

Selection Guide

Linear Analog Sensors			Bottle and Can Sensors		
Sensor Type	Output	Pages	Sensor Type	Output	Pages
 Barrel Style	4-Wire DC	D5-D8	 Bottle and Can Style	4-Wire DC 2-Wire AC	D37-D38 D39-D40
 Limit Style	4-Wire DC	D9-D10	NonFerrous Sensors		
High Temperature Sensors			 Barrel Style	3-Wire DC	D41-D42
 Barrel Style	3-Wire DC 4-Wire DC 2-Wire AC NAMUR	D11-D16 D17-D18 D21-D24 D27-D28	 Limit Style	4-Wire DC 2-Wire AC	D43-D44 D45-D46
 Limit Style	4-wire DC 2-Wire AC	D19-D20 D25-D26	Ring and Slot Sensors		
 Long Range	NAMUR	D29-D30	 Ring Style	3-Wire DC	D47-D52
Valve Control Sensors			 Slot Style	3-Wire DC 4-Wire DC 2-Wire AC NAMUR	D53-D54 D55-D58 D59-D60 D61-D62
 Valve Style	4-Wire DC 5-Wire AC/DC NAMUR	D31-D32 D33-D34 D35-D36			

Specialty Sensor Selection Guide

	Page Number
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Barrels, Metal with Quick Disconnect	D5 - D6
Barrels, Metal with Potted-in Cable	D7 - D8
Limit Switch Style - <i>stubby</i> ® <i>combiprox</i> ®	D9 - D10
High Temperature DC - 3-Wire	
Barrels, Plastic with Quick Disconnect	D11 - D12
Barrels, Plastic with Potted-in Cable	D13 - D14
DC - 3-Wire TTL	
Barrels, Plastic with Potted-in Cable	D15 - D16
DC - 4-Wire	
Barrels, Plastic with Potted-in Cable	D17 - D18
Limit Switch Style - <i>combiprox</i> ®	D19 - D20
AC - 2-Wire	
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DC - 4-Wire	D31 - D32
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DC - 4-Wire	D37 - D38
AC - 2-Wire	D39 - D40
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DC - 4-Wire	
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Specs

Rectangular

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Ultrasonic

Cordsets

Accessories

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Specialty Sensor Selection Guide

Ring

DC - 3-Wire D47 - D52

Slot

DC - 3-Wire D53 - D54

DC - 4-Wire D55 - D56

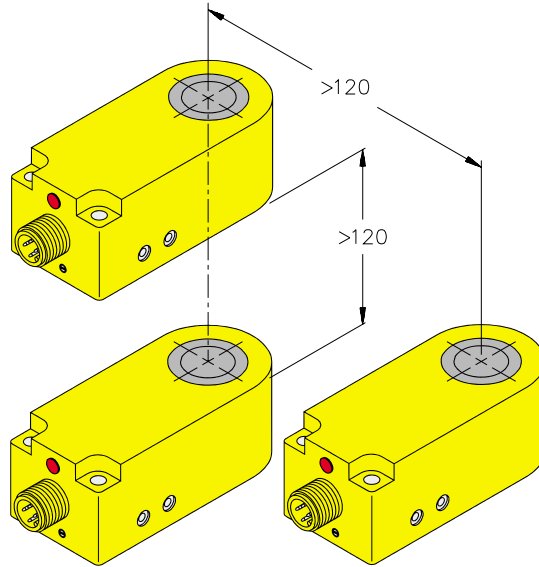
DC - 4-Wire TTL D57 - D58

AC - 2-Wire D59 - D60

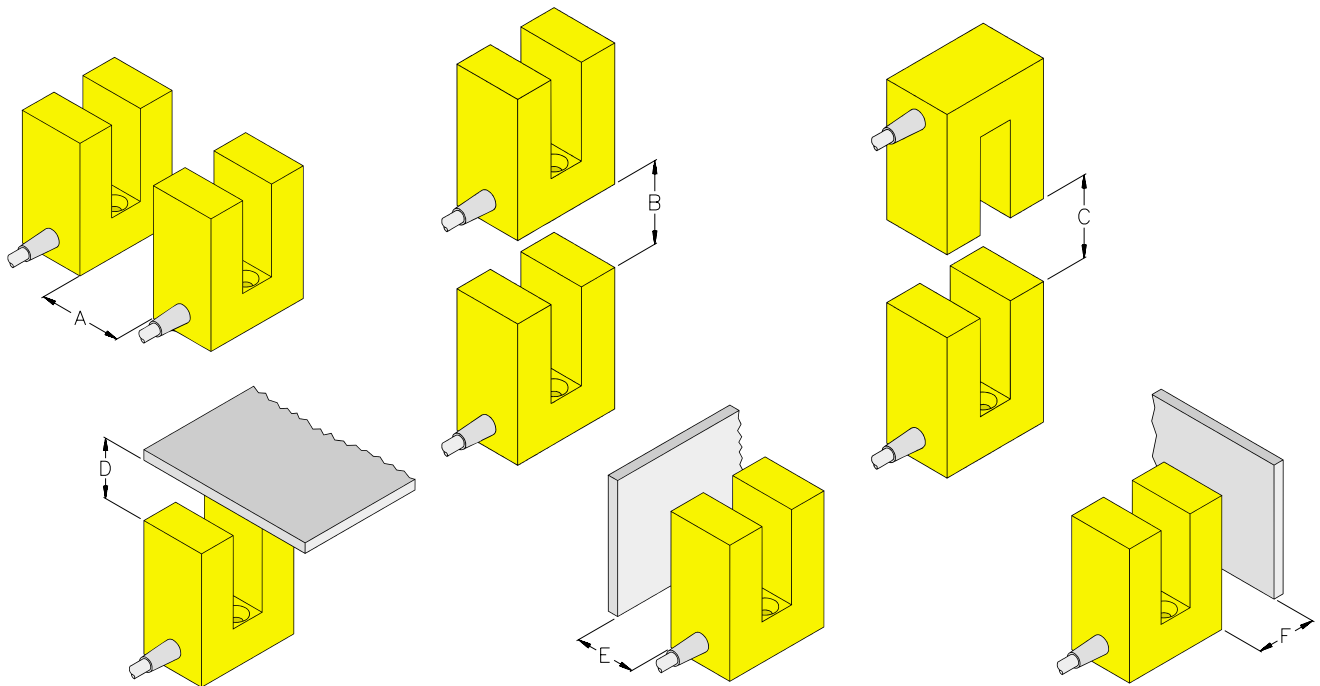
NAMUR - 2-Wire D61 - D62

Mounting Considerations

Ring Style



Slot Style




Part Numbers	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
Si3.5-..	≥15	≥5	≥15	≥0	≥0	≥0
Si 5-..	≥10	≥0	≥5	≥0	≥0	≥0
Si15-..	≥30	≥10	≥30	≥5	≥5	≥5
Si30-..	≥30	≥0	≥30	≥10	≥10	≥10

Specialty


M Barrel



Linear Analog Sensors
Metal Barrel, Partial Threading

4-Wire DC  **eurofast**[®]
 15-30 VDC, Short-Circuit Protected
 Linear Analog Output; Current and Voltage (LIU)

Sensor Selection

Part Number	Embeddable	Linear Operating Distance (mm)	Barrel Diameter (mm)	Drawing #	Wiring Diagram	# OF LEDs	Response Frequency (Hz)	Current Output 0-20 mA	Voltage Output 0-10 V	ID Number	Connection
Bi 5-M18-LIU-H1141	•	2-4	18	1	A	0	200	•	•	M1536201	 eurofast Mating Cordsets RK 4.4T-2 (2 meter) For other styles see Section H or consult "Cordsets" catalog
Ni 8-M18-LIU-H1141		1-5	18	2	A	0	200	•	•	M1536301	

Material

Connector: Chrome Plated Brass
 Barrel: Chrome Plated Brass
 Sensing Face: PA 12-GF30 Plastic

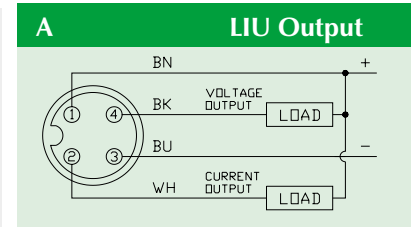
Accessories

Accessories and mounting devices can be found in [Section J](#).

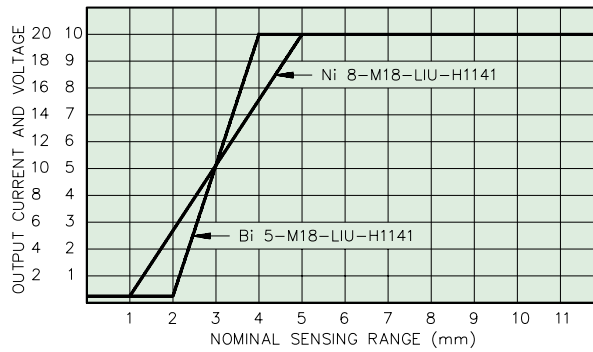
Specifications

Ripple	≤10%
No-Load Current	≤8.0 mA
Voltage Output	0-10 V/R _L ≥4.7 kΩ
Current Output	0-20 mA/R _L ≤500 Ω
Linearity Tolerance	±3% of full scale
Temperature Tolerance	±5% of full scale
Reverse Polarity Protection	Incorporated
Time Delay Before Availability	M18: 8 ms; M30: 80 ms
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-10°C to +70°C (+14°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 full scale
Slew Rate	1.25 V/ms

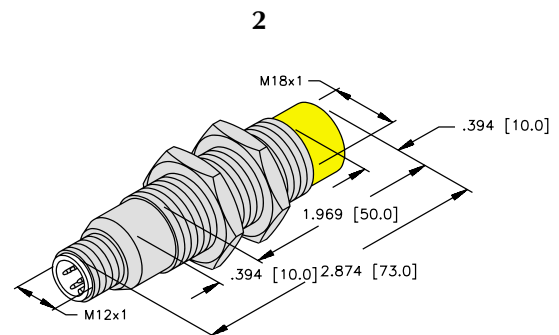
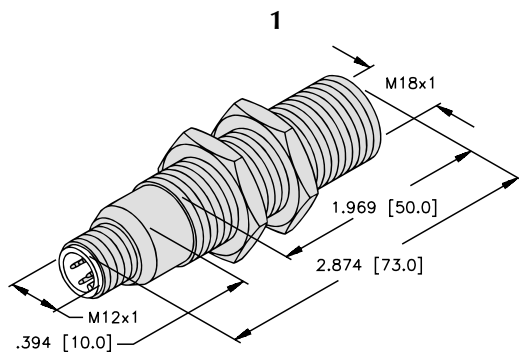
Wiring Diagram



LIU Response Curve



Dimensions



M Barrel



Linear Analog Sensors
Metal Barrel, Partial Threading

4-Wire DC 
 15-30 VDC, Short-Circuit Protected
 Linear Analog Output; Current and Voltage (LIU)

Sensor Selection

Part Number	Embeddable	Linear Operating Distance (mm)	Barrel Diameter (mm)	Drawing #	Wiring Diagram	# of LEDs	Time Delay Before Availability (ms)	Response Frequency (Hz)	Current Output 0-20 mA	Voltage Output 0-10 V	ID Number
Bi 5-M18-LIU	•	2-4	18	1	A	0	8	200	•	•	M1536000
Bi 10-M30-LIU	•	3-8	30	2	A	0	80	80	•	•	M1535500
Ni 8-M18-LIU		1-5	18	3	A	0	8	200	•	•	M1536100

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: M18: 21 AWG
 (PVC insulated) M30: 22 AWG

Material

Barrel: Chrome Plated Brass
 Sensing Face: PA 12-GF30 Plastic
 End Cap: PUR Plastic

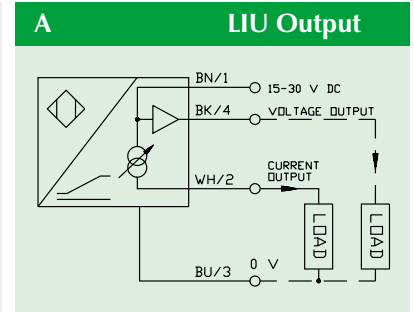
Accessories

[Accessories and mounting devices can be found in Section J.](#)

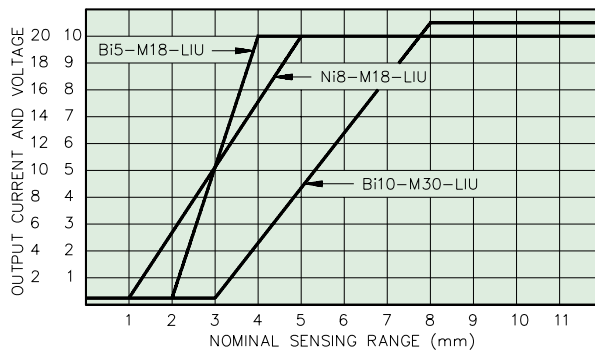
Specifications

Ripple	≤10%
No-Load Current	≤8.0 mA
Voltage Output	0-10 V/R _L ≥4.7 kΩ
Current Output	0-20 mA/R _L ≤500 Ω
Linearity Tolerance	±3% of full scale
Temperature Tolerance	±5% of full scale
Reverse Polarity Protection	Incorporated
Time Delay Before Availability	M18: 8 ms; M30: 80 ms
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-10°C to +70°C (+14°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

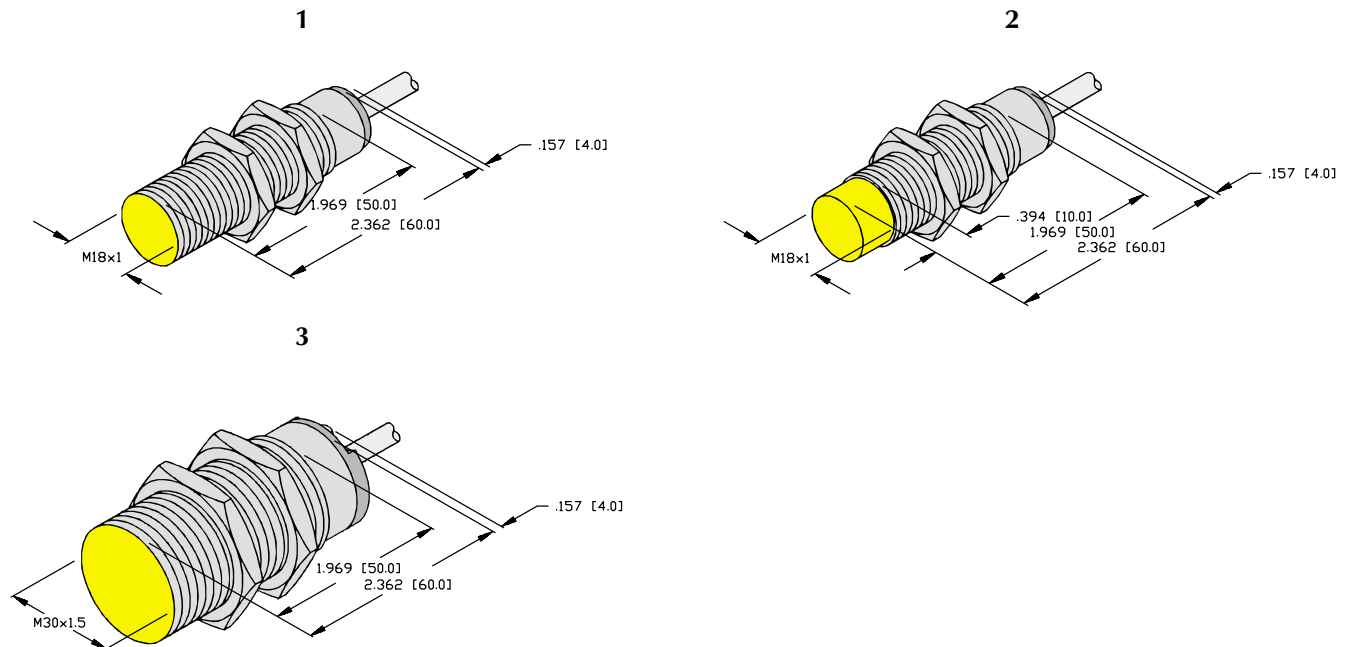
Wiring Diagram



LIU Response Curve



Dimensions



TURCK

Inductive Sensors - Specialty

CK40



Linear Analog Sensors

CK40: Limit Switch Style Sensor *stubby*[®]

