

Inductive Proximity Sensors

872C/872CT WorldProx™ 3-Wire DC

Plastic Face/ Threaded Nickel-Plated Brass or Stainless Steel Barrel



DC Micro Quick-Disconnect Style
8, 12, 18, and 30 mm



DC Pico Quick-Disconnect Style
6.5, 8, 12, and 18 mm



DC Mini Quick-Disconnect Style
18 & 30 mm



DC Cable Style
6.5, 8, 12, 18, and 30 mm



Pigtail Cable with Integral Micro QD Connector
8, 12, 18, and 30 mm

Features

- 3-wire operation
- 3-conductor PVC or PUR cable jacket (PVC standard)
- 3- or 4-pin connection for pico, micro, and mini connectors
- PVC and PUR cable available in 2, 5, and 10 m cable lengths (2 m standard)
- Pigtail cable in PVC with integral micro QD connector available in 0.2, 0.5, and 1.0 m cable lengths
- 10...30V DC
- Normally open or normally closed
- Reverse polarity, short circuit, overload, false pulse, and transient noise protection
- cULus Listed (8, 12, 18, and 30 mm models only) and CE Marked (all models) for all applicable directives

Specifications

Load Current	≤200 mA
Leakage Current	≤10 μA
Operating Voltage	10...30V DC
Voltage Drop	≤1.8V
Repeatability	≤5%
Hysteresis	≤10% typical
Protection Type	False pulse on power, transient noise, reverse polarity, short circuit, and overload
Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 2, 3, 4, 6P, 12, 13, IP 67 (IEC 529)
Housing Material	Nickel-plated brass barrel, plastic face (PBT) Optional stainless steel 304 barrel, plastic face (PBT)
Connections	Cable (PVC/PUR): 2 m (6.5 ft), 5 m (16.4 ft), 10 m (32.8 ft) length, 4.4 mm (0.175 in.) diameter; 3-conductor #26 AWG PVC or PUR; Cable (Pigtail): 0.2 m (0.7 ft), 0.5 m (1.6 ft), 1 m (3.3 ft) length, Integral 4-pin micro QD Quick-Disconnect: 4-pin mini, 4-pin micro or 3-pin pico style
LED	Amber: output energized, 360° visibility
Operating Temperature [C (F)], Min	-25...70° (-13...158°)
Shock	30 g, 11 ms half-sine
Vibration	55 Hz, 1 mm amplitude, 3 planes

Correction Factors

Target Material	Correction Factors
Steel	1.0
Stainless Steel	0.7...0.8
Brass	0.4...0.5
Aluminum	0.3...0.4
Copper	0.2...0.3

QD Cordsets and Accessories

Description	Page No.
Other Cordsets Available	8-2
Terminal Chambers	8-2
Mounting Brackets	2-210...2-214
End Caps	2-220
Mounting Nuts	2-221...2-222



