



TURCK
works

Industrial
Automation

uprox[®] 

Signs of an Advanced Technology



www.turck.com

TURCK - Your First Choice in Industrial Automation

TURCK has been providing innovative products that meet the diverse needs of modern industrial automation for over 40 years. As one of the first companies to concentrate on the development of electronic components used for automation processes, we have become a market leader on the forefront of sensor technology.

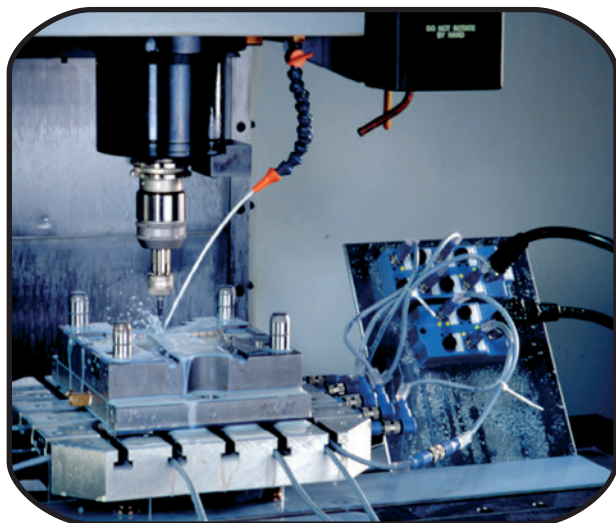
All of Your Automation Products from a Single Source

TURCK's extensive knowledge of industrial applications allows us to offer products for the full spectrum of automation tasks. Our highly versatile range of sensor, interface and fieldbus products, and an expanding line of connectivity products, allows **TURCK** to offer highly effective solutions for every possible application.

TURCK products give our customers a competitive edge by providing technologically advanced components that reduce failures and minimize downtime, while contributing to the effective implementation of production processes.

One Step Ahead

Our strategy is simple yet challenging: to provide our customers with high quality products quickly and in a flexible and reliable manner to ensure the efficiency and quality of industrial plants all over the world. Our continuous development of new products – designed to maximize benefits to our customers and partners – proves that we are committed to innovation as a constant process.



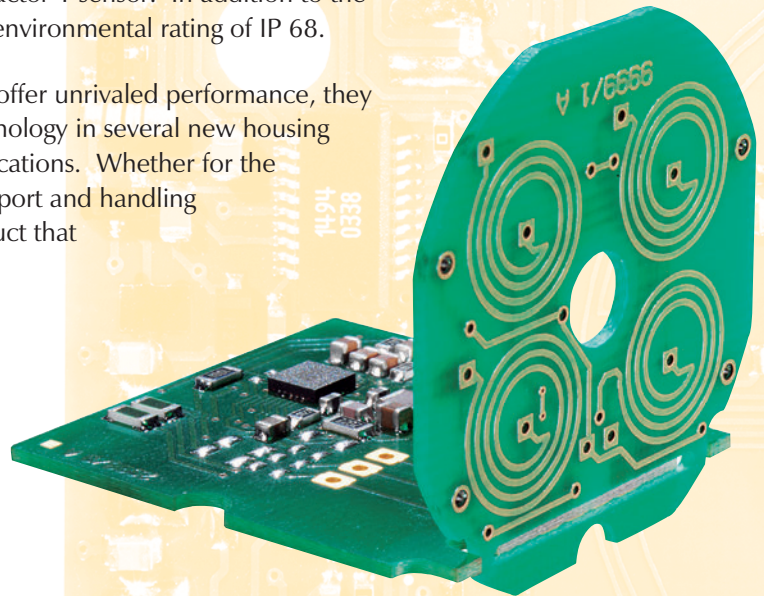
Extended Sensing Distance in a Factor 1 Sensor

Factor 1 is Redefined!

Uprox+® sensors utilize the proven performance of our original **Uprox**® sensors to detect materials such as steel, iron, copper, aluminum, stainless steel and brass without a reduction in the rated sensing distance of the sensor. However, the **Uprox+** sensors incorporate a variety of design enhancements that will set new standards for metal detection.

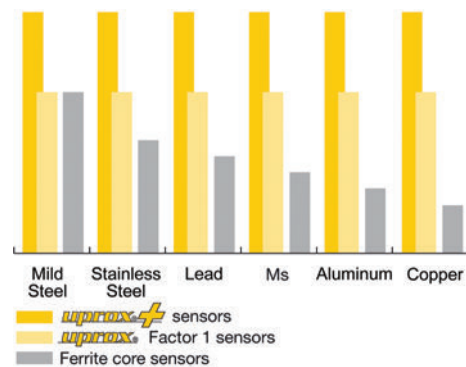
TURCK has developed a newly patented multicoil system for the **Uprox+** product line that replaces the conventional wound coil system used in the previous generation of sensors. This results in extraordinary sensing distances (up to 250 percent higher than conventional ferrite core inductive sensors) in a Factor 1 sensor. In addition to the extended sensing ranges, all **Uprox+** sensors have an environmental rating of IP 68.

Not only does the new generation of **Uprox+** sensors offer unrivaled performance, they also give **TURCK** the flexibility to incorporate this technology in several new housing designs that solves a number of unique customer applications. Whether for the automotive industry, machine engineering, or for transport and handling applications, our new **Uprox+** sensors provide a product that incorporates all of your sensing requirements.



Factor 1 Redefined

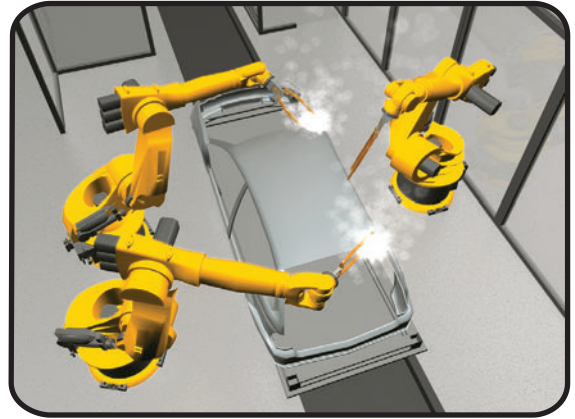
Based on their novel coil concept, **Uprox+** sensors offer unrivaled performance. The core component of the new sensor generation is a unique, patented multicoil system, which replaces the conventional wound coil. The extraordinarily high switching distances and the unique housing concept make **Uprox+** by far the best sensor available.