CP40: Limit Switch Style Sensor *combiprox*[®]

4-Wire DC



15-30 VDC, Short-Circuit Protected

Linear Analog Output; Current and Voltage (LIU and LIU2)

CP40



Sensor Selection

Part Number	Embeddable	Linear Operating Distance (mm)	Housing Square (mm)	Drawing #	Wiring Diagram	# OF LEDs	Live-Zero Output	Response Frequency (Hz)	Current Output 0-20 mA	Voltage Output 0-10 V	ID Number	Connection
Bi15-CK40-LIU-H1141	•	4-11	40	1	A	0		80	•	•	M1537890	eurofast Mating Cordsets RK 4.4T-2 (2 meter) For other styles see Section H or consult "Cordsets" catalog
Ni25-CK40-LIU2-H1141		5-25	40	1	A	0	•	80	•	•	M1537892	
Bi15-CP40-LIU	•	4-11	40	2	B	0		80	•	•	M1535700	Terminal Chamber

Quick Disconnect Option - CP40

For *minifast* connector: Add "-B1141" suffix to part number.
 Suggested cordset: [RKM 40-2M](#). See Section H for other styles.
 For *eurofast* connector: Add "-H1141" suffix to part number.
 Suggested cordset: [RK 4.4T-2](#). See Section H for other styles.

Material

Housing/Sensing Face: PBT-GF30-VO Plastic
 CK40 Connector: Chrome-Plated Brass
 CK40 Positioning Bracket: Die-Cast Zinc
 CK40 Mounting Bracket: Die-Cast Zinc

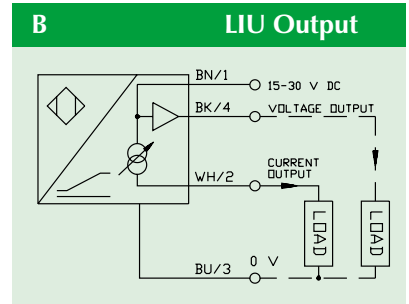
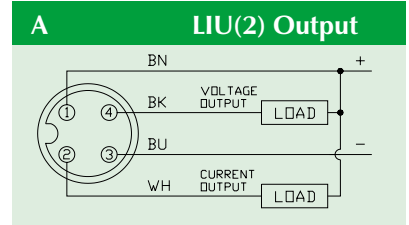
Accessories

Accessories and mounting devices can be found in Section J.
 Mounting Bracket BS-2.1 included with CK40 style sensor.
 Mounting Bracket LSAP-2 for CP40 sensors can be found in Section J.

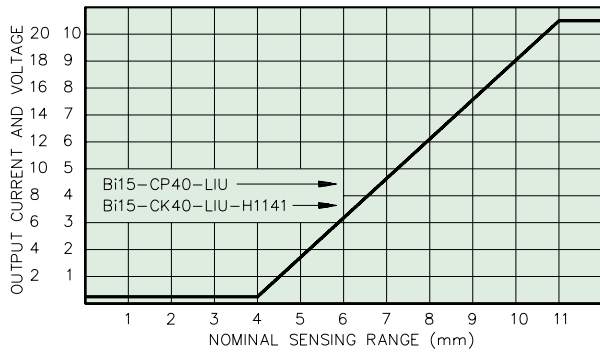
Specifications

Ripple	≤10%
No-Load Current	≤8.0 mA
Voltage Output	LIU:0-10 V; LIU2:2-10V /R _L ≥4.7 kΩ
Current Output	LIU:0-20 mA; LIU2:4-20mA /R _L ≤500 Ω
Linearity Tolerance	Bi15:±3%; Ni25: ±4% of full scale
Temperature Tolerance	Bi15:±5%; Ni25: ±7% of full scale
Time-Delay Before Availability	≤80 ms
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-10°C to +70°C (+14°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 full scale
Slew Rate	1.25 V/ms

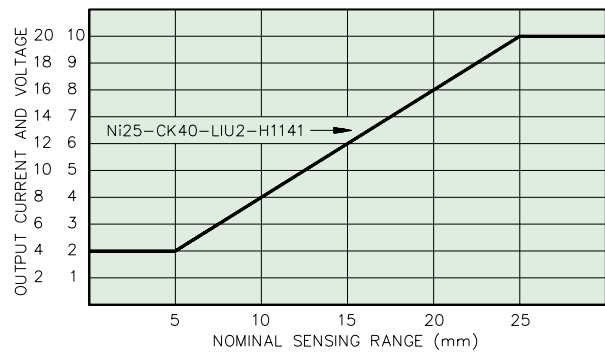
Wiring Diagrams



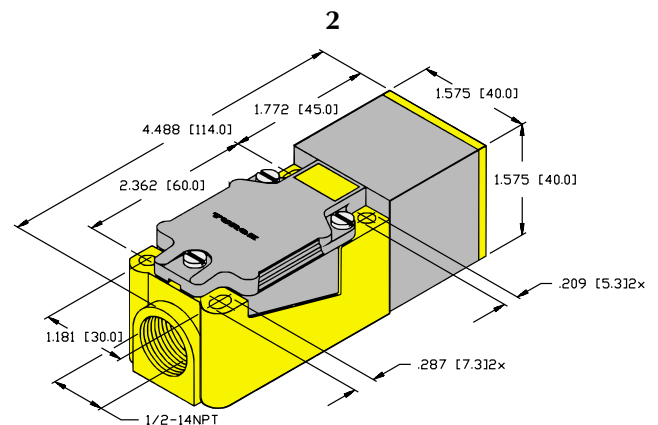
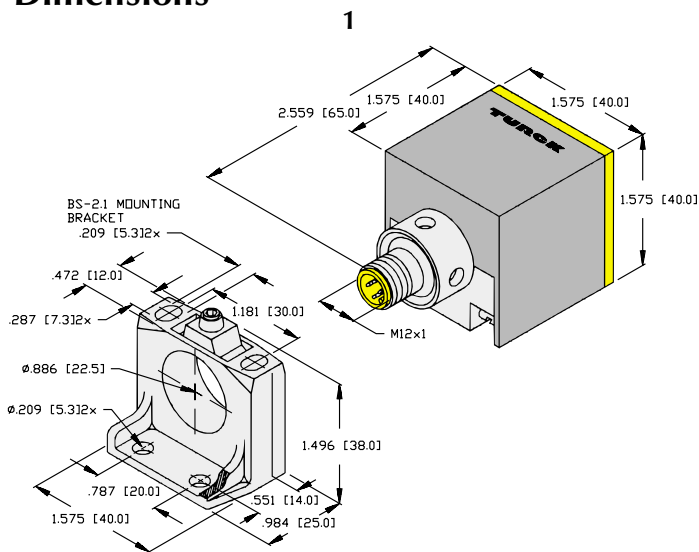
LIU Response Curve



LIU2 Response Curve



Dimensions




Note:
By removing bracket, sensor can be adjusted to five different sensing positions.

Note:
By removing sensor from terminal chamber, head can be adjusted to nine different sensing positions.


P Barrel



High Temperature Sensor
Plastic Barrel, Full Threading, Quick Disconnect

3-Wire DC  **minifast**[®]
 10-30 VDC, Short-Circuit and Overload Protected
 Normally Open, NPN (Sinking) or PNP (Sourcing)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	NPN (Sinking)	PNP (Sourcing)	Drawing #	Wiring Diagram	# of LEDs	High Temp (°S100)	Switching Frequency (Hz)	ID Number	Connection
Bi 5-P18-AN6X-B2341/S100	•	5	18	•	1	A	1	•	1000	M1677100	 minifast Mating Cordsets RK 40-2M (2 meter) For other styles see Section H or consult "Cordsets" catalog	
Bi10-P30-AN6X-B2141/S100	•	10	30	•	2	A	1	•	500	M4697421		
Bi 5-P18-AP6X-B2341/S100	•	5	18	•	1	B	1	•	1000	M4697321		
Bi10-P30-AP6X-B2141/S100	•	10	30	•	2	B	1	•	500	M4697521		

Material

Connector: Polyamide Plastic
 Barrel: PA 12-GF30 Plastic

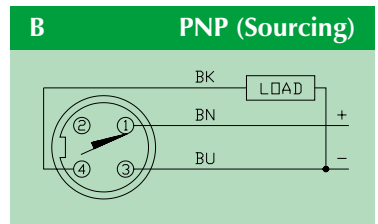
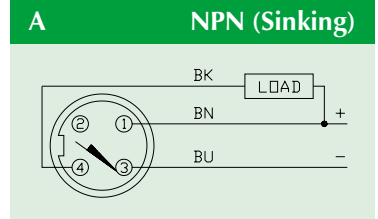
Accessories

Accessories and mounting devices can be found in Section J.

Specifications

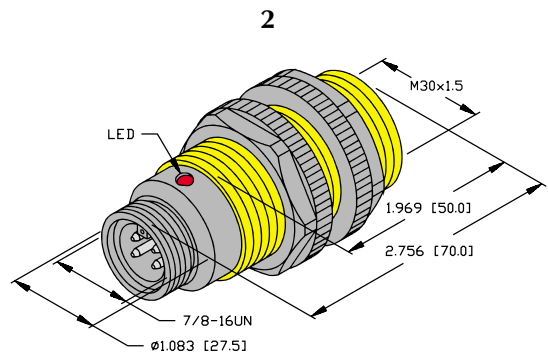
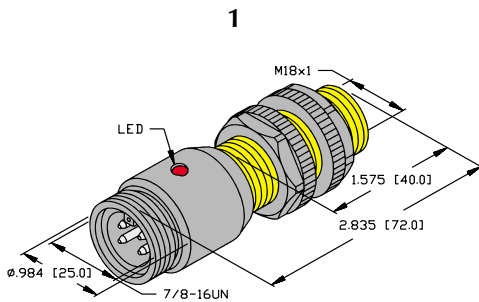
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	5.5-9.5 mA
Time Delay Before Availability	≤8 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +100°C (-13°F to +212°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	Output Energized

Wiring Diagrams



Specialty

Dimensions



S Barrel



High Temperature Sensor

Plastic Barrel, Partial Threading, Potted-In Cable

3-Wire DC



10-30 VDC, Short-Circuit and Overload Protected

Normally Open, NPN (Sinking) or PNP (Sourcing)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	High Temp. (/S100)	Switching Frequency (Hz)	ID Number
Ni15-S30-AN6X/S100		15	30	•		1	A	1	•	500	M4659321

Cable/Conductor

Cable: PVC Jacket; 2 meter standard
 Copper Conductor: 21 AWG
 (PVC insulated)

Material

Barrel: PA 12-GF30 Plastic
 End Cap: PUR Plastic

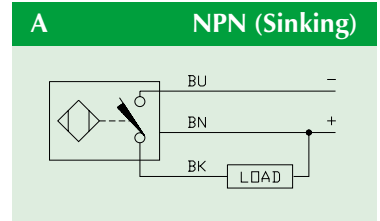
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

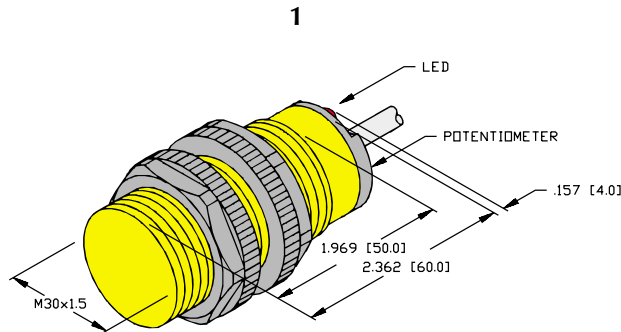
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	5.5-9.5 mA
Time Delay Before Availability	≤8 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +100°C (-13°F to +212°F)
Enclosure	Meets NEMA 1,3,4,4x,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	Output Energized

Wiring Diagram



Specialty


Dimensions



S Barrel



High Temperature Sensor
Plastic Barrel, Partial Threading, Potted-In Cable

3-Wire DC 
 10-30 VDC, TTL Compatible
 Normally Open, NPN (Sinking) or PNP (Sourcing)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	High Temp (/S100)	Switching Frequency (Hz)	ID Number
Bi 2-S12-AN7X/S100	•	2	12	•		1	A	1	•	2000	M1773100
Bi 5-S18-AN7X/S100	•	5	18	•		2	A	1	•	1000	M1773400
Bi10-S30-AN7X/S100	•	10	30	•		3	A	1	•	500	M1777700
Ni 4-S12-AN7X/S100		4	12	•		1	A	1	•	1500	M1773000
Ni 8-S18-AN7X/S100		8	18	•		2	A	1	•	1000	M1773250
Ni15-S30-AN7X/S100		15	30	•		3	A	1	•	500	M1777600
Bi 2-S12-AP7X/S100	•	2	12	•		1	B	1	•	2000	M1755500
Bi 5-S18-AP7X/S100	•	5	18	•		2	B	1	•	1000	M1754200
Bi10-S30-AP7X/S100	•	10	30	•		3	B	1	•	500	M1752200
Ni 4-S12-AP7X/S100		4	12	•		1	B	1	•	1500	M1768100
Ni 8-S18-AP7X/S100		8	18	•		2	B	1	•	1000	M1749850
Ni15-S30-AP7X/S100		15	30	•		3	B	1	•	500	M1768501

Cable/Conductor

Cable: PVC Jacket; 2 meter standard
 Copper Conductor: S12: 24 AWG
 (PVC insulated) S18/S30 and all S100 sensors: 21 AWG

Material

Barrel: PA 12-GF30 Plastic
 End Cap: PUR Plastic

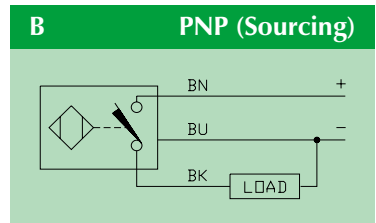
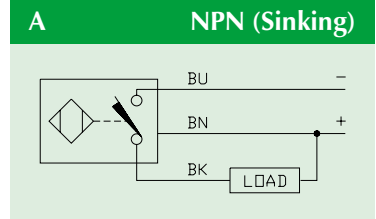
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

