

871TS Food and Beverage



871TS DC M12 Micro Quick Disconnect Style
12 mm and 18 mm Diameter

Specifications

| Attribute | 12 mm and 18 mm Diameter |
|-----------------------|---|
| Load current | ≤ 200 mA |
| Leakage current | ≤ 15 μA |
| Operating voltage | 10...30V DC |
| Voltage drop | ≤ 2.0V |
| Repeatability | ≤ 5% |
| Hysteresis | ≤ 10% typical |
| Protection type | False pulse, transient noise, reverse polarity, short circuit, and overload |
| Certifications | cULus Listed, CE Marked for all applicable directives, and UKCA Marked for all applicable regulations |
| Enclosure type rating | NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67, IP68, and IP69K |
| Housing material | Stainless steel 316L barrel, PPS (FDA Certified) plastic face |
| Connection type | Quick disconnect: 4-pin M12 micro style |
| Status indicator | Yellow: Output energized |
| Operating temperature | -40...+80 °C (-40...+176 °F) |
| Shock | 30 g (1.06 oz), 11 ms |
| Vibration | 55 Hz, 1 mm amplitude, 3 planes |

Correction Factors

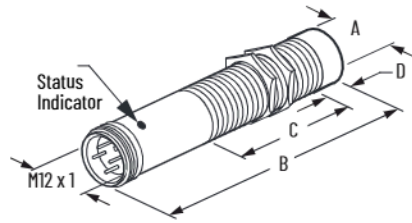
| Target Material | Correction Factors |
|-----------------|--------------------|
| Steel | 1.0 |
| Stainless steel | 0.7...0.8 |
| Brass | 0.4...0.5 |
| Aluminum | 0.3...0.4 |
| Copper | 0.2...0.3 |

Product Selection

| Barrel Diameter [mm (in.)] | Nominal Sensing Distance [mm (in.)] | Shielded | Output Configuration | Switching Frequency [Hz] | Cat. No. |
|--|--|----------|----------------------|-----------------------------|-------------------|
| | | | | | Micro QD Cable |
| 12 (0.47) threaded | 2 (0.08) | Yes | N.O. and N.C. | 2000 | 871TS-D2BN12-D4 |
| | | | | | 871TS-D2BP12-D4 |
| | 4 (0.16) | Yes | | 2000 | 871TS-M4BN12-D4 |
| | | | | | 871TS-M4BP12-D4 |
| | 4 (0.16) | No | | 2000 | 871TS-D4BN12-D4 |
| | | | | | 871TS-D4BP12-D4 |
| | 8 (0.31) | No | | 2000 | 871TS-N8BN12-D4 |
| | | | | | 871TS-N8BP12-D4 |
| 18 (0.71) threaded | 5 (0.2) | Yes | N.O. and N.C. | 1500 | 871TS-D5BN18-D4 |
| | | | | | 871TS-D5BP18-D4 |
| | 8 (0.31) | Yes | | 1500 | 871TS-M8BN18-D4 |
| | | | | | 871TS-M8BP18-D4 |
| | 8 (0.31) | No | | 1500 | 871TS-D8BN18-D4 |
| | | | | | 871TS-D8BP18-D4 |
| | 12 (0.47) | No | | 1500 | 871TS-N12BN18-D4 |
| | | | | | 871TS-N12BP18-D4 |
| 18 (0.71) smooth | 8(0.31) | Yes | N.O. and N.C. | 1500 | 871TS-MM8BP18-D4 |
| | | | | | 871TS-NM12BP18-D4 |
| Recommended standard QD cordset: -2 = 2 m (6.5 ft) | | | | | 889D-F4AC-2 |

