

Inductive Barrel Sensor Part Number Key

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

														Wiring Option*		Special Option Code**	
										A	DZ	30	X2				
Mounting										Number of LEDs							
B = embeddable										(blank) = no LEDs							
N = nonembeddable										X = 1 LED							
										X2 = 2 LEDs							
Principle of Operation										Voltage Range							
I = inductive										AC/DC: (No SCP**)							
Rated Operating Distance (mm)										3 = 20-250 VAC, 10-300 VDC							
										14 = 20-132 VAC, 10-140 VDC							
Sensing Characteristics										31 = 20-250 VAC, 10-300 VDC, plastic barrel							
U = Uprox® sensor										33 = 35-250 VAC, grounded metal barrel							
Housing Material Modifier										AC/DC: (Latched SCP)							
E = stainless steel										30 = 20-250 VAC, 10-300 VDC							
Housing Style										32 = 20-250 VAC, 10-300 VDC							
Barrel - Metal										40 = 20-140 VAC/DC, high off-state current							
G = full threading, generally chrome plated brass										DC:							
GS = threaded side sensor										4 = 10-65 VDC, polarity protected, pulsed SCP**							
H = smooth, chrome plated brass or stainless steel										6 = 10-30 VDC, polarity protected, pulsed SCP							
HS = smooth side sensor										7 = 10-30 VDC, TTL compatible							
M = partial threading, chrome plated brass										8 = 20-30 VDC, polarity protected, pulsed SCP							
Barrel - Plastic										41 = 10-55 VDC, polarity protected, pulsed SCP							
K = smooth										44 = 10-55 VDC							
P = full threading										45 = 8.4-64 Volts							
S = partial threading										**SCP = short-circuit and overload protection							
SK = side sensing/slot sensor, plastic housing										Output							
Primary Barrel Modifier										D = 2-wire DC (transistor output)							
T = PTFE coated										DZ = 2-wire AC/DC, (power MOSFET output)							
Housing Diameter or Height (mm)										G = 2-wire DC, low voltage drop							
										N = NPN transistor (current sinking)							
Secondary Barrel Modifier										P = PNP transistor (current sourcing)							
CA = conduit adaptor										Z = 2-wire AC or 2-wire AC/DC							
E = extended barrel length										Output Function							
EE = extra long barrel length										A = normally open (N.O.)							
F = stainless steel face										DA = dynamic output (ring sensor), normally open							
FE = stainless steel face, extended barrel length										F = connection programmable (N.O or N.C.)							
H = Stoneface®										R = normally closed (N.C.)							
K = short barrel length										V = complementary outputs: one N.O., one N.C.							
M = medium barrel length										Y0 = NAMUR output, requires switching amplifier							
S = side sensing										Y1 = NAMUR output, requires switching amplifier, ATEX Approved							
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																	

NOTE:

Part number keys are to assist in identification only.

Verify new part numbers with factory; some configurations are not possible.

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Inductive Barrel Sensor Part Number Key

Wiring Options*

A. Connectorized Sensor

Bi2-M12-AN6X -

H1141

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)

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

Connector/Sensor Transition

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

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**

Bi2-S12-AN7X /S100 or Bi10-M30-AN6X-H1141 /F2

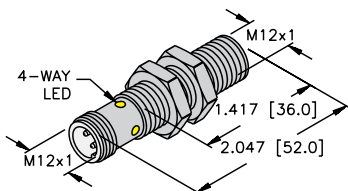
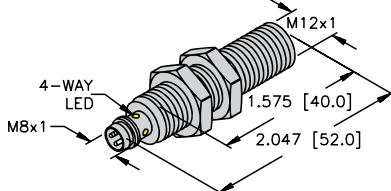
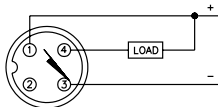
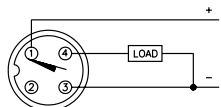
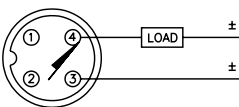
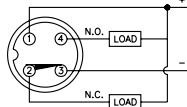
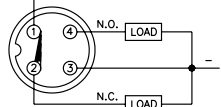
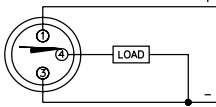
examples:
/S34 = weld field immune
/S90 = TPU cable
/S97 = -40 °C (-40 °F) operating temperature
/S100 = +100 °C (+212 °F) operating temperature
/S1589 = barrel sensors with Weldguard® laminate
/S1610 = barrel sensors with tool steel sleeve and Weldguard® laminate

example:
/F2 = alternate oscillator frequency

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Inductive Barrel Sensors | 12 mm

Embeddable Threaded Metal Barrels with Connector and DC Outputs

Housing Style		Dimension Drawings			
	A		B		
		12 mm - Embeddable, M12 Eurofast Connection			
	12 mm - Embeddable, M8 Picofast Connection				
	Wiring Diagrams/Mating Cordsets				
1		2		3	
Mating Cordset: RK 4T-*; RKV 4T-*		Mating Cordset: RK 4.2T-*			
4		5		6	
Mating Cordset: RK 4.4T-*		Mating Cordset: PKG 3M-*			
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

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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