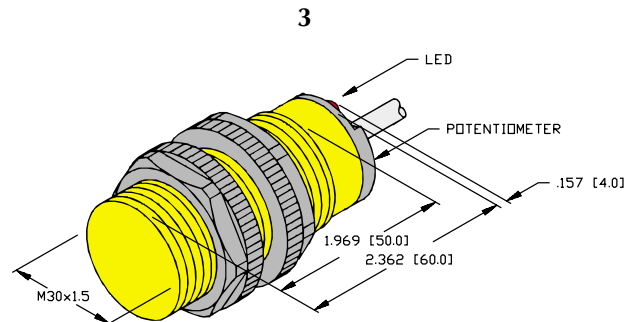
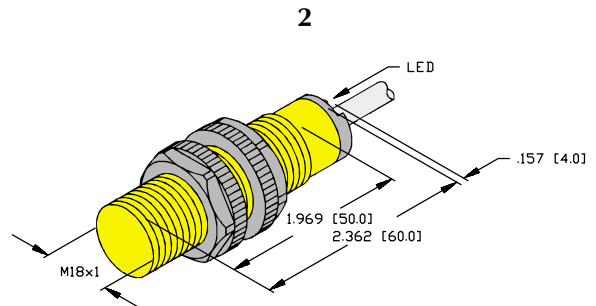
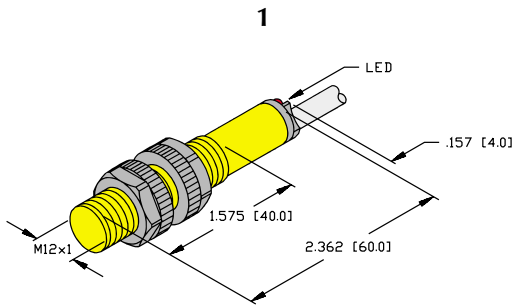
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤0.7 V at 150 mA (0.3 V typical)
Continuous Load Current	≤150 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	5.5-9.5 mA
Time Delay Before Availability	≤8 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +100°C (-13°F to +212°F)
Enclosure	Meets NEMA 1,3,4,4x,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	Output Energized

Wiring Diagrams



Specialty

Dimensions



S Barrel



High Temperature Sensor

Plastic Barrel, Partial Threading, Potted-In Cable

4-Wire DC 

10-65 VDC, Short-Circuit and Overload Protected

Complementary Outputs: One N.O., One N.C. (SPDT)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	High Temp (S100)	Switching Frequency (Hz)	ID Number
Bi 5-S18-VP4X/S100	•	5	18		•	1	A	1	•	500	M1513402

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 21 AWG
 (PVC insulated)

Material

Barrel: PA 12-GF30 Plastic
 End Cap: PUR Plastic

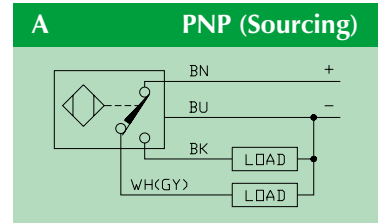
Accessories

[Accessories and mounting devices can be found in Section J.](#)

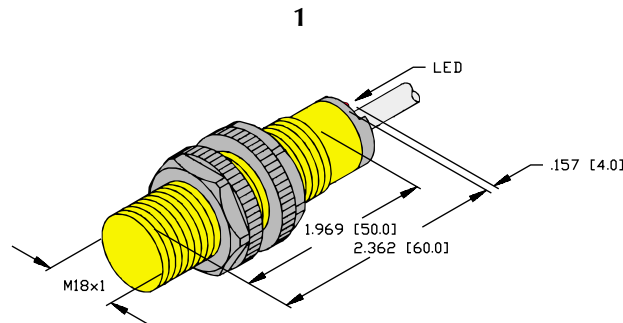
Specifications

Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	4.0-9.5 mA
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
Operating Temperature	-25°C to +100°C (-13°F to +212°F)
Enclosure	Meets NEMA 1,3,4,4x,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	Output Energized

Wiring Diagram




Dimensions



CP40



High Temperature Sensors
*Limit Switch Style **combiprox**®*

4-Wire DC 
 10-65 VDC, Short-Circuit and Overload Protected
 Complementary Outputs: One N.O., One N.C. (SPDT)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Height (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	High Temp (/S100)	Switching Frequency (Hz)	ID Number
Bi15-CP40-VN4X2/S100	•	15	40	•		1	A	2	•	150	M1514400
Ni20-CP40-VN4X2/S100		20	40	•		1	A	2	•	150	M1527200
Bi15-CP40-VP4X2/S100	•	15	40		•	1	B	2	•	150	M1501900
Ni20-CP40-VP4X2/S100		20	40		•	1	B	2	•	150	M1502000

Quick Disconnect Option

For *minifast* connector: Add "-B1141" suffix to part number.
 Suggested cordset: [RKM 40-2M](#). See [Section H](#) for other styles.
 For *euromast* connector: Add "-H1141" suffix to part number.
 Suggested cordset: [RK 4.4T-2](#). See [Section H](#) for other styles.

Material

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

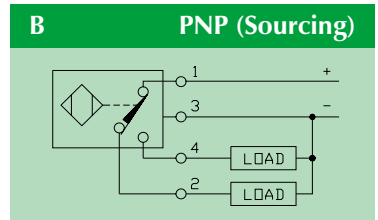
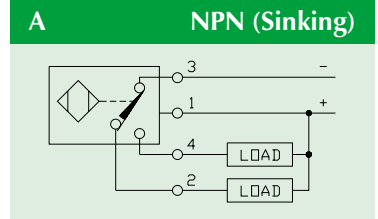
Accessories

[Mounting Bracket LSAP-2](#) and other accessories can be found in [Section J](#).

Specifications

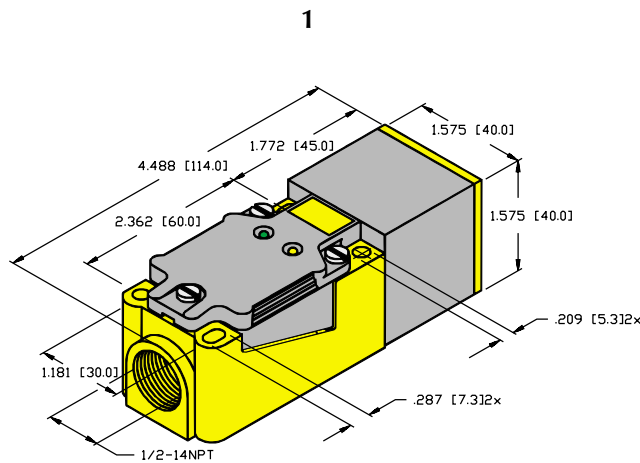
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA (100 mA for S100 style)
Trigger Current for Overload Protection	≥220 mA (≥150 mA for S100 style)
Continuous Load Current	≤200 mA (≤100 mA for S100 style)
Off-State (Leakage) Current	<10 μA
No-Load Current	4.0-9.5 mA
Time Delay Before Availability	≤25 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +100°C (-13°F to +212°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
LED On (Green).	Power On

Wiring Diagrams



Specialty

Dimensions



Note: By removing sensor from terminal chamber, head can be adjusted to nine different sensing positions.

TURCK


Inductive Sensors - Specialty

P Barrel



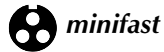
High Temperature Sensor

Plastic Barrel, Full Threading, Quick Disconnect

2-Wire AC 
 20-250 VAC
 Normally Open (AZ3X) or Normally Closed (RZ3X)



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	Normally Open	Normally Closed	Drawing #	Wiring Diagram	# of LEDs	High Temp. (°S100)	Switching Frequency (Hz)	ID Number	Connection
Bi 5-P18-AZ3X-B2331/S100	•	5	18	•	1	A	1		20	M4374801	 Mating Cordsets RK 30-2M (2 meter) For other styles see Section H or consult "Cordsets" catalog	
Bi10-P30-AZ3X-B2131/S100	•	10	30	•	2	A	1		20	M1352600		
Ni10-P18-AZ3X-B2331/S100		10	18	•	1	A	1		20	M4375201		
Bi 5-P18-RZ3X-B2331/S100	•	5	18		•	1	B	1	20	M4375001		
Bi10-P30-RZ3X-B2131/S100	•	10	30		•	2	B	1	20			

Material

Connector: Polyamide Plastic
 Barrel: PA 12-GF30 Plastic

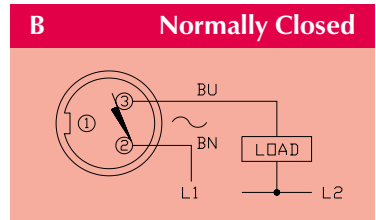
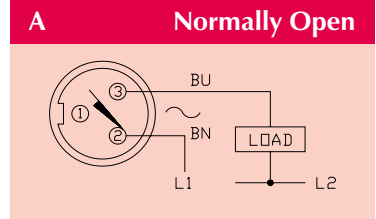
Accessories

Accessories and mounting devices can be found in Section J.

Specifications

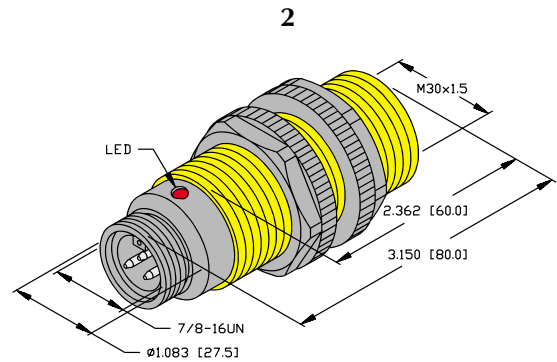
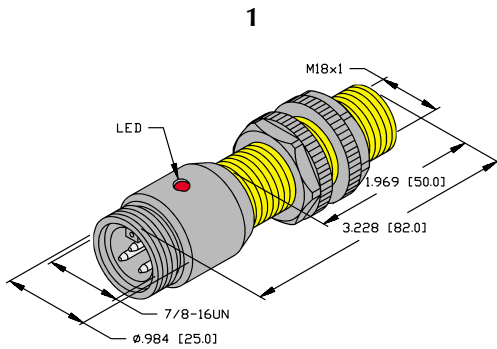
Line Frequency	40-60 Hz
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤7.0 V at 500 mA
Continuous Load Current	≤500 mA
Off-State (Leakage) Current	≤1.7 mA
Minimum Load Current	≥5.0 mA
Inrush Current	≤8.0 A (≤10 ms, 5% Duty Cycle)
Time Delay Before Availability	≤25 ms
Power-On Effect	Per IEC 947-5-2
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +100°C (-13°F to +212°F)
Enclosure	Meets NEMA 1,3,4,4X,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	Output Energized

Wiring Diagrams



Specialty

Dimensions



S Barrel



High Temperature Sensor

Plastic Barrel, Partial Threading, Potted-In Cable

2-Wire AC



20-250 VAC

Normally Open (AZ3X) or Normally Closed (RZ3X)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	Normally Open	Normally Closed	Drawing #	Wiring Diagram	# of LEDs	High Temp. (/S100)	Switching Frequency (Hz)	ID Number
Bi 5-S18-AZ3X/S100	•	5	18	•		1	A	1	•	20	M1373400
Bi10-S30-AZ3X/S100	•	10	30	•		2	A	1	•	20	M1371900
Ni 8-S18-AZ3X/S100		8	18	•		1	A	1	•	20	M1371800
Ni15-S30-AZ3X/S100		15	30	•		2	A	1	•	20	M1375800
Bi 5-S18-RZ3X/S100	•	5	18		•	1	B	1	•	20	M1376000
Bi10-S30-RZ3X/S100	•	10	30		•	2	B	1	•	20	M1371300

Cable/Conductor

Cable: PVC Jacket; 2 meter standard
 Copper Conductor: 21 AWG
 (PVC insulated)

Material

Barrel: PA 12-GF30 Plastic
 End Cap: PUR Plastic

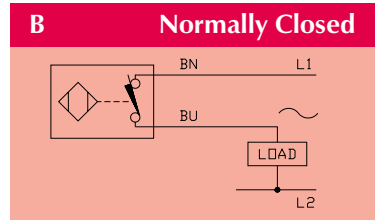
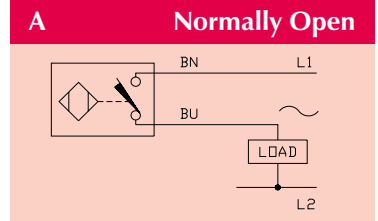
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

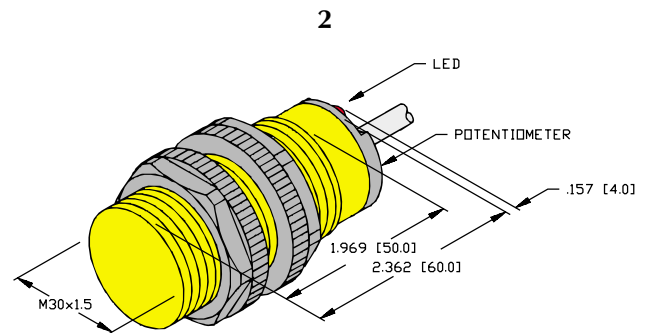
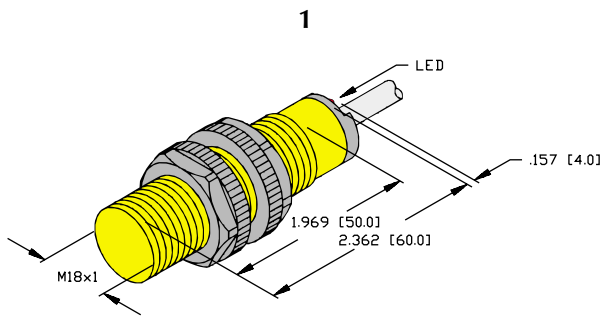
Line Frequency	40-60 Hz
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	100 mA
Continuous Load Current	≤100 mA
Off-State (Leakage) Current	≤1.7 mA
Minimum Load Current	≥5.0 mA
Inrush Current	≤8.0 A (≤10 ms, 5% Duty Cycle)
Time Delay Before Availability	≤25 ms
Power-On Effect	Per IEC 947-5-2
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +100°C (-13°F to +212°F)
Enclosure	Meets NEMA 1,3,4,4X,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	Output Energized

Wiring Diagrams



Specialty


Dimensions



CP40



High Temperature Sensor
*Limit Switch Style, **combiprox**®*

2-Wire AC 
 20-250 VAC

Connection Programmable; Normally Open or Normally Closed



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Square (mm)	Normally Open	Normally Closed	Drawing #	Wiring Diagram	# of LEDs	High Temp. (/S100)	Switching Frequency (Hz)	ID Number
Bi15-CP40-FZ3X2/S100	•	15	40	•	•	1	A	2	•	20	M1377600
Ni20-CP40-FZ3X2/S100		20	40	•	•	1	A	2	•	20	M1377500

Caution



An electrical shock hazard exists inside of terminal chamber style sensors whenever power is applied. Remove all power to the sensor whenever sensor wiring is exposed.

