

Inductive Sensors



Housing Style - Rectangular	Part Number	ID Number	Features	Embeddable	Sensing Range (mm)	Output
8.0 mm - Embeddable, Potted-In Cable 	Bi 5-Q08-AD4X/S34	S4414550	<i>Weld-field Immune</i>	•	5	2-Wire DC
	Bi 5U-Q08-AN6X2	S1608911	<i>Uprox</i>	•	5	3-Wire DC NPN
	Bi 5-Q08-AN6X2/S34		<i>Weld-field Immune</i>	•	5	
	Bi 7-Q08-AN6X2	S1601620	<i>Ext. Range</i>	•	7	
	Bi 8U-Q08-AN6X2	S1662007	<i>Uprox</i>	•	8	
	Bi 5U-Q08-AP6X2	S1608901	<i>Uprox</i>	•	5	3-Wire DC PNP
	Bi 5-Q08-AP6X2/S34	S1600800	<i>Weld-field Immune</i>	•	5	
	Bi 7-Q08-AP6X2	S1601600	<i>Ext. Range</i>	•	7	
	Bi 8U-Q08-AP6X2	S1662006	<i>Uprox</i>	•	8	
	Bi 5-Q08-VN6X2	S1600200	<i>Comp. Outputs</i>	•	5	4-Wire DC NPN
	Bi 5-Q08-VN6X2/S34		<i>Weld-field Immune</i>	•	5	
	Bi 7-Q08-VN6X2	S1600920	<i>Ext. Range</i>	•	7	
	Bi 5-Q08-VP6X2	S1600100	<i>Comp. Outputs</i>	•	5	4-Wire DC PNP
	Bi 5-Q08-VP6X2/S34	S1600101	<i>Weld-field Immune</i>	•	5	
	Bi 7-Q08-VP6X2	S1600900	<i>Ext. Range</i>	•	7	
Bi 5-Q08-Y1X	S4054000			•	5	2-Wire NAMUR

For detailed sensor specifications see Section M.
Normally Closed versions available upon request, consult factory.



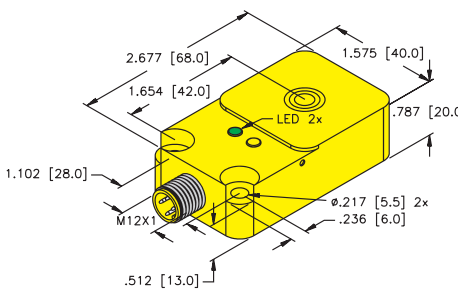
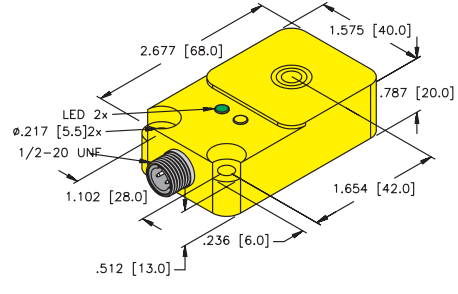
Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Mating Cord, Cable Length/Jacket	Wiring Diagram #	Wiring Diagrams
10-65 VDC	50	≤100	-25 to +70	IP 67	Zinc	PA 12	N/A	YE	2M/PVC	1	Diagram 1
	1000	≤200	-30 to +85	IP 67	Zinc	PA 12	GN	YE	2M/PVC	2	Diagram 2
10-30 VDC	300	≤100	-25 to +70	IP 67	Zinc	PA 12	GN	YE	2M/PVC	2	Diagram 3
	500	≤200	-25 to +70	IP 67	Zinc	PA 12	GN	YE	2M/PVC	2	
	1000	≤200	-30 to +85	IP 67	Zinc	PA 12	GN	YE	2M/PVC	2	
	1000	≤200	-30 to +85	IP 67	Zinc	PA 12	GN	YE	2M/PVC	3	
10-30 VDC	1000	≤200	-30 to +85	IP 67	Zinc	PA 12	GN	YE	2M/PVC	3	Diagram 4
	300	≤100	-25 to +70	IP 67	Zinc	PA 12	GN	YE	2M/PVC	4	
	500	≤200	-25 to +70	IP 67	Zinc	PA 12	GN	YE	2M/PVC	4	
10-30 VDC	1000	≤200	-25 to +70	IP 67	Zinc	PA 12	GN	YE	2M/PVC	5	Diagram 5
	300	≤100	-25 to +70	IP 67	Zinc	PA 12	GN	YE	2M/PVC	5	
	500	≤200	-25 to +70	IP 67	Zinc	PA 12	GN	YE	2M/PVC	5	
5-30 VDC	1000	Remote	-25 to +70	IP 67	Zinc	PA 12	N/A	YE	2M/PVC	6	Diagram 6

Rectangular

For material descriptions see page M22.

