*; RK 4T-*/S1587

A2 — **2-wire DC - (AD, RD, AG)**

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EG08-AN6X-H1341 4602037	Uprox	2	3-wire DC NPN	10-30 VDC	1000	≤150	-35 to +85	IP68	SS	PA 12	N/A	YE	A	3	A4
Bi2U-EG08-AP6X-H1341 4602034	Uprox	2	3-wire DC PNP	10-30 VDC	1000	≤150	-35 to +85	IP68	SS	PA 12	N/A	YE	A	4	A4
Bi2-EG08-AG41X-H1341 4562001		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A2
Bi2-EG08-AG41X-H1341/S1589 4562095	Weldguard	2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	A	1	A2
Bi2-EG08-AN6X-H1341 4602160		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi2-EG08-AN6X-H1341/S1589 4602182	Weldguard	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi2-EG08-AP6X-H1341 4602060		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi2-EG08-AP6X-H1341/S1589 4602086	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	A	4	A4
Bi2-EGT08-AP6X-H1341/S100 4602257	PTFE, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	TC	TC	N/A	YE	A	4	A4
Bi2-EG08-VN6X-H1341 4602521	Comp. Outputs	2	4-wire DC NPN	10-30 VDC	3000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4
Bi2-EG08-VP6X-H1341 S4602522	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	3000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	6	A4
Bi2-G08-AN6X-H1341 46026		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Bi2-G08-AP6X-H1341 46025		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	4	A4
Bi2-M08E-AN6X-H1341 4602952		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	B	3	A4
Bi2-M08E-AP6X-H1341 4602955		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	B	4	A4
Bi1.5U-EG08-AN6X-H1341 4600550	Uprox	1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi1.5U-EG08-AP6X-H1341 4600540	Uprox	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	4	A4
Bi1.5U-EG08-AP6X-H1341/S1589 46005401	Uprox, Weldguard	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP67	SS	WG	N/A	YE	A	4	A4
Bi1.5U-EGT08-AP6X-H1341 4600555	Uprox, PTFE	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP67	TC	TC	N/A	YE	A	4	A4
Bi1.5-EG08-AD6X-H1341 4600203		1.5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A2
Bi1.5-EG08-AN6X-H1341 4602360		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi1.5-EG08-AP6X-H1341 4602260		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi1.5-G08-AN6X-H1341 4603700		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Bi1.5-G08-AN7X-H1341 4701126	TTL Compatible	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Bi1.5-G08-AP6X-H1341 4603600		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	4	A4

We reserve the right to make technical alterations without prior notice.

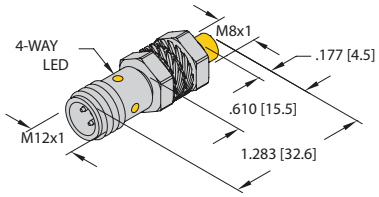
Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings

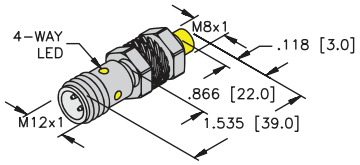


A



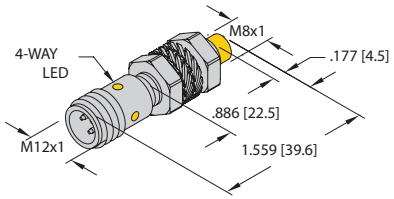
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B



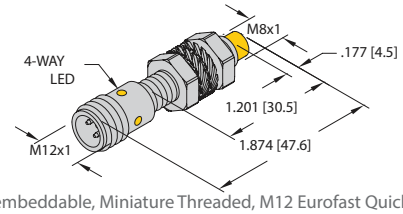
8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

C



8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

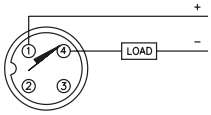
D



8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

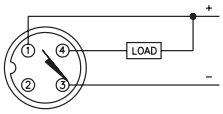
Wiring Diagrams/Mating Cordsets

1



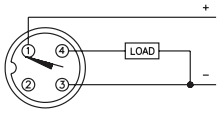
Mating Cordset: RK 4.23T-*

2



Mating Cordset: RK 4T-*

3



Mating Cordset: RK 4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

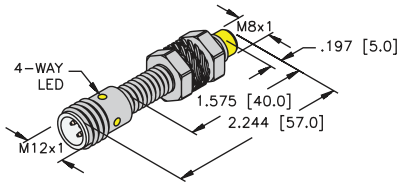
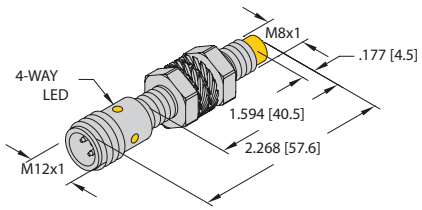
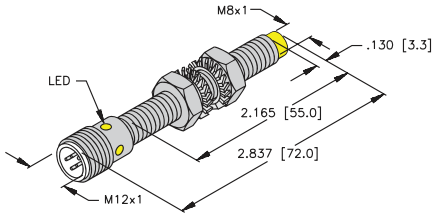
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni5-M08-AN6X-H1341 4602925		5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	D	2	A4
Ni5-M08-AP6X-H1341 4602922		5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	D	3	A4
Ni5-M08KK-AN6X-H1341 4602950	Short Barrel	5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	2	A4
Ni5-M08KK-AP6X-H1341 4602947	Short Barrel	5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	A	3	A4
Ni4-EG08K-AG41X-H1341 4561011		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	B	1	A2
Ni4-EG08K-AG41X-H1341/S1589 4561090	Weldguard	4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	B	1	A2
Ni3-EG08K-AN6X-H1341 4669760		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	2	A4
Ni3-EG08K-AP6X-H1341 4669660		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	B	3	A4
Ni3-M08K-AN6X-H1341 4602848		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	2	A4
Ni3-M08K-AP6X-H1341 4602852		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	C	3	A4

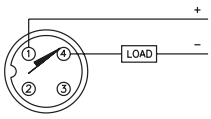
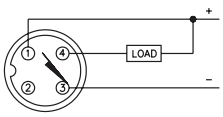
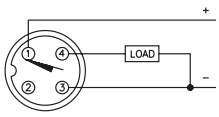
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect
B  8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect	C  8 mm - Nonembeddable, Miniature Threaded, M12 Eurofast Quick Disconnect

Wiring Diagrams/Mating Cordsets

1	2	3
 	 	
Mating Cordset: RK 4.23T-*; RK 4.23T-*/S1587	Mating Cordset: RK 4T-*;	Mating Cordset: RK 4T-*; RK 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

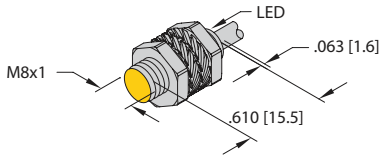
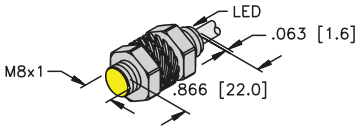
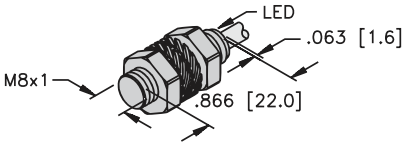
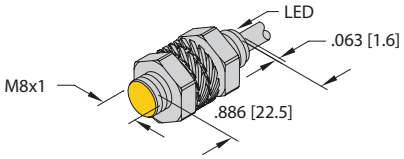
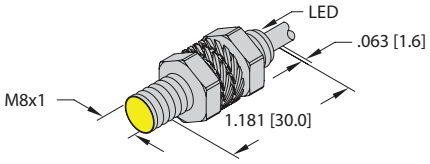
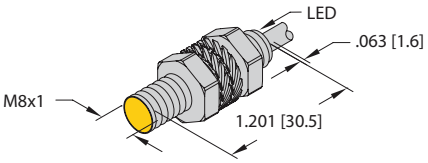
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni6U-EG08-AN6X-H1341 4635805	Uprox+	6	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	A	2	A4
Ni6U-EG08-AP6X-H1341 4635802	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	A	3	A4
Ni4U-EG08-AN6X-H1341 4600650	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Ni4U-EG08-AP6X-H1341 4600640	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	A	3	A4
Ni4U-EG08-AP6X-H1341/S1589 4600641	Uprox, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP67	SS	WG	N/A	YE	A	3	A4
Ni4-EG08-AG41X-H1341 4561001		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A2
Ni4-EG08-AG41X-H1341/S1589 4561091	Weldguard	4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	A	1	A2
Ni3-EG08-AN6X-H1341 4602860		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Ni3-EG08-AN7X-H1341 4669761	TTL Compatible	3	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Ni3-EG08-AP6X-H1341 4602760		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Ni3-EG08-AP6X-H1341/S1589 4602799	Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Ni3-M08E-AN6X-H1341 4602832		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	2	A4
Ni3-M08E-AP6X-H1341 4602835		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	B	3	A4
Ni3-G08-AN6X-H1341 4602704		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Ni3-G08-AP6X-H1341 4602705		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4
Ni2-G08-AN6X-H1341 46033		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	2	A4
Ni2-G08-AP6X-H1341 46032		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	C	3	A4

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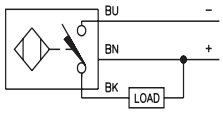
Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

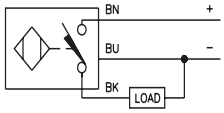
Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	B  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
C  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable, PTFE Coated	D  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	E  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
F  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable		

Wiring Diagrams/Mating Cordsets

1



2



A4 — **3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)**

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

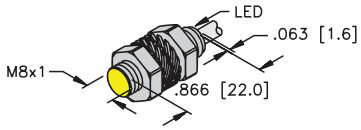
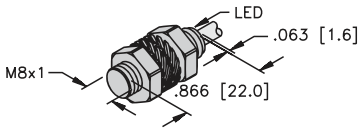
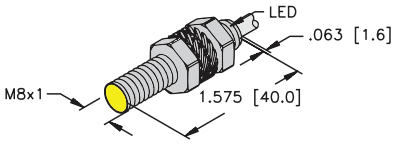
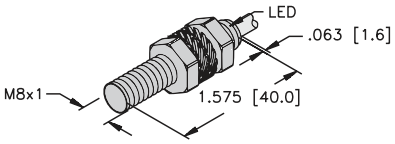
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EM08-AN6X 4602421	Uprox3	3	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Bi3U-EM08-AP6X 4602411	Uprox3	3	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +60	IP68	SS	PA 12	N/A	YE	2M/TPU	E	2	A4
Bi3-M08-AN6X 4602913		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	F	1	A4
Bi3-M08-AP6X 4602910		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	F	2	A4
Bi3-M08KK-AN6X 4602941	Short Barrel	3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	A	1	A4
Bi3-M08KK-AP6X 4602938	Short Barrel	3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08K-AN6X 4669500		2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi2-EG08K-AN6X/S1589 4669587	Weldguard	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	B	1	A4
Bi2-EG08K-AP6X 4669400		2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi2-EG08K-AP6X/S97 4669413	Low Temp. -40 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-40 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi2-EGT08K-AP6X 4602541	PTFE	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	TC	TC	N/A	YE	2M/TPU	C	2	A4
Bi2-EGT08K-AP6X/S100 4602544	PTFE, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	TC	TC	N/A	YE	2M/TPU	C	2	A4
Bi2-EGT08K-AP6X/S1589 46025413	PTFE, Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	TC	WG	N/A	YE	2M/TPU	C	2	A4
Bi2-M08K-AN6X 4602963		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	D	1	A4
Bi2-M08K-AP6X 4602966		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	D	2	A4
Bi1.5-EG08K-AN6X 4669140		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Bi1.5-EG08K-AP6X 4669040		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Bi1.5-EG08K-AP6/S100 4669016	High Temp. 100 °C	1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4

Note: Reference sensor data sheet for considerations if mounting a BI3-M08 sensor flush in steel.

