

Installation Instructions

Original Instructions

In-port Cylinder Position Proximity Sensor

Bulletin Number 871D

IMPORTANT Save these instructions for future use.

Features



- Rugged zinc housing and aluminum probe
- Withstands pressures up to 3000 psi
- Five industry standard probe lengths from 26...115.9 mm (1.03...4.56 in.)
- All units supplied with an O-ring, two 1/4 in.-20 x 3/4 in. screws, and mounting bracket allowing for 360° sensor rotation
- Shielded construction
- Weld field immune
- 4-wire DC and 2-wire AC/DC versions with either mini- or micro-style connectors
- DC units feature PNP/NPN outputs
- Short circuit and reverse polarity protection

Specifications

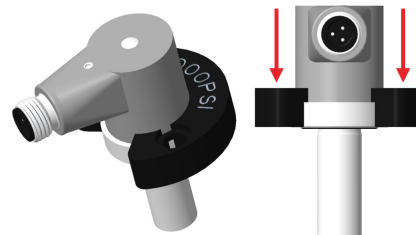
Attribute	2-wire AC/DC Models	4-wire DC Models
Output	Normally open	Normally open PNP/NPN
Load current	8...300 mA	< 200 mA, Max
Leakage current	< 1.7 mA	≤ 100 μA
Operating voltage	<ul style="list-style-type: none"> • 20...250V AC/DC • 20...300 V DC 	10...30V DC
Voltage drop	≤ 7V	≤ 2V DC
Switching frequency	20 Hz	30 Hz
Repeatability	5% typical	
Hysteresis	15% typical	
Protection type	Short circuit and reverse polarity	
Weld field immunity	<ul style="list-style-type: none"> • 250 mT AC fields • 100 mT DC fields 	<ul style="list-style-type: none"> • 250 mT AC fields • 100 mT DC fields
Certifications	cULus Listed, CE Marked, and UKCA Marked	
Enclosure type rating	IP67 (IEC 529)	
Connection type	Quick disconnect: 3-pin mini style, 3-pin micro style	Quick disconnect: 4-pin M12 micro style
Status indicator	<ul style="list-style-type: none"> • Green: Power • Red: Output • Red/Green: Short circuit/overload 	<ul style="list-style-type: none"> • Green: Power • Orange: Output
Operating pressure, max	3000 psi	
Operating temperature	-25...+70 °C (-13...+158 °F)	
Material	<ul style="list-style-type: none"> • Housing: Zinc • Probe: Aluminum 	
Included mounting hardware	<ul style="list-style-type: none"> • Mounting bracket • Two 1/4 in.-20 x 3/4 in. socket head cap screws • O-ring 	

Installation

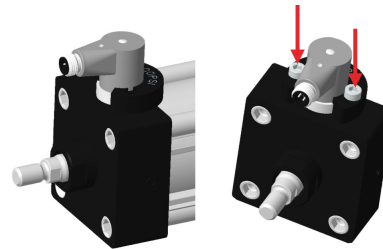
1. Insert the O-ring in the slot on the bottom-facing base of the sensor.



2. To position the mounting bracket, align the gap in the bracket with the sensor snout and slide it from above. The 3000 PSI embossed on the bracket must face upward, and the bottom of the bracket must be flush with the base of the sensor.

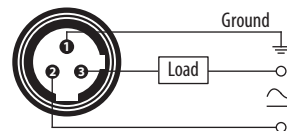


3. Mount the sensor and bracket and rotate to the desired position. Use the supplied 1/4 in.-20 screws to tighten into place. Torque screws to 16.95 N·m (150 in·lb).