Inductive Sensors



Housing Style - Rectangular	Part Number	ID Number	Features	Embeddable	Sensing Range (mm)	Output	
20 mm - Embeddable/Nonembeddable, eurofast® Connector 	Bi15U-Q20-AN6X2-H1141	M1608610	<i>Uprox</i>	•	15	3-Wire DC NPN	
	Bi15-Q20-AN6X2-H1141	M1608315		•	15		
	Ni25-Q20-AN6X2-H1141	M1602802			25		
	Bi15U-Q20-AP6X2-H1141	M1608600	<i>Uprox</i>	•	15	3-Wire DC PNP	
	Bi15-Q20-AP6X2-H1141	M1608305		•	15		
	Ni25-Q20-AP6X2-H1141	M1602702			25		
	Bi15-Q20-Y0X-H1141	M1080025			•	15	2-Wire NAMUR
	20 mm - Embeddable, microfast® Connector 	Bi15-Q20-ADZ32X2-B3131	M4256251		•	15	2-Wire AC/DC Short-Circuit Protected

For detailed sensor specifications see Section M.
 Normally Closed versions available upon request, consult factory.



Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Mating Cord, Cable Length/Jacket	Wiring Diagram #	Wiring Diagrams
10-30 VDC	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	RK 4T-*	1	<p>Diagram 1</p>
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	RK 4T-*	1	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	RK 4T-*	1	
10-30 VDC	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	RK 4T-*	2	<p>Diagram 2</p>
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	RK 4T-*	2	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	RK 4T-*	2	
5-30 VDC	1000	Remote	-25 to +70	IP 67	PBT	PBT	N/A	YE	RK 4.21T-*	3	<p>Diagram 3</p>
20-250 VAC 10-300 VDC	20	≤100	-25 to +70	IP 67	PBT	PBT	GN	YE	KB 3T-*	4	<p>Diagram 4</p>

Rectangular

For material descriptions see page M22.

Inductive Sensors



Housing Style - Rectangular	Part Number	ID Number	Features	Embeddable	Sensing Range (mm)	Output
<p>20 mm - Embeddable/Nonembeddable, Potted-In Cable</p>	Bi15U-Q20-AN6X2	M1608810	<i>Uprox</i>	•	15	3-Wire DC NPN
	Bi15-Q20-AN6X2	M1608310		•	15	
	Ni25-Q20-AN6X2	M1602800			25	
	Bi15U-Q20-AP6X2	M1608800	<i>Uprox</i>	•	15	3-Wire DC PNP
	Bi15-Q20-AP6X2	M1608300		•	15	
	Ni25-Q20-AP6X2	M1602700			25	
	Bi15U-Q20-VP6X2 4M	M1608602	<i>Uprox</i>	•	15	4-Wire DC PNP
	Bi15-Q20-Y0X	M1080020		•	15	2-Wire NAMUR
	Bi15-Q20-ADZ32X2	M4256250		•	15	2-Wire AC/DC Short-Circuit Protected

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Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Mating Cord, Cable Length/Jacket	Wiring Diagram #	Wiring Diagrams
10-30 VDC	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	2M/PVC	1	Diagram 1
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	1	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	1	
10-30 VDC	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	2M/PVC	2	Diagram 2
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	2	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	2	
10-30 VDC	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	2M/PVC	3	Diagram 3
5-30 VDC	1000	Remote	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	4	Diagram 4
20-250 VAC 10-300 VDC	20	≤100	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	5	Diagram 5

Rectangular

For material descriptions see page M22.

