

871C 3-Wire DC Extended Temperature

Plastic Face/Threaded Nickel-Plated Brass Barrel



871C DC Cable Style
12, 18, 30 mm



871C DC Micro
Quick-Disconnect Style
12, 18, 30 mm

Description

Bulletin 871C inductive proximity sensors are self-contained, solid state devices designed for most industrial applications where it is required to sense the presence of metal objects without touching them. These special extended temperature models are ideal for industrial environments where temperatures can reach as high as 212°F (100°C) or as low as -40°F (-40°C). They are available for current source (PNP) operation with a normally open output.

Each switch has a plastic face and a nickel-plated brass housing which meet NEMA 1, 2, 3, 4, 12, 13 and IP67 (IEC529) enclosure standards. The electronic circuitry is potted for protection against shock, vibration, and contamination.

These sensors are available in 12, 18, and 30 mm diameters. Connection options include: 2 m (6.5 ft) PUR cable or micro quick-disconnect (4 pin, 1 keyway).

Specifications

Load Current	1...200 mA
Leakage Current	≤10 mA
Operating Voltage	10...30V DC
Voltage Drop	≤2.4V
Repeatability	≤10%
Hysteresis	≤15% typical
False Pulse Protection	Incorporated
Transient Noise Protection	Incorporated
Reverse Polarity Protection	Incorporated
Short Circuit Protection	Incorporated
Overload Protection	Incorporated
Certifications	CE Marked for all applicable directives
Enclosure	NEMA 1, 2, 3, 4, 12, 13, IP67 (IEC529) Nickel-plated brass barrel
Connections	Cable: 2 m (6.5 ft) length 3-conductor PUR Quick-Disconnect: 4-pin micro style
LED	Orange: Output Energized
Operating Temperature [C (F)]	-40...+100° (-40...+212°)
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm amplitude, 3 planes

Features

- 3-wire operation
- 3-conductor or 4-pin connection
- 10...30V DC
- Extended temperature range
- Normally open output
- Short circuit, false pulse, reverse polarity, overload and transient noise protection
- CE Marked for all applicable directives

Correction Factors

Target Material	Correction Factor
Steel	1.0
Stainless Steel	0.9
Brass	0.5
Aluminum	0.45
Copper	0.4

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Product Selection

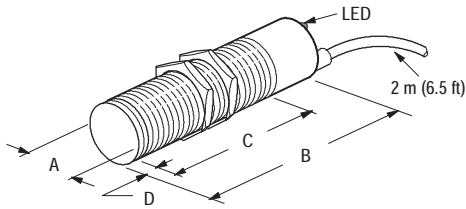
Barrel Diameter	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration		Switching Frequency [Hz]	Cat. No.		
						Cable Style	Micro QD Style	
12 mm	2 (0.08)	Y	N.O.	PNP	2000	871C-DT2NP12-U2	871C-DT2NP12-D4	
	4 (0.16)	N				871C-DT4NP12-U2	871C-DT4NP12-D4	
18 mm	5 (0.20)	Y	N.O.	PNP	1000	871C-DT5NP18-U2	871C-DT5NP18-D4	
	8 (0.31)	N				871C-DT8NP18-U2	871C-DT8NP18-D4	
30 mm	10 (0.39)	Y	N.O.	PNP	500	871C-DT10NP30-U2	871C-DT10NP30-D4	
	15 (0.59)	N				871C-DT15NP30-U2	871C-DT15NP30-D4	
Recommended standard QD cordset (-2 = 2 m (6.5 ft))							889D-F4AC-2	

QD Cordsets and Accessories

Description	Page Number	Description	Page Number
Other Cordsets Available	8-2	End Caps	2-220
Terminal Chambers	8-2	Mounting Nuts	2-221...2-222
Mounting Brackets	2-210...2-214	—	—

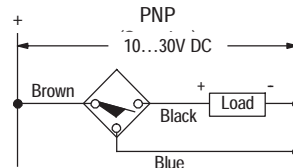
Approximate Dimensions [mm (in.)]

Cable Style



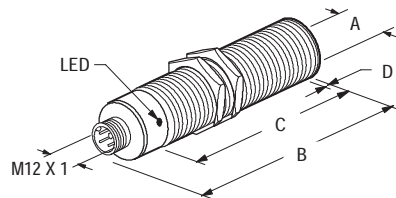
Wiring Diagram

Normally Open

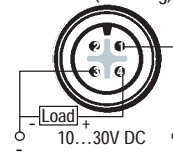


Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M12 X 1	Y	12.0 (0.47)	40.0 (1.57)	40.0 (1.57)	—
	N			34.0 (1.34)	6.0 (0.24)
M18 X 1	Y	18.0 (0.71)		40.0 (1.57)	—
	N			32.0 (1.26)	8.0 (0.31)
M30 X 1.5	Y	30.0 (1.18)		40.0 (1.57)	—
	N			28.0 (1.12)	12.0 (0.47)

Micro QD Style



Normally Open PNP (Sourcing)



Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M12 X 1	Y	12.0 (0.47)	60.0 (2.36)	40.0 (1.57)	—
	N			34.0 (1.34)	6.0 (0.24)
M18 X 1	Y	18.0 (0.71)		40.0 (1.57)	—
	N			32.0 (1.26)	8.0 (0.31)
M30 X 1.5	Y	30.0 (1.18)		40.0 (1.57)	—
	N			28.0 (1.10)	12.0 (0.47)