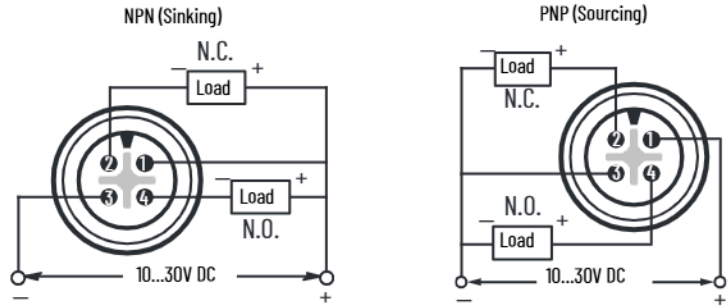
Approximate Dimensions

Micro QD Style



Wiring Diagrams

Normally Open and Normally Closed



| Barrel Type | Thread Size | Shielded | Dimensions [mm (in.)] | | | |
|-------------|-------------|----------|-----------------------|-----------|-------------|------------|
| | | | A | B | C | D |
| Threaded | M12 x 1 | Yes | 12 (0.47) | 65 (2.56) | 38.1 (1.5) | — |
| | | No | | | 32.5 (1.28) | 6.5 (0.26) |
| | M18 x 1 | Yes | 18 (0.71) | 63 (2.48) | 34.5 (1.36) | — |
| | | No | | | 26.5 (1.04) | 8 (0.31) |
| Smooth | 18 x 1 | Yes | 18 (0.71) | 63 (2.48) | — | — |
| | | No | | | — | 8 (0.31) |

871Z 3-wire DC Weld Field Immune



871Z DC Mini Quick Disconnect Style
18 mm and 30 mm Diameter



871Z DC M12 Micro Quick Disconnect Style
12 mm, 18 mm, and 30 mm Diameter

Specifications

| Attribute | 12 mm, 18 mm, and 30 mm Diameter |
|-----------------------|--|
| Load current | ≤ 200 mA |
| Load current, min | 1 mA |
| Leakage current | ≤ 10 μA |
| Operating voltage | 10...30V DC |
| Voltage drop | ≤ 2.4V |
| Repeatability | ≤ 10% |
| Hysteresis | ≤ 15% typical |
| Protection type | False pulse, transient noise, reverse polarity, short circuit, and overload |
| Weld field immunity | 20,000 A at 25.4 mm (1 in.) |
| Certifications | CE Marked for all applicable directives and UKCA Marked for all applicable regulations |
| Enclosure type rating | NEMA 1, 2, 3, 4, 12 and 13; IP67 (IEC529) |
| Housing material | Threaded PTFE-coated brass barrel and PTFE face |
| Connection type | Quick disconnect: 4-pin mini style, 4-pin M12 micro style |
| Status indicator | Red: Output Energized |
| Operating temperature | -25...+70 °C (-13...+158 °F) |
| Shock | 30 g (1.06 oz), 11 ms |
| Vibration | 55 Hz, 1 mm amplitude, 3 planes |

Correction Factors

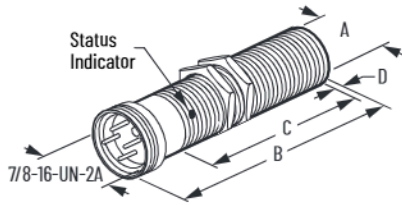
| Target Material | Correction Factors |
|-----------------|--------------------|
| Steel | 1.0 |
| Stainless steel | 0.7...0.8 |
| Brass | 0.4...0.5 |
| Aluminum | 0.3...0.4 |
| Copper | 0.3...0.4 |

Product Selection

| Barrel Diameter [mm (in.)] | Nominal Sensing Distance [mm (in.)] | Shielded | Output Configuration | | Switching Frequency [Hz] | Cat. No. | |
|--|--|----------|----------------------|-----|-----------------------------|------------------|--------------------|
| | | | | | | Mini QD Style | M12 Micro QD Style |
| 12 (0.47) | 2 (0.08) | Yes | N.O. | PNP | 15 | — | 871Z-DW2NP12-D4 |
| 18 (0.71) | 5 (0.2) | | | | | 871Z-DW5NP18-N4 | 871Z-DW5NP18-D4 |
| 30 (1.18) | 10 (0.39) | | | | | 871Z-DW10NP30-N4 | 871Z-DW10NP30-D4 |
| Recommended standard QD cordset: -6F = 1.8 m (6 ft), -2 = 2 m (6.5 ft) | | | | | | 889N-F4AFC-6F | 889D-F4WE-2 |

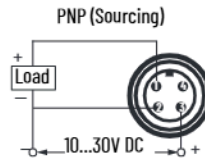
Approximate Dimensions

Mini QD Style



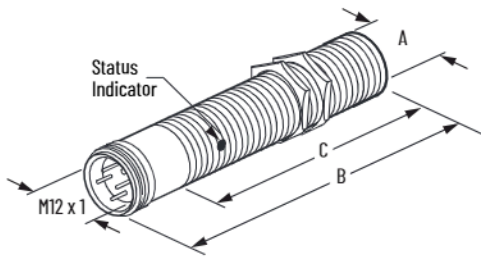
Wiring Diagrams

Normally Open

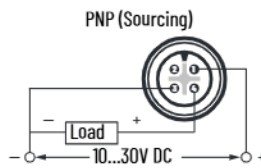


| Thread Size | Shielded | Dimensions [mm (in.)] | | |
|-------------|----------|-----------------------|-----------|-----------|
| | | A | B | C |
| M18 x 1 | Yes | 18 (0.71) | 90 (3.54) | 53 (2.09) |
| M30 x 1 | | 30 (1.18) | 90 (3.54) | 56 (2.2) |