We reserve the right to make technical alterations without prior notice.

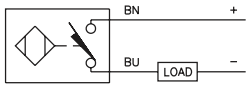
Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and 2-Wire Outputs

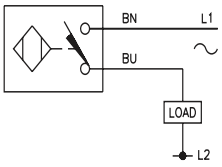
Housing Style	Dimension Drawings	
	A  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	B  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable, PTFE Coated
C  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	D  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



2



A2	2-wire DC - (AD, RD, AG)		
Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A6	2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)		
Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10 ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

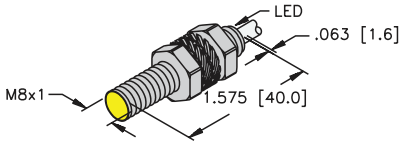
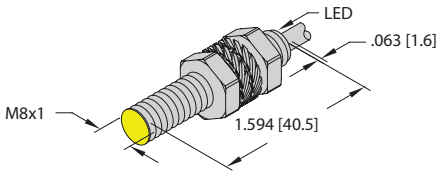
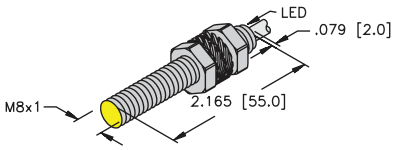
Embeddable Threaded Metal Barrels with Cable and 2-Wire Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2-EG08-AG41X 4562000		2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A2
Bi2-EG08-AG41X/S1589 4562088	Weldguard	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	C	1	A2
Bi2-EG08-AZ14X 4100001		2	2-wire AC/DC	20-132 VAC/10-140 VDC	20	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A6
Bi2-EGT08-AG41X 4602540	PTFE	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	2M/TPU	D	1	A2
Bi2-EGT08-AG41X/S1589 46020003	PTFE, Weldguard	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	2M/TPU	D	1	A2
Bi2-EG08K-AG41X 4562010		2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A2
Bi2-EG08K-AG41X/S1589 4562091	Weldguard	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	A	1	A2
Bi2-EGT08K-AG41X 4602545	PTFE	2	2-wire DC	10-55 VDC	1000	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	2M/TPU	B	1	A2

We reserve the right to make technical alterations without prior notice.

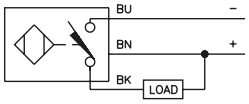
Inductive Barrel Sensors | 8 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

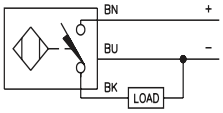
Housing Style	Dimension Drawings
	A  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable
B  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable	C  8 mm - Embeddable, Miniature Threaded Barrel, Potted-In Cable

Wiring Diagrams/Mating Cordsets

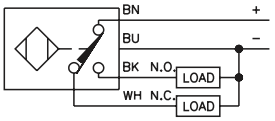
1



2



3



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

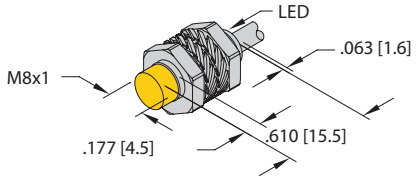
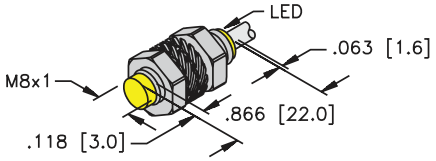
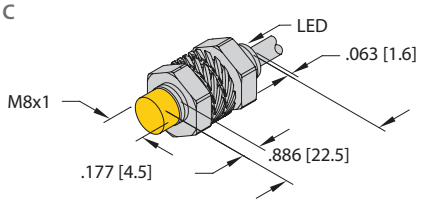
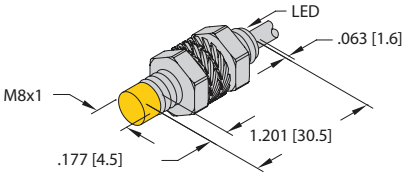
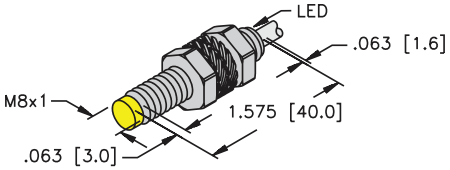
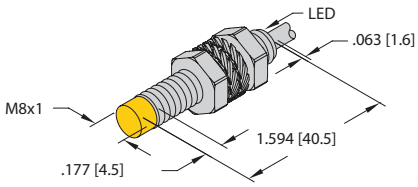
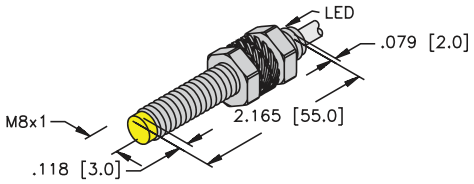
Embeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi2U-EG08-AN6X 4602035	Uprox	2	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi2U-EG08-AP6X 4602032	Uprox	2	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-AN6X 4602140	Extended Range	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi2-EG08-AP6X 4602040	Extended Range	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-AP6X/S100 4602047	High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +100	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-AP6X/S1589 4602085	Weldguard	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	A	2	A4
Bi2-EG08-VP6X 1604610	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	3	A4
Bi2-G08-AN6X 46021	Extended Range	2	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi2-G08-AP6X 46020	Extended Range	2	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4
Bi2-M08E-AN6X 4602951		2	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	B	1	A4
Bi2-M08E-AP6X 4602954		2	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CBP	PP-GF20	N/A	YE	2M/TPU	B	2	A4
Bi1.5U-EG08-AN6X 4600510	Uprox	1.5	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5U-EG08-AP6X 4600500	Uprox	1.5	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1.5-EG08-AN6X 4602340		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5-EG08-AN7X 1766110	TTL Compatible	1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	1	A4
Bi1.5-EG08-AP6X 4602240		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	A	2	A4
Bi1.5-G08-AN6X 46023		1.5	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	1	A4
Bi1.5-G08-AP6X 46022		1.5	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	C	2	A4

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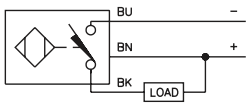
Inductive Barrel Sensors | 8 mm

Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

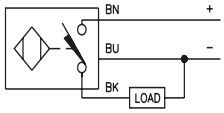
Housing Style	Dimension Drawings	
	A  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	B  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable
C  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	D  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	E  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable
F  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	G  8 mm - Nonembeddable, Miniature Threaded Barrel, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

1



2



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 8 mm

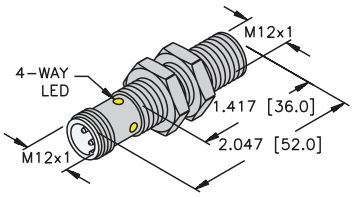
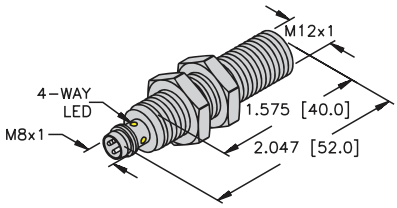
Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni6U-EG08-AN6X 4635803	Uprox+	6	3-wire DC NPN	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	2M/TPU	E	1	A4
Ni6U-EG08-AP6X 4635800	Uprox+	6	3-wire DC PNP	10-30 VDC	1000	≤150	0 to +70	IP68	SS	LCP	N/A	YE	2M/TPU	E	2	A4
Ni5-M08-AN6X 4602923		5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	D	1	A4
Ni5-M08-AP6X 4602920		5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	D	2	A4
Ni5-M08KK-AN6X 4602948	Short Barrel	5	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	A	1	A4
Ni5-M08KK-AP6X 4602944	Short Barrel	5	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	A	2	A4
Ni4U-EG08-AN6X 4600610	Uprox	4	3-wire DC NPN	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Ni4U-EG08-AP6X 4600600	Uprox	4	3-wire DC PNP	10-30 VDC	2000	≤150	-30 to +85	IP68	SS	PA 12	N/A	YE	2M/TPU	E	2	A4
Ni3-EG08-AN6X 4602840		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Ni3-EG08-AN6X/S1589 4602888	Weldguard	3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	E	1	A4
Ni3-EG08-AN7X 4669759	TTL Compatible	3	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	E	1	A4
Ni3-EG08-AP6X 4602740		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	E	2	A4
Ni3-EG08-AP6X/S1589 4602789	Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	WG	N/A	YE	2M/TPU	E	2	A4
Ni3-EG08K-AN6X 4669700		3	3-wire DC NPN	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	1	A4
Ni3-EG08K-AP6X 4669600		3	3-wire DC PNP	10-30 VDC	3000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	B	2	A4
Ni3-G08-AN6X 46028		3	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	1	A4
Ni3-G08-AP6X 46027		3	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	2	A4
Ni3-M08E-AN6X 4602831		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	F	1	A4
Ni3-M08E-AP6X 4602834		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	F	2	A4
Ni3-M08K-AN6X 4602847		3	3-wire DC NPN	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	C	1	A4
Ni3-M08K-AP6X 4602851		3	3-wire DC PNP	10-30 VDC	2800	≤150	-25 to +70	IP67	CPB	PP-GF20	N/A	YE	2M/TPU	C	2	A4
Ni2-G08-AN6X 4601300		2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	1	A4
Ni2-G08-AP6X 46012		2	3-wire DC PNP	10-30 VDC	2000	≤150	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/TPU	G	2	A4

