












**Inductive Proximity Sensors**  
**Quick Selection Guide**






Specifications	 <b>871TM</b> All Stainless Steel Tubular	 <b>872C</b> WorldProx General Purpose	 <b>871T</b> Stainless Barrel Tubular	 <b>871C</b> Special Purpose	 <b>871Z</b> Weld Field Immune
<b>Description</b>	Tubular Style <ul style="list-style-type: none"> <li>Stainless Steel Face/Threaded Stainless Steel Barrel</li> </ul>	Tubular Style <ul style="list-style-type: none"> <li>Plastic Face/Threaded Nickel-Plated Brass Barrel</li> <li>Plastic Face/Threaded Plastic Barrel</li> </ul>	Tubular Style <ul style="list-style-type: none"> <li>All metal sensing: Plastic Face/Threaded Stainless Steel Barrel</li> <li>Ferrous Selective: Stainless Steel Face/Threaded Stainless Steel Barrel</li> </ul>	Tubular Style <ul style="list-style-type: none"> <li>Plastic Face/Threaded Nickel-Plated Brass Barrel</li> <li>Plastic Face/Smooth Nickel-Plated Brass Barrel</li> <li>Plastic Face/Threaded Plastic Barrel</li> </ul>	Tubular Style <ul style="list-style-type: none"> <li>PTFE Face/Threaded PTFE-Coated Brass Barrel</li> <li>Thermoset Plastic Face/Threaded PTFE-Coated Brass Barrel</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>Stainless steel face and barrel</li> <li>Full mechanical seals (all-metal sensing models)</li> <li>ToughLink™ or PVC cable styles</li> <li>Mini, micro or EAC micro QD styles</li> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection (DC models)</li> <li>Radio frequency interference protection</li> </ul>	<ul style="list-style-type: none"> <li>Threaded, nickel-plated brass barrel or plastic barrel</li> <li>360° visible LED</li> <li>Cable or quick-disconnect styles</li> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection</li> </ul>	<ul style="list-style-type: none"> <li>Threaded stainless steel barrel</li> <li>Cable or QD styles</li> <li>Short circuit protection (DC models)</li> <li>Overload protection (DC models)</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection (DC models)</li> </ul>	<ul style="list-style-type: none"> <li>Cable or QD styles</li> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection</li> </ul>	<ul style="list-style-type: none"> <li>Cable or QD styles</li> <li>PTFE-coated brass barrel</li> <li>Weld field immunity</li> <li>Short circuit, false pulse, overload, and transient noise protection</li> </ul>
<b>Diameter</b>	• 12, 18, 30mm	• 6.5, 8, 12, 18, 30mm	• 12, 18mm	• 3, 4, 5, 12, 18, 30mm	• 12, 18, 30mm
<b>Available Models</b>	<ul style="list-style-type: none"> <li>DC 3-Wire . . . . . 2-20</li> <li>Ferrous Selective DC 3-Wire . . . . . 2-23</li> <li>Nonferrous Selective DC 3-Wire . . . . . 2-23</li> <li>Submersible DC 3-Wire . . . . . 2-26</li> <li>DC 2-Wire . . . . . 2-28</li> <li>Intrinsically Safe DC 2-Wire . . . . . 2-31</li> <li>AC/DC 2-Wire . . . . . 2-36</li> <li>AC/DC 2-Wire PLC Interfacer . . . . . 2-39</li> </ul>	<ul style="list-style-type: none"> <li>DC 3-Wire . . . . . 2-44</li> <li>DC 3-Wire Short Barrel . . . . . 2-48</li> <li>DC 3-Wire Extended Sensing . . . . . 2-52</li> <li>DC 3-Wire Plastic Barrel . . . . . 2-55</li> <li>DC 2-Wire . . . . . 2-58</li> <li>DC 2-Wire QuadroPlex . . . . . 2-60</li> <li>DC 4-Wire Complementary Output . . . . . 2-62</li> <li>AC 2-Wire . . . . . 2-64</li> <li>AC/DC 2-Wire Relay Output . . . . . 2-67</li> </ul>	<ul style="list-style-type: none"> <li>DC 3-Wire . . . . . 2-70</li> <li>AC 2-Wire . . . . . 2-72</li> <li>Ferrous Selective AC 2-Wire or 4-Wire . . . . . 2-74</li> </ul>	<ul style="list-style-type: none"> <li>DC 3-Wire Small Diameter . . . . . 2-78</li> <li>Extended Temperature Range DC 3-Wire . . . . . 2-81</li> <li>AC 2-Wire Full-Featured . . . . . 2-83</li> <li>AC 2-Wire Plastic Barrel . . . . . 2-86</li> <li>NAMUR Intrinsically Safe . . . . . 2-88</li> <li>Analog Output . . . . . 2-91</li> </ul>	<ul style="list-style-type: none"> <li>Weld Field Immune DC 3-Wire . . . . . 2-94</li> <li>Weld Field Immune AC 2-Wire . . . . . 2-96</li> </ul>
<b>Connections</b>	<ul style="list-style-type: none"> <li>PVC Cable</li> <li>ToughLink™ cable</li> <li>Mini QD</li> <li>Micro QD</li> </ul>	<ul style="list-style-type: none"> <li>Cable (PVC)</li> <li>Mini Quick-Disconnect</li> <li>Micro Quick-Disconnect</li> <li>Pico Quick-Disconnect</li> </ul>	<ul style="list-style-type: none"> <li>Cable (PVC)</li> <li>Mini QD</li> </ul>	<ul style="list-style-type: none"> <li>Cable (PVC or PUR)</li> <li>Mini Quick-Disconnect</li> <li>Micro Quick-Disconnect</li> <li>Pico Quick-Disconnect</li> </ul>	<ul style="list-style-type: none"> <li>Cable (ToughLink™)</li> <li>Mini QD</li> <li>Micro QD</li> </ul>
<b>Enclosure</b>	<ul style="list-style-type: none"> <li>Stainless steel face and barrel</li> <li>NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC 529)</li> <li>1200psi (8270kPa) washdown</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4, 6P, 12, 13 IP67 (IEC529)</li> <li>Nickel-plated brass barrel or plastic barrel, plastic face (PBT)</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4, 12 and 13 IP67 (IEC 529)</li> <li>303 Stainless steel barrel</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4, 12, 13 IP67 (cable only) IP65 (qd only) (IEC 529); Nickel-plated brass barrel</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13, IP67 (IEC 529) PTFE coated housing</li> </ul>
<b>Additional Info</b>	• See page 2-19	• See page 2-43	• See page 2-69	• See page 2-77	• See page 2-93