Inductive Sensors



Housing Style - Rectangular	Part Number	ID Number	Features	Embeddable	Sensing Range (mm)	Output
14 mm - Embeddable/Nonembeddable, Potted-In Cable 	Ni20-Q14-AD4X	M4414557			20	2-Wire DC
	Bi10U-Q14-AN6X2	M1608710	<i>Uprox</i>	•	10	3-Wire DC NPN
	Bi10-Q14-AN6X2	M1608320		•	10	
	Ni20-Q14-AN6X2	M4690220			20	
	Bi10U-Q14-AP6X2	M1608700	<i>Uprox</i>	•	10	3-Wire DC PNP
	Bi10-Q14-AP6X2	M1608720		•	10	
	Ni20-Q14-AP6X2	M4690205		•	20	
	Bi10-Q14-ADZ32X2	M4256220		•	10	2-Wire AC/DC Short-Circuit Protected
	Bi10-Q14-ADZ32X2/S34	M4256225	<i>Weld-field Immune</i>	•	10	
	Ni20-Q14-ADZ32X2	M4205410			20	
Bi10-Q14-Y0X	M1608730			•	10	2-Wire NAMUR
14 mm - Embeddable/Nonembeddable, picofast® Connector 	Bi10-Q14-AN6X2-V1131	M1608325		•	10	3-Wire DC NPN
	Bi10U-Q14-AN6X2-V1131	M1608510	<i>Uprox</i>	•	10	
	Ni20-Q14-AN6X2-V1131	M4690221			20	
	Bi10-Q14-AP6X2-V1131	M1608530		•	10	3-Wire DC PNP
	Bi10U-Q14-AP6X2-V1131	M1608500	<i>Uprox</i>	•	10	
	Ni20-Q14-AP6X2-V1131	M4690210			20	

For detailed sensor specifications see Section M.
Normally Closed versions available upon request, consult factory.



Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Mating Cord, Cable Length/Jacket	Wiring Diagram #	Wiring Diagrams
10-65 VDC	150	≤100	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	1	Diagram 1
10-30 VDC	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	2M/PVC	2	Diagram 2
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	2	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	2	
10-30 VDC	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	2M/PVC	3	Diagram 3
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	3	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	3	
20-250 VAC 10-300 VDC	20	≤100	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	4	Diagram 4
	30	≤100	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	4	
	20	≤100	-25 to +70	IP 67	PBT	PBT	GN	YE	2M/PVC	4	
5-30 VDC	250	Remote	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	5	Diagram 5
10-30 VDC	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	PKG 3M-*	6	Diagram 6
	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	PKG 3M-*	6	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	PKG 3M-*	6	
10-30 VDC	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	PKG 3M-*	7	Diagram 7
	250	≤200	-30 to +85	IP 67	PBT	PBT	GN	YE	PKG 3M-*	7	
	250	≤200	-25 to +70	IP 67	PBT	PBT	GN	YE	PKG 3M-*	7	

Rectangular

For material descriptions see page M22.

Inductive Sensors



Housing Style - Rectangular	Part Number	ID Number	Features	Embeddable	Sensing Range (mm)	Output
10 mm - Embeddable, Potted-In Cable 	Bi 2-Q10S-AN6X	S1619310		•	2	3-Wire DC NPN
	Bi 2-Q10S-AP6X	S1609360		•	2	3-Wire DC PNP
	Bi 2-Q10S-VN6X	S1609341	Comp. Outputs	•	2	4-Wire DC NPN
	Bi 2-Q10S-VP6X	S1609340	Comp. Outputs	•	2	4-Wire DC PNP
	Bi 2-Q10S-AZ31X	S1309100		•	2	2-Wire AC/DC
	Bi 2-Q10S-Y0X	S4012130		•	2	2-Wire NAMUR
	Bi 2-Q10S-Y1X	S4012130		•	2	
11 mm - Embeddable/Nonembeddable, Potted-In Cable 	Bi 2-Q11S-AD4X	M4405040		•	2	2-Wire DC
	Bi 2-Q11S-AN4X	M4550101		•	2	3-Wire DC NPN
	Bi 2-Q11S-AP4X	M4550100		•	2	3-Wire DC PNP
	Ni 4-Q11S-AP4X	M4550110			4	
	Ni 4-Q11S-AZ31X	M4348000				4

For detailed sensor specifications see Section M.
Normally Closed versions available upon request, consult factory.



Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Face	Power LED	Output LED	Mating Cord, Cable Length/Jacket	Wiring Diagram #	Wiring Diagrams
10-30 VDC	2000	≤150	-25 to +70	IP 67	PA 12	PA 12	N/A	YE	2M/PVC	1	Diagram 1
10-30 VDC	2000	≤150	-25 to +70	IP 67	PA 12	PA 12	N/A	YE	2M/PVC	2	Diagram 2
10-30 VDC	2000	≤150	-25 to +70	IP 67	PA 12	PA 12	N/A	YE	2M/PVC	3	Diagram 3
10-30 VDC	2000	≤150	-25 to +70	IP 67	PA 12	PA 12	N/A	YE	2M/PVC	4	Diagram 4
20-250 VAC 10-300 VDC	20	≤100	-25 to +70	IP 67	PA 12	PA 12	N/A	RD	2M/PVC	5	Diagram 5
5-30 VDC	1000	Remote	-25 to +70	IP 67	PA 12	PA 12	N/A	YE	2M/PVC	6	Diagram 6
	1000	Remote	-25 to +70	IP 67	PA 12	PA 12	N/A	YE	2M/PVC	6	
10-65 VDC	2000	≤100	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	7	Diagram 7
10-65 VDC	2000	≤200	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	1	Diagram 8
10-65 VDC	2000	≤200	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	2	Diagram 9
	2000	≤200	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	2	
20-250 VAC 10-300 VDC	20	≤100	-25 to +70	IP 67	PBT	PBT	N/A	YE	2M/PVC	5	Diagram 10

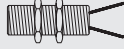
Rectangular

For material descriptions see page M22.

Q80



Long Range Sensors, Plastic
Plastic Housing with Potted-In Cable

2-Wire DC, Requires Remote Amplifier 
 5-30 VDC
 Variable Resistance Output, NAMUR (EN50227)

NRTL/C

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Width (mm)	Drawing #	Wiring Diagram	# of LEDs	FM Approved Div 1 *	Switching Frequency (Hz)	ID Number
Bi50-Q80-Y0X	•	50	80	1	A	1		100	M1008701

Note: Factory Mutual Approval applies only when used with Factory Mutual Approved Switching Amplifiers.

Cable/Conuctor

Cable: PVC Jacket; 2 meter standard length

Material

Housing: Plastic, PBT-GF30-VO
 Sensing Face: Plastic, PBT-GF30-VO

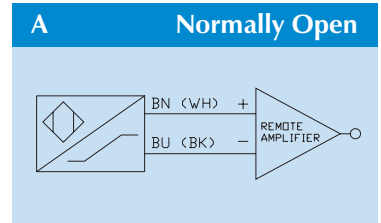
Accessories

Accessories and mounting devices can be found on pages 51 and 52.