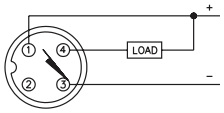
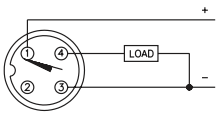
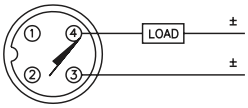
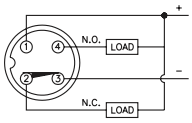
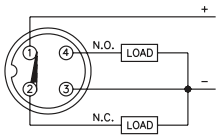
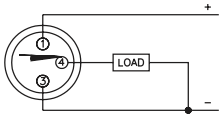
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  12 mm - Embeddable, M12 Eurofast Connection	B  12 mm - Embeddable, M8 Picofast Connection

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4T-*; RKV 4T-*	2  Mating Cordset: RK 4T-*; RKV 4T-*	3  Mating Cordset: RK 4.2T-*
4  Mating Cordset: RK 4.4T-*	5  Mating Cordset: RK 4.4T-*; RKV 4.4T-*	6  Mating Cordset: PKG 3M-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

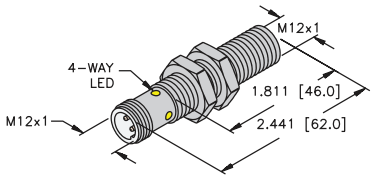
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi6U-M12-AN6X-H1141 1644808	Uprox3	6	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	1	A4
Bi6U-M12-AP6X-H1141 1644810	Uprox3	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi6U-M12-VP6X-H1141 1644805	Uprox3, Comp. Outputs	6	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	5	A4
Bi4U-EM12-AN6X-H1141 1634827	Uprox+	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	1	A4
Bi4U-M12-AN6X-H1141 1634824	Uprox+	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	1	A4
Bi4U-EM12-AP6X-H1141 1634807	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	2	A4
Bi4U-M12-AP6X-H1141 1634804	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi4U-M12-AP6X-V1131 1634780	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	B	6	A4
Bi4-M12-AN6X-H1141 4607100	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi4-M12-AP6X-H1141 46070	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi4-M12-VN6X-H1141 1643200	Ext. Range, Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi4-M12-VP6X-H1141 1633200	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi4-EM12-VP6X-H1141 1633201	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4
Bi3U-EM12-AN6X-H1141 1634350	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	1	A4
Bi3U-M12-AN6X-H1141 1634150	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi3U-EM12-AP6X-H1141 1634340	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Bi3U-M12-AP6X-H1141 1634140	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi3-M12-AD4X-H1141 4405041		3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A2
Bi2-M12-AD4X-H1141 44065		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A2
Bi2-EM12-AN6X-H1141 4606601		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	1	A4
Bi2-M12-AN6X-H1141 46066		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi2-EM12-AP6X-H1141 4606501		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Bi2-M12-AP6X-H1141 46065		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi2-M12-VN6X-H1141 16430	Comp. Outputs	2	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi2-M12-VP6X-H1141 16330	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4

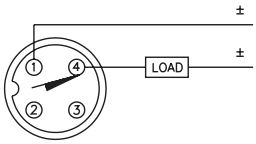
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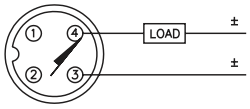
Inductive Barrel Sensors | 12 mm

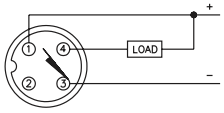
Embeddable Threaded Metal Barrels with Connector and DC Outputs

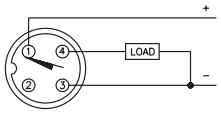
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connection, Extended Barrel Length

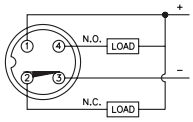
Wiring Diagrams/Mating Cordsets

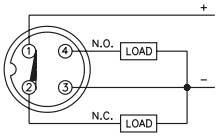
1 
Mating Cordset: RK 4.23T-*

2 
Mating Cordset: RK 4.2T-*

3 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

5 
Mating Cordset: RK 4.4T-*

6 
Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

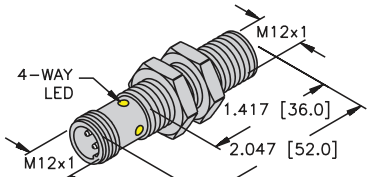
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-M12E-AN6X-H1141 4607193	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi4-EM12E-AN6X-H1141/S1589 4607185	Ext. Range, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi4-M12E-AP6X-H1141 4608030	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi4-EM12E-AP6X-H1141/S1589 4607184	Ext. Range, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	4	A4
Bi4-M12E-VN6X-H1141 1643201	Extended Range	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi4-M12E-VP6X-H1141 4608092	Extended Range	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Bi3U-EM12E-AN6X-H1141 1634351	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	3	A4
Bi3U-EM12HE-AN6X2-H1141 1634311	Uprox, Stoneface	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	GN	YE	A	3	A4
Bi3U-EM12E-AN6X2-H1141/S1589 1634397	Uprox, Weldguard	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	3	A4
Bi3U-M12E-AP6X-H1141 1634148	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi3U-EM12HE-AP6X2-H1141 1634310	Uprox, Stoneface	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	SF	GN	YE	A	4	A4
Bi3U-EM12E-AP6X2-H1141/S1589 1634398	Uprox, Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	4	A4
Bi3U-M12E-AN6X-H1141 1634151	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi3U-EM12E-AP6X-H1141 1634343	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	4	A4
Bi3U-M12E-VN4X-H1141 1580354	Uprox	3	4-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	5	A4
Bi3U-M12E-VP4X-H1141 1580252	Uprox	3	4-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	6	A4
Bi3-M12E-AD4X-H1141 4405080		3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A2
Bi2U-M12E-AD4X-H1144 4405060	Uprox	2	2-wire DC	10-65 VDC	1000	≤100	-30 to +85	IP68	CPB	LCP	N/A	YE	A	1	A2
Bi2-M12E-AN6X-H1141 4606602		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4

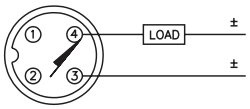
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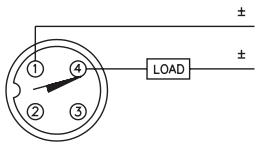
Inductive Barrel Sensors | 12 mm

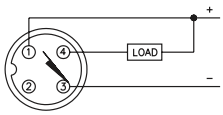
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

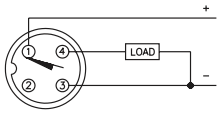
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connection, PTFE Coated Sensors

Wiring Diagrams s/Mating Cordset

1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4.23T-*

3 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

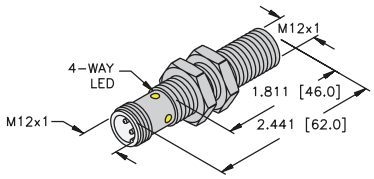
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi6U-MT12-AN6X-H1141 1644858	Uprox3, PTFE	6	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	3	A4
Bi6U-MT12-AP6X-H1141 1644831	Uprox3, PTFE	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	4	A4
Bi6U-MT12-AP6X2-H1141 1644904	Uprox3, PTFE	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	TC	TC	GN	YE	A	4	A4
Bi4U-MT12-AN6X-H1141 1634829	Uprox+, PTFE	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	3	A4
Bi4U-MT12-AN6X-H1141/S1589 16348290	Uprox+, PTFE, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	3	A4
Bi4U-MT12-AP6X-H1141 1634809	Uprox+, PTFE	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	4	A4
Bi4-MT12H-AN6X-H1141 4607194	Ext. Range, PTFE, Stoneface	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	SF	N/A	YE	A	3	A4
Bi4-MT12-AN6X-H1141/S1589 4607188	Ext. Range, PTFE, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	3	A4
Bi4-MT12H-AP6X-H1141 4607093	Ext. Range, PTFE, Stoneface	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	SF	N/A	YE	A	4	A4
Bi4-MT12-AP6X-H1141/S1589 4607099	Ext. Range, PTFE, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	4	A4
Bi3U-MT12-AN6X-H1141 1634250	Uprox, PTFE	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	3	A4
Bi3U-MT12-AP6X-H1141 1634240	Uprox, PTFE	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	4	A4
Bi3U-MT12-AP6X2-H1141 1634245	Uprox, PTFE	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	4	A4
Bi3U-MT12H-AP6X-H1141 1634212	Uprox, PTFE, Stoneface	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	4	A4
Bi3U-MT12-AP6X2-H1141/S1589 1634293	Uprox, PTFE, Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	4	A4
Bi3-MT12-AD4X-H1141/S1589 4405082	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	1	A2
Bi3-MT12-AD4X-H1144/S1589 4405084	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	2	A2

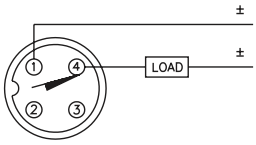
We reserve the right to make technical alterations without prior notice.

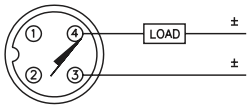
Inductive Barrel Sensors | 12 mm

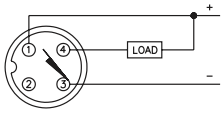
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

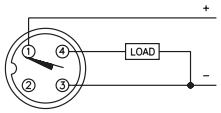
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M12 Eurofast Connection, Extended Barrel Length, PTFE Coated Sensors

Wiring Diagrams/Mating Cordset

1 
Mating Cordset: RK 4.23T-*

2 
Mating Cordset: RK 4.2T-*

3 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

4 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

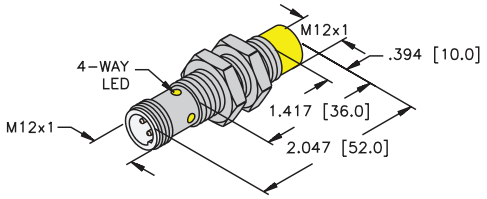
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4U-MT12E-AP6X2-H1141 1644742	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	TC	GN	YE	A	4	A4
Bi4U-MT12E-AP6X2-H1141/S1589 1644797	Uprox+, PTFE, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	4	A4
Bi4-MT12E-AP6X-H1141 46080932	Ext. Range, PTFE	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	TC	N/A	YE	A	4	A4
Bi4-MT12HE-AN6X-H1141 4607197	Ext. Range, PTFE	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	TC	N/A	YE	A	3	A4
Bi4-MT12HE-AP6X-H1141 4608093	Ext. Range, Stoneface	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	TC	N/A	YE	A	4	A4
Bi4-MT12E-AN6X-H1141/S1589 4607187	Ext. Range, Weldguard	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	3	A4
Bi4-MT12E-AP6X-H1141/S1589 4608094	Ext. Range, Weldguard	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	TC	WG	N/A	YE	A	4	A4
Bi3U-MT12HE-AN6X2-H1141 1634230	Uprox, PTFE, Stoneface	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	3	A4
Bi3U-MT12E-AN6X2-H1141/S1589 1634290	Uprox, Weldguard	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	3	A4
Bi3U-MT12HE-AP6X2-H1141 1634220	Uprox, PTFE, Stoneface	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	4	A4
Bi3U-MT12E-AP6X2-H1141/S1589 1634291	Uprox, Weldguard	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	4	A4
Bi3-MT12E-AD4X-H1141 44050882	PTFE	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	TC	N/A	YE	A	2	A2
Bi3-MT12HE-AD4X-H1141 4405088	Stoneface	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	TC	N/A	YE	A	2	A2
Bi3-MT12E-AD4X-H1141/S1589 4405086	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	2	A2
Bi3-MT12E-AD4X-H1144/S1589 4405087	PTFE, Weldguard	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	2	A2
Bi2U-MT12E-AD4X-H1144 4405061	Uprox+, PTFE	2	2-wire DC	10-65 VDC	1000	≤100	-30 to +85	IP68	TC	TC	N/A	YE	A	1	A2