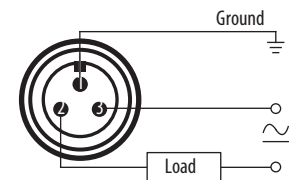


Wiring Diagrams

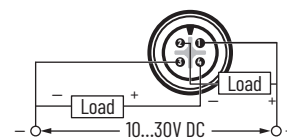
**M12 AC Micro QD Style
Normally Open**



**AC Mini QD Style
Normally Open**



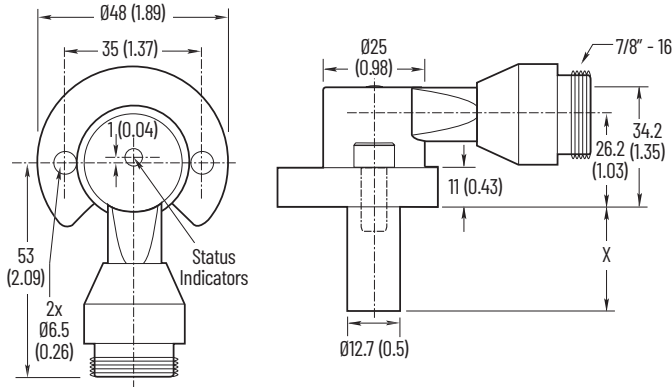
**M12 DC Micro QD Style
Normally Open**



Approximate Dimensions

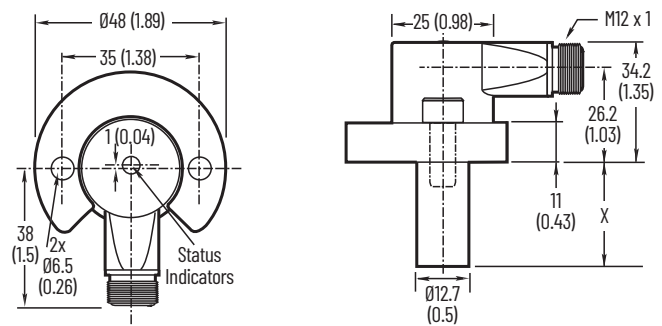
Dimensions are shown in mm (in.).

Mini QD Style



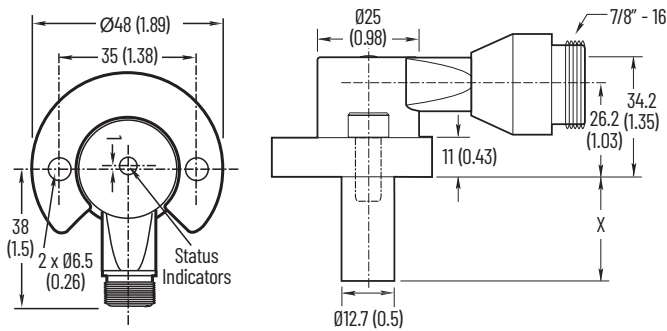
For probe length (X), see [Table 1](#).

M12 Micro QD Style – 4-wire DC



For probe length (X), see [Table 1](#).

M12 Micro QD Style – 2-wire AC/DC



For probe length (X), see [Table 1](#).

Table 1 - Probe Length and Cordsets

Probe Length [mm (in.)]	Mini QD	Micro QD	
	2-wire AC/DC	2-wire AC/DC	4-wire DC
26.0 (1.02)	871D-LW2N260-N3	871D-LW2N260-R3	871D-MW2NP260-D4
31.7 (1.25)	871D-LW2N317-N3	871D-LW2N317-R3	871D-DW2NP317-D4
52.4 (2.06)	871D-LW2N524-N3	871D-LW2N524-R3	871D-MW2NP524-D4
73.0 (2.87)	871D-LW2N730-N3	—	871D-MW2NP730-D4
115.9 (4.56)	871D-LW2N1159-N3	—	—
QD Cordset ⁽¹⁾	889N-F3AFC-6F	889R-F3AEA-2	889D-F4AC-2

(1) Listed cordsets have a straight connector in 2 m (-2) or 6 ft (-6F) lengths. Additional cordsets and other accessories are available, see <https://www.rockwellautomation.com/en-us/products/hardware/allen-bradley/connection-devices/cables-and-cordsets.html>.

Waste Electrical and Electronic Equipment (WEEE)







At the end of life, this equipment should be collected separately from any unsorted municipal waste.

Rockwell Automation maintains current product environmental compliance information on its website at rok.auto/pec.

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Rockwell Otomasyon Ticaret A.Ş. Kar Plaza İş Merkezi E Blok Kat:6 34752 İçerenköy, İstanbul, Tel: +90 (216) 5698400 EEE Yönetmeliğine Uygundur

Connect with us.    

rockwellautomation.com

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AMERICAS: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000

EUROPE/MIDDLE EAST/AFRICA: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2663 0600

ASIA PACIFIC: Rockwell Automation SEA Pte Ltd, 2 Corporation Road, #04-05, Main Lobby, Corporation Place, Singapore 618494, Tel: (65) 6510 6608

UNITED KINGDOM: Rockwell Automation Ltd., Pitfield, Kiln Farm, Milton Keynes, MK11 3DR, United Kingdom, Tel: (44)(1908) 838-800

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Publication 871D-IN001B-EN-P - June 2024 | Supersedes Publication 871D-IN001A-EN-P - May 2017

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75021-043 Ver 05