Stands up to Harsh Industrial Environments

Partial Embedding of Non-Flush Mounted Sensors

Uprox+® sensors feature an integrated predamping protection function to reduce the metal free mounting area in an application. This allows traditionally flush mounted barrel style sensors to be recessed in metal by half a turn for increased mechanical protection. It also allows non-embeddable barrel style sensors to be embedded in metal up to the outer edge of the thread, and non-flush rectangular style sensors to be embedded in metal on all four sides with only a slight reduction in sensing distance.



Immunity to High Levels of EMI

All **Uprox+** proximity sensors adhere to the present EN50082-2 standard, yet they also exceed the strict provisions required by EN61000-4-6, which will be an integral part of the industry standard from 2006 on. This standard protects against conducted interference from frequency converters and other sources that produce high levels of EMI.

Weld Field Immune

Since the **Uprox+** line does not incorporate a ferrite core, it is not susceptible to strong magnetic fields that occur in resistance welding processes, making it inherently weld field immune.



Wash Down Applications

TURCK has also expanded this new **Uprox+** line to include a number of sensors designed specifically for washdown environments. These sensors have a newly designed front cap, and a polypropylene connector insert to protect the electronics from water ingress. This added protection provides the sensor with an environmental rating of IP 69K, in addition to the standard IP 68 due to the enhanced pressure rating associated with the **Uprox+** sensors. The stainless steel barrel and Liquid Crystal Polymer (LCP) front cap also make these sensors ideal for extremely wet environments found in carwash, breweries, and other high pressure washdown applications.

New Innovative Designs

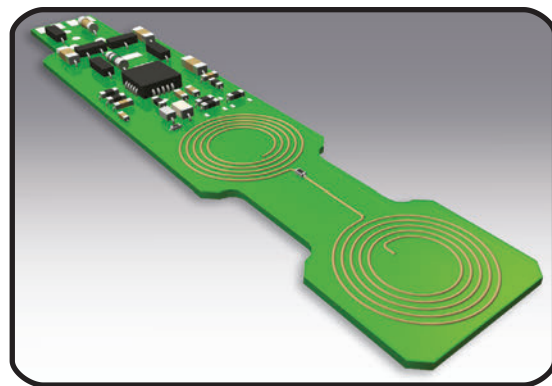
Flexible Coil Technology Offers Unlimited Possibilities

With the arrival of the patented multicoil design we are able to offer our customers the freedom to incorporate non-traditional housing styles to fit a variety of applications. One example is the new Ni20U-TS12-A(N/P)6X2-V1131. This small rectangular style housing allows our customers to utilize this sensor in small part detection applications without the need to use traditional ring style proximity sensors. Other potential housing designs include a flat sensor for use in conveyor type applications. Unique applications are no longer a problem with the new **Uprox+**® multicoil concept.

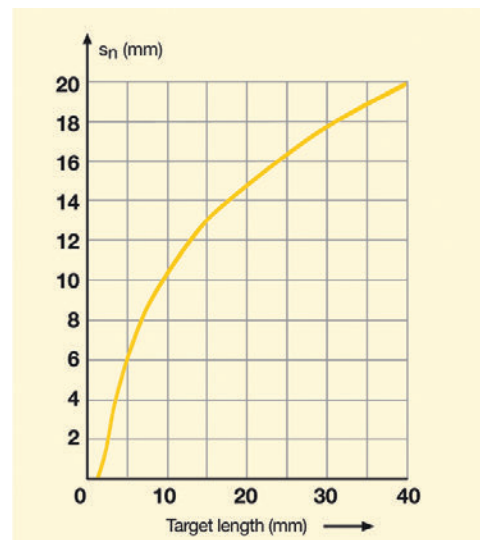


Patented Coil Technology

Since the design of the new **Uprox+** sensors does not include a ferrite core and a wound coil, you can profit from a maximum degree of flexibility in the housing design - without any mechanical restrictions.



TS12: Sensing Distance vs. Target Size



Inductive Sensors

Housing Style	Part Number	ID Number	Features	Sensing Range (mm)	Output
12 mm Embeddable, eurofast® Connection 	Bi 4U-EM12-AN6X-H1141	M1634827	<i>Uprox+</i> , Stainless Steel	4	3-Wire DC NPN
	Bi 4U-EM12WD-AN6X-H1141	M1634841	<i>Uprox+</i> , Washdown	4	
	Bi 4U-M12-AN6X-H1141	M1634824	<i>Uprox+</i>	4	
	Bi 4U-MT12-AN6X-H1141	M1634829	<i>Uprox+</i> , Teflon	4	
	Bi 4U-EM12-AP6X-H1141	M1634807	<i>Uprox+</i> , Stainless Steel	4	3-Wire DC PNP
	Bi 4U-EM12WD-AP6X-H1141	M1634812	<i>Uprox+</i> , Washdown	4	
	Bi 4U-M12-AP6X-H1141	M1634804	<i>Uprox+</i>	4	
	Bi 4U-MT12-AP6X-H1141	M1634809	<i>Uprox+</i> , Teflon	4	
	Bi 4U-MT12E-AP6X2-H1141	M1644742	<i>Uprox+</i> , Dual LED's	4	
12 mm Nonembeddable, eurofast Connection 	Ni10U-EM12-AN6X-H1141	M1634828	<i>Uprox+</i> , Stainless Steel	10	3-Wire DC NPN
	Ni10U-EM12WD-AN6X-H1141	M1634837	<i>Uprox+</i> , Washdown	10	
	Ni10U-M12-AN6X-H1141	M1634826	<i>Uprox+</i>	10	
	Ni10U-MT12-AN6X-H1141	M1634830	<i>Uprox+</i> , Teflon	10	
	Ni10U-EM12-AP6X-H1141	M1634808	<i>Uprox+</i> , Stainless Steel	10	3-Wire DC PNP
	Ni10U-EM12WD-AP6X-H1141	M1634814	<i>Uprox+</i> , Washdown	10	
	Ni10U-M12-AP6X-H1141	M1634806	<i>Uprox+</i>	10	
	Ni10U-MT12-AP6X-H1141	M1634810	<i>Uprox+</i> , Teflon	10	
	Ni10U-MT12E-AP6X2-H1141	M1634844	<i>Uprox+</i> , Dual LED's	10	
12 mm Embeddable, Potted-in Cable 	Bi 4U-EM12WD-AN6X	M1634842	<i>Uprox+</i> , Washdown	4	3-Wire DC NPN
	Bi 4U-M12-AN6X	M1634823	<i>Uprox+</i>	4	
	Bi 4U-EM12WD-AP6X	M1634811	<i>Uprox+</i> , Washdown	4	3-Wire DC PNP
	Bi 4U-M12-AP6X	M1634803	<i>Uprox+</i>	4	
12 mm Nonembeddable, Potted-in Cable 	Ni10U-EM12WD-AN6X	M1634838	<i>Uprox+</i> , Washdown	10	3-Wire DC NPN
	Ni10U-M12-AN6X	M1634825	<i>Uprox+</i>	10	
	Ni10U-EM12WD-AP6X	M1634813	<i>Uprox+</i> , Washdown	10	3-Wire DC PNP
	Ni10U-M12-AP6X	M1634805	<i>Uprox+</i>	10	