Quick Disconnect Option

For *minifast* connector: Add "-B1131" suffix to part number.
 Suggested cordset: [RKM 30-2M](#). See [Section H](#) for other styles.
 For *microfast* connector: Add "-B3131" suffix to part number.
 Suggested cordset: [KB 3T-2](#). See [Section H](#) for other styles.

Material

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

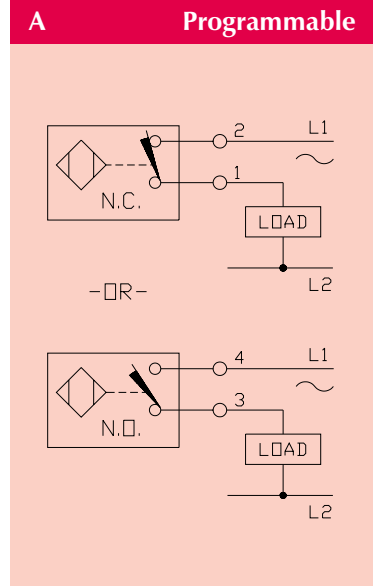
Accessories

[Mounting bracket LSAP-2](#) and other accessories can be found in [Section J](#).

Specifications

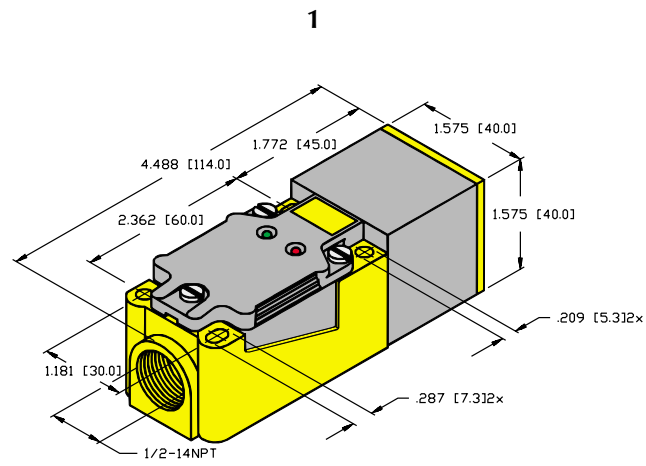
Line Frequency	40-60 Hz
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤7.0 V at 100 mA
Continuous Load Current	≤100 mA
Off-State (Leakage) Current	≤1.7 mA
Minimum Load Current	≥5.0 mA
Inrush Current	≤8.0 A (≤10 ms, 5% Duty Cycle)
Time Delay Before Availability	≤80 ms
Power-On Effect	Per IEC 947-5-2
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +100°C (-13°F to +212°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 (Red)	Output Energized
LED On (Green)	Power On

Wiring Diagram



Specialty

Dimensions



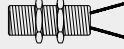
Note: By removing sensor from terminal chamber, head can be adjusted to nine different sensing positions.

P Barrel



High Temperature Sensor

Plastic Barrel, Full Threading, Potted-In Cable

2-Wire DC, Requires Remote Amplifier 
 5-30 VDC
 Variable Resistance Output, NAMUR (EN 50227)



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	Drawing #	Wiring Diagram	# of LEDs	Switching Frequency	High Temp (°S100)	FM Approved Division 1 *	Time Delay Before Availability (ms)	ID Number
Bi 2-P12-Y0/S100	•	2	12	1	A	0	5000	•	•	≤1	M1030200
Bi 5-P18-Y0/S100	•	5	18	2	A	0	1000	•	•	≤2	M1024500
Bi10-P30-Y0/S100	•	10	30	3	A	0	500	•	•	≤2	M1023300
Ni 5-P12-Y0/S100		5	12	1	A	0	2000	•	•	≤1	M1024200
Ni10-P18-Y0/S100		10	18	2	A	0	500	•	•	≤2	M1031700
Ni15-P30-Y0/S100		15	30	3	A	0	200	•	•	≤2	M1022700

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

Note: Y0(X) and Y1 have identical electrical properties. [See Section A for differences in European approvals.](#)

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 21 AWG
 (PVC insulated)

Material

Barrel: PA 12-GF30 Plastic
 End Cap: PUR Plastic

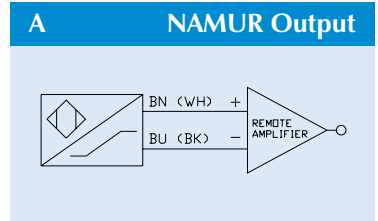
Accessories

[Accessories and mounting devices can be found in Section J.](#)
 Remote Amplifier required. Consult TURCK *multimodul* or *Automation Controls* catalog.

Specifications

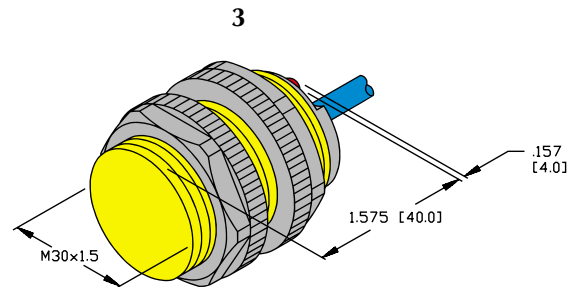
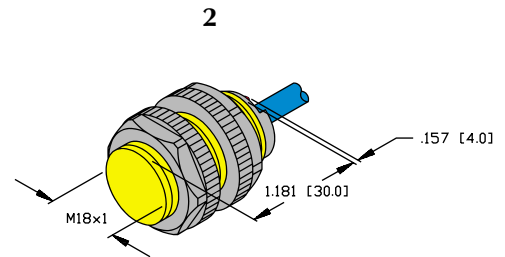
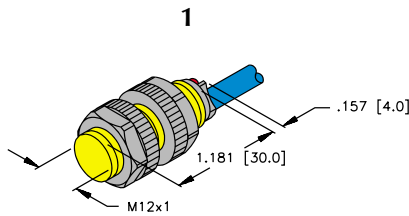
Differential Travel (Hysteresis)	1-10% (5% typical)
Nominal Voltage.	8.2 VDC (EN 50227)
Resistance Change from Nonactivated to Activated Condition	1.0 kΩ to >8.0 kΩ
Resulting Current Change	≥2.2 mA to ≤1.0 mA
Recommended Switching Point for Remote Amplifier	1.55 mA
Power-On Effect.	Realized in Amplifier
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Realized in Amplifier
Transient Protection	Realized in Amplifier
Operating Temperature	-25°C to +100°C (-13°F to +212°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

Wiring Diagram



Specialty


Dimensions



CP80



High Temperature Sensor
Modular Construction

2-Wire DC, Requires Remote Amplifier 
 5-30 VDC
 Variable Resistance Output, NAMUR (EN 50227)



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Diameter (mm)	Drawing #	Wiring Diagram	# of LEDs	Switching Frequency	High Temp (S100)	FM Approved Division 1 *	Time Delay Before Availability (ms)	ID Number
Ni40-CP80-Y0/S100		40	80	1	A	0	100	•	•	≤8	M1040300

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

Quick Disconnect Option

For **minifast** connector:a Add "-B1141" suffix to part number.
 Suggested cordset: **RKM 40-2M** with **IS** label (see Section J). (*)
 For **euromast** connector: Add "-H1141" suffix to part number.
 Suggested cordset: **RK 4.21T-2** (*) See Section H for other styles.

Material

Housing: PBT-GF30-VO Plastic
 Terminal Chamber Cover: Trogamid T

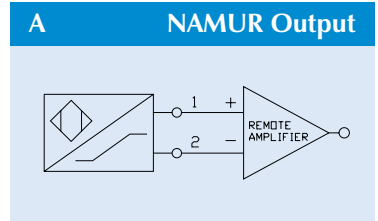
Accessories

Accessories and mounting devices can be found in Section J.
 Remote Amplifier required. Consult TURCK **multimodul** or **Automation Controls** catalog.

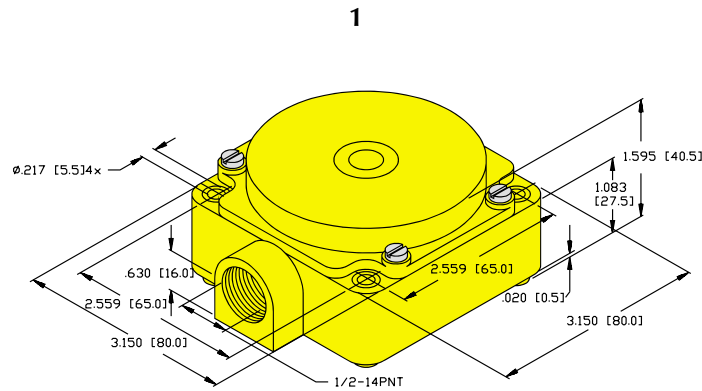
Specifications

Differential Travel (Hysteresis)	1-10% (5% typical)
Nominal Voltage	8.2 VDC (EN 50227)
Resistance Change from Nonactivated 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 +100°C (-13°F to +212°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

Wiring Diagram



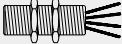
Dimensions



DS20






Dual Valve Sensor, Plastic Housing
Quick Disconnect, Potted-In Cable or Terminal Chamber

4-Wire DC Dual Sensor 
10-30 VDC, Short-Circuit and Overload Protected
Normally Open, PNP (Sourcing)



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Height (mm)	NPN (Sinking)	PNP (Sourcing)	Drawing #	Wiring Diagram	# of LEDs	FM Approved Division 2	Switching Frequency (Hz)	ID Number	Connection
Ni 4-DS20-2AP6X2-H1141		4.0	20	•	1	A	2		1000	M1650020	 eurofast Mating Cordsets RK 4.4T-2 (2 meter) For other styles see Section H or consult "Cordsets" catalog.	
Ni 4-DS20-2AP6X2		4.0	20	•	2	B	2		1000	M1650022	2 meter cable, PVC jacket, 22 AWG copper conductors, PVC insulated.	
Ni 4-DS20-2AP6X2-H1141/S578 Ni 4-DS20-2AP6X2-H1141/S579		4.0 4.0	20 20	• •	3 4	C C	2 2	• •	1000 1000	M1650095 M1650094	 terminal chamber  Nonincendive	

Factory Mutual Approved for /S578 and /S579 **ONLY**:

Class I, Div. 2, Groups A,B,C,D

Class II, Div. 2, Groups F,G

Class III, Div 1 & 2

Notes:

"/S578" designates DS20 with straight conduit adapter.

"/S579" designates DS20 with right angle conduit adapter.

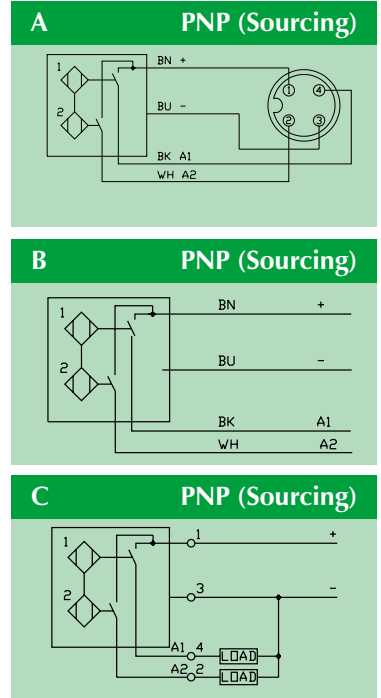
Material

Housing: PBT-GF30-VO Plastic
Sensing Face: PBT-GF30-VO Plastic
Connector: Chrome Plated Brass
Field Wireable
Connector(S578/S579): PBT
Conduit Adapter (S578/S579): Delrin

Specifications

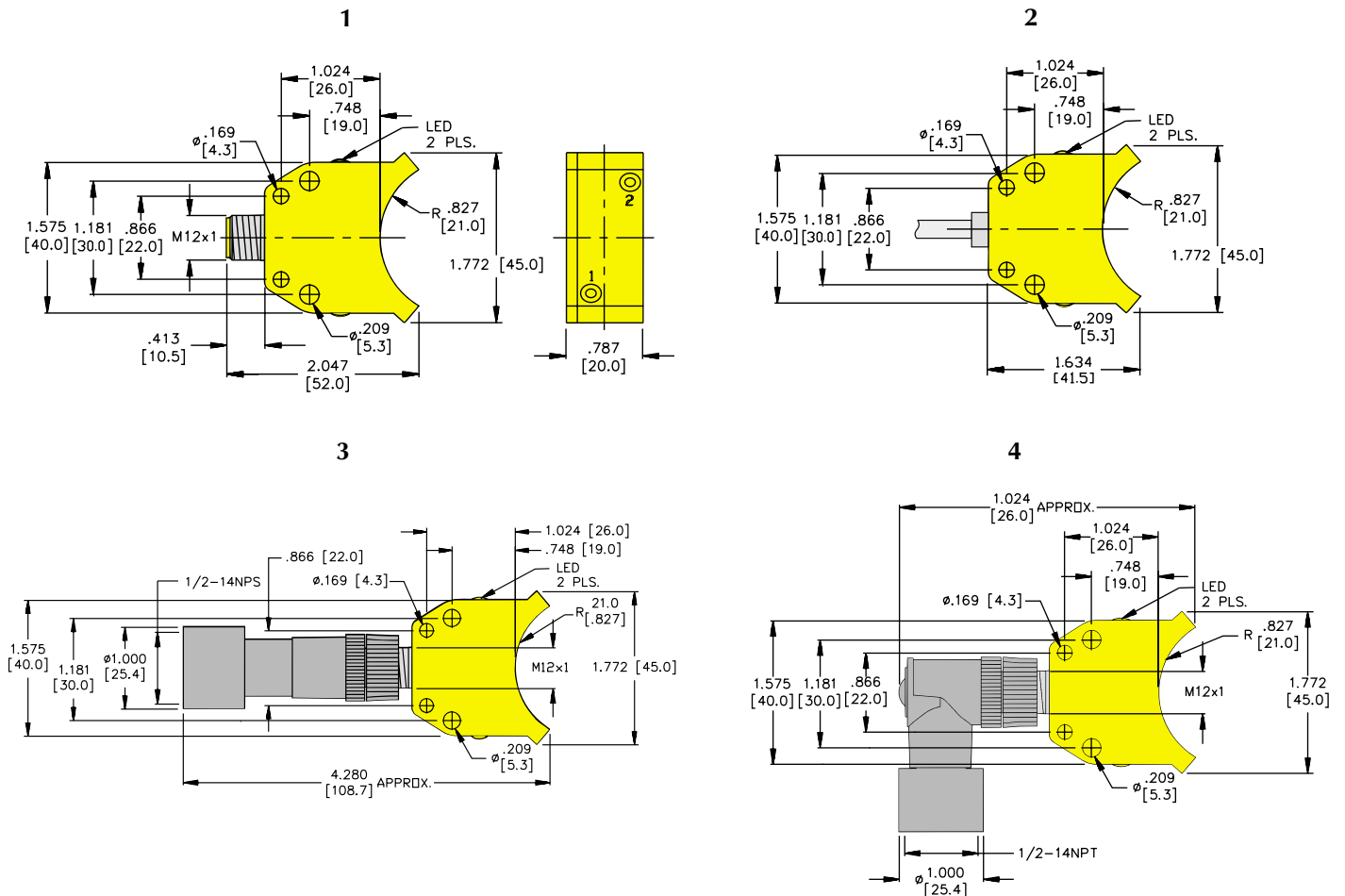
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	2.0-15.0 mA
Time Delay Before Availability	≤8 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
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 Function	Output Energized

