

871C 3-Wire DC Extended Temperature

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.



871C DC Cable Style
12, 18, and 30 mm



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

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).

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

Load Current	1...200 mA
Leakage Current	≤10 uA
Operating Voltage	10...30V DC
Voltage Drop	≤2.4V
Repeatability	≤10%
Hysteresis	≤15% typical
Protection Type	False pulse, transient noise, reverse polarity, short circuit, and overload
Certifications	CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 12, 13; IP67 (IEC529)
Housing Material	Nickel-plated brass barrel
Connection Type	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

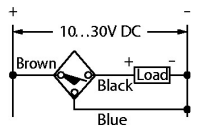
Correction Factors

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

Barrel Diameter [mm]	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration		Switching Frequency [Hz]	Cat. No.		
						Cable Style	Micro QD Style	
12	2 (0.08)	Yes	N.O.	PNP	2000	871C-DT2NP12-U2	871C-DT2NP12-D4	
	4 (0.16)	No			1000	871C-DT4NP12-U2	871C-DT4NP12-D4	
18	5 (0.20)	Yes	N.O.	PNP	1000	871C-DT5NP18-U2	871C-DT5NP18-D4	
	8 (0.31)	No			500	871C-DT8NP18-U2	871C-DT8NP18-D4	
30	10 (0.39)	Yes	N.O.	PNP	500	871C-DT10NP30-U2	871C-DT10NP30-D4	
	15 (0.59)	No			300	871C-DT15NP30-U2	871C-DT15NP30-D4	
Recommended cordset: 2 m (6.5 ft)							889D-F4AC-2	

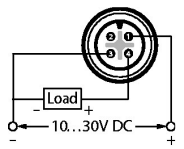
Cable Style

Normally Open
PNP (Sourcing)



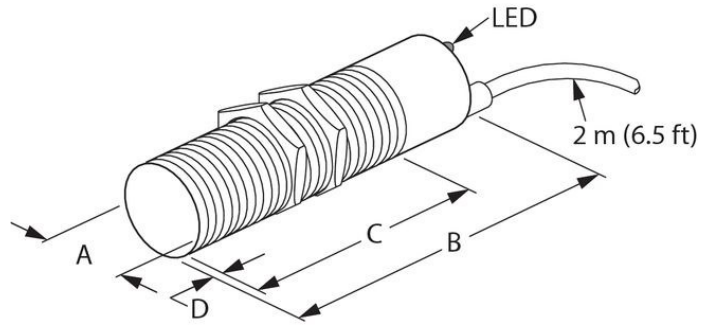
Micro QD Style

Normally Open
PNP (Sourcing)



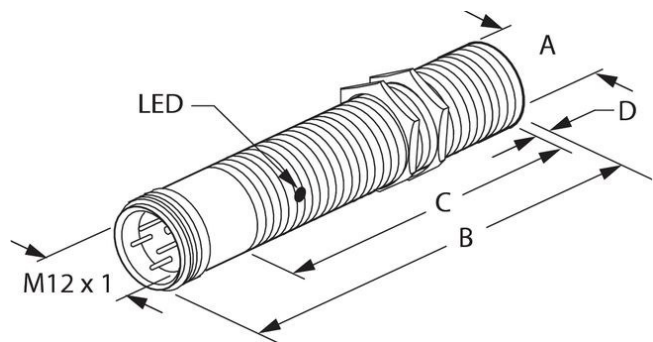
Dimensions are shown in mm (in.). Dimensions are not intended to be used for installation purposes.

Cable Style



Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M12 X 1	Yes	12.0 (0.47)	40.0 (1.57)	40.0 (1.57)	—
	No			34.0 (1.34)	6.0 (0.24)
M18 x 1	Yes	18.0 (0.71)	40.0 (1.57)	40.0 (1.57)	—
	No			32.0 (1.26)	8.0 (0.31)
M30 X 1.5	Yes	30.0 (1.18)	40.0 (1.57)	40.0 (1.57)	—
	No			28.0 (1.12)	12.0 (0.47)

Micro QD Style



Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M12 X 1	Yes	12.0 (0.47)	60.0 (2.36)	40.0 (1.57)	—
	No			34.0 (1.34)	6.0 (0.24)
M18 x 1	Yes	18.0 (0.71)		40.0 (1.57)	—
	No			32.0 (1.26)	8.0 (0.31)
M30 X 1.5	Yes	30.0 (1.18)	40.0 (1.57)	—	
	No		28.0 (1.12)	12.0 (0.47)	

Cordsets and Accessories

Other Cordsets Available and Terminal Chambers	See Cordsets & Field Attachables
Mounting Brackets	See Mounting Brackets
End Caps	See End Caps
Mounting Nuts	See Mounting Nuts for Tubular Proximity Sensors