

## 871TM 3-Wire DC

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



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

#### Specifications

<b>Load Current</b>	≤200mA
<b>Capacitive Load</b>	≤1μF
<b>Leakage Current</b>	≤10μA
<b>Operating Voltage</b>	10–30V DC
<b>Voltage Drop</b>	≤1V DC at 200mA
<b>Repeatability</b>	≤10% at constant temperature
<b>Hysteresis</b>	10% typical
<b>False Pulse Protection</b>	Incorporated
<b>Transient Noise Protection</b>	Incorporated
<b>Reverse Polarity Protection</b>	Incorporated
<b>Short Circuit Protection</b>	Incorporated (trigger at 340mA typical)
<b>Overload Protection</b>	Incorporated
<b>Approvals</b>	UL listed, CSA certified, and CE marked for all applicable directives
<b>Enclosure</b>	NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC 529), 1200psi (8270kPa) washdown Stainless steel face and barrel
<b>Connections</b>	Cable: 2m (6.5ft) length A2-3-conductor PVC C2-3-conductor #22AWG ToughLink™ H2-3-conductor #18AWG ToughLink™ Quick-Disconnect: 4-pin mini style 4-pin micro style
<b>LED</b>	Red: Output Energized
<b>Operating Temperature</b>	-25°C to +70°C (-13°F to +158°F)
<b>Shock</b>	30g, 11ms
<b>Vibration</b>	55Hz, 1mm 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

## Product Selection

Barrel Dia.	Nominal Sensing Distance mm (in)	Shielded	Output Configuration		Switching Frequency (Hz)	Catalog Number			
						PVC Cable	ToughLink™ Cable	Mini QD Style	Micro QD Style
12mm	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	871TM-DH2NP12-D4
	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	871TM-DH4NP12-D4	
	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
18mm	5 (0.20)	Y	N.O.	NPN	60	871TM-DH5NN18-A2	871TM-DH5NN18-H2	871TM-DH5NN18-N4	871TM-DH5NN18-D4
				PNP		871TM-DH5NP18-A2	871TM-DH5NP18-H2	871TM-DH5NP18-N4	871TM-DH5NP18-D4
	8 (0.31)	N		NPN	40	871TM-DH8NN18-A2	871TM-DH8NN18-H2	871TM-DH8NN18-N4	871TM-DH8NN18-D4
				PNP		871TM-DH8NP18-A2	871TM-DH8NP18-H2	871TM-DH8NP18-N4	871TM-DH8NP18-D4
	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
30mm	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	871TM-DH10NP30-D4
	15 (0.59)	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	871TM-DH15NP30-D4
	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 = 1.8m (6ft), -2 = 2m (6.5ft))								889N-F4AFC-6F	889D-F4AC-2

## QD Cordsets and Accessories

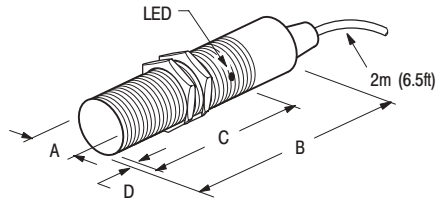
Description	Page Number
Other Cordsets Available	7-8, 7-68
Terminal Chambers	7-20
Mounting Brackets	2-186 - 2-190
End Caps	2-195, 2-196
Mounting Nuts	2-197 - 2-198

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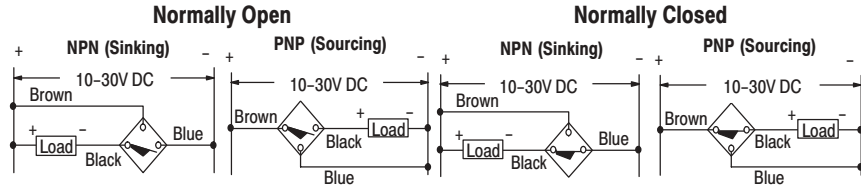
Stainless Steel Face/Threaded Short Stainless Steel Barrel

## Dimensions—mm (inches)

Cable Style

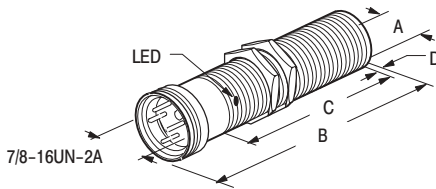


## Wiring Diagrams

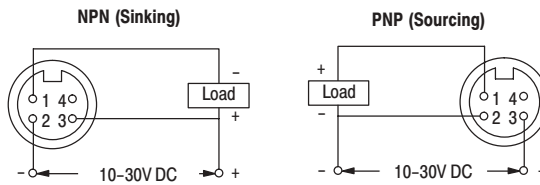


Thread Size	Shielded	mm (inches)			
		A	B	C	D
M12 X 1	Y	12.0 (0.47)	49.8 (1.96)	26.4 (1.04)	2.5 (0.10)
	N			19.5 (0.77)	9.4 (0.37)
M18 X 1	Y	18.0 (0.71)	55.4 (2.18)	41.7 (1.64)	2.5 (0.10)
	N			14.5 (0.57)	14.5 (0.57)
M30 X 1.5	Y	30.0 (1.18)	57.9 (2.28)	41.9 (1.65)	2.5 (0.10)
	N			39.4 (1.55)	18.0 (0.71)

## Mini QD Style

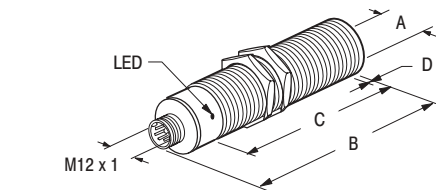


### Normally Open or Normally Closed

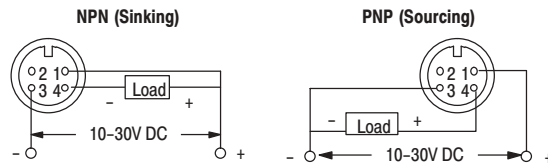


Thread Size	Shielded	mm (inches)			
		A	B	C	D
M12 X 1	Y	12.0 (0.47)	63.5 (2.50)	25.4 (1.00)	2.5 (0.10)
	N			18.5 (0.73)	9.4 (0.37)
M18 X 1	Y	18.0 (0.71)	56.1 (2.21)	35.1 (1.38)	2.5 (0.10)
	N			29.2 (1.15)	14.5 (0.57)
M30 X 1.5	Y	30.0 (1.18)	68.1 (2.68)	41.9 (1.65)	2.5 (0.10)
	N			39.4 (1.55)	18.0 (0.71)

## Micro QD Style



### Normally Open or Normally Closed



Thread Size	Shielded	mm (inches)			
		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			19.6 (0.77)	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)

# Allen-Bradley Motors