Recessed Mounting of Flush-mountable Sensors

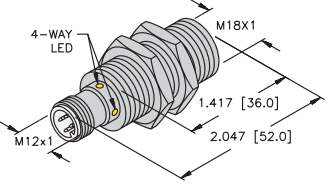
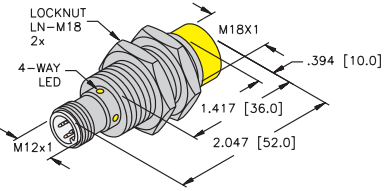
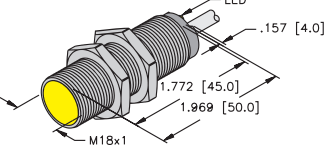
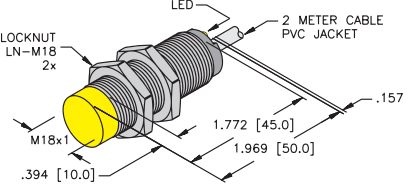
When mounting the new **Uprox+** sensors, only small metal-free zones have to be observed. For additional mechanical protection, they allow recessed mounting by half a turn of the thread - for improved protection under all mounting conditions.



Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Mating Cordset	Wiring Diagram #	Wiring Diagrams
10-30 VDC	2000	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	1	Diagram 1
	2000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	1	
	2000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	1	
	2000	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	1	
10-30 VDC	2000	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	2	Diagram 2
	2000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	2	
	2000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	2	
	2000	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	2	
	2000	≤200	-25 to +75	IP 68	TC	LCP	GN	YE	RK 4.4T-*	2	
10-30 VDC	1000	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	1	Diagram 3
	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	1	
	1000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	1	
	1000	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	1	
10-30 VDC	1000	≤200	-25 to +75	IP 68	TC	LCP	GN	YE	RK 4T-*	2	Diagram 4
	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	3	
	2000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	3	
10-30 VDC	2000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	4	
	2000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	4	
10-30 VDC	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	3	
	1000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	3	
10-30 VDC	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	4	
	1000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	4	

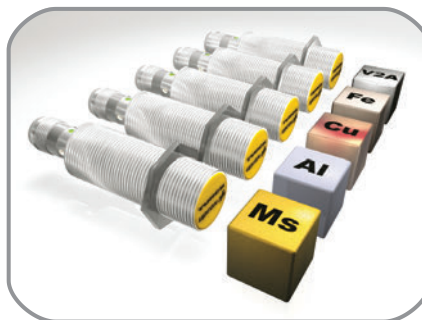
* Length in meters.

Inductive Sensors

Housing Style	Part Number	ID Number	Features	Sensing Range (mm)	Output
18 mm Embeddable, eurofast® Connection 	Bi 8U-EM18-AN6X-H1141	M1644738	<i>Uprox+</i> , Stainless steel	8	3-Wire DC NPN
	Bi 8U-EM18WD-AN6X-H1141	M1634839	<i>Uprox+</i> , Washdown	8	
	Bi 8U-M18-AN6X-H1141	M1644737	<i>Uprox+</i>	8	
	Bi 8U-MT18-AN6X-H1141	M1644739	<i>Uprox+</i> , Teflon	8	
	Bi 8U-EM18-AP6X-H1141	M1644734	<i>Uprox+</i> , Stainless steel	8	3-Wire DC PNP
	Bi 8U-EM18WD-AP6X-H1141	M1634816	<i>Uprox+</i> , Washdown	8	
	Bi 8U-M18-AP6X-H1141	M1644731	<i>Uprox+</i>	8	
	Bi 8U-MT18-AP6X-H1141	M1644730	<i>Uprox+</i> , Teflon	8	
	Bi 8U-MT18M-AP6X2-H1141	M1644740	<i>Uprox+</i> , Dual LED's	8	
18 mm Nonembeddable, eurofast Connection 	Ni 15U-EM18-AN6X-H1141	M1635336	<i>Uprox+</i> , Stainless steel	15	3-Wire DC NPN
	Ni 15U-EM18WD-AN6X-H1141	M1634835	<i>Uprox+</i> , Washdown	15	
	Ni 15U-M18-AN6X-H1141	M1635335	<i>Uprox+</i>	15	
	Ni 15U-MT18-AN6X-H1141	M1635337	<i>Uprox+</i> , Teflon	15	
	Ni 15U-EM18-AP6X-H1141	M1635332	<i>Uprox+</i> , Stainless steel	15	3-Wire DC PNP
	Ni 15U-EM18WD-AP6X-H1141	M1634818	<i>Uprox+</i> , Washdown	15	
	Ni 15U-M18-AP6X-H1141	M1635331	<i>Uprox+</i>	15	
	Ni 15U-MT18-AP6X-H1141	M1635333	<i>Uprox+</i> , Teflon	15	
	Ni 15U-MT18M-AP6X2-H1141	M1635338	<i>Uprox+</i> , Dual LED's	15	
18 mm Embeddable, Potted-in Cable 	Bi 8U-EM18WD-AN6X	M1634840	<i>Uprox+</i> , Washdown	8	3-Wire DC NPN
	Bi 8U-M18-AN6X	M1644736	<i>Uprox+</i>	8	
	Bi 8U-EM18WD-AP6X	M1634815	<i>Uprox+</i> , Washdown	8	3-Wire DC PNP
	Bi 8U-M18-AP6X	M1644733	<i>Uprox+</i>	8	
18 mm Nonembeddable, Potted-in Cable 	Ni 15U-EM18WD-AN6X	M1634836	<i>Uprox+</i> , Washdown	15	3-Wire DC NPN
	Ni 15U-M18-AN6X	M1635334	<i>Uprox+</i>	15	
	Ni 15U-EM18WD-AP6X	M1634817	<i>Uprox+</i> , Washdown	15	3-Wire DC PNP
	Ni 15U-M18-AP6X	M1635330	<i>Uprox+</i>	15	