Product Selection

Barrel Diameter [mm]	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration		Switching Frequency [Hz]	Cat. No.				
						Cable Style	Mini QD Style	Micro QD Style	Pico QD Style	
6.5	2 (0.08)	Yes	N.O.	NPN	2000	872C-MM1NN7-E2	—	—	872C-MM1NN7-P3	
				PNP		872C-MM1NP7-E2	—	—	872C-MM1NP7-P3	
			N.C.	NPN		872C-MM1CN7-E2	—	—	872C-MM1CN7-P3	
				PNP		872C-MM1CP7-E2	—	—	872C-MM1CP7-P3	
8	2 (0.08)	Yes	N.O.	NPN	2500	★ 872C-D2NN8-E2	—	★ 872C-D2NN8-D4	★ 872C-D2NN8-P3	
				PNP		★ 872C-D2NP8-E2	—	★ 872C-D2NP8-D4	★ 872C-D2NP8-P3	
			N.C.	NPN		872C-D2CN8-E2	—	★ 872C-D2CN8-D4	★ 872C-D2CN8-P3	
				PNP		872C-D2CP8-E2	—	★ 872C-D2CP8-D4	★ 872C-D2CP8-P3	
	3 (0.12)	No	N.O.	NPN		★ 872C-D3NN8-E2	—	★ 872C-D3NN8-D4	★ 872C-D3NN8-P3	
				PNP		★ 872C-D3NP8-E2	—	★ 872C-D3NP8-D4	★ 872C-D3NP8-P3	
			N.C.	NPN		872C-D3CN8-E2	—	★ 872C-D3CN8-D4	★ 872C-D3CN8-P3	
				PNP		872C-D3CP8-E2	—	★ 872C-D3CP8-D4	★ 872C-D3CP8-P3	
				N.O.		NPN	★ 872C-D3NN12-E2	—	★ 872C-D3NN12-D4	★ 872C-D3NN12-P3
						PNP	★ 872C-D3NP12-E2	—	★ 872C-D3NP12-D4	★ 872C-D3NP12-P3
4 (0.16)	No	N.C.	NPN	872C-D3CN12-E2	—	★ 872C-D3CN12-D4	★ 872C-D3CN12-P3			
			PNP	872C-D3CP12-E2	—	★ 872C-D3CP12-D4	★ 872C-D3CP12-P3			
		N.O.	NPN	★ 872C-D4NN12-E2	—	★ 872C-D4NN12-D4	★ 872C-D4NN12-P3			
			PNP	★ 872C-D4NP12-E2	—	★ 872C-D4NP12-D4	★ 872C-D4NP12-P3			
			NPN	872C-D4CN12-E2	—	★ 872C-D4CN12-D4	★ 872C-D4CN12-P3			
			PNP	872C-D4CP12-E2	—	★ 872C-D4CP12-D4	★ 872C-D4CP12-P3			
12	3 (0.12)	Yes	N.O.	NPN	1300	★ 872C-D5NN18-E2	★ 872C-D5NN18-N4	★ 872C-D5NN18-D4	★ 872C-D5NN18-P3	
				PNP		★ 872C-D5NP18-E2	★ 872C-D5NP18-N4	★ 872C-D5NP18-D4	★ 872C-D5NP18-P3	
			N.C.	NPN		872C-D5CN18-E2	★ 872C-D5CP18-N4	★ 872C-D5CN18-D4	★ 872C-D5CN18-P3	
				PNP		872C-D5CP18-E2	★ 872C-D5CP18-N4	★ 872C-D5CP18-D4	★ 872C-D5CP18-P3	
	8 (0.31)	No	N.O.	NPN		★ 872C-D8NN18-E2	★ 872C-D8NN18-N4	★ 872C-D8NN18-D4	★ 872C-D8NN18-P3	
				PNP		★ 872C-D8NP18-E2	★ 872C-D8NP18-N4	★ 872C-D8NP18-D4	★ 872C-D8NP18-P3	
			N.C.	NPN		872C-D8CN18-E2	★ 872C-D8CN18-N4	★ 872C-D8CN18-D4	★ 872C-D8CN18-P3	
				PNP		872C-D8CP18-E2	★ 872C-D8CP18-N4	★ 872C-D8CP18-D4	★ 872C-D8CP18-P3	
				N.O.		NPN	★ 872C-D10NN30-E2	★ 872C-D10NN30-N4	★ 872C-D10NN30-D4	—
						PNP	★ 872C-D10NP30-E2	★ 872C-D10NP30-N4	★ 872C-D10NP30-D4	—
10 (0.39)	Yes	N.C.	NPN	872C-D10CN30-E2	★ 872C-D10CN30-N4	★ 872C-D10CN30-D4	—			
			PNP	872C-D10CP30-E2	★ 872C-D10CP30-N4	★ 872C-D10CP30-D4	—			
		N.O.	NPN	★ 872C-D15NN30-E2	★ 872C-D15NN30-N4	★ 872C-D15NN30-D4	—			
			PNP	★ 872C-D15NP30-E2	★ 872C-D15NP30-N4	★ 872C-D15NP30-D4	—			
			NPN	872C-D15CN30-E2	★ 872C-D15CN30-N4	★ 872C-D15CN30-D4	—			
			PNP	872C-D15CP30-E2	★ 872C-D15CP30-N4	★ 872C-D15CP30-D4	—			
15 (0.59)	No	N.C.	NPN	872C-D15CN30-E2	★ 872C-D15CN30-N4	★ 872C-D15CN30-D4	—			
			PNP	872C-D15CP30-E2	★ 872C-D15CP30-N4	★ 872C-D15CP30-D4	—			
		N.O.	NPN	872C-D15CN30-E2	★ 872C-D15CN30-N4	★ 872C-D15CN30-D4	—			
			PNP	872C-D15CP30-E2	★ 872C-D15CP30-N4	★ 872C-D15CP30-D4	—			
Recommended mating cable, 2 m (6.5 ft). See the <i>On-Machine Connectivity</i> catalog for details and additional lengths.						—	889N-F4AFC-6F	889D-F4AFC-2	889P-F3AB-2	