Wiring Diagrams



Specialty

Dimensions



NEW

DS20



**Dual Valve Sensor, Plastic Housing
with Quick Disconnect**

5-Wire AC/DC Dual Sensor
20-250 VAC/DC
Normally Open



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Height (mm)	Normally Open	Normally Closed	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number	Connection
Ni 4-DS20-2AZ31X2-B3151		4.0	20	•		1	A	2		60	M1305000	<p>Mating Cordsets KB 5T-2 (2 meter) For other styles see Section H or consult "Cordsets" catalog.</p>

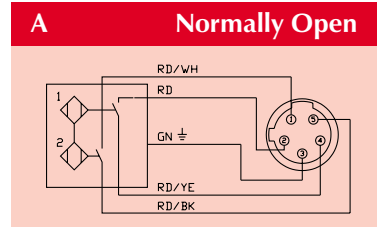
Material

Connector: Chrome Plated Brass
Housing: PBT-GF30-VO Plastic
Sensing Face: PBT-GF30-VO Plastic

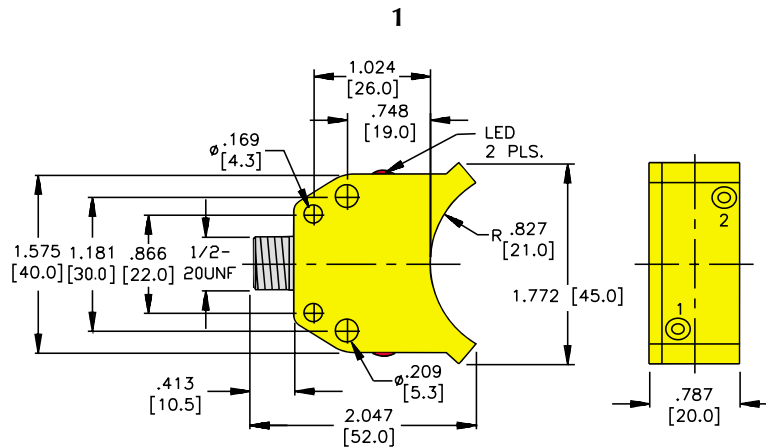
Specifications

Line Frequency	40-60 Hz
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤6 V at 100 mA
Continuous Load Current	≤100 mA
Off-State (Leakage) Current	<1.7 mA
No-Load Current	2.0-15.0 mA
Minimum Load Current	3 mA
Inrush Current	≤1 A (≤30 ms, 15% Duty Cycle)
Time Delay Before Availability	≤60 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Transient Protection	Incorporated
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 Function	Output Energized

Wiring Diagram



Dimensions



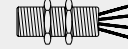
NEW

DS20



Dual Valve Sensor, Plastic Housing
Potted-In Cable or Quick Disconnect

4-Wire DC Dual Sensor, Requires Remote Amplifier
5-30 VDC
Variable Resistance Output, NAMUR (EN 50227)



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Height (mm)	Drawing #	Wiring Diagram	# of LEDs	FM Approved Division 1 *	Switching Frequency (Hz)	ID Number	Connection
Ni 4-DS20-2Y1X2		4.0	20	1	A	2	•	1000	M1050002	2 meter cable, PVC jacket, 22 AWG copper conductors, PVC insulated.
Ni 4-DS20-2Y0X2-H1140		4.0	20	2	B	2	•	1000	M1050001	<p>Mating Cordsets RK 4.41T-2 (2 meter) For other styles see Section H or consult "Cordsets" catalog.</p>

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

Factory Mutual Approved:

USA and CANADA:	Class I, II, III	Division 1	Groups A, B, C, D, E, F, G*
-Y0 (X), Y1(X)	FM File Numbers:		1F1A3.AX 0R7A2.AX 1T8A8.AX 0T3H6.AX
	CSA File Number:		LR82245-4

Material

Connector:	Chrome Plated Brass
Housing:	PBT-GF30-VO Plastic
Sensing Face:	PBT-GF30-VO Plastic

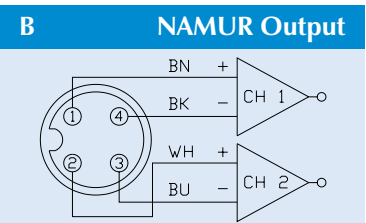
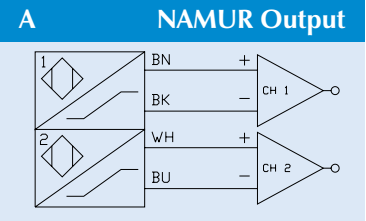
Accessories

Remote Amplifier required.
Consult **TURCK multimodul®** and **Automation Controls** catalogs.

Specifications

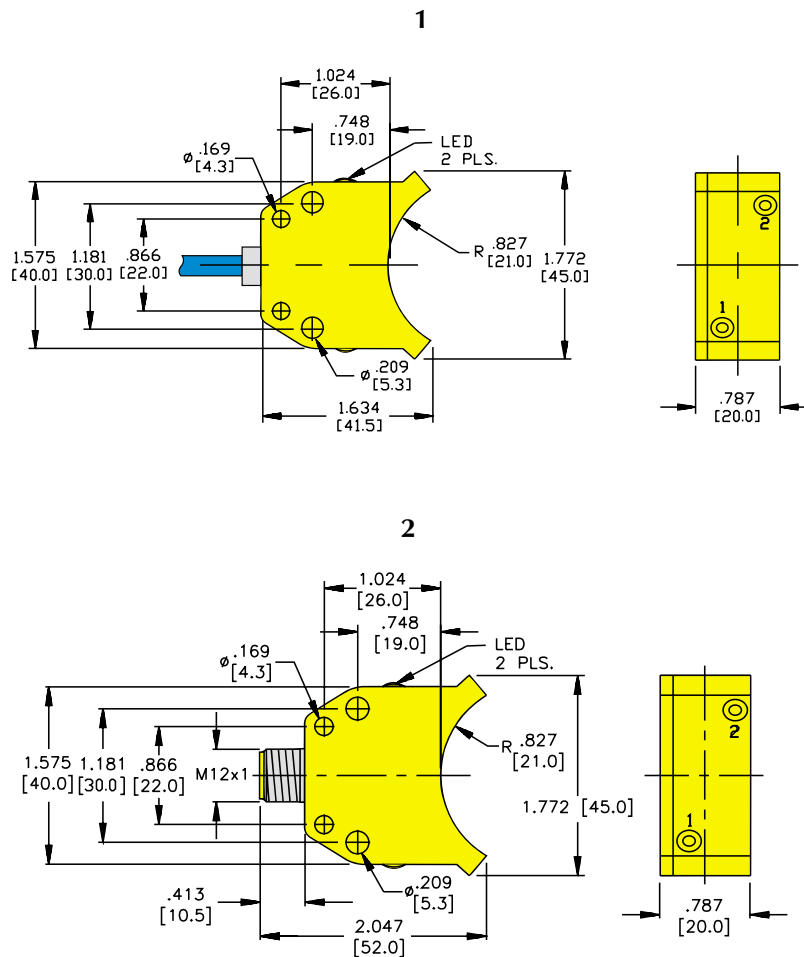
Differential Travel (Hysteresis)	1-10% (5% typical)
Nominal Voltage	8.2 VDC (EN 50227)
Resistance Change from Nonactivated to Activated Condition	1.0 kΩ to >8.0 kΩ
Resulting Current Change	≥2.2 mA to ≤1.0 mA
Recommended Switching Point for Remote Amplifier	1.55 mA
Power-On Effect	Realized in Amplifier
Reverse Polarity Protection	Incorporated
Short Circuit 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 1,3,4,13 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

Wiring Diagrams



Specialty

Dimensions

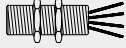



Q130




Bottle and Can Sensors

Rectangular Housing with Potted-in Cable or Quick Disconnect

4-Wire DC  
 10-65 VDC, Short-Circuit and Overload Protected
 Complementary Outputs: One N.O., One N.C. (SPDT)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Length (mm)	NPN (Sinking)	PNP (Sourcing)	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number	Connection
Ni30-Q130-VN4X2		30	130	•		1	A	2		100	M1517800	2 meter cable PVC Jacket
Ni30-Q130-VP4X2		30	130		•	1	B	2		100	M1517900	
Ni30-Q130-VN4X2-B2141		30	130	•		2	C	2		100	M1518000	 Mating Cordsets RK 40-2M (2 meter) For other styles see Section H or consult "Cordsets" catalog
Ni30-Q130-VP4X2-B2141		30	130		•	2	D	2		100	M1518001	

Operating Principle

The **TURCK Q130** is a wide area inductive sensor used for bottle and can line control. The broad sensing face is designed to span the gap or valley between two capped bottles or cans. The output is continuous if bottles or cans are present, regardless if they are moving or stationary.

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 22 AWG (PVC insulated)

Material

Housing: PBT Plastic
 Connector: PA 12-GF30 Plastic

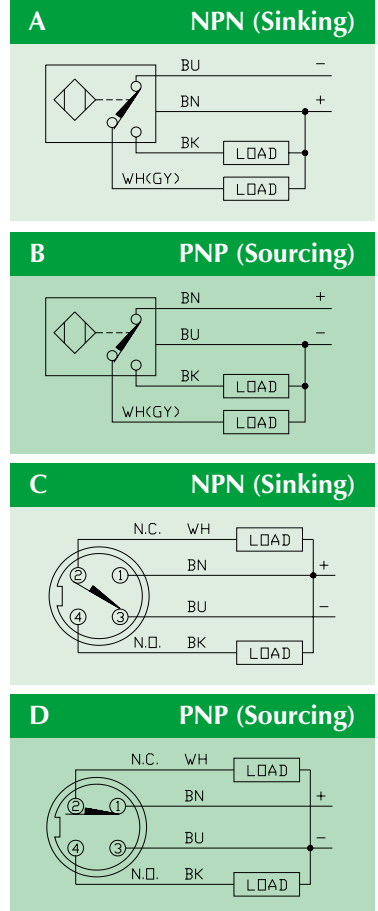
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

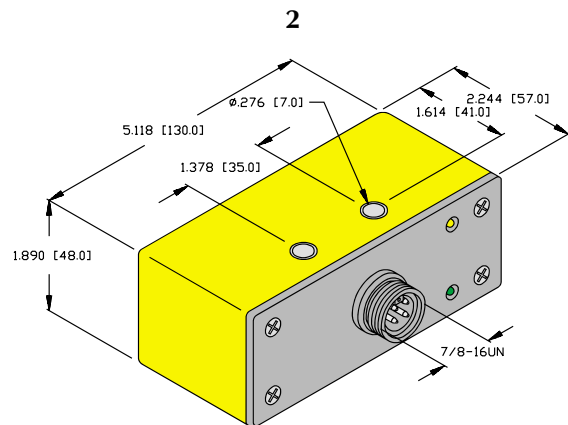
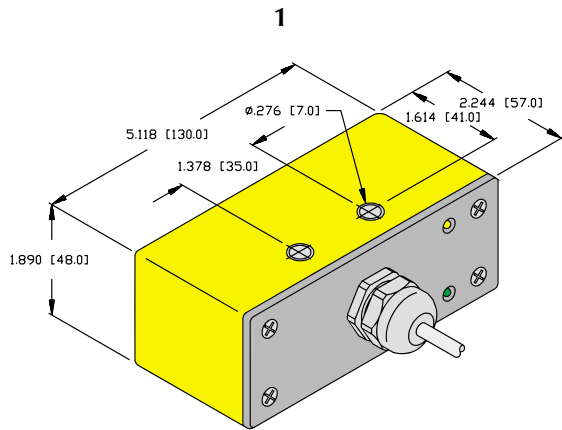
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	4.0-9.5 mA
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
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
LED On (Green)	Power On

Wiring Diagrams

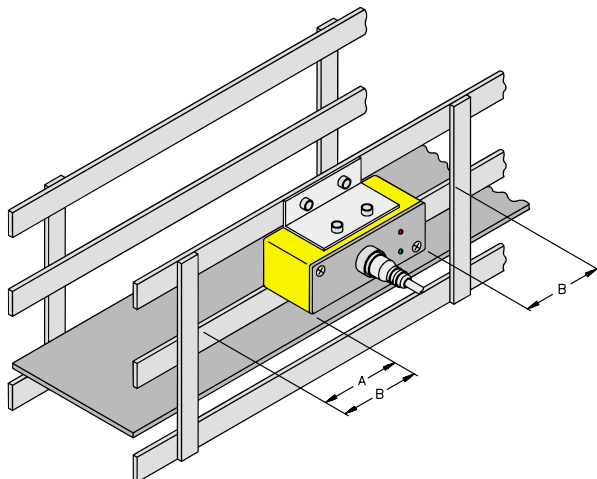


Specialty

Dimensions



Mounting Guidelines



A = When only one brace is present, allow a 1/4" minimum clearance distance from edge of brace to edge of sensor.

B = When sensor must be mounted between 2 braces, allow a 3/8" minimum clearance distance between sensor and each brace.

TURCK

Inductive Sensors - Specialty

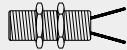
Q130



Bottle and Can Sensors

Rectangular Housing with Potted-in Cable or Quick Disconnect

2-Wire AC



20-250 VAC/DC Short-Circuit and Overload Protected

Normally Open

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Length (mm)	Normally Open	Normally Closed	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (I ² t)	Switching Frequency (Hz)	ID Number	Connection
Ni30-Q130-ADZ30X2		30	130	•		1	A	2		30*	M4209500	2 meter cable, PVC Jacket
Ni30-Q130-ADZ30X2-B1131		30	130	•		2	B	2		30*	M4210000	<p>Mating Cordsets RKM 30-2M (2 meter) For other styles see Section H or consult "Cordsets" catalog</p>

* AC Switching Frequency is 30 Hz
 DC Switching Frequency is 100 Hz

Operating Principle

The **TURCK Q130** is a wide area inductive sensor used for bottle and can line control. The broad sensing face is designed to span the gap or valley between two capped bottles or cans. The output is continuous if bottles or cans are present, regardless if they are moving or stationary.