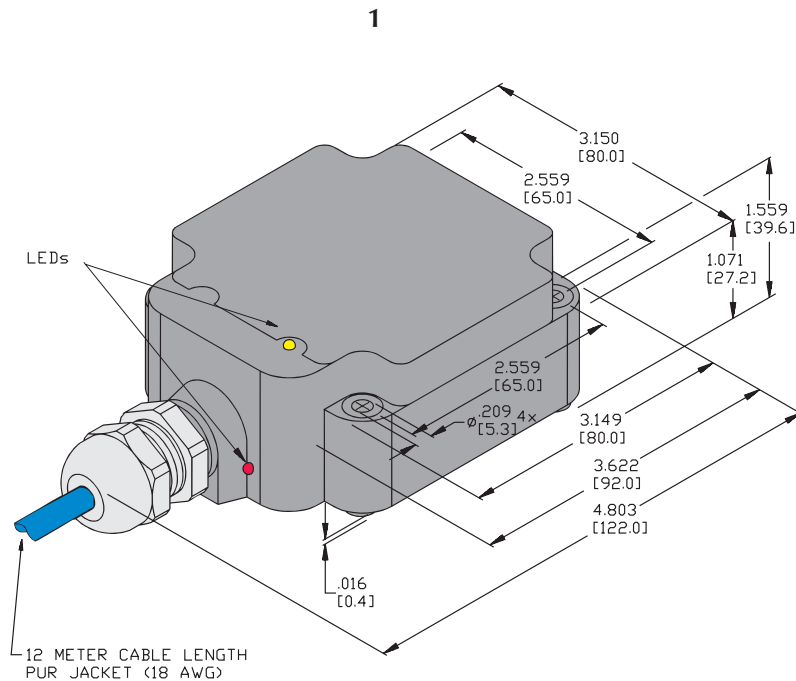
Specifications

Differential Travel (Hysteresis)	1-10% (5% typical)
Nominal Voltage.	8.2 VDC (EN 50227)
Resistance Change from Non-activated to Activated Condition	1.0 kΩ to >8.0 kΩ
Resulting Current Change	≥2.2 mA to ≤1.0 mA
Recommended Switching Point for Remote Amplifier	1.55 mA
Power-On Effect.	Realized in Amplifier
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Realized in Amplifier
Transient Protection	Realized in Amplifier
Operating Temperature	-25°C to +70°C (-13°F to +158°F)
Enclosure	Meets NEMA 1,3,4,6,13 and IEC IP 67
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm Amplitude in all 3 Planes
Repeatability.	±2% of Rated Operating Distance
LED On (Yellow).	Output Energized

Wiring Diagram



Dimensions



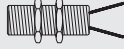
TURCK Q-Pak, Rectangular Inductive Sensors

Q08



Rectangular Sensors, Metal and Plastic

Metal or Injection-Molded Plastic Housing with Potted-In Cable

2-Wire DC, Requires Remote Amplifier 

5-30 VDC

Variable Resistance Output, NAMUR (EN 50227)



Q10S



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Height (mm)	Drawing #	Wiring Diagram	# of LEDs	Switching Frequency (Hz)	FM Approved Division 1 *	Time Delay Before Availability (ms)	ID Number
Bi 5-Q08-Y1X	•	5	8.0	1	A	1	1000	•	1	M4054000
Bi 2-Q10S-Y0X	•	2	10.2	2	A	1	5000	•	1	M4012130

* Factory Mutual approval applies only when used with Factory Mutual approved switching amplifiers.

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
Copper Conductor: 24 AWG
(PVC insulated)

Material

Housing: Q08: Die-Cast Zinc
Q10S: PA 12-GF20 Plastic
Sensing Face: PA 12-GF30 Plastic

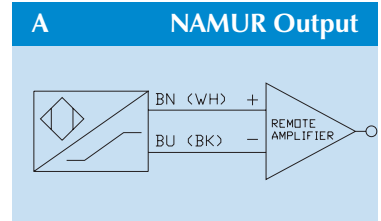
Accessories

Accessories and mounting devices can be found on pages 51 an d52.

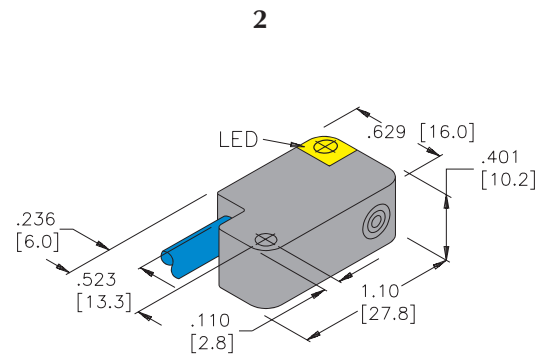
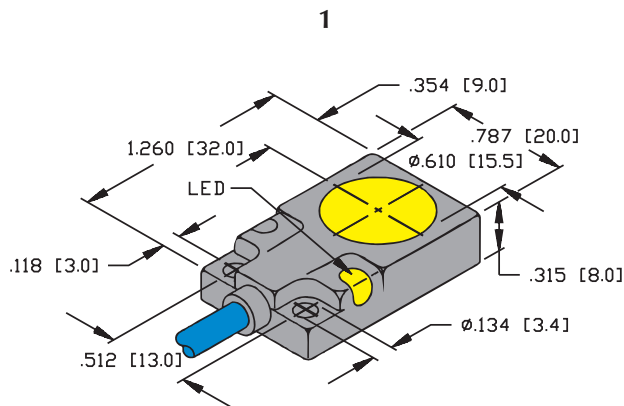
Specifications