Factor 1

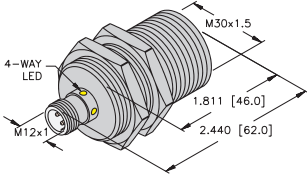
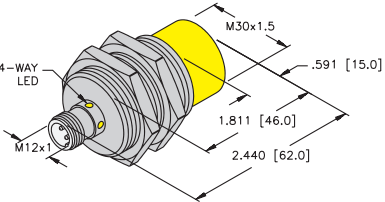
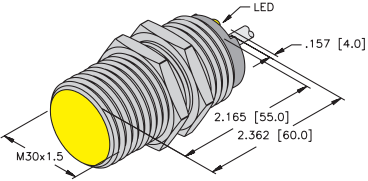
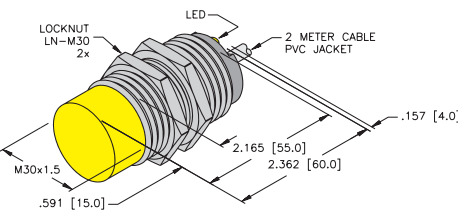
The innovative *Uprox+* sensors set a new benchmark in metal detection. They are capable of detecting materials such as steel, iron, stainless steel, copper, aluminum and brass at the same distance.



Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Mating Cordset	Wiring Diagram #	Wiring Diagrams
10-30 VDC	1500	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	1	Diagram 1
	1500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	1	
	1500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	1	
	1500	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	1	
10-30 VDC	1500	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	2	Diagram 2
	1500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	2	
	1500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	2	
	1500	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	2	
	1500	≤200	-25 to +75	IP 68	TC	LCP	GN	YE	RK 4T-*	2	
10-30 VDC	1000	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	1	Diagram 3
	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	1	
	1000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	1	
	1000	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	1	
10-30 VDC	1000	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	1	Diagram 4
	1000	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	2	
	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	2	
	1000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	2	
	1000	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	2	
10-30 VDC	1500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	3	Diagram 3
	1500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	3	
10-30 VDC	1500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	4	Diagram 4
	1500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	4	
10-30 VDC	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	3	Diagram 3
	1000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	3	
10-30 VDC	1000	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	4	Diagram 4
	1000	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	4	

* Length in meters.

Inductive Sensors

Housing Style	Part Number	ID Number	Features	Sensing Range (mm)	Output
30 mm Embeddable, eurofast® Connection 	Bi15U-EM30-AN6X-H1141	M1636737	Uprox+, Stainless steel	15	3-Wire DC NPN
	Bi15U-EM30WD-AN6X-H1141	M1634834	Uprox+, Washdown	15	
	Bi15U-M30-AN6X-H1141	M1636736	Uprox+	15	
	Bi15U-MT30-AN6X-H1141	M1636738	Uprox+, Teflon	15	
	Bi15U-EM30-AP6X-H1141	M1636733	Uprox+, Stainless steel	15	3-Wire DC PNP
	Bi15U-EM30WD-AP6X-H1141	M1634820	Uprox+, Washdown	15	
	Bi15U-M30-AP6X-H1141	M1636732	Uprox+	15	
	Bi15U-MT30-AP6X-H1141	M1636734	Uprox+, Teflon	15	
	Bi15U-MT30-AP6X2-H1141	M1644741	Uprox+, Dual LED's	15	
30 mm Nonembeddable, eurofast Connection 	Ni30U-EM30-AN6X-H1141	M1644636	Uprox+, Stainless steel	30	3-Wire DC NPN
	Ni30U-EM30WD-AN6X-H1141	M1634832	Uprox+, Washdown	30	
	Ni30U-M30-AN6X-H1141	M1644635	Uprox+	30	
	Ni30U-MT30-AN6X-H1141	M1644637	Uprox+, Teflon	30	
	Ni30U-EM30-AP6X-H1141	M1644632	Uprox+, Stainless steel	30	3-Wire DC PNP
	Ni30U-EM30WD-AP6X-H1141	M1634822	Uprox+, Washdown	30	
	Ni30U-M30-AP6X-H1141	M1644631	Uprox+	30	
	Ni30U-MT30-AP6X-H1141	M1644633	Uprox+, Teflon	30	
	Ni30U-MT30-AP6X2-H1141	M1644635	Uprox+, Dual LED's	30	
30 mm Embeddable, Potted-in Cable 	Bi15U-EM30WD-AN6X	M1634843	Uprox+, Washdown	15	3-Wire DC NPN
	Bi15U-M30-AN6X	M1636735	Uprox+	15	
	Bi15U-EM30WD-AP6X	M1634819	Uprox+, Washdown	15	3-Wire DC PNP
	Bi15U-M30-AP6X	M1636731	Uprox+	15	
30 mm Nonembeddable, Potted-in Cable 	Ni30U-EM30WD-AN6X	M1634833	Uprox+, Washdown	30	3-Wire DC NPN
	Ni30U-M30-AN6X	M1644634	Uprox+	30	
	Ni30U-EM30WD-AP6X	M1634821	Uprox+, Washdown	30	3-Wire DC PNP
	Ni30U-M30-AP6X	M1644630	Uprox+	30	