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 21 AWG (PVC insulated)

Material

Housing: PBT Plastic
 Connector: Chrome Plated Brass

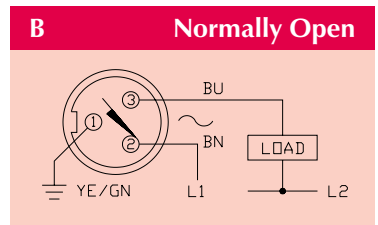
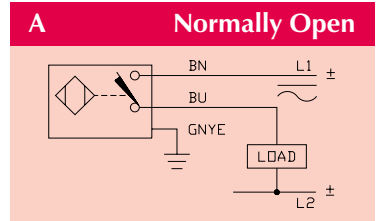
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

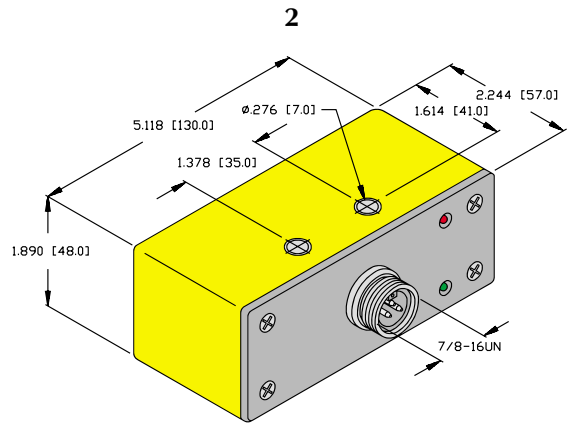
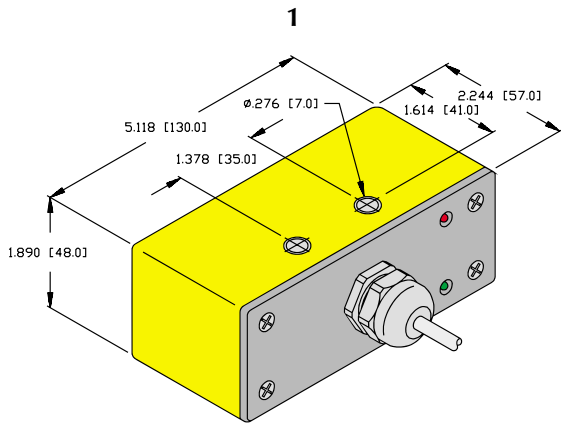
Line Frequency	40-60 Hz
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤6.0 V at 400 mA
Trigger Current for Overload Protection	≥500 mA
Continuous Load Current	≤400 mA
Off-State (Leakage) Current	≤1.7 mA
Minimum Load Current	≥3.0 mA
Inrush Current	≤3.0 A (≤20 ms, 10% Duty Cycle)
Power-On Effect	Per IEC 947-5-2
Transient Protection	Per EN 60947-5-2
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 (Red)	Output Energized
LED On (Green)	Power On
LED Flashing (Green)	Short-Circuit Warning

Wiring Diagrams

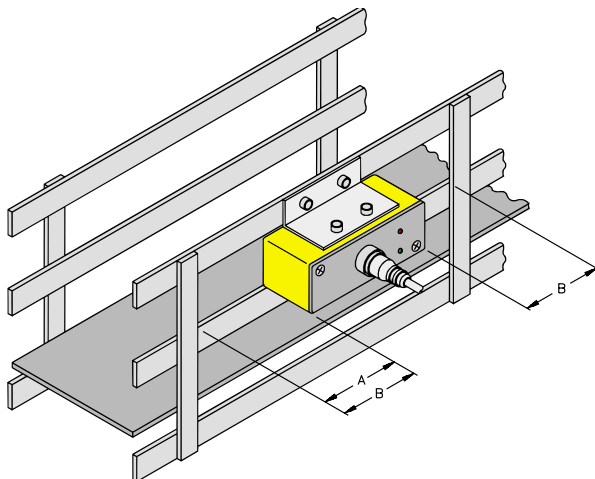


Specialty

Dimensions



Mounting Guidelines




- A = When only one brace is present, allow a 1/4" minimum clearance distance from edge of brace to edge of sensor.
- B = When sensor must be mounted between 2 braces, allow a 3/8" minimum clearance distance between sensor and each brace.

M Barrel



Nonferrous Only Sensors

M Barrel: Metal Barrel with Potted-In Cable, Partial Threading
S Barrel: Plastic Barrel with Potted-In Cable, Partial Threading

3-Wire DC 
 10-30 VDC, Short-Circuit and Overload Protected
 Normally Open, NPN (Sinking) or PNP (Sourcing)

S Barrel



Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Barrel Diameter (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Bi10NF-M30-AN6X	•	10	30	•		1	A	1		500	M1616100
Bi10NF-M30-AP6X	•	10	30		•	1	B	1		500	M1606100
Bi10NF-S30-AN6X	•	10	30	•		2	A	1		500	M1621500
Bi10NF-S30-AP6X	•	10	30		•	2	B	1		500	M1611500

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 21 AWG
 (PVC insulated)

Material

M Barrel Housing: Chrome Plated Brass
 S Barrel Housing: PA 12-GF30 Plastic
 Sensing Face: PA 12-GF30 Plastic
 End Cap: PUR Plastic

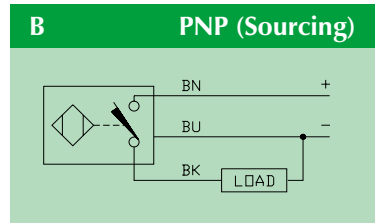
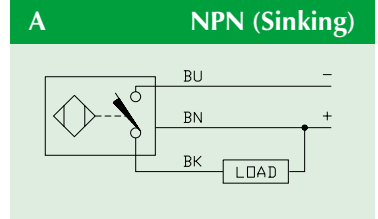
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

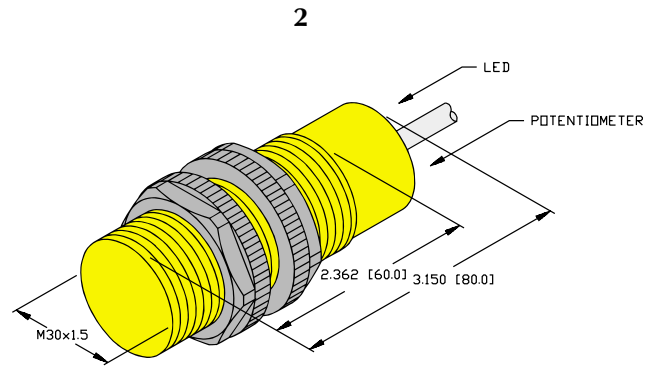
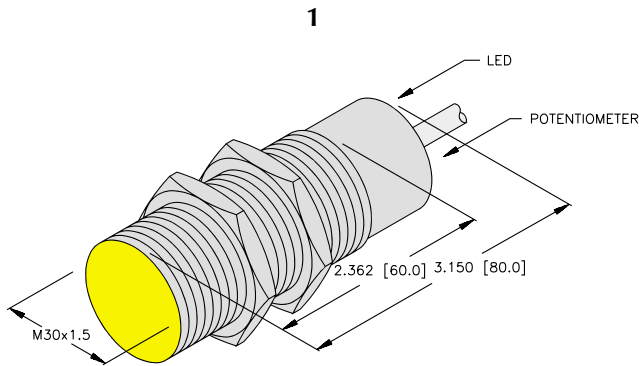
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	6.5-10.5 mA
Time Delay Before Availability	≤25 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +60°C (-13°F to +140°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	Output Energized

Wiring Diagrams



Specialty


Dimensions



CP40



Nonferrous Only Sensors
*Limit Switch Style Sensor **combiprox**®*

4-Wire DC 
 10-65 VDC, Short-Circuit and Overload Protected
 Complementary Outputs, One N.O.; One N.C. (SPDT)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Height (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Ni20NF-CP40-VN4X2		20	40	•		1	A	2		100	M1528200
Ni20NF-CP40-VP4X2		20	40		•	1	B	2		100	M1508200

Quick Disconnect Option

For *minifast* connector: Add "-B1141" suffix to part number.
 Suggested cordset: [RKM 40-2M](#). See [Section H](#) for other styles.
 For *eurofast* connector: Add "-H1141" suffix to part number.
 Suggested cordset: [RK 4.4T-2](#). See [Section H](#) for other styles.

Material

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

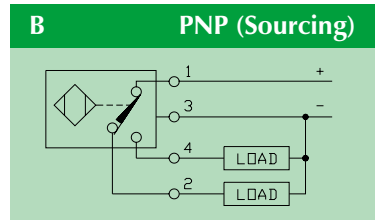
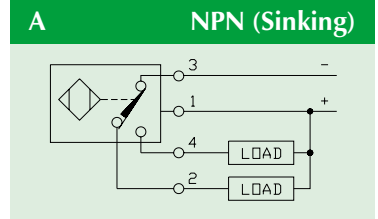
Accessories

[Mounting Bracket LSAP-2](#) and other accessories can be found in [Section J](#).

Specifications

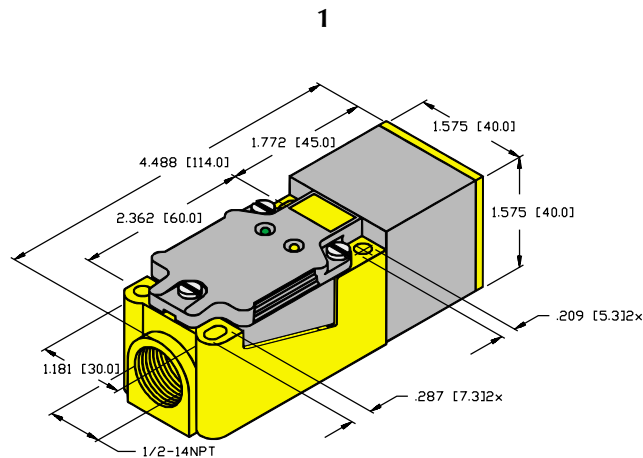
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	6.5-10.5 mA
Time Delay Before Availability	≤25 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +60°C (-13°F to +140°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
LED On (Green)	Power On

Wiring Diagrams



Specialty

Dimensions




Note: By removing sensor from terminal chamber, head can be adjusted to nine different sensing positions.

CP40



Nonferrous Only Sensors
Limit Switch Style Sensor **combiprox®**

2-Wire AC 
20-250 VAC
Connection Programmable; Normally Open or Normally Closed

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Housing Height (mm)	Normally Open	Normally Closed	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Ni20NF-CP40-FZ3X2		20	40	•	•	1	A	2		20	M1378200

Caution



An electrical shock hazard exists inside of terminal chamber style sensors whenever power is applied. Remove all power to the sensor whenever sensor wiring is exposed.

Quick Disconnect Option

For *minifast* connector: Add "-B1131" suffix to part number.
Suggested cordset: [RKM 30-2M](#). See [Section H](#) for other styles.
For *microfast* connector: Add "-B3131" suffix to part number.
Suggested cordset: [KB 3T-2](#). See [Section H](#) for other styles.

Material

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

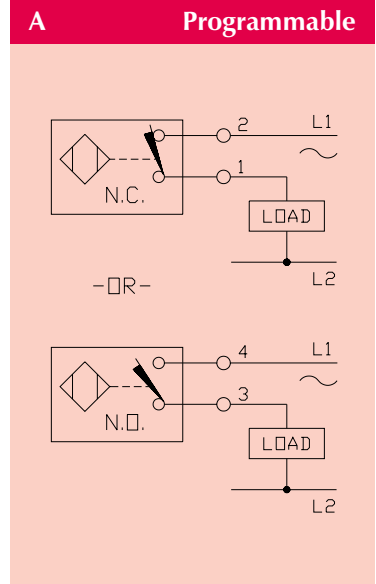
Accessories

[Mounting bracket LSAP-2](#) and other accessories can be found in [Section J](#).

Specifications

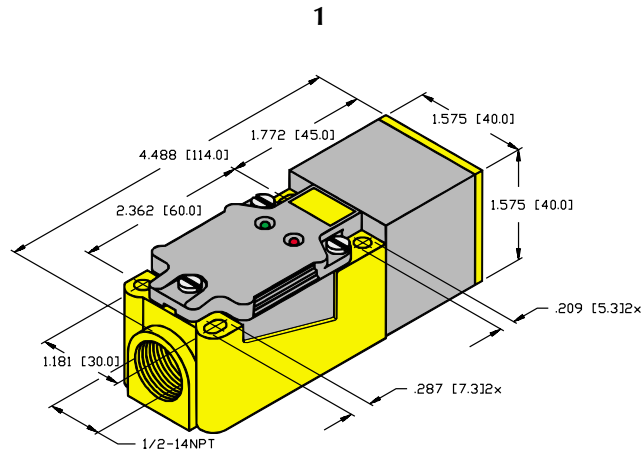
Line Frequency	40-60 Hz
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤7.0 V at 500 mA
Continuous Load Current	≤500 mA
Off-State (Leakage) Current	≤1.7 mA
Minimum Load Current	≥5.0 mA
Inrush Current	≤8.0 A (≤10 ms, 5% Duty Cycle)
Time Delay Before Availability	≤80 ms
Power-On Effect	Per IEC 947-5-2
Transient Protection	Per EN 60947-5-2
Operating Temperature	-25°C to +60°C (-13°F to +140°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 (Red)	Output Energized
LED On (Green)	Power On

Wiring Diagram



Specialty

Dimensions



Note: By removing sensor from terminal chamber, head can be adjusted to nine different sensing positions.

Q14 and Q20



Ring Sensors, Small with Static Output
Plastic Housing with Quick Disconnect or Potted-In Cable

3-Wire DC



10-30 VDC, Short-Circuit and Overload Protected
 Normally Open, NPN (Sinking) or PNP (Sourcing)

Sensor Selection

Part Number	Embeddable	Rated Operating Distance (mm)	Ring Diameter (mm)	NPN (Sinking)	PNP (Sourcing)	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S3-4)	Switching Frequency (Hz)	ID Number	Connection
Bi 6R-Q14-AN6X2	•	6.1	14	•		1	A	2		9.95	M1406020	2 meter cable, PVC jacket; 22 AWG copper conductors, PVC insulated.
Bi10R-Q14-AN6X2	•	10.1	14	•		1	A	2		9.95	M1406120	
Bi15R-Q14-AN6X2	•	15.1	14	•		1	A	2		9.95	M1406220	
Bi20R-Q14-AN6X2	•	20.1	14	•		1	A	2		9.95	M1406320	
Bi 6R-Q14-AP6X2	•	6.1	14		•	1	B	2		9.95	M1406000	
Bi10R-Q14-AP6X2	•	10.1	14		•	1	B	2		9.95	M1406100	
Bi15R-Q14-AP6X2	•	15.1	14		•	1	B	2		9.95	M1406200	
Bi20R-Q14-AP6X2	•	20.1	14		•	1	B	2		9.95	M1406300	
Bi30R-Q20-AN6X2-H1141	•	30.1	20	•		2	C	2		9.95	M1407520	Mating Cordsets RK 4T-2 (2 meter) For other styles see Section H or consult "Cordsets" catalog
Bi30R-Q20-AP6X2-H1141	•	30.1	20		•	2	D	2		9.95	M1407500	

Material

Connector: Chrome Plated Brass
 Housing: PBT-GF30-VO/POM Plastic

Accessories

Accessories and mounting devices can be found in [Section J](#).

