

## 871TM 3-Wire DC

### Stainless Steel Face/Threaded Short Stainless Steel Barrel



871TM DC Cable Style  
12, 18, 30 mm



871TM DC Mini  
Quick-Disconnect Style  
12, 18, 30 mm



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

### Specifications

Load Current	≤200 mA
Capacitive Load	≤1 μF
Leakage Current	≤10 mA
Operating Voltage	10...30V DC
Voltage Drop	≤1V DC at 200 mA
Repeatability	≤10% at constant temperature
Hysteresis	10% typical
False Pulse Protection	Incorporated
Transient Noise Protection	Incorporated
Reverse Polarity Protection	Incorporated
Short Circuit Protection	Incorporated (trigger at 340 mA typical)
Overload Protection	Incorporated
Certifications	UL Listed, CSA Certified, and CE Marked for all applicable directives
Enclosure	NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC529) all models; 1200 psi (8270 kPa) washdown; stainless steel face and barrel; ToughLink™ and micro connector versions are also rated IP69K (IEC 529)
Connections	Cable: 2 m (6.5 ft) length A2-3-conductor PVC C2-3-conductor #22AWG ToughLink H2-3-conductor #18 AWG ToughLink Quick-Disconnect: 4-pin mini style 4-pin micro style
LED	Red: Output Energized
Operating Temperature [C (F)]	-25...+70° (-13...+158°)
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm amplitude, 3 planes

### Correction Factors

Target Material	Correction Factor
Steel	1.0
Stainless Steel	0.9...1.0
Brass	0.3...0.5
Aluminum	0.1...0.4
Aluminum ≤0.020 Thick	0.9...1.1
Copper	0.4...0.6

### Features

- 3-wire operation
- 3-conductor or 4-pin connection
- 10...30V DC
- Short circuit, overload, false pulse, reverse polarity, and transient noise protection
- Normally open or normally closed output
- UL Listed, CSA Certified, and CE Marked for all applicable directives

## Product Selection

Barrel Dia.	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration		Switching Frequency [Hz]	Cat. No.			
						PVC Cable	ToughLink™ Cable	Mini QD Style	Micro QD Style
12 mm	2 (0.08)	Y	N.O.	NPN	75	871TM-DH2NN12-A2	871TM-DH2NN12-C2	871TM-DH2NN12-N4	871TM-DH2NN12-D4
				PNP		871TM-DH2NP12-A2	871TM-DH2NP12-C2	871TM-DH2NP12-N4	<b>871TM-DH2NP12-D4</b>
	N	NPN		70	871TM-DH4NN12-A2	871TM-DH4NN12-C2	871TM-DH4NN12-N4	871TM-DH4NN12-D4	
		PNP			871TM-DH4NP12-A2	871TM-DH4NP12-C2	871TM-DH4NP12-N4	<b>871TM-DH4NP12-D4</b>	
	2 (0.08)	Y	N.C.	NPN	75	871TM-DH2CN12-A2	871TM-DH2CN12-C2	871TM-DH2CN12-N4	871TM-DH2CN12-D4
				PNP		871TM-DH2CP12-A2	871TM-DH2CP12-C2	871TM-DH2CP12-N4	871TM-DH2CP12-D4
	4 (0.16)	N		NPN	70	871TM-DH4CN12-A2	871TM-DH4CN12-C2	871TM-DH4CN12-N4	871TM-DH4CN12-D4
				PNP		871TM-DH4CP12-A2	871TM-DH4CP12-C2	871TM-DH4CP12-N4	871TM-DH4CP12-D4
18 mm	5 (0.20)	Y	N.O.	NPN	60	871TM-DH5NN18-A2	871TM-DH5NN18-H2	871TM-DH5NN18-N4	<b>871TM-DH5NN18-D4</b>
				PNP		871TM-DH5NP18-A2	871TM-DH5NP18-H2	<b>871TM-DH5NP18-N4</b>	<b>871TM-DH5NP18-D4</b>
	N	NPN		40	871TM-DH8NN18-A2	871TM-DH8NN18-H2	871TM-DH8NN18-N4	<b>871TM-DH8NN18-D4</b>	
		PNP			871TM-DH8NP18-A2	871TM-DH8NP18-H2	871TM-DH8NP18-N4	<b>871TM-DH8NP18-D4</b>	
	5 (0.20)	Y	N.C.	NPN	60	871TM-DH5CN18-A2	871TM-DH5CN18-H2	871TM-DH5CN18-N4	871TM-DH5CN18-D4
				PNP		871TM-DH5CP18-A2	871TM-DH5CP18-H2	871TM-DH5CP18-N4	871TM-DH5CP18-D4
	8 (0.31)	N		NPN	40	871TM-DH8CN18-A2	871TM-DH8CN18-H2	871TM-DH8CN18-N4	871TM-DH8CN18-D4
				PNP		871TM-DH8CP18-A2	871TM-DH8CP18-H2	871TM-DH8CP18-N4	871TM-DH8CP18-D4
30 mm	10 (0.39)	Y	N.O.	NPN	40	871TM-DH10NN30-A2	871TM-DH10NN30-H2	871TM-DH10NN30-N4	871TM-DH10NN30-D4
				PNP		871TM-DH10NP30-A2	871TM-DH10NP30-H2	871TM-DH10NP30-N4	<b>871TM-DH10NP30-D4</b>
	N	NPN		30	871TM-DH15NN30-A2	871TM-DH15NN30-H2	871TM-DH15NN30-N4	871TM-DH15NN30-D4	
		PNP			871TM-DH15NP30-A2	871TM-DH15NP30-H2	871TM-DH15NP30-N4	<b>871TM-DH15NP30-D4</b>	
	10 (0.39)	Y	N.C.	NPN	40	871TM-DH10CN30-A2	871TM-DH10CN30-H2	871TM-DH10CN30-N4	871TM-DH10CN30-D4
				PNP		871TM-DH10CP30-A2	871TM-DH10CP30-H2	871TM-DH10CP30-N4	871TM-DH10CP30-D4
	15 (0.59)	N		NPN	30	871TM-DH15CN30-A2	871TM-DH15CN30-H2	871TM-DH15CN30-N4	871TM-DH15CN30-D4
				PNP		871TM-DH15CP30-A2	871TM-DH15CP30-H2	871TM-DH15CP30-N4	871TM-DH15CP30-D4
Recommended Standard QD Cordset (-6F = 1.8 m (6 ft), -2 = 2 m (6.5 ft))								889N-F4AFC-6F	889D-F4AC-2