Differential Travel (Hysteresis)	1-10% (5% typical)
Voltage Drop Across Conducting Sensor	8.2 VDC (EN 50227)
Resistance Change from Nonactivated to Activated Condition	1.0 k Ω to >8.0 k Ω
Resulting Current Change	≥ 2.2 mA to ± 1.0 mA
Recommended Switching Point for Remote Amplifier	1.55 mA
Power-On Effect	Realized Amplifier
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Realized Amplifier
Transient Protection	Realized Amplifier
Operating Temperature	-25°C to +70°C (-13°F to +158°F)
Enclosure	Meets NEMA 1,3,4,6,13 and IEC IP 67
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm Amplitude in all 3 Planes
Repeatability.	$\pm 2\%$ of Rated Operating Distance
LED On	Output Energized

Wiring Diagram



Dimensions



Inductive Sensors



Housing Style - Rectangular	Part Number	ID Number	Features	Embeddable	Sensing Range (mm)	Output
Q80 - Embeddable/Nonembeddable, eurofast® Connector 	Bi50U-Q80-AN6X2-H1141	M1608944	<i>Uprox</i>	•	50	3-Wire DC NPN
	Bi50U-Q80-AP6X2-H1141	M1608940	<i>Uprox</i>	•	50	3-Wire DC PNP
	Bi50U-Q80-VN4X2-H1141	M1562001	<i>Uprox</i>	•	50	4-Wire DC NPN
	Ni70U-Q80-VN4X2-H1141	M1625521	<i>Uprox</i>	•	70	
	Bi50U-Q80-VP4X2-H1141	M1562000	<i>Uprox</i>	•	50	4-Wire DC PNP
Ni70U-Q80-VP4X2-H1141	M1625833	<i>Uprox</i>	•	70		
Q80 - Embeddable, minifast® Connector 	Bi50-Q80-ADZ30X2-B1131	M4200310		•	50	2-Wire AC/DC Short-Circuit Protected
Q80 - Embeddable, microfast® Connector 	Bi50-Q80-ADZ30X2-B3131	M4200311		•	50	2-Wire AC/DC Short-Circuit Protected
CP80 - Embeddable/Nonembeddable, Terminal Chamber 	Ni60-Q80-Y1X	M1008700			60	2-Wire NAMUR

For detailed sensor specifications see Section M.
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Voltage	Switching Freq. (Hz)	Operating Current (mA)	Operating Temp. (°C)	Protection	Housing	Front Cap/Face	Power LED	Output LED	Mating Cord, Cable Length/Jacket	Wiring Diagram #	Wiring Diagrams
10-30 VDC	250	≤200	-25 to +70	IP 68	PBT	PBT	GN	YE	RK 4T-*	1	Diagram 1
10-30 VDC	250	≤200	-25 to +70	IP 68	PBT	PBT	GN	YE	RK 4T-*	2	
10-65 VDC	250	≤200	-25 to +70	IP 68	PBT	PBT	GN	YE	RK 4.4T-*	3	Diagram 2
	250	≤200	0 to +50	IP 67	PBT	PBT	GN	YE	RK 4.4T-*	3	
10-65 VDC	250	≤200	-25 to +70	IP 68	PBT	PBT	GN	YE	RK 4.4T-*	4	Diagram 3
	250	≤200	-25 to +70	IP 68	PBT	PBT	GN	YE	RK 4.4T-*	4	
20-250 VAC 10-300 VDC	20	≤400/300	-25 to +70	IP 67	PBT	PBT	GN	YE	RKM 30-*M	5	Diagram 4
	20	≤400/300	-25 to +70	IP 67	PBT	PBT	GN	YE	RKM 30-*M	5	
20-250 VAC 10-300 VDC	20	≤400/300	-25 to +70	IP 67	PBT	PBT	GN	YE	KB 3T-*	6	Diagram 5
	20	≤400/300	-25 to +70	IP 67	PBT	PBT	GN	YE	KB 3T-*	6	
5-30 VDC	100	Remote	-25 to +70	IP 67	PBT	PBT	N/A	N/A	- - - -	7	Diagram 6
	100	Remote	-25 to +70	IP 67	PBT	PBT	N/A	N/A	- - - -	7	
5-30 VDC	100	Remote	-25 to +70	IP 67	PBT	PBT	N/A	N/A	- - - -	7	Diagram 7
	100	Remote	-25 to +70	IP 67	PBT	PBT	N/A	N/A	- - - -	7	

Rectangular

For material descriptions see page M22.