

## 871C 2-Wire NAMUR

Nickel-Plated Brass Barrel, Plastic Face



871C NAMUR  
Cable Style  
8, 12, 18, 30mm  
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871C NAMUR  
Micro Quick-Disconnect Style  
8, 12, 18, 30mm  
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### Description

For Allen-Bradley NAMUR style sensors, the sensor input and output conforms to NAMUR specifications (DIN 19 234) allowing these sensors to be used with any approved NAMUR style amplifier/ isolator. Allen-Bradley's NAMUR style sensors are Intrinsically Safe when used with an approved Intrinsically Safe NAMUR style isolator.

The 871C NAMUR style family of sensors can be used in Class I, II, III; Division 1 and 2; Groups A, B, C, D, E, F, and G as well as Zones 0, 1, 2; Groups IIA, IIB, IIC when used with Allen-Bradley's NAMUR style isolators/amplifiers. Installation must be in accordance with the National Electrical Code, ANSI/ISA RP12.6, or per other regulations by authority having jurisdiction over the installation site as appropriate.

### Features

- 2-Wire NAMUR operation
- 8, 12, 18, and 30mm sizes
- Short barrel length
- Shielded and Unshielded models
- FM, CSA, and CENELEC (KEMA) approved

### Specifications

<b>Outputs</b>	NAMUR (conforms to DIN 19 234)
<b>Load Current Target Present</b>	<1mA
<b>Load Current Target Absent</b>	>3mA
<b>Operating Voltage</b>	5-15V DC (8.2V DC nom., Ri = 1kohm, DIN 19 234)
<b>Ripple Voltage</b>	<5%
<b>Repeatability</b>	<10%
<b>Hysteresis</b>	10% typical
<b>Reverse Polarity Protection</b>	Incorporated
<b>False Pulse Protection</b>	Realized in amplifier
<b>Transient Noise Protection</b>	Realized in amplifier
<b>Short Circuit Protection</b>	Realized in amplifier
<b>Overload Protection</b>	Realized in amplifier
<b>Enclosure</b>	NEMA 4, IP67 (IEC 529)
<b>Approvals</b>	FM approved - Class I, II, III; Divisions 1, 2; Groups A, B, C, D, E, F, G - Class I; Zone 0, 1, 2; Groups IIC, IIB, IIA; T6 CSA approved - Class I, II, III; Divisions 1, 2; Groups A, B, C, D, E, F, G - Class I; Zone 0, 1, 2; Groups IIC, IIB, IIA CENELEC (KEMA) approved - Groups IIA, IIB, IIC; Zones 0, 1, 2 (EEx ia IIC T6) CE marked for all applicable directives
<b>Connections</b>	Cable: 2m (6.5ft) length 2 conductor #22AWG PVC Quick-Disconnect: 4-pin micro style
<b>LED</b>	None
<b>Operating Temperature</b>	-25°C to 60°C (-13°F to 140°F)
<b>Shock</b>	30g, 11ms
<b>Vibration</b>	55Hz, 1mm amplitude, 3 planes
<b>Housing Material</b>	Nickel-plated brass barrel, plastic face

### Correction Factors

Target Material	Correction Factor
Steel	1.0
Stainless Steel	0.7-0.8
Brass	0.4-0.5
Aluminum	0.3-0.4
Copper	0.2-0.3

### Entity Parameters

Sensor		Barrier	
$V_{max}$	16V	$\geq$	$V_t$
$I_{max}$	60mA	$\geq$	$I_t$
$C_i$	150 <sub>n</sub> F	$\leq$	$C_a$
$L_i$	200 $\mu$ H	$\leq$	$L_a$



**WARNING:** These parameters must be adhered to. If not, injury may be caused to person or property.

Inductive Proximity Sensors  
**871C 2-Wire NAMUR, Cable Style**  
 Nickel-Plated Brass Barrel, Plastic Face