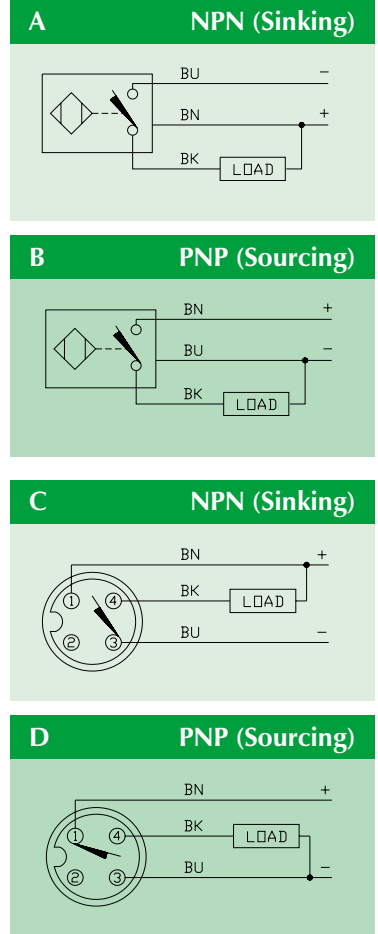
Specifications

Ripple	≤10%
Voltage Drop Across Conducting Sensor	≤1.8 V at 200 mA
Trigger Current for Overload Protection	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	≤8 mA
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
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
LED On (Green)	Power On
LED On (Yellow)	Output Energized

Target Specifications

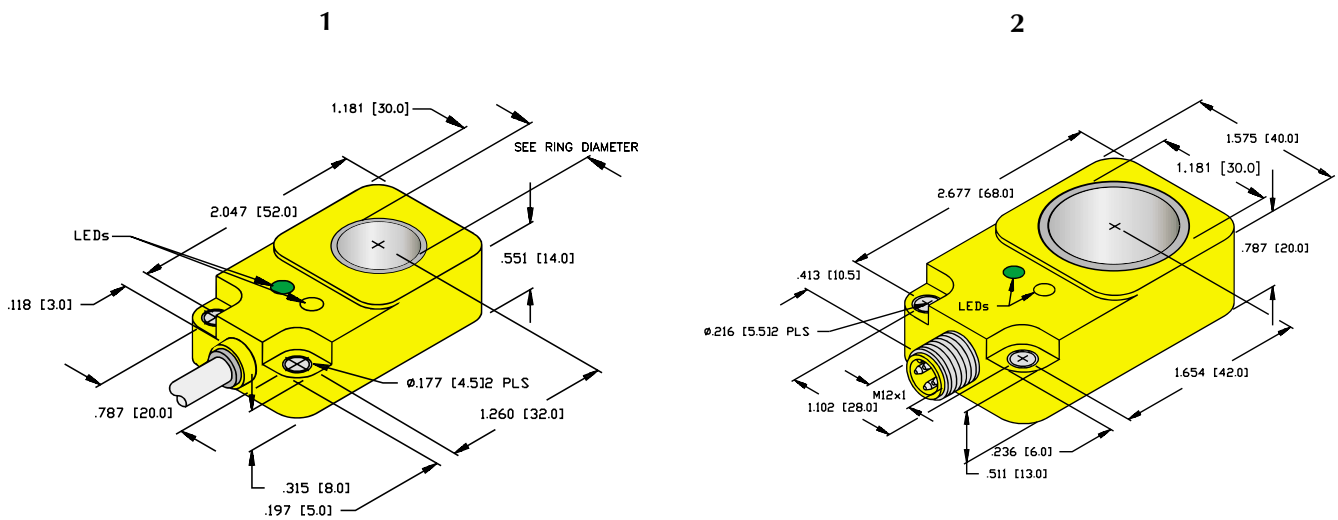
Minimum Target Diameter	Bi 6R: ≥2 mm	Bi10R: ≥2 mm
	Bi15R: ≥3 mm	Bi20R: ≥4 mm
	Bi30R: ≥6 mm	
Off Delay	100 ms	
Minimum Switching Period	100.5 ms (100 ms ON / 0.5 ms OFF)	

Wiring Diagrams



Specialty

Dimensions



TURCK

Inductive Sensors - Specialty

W30



Ring Sensors, Small with Dynamic Output*

Plastic Housing with Quick Disconnect

3-Wire DC



10-30 VDC, Short-Circuit and Overload Protected

Dynamic Output, Normally Open, NPN (Sinking) or PNP (Sourcing)

Sensor Selection

Part Number	Embeddable	Ring Diameter (mm)	Housing Height (mm)	NPN (Sinking)	PNP (Sourcing)	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number	Connection
Bi 6R-W30-DAN6X-H1141	•	6.1	30	•		1	A	1		8	M1403700	<p>Mating Cordsets RK 4T-2 (2 meter) For other styles see Section H or consult "Cordsets" catalog</p>
Bi10R-W30-DAN6X-H1141	•	10.1	30	•		1	A	1		8	M1403900	
Bi15R-W30-DAN6X-H1141	•	15.1	30	•		1	A	1		8	M1404100	
Bi20R-W30-DAN6X-H1141	•	20.1	30	•		1	A	1		8	M1404300	
Bi30R-W30-DAN6X-H1141	•	30.1	30	•		1	A	1		8	M1404501	
Bi 6R-W30-DAP6X-H1141	•	6.1	30		•	1	B	1		8	M1403600	
Bi10R-W30-DAP6X-H1141	•	10.1	30		•	1	B	1		8	M1403800	
Bi15R-W30-DAP6X-H1141	•	15.1	30		•	1	B	1		8	M1404000	
Bi20R-W30-DAP6X-H1141	•	20.1	30		•	1	B	1		8	M1404200	
Bi30R-W30-DAP6X-H1141	•	30.1	30		•	1	B	1		8	M1404500	

* Dynamic sensors detect a moving target through the ring.
 Output of these sensors is a 100 ms fixed pulse-width (one-shot).

Material

Connector: PA 12-GF30 Plastic
 Housing: PA 12-GF30 Plastic
 Sensing Ring: POM Plastic

Accessories

Accessories and mounting devices can be found in [Section J](#).

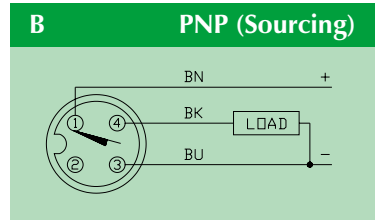
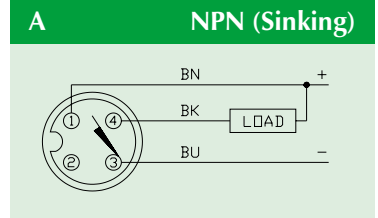
Specifications

Ripple	≤10%
Voltage Drop Across Conducting Sensor . . .	≤2.2 V at 200 mA
Trigger Current for Overload Protection . . .	≥270 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	5.5-9.5 mA
Time Delay Before Availability	≤120 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
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
LED On	Output Energized

Target Specifications (See application below)

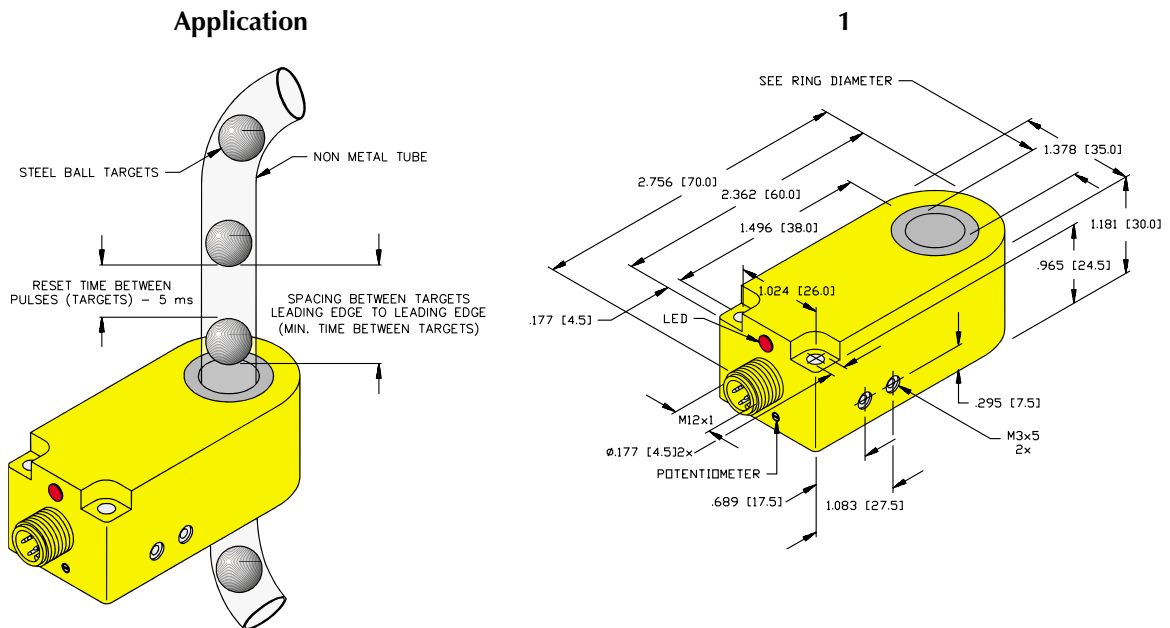
Minimum Target Diameter.	Bi 6R: ≥0.6 mm	Bi10R: ≥1.0 mm
	Bi15R: ≥1.5 mm	Bi20R: ≥2.0 mm
	Bi30R: ≥3.0 mm	
Pulse Duration.	100 ms	
Minimum Time Between Targets	105 ms	
Minimum Target Velocity	0.1 m/s	
Maximum Target Velocity	50 m/s	

Wiring Diagrams



Specialty

Dimensions




TURCK

Inductive Sensors - Specialty

R-32SR



Ring Sensors, Large with Dynamic or Static Outputs Plastic Housing with Integral Terminal Chamber

3-Wire DC 
 10-30 VDC, Short-Circuit and Overload Protected
 Jumper Programmable; Normally Open or Normally Closed

Sensor Selection

Part Number	Embeddable	Ring Diameter (mm)	Housing Height (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Bi20R-32SR-UN6X *	•	20	32	•	1	A	1			75	M1480095
Bi40R-32SR-UN6X *	•	40	32	•	1	A	1			75	M1480295
Bi60R-32SR-UN6X *	•	60	32	•	1	A	1			75	M1480395
Bi20R-32SR-UP6X *	•	20	32		•	1	B	1		75	M1480093
Bi40R-32SR-UP6X *	•	40	32		•	1	B	1		75	M1480293
Bi60R-32SR-UP6X *	•	60	32		•	1	B	1		75	M1480393

* Complete sensor

Part Number	ID Number	Drawing #	Part Number	ID Number	Drawing #
Bi20R	M14800 00	2	32SR-UN6X	M14820 00	2
Bi40R	M14802 00	2	32SR-UP6X	M14810 00	2
Bi60R	M14803 00	2			

Note: Remote mounting of switching amplifier and sensor head requires an RAC-1.6M or RAC-3.0M cable ([see drawing #2](#)).

Material

Housing: PBT Plastic
 Terminal Chamber Cover: Trogamid T

Accessories

[Accessories and mounting devices can be found in Section J.](#)

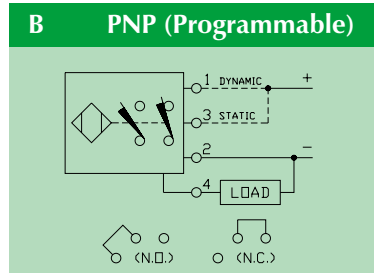
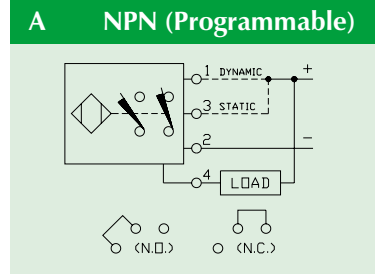
Specifications

Ripple	≤10%
Voltage Drop Across Conducting Sensor . . .	≤2.1 V at 200 mA
Trigger Current for Overload Protection . . .	≥220 mA
Continuous Load Current	≤200 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	25 mA
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
Operating Temperature for Ring Head	-25°C to +100°C (-13°F to +212°F)
Operating Temperature for Amplifier	-20°C to +70°C (-8°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
LED On	Output Energized

Dynamic and Static Specifications

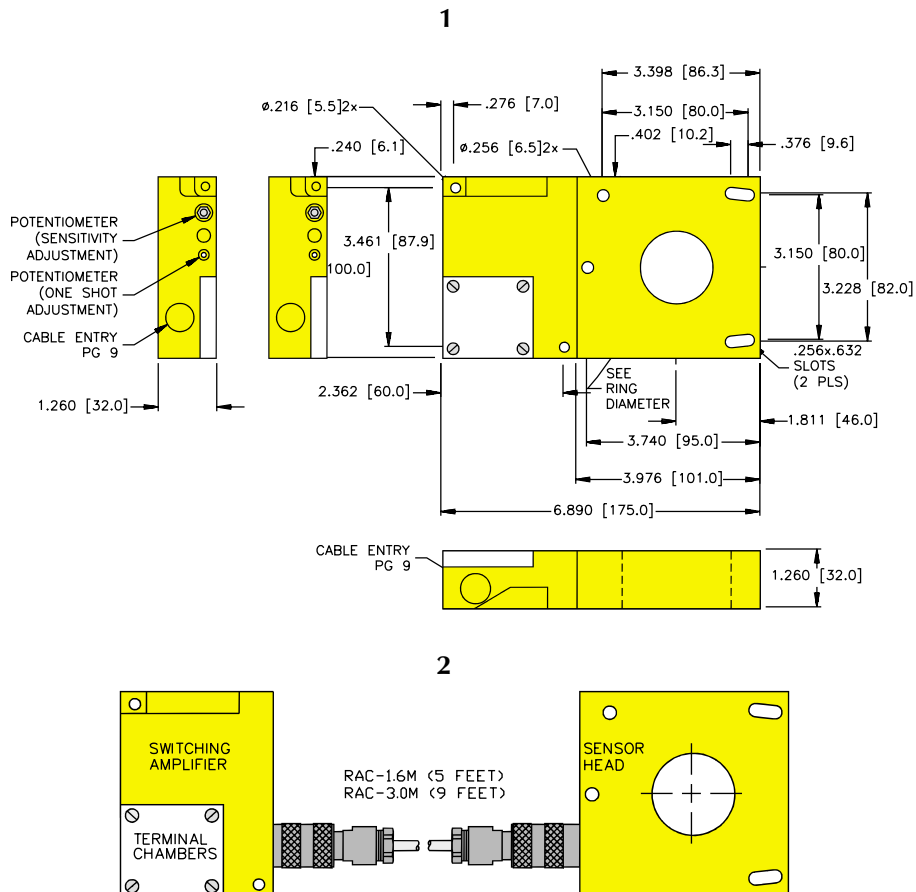
	Dynamic Mode	Static Mode
Differential Travel (Hysteresis)	-----	3-15%
Output Pulse Width	10 ms - 1 s	-----
(Adjustable by internal one-shot potentiometer)		

Wiring Diagrams



Specialty


Dimensions



Si.-K



Slot Sensors
Plastic Housing with Potted-In Cable

3-Wire DC 
 10-30 VDC, Short-Circuit and Overload Protected
 Normally Open, NPN (Sinking) or PNP (Sourcing)

Sensor Selection

Part Number	Embeddable	Slot Gap (mm)	Sensor Width (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Si15-K30-AN6		15	30	•	1	A	0			500	M1605002
Si15-K30-AN6X		15	30	•	1	A	1			500	M1605003
Si15-K30-AP6		15	30		•	1	B	0		500	M1605000
Si15-K30-AP6X		15	30		•	1	B	1		500	M1605001

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 22 AWG
 (PVC insulated)