★ Cat. no. listed is for a standard nickel-plated brass barrel. For a stainless steel barrel, add a **T** to the cat. no. **Example:** Cat. No. 872C-D4NN12-E2 becomes Cat. No. 872CT-D4NN12-E2.

Note: Preferred availability designation in table above applies to nickel-plated brass model only.

Cable Options (8, 12, 18, and 30 mm sensors only)

E2 at the end of cat. no. designates PVC cable 2 m in length. Replace **E2** with **E5** or **E10** for 5 or 10 m length.

For polyurethane cable replace **E2** with **J2**, **J5**, or **J10** for 2, 5, or 10 m length.

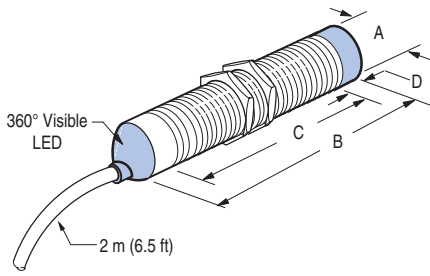
For PVC pigtail cable with integral micro QD style connector (4-pin DC male) replace **E2** with **FD02**, **FD05**, or **FD10** for 0.2, 0.5, or 1.0 m length.

Cable Length	PVC	PUR
2 m	E2	J2
5 m	E5	J5
10 m	E10	J10

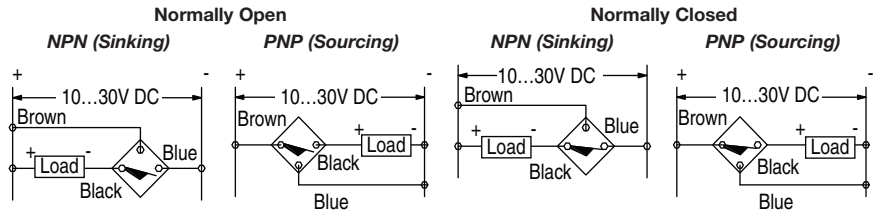
Pigtail Cable Length	PVC
0.2 m	FD02
0.5 m	FD05
1.0 m	FD10

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Approximate Dimensions—mm (in)
 Cable Style

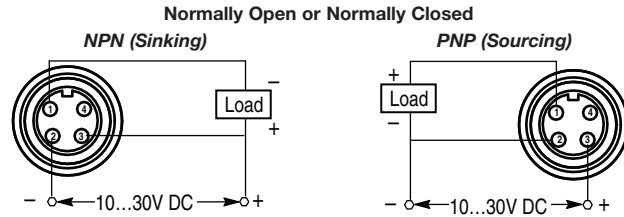
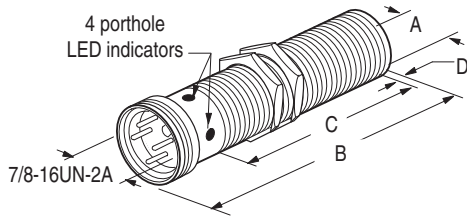


Wiring Diagrams



Thread Size	Barrel Type	Smooth Diameter	Shielded	mm (inches)			
				A	B (max)	C (min)	D (max)
—	Nickel-plated brass	6.5	Y	6.50 (0.26)	33.0 (1.30)	—	—
M8 x 1	Nickel-plated brass and stainless steel	—	Y	8.00 (0.31)	32.8 (1.29)	30.2 (1.19)	—
N			36.8 (1.45)		4.10 (0.16)		
M12 x 1		Y	12.0 (0.47)	50.8 (2.00)	46.7 (1.84)	—	
N		58.9 (2.32)		8.10 (0.32)			
M18 x 1		Y	18.0 (0.71)	50.8 (2.00)	46.7 (1.84)	—	
N		63.0 (2.48)		12.2 (0.48)			
M30 x 1		Y	30.0 (1.18)	50.8 (2.00)	47.7 (1.88)	—	
N		63.0 (2.48)		12.2 (0.48)			