**Product Selection**

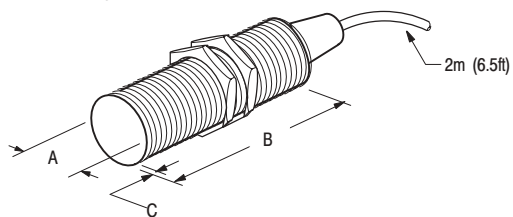
Barrel Diameter	Nominal Sensing Distance mm (inches)	Shielded	Output Configuration	Switching Frequency (Hz)	Catalog Numbers	
					Cable Style	Micro QD Style
8mm	1 (0.03)	Y	NAMUR DIN 19 234	2000	871C-DH1M8-A2	871C-DH1M8-D4
	2 (0.06)	N		1000	871C-DH2M8-A2	871C-DH2M8-D4
12mm	2 (0.08)	Y		2000	871C-DH2M12-A2	871C-DH2M12-D4
	4 (0.16)	N		1000	871C-DH4M12-A2	871C-DH4M12-D4
18mm	5 (0.20)	Y		1000	871C-DH5M18-A2	871C-DH5M18-D4
	8 (0.31)	N		500	871C-DH8M18-A2	871C-DH8M18-D4
30mm	10 (0.39)	Y		500	871C-DH10M30-A2	871C-DH10M30-D4
	15 (0.59)	N		300	871C-DH15M30-A2	871C-DH15M30-D4
				Recommended Standard QD Cordset (-2 = 2m (6.5ft))		889D-F4AC-2 ①

① Intrinsically Safe wiring labels 897H-L1 or 897H-L2 must be applied every 7.6m (25ft).

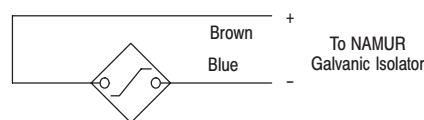
**QD Cordsets and Accessories**

Description	Page Number
Other Cordsets Available	7-41
Terminal Chambers	7-20
NAMUR Amplifiers/Isolators	7-115
Intrinsic Safety Wiring Labels	7-116
Mounting Brackets	2-186 - 2-190
End Caps	2-196
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**Dimensions—mm (inches)**  
 Cable Style



**Wiring Diagram**



Thread Size	Shielded	mm (inches)		
		A	B	C
M8 x 1	Y	8.0 (0.31)	30.0 (1.18)	—
	N			5.0 (0.20)
M12 x 1	Y	12.0 (0.47)		—
	N			6.0 (0.24)
M18 x 1	Y	18.0 (0.71)		—
	N			8.0 (0.31)
M30 x 1.5	Y	30.0 (1.18)	40.0 (1.57)	—
	N			12.0 (0.47)

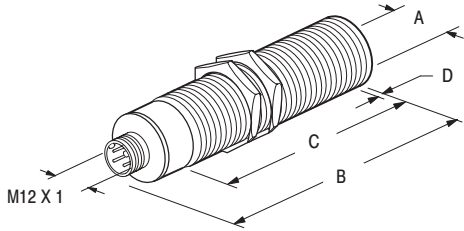
Inductive Proximity Sensors

**871C 2-Wire NAMUR**

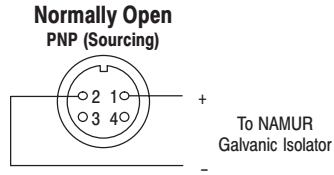
Nickel-Plated Brass Barrel, Plastic Face

Dimensions—mm (inches)

Micro QD Style



Wiring Diagram



Thread Size	Shielded	mm (inches)			
		A	B	C	D
M8 x 1	Y	8.0 (0.31)	50.0 (1.97)	28.0 (1.10)	—
	N			23.0 (0.91)	5.0 (0.20)
M12 x 1	Y	12.0 (0.47)		30.0 (1.18)	—
	N			24.0 (0.94)	6.0 (0.24)
M18 x 1	Y	18.0 (0.71)		30.0 (1.18)	—
	N			22.0 (0.87)	8.0 (0.31)
M30 x 1.5	Y	30.0 (1.18)	60.0 (2.36)	40.0 (1.57)	—
	N			28.0 (1.10)	12.0 (0.47)

Allen-Bradley PLCs