Allen-Bradley Parts

 <p style="text-align: center;"><b>871ZC</b> Weld Field Immune</p>	 <p style="text-align: center;"><b>871P</b> VersaCube</p>	 <p style="text-align: center;"><b>871P</b> Rectangular</p>	 <p style="text-align: center;"><b>871F</b> Flat Pack &amp; Block</p>	 <p style="text-align: center;"><b>871L &amp; 872L</b> Limit Switch Style</p>	 <p style="text-align: center;"><b>802PR</b> Limit Switch Style</p>
<p>Tubular Style</p> <ul style="list-style-type: none"> <li>Thermoset Plastic Face/Threaded Copper Barrel</li> </ul>	<p>Rectangular Style</p> <ul style="list-style-type: none"> <li>Plastic Housing</li> </ul>	<p>Rectangular Style</p> <ul style="list-style-type: none"> <li>Plastic Housing</li> </ul>	<p>Flat Pack Style</p> <ul style="list-style-type: none"> <li>Plastic Body Block Style</li> <li>Aluminum Body</li> </ul>	<p>Limit Switch Style</p> <ul style="list-style-type: none"> <li>Plastic Body/17-position Head</li> </ul>	<p>Limit Switch Style</p> <ul style="list-style-type: none"> <li>Glass-Reinforced Polyester Housing</li> </ul>
<ul style="list-style-type: none"> <li>Micro and mini QD styles</li> <li>Copper barrel</li> <li>Weld field immunity</li> <li>Short circuit, false pulse, overload, and transient noise protection</li> </ul>	<ul style="list-style-type: none"> <li>5-position sensing head</li> <li>Rugged burn and weld-slag resistant housing on weld-field immune models</li> <li>Mini and micro QD styles</li> <li>Weld field immunity (some models)</li> <li>Short circuit protection</li> <li>False pulse protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>Reverse polarity protection (DC models)</li> </ul>	<ul style="list-style-type: none"> <li>Cable or QD styles</li> <li>Short-circuit protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> </ul>	<ul style="list-style-type: none"> <li>Cable, conduit, or QD styles</li> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection (DC models)</li> </ul>	<ul style="list-style-type: none"> <li>17 sensing head positions (1 top, 16 side)</li> <li>Conduit or QD styles</li> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection</li> <li>Selectable normally open or normally closed output</li> </ul>	<ul style="list-style-type: none"> <li>Multiple sensing directions</li> <li>Cable, conduit, or QD styles</li> <li>Short circuit protection (AC/DC models)</li> <li>Overload protection (AC/DC models)</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Hazardous location models are available</li> </ul>
<ul style="list-style-type: none"> <li>12, 18, 30mm</li> </ul>	<ul style="list-style-type: none"> <li>40mm x 40mm x 69mm</li> </ul>	<ul style="list-style-type: none"> <li>35mm x 35mm x 78mm</li> </ul>	<p>Flat Pack Style</p> <ul style="list-style-type: none"> <li>80mm x 80mm x 40mm</li> </ul> <p>Block Style</p> <ul style="list-style-type: none"> <li>50mm x 50mm x 40mm</li> <li>40mm x 50mm x 100mm</li> </ul>	<ul style="list-style-type: none"> <li>40mm x 40mm x 120mm</li> </ul>	<ul style="list-style-type: none"> <li>42mm x 41mm x 109mm</li> </ul>