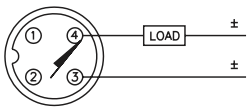
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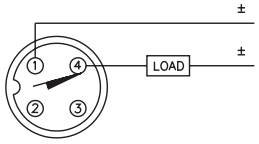
Inductive Barrel Sensors | 12 mm

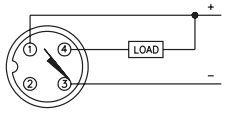
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

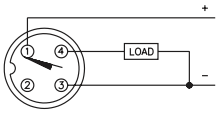
Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, M12 Eurofast Connection

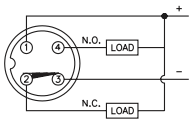
Wiring Diagrams/Mating Cordsets

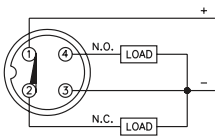
1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4.23T-*

3 
Mating Cordset: RK 4T-*; RKV 4T-*

4 
Mating Cordset: RK 4T-*; RKV 4T-*

5 
Mating Cordset: RK 4.4T-*

6 
Mating Cordset: RK 4.4T-*RKV 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

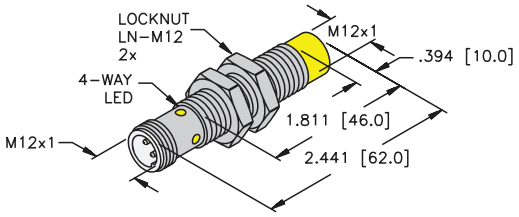
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni10U-M12-AN6X-H1141 1634826	Uprox+	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	3	A4
Ni10U-M12-AP6X-H1141 1634806	Uprox+	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	4	A4
Ni10U-EM12-AN6X-H1141 1634828	Uprox+	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Ni10U-EM12-AP6X-H1141 1634808	Uprox+	10	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	4	A4
Ni8U-M12-AN6X-H1141 1644150	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	A	3	A4
Ni8U-M12-AN6X2-H1141 1644155	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	GN	YE	A	3	A4
Ni8U-M12-AP6X-H1141 1644140	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	A	4	A4
Ni8U-M12-AP6X2-H1141 1644145	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	GN	YE	A	4	A4
Ni8U-EM12-AN6X-H1141 1644350	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Ni8U-EM12-AP6X-H1141 1644340	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	4	A4
Ni8-M12-AD4X-H1141 4411241	Extended Range	8	2-wire DC	10-65 VDC	2000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni8-M12-AD4X-H1144 4411289	Extended Range	8	2-wire DC	10-65 VDC	2000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A2
Ni8-M12-AN6X-H1141 4611315	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni8-M12-AP6X-H1141 4611310	Extended Range	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni8-M12-VN6X-H1141 4611323	Ext. Range, Comp. Outputs	8	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni8-M12-VP6X-H1141 4611324	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Ni5-M12-AN6X-H1141 4671390		5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni5-M12-AP6X-H1141 4653400		5	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni4-M12-AD4X-H1141 44067		4	2-wire DC	10-65 VDC	2000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni4-M12-AN6X-H1141 46068		4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni4-M12-AP6X-H1141 46067		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Ni4-EM12-AN7X-H1141 4606893	TTL Compatible	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni4-M12-VN6X-H1141 16431	Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni4-M12-VP6X-H1141 16331	Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	6	A4
Ni4-EM12-VP6X-H1141 1633101	Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	6	A4

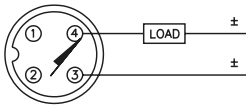
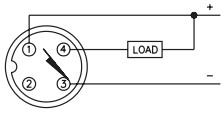
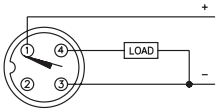
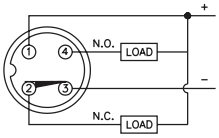
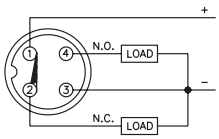
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Inductive Barrel Sensors | 12 mm

Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, Extended Barrel Length, M12 Eurofast Connection

Wiring Diagrams/Mating Cordsets

1  Mating Cordset: RK 4.23T-*	2  Mating Cordset: RK 4T-*; RKC 4T-*/S1587	3  Mating Cordset: RK 4T-*; RKC 4T-*/S1587
4  Mating Cordset: RK 4.4T-*	5  Mating Cordset: RK 4.4T-*; RKV 4.4T-*	

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

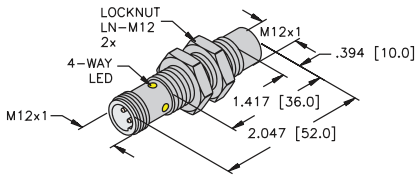
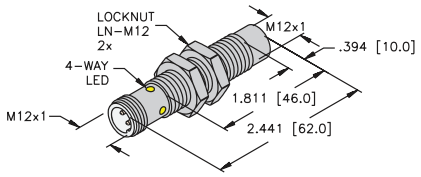
Nonembeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni8U-M12E-AN6X-H1141 1644151	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Ni8U-EM12E-AN6X2-H1141 1644315	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PA 12	GN	YE	A	2	A4
Ni8U-EM12E-AN6X2-H1141/S1589 1644391	Uprox, Weldguard	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	WG	WG	GN	YE	A	2	A4
Ni8U-M12E-AP6X-H1141 1644144	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni8U-EM12E-AP6X-H1141 1644342	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	3	A4
Ni8U-EM12E-AP6X2-H1141 1644314	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	GN	YE	A	3	A4
Ni8U-EM12E-AP6X2-H1141/S1589 1644392	Uprox, Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	WG	WG	GN	YE	A	3	A4
Ni8U-M12E-VN4X-H1141 1580552	Uprox, Comp. Outputs	8	4-wire DC NPN	10-65 VDC	2000	≤200	-30 to +85	IP67	SS	PA 12	N/A	YE	A	4	A4
Ni8U-M12E-VP4X-H1141 1580454	Uprox	8	4-wire DC PNP	10-65 VDC	2000	≤200	-30 to +85	IP67	SS	PA 12	N/A	YE	A	5	A4
Ni8U-EM12E-VP4X-H1141 1580463	Uprox	8	4-wire DC PNP	10-65 VDC	2000	≤200	-30 to +85	IP67	SS	PA 12	N/A	YE	A	5	A4
Ni8-M12E-AN6X-H1141 4611325	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Ni8-EM12E-AN6X-H1141/S1589 4611395	Ext. Range, Weldguard	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	A	2	A4
Ni8-M12E-AP6X-H1141 46113981	Extended Range	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Ni8-EM12E-AP6X-H1141/S1589 4611396	Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	A	3	A4
Ni8-M12E-VP6X-H1141 4611389	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4
Ni4-M12E-AD4X-H1144 4406792		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Ni4-EM12E-VP6X-H1141 1633191	Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4

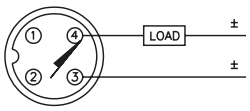
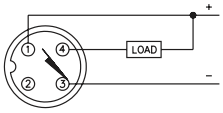
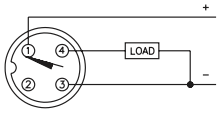
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Nonembeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings	
	A  12 mm - Nonembeddable, M12 Eurofast Connection, PTFE Coated	B  12 mm - Nonembeddable, Extended Barrel Length, M12 Eurofast Connection, PTFE Coated

Wiring Diagrams/Mating Cordsets

1	2	3
 	 	
Mating Cordset: RKC 4.2T-*	Mating Cordset: RK 4T-*; RKC 4T-*/S1587	Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

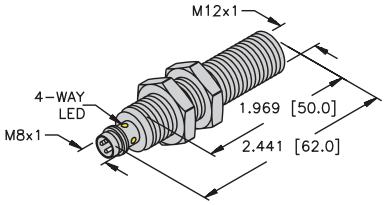
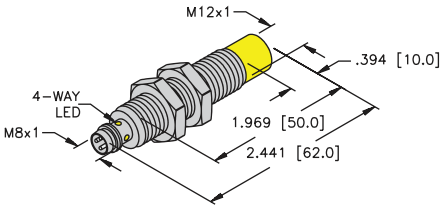
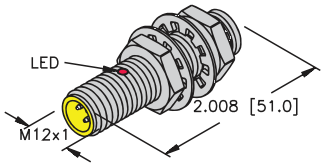
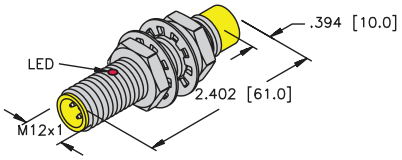
Nonembeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni10U-MT12-AN6X-H1141 1634830	Uprox+, PTFE	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	LCP	N/A	YE	A	2	A4
Ni10U-MT12-AP6X-H1141 1634810	Uprox+, PTFE	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	LCP	N/A	YE	A	3	A4
Ni10U-MT12-AP6X-H1141/S1589 16348101	Uprox+, PTFE, Weldguard	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	3	A4
Ni10U-MT12E-AP6X2-H1141 1634844	Uprox+, PTFE	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	LCP	GN	YE	B	3	A4
Ni10U-MT12E-AP6X2-H1141/S1589 1634994	Uprox+, PTFE, Weldguard	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	TC	WG	N/A	YE	B	3	A4
Ni8U-MT12-AP6X-H1141 1644240	Uprox, PTFE	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	3	A4
Ni8U-MT12-AP6X2-H1141 1644245	Uprox, PTFE	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	3	A4
Ni8U-MT12-AP6X2-H1141/S1589 1644292	Uprox, PTFE, Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	WG	GN	YE	A	3	A4
Ni8U-MT12E-AN6X2-H1141 1644248	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	B	2	A4
Ni8U-MT12E-AP6X2-H1141 1644247	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	TC	TC	N/A	YE	B	3	A4
Ni8-MT12-AD4X-H1141/S1589 4411291	PTFE, Weldguard	8	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	WG	N/A	YE	A	1	A2
Ni8-MT12E-AN6X-H1141/S1589 4611397	Ext. Range, Weldguard	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	B	2	A4
Ni8-MT12E-AP6X-H1141/S1589 4611398	Ext. Range, Weldguard	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	WG	WG	N/A	YE	B	3	A4