Material

Housing: PBT-GF30-VO Plastic

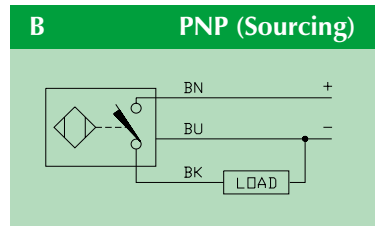
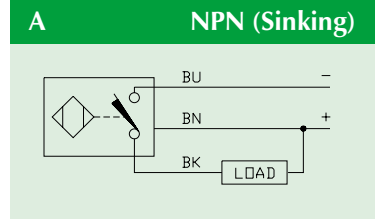
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

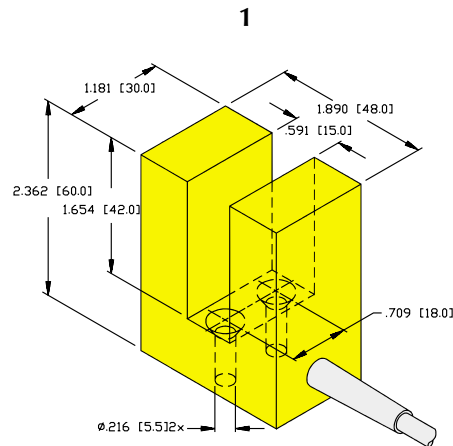
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 500 mA
Trigger Current for Overload Protection	≥550 mA
Continuous Load Current	≤500 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	4-9.5 mA
Time Delay Before Availability	≤8 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
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	Output Energized

Wiring Diagrams



Specialty

Dimensions



Si.-K



Slot Sensors

Plastic Housing with Potted-In Cable

4-Wire DC



10-30 VDC, Short-Circuit and Overload Protected

Complementary Outputs: One N.O., One N.C. (SPDT)

Sensor Selection

Part Number	Embeddable	Slot Gap (mm)	Housing Height (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Si15-K30-VN6		15	30	•		1 A	0			350	M1605032
Si15-K30-VP6		15	30		•	1 B	0			350	M1605030

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 22 AWG
 (PVC insulated)

Material

Housing: PBT-GF30-VO Plastic

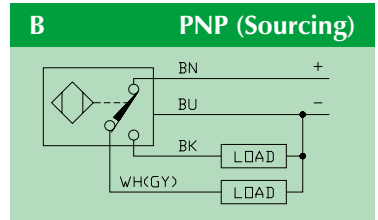
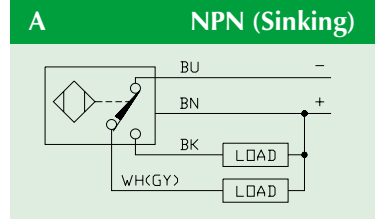
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

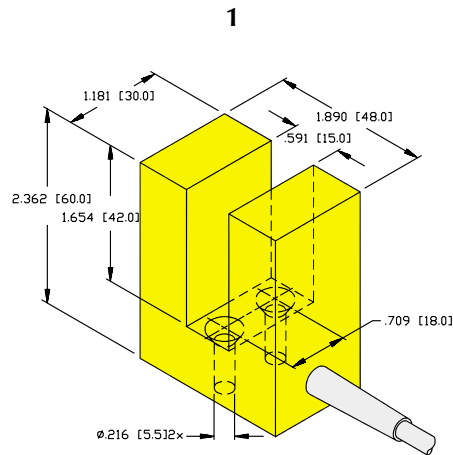
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.8 V at 500 mA
Trigger Current for Overload Protection	≥520 mA
Continuous Load Current	≤500 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	5 mA
Time Delay Before Availability	≤8 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
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

Wiring Diagrams



Specialty


Dimensions



Si.-K



Slot Sensors
Plastic Housing with Potted-In Cable

4-Wire DC 
 10-30 VDC, TTL Compatible
 Complementary Outputs: One N.O., One N.C. (SPDT)

Sensor Selection

Part Number	Embeddable	Slot Gap (mm)	Sensor Width (mm)	Sinking	Sourcing	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Si30-K33-VN7		30	33	•		1	A	0		100	M1728900
Si30-K33-VP7		30	33		•	1	B	0		100	M1726900

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 22 AWG
 (PVC insulated)

Material

Housing: PBT-GF30-VO Plastic

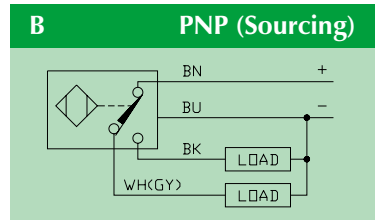
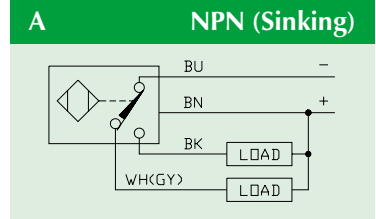
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

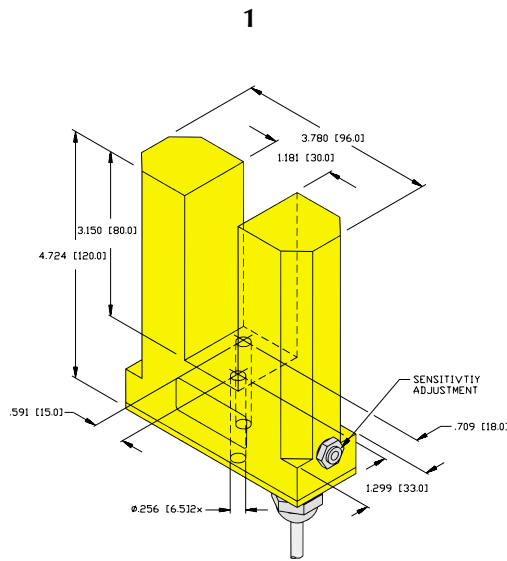
Ripple	≤10%
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤1.0 V at 250 mA (0.3 V typical)
Continuous Load Current	≤250 mA
Off-State (Leakage) Current	<10 μA
No-Load Current	18.0 mA
Time Delay Before Availability	≤15 ms
Power-On Effect	Per IEC 947-5-2
Reverse Polarity Protection	Incorporated
Wire-Break Protection	Incorporated
Transient Protection	Per EN 60947-5-2
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

Wiring Diagrams



Specialty

Dimensions



TURCK

Inductive Sensors - Specialty

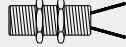
Si.-K



Slot Sensors

Plastic Housing with Potted-In Cable

2-Wire AC



20-250 VAC

Normally Open (AZ3) or Normally Closed (RZ3)

Sensor Selection

Part Number	Embeddable	Slot Gap (mm)	Sensor Width (mm)	Normally Open	Normally Closed	Drawing #	Wiring Diagram	# of LEDs	Weld Field Immune (S34)	Switching Frequency (Hz)	ID Number
Si15-K30-AZ3		15	30	•		1	A	0		20	M1306900
Si30-K33-AZ3		30	33	•		2	A	0		20	M1307000
Si15-K30-RZ3		15	30		•	1	B	0		20	M1316900
Si30-K33-RZ3		30	33		•	2	B	0		20	M1317000

Cable/Conductor

Cable: PVC Jacket; 2 meter standard length
 Copper Conductor: 21 AWG
 (PVC insulated)

Material

Housing: PBT-GF30-VO Plastic

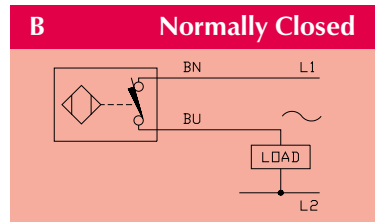
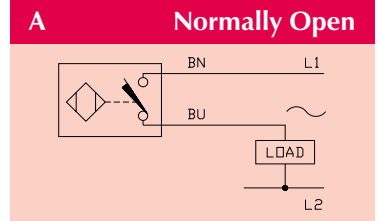
Accessories

[Accessories and mounting devices can be found in Section J.](#)

Specifications

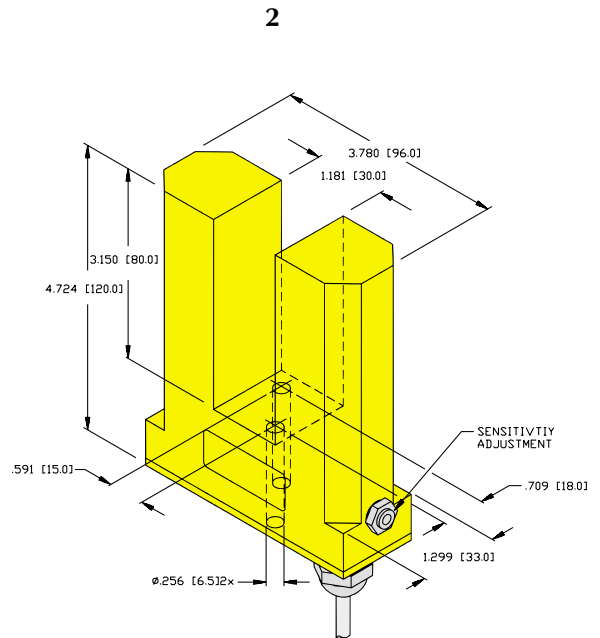
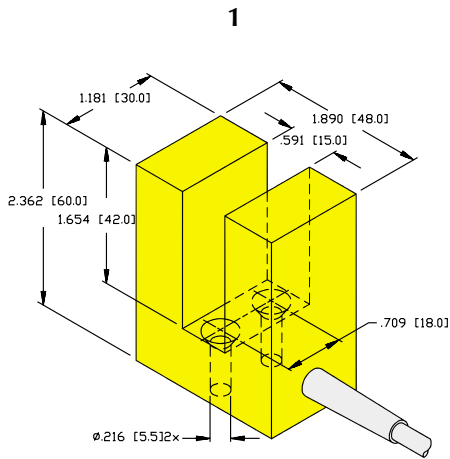
Line Frequency	40-60 Hz
Differential Travel (Hysteresis)	3-15% (5% typical)
Voltage Drop Across Conducting Sensor	≤7.0 V at 500 mA
Continuous Load Current	≤500 mA
Off-State (Leakage) Current	K30 style: ≤3.3 mA K33 style: ≤1.7 mA
Minimum Load Current	≥5.0 mA
Inrush Current	≤8.0 A (≤10 ms, 5% Duty Cycle)
Time Delay Before Availability	K30 style: ≤40 ms K33 style: ≤50 ms
Power-On Effect	Per IEC 947-5-2
Transient Protection	Per EN 60947-5-2
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

Wiring Diagrams



Specialty

Dimensions



TURCK Inductive Sensors - Specialty

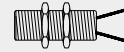
Si.-K



Slot Sensors

Plastic Housing with Potted-In Cable

2-Wire DC, Requires Remote Amplifier



5-30 VDC

Variable Resistance Output, NAMUR (EN 50227)



Sensor Selection

Part Number	Embeddable	Slot Gap (mm)	Housing Width (mm)	Drawing #	Wiring Diagram	# of LEDs	Switching Frequency	FM Approved Division 1 *	Time Delay Before Availability (ms)	ID Number
Si 3.5-K10-Y1		3.5	10	1	A	0	3000	•	≤1	M1036500
Si 5-K09-Y1 †		5	9	2	A	0	5000	•	≤1	M1024000
Si 15-K30-Y1		15	30	3	A	0	500	•	≤1	M1007600

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

† 0.5 meter cable leads.

Cable/Conductor

K09 Cable:	PVC Jacket; 0.5 meter standard length
K10/K30 Cable:	PVC Jacket; 2 meter standard length
Copper Conductor: (PVC insulated)	K09/K10: 26 AWG K30: 21 AWG

Material

Housing:	PBT-GF30-VO Plastic
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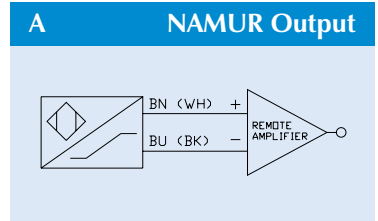
Accessories

Accessories and mounting devices can be found in Section J.
Remote Amplifier required. Consult **TURCK multimodul** or **Automation Controls** catalog.

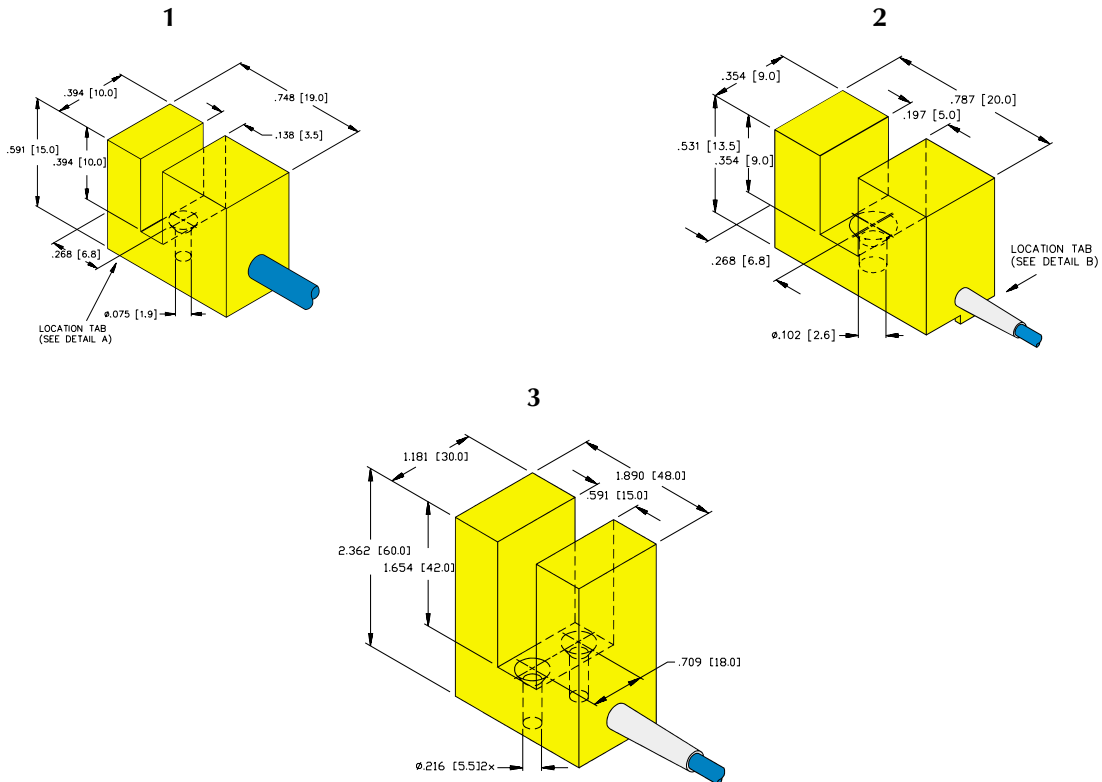
Specifications

Differential Travel (Hysteresis)	1-10% (5% typical)
Nominal Voltage.	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 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.	$\leq 2\%$ of Rated Operating Distance

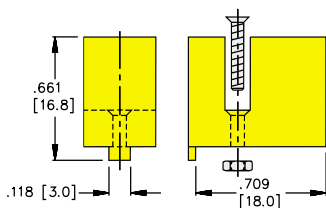
Wiring Diagram



Dimensions



Detail A



Detail B