<ul style="list-style-type: none"> <li>Weld Field Immune DC 3-Wire . . . . . 2-100</li> <li>Weld Field Immune AC/DC 2-Wire . . . 2-102</li> </ul>	<ul style="list-style-type: none"> <li>General Purpose DC 3-Wire . . . . . 2-107</li> <li>Weld Field Immune DC 3-Wire . . . . . 2-107</li> <li>General Purpose DC 3-Wire Equal Sensing 2-110</li> <li>General Purpose AC/DC 2-Wire . . . . . 2-112</li> <li>Weld Field Immune AC/DC 2-Wire . . . . . 2-112</li> </ul>	<ul style="list-style-type: none"> <li>General Purpose AC 2-Wire . . . . . 2-116</li> <li>Weld Field Immune AC 2-Wire . . . . . 2-116</li> </ul>	<ul style="list-style-type: none"> <li>Complementary Output DC 4-Wire Flat Pack . . . . . 2-120</li> <li>DC Weld Field Immune Flat Pack . . . . . 2-123</li> <li>2-Wire AC/DC Flat Pack . . . . . 2-125</li> <li>Weld Field Immune 2-Wire AC/DC Flat Pack . . 2-127</li> <li>DC 3-Wire Block . . 2-129</li> </ul>	<ul style="list-style-type: none"> <li>DC 3-Wire . . . . . 2-132</li> <li>AC 2-Wire . . . . . 2-134</li> <li>AC/DC 2-Wire . . . . 2-134</li> </ul>	<ul style="list-style-type: none"> <li>AC/DC 2-Wire . . . . 2-138</li> <li>Hazardous Location AC/DC 2-Wire . . . . 2-143</li> <li>AC 2-Wire (High Output) . . . . 2-145</li> <li>Hazardous Location AC 2-Wire (High Output) . . . . 2-149</li> </ul>
<ul style="list-style-type: none"> <li>Mini QD</li> <li>Micro QD</li> </ul>	<ul style="list-style-type: none"> <li>Mini QD</li> <li>Micro QD</li> </ul>	<ul style="list-style-type: none"> <li>Cable (PVC)</li> <li>Mini QD</li> <li>Micro QD</li> </ul>	<p>Flat Pack Style</p> <ul style="list-style-type: none"> <li>Cable</li> <li>Mini QD</li> <li>Micro QD</li> </ul> <p>Block Style</p> <ul style="list-style-type: none"> <li>Micro QD</li> <li>Cable</li> </ul>	<ul style="list-style-type: none"> <li>Mini QD</li> <li>Micro QD</li> <li>Conduit/Terminal</li> </ul>	<ul style="list-style-type: none"> <li>Cable (STO or ToughLink™)</li> <li>Mini QD</li> <li>Micro QD</li> <li>Conduit/Terminal</li> </ul>
<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4, 12 and 13, IP67 (IEC 529) Copper barrel, thermoset plastic face</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4, 6, 6P, 12 and 13, IP67 (IEC 529), 1200psi (8270kPa) washdown</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4X, 12, 13, IP65 (IEC 529) Self-extinguishing glass reinforced polyester</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4, 6, 6P, 12 and 13, IP67 (IEC 529), 1200psi (8270kPa) washdown</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 3, 4, 6, 12, 13, IP67 (IEC 529) Polyloy</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 4, 4X, 12, 13, IP65 (IEC 529) Self extinguishing glass-reinforced polyester body</li> </ul>
<ul style="list-style-type: none"> <li>See page 2-99</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-105</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-115</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-119</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-131</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-137</li> </ul>

