



### Description

Bulletin 871P rectangular inductive proximity sensors are self-contained, solid-state devices designed to sense the presence of ferrous and nonferrous metal objects without touching them.

Each switch is contained in a rectangular, self-extinguishing, glass-reinforced polyester body which meets NEMA 1, 2, 3, 4X, 12, 13, IP65 (IEC 529) enclosure standards.

These devices are available in top, front, left and right sensing models. Connection options include 2.5m (8ft) cable (with threaded conduit opening) and mini and micro quick-disconnect.

### Features

- Cable or quick-disconnect styles
- Short-circuit protection
- Transient noise protection
- False pulse protection

### Styles

AC 2-Wire . . . . . page 2–132

### Accessories

Quick-Disconnect Cables . . . page 5–1

### General Information

Metric/English  
Conversion Chart . . . . . page 11–1

## 871P Rectangular 2-Wire AC



871P AC Cable Style  
page 2-133



871P AC Mini  
Quick-Disconnect Style  
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871P AC Micro  
Quick-Disconnect Style  
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### Specifications

<b>Load Current</b>	≤0.5A
<b>Inrush Current</b>	≤5A for 1 cycle
<b>Leakage Current</b>	≤2mA
<b>Operating Voltage</b>	40–132V AC
<b>Supply Current (minimum)</b>	4mA
<b>Voltage Drop</b>	≤10V at ≥50mA ≤20V at <50mA
<b>Repeatability</b>	≤5%
<b>Hysteresis</b>	15% maximum
<b>False Pulse Protection</b>	Incorporated
<b>Transient Noise Protection</b>	Incorporated
<b>Short Circuit Protection</b>	Incorporated
<b>Approvals</b>	CE marked for all applicable directives
<b>Enclosure</b>	NEMA 1, 2, 3, 4X, 12, 13, IP65 (IEC 529) Self-extinguishing glass reinforced polyester
<b>Connections</b>	Cable: 2.5m (8ft) length 2-conductor #18 AWG PVC with threaded conduit opening Quick-Disconnect: 3-pin mini style 3-pin micro style
<b>LED</b>	Red: Output Energized
<b>Operating Temperature</b>	–25°C to +75°C (–13°F to +167°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	0.7–0.8
Brass	0.4–0.5
Aluminum	0.3–0.4
Copper	0.2–0.3

### Features

- 2-wire operation
- 2-conductor or 3-pin connection
- 40–132V AC
- Normally open output
- Short circuit, false pulse and transient noise protection
- CE marked for all applicable directives

**Selection Guide**

Sensing Direction	Nominal Sensing Distance mm (inches)	Shielded	Inside Thread Type	Output Configuration	Switching Frequency (Hz)	Catalog Number Cable Style
Top	12.5 (0.49)	N	1/2-14 NPSC x 0.5 Deep	N.O.	16	871P-E13GCT
			ISO 20-1.5 x 12.5 Deep			871P-E13GCT-S6
Front			1/2-14 NPSC x 0.5 Deep			871P-E13GCF
			ISO 20-1.5 x 12.5 Deep			871P-E13GCF-S6
Left			1/2-14 NPSC x 0.5 Deep			871P-E13GCL
			ISO 20-1.5 x 12.5 Deep			871P-E13GCL-S6
Right			1/2-14 NPSC x 0.5 Deep			871P-E13GCR
			ISO 20-1.5 x 12.5 Deep			871P-E13GCR-S6

Sensing Direction	Nominal Sensing Distance mm (inches)	Shielded	Output Configuration	Switching Frequency (Hz)	Catalog Number	
					Mini QD Style	Micro QD Style
Top	12.5 (0.49)	N	N.O.	16	871P-E13GRT	871P-E13GRT-R3
Front					871P-E13GRF	871P-E13GRF-R3
Left					871P-E13GRL	871P-E13GRL-R3
Right					871P-E13GRR	871P-E13GRR-R3
Recommended Standard QD Cordset (-6F = 1.8m (6ft), -2 = 2m (6.5ft))						889R-F3ACA-2

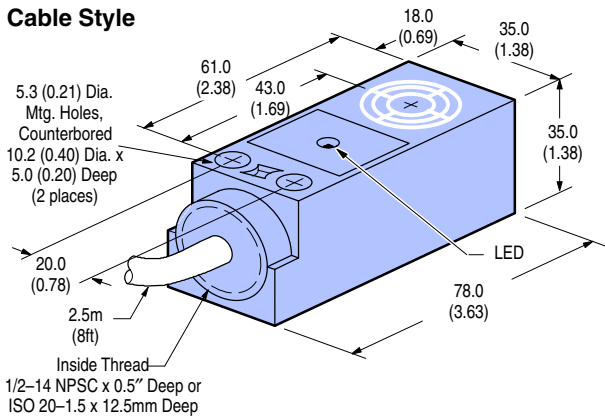
**QD Cordsets and Accessories**

Description	Page Number
Other Cordsets Available	5-8, 5-44
Terminal Chambers	5-19

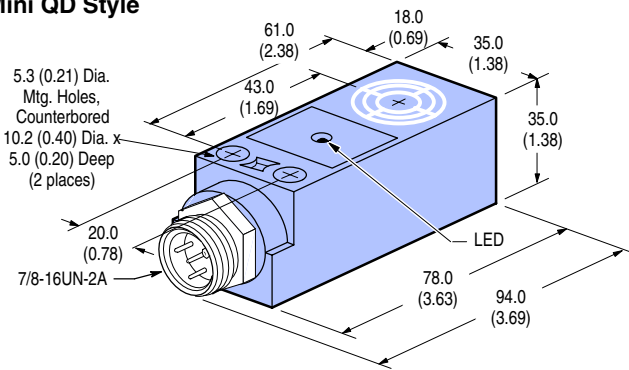
# 871P Rectangular 2-Wire AC

## Dimensions—mm (inches)

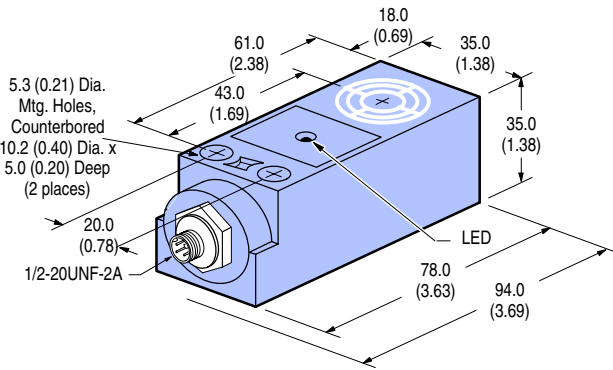
### Cable Style



### Mini QD Style

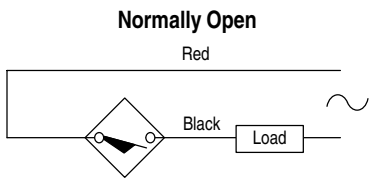


### Micro QD Style



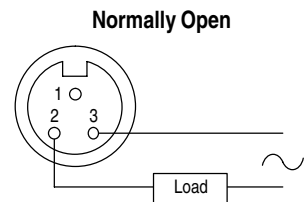
## Wiring Diagram

### Cable Style



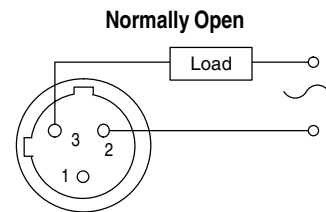
**Note:** Load can be switched to red lead.

### Mini QD Style



**Note:** Load can be switched to pin 3.

### Micro QD Style



**Note:** Load can be switched to pin 2.