Partial Embedding of Non-flush Sensors

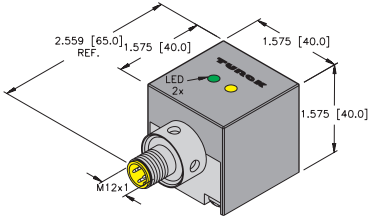
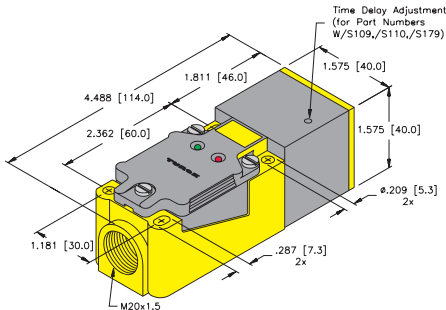
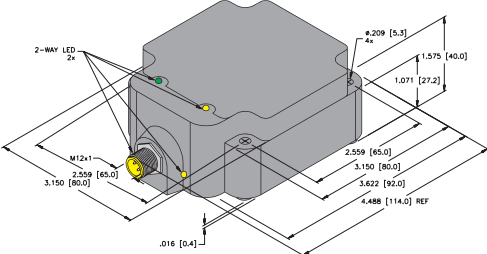
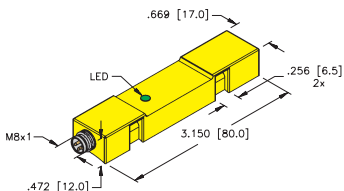
Uprox+ sensors feature an integrated predamping function which allows for the reduction of metal free mounting areas. Non-embeddable sensors can be mounted in metal up to the outer edge of the thread with only a slight reduction in sensing range.



Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Mating Cordset	Wiring Diagram #	Wiring Diagrams
10-30 VDC	750	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	1	Diagram 1
	750	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	1	
	750	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	1	
	750	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	1	
10-30 VDC	750	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	2	Diagram 2
	750	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	2	
	750	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	2	
	750	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	2	
10-30 VDC	500	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	1	Diagram 3
	500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	1	
	500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	1	
	500	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	1	
10-30 VDC	500	≤200	-25 to +75	IP 68	SS	LCP	N/A	YE	RK 4T-*	2	Diagram 4
	500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	RK 4.4Z-*/S90	2	
	500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	RK 4T-*	2	
	500	≤200	-25 to +75	IP 68	TC	LCP	N/A	YE	RK 4T-*	2	
10-30 VDC	750	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	3	Diagram 4
	750	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	3	
10-30 VDC	750	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	4	Diagram 4
	750	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	4	
10-30 VDC	500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	3	Diagram 4
	500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	3	
10-30 VDC	500	≤200	0 to +85	IP 68, 69K	SS	LCP	N/A	YE	2M/PUR	4	Diagram 4
	500	≤200	-25 to +75	IP 68	CPB	LCP	N/A	YE	2M/PVC	4	

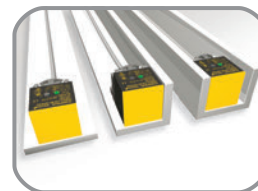
* Length in meters.

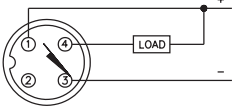
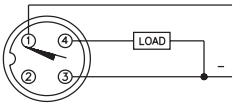
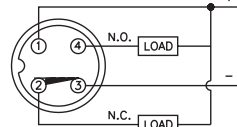
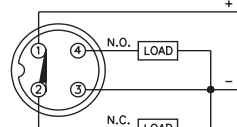
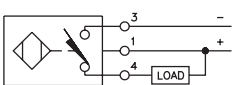
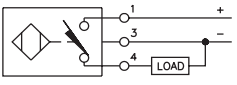
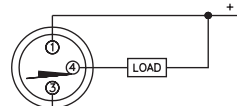
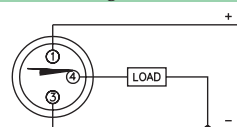
Inductive Sensors

Housing Style	Part Number	ID Number	Features	Sensing Range (mm)	Output
CK40 Embeddable/Nonembeddable, eurofast® Connection 	Bi20U-CK40-AN6X2-H1141 W/BS 2.1	M1627231	<i>Uprox+</i>	20	3-Wire DC NPN
	Bi30U-CK40-AN6X2-H1141 W/BS 4	M1625820	<i>Uprox+</i>	30	
	Ni50U-CK40-AN6X2-H1141 W/BS 4	M1625823	<i>Uprox+</i>	50	
	Bi20U-CK40-AP6X2-H1141 W/BS 2.1	M1627288	<i>Uprox+</i>	20	3-Wire DC PNP
	Bi30U-CK40-AP6X2-H1141 W/BS 4	M1625829	<i>Uprox+</i>	30	
	Ni50U-CK40-AP6X2-H1141 W/BS 4	M1625837	<i>Uprox+</i>	50	
CP40 Embeddable/Nonembeddable, Terminal Chamber 	Bi20U-CP40-AN6X2	M1625828	<i>Uprox+</i>	20	3-Wire DC NPN
	Bi20U-CP40-AP6X2	M1625826	<i>Uprox+</i>	20	3-Wire DC PNP
	Bi30U-CP40-AN6X2	M1625827	<i>Uprox+</i>	30	3-Wire DC NPN
	Bi30U-CP40-AP6X2	M1625825	<i>Uprox+</i>	30	3-Wire DC PNP
	Ni50U-CP40-AN6X2	M1625824	<i>Uprox+</i>	50	3-Wire DC NPN
	Ni50U-CP40-AP6X2	M1625842	<i>Uprox+</i>	50	3-Wire DC PNP
Q80 Embeddable/Nonembeddable, eurofast Connection 	Bi50U-Q80-AN6X2-H1141	M1608944	<i>Uprox+</i>	50	3-Wire DC NPN
	Ni70U-Q80-VN4X2-H1141	M1625821	<i>Uprox+/Comp. Outputs</i>	70	4-Wire DC NPN
	Bi50U-Q80-AP6X2-H1141	M1608940	<i>Uprox+</i>	50	3-Wire DC PNP
	Ni70U-Q80-VP4X2-H1141	M1625833	<i>Uprox+/Comp. Outputs</i>	70	4-Wire DC PNP
Tube Sensing Nonembeddable, picofast® Connection 	Ni20U-TS12-AN6X2-V1131	M1625822	<i>Uprox+</i>	20	3-Wire DC NPN
	Ni20U-TS12-AP6X2-V1131	M1646640	<i>Uprox+</i>	20	3-Wire DC PNP

Partial Embedding of Non-flush Sensors

Non-flush *Uprox+* sensors provide unique flexibility due to the integrated predamping protection function. The metal-free mounting zones can be significantly reduced compared to conventional sensors with a ferrite core. The nonembeddable rectangular *Uprox+* sensors can be mounted in metal on 1, 2, 3 or 4 sides causing only a slight reduction in sensing distance.



Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Mating Cordset	Wiring Diagram #	Wiring Diagrams
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	1	Diagram 1
	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	1	
	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	1	
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	2	Diagram 2
	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	2	
	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	2	
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	N/A	5	Diagram 3
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	N/A	6	
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	N/A	5	
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	N/A	6	Diagram 4
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	N/A	5	
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	N/A	6	
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	1	Diagram 5
10-65 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4.4T-*	3	
10-30 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4T-*	2	Diagram 6
10-65 VDC	250	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	RK 4.4T-*	4	
10-30 VDC	8	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	PKG 3M-*	7	Diagram 7
10-30 VDC	8	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	PKG 3M-*	8	
10-30 VDC	8	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	PKG 3M-*	8	Diagram 8
10-30 VDC	8	≤200	-25 to +75	IP 68	PBT	PBT	GN	YE	PKG 3M-*	8	

* Length in meters.

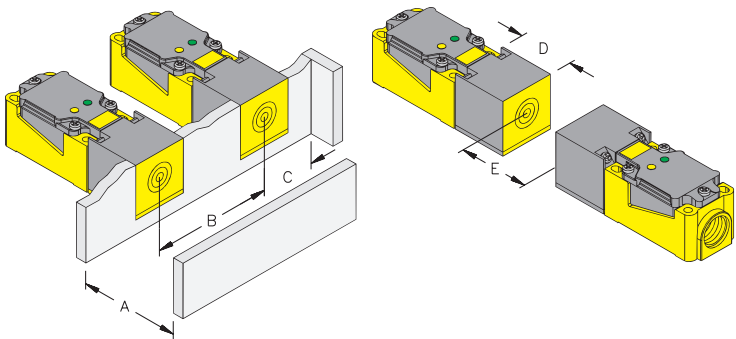
Inductive
Sensors

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 possible, especially if metal filings and chips are present.

Embeddable Mounting Characteristics Rectangular Housings

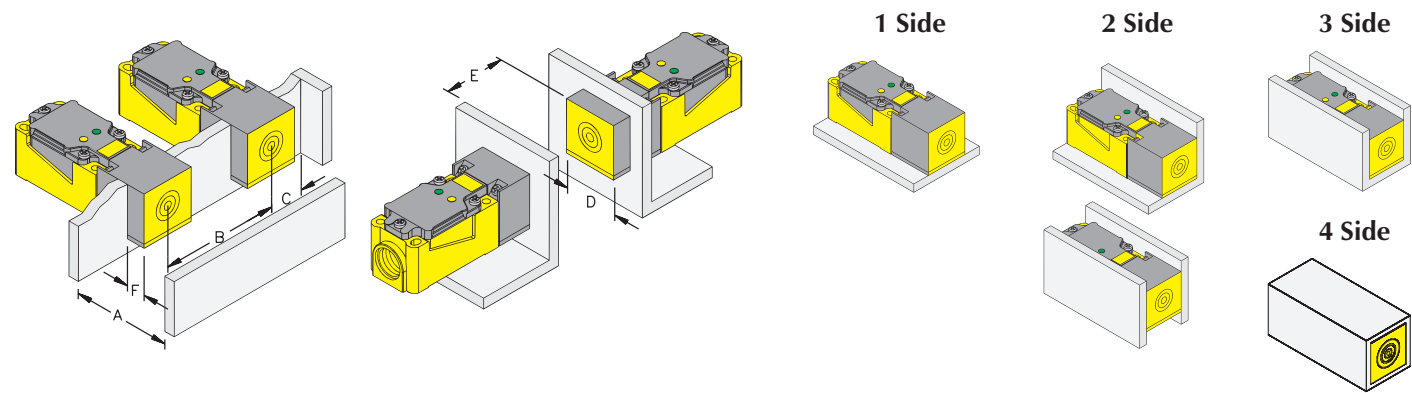


Flush Mountable - CK40 and CP40

Housing	Sensor	A	B	C	D	E
CP40/CK40	Bi20U	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.

Nonembeddable Mounting Characteristics Rectangular Housings

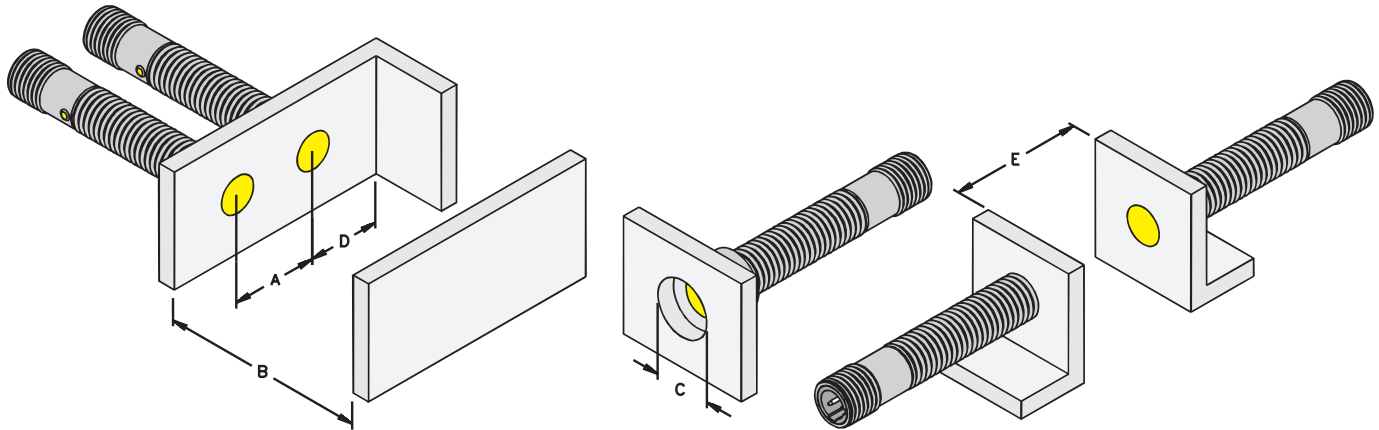


Non-Flush Mountable - CK40 and CP40

Housing	Sensor	A	B	C	D	E	F	1 Side	2 Side	3 Side	4 Side
CP/CK40	Ni50U	150.00	240.00	60.00	40.00	300.00	40.00	Sr=35mm*	Sr=25mm*	Sr=20mm*	Sr=17mm*