# Inductive Proximity Sensors

## Quick Selection Guide

					
Specifications	<b>871FM</b> Miniature Flat Pack	<b>871P</b> Can Sensors	<b>871D</b> WorldClamp	<b>871D</b> Cylinder Position	<b>871R &amp; 871S</b> Ring & Slot Sensors
<b>Description</b>	Miniature Flat Pack Style <ul style="list-style-type: none"> <li>Plastic Body</li> </ul>	Can Sensor Style <ul style="list-style-type: none"> <li>Stainless Steel Housing/Plastic Face</li> </ul>	On-Clamp Cylinder Position Style <ul style="list-style-type: none"> <li>Power Clamp and Gripper Style</li> </ul>	In-port Cylinder Position Style <ul style="list-style-type: none"> <li>Ceramic Face/Stainless Steel Probe Assembly</li> </ul>	Ring and Slot Style <ul style="list-style-type: none"> <li>Plastic and Metal Housing</li> </ul>
<b>Features</b>	<ul style="list-style-type: none"> <li>Cable or QD styles</li> <li>Short circuit protection (DC models)</li> <li>Overload protection (DC models)</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection (DC models)</li> </ul>	<ul style="list-style-type: none"> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection (DC models)</li> <li>Stainless steel housing</li> </ul>	<ul style="list-style-type: none"> <li>Superior LED visibility</li> <li>Weld-field immune</li> <li>Shielded construction</li> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection (DC models)</li> </ul>	<ul style="list-style-type: none"> <li>Stainless steel probe with ceramic face</li> <li>Low profile housing can be rotated 304° after installation without breaking pressure seal</li> <li>Shielded construction</li> <li>Weld-field immune</li> <li>Short circuit protection</li> <li>Overload protection</li> <li>Transient noise protection</li> <li>False pulse protection</li> <li>Reverse polarity protection (DC models)</li> </ul>	<ul style="list-style-type: none"> <li>Cable or micro QD style</li> <li>Short circuit protection</li> <li>Reverse polarity protection</li> </ul>
<b>Diameter</b>	<ul style="list-style-type: none"> <li>28mm x 16mm x 11mm</li> <li>40mm x 26mm x 12mm</li> <li>25mm x 50mm x 10mm</li> <li>31mm x 18mm x 10mm</li> </ul>	<ul style="list-style-type: none"> <li>76mm x 38mm x 59mm</li> <li>140mm x 44.5mm x 59mm</li> </ul>	<ul style="list-style-type: none"> <li>47mm x 18mm x 18mm</li> <li>55mm x 35mm x 19mm</li> </ul>	<ul style="list-style-type: none"> <li>64mm x 48mm x 37mm installed</li> </ul>	<ul style="list-style-type: none"> <li>12, 20, 50, and 100mm</li> <li>30mm</li> </ul>
<b>Available Models</b>	<ul style="list-style-type: none"> <li>DC 3-Wire . . . . . 2-152</li> <li>AC 2-Wire . . . . . 2-155</li> </ul>	<ul style="list-style-type: none"> <li>Short-Range AC 2-Wire Inductive Can . . . 2-158</li> <li>Long-Range AC 2-Wire Inductive Can . . . 2-158</li> <li>Short-Range DC 4-Wire Inductive Can . . . 2-160</li> <li>Long-Range DC 4-Wire Inductive Can . . . 2-160</li> <li>Motion DC 4-Wire Inductive Can . . . 2-162</li> </ul>	<ul style="list-style-type: none"> <li>DC 4-wire . . . . . 2-166</li> <li>AC/DC 5-wire . . . 2-168</li> </ul>	<ul style="list-style-type: none"> <li>DC 3-wire . . . . . 2-172</li> <li>AC/DC 2-wire . . . 2-174</li> </ul>	<ul style="list-style-type: none"> <li>871R DC 3-Wire Ring Style . . . . . 2-178</li> <li>871S DC 3-Wire Slot Style . . . . . 2-181</li> </ul>
<b>Connections</b>	<ul style="list-style-type: none"> <li>Cable (PVC)</li> <li>Pico QD</li> </ul>	<ul style="list-style-type: none"> <li>Cable (PVC)</li> <li>Mini QD</li> </ul>	<ul style="list-style-type: none"> <li>Micro QD</li> </ul>	<ul style="list-style-type: none"> <li>Mini QD</li> <li>Micro QD</li> </ul>	<ul style="list-style-type: none"> <li>Cable (PVC)</li> <li>Micro QD</li> </ul>
<b>Enclosure</b>	<ul style="list-style-type: none"> <li>NEMA 4, IP67 (IEC 529) Plastic</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 3, 4, 4X, 6, 6P, 12, 13, IP67 (IEC 529), 1200psi (8270kPa) washdown</li> </ul>	<ul style="list-style-type: none"> <li>IP67</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 1, 2, 3, 3R, 4, 6, 12, 13, IP67 (IEC 529)</li> </ul>	<ul style="list-style-type: none"> <li>NEMA 4 IP67 (IEC529)</li> </ul>
<b>Additional Info</b>	<ul style="list-style-type: none"> <li>See page 2-151</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-157</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-168</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-171</li> </ul>	<ul style="list-style-type: none"> <li>See page 2-177</li> </ul>

### Weld Field Immune Proximity Sensors

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871D WorldClamp™ . . . . .	page 2-168
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### Hazardous Location Proximity Sensors

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871TM Nonferrous Selective . . . . .	page 2-23

### Extended Temperature Range Proximity Sensors

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Other extended temperature range models available as special order items. Contact factory for details.	