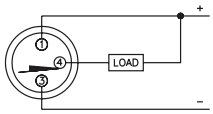
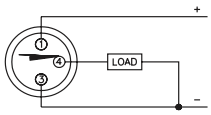
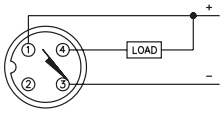
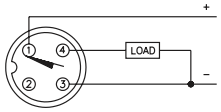
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Fully Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, M8 Picofast Connection
B  12 mm - Embeddable, M8 Picofast Connection	C  12 mm - Embeddable, M12 Eurofast Connection
D  12 mm - Nonembeddable, M12 Eurofast Connection	

Wiring Diagrams/Mating Cordsets

1	2	3	4
 	 	 	
Mating Cordset: PKG 3M-*	Mating Cordset: PKG 3M-*	Mating Cordset: RK 4T-*	Mating Cordset: RK 4T-*; RKV 4T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

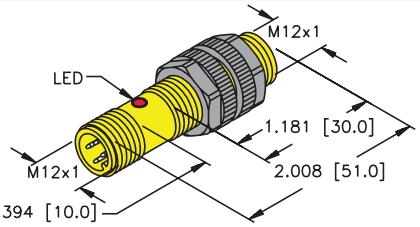
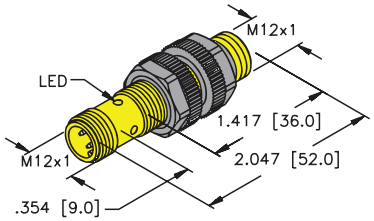
Fully Threaded Metal Barrels with Connector and DC Outputs

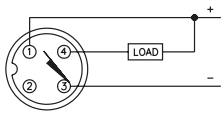
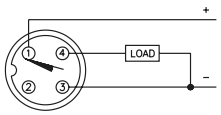
Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-AN6X-V1131 1690707	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi4-G12-AP6X-V1131 1690703	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi4-EG12-AP6X-H1141 4607091	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	RD	C	4	A4
Bi2-G12-AN6X-V1131 4635583		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi2-G12-AN6X-H1141 4606693		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	C	3	A4
Bi2-G12-AP6X-H1141 4606595		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	C	4	A4
Bi2-G12-AP6X-V1131 4606597		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni8-G12-AN6X-H1141 4611383	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	3	A4
Ni5-G12-AN6X-V1131 4635721		5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	1	A4
Ni5-G12-AN6X-H1141 4635793		5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	3	A4
Ni5-G12-AN7X-H1141 1714593	TTL Compatible	5	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	3	A4
Ni5-G12-AP6X-V1131 4635690		5	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	B	2	A4
Ni5-G12-AP6X-H1141 4635692		5	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	RD	D	4	A4

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Threaded Plastic Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable/Nonembeddable, Plastic, M12 Eurofast Connection
B  12 mm - Embeddable/Nonembeddable, Plastic, M12 Eurofast Connection	

Wiring Diagrams/Mating Cordsets	
1  Mating Cordset: RKK 4T-*	2  Mating Cordset: RKK 4T-*

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 12 mm

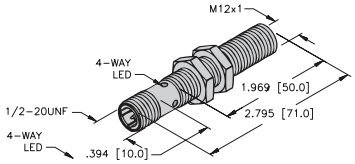
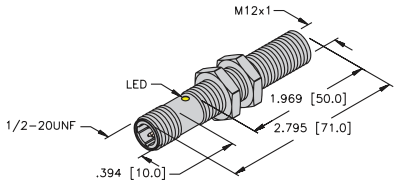
Threaded Plastic Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-S12-AN6X-H1141 1634620	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	1	A4
Bi3U-S12-AP6X-H1141 16346	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	2	A4
Bi2-S12-AN6X-H1141 46521		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	1	A4
Bi2-S12-AP6X-H1141 46520		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	2	A4
Ni8U-S12-AN6X-H1141 1644620	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	1	A4
Ni8U-S12-AP6X-H1141 1644600	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	B	2	A4
Ni4-S12-AN6X-H1141 46523		4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	1	A4
Ni4-S12-AP6X-H1141 46522		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	RD	A	2	A4

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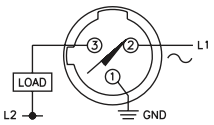
Inductive Barrel Sensors | 12 mm

Embeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Embeddable, 1/2" Microfast Connection
B  12 mm - Embeddable, 1/2" Microfast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: KB 3T-*

A5 — **2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)**

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — **2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)**

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

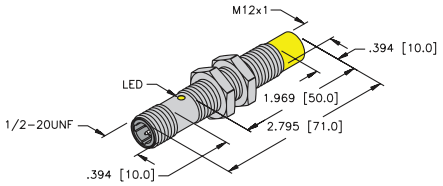
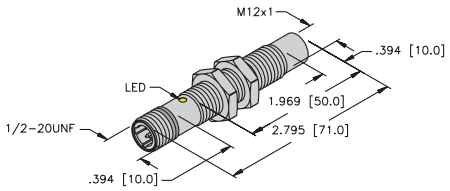
Embeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-ADZ32X-B3131 4205031	Extended Range	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A5
Bi4-GT12H-ADZ32X-B3131 4205097	Stoneface	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A5
Bi4-GT12-ADZ32X-B3131/S1589 4205087	PTFE, Weldguard	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	WG	N/A	YE	B	1	A5
Bi2U-G12-ADZ32X-B3131 4281005	Uprox	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	CPB	PBT	N/A	YE	A	1	A5
Bi2U-GT12-ADZ32X-B3131 4281015	Uprox	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	TC	TC	N/A	YE	B	1	A5
Bi2-G12-AZ33X-B3131 1304032		2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A6
Bi2-G12-ADZ32X-B3131 4205001		2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A5
Bi2-GT12H-ADZ32X-B3131/S34 4205093	PTFE, WFI, Stoneface	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A5
Bi2-GT12-ADZ32X-B3131/S34 4205005	PTFE, WFI	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A5
Bi2-GT12-AZ33X-B3131/S34 1304082	PTFE, WFI	2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	B	1	A6

We reserve the right to make technical alterations without prior notice.

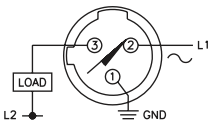
Inductive Barrel Sensors | 12 mm

Nonembeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, 1/2" Microfast Connection
B  12 mm - Nonembeddable, 1/2" Microfast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



Mating Cordset: KB 3T-*

A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

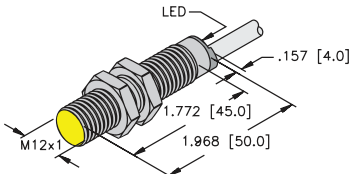
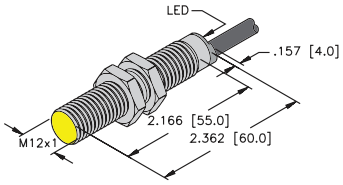
Nonembeddable Threaded Metal Barrels with Connector and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Ni8U-G12-ADZ32X-B3131 4281105	Uprox	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	CPB	PBT	N/A	YE	A	1	A5
Ni8U-GT12-ADZ32X-B3131 4281115	Uprox	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	10	≤100	-30 to +85	IP67	TC	PA 12	N/A	YE	B	1	A5
Ni4-G12-ADZ32X-B3131 4205201		4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A5
Ni4-G12-AZ33X-B3131 1304232		4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A6
Ni4-GT12-ADZ32X-B3131/S34 4205205	PTFE, WFI	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	B	1	A5
Ni4-GT12-AZ33X-B3131/S34 1304292	PTFE, WFI	4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	PA 12	N/A	YE	B	1	A6
Ni4-GT12-ADZ32X-B3131/S34/S1589 4205293	PTFE, Weldguard	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	WG	N/A	YE	B	1	A5

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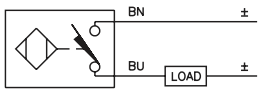
Inductive Barrel Sensors | 12 mm

Embeddable Threaded Metal Barrels with Cable and DC Outputs

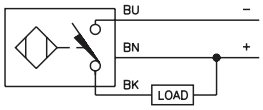
Housing Style	Dimension Drawings
	A  12 mm - Embeddable, Potted-in Cable
B  12 mm - Embeddable, Extended Length Barrel, Potted-in Cable	

Wiring Diagrams/Mating Cordsets

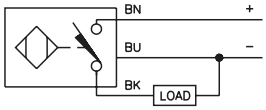
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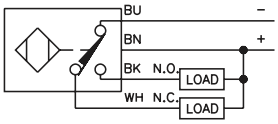
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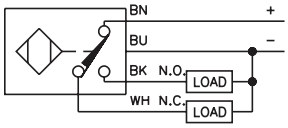
3



4



5



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

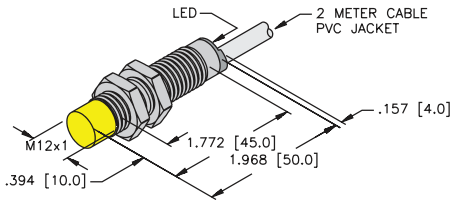
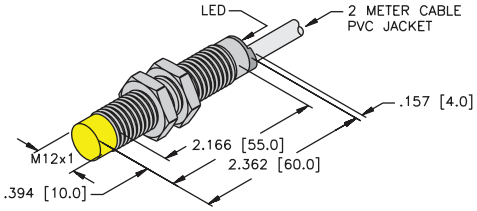
Embeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi6U-M12-AN6X 1644806	Uprox3	6	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Bi6U-M12-AP6X 1644801	Uprox3	6	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Bi6U-M12-VP6X 1644803	Uprox3, Comp. Outputs	6	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	2M/PVC	A	5	A4
Bi4U-M12-AN6X 1634823	Uprox+	4	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Bi4U-M12-AP6X 1634803	Uprox+	4	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Bi4-M12-AN6X 4607130	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi4-M12-AP6X 4607006	Extended Range	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi4-M12-VN6X 1643300	Ext. Range, Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Bi4-M12-VP6X 1633300	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4
Bi4-M12E-VN6X 1643290	Ext. Range, Comp. Outputs	4	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	4	A4
Bi4-M12E-VP6X 1633391	Ext. Range, Comp. Outputs	4	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	5	A4
Bi3U-M12-AN6X 1634120	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	2	A4
Bi3U-M12-AP6X 1634100	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	A	3	A4
Bi3U-M12E-AP6X 1634108	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	2M/PVC	B	3	A4
Bi3U-EM12-AN6X 1634320	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	2M/PVC	A	2	A4
Bi3U-EM12-AP6X 1634300	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	2M/PVC	A	3	A4
Bi3-M12-AD4X 4405035	Extended Range	3	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi2U-M12E-AD4X 4405062	Uprox	2	2-wire DC	10-65 VDC	1000	≤100	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	B	1	A2
Bi2-M12-AD4X 44050		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Bi2-M12-AP6X 46050		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Bi2-M12-VN6X 16402	Comp. Outputs	2	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Bi2-M12-VP6X 16302	Comp. Outputs	2	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4