## QD Cordsets and Accessories

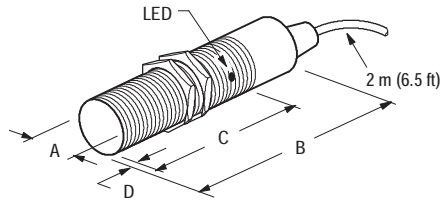
Description	Page Number
Other Cordsets Available	8-2
Terminal Chambers	8-2
Mounting Brackets	2-210...2-214
End Caps	2-219, 2-220
Mounting Nuts	2-221...2-222

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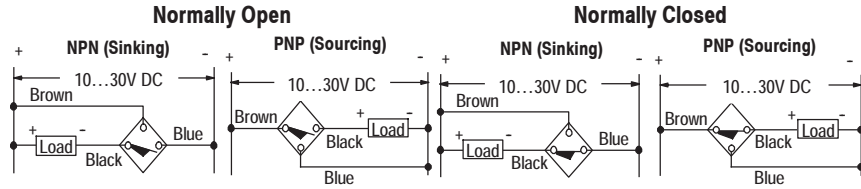
Stainless Steel Face/Threaded Short Stainless Steel Barrel

## Approximate Dimensions [mm (in.)]

### Cable Style

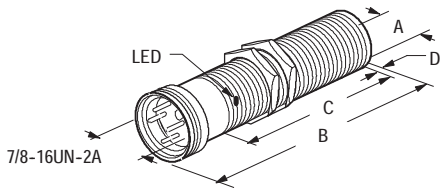


## Wiring Diagrams

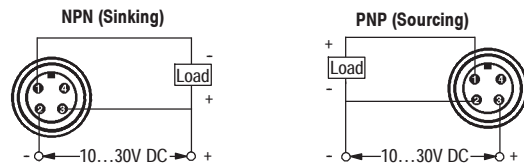


Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M12 X 1	Y	12.0 (0.47)	49.8 (1.96)	26.4 (1.04)	2.5 (0.10)
	N			19.5 (0.77)	9.4 (0.37)
M18 X 1	Y	18.0 (0.71)	55.4 (2.18)	41.7 (1.64)	2.5 (0.10)
	N			14.5 (0.57)	14.5 (0.57)
M30 X 1.5	Y	30.0 (1.18)	57.9 (2.28)	41.9 (1.65)	2.5 (0.10)
	N			39.4 (1.55)	18.0 (0.71)

### Mini QD Style

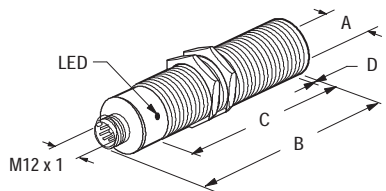


### Normally Open or Normally Closed

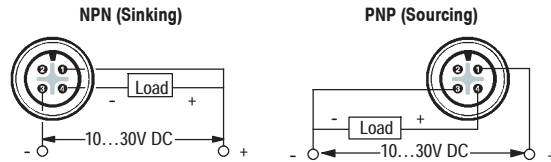


Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M12 X 1	Y	12.0 (0.47)	63.5 (2.50)	25.4 (1.00)	2.5 (0.10)
	N			18.5 (0.73)	9.4 (0.37)
M18 X 1	Y	18.0 (0.71)	56.1 (2.21)	35.1 (1.38)	2.5 (0.10)
	N			29.2 (1.15)	14.5 (0.57)
M30 X 1.5	Y	30.0 (1.18)	68.1 (2.68)	41.9 (1.65)	2.5 (0.10)
	N			39.4 (1.55)	18.0 (0.71)

### Micro QD Style



### Normally Open or Normally Closed



Thread Size	Shielded	[mm (in.)]			
		A	B	C	D
M12 X 1	Y	12.0 (0.47)	61.0 (2.40)	26.4 (1.04)	2.5 (0.10)
	N			28 (1.10)	9.4 (0.37)
M18 X 1	Y	18.0 (0.71)	65.0 (2.56)	41.7 (1.64)	2.5 (0.10)
	N			14.5 (0.57)	14.5 (0.57)
M30 X 1.5	Y	30.0 (1.18)	66.3 (2.61)	41.9 (1.65)	2.5 (0.10)
	N			39.4 (1.55)	18.0 (0.71)