M12 Micro QD Style



Normally Open



| Thread Size | Shielded | Dimensions [mm (in.)] | | |
|-------------|----------|-----------------------|-----------|-----------|
| | | A | B | C |
| M12 x 1 | Yes | 12 (0.47) | 70 (2.76) | 50 (1.97) |
| M18 x 1 | | 18 (0.71) | 80 (3.15) | 60 (2.36) |
| M30 x 1 | | 30 (1.18) | 80 (3.15) | 60 (2.36) |

871Z 2-wire AC/DC Weld Field Immune



871Z AC/DC Cable Style
18 mm and 30 mm Diameter



871Z AC/DC Mini Quick Disconnect Style
12 mm, 18 mm, and 30 mm Diameter



871Z AC Micro Quick Disconnect Style
12 mm, 18 mm, and 30 mm Diameter

Specifications

| Attribute | 12 mm Diameter | 18 mm and 30 mm Diameter |
|----------------------------|---|--|
| Load current | 5...200 mA | 5...250 mA |
| Inrush current (one cycle) | ≤ 2 A | ≤ 4 A |
| Leakage current | ≤ 1.9 mA at 120V AC | |
| Operating voltage | 20...250V AC/DC | |
| Voltage drop | ≤ 10V at 5...200 mA | ≤ 10V at 5...250 mA |
| Repeatability | ≤ 10% at constant temperature | |
| Hysteresis | 7% typical | |
| Protection type | Short circuit (trigger at 5 A typical), false pulse, reverse polarity (DC output), overload (trigger at 260 mA typical), and transient noise | Short circuit (trigger at 8 A typical), false pulse, reverse polarity (DC output), overload (trigger at 320 mA typical), and transient noise |
| Weld field immunity | 20,000 A at 25.4 mm (1 in.) | |
| Certifications | UL Listed, CSA Certified, CE Marked for all applicable directives, and UKCA Marked for all applicable regulations | |
| Enclosure type rating | NEMA 1, 2, 3, 3R, 4, 4X, 6, 6P, 12, 13; IP67 (IEC529) | |
| Housing material | Threaded PTFE-coated brass barrel and thermoset plastic face | |
| Connection type | <ul style="list-style-type: none"> Cable: 2 m (6.5 ft) length H2 - 3 conductor 18 AWG ToughLink Quick disconnect: 3-pin micro style, 3-pin mini style | |
| Status indicator | <ul style="list-style-type: none"> Red: Output energized Red flashing: Short circuit/overload Green: Power | |
| Operating temperature | -25...+70 °C (-13...+158 °F) | |
| Shock | 30 g (1.06 oz), 11 ms | |
| Vibration | 55 Hz, 1 mm amplitude, 3 planes | |

Correction Factors

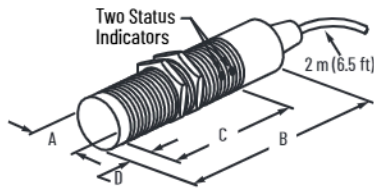
| Target Material | Correction Factors |
|-----------------|--------------------|
| Steel | 1.0 |
| Stainless steel | 0.7...0.8 |
| Brass | 0.4...0.5 |
| Aluminum | 0.3...0.4 |
| Copper | 0.3...0.4 |