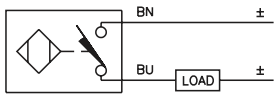
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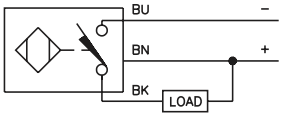
Inductive Barrel Sensors | 12 mm

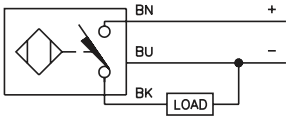
Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

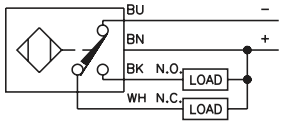
Housing Style	Dimension Drawings
	A  12 mm - Nonembeddable, Potted-in Cable
B  12 mm - Nonembeddable, Potted-In Cable, Extended Barrel Length	

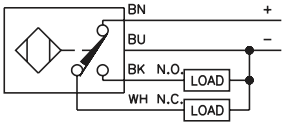
Wiring Diagrams/Mating Cordsets

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A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

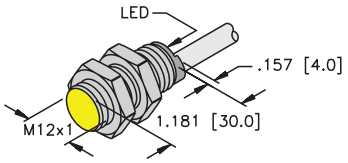
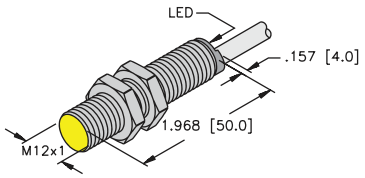
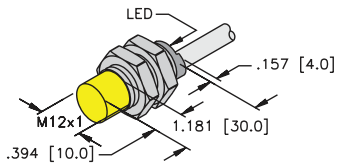
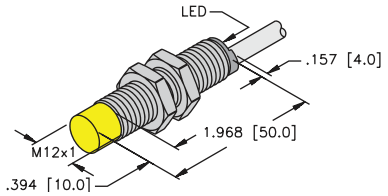
Nonembeddable Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Ni10U-M12-AN6X 1634825	Uprox	10	3-wire DC NPN	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Ni10U-M12-AP6X 1634805	Uprox	10	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Ni8U-M12-AN6X 1644120	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	2M/PVC	A	2	A4
Ni8U-M12-AP6X 1644100	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	2M/PVC	A	3	A4
Ni8U-M12E-AP6X 1644102	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP67	CPB	LCP	N/A	YE	2M/PVC	B	3	A4
Ni8U-EM12-AP6X 1644300	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	2M/PVC	A	3	A4
Ni8-M12-AD4X 4411235	Extended Range	8	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Ni8-M12-AN6X 4611318	Extended Range	8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni8-M12E-AN6X 4611326		8	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	2	A4
Ni8-M12-AP6X 4611319	Extended Range	8	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4
Ni8-M12-VN6X 4611321	Ext. Range, Comp. Outputs	8	4-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	4	A4
Ni8-M12-VP6X 4611322	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	5	A4
Ni4-M12-AD4X 44052		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A2
Ni4-M12E-AD4X 4405298		4	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A2
Ni4-M12-AP6X 46052		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	3	A4

We reserve the right to make technical alterations without prior notice.

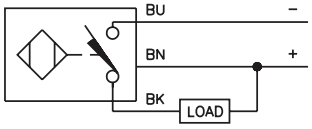
Inductive Barrel Sensors | 12 mm

Fully Threaded Metal Barrels with Cable and DC Outputs

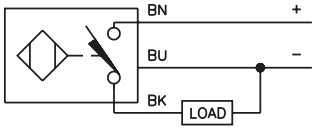
Housing Style	Dimension Drawings	
	A  12 mm - Embeddable, Potted-In Cable	B  12 mm - Embeddable, Potted-In Cable
C  12 mm - Nonembeddable, Potted-In Cable	D  12 mm - Nonembeddable, Potted-In Cable	

Wiring Diagrams/Mating Cordsets

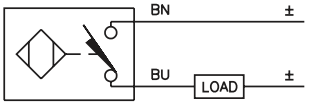
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A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

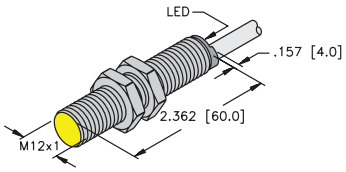
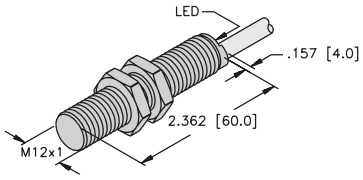
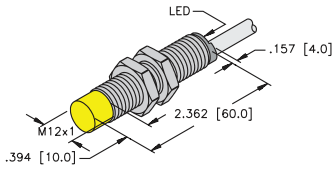
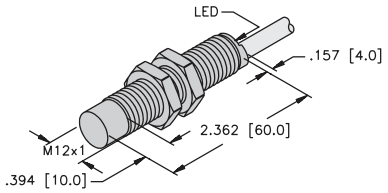
Fully Threaded Metal Barrels with Cable and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-AN6X 1690706	Extended Range	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi4-G12K-AN6X 4670251	Ext. Range, Short Barrel	4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A4
Bi4-G12K-AP6X 4670250	Ext. Range, Short Barrel	4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Bi2-G12-AN6X 4635500		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-G12-AN7X 4730500	TTL Compatible	2	3-wire DC NPN	10-30 VDC	2000	≤150	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-EG12-AP6X 4605001		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-G12-AP6X 4635400		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-G12K-AN6X 46712	Short Barrel	2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A4
Bi2-G12K-AP6X 46702	Short Barrel	2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	2	A4
Ni8-G12-AN6X 4611327	Extended Range	8	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Ni8-G12K-AD4X 4411230	Short Barrel	8	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	3	A2
Ni5-G12K-AN6X 46713	Short Barrel	5	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	2	A4
Ni5-G12K-AP6X 46703	Short Barrel	5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	2	A4
Ni5-G12-AN6X 4635700		5	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Ni5-G12-AN7X 1714500	TTL Compatible	5	3-wire DC NPN	10-30 VDC	1500	≤150	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	1	A4
Ni5-G12-AP6X 46356		5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	D	2	A4

We reserve the right to make technical alterations without prior notice.

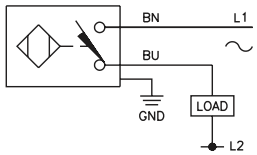
Inductive Barrel Sensors | 12 mm

Fully Threaded Metal Barrels with Cable and AC/DC Outputs

Housing Style	Dimension Drawings	
	A  12 mm - Embeddable, Potted-In Cable	B  12 mm - Embeddable, Potted-In Cable, PTFE Coated
C  12 mm - Nonembeddable, Potted-In Cable	D  12 mm - Nonembeddable, Potted-In Cable, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1



A5 — 2-wire AC/DC w/ Short-Circuit Protection - (ADZ, RDZ, FDZ, VDZ)

Line Frequency:	≥50... ≤60 Hz	Minimum Load Current:	≥3.0 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Inrush Current:	≤3 A (≤20 ms, max 5 Hz)
Voltage Drop Across Conducting Sensor:	≤6.0 V	Power-On Effect:	Per IEC 947-5-2
Trigger Current for Short Circuit Protection:	AC: ≥440 mA; DC: ≥330 mA	Transient Protection:	Per EN 60947-5-2
	AC: ≥120 mA; DC: ≥120 mA	Shock:	30 g, 11 ms
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
	AC: ≤100 mA; DC: ≤100 mA	Repeatability:	≤2% of Rated Operating Distance
Off-State (Leakage) Current:	≤1.7 mA (AC)		
	≤1.5 mA (DC)		

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

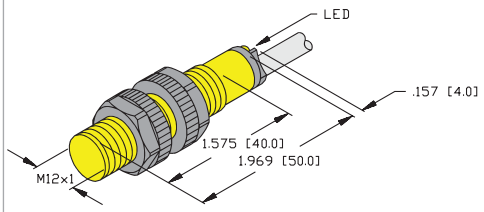
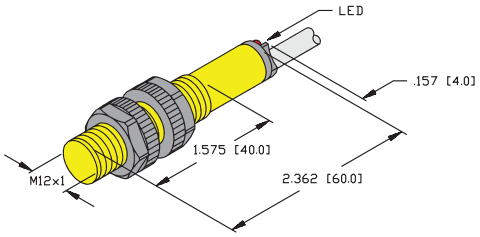
Fully Threaded Metal Barrels with Cable and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi4-G12-ADZ32X 4205030	Extended Range	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A5
Bi2-G12-ADZ32X 4205000		2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A5
Bi2-G12-AZ33X 1304002		2	2-wire AC/DC	35-250 VAC	20	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	A	1	A6
Bi2-GT12-ADZ32X/S34 4205210	PTFE, WFI	2	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	B	1	A5
Bi2-GT12-AZ33X/S34 1304052	PTFE, WFI	2	2-wire AC/DC	35-250 VAC	20	≤200	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	B	1	A6
Ni8-G12-ADZ32X 4205400	Extended Range	8	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A5
Ni4-G12-AZ33X 1304202		4	2-wire AC/DC	35-250 VAC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A6
Ni4-G12-ADZ32X 4205200		4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	2M/PVC	C	1	A5
Ni4-GT12-ADZ32X/S34 4205210	PTFE, WFI	4	2-wire AC/DC Short-Circuit Protected	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	D	1	A5
Ni4-GT12-AZ33X/S34 1304294	PTFE, WFI	4	2-wire AC/DC	35-250 VAC	20	≤100	-25 to +70	IP67	TC	TC	N/A	YE	2M/PVC	D	1	A6

We reserve the right to make technical alterations without prior notice.