Dimensions are in mm.
* Only DC versions

Embeddable Mounting Characteristics

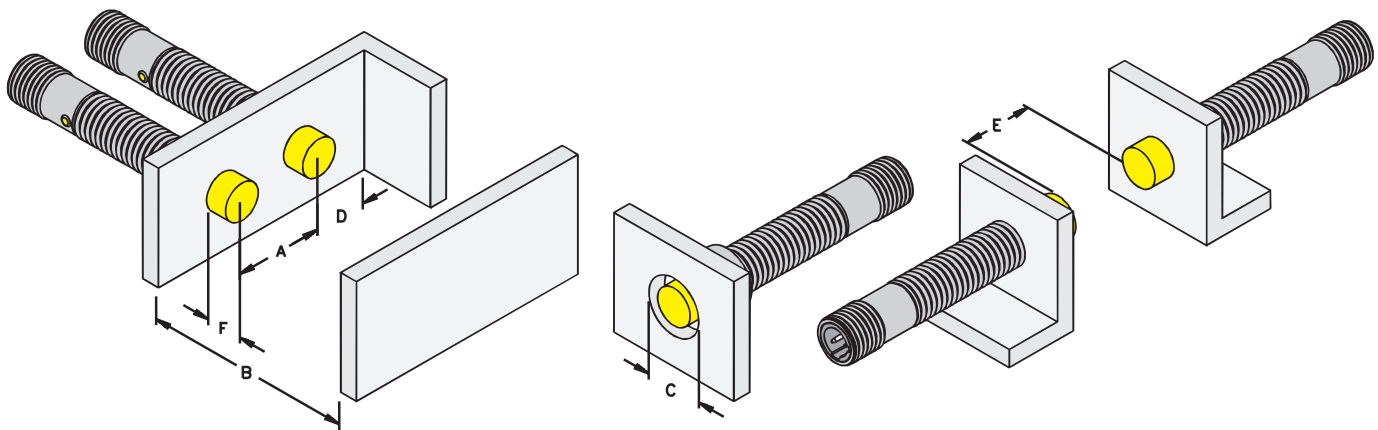


Embeddable, Barrel Sensors

Part Number	A	B	C	D	E
Bi4U (12 mm)	24	12	36	18	24
Bi8U (18 mm)	36	24	54	27	48
Bi15U (30 mm)	60	45	90	45	90

Dimensions are in mm.

Nonembeddable Mounting Characteristics

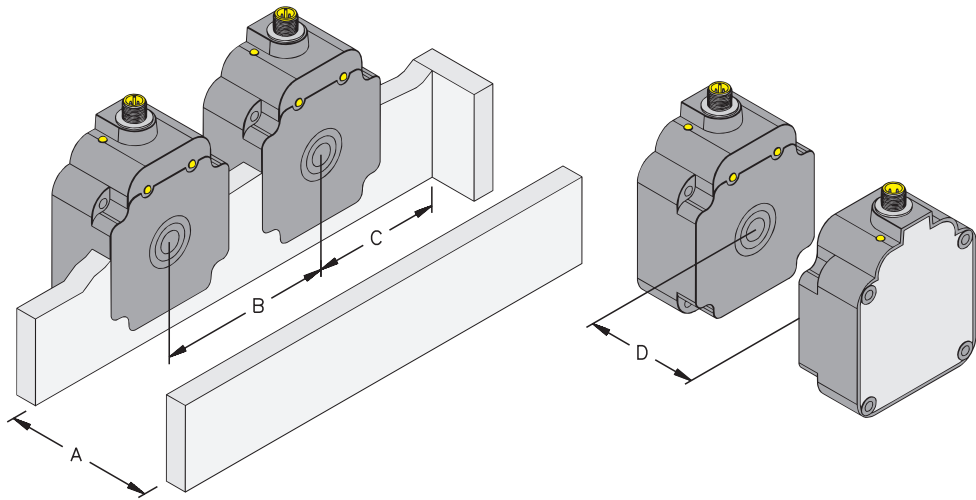


Nonembeddable, Barrel Sensors

Part Number	A	B	C	D	E	F
Ni10U (12 mm)	36	30	36	18	60	16
Ni15U (18 mm)	54	45	54	27	90	20
Ni30U (30 mm)	90	90	90	45	180	25

Dimensions are in mm.

