



871P AC/DC General Purpose  
Micro Quick-Disconnect Style

## Features

- New rugged housing
- Burn and weld-slag resistant body on weld field immune models
- Convenient mounting base
- 2-wire operation
- 3-pin connection
- 20...250V AC/DC
- Normally open or normally closed output
- Weld-field immune models
- Short circuit, overload, false pulse, and transient noise protection
- UL Listed, cUL Certified and CE Marked for all applicable directives

## Specifications

	General Purpose	Weld Field Immune
Load Current	2...100 mA	2...300 mA
Inrush Current (1 cycle)	≤ 2 A	≤ 2 A
Leakage Current	≤1.5 mA @ 20V ≤1.7 mA @ 120V ≤2.0 mA @ 250V	≤1.5 mA@20V ≤1.7 mA@120V ≤2.0 mA@250V
Operating Voltage	20...250V AC/DC	20-250V AC/DC
Voltage Drop	<10V	<10V
Repeatability	≤10% of effective operating distance	≤10% of effective operating distance
Hysteresis	12% typical	12% typical
False Pulse Protection	Incorporated	Incorporated
Transient Noise Protection	Incorporated	Incorporated
Short Circuit Protection	Incorporated	Incorporated
Overload Protection	Incorporated	Incorporated
Weld-Field Immunity	N/A	1000 Gauss ①
Certifications	UL Listed, cUL Certified and CE Marked for all applicable directives	
Enclosure	NEMA 1, 2, 3, 4, 6, 6P, 12, 13; IP67 (IEC529), 1200 psi (8270 kPa) washdown; Plastic body, zinc base; micro connector versions also meet IP69K (IEC 529)	
Connections	Quick-Disconnect: 3-pin mini style 3-pin micro style	
LED	Red: Output Energized Green: Power (short circuit if flashing)	
Operating Temperature	-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	0.7...0.8
Brass	0.4...0.5
Aluminum	0.3...0.4
Copper	0.2...0.3

① Measured with field perpendicular to sensing face.

## Product Selection

Head Size	Weld Field Immune	Nominal Sensing Distance [mm (in.)]	Shielded	Output Configuration	Switching Frequency [Hz]	Cat. No.	
						Mini QD Style	Micro QD Style
40 mm	N	20 (0.79)	Y	N.O.	30	871P-B20N40-N3	<b>871P-B20N40-R3</b>
				N.C.		871P-B20C40-N3	871P-B20C40-R3
		40 (1.57)	N	N.O.	20	871P-B40N40-N3 ❶	<b>871P-B40N40-R3 ❶</b>
				N.C.		871P-B40C40-N3 ❶	871P-B40C40-R3 ❶
	Y	15 (0.59)	Y	N.O.	30	871P-BW15N40-N3	871P-BW15N40-R3
				N.C.		871P-BW15C40-N3	871P-BW15C40-R3
		25 (0.98)	N	N.O.	20	871P-BW25N40-N3	871P-BW25N40-R3
				N.C.		871P-BW25C40-N3	871P-BW25C40-R3
Recommended Standard QD Cordset (-6F = 1.8 m (6 ft), -2 = 2 m (6.5 ft))						889N-F3AFC-6F	889R-F3ECA-2

❶ Assured operating distance for general purpose unshielded models is 0...33 mm (0...1.3 in.).

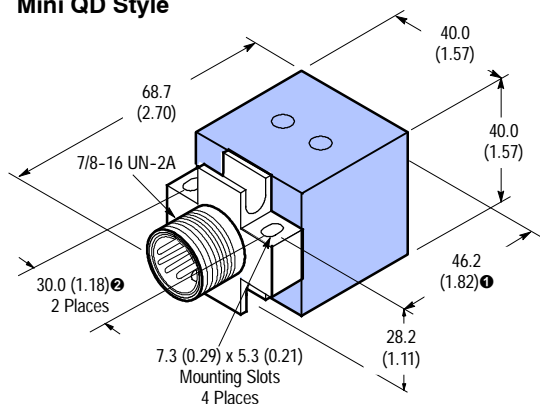
## QD Cordsets and Accessories

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Mounting Kit ❷	2-216
Limit Switch Style Mounting Brackets	2-217
PTFE Covers	2-218

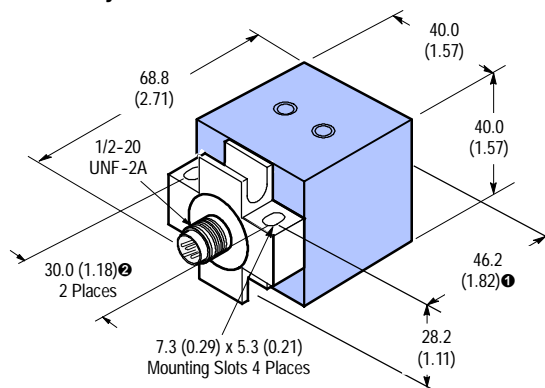
❷ Each mounting kit includes a ground lug, a ground screw, and an optional adaptor for competitive retrofits.

## Approximate Dimensions [mm (in.)]

### Mini QD Style



### Micro QD Style

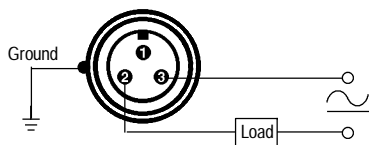


- ① With retrofit adaptor, distance from face to mounting holes becomes 60.0 (2.36).
- ② With retrofit adaptor, spacing between mounting holes becomes 20.0 (0.79).

## Wiring Diagrams

### Mini QD Style

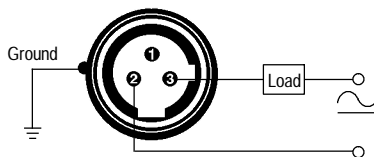
#### Normally Open or Normally Closed



Note: Load can be switched to pin 3.

### Micro QD Style

#### Normally Open or Normally Closed



Note: Load can be switched to pin 2.

## ATTENTION



Unit must be mounted to a grounded metal frame or grounded via field wiring lug per NEC requirements. Recommended grounding lug is available in Allen-Bradley mounting kit **871A-PKIT**. This kit is included with all weld field immune models.



### Description

Bulletin 871F inductive flat pack and block style proximity sensors are self-contained, solid state devices. These devices are designed for most applications where it is required to sense the presence of ferrous and nonferrous metal objects without touching them.

The body material is either plastic (flat pack) or aluminum (block) and meets NEMA 1, 2, 3, 4, 6, 6P, 12 and 13, IP67 (IEC529), 1200 psi (8270 kPa) washdown enclosure standards (871F only). The electronic circuitry is potted for protection against shock, vibration, and contamination.

Connection options include a micro and mini quick-disconnect, ToughLink™ and PVC cable models, and both 1/2-14 NPT and PG13.5 conduit opening with screw terminals.

### Features

- Cable, conduit, or quick-disconnect styles
- Short circuit protection
- Overload protection
- Transient noise protection
- False pulse protection
- Reverse polarity protection (DC models)
- CE Marked for all applicable directives

### Styles

DC 4-Wire Complementary Output Flat Pack	page 2-138
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### Accessories

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