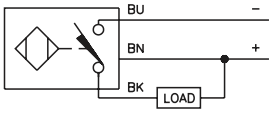
Inductive Barrel Sensors | 12 mm

Threaded Plastic Barrels with Cable and AC/DC Outputs

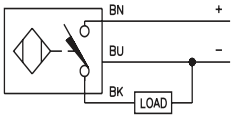
Housing Style	Dimension Drawings	
	A  12 mm - Embeddable/Nonembeddable, Plastic, Potted-In Cable	B  12 mm - Embeddable/Nonembeddable, Plastic, Potted-In Cable

Wiring Diagrams/Mating Cordsets

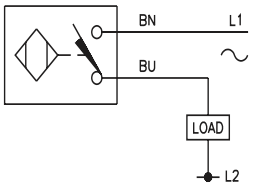
1



2



3



A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

A6 — 2-wire AC/DC w/o Short-Circuit Protection - (AZ, RZ, FZ)

Line Frequency:	≥50... ≤60 Hz	Inrush Current:	≤8 A (≤10ms max. 5 Hz)
Differential Travel (Hysteresis):	3-15% (5% typical)		≤1 A (≤10 ms max. 5 Hz) 12 mm
Voltage Drop Across Conducting Sensor:	≤6.0 V		≤0.2 A (≤10 ms max. 0.2 Hz) 8 mm
Continuous Load Current:	AC: ≤400 mA; DC: ≤300 mA	Power-On Effect:	Per IEC 947-5-2
	AC: ≤100 mA; DC: ≤100 mA	Transient Protection:	Per EN 60947-5-2
Off-State (Leakage) Current:	≤1.7 mA	Shock:	30 g, 11 ms
Minimum Load Current:	≥3.0 mA	Vibration:	55 Hz, 1 mm Amplitude, in all 3 Planes
		Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

Threaded Plastic Barrels with Cable and AC/DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Cable Length/Jacket	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-S12-AN6X 1634520	Uprox	3	3-wire DC NPN	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	1	A4
Bi3U-S12-AP6X 1634500	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	2	A4
Bi2-S12-AN6X 46531		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-S12-AN7X 1713800	TTL Compatible	2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Bi2-S12-AP6X 46530		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-S12-AP7X/S100 17555	TTL Compatible, High Temp. 100 °C	2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +100	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	2	A4
Bi2-S12-AZ31X 13020		2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6
Bi2-S12-AZ31X/S100 1302001	High Temp. 100 °C	2	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +100	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6
Ni8U-S12-AN6X 1644520	Uprox	8	3-wire DC NPN	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	1	A4
Ni8U-S12-AP6X 1644500	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	PBT	PBT	N/A	YE	2M/PVC	A	2	A4
Ni4-S12-AN6X 46533		4	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Ni4-S12-AN7X 1713900	TTL Compatible	4	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	1	A4
Ni4-S12-AP6X 46532		4	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	N/A	YE	2M/PVC	B	2	A4
Ni4-S12-AZ31X 13022		4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6
Ni4-S12-AZ31X/S100 1302201	High Temp. 100 °C	4	2-wire AC/DC	20-250 VAC/10-300 VDC	20	≤100	-25 to +100	IP67	PA 12	PA 12	N/A	RD	2M/PVC	B	3	A6

We reserve the right to make technical alterations without prior notice.

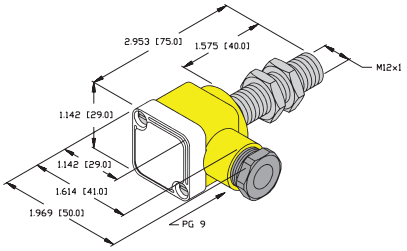
Inductive Barrel Sensors | 12 mm

Threaded Barrels with Terminal Chamber and DC Outputs

Housing Style	Dimension Drawings

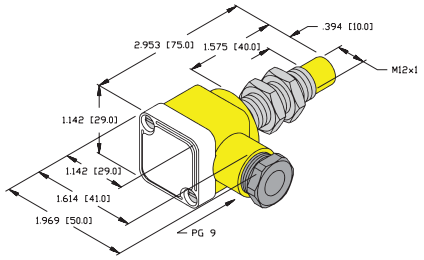


A



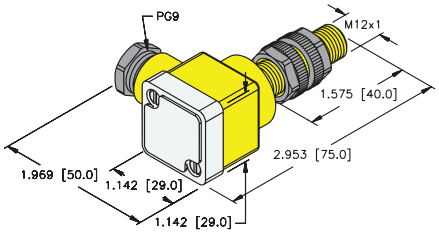
12 mm - Embeddable, Terminal Chamber

B



12 mm - Nonembeddable, Terminal Chamber

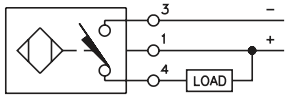
C



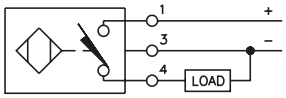
12 mm - Embeddable/Nonembeddable, Plastic, Terminal Chamber

Wiring Diagrams/Mating Cordsets

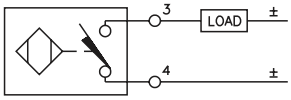
1



2



3



A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 12 mm

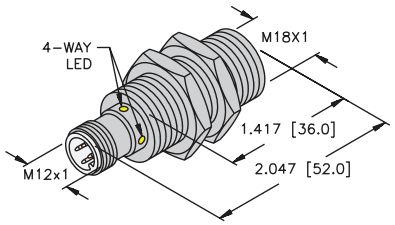
Threaded Barrels with Terminal Chamber and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi3U-EG12SK-AP6X 1634400	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	2	A4
Bi3U-P12SK-AP6X 1634700	Uprox	3	3-wire DC PNP	10-30 VDC	3000	≤200	-30 to +85	IP68	PA 12	PA 12	N/A	YE	C	2	A4
Bi2-G12SK-AN6X2 4636500		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	1	A4
Bi2-G12SK-AP6X2 4636400		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	A	2	A4
Bi2-P12SK-AD4X 4453050		2	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	PA 12	PA 12	N/A	YE	C	3	A2
Bi2-P12SK-AN6X2 4654000		2	3-wire DC NPN	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	1	A4
Bi2-P12SK-AP6X2 4653900		2	3-wire DC PNP	10-30 VDC	2000	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	2	A4
Ni8U-EG12SK-AP6X 1644400	Uprox	8	3-wire DC PNP	10-30 VDC	2000	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	B	2	A4
Ni5-G12SK-AP6X2 46366		5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	CPB	PA 12	GN	YE	B	2	A4
Ni5-P12SK-AP6X2 4654100		5	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP67	PA 12	PA 12	GN	YE	C	2	A4

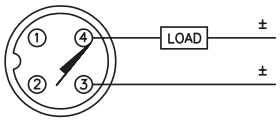
We reserve the right to make technical alterations without prior notice.

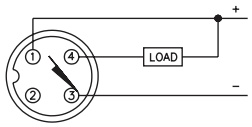
Inductive Barrel Sensors | 18 mm

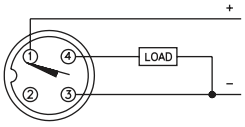
Embeddable Threaded Metal Barrels with Connector and DC Outputs

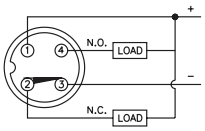
Housing Style	Dimension Drawings
	A  18 mm - Embeddable M12 Eurofast Connection

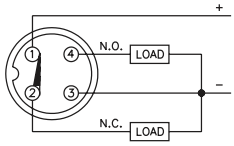
Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4T-*; RKV 4T-*

3 
Mating Cordset: RK 4T-*; RKV 4T-*

4 
Mating Cordset: RK 4.4T-*; RKV 4.4T-*

5 
Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

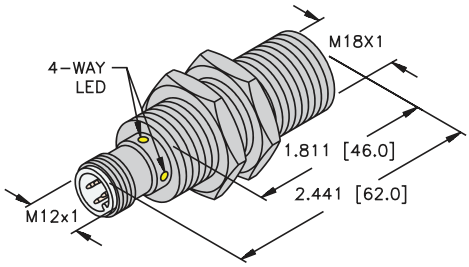
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi10U-M18-AN6X-H1141 1644847	Uprox3	10	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi10U-M18-AP6X-H1141 1644830	Uprox3	10	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	3	A4
Bi10U-M18-VP6X-H1141 1644844	Uprox3, Comp. Outputs	10	4-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	CPB	LCP	N/A	YE	A	5	A4
Bi8U-M18-AN6X-H1141 1644737	Uprox+	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	2	A4
Bi8U-EM18-AN6X-H1141 1644738	Uprox+	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	2	A4
Bi8U-M18-AP6X-H1141 1644731	Uprox+	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	3	A4
Bi8U-EM18-AP6X-H1141 1644734	Uprox+	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Bi8-M18-AN6X-H1141 4615100	Extended Range	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Bi8-M18-AP6X-H1141 46150	Extended Range	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi8-EM18H-AP6X-H1141 4615094	Ext. Range, Stoneface	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	3	A4
Bi8-EM18-AP6X-H1141/S1589 4615099	Weldguard	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi8-M18-VN4X-H1141 4590702	Ext. Range, Comp. Outputs	8	4-wire DC NPN	10-65 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi8-M18-VP4X-H1141 4590701	Ext. Range, Comp. Outputs	8	4-wire DC PNP	10-65 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	5	A4
Bi7-M18-AD4X-H1141 4414541	Extended Range	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5U-M18-AN6X-H1141 1635150	Uprox	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-EM18-AN6X-H1141 1635350	Uprox	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	2	A4
Bi5U-M18-AP6X-H1141 1635140	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	3	A4
Bi5U-EM18-AP6X-H1141 1635340	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PBT	N/A	YE	A	3	A4
Bi5-M18-AD4X-H1141 44145		5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5-M18-AN6X-H1141 46146		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4
Bi5-M18-AP6X-H1141 46145		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	3	A4
Bi5-EM18-AP6X-H1141 4614501		5	3-wire DC PNP	10-30 VDC	1000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi5-M18-VN4X-H1141 15718	Comp. Outputs	5	4-wire DC NPN	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	4	A4
Bi5-EM18-VN4X-H1141 4614699	Comp. Outputs	5	4-wire DC NPN	10-65 VDC	1000	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	4	A4
Bi5-M18-VP4X-H1141 15618	Comp. Outputs	5	4-wire DC PNP	10-65 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	5	A4

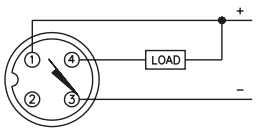
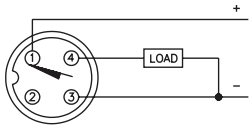
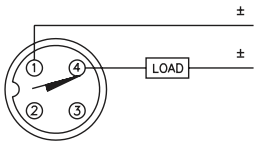
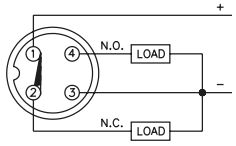
We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, M12 Eurofast Connection

Wiring Diagrams/Mating Cordsets

1	2	3	4
			
Mating Cordset: RK 4T-*; RKC 4T-*/S1587	Mating Cordset: RK 4T-*; RKC 4T-*/S1587	Mating Cordset: RK 4.23T-*	Mating Cordset: RK 4.4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

We reserve the right to make technical alterations without prior notice.