Mini QD Style



Thread Size	Barrel Type	Shielded	mm (inches)			
			A	B (max)	C (min)	D (max)
M18 x 1	Nickel-plated brass and stainless steel	Y	18.0 (0.71)	63.5 (2.50)	35.1 (1.38)	—
		N		75.7 (2.98)		12.2 (0.48)
M30 X 1.5	Nickel-plated brass	Y	30.0 (1.18)	63.5 (2.50)	38.1 (1.50)	—
		N		75.7 (2.98)		12.2 (0.48)
	Stainless steel	Y		64.3 (2.53)	47.8 (1.88)	—
		N		76.5 (3.01)		12.2 (0.48)

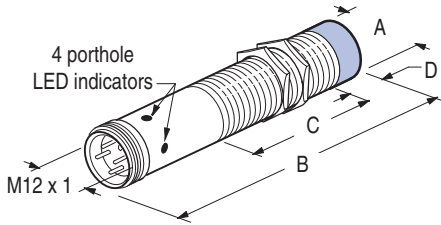


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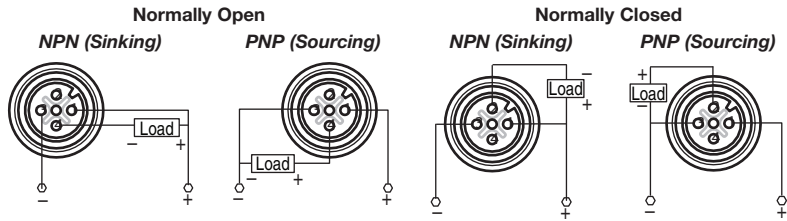
Plastic Face/ Threaded Nickel-Plated Brass or Stainless Steel Barrel

Approximate Dimensions—mm (in)

Micro QD Style

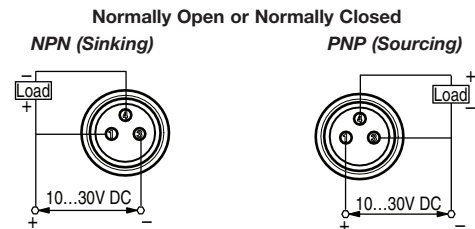
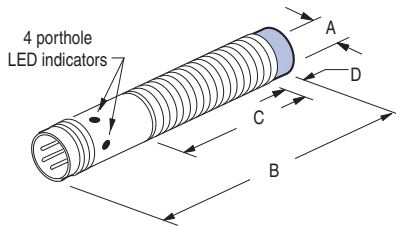


Wiring Diagrams



Thread Size	Barrel Type	Shielded	mm (inches)			
			A	B (max)	C (min)	D (max)
M8 x 1	Nickel-plated brass and stainless steel	Y	8.00 (0.31)	58.7 (2.31)	27.7 (1.09)	—
		N		62.7 (2.47)		4.00 (0.16)
M12 x 1		Y	12.0 (0.47)	64.3 (2.53)	38.1 (1.50)	—
		N		72.4 (2.85)		8.10 (0.32)
M18 x 1		Y	18.0 (0.71)	64.3 (2.53)	38.1 (1.50)	—
		N		76.5 (3.01)		12.2 (0.48)
M30 X 1.5		Y	30.0 (1.18)	64.3 (2.53)	47.75 (1.88)	—
		N		76.5 (3.01)		12.2 (0.48)

Pico QD Style



Thread Size	Barrel Type	Smooth Diameter	Shielded	mm (inches)			
				A	B (max)	C (min)	D (max)
—	Nickel-plated brass	6.5	Y	6.50 (0.26)	49.0 (1.93)	—	—
M8 x 1	Nickel-plated brass and stainless steel	—	Y	8.00 (0.31)	49.5 (1.95)	34.0 (1.34)	—
			N		53.6 (2.11)		4.10 (0.16)
M12 x 1		Y	12.0 (0.47)	63.5 (2.50)	47.5 (1.87)	—	
		N		71.6 (2.82)		8.10 (0.32)	
M18 x 1		Y	18.0 (0.71)	63.5 (2.50)	47.5 (1.87)	—	
		N		75.7 (2.98)		12.2 (0.48)	