Product Selection

| Barrel Diameter [mm (in.)] | Nominal Sensing Distance [mm (in.)] | Shielded | Output Configuration | Switching Frequency [Hz] | Cat. No. | | |
|--|-------------------------------------|----------|----------------------|--------------------------|-----------------|-----------------|-----------------|
| | | | | | Cable Style | Mini QD Style | Micro QD Style |
| 12 (0.47) | 2 (0.08) | Yes | N.O. | 30 | — | 871Z-BW2N12-N3 | 871Z-BW2N12-R3 |
| | | | N.C. | 20 | — | 871Z-BW2C12-N3 | 871Z-BW2C12-R3 |
| | 4 (0.16) | No | N.O. | 30 | — | 871Z-BW4N12-N3 | 871Z-BW4N12-R3 |
| | | | N.C. | 20 | — | 871Z-BW4C12-N3 | 871Z-BW4C12-R3 |
| 18 (0.71) | 5 (0.2) | Yes | N.O. | 30 | 871Z-BW5N18-H2 | 871Z-BW5N18-N3 | 871Z-BW5N18-R3 |
| | | | N.C. | 20 | 871Z-BW5C18-H2 | 871Z-BW5C18-N3 | 871Z-BW5C18-R3 |
| 30 (1.18) | 10 (0.39) | Yes | N.O. | 30 | 871Z-BW10N30-H2 | 871Z-BW10N30-N3 | 871Z-BW10N30-R3 |
| | | | N.C. | 20 | 871Z-BW10C30-H2 | 871Z-BW10C30-N3 | — |
| Recommended standard QD cordset: -6F = 1.8 m (6 ft), -2 = 2 m (6.5 ft) | | | | | | 889N-F3WFC-6F | 889R-F3WEA-2 |

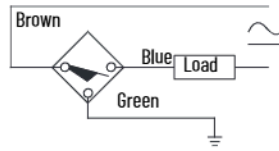
Approximate Dimensions

Cable Style ⁽¹⁾

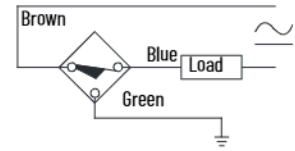


Wiring Diagrams

Normally Open

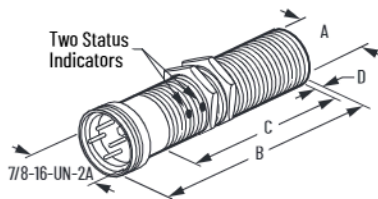


Normally Closed

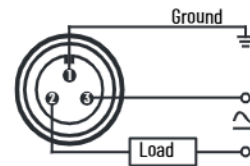


| Thread Size | Shielded | Dimensions [mm (in.)] | | | |
|-------------|----------|-----------------------|--------------|-------------|------------|
| | | A | B | C | D |
| M18 x 1 | Yes | 18 (0.71) | 74.68 (2.94) | 61.6 (2.43) | 0.8 (0.03) |
| M30 x 1 | No | 30 (1.18) | 77.52 (3.05) | 64.3 (2.53) | |

Mini QD Style ⁽¹⁾



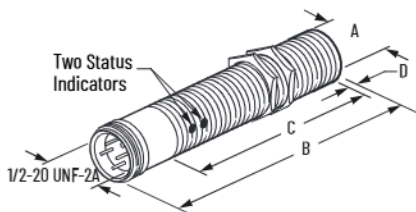
Normally Open and Normally Closed



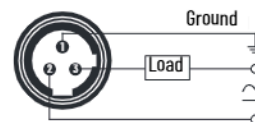
- IMPORTANT**
- Load can be switched to pin 3.
 - No ground pin on 12 mm. Attach hosing to ground.

| Thread Size | Shielded | Dimensions [mm (in.)] | | | |
|-------------|----------|-----------------------|--------------|--------------|------------|
| | | A | B | C | D |
| M12 x 1 | Yes | 12 (0.47) | 93.45 (3.68) | 46.2 (1.82) | 0.8 (0.03) |
| | No | | | 40.7 (1.52) | 8.1 (0.32) |
| M18 x 1 | Yes | 18 (0.71) | 75.82 (2.99) | 57.28 (2.26) | 0.8 (0.03) |
| M30 x 1 | No | 30 (1.18) | 86.66 (3.41) | 64.3 (2.53) | 0.8 (0.03) |

Micro QD Style ⁽¹⁾



Normally Open and Normally Closed



- IMPORTANT**
- Load can be switched to pin 2.
 - No ground pin on 12 mm. Attach hosing to ground.

(1) Rear portion of barrel left uncoated for ground contact on 12 mm models

| Thread Size | Shielded | Dimensions [mm (in.)] | | | |
|-------------|----------|-----------------------|-------------|-------------|------------|
| | | A | B | C | D |
| M12 x 1 | Yes | 12 (0.47) | 90.1 (3.55) | 46.7 (1.85) | 0.8 (0.03) |
| | No | | | 39.7 (1.56) | 8.1 (0.32) |
| M18 x 1 | Yes | 18 (0.71) | 83.5 (3.29) | 61.6 (2.43) | 0.8 (0.03) |
| M30 x 1 | No | 30 (1.18) | 86 (3.38) | 64.3 (2.53) | 0.8 (0.03) |