

871C 3-wire DC Mini Tubular Sensors

Plastic Face/Small Threaded or Smooth Stainless Steel Barrel 3 mm, 4 mm, and 5 mm



871C NAMUR Cable Style
8 mm, 12 mm, 18 mm, and 30 mm



871C NAMUR Micro Quick-disconnect Style
8 mm, 12 mm, 18 mm, and 30 mm



871C NAMUR Micro Quick-disconnect Style
8 mm, 12 mm, 18 mm, and 30 mm



871C NAMUR Micro Quick-disconnect Style
8 mm, 12 mm, 18 mm, and 30 mm



871C NAMUR Micro Quick-disconnect Style
8 mm, 12 mm, 18 mm, and 30 mm

Specifications

Attribute	3 mm Smooth Barrel and 4 mm Threaded Barrel	4 mm Smooth Barrel and 5 mm Threaded Barrel
-----------	---	---

Environmental

Operating Environment	NEMA 1, 2, 3, 4, 12, 13 IP67 (IEC 529)	
Operating Temperature	-25...+70 °C (-13...+158 °F)	
Vibration	55 Hz, 1 mm amplitude, 3 planes	
Shock	30 g (1.06 oz), 11 ms	

Electrical

Load Current	≤ 100 mA	<200 mA
Leakage Current	≤ 0.1 mA	
Operating Voltage	10...30V DC	
Voltage Drop	≤ 2V	
Repeatability	≤ 5%	
Hysteresis	10% typical	
Protection Type	False pulse, transient noise, reverse polarity, and short circuit	

IO-Link (Enabled on Normally Open, PNP Models Only)

Protocol	IO-Link V1.0
Interface Type	IO-Link
Mode	COM 2 (38.4 kBd)
Cycle Time 1	10.4 ms, minimum
SIO (standard I/O)	Supported (pin 4 for either IO-Link or SIO)

Mechanical

Housing Material	Stainless steel barrel, polyester face
Status Indicator	Yellow: Output energized
Status Indicator (IO-Link Mode)	Solid yellow: Sensor in IO-Link mode
Connection Type	Pico™ QD (M8), 2 m (6.6 ft) cable, pico with lead

Correction Factors

Sensor Type/ Target Material	3 mm Diameter Smooth		4 mm Diameter Smooth or Threaded		5 mm Diameter Smooth or Threaded	
	0.6 mm Sr	1.0 mm Sr	0.8 mm Sr	1.5 mm Sr	1 mm Sr	1.5 mm Sr
Steel	1	1	1	1	1	1
Copper	0.5	0.45	0.45	0.4	0.45	0.4
Aluminum	0.55	0.5	0.5	0.4	0.5	0.4
Brass	0.65	0.6	0.55	0.5	0.55	0.5
Stainless Steel 304	0.8	0.8	0.8	0.75	0.8	0.75

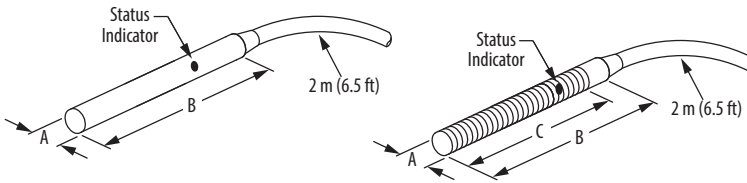
Switching Frequency

Barrel Diameter [mm (in.)]	Nominal Sensing Distance [mm (in.)]	Switching Frequency [Hz]
3	0.6 (0.02)	5000
	1 (0.04)	3000
4	0.8 (0.03)	5000
	1 (0.04)	3000
	1.5 (0.06)	3000
5	1 (0.04)	5000
	1.5 (0.06)	3000



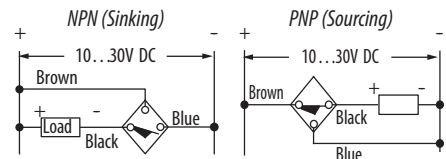
Approximate Dimensions [mm (in.)]

Cable Style



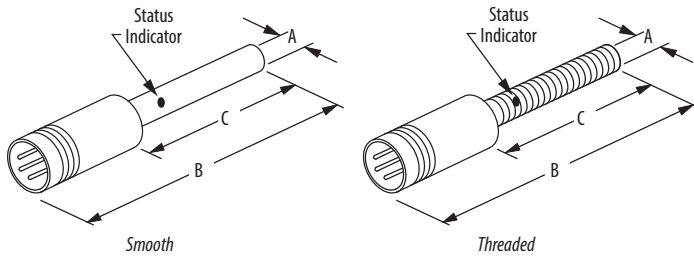
Wiring Diagrams

Normally Open

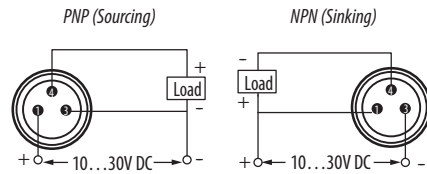


Smooth Diameter	Thread Size	Shielded	[mm (in.)]		
			A	B	C
3.0	—	Yes	3.0 (0.12)	22.0 (0.87)	—
4.0	—		4.0 (0.16)	25.0 (0.98)	—
4.0	M4 X 0.5	Yes	4.0 (0.16)	22.0 (0.87)	19.0 (0.75)
5.0	M5 X 0.5		5.0 (0.20)	25.0 (0.98)	20.0 (0.79)

Pico QD Style

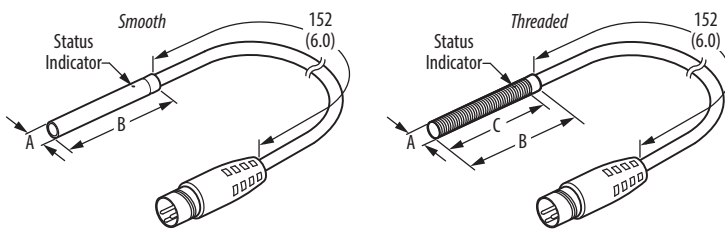


Normally Open

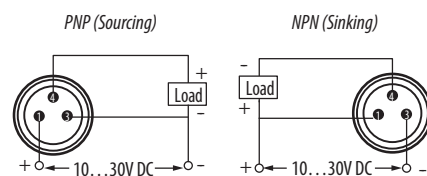


Smooth Diameter	Thread Size	Shielded	mm (in.)		
			A	B	C
4.0	—	Yes	4.0 (0.16)	38.0 (1.50)	19.0 (0.74)
5.0	M5 X 0.5		5.0 (0.20)	38.0 (1.50)	23.0 (0.90)

Pico with Lead Style



Normally Open



Smooth Diameter	Shielded	mm (in.)		
		A	B	C
3.0	Yes	3.0 (0.1)	22.0 (0.87)	—
4.0		4.0 (0.16)	22.0 (0.87)	19.0 (0.74)