Inductive Barrel Sensors | 18 mm

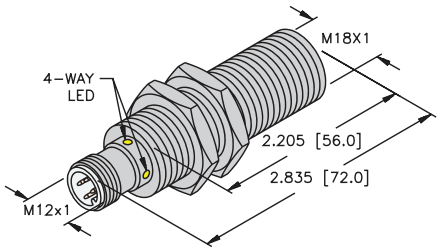
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-EM18M-AP6X2-H1141/S1589 1644771	Uprox+, Weldguard	8	3-wire DC PNP	10-30 VDC	1000	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	2	A4
Bi8U-M18M-VP44X-H1141 1634877	Uprox+, Comp. Outputs	8	4-wire DC PNP	10-55 VDC	1500	≤200	-30 to +85	IP68	CPB	LCP	N/A	YE	A	4	A4
Bi8-M18M-AP6X-H1141 4615083	Extended Range	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +75	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-M18M-AD4X-H1144 4405066	Uprox+	5	2-wire DC	10-65 VDC	10	≤100	-30 to +85	IP68	TC	LCP	N/A	YE	A	3	A2
Bi5U-M18-AN6X-H1141/S395 1635154	Uprox	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PA 12	N/A	YE	A	1	A4
Bi5U-M18-AP6X-H1141/S395 1635141	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-EM18-AP6X-H1141/S395 1635342	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PA 12	N/A	YE	A	2	A4
Bi5U-EM18H-AN6X2-H1141/S395 1635146	Uprox, Stoneface	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	SF	GN	YE	A	1	A4
Bi5U-EM18H-AN6X2-H1141/S395/S1589 1635196	Uprox, Weldguard	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	1	A4
Bi5U-EM18H-AP6X2-H1141/S395 1635158	Uprox, Stoneface	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	SF	GN	YE	A	2	A4
Bi5U-EM18-AP6X2-H1141/S395/S1589 1635197	Uprox, Weldguard	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	WG	GN	YE	A	2	A4
Bi5U-EM18M-AP6X2-H1141 1635349	Uprox	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP68	SS	PBT	GN	YE	A	2	A4

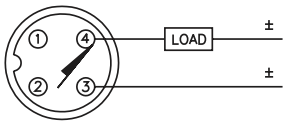
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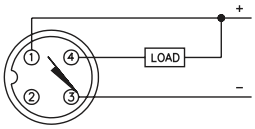
Inductive Barrel Sensors | 18 mm

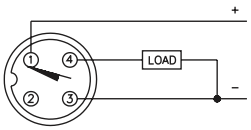
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, Ext. Barrel Length, M12 Eurofast Connection

Wiring Diagrams/Mating Cordsets

1 
Mating Cordset: RK 4.2T-*

2 
Mating Cordset: RK 4T-*; RKC 4T-*/S1587

3 
Mating Cordset: RK 4T-*; RKV 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 18 mm

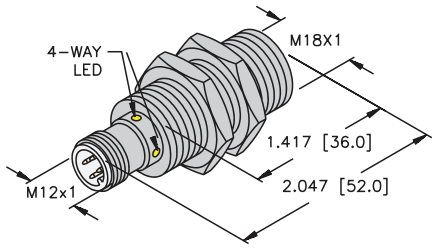
Embeddable Threaded Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
Bi8U-EM18E-AP6X-H1141 1634865	Uprox+	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	SS	LCP	N/A	YE	A	3	A4
Bi8-M18E-AN6X-H1141 4615190	Extended Range	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	2	A4
Bi8-EM18HE-AN6X-H1141 4615194	Ext. Range, Stoneface	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	2	A4
Bi8-EM18E-AN6X-H1141/S1589 4615193	Ext. Range, Weldguard	8	3-wire DC NPN	10-30 VDC	500	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	2	A4
Bi8-EM18E-AP6X-H1141 46150952	Extended Range	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	PA 12	N/A	YE	A	3	A4
Bi8-EM18HE-AP6X-H1141 4615095	Ext. Range, Stoneface	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	SF	N/A	YE	A	3	A4
Bi8-EM18E-AP6X-H1141/S1589 4615096	Ext. Range, Weldguard	8	3-wire DC PNP	10-30 VDC	500	≤200	-25 to +70	IP67	SS	WG	N/A	YE	A	3	A4
Bi7-M18E-AD4X-H1141 4414580	Extended Range	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5U-M18E-AN6X-H1141 1635122	Uprox	5	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	2	A4
Bi5U-M18E-AP6X-H1141 1635103	Uprox	5	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP67	CPB	PBT	N/A	YE	A	3	A4
Bi5-M18E-AD4X-H1141 4414591		5	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	1	A2
Bi5-M18E-AN6X-H1141 4614697		5	3-wire DC NPN	10-30 VDC	1000	≤200	-25 to +70	IP67	CPB	PA 12	N/A	YE	A	2	A4

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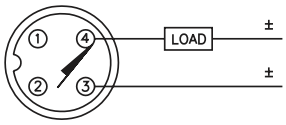
Inductive Barrel Sensors | 18 mm

Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, M12 Eurofast Connection, PTFE Coated

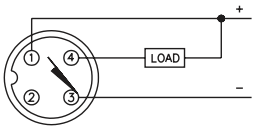
Wiring Diagrams/Mating Cordsets

1



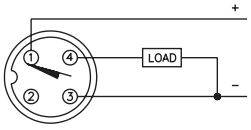
Mating Cordset: RK 4.2T-*

2



Mating Cordset: RK 4T-*; RKC 4T-*/S1587

3



Mating Cordset: RK 4T-*

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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Inductive Barrel Sensors | 18 mm

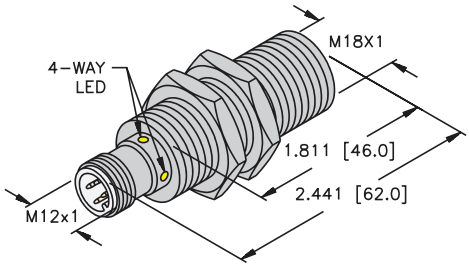
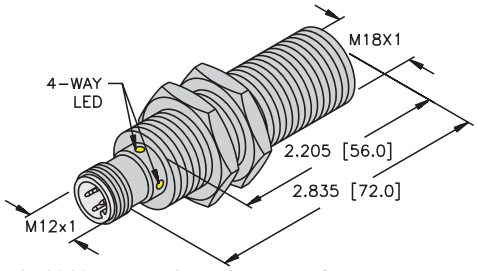
Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Part Number/ ID Number	Features	Sensing Range (mm)	Output	Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Dimension Drawings	Wiring Diagrams	Spec List
BI10U-MT18-AN6X-H1141 1644858	Uprox3, PTFE	10	3-wire DC NPN	10-30 VDC	1500	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	2	A4
Bi10U-MT18-AP6X-H1141 1644831	Uprox3, PTFE	10	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	TC	TC	N/A	YE	A	3	A4
Bi10U-MT18-AP6X2-H1141 1644905	Uprox3, PTFE	10	3-wire DC PNP	10-30 VDC	1500	≤200	-25 to +70	IP68	TC	TC	GN	YE	A	3	A4
Bi8U-MT18-AN6X-H1141 1644739	Uprox+, PTFE	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	2	A4
Bi8U-MT18-AP6X-H1141 1644730	Uprox+, PTFE	8	3-wire DC PNP	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	TC	N/A	YE	A	3	A4
Bi8U-MT18-AN6X-H1141/S1589 1644791	Uprox+, PTFE, Weldguard	8	3-wire DC NPN	10-30 VDC	1500	≤200	-30 to +85	IP68	TC	WG	N/A	YE	A	2	A4
Bi7-MT18H-AD4X-H1141 44145801	Ext. Range, PTFE	7	2-wire DC	10-65 VDC	1000	≤100	-25 to +70	IP67	TC	SF	N/A	YE	A	1	A2
Bi5U-MT18-AN6X-H1141 1635250	Uprox, PTFE	5	3-wire DC NPN	10-30 VDC	2500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	2	A4
Bi5U-MT18-AP6X-H1141 1635240	Uprox, PTFE	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP67	TC	TC	N/A	YE	A	3	A4
Bi5U-MT18-AP6X2-H1141 1635245	Uprox, PTFE	5	3-wire DC PNP	10-30 VDC	2500	≤200	-30 to +85	IP67	TC	TC	GN	YE	A	3	A4

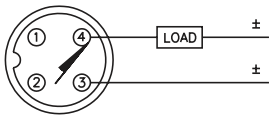
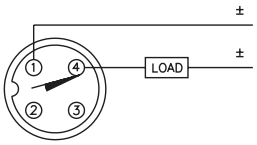
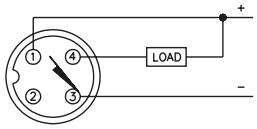
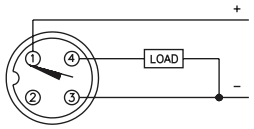
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Inductive Barrel Sensors | 18 mm

Embeddable Threaded PTFE Coated Metal Barrels with Connector and DC Outputs

Housing Style	Dimension Drawings
	A  18 mm - Embeddable, M12 Eurofast Connection, PTFE Coated
B  18 mm - Embeddable, Ext. Barrel Length, M12 Eurofast Connection, PTFE Coated	

Wiring Diagrams/Mating Cordsets

1	2	3	4
			
Mating Cordset: RK 4.2T-*	Mating Cordset: RK 4.23T-*	Mating Cordset: RK 4T-*; RKC 4T-*/S1587	Mating Cordset: RK 4T-*; RKC 4T-*/S1587

A2 — 2-wire DC - (AD, RD, AG)

Ripple:	≤10%	Off-State (Leakage) Current:	≤0.8 mA
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	Non-polarized (AD) <5.0 V	Transient Protection:	Per EN 60947-5-2
	Polarized (AG) ≤4.2 V	Shock:	30 g, 11 ms
Trigger Current for Short Circuit Protection:	≥120 mA	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
Minimum Load Current:	≥3.0 mA	Repeatability:	≤2% of Rated Operating Distance

A4 — 3 and 4-wire DC - (AN, RN, AP, RP, VN, VP)

Ripple:	≤10%	Time Delay Before Availability:	≤8 ms
Differential Travel (Hysteresis):	3-15% (5% typical)	Power-On Effect:	Per IEC 947-5-2
Voltage Drop Across Conducting Sensor:	≤1.8 V	Reverse Polarity Protection:	Incorporated
Trigger Current for Short Circuit Protection:	≥220 mA on 200 mA Load Current	Wire-Break Protection:	Incorporated
	≥170 mA on 150 mA Load Current	Transient Protection:	Per EN 60947-5-2
	≥120 mA on 100 mA Load Current	Temperature Drift:	≤±10%
Off-State (Leakage) Current:	≤0.1 mA	Shock:	30 g, 11 ms
No-Load Current:	≤15 mA (Ferrite, Uprox)	Vibration:	55 Hz, 1 mm Amplitude in all 3 Planes
	≤20 mA (Uprox+, Uprox3)	Repeatability:	≤2% of Rated Operating Distance

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