Embeddable Mounting Characteristics

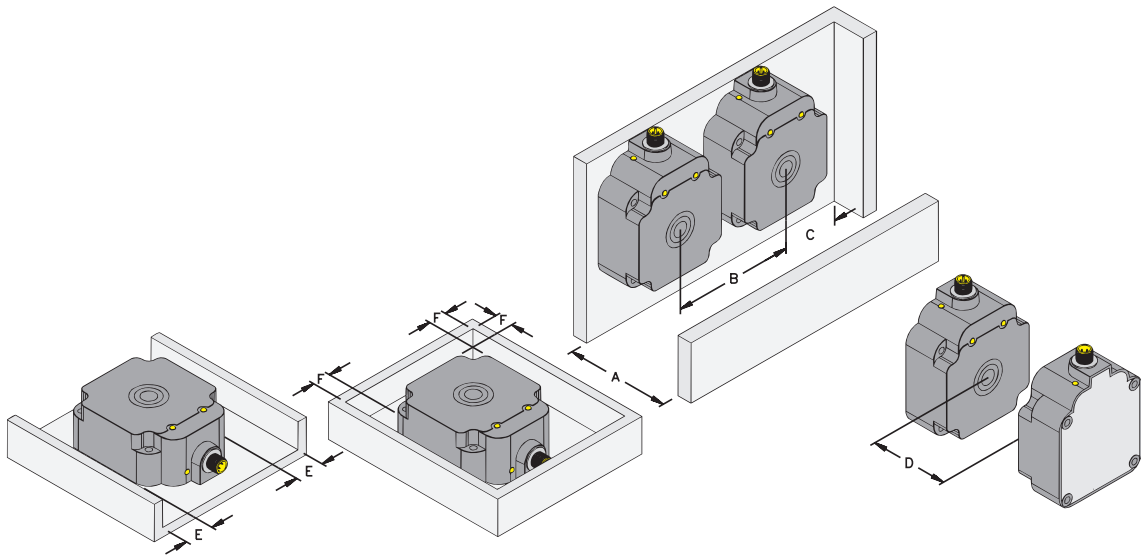


Embeddable, Square Sensors

Part Number	A	B	C	D
Bi50U-Q80 (80 mm)	180	150	80	300

Dimensions are in mm.

Nonembeddable Mounting Characteristics



Nonembeddable, Square Sensors

Part Number	A	B	C	D	E	F
Ni70U-Q80 (80 mm)	180	210	80	420	70	140

Dimensions are in mm.

Uprox+ Part Number Index

Bi 4U-EM12-AN6X-H1141 5	Bi15U-M30-AN6X 9	Ni15U-EM18WD-AN6X 7
Bi 4U-EM12-AP6X-H1141 5	Bi15U-M30-AN6X-H1141 9	Ni15U-EM18WD-AN6X-H1141 7
Bi 4U-EM12WD-AN6X 5	Bi15U-M30-AP6X 9	Ni15U-EM18WD-AP6X 7
Bi 4U-EM12WD-AN6X-H1141 5	Bi15U-M30-AP6X-H1141 9	Ni15U-EM18WD-AP6X-H1141 7
Bi 4U-EM12WD-AP6X 5	Bi15U-MT30-AN6X-H1141 9	Ni15U-M18-AN6X 7
Bi 4U-EM12WD-AP6X-H1141 5	Bi15U-MT30-AP6X2-H1141 9	Ni15U-M18-AN6X-H1141 7
Bi 4U-M12-AN6X 5	Bi15U-MT30-AP6X-H1141 9	Ni15U-M18-AP6X 7
Bi 4U-M12-AN6X-H1141 5	Bi20U-CK40-AN6X2-H1141 W/BS 2.1 . . . 11	Ni15U-M18-AP6X-H1141 7
Bi 4U-M12-AP6X 5	Bi20U-CK40-AP6X2-H1141 W/BS 2.1 . . . 11	Ni15U-MT18-AN6X-H1141 7
Bi 4U-M12-AP6X-H1141 5	Bi20U-CP40-AN6X2 11	Ni15U-MT18-AP6X-H1141 7
Bi 4U-MT12-AN6X-H1141 5	Bi20U-CP40-AP6X2 11	Ni15U-MT18M-AP6X2-H1141 7
Bi 4U-MT12-AP6X-H1141 5	Bi30U-CK40-AN6X2-H1141 W/BS 4 11	Ni20U-TS12-AN6X2-V1131 11
Bi 4U-MT12E-AP6X2-H1141 5	Bi30U-CK40-AP6X2-H1141 W/BS 4 11	Ni20U-TS12-AP6X2-V1131 11
Bi 8U-EM18-AN6X-H1141 7	Bi30U-CP40-AN6X2 11	Ni30U-EM30-AN6X-H1141 9
Bi 8U-EM18-AP6X-H1141 7	Bi30U-CP40-AP6X2 11	Ni30U-EM30-AP6X-H1141 9
Bi 8U-EM18WD-AN6X 7	Bi50U-Q80-AN6X2-H1141 11	Ni30U-EM30WD-AN6X 9
Bi 8U-EM18WD-AN6X-H1141 7	Bi50U-Q80-AP6X2-H1141 11	Ni30U-EM30WD-AN6X-H1141 9
Bi 8U-EM18WD-AP6X 7	Ni10U-EM12-AN6X-H1141 5	Ni30U-EM30WD-AP6X 9
Bi 8U-EM18WD-AP6X-H1141 7	Ni10U-EM12-AP6X-H1141 5	Ni30U-EM30WD-AP6X-H1141 9
Bi 8U-M18-AN6X 7	Ni10U-EM12WD-AN6X 5	Ni30U-M30-AN6X 9
Bi 8U-M18-AN6X-H1141 7	Ni10U-EM12WD-AN6X-H1141 5	Ni30U-M30-AN6X-H1141 9
Bi 8U-M18-AP6X 7	Ni10U-EM12WD-AP6X 5	Ni30U-M30-AP6X 9
Bi 8U-M18-AP6X-H1141 7	Ni10U-EM12WD-AP6X-H1141 5	Ni30U-M30-AP6X-H1141 9
Bi 8U-MT18-AN6X-H1141 7	Ni10U-M12-AN6X 5	Ni30U-MT30-AN6X-H1141 9
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Bi 8U-MT18M-AP6X2-H1141 7	Ni10U-M12-AP6X 5	Ni30U-MT30-AP6X-H1141 9
Bi15U-EM30-AN6X-H1141 9	Ni10U-M12-AP6X-H1141 5	Ni50U-CK40-AN6X2-H1141 W/BS 4 11
Bi15U-EM30-AP6X-H1141 9	Ni10U-MT12-AN6X-H1141 5	Ni50U-CK40-AP6X2-H1141 W/BS 4 11
Bi15U-EM30WD-AN6X 9	Ni10U-MT12-AP6X-H1141 5	Ni50U-CP40-AN6X2 11
Bi15U-EM30WD-AN6X-H1141 9	Ni10U-MT12E-AP6X2-H1141 5	Ni50U-CP40-AP6X2 11
Bi15U-EM30WD-AP6X 9	Ni15U-EM18-AN6X-H1141 7	Ni70U-Q80-VN4X2-H1141 11
Bi15U-EM30WD-AP6X-H1141 9	Ni15U-EM18-AP6X-H1141 7	Ni70U-Q80-VP4X2-H1141 11

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Literature and Media questions or concerns?
Contact Marketing Services TURCK USA - media@turck.com

Notes: