Technical Data

Allen-Bradley

Capacitive Proximity Sensors

Bulletin Numbers 875C, 875CP

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875C AC Cable Style
Threaded Barrel
18, 30 mm

875C AC Micro Quick-Disconnect Style
Threaded Barrel
30 mm

Specifications

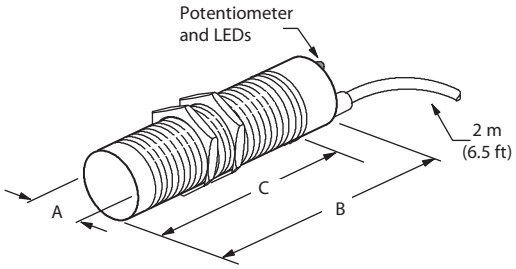
Load Current	≤300 mA
Inrush Current	2 A
Leakage Current	<1.5 mA
Operating Voltage	24…240V AC
Voltage Drop	<7.5V AC
Current Consumption	≤10 mA
Repeatability	≤10%
Hysteresis	≤20%
Protection Type	Transient noise
Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 3, 4, 6, 13 and IP67
Connections	Cable: 2 m length; 2-conductor PVC Quick-Disconnect: 3-pin micro
LEDs	Green: Power Yellow: Output
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm amplitude, 3 planes

Correction Factors

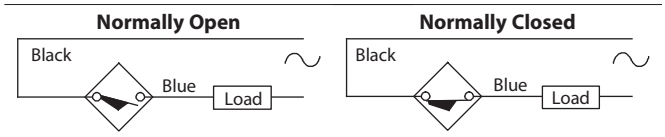
Target Material	Correction Factor	Target Material	Correction Factor
Acetone	0.75	Perspex	0.15
Acrylic Resin	0.10…0.25	Petroleum	0.05
Air	0.0	Phenol Resin	0.20…0.60
Alcohol	0.85	Polyacetal	0.20
Ammonia	0.70…0.85	Polyamide	0.30
Aniline	0.40	Polyester Resin	0.15…0.50
Aqueous Solutions	0.98…1.0	Polyethylene	0.10
Bakelite	0.20	Polypropylene	0.10
Benzene	0.10	Polystyrene	0.15
Carbon Dioxide	0.0	Polyvinyl Chloride Resin	0.15
Carbon Tetrachloride	0.10	Porcelain	0.25…0.40
Celluloid	0.15	Powdered Milk	0.20
Cement Powder	0.25	Press Board	0.10…0.30
Cereal	0.15…0.30	Quartz Glass	0.20
Chlorine Liquid	0.10	Rubber	0.15…0.90
Ebonite	0.15	Salt	0.35
Epoxy Resin	0.15…0.35	Sand	0.15…0.30
Ethanol	0.85	Shellac	0.15…0.25
Ethylene Glycol	0.93	Shell Lime	<0.05
Fired Ash	0.05	Silicon Varnish	0.15
Flour	0.05	Soybean Oil	0.15
Freon R22 & 502 (liquid)	0.35	Styrene Resin	0.15
Gasoline	0.10	Sugar	0.15
Glass	0.20…0.55	Sulphur	0.15
Glycerine	0.98	PTFE	0.10
Marble	0.50	Toluene	0.10
Melamine Resin	0.25…0.55	Transformer Oil	0.10
Mica	0.35	Turpentine Oil	0.10
Nitrobenzine	0.93	Urea Resin	0.30…0.45
Nylon	0.20…0.30	Vaseline	0.10
Oil Saturated Paper	0.25	Water	1.0
Paper	0.10	Wood, Dry	0.10…0.40
Paraffin	0.10	Wood, Wet	0.60…0.85

Approximate Dimensions [mm (in.)]

Cable Style



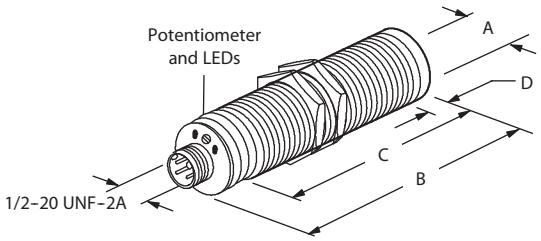
Wiring Diagrams

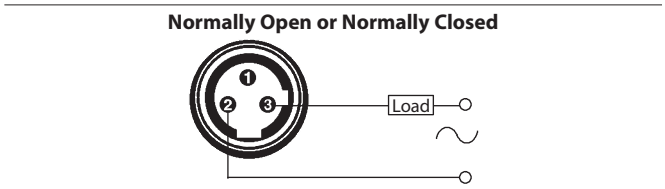


Note: Load can be switched to black wire.

Thread Size	A	B	C
M18 x 1	18.0 (0.71)	52.0 (2.05)	47.0 (1.85)
M30 x 1.5	30.0 (1.18)		52.0 (2.05)

Micro QD Style





Note: Load can be switched to pin 2.

Thread Size	A	B	C	D
M30 x 1.5	30.0 (1.18)	65.0 (2.56)	52.0 (2.05)	1.0 (0.04)

875C DC Cable Style
12, 18, 30 mm

875C DC Micro
Quick-Disconnect Style
18 and 30 mm

875C DC Pico
Quick-Disconnect Style
18 mm

Specifications

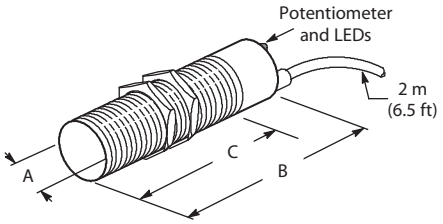
	12 mm	18 mm	30 mm
Load Current	300 mA	300 mA	300 mA
Leakage Current	0.3 mA	0.1 mA	0.1 mA
Operating Voltage	10…48V DC	10…48V DC	10…48V DC
Voltage Drop	≤2V	≤2V	≤2V
Current Consumption	≤10 mA		
Repeatability	≤10%		
Hysteresis	≤20%		
Protection Type	Transient noise, reverse polarity, short circuit, and overload		
Certifications	cULus Listed and CE Marked for all applicable directives		
Enclosure Type Rating	NEMA 1, 3, 4, 6, 13 and IP67; Nickel-plated brass barrel		
Connections	Cable: 2 m length; 3-conductor PVC Quick-Disconnect: 4-pin micro; 3-pin pico		
LEDs	Green: Power Yellow: Output		
Operating Temperature [C (F)]	-25…+75 ° (-13…+167 °)		
Shock	30 g, 11 ms		
Vibration	55 Hz, 1 mm amplitude, 3 planes		

Correction Factors

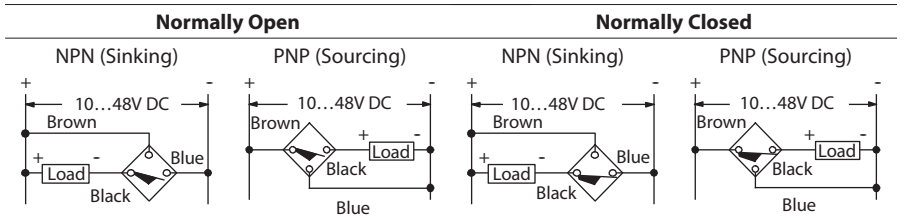
Target Material	Correction Factor	Target Material	Correction Factor
Acetone	0.75	Perspex	0.15
Acrylic Resin	0.10…0.25	Petroleum	0.05
Air	0.0	Phenol Resin	0.20…0.60
Alcohol	0.85	Polyacetal	0.20
Ammonia	0.70…0.85	Polyamide	0.30
Aniline	0.40	Polyester Resin	0.15…0.50
Aqueous Solutions	0.98…1.0	Polyethylene	0.10
Bakelite	0.20	Polypropylene	0.10
Benzene	0.10	Polystyrene	0.15
Carbon Dioxide	0.0	Polyvinyl Chloride Resin	0.15
Carbon Tetrachloride	0.10	Porcelain	0.25…0.40
Celluloid	0.15	Powdered Milk	0.20
Cement Powder	0.25	Press Board	0.10…0.30
Cereal	0.15…0.30	Quartz Glass	0.20
Chlorine Liquid	0.10	Rubber	0.15…0.90
Ebonite	0.15	Salt	0.35
Epoxy Resin	0.15…0.35	Sand	0.15…0.30
Ethanol	0.85	Shellac	0.15…0.25
Ethylene Glycol	0.93	Shell Lime	<0.05
Fired Ash	0.05	Silicon Varnish	0.15
Flour	0.05	Soybean Oil	0.15
Freon R22 & 502 (liquid)	0.35	Styrene Resin	0.15
Gasoline	0.10	Sugar	0.15
Glass	0.20…0.55	Sulphur	0.15
Glycerine	0.98	PTFE	0.10
Marble	0.50	Toluene	0.10
Melamine Resin	0.25…0.55	Transformer Oil	0.10
Mica	0.35	Turpentine Oil	0.10
Nitrobenzine	0.93	Urea Resin	0.30…0.45
Nylon	0.20…0.30	Vaseline	0.10
Oil Saturated Paper	0.25	Water	1.0
Paper	0.10	Wood, Dry	0.10…0.40
Paraffin	0.10	Wood, Wet	0.60…0.85

Approximate Dimensions [mm (in.)]

Cable Style

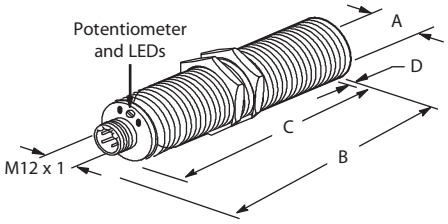


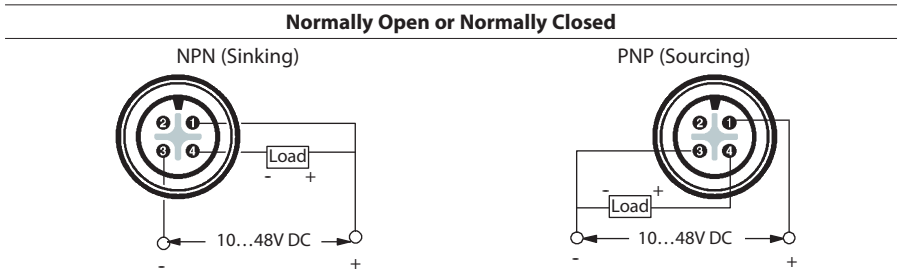
Wiring Diagrams



Thread Size	A	B	C
M12 x 1	12.0 (0.47)	52.0 (2.05)	47.0 (1.85)
M18 x 1	18.0 (0.71)		47.0 (1.85)
M30 x 1.5	30.0 (1.18)		52.0 (2.05)

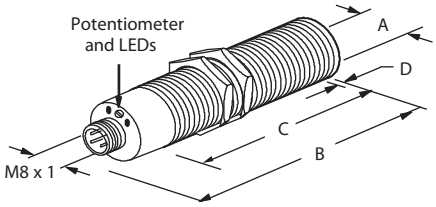
Micro QD Style

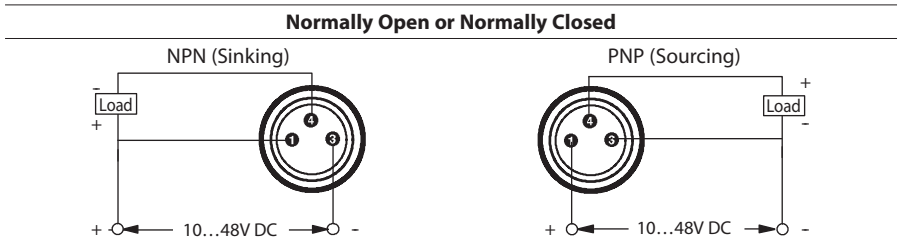




Thread Size	A	B	C	D
M30 x 1.5	30.0 (1.18)	65.0 (2.56)	52.0 (2.05)	1.0 (0.04)

Pico QD Style





Thread Size	A	B	C	D
M18 x 1	18.0 (0.71)	60.0 (2.36)	47.0 (1.85)	1.0 (0.04)

875CP AC Cable Style
Smooth Barrel
34 mm

875CP AC Cable Style
Threaded Barrel
18, 30 mm

875CP AC Micro Quick-Disconnect Style
Smooth Barrel
34 mm

875CP AC Micro Quick-Disconnect Style
Threaded Barrel
30 mm

Specifications

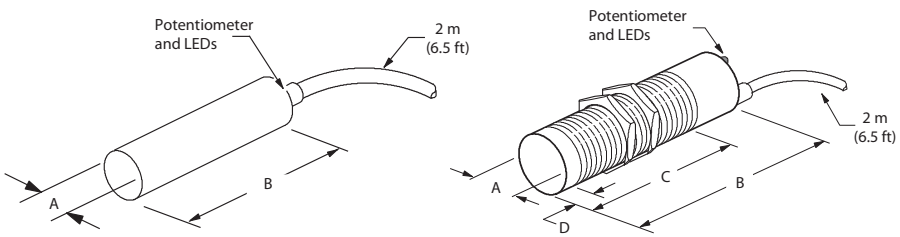
Load Current	≤300 mA
Inrush Current	2 A
Leakage Current	<1.5 mA
Operating Voltage	24…240V AC
Voltage Drop	<7.5V AC
Current Consumption	≤10 mA
Repeatability	≤10%
Hysteresis	≤20%
Protection Type	Transient Noise
Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 1, 3, 4, 6, 13 and IP67
Connections	Cable: 2 m length; 2 conductor PVC Quick-Disconnect: 3-pin micro
LEDs	Green: Power, Yellow: Output
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm amplitude, 3 planes

Correction Factors

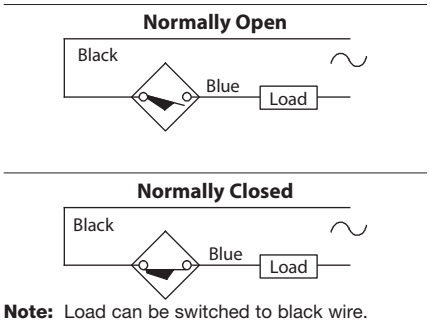
Target Material	Correction Factor	Target Material	Correction Factor
Acetone	0.75	Perspex	0.15
Acrylic Resin	0.10…0.25	Petroleum	0.05
Air	0.0	Phenol Resin	0.20…0.60
Alcohol	0.85	Polyacetal	0.20
Ammonia	0.70…0.85	Polyamide	0.30
Aniline	0.40	Polyester Resin	0.15…0.50
Aqueous Solutions	0.98…1.0	Polyethylene	0.10
Bakelite	0.20	Polypropylene	0.10
Benzene	0.10	Polystyrene	0.15
Carbon Dioxide	0.0	Polyvinyl Chloride Resin	0.15
Carbon Tetrachloride	0.10	Porcelain	0.25…0.40
Celluloid	0.15	Powdered Milk	0.20
Cement Powder	0.25	Press Board	0.10…0.30
Cereal	0.15…0.30	Quartz Glass	0.20
Chlorine Liquid	0.10	Rubber	0.15…0.90
Ebonite	0.15	Salt	0.35
Epoxy Resin	0.15…0.35	Sand	0.15…0.30
Ethanol	0.85	Shellac	0.15…0.25
Ethylene Glycol	0.93	Shell Lime	<0.05
Fired Ash	0.05	Silicon Varnish	0.15
Flour	0.05	Soybean Oil	0.15
Freon R22 & 502 (liquid)	0.35	Styrene Resin	0.15
Gasoline	0.10	Sugar	0.15
Glass	0.20…0.55	Sulphur	0.15
Glycerine	0.98	PTFE	0.10
Marble	0.50	Toluene	0.10
Melamine Resin	0.25…0.55	Transformer Oil	0.10
Mica	0.35	Turpentine Oil	0.10
Nitrobenzine	0.93	Urea Resin	0.30…0.45
Nylon	0.20…0.30	Vaseline	0.10
Oil Saturated Paper	0.25	Water	1.0
Paper	0.10	Wood, Dry	0.10…0.40
Paraffin	0.10	Wood, Wet	0.60…0.85

Approximate Dimensions [mm (in.)]

Cable Style



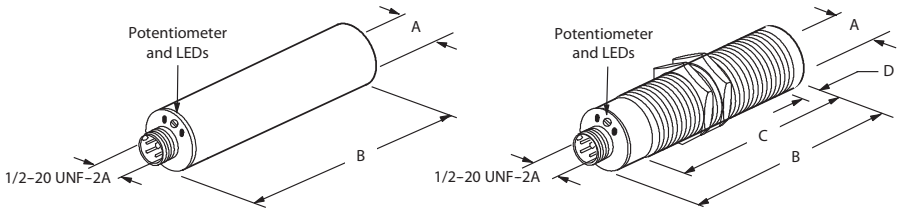
Wiring Diagrams

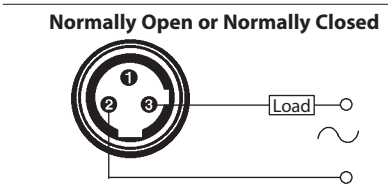


Note: Load can be switched to black wire.

Thread Size	A	B	C	D
M18 x 1	18.0 (0.71)	52.0 (2.05)	52.0 (2.05)	1.0 (0.04)
M30 x 1.5	30.0 (1.18)		46.0 (1.81)	
34	34.0 (1.34)		N/A	N/A

Micro QD Style





Note: Load can be switched to pin 2.

Thread Size	A	B	C	D
M30 x 1.5	30.0 (1.18)	65.0 (2.56)	52.0 (2.05)	1.0 (0.04)
34	34.0 (1.34)		N/A	N/A

875CP DC Micro Quick-Disconnect Style Smooth Barrel 34 mm

875CP DC Pico Quick-Disconnect Style Threaded Barrel 18 mm

Specifications

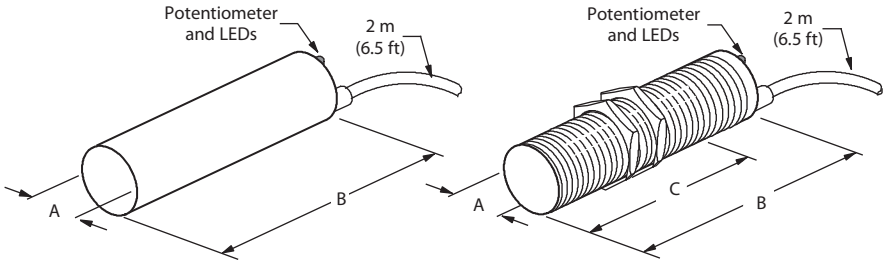
Load Current	≤300 mA
Leakage Current	0.01 mA
Operating Voltage	10…48V DC
Voltage Drop	≤2V
Current Consumption	≤10 mA
Repeatability	≤10%
Hysteresis	≤20%
Protection Type	Transient noise, reverse polarity, short circuit, and overload
Certifications	cULus Listed and CE Marked for all applicable directives
Enclosure Type Rating	NEMA 12; IP67 (IEC 529)
Connections	Cable: 2 m length; 3-conductor PVC Quick-Disconnect: 4-pin micro; 3-pin pico
LEDs	Green: Power Yellow: Output
Operating Temperature [C (F)]	-25…+70 ° (-13…+158 °)
Shock	30 g, 11 ms
Vibration	55 Hz, 1 mm amplitude, 3 planes

Correction Factors

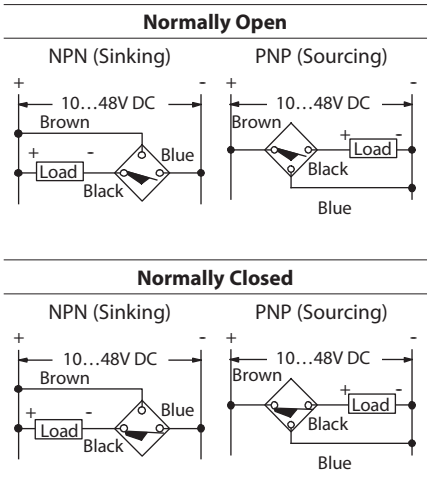
Target Material	Correction Factor	Target Material	Correction Factor
Acetone	0.75	Perspex	0.15
Acrylic Resin	0.10…0.25	Petroleum	0.05
Air	0.0	Phenol Resin	0.20…0.60
Alcohol	0.85	Polyacetal	0.20
Ammonia	0.70…0.85	Polyamide	0.30
Aniline	0.40	Polyester Resin	0.15…0.50
Aqueous Solutions	0.98…1.0	Polyethylene	0.10
Bakelite	0.20	Polypropylene	0.10
Benzene	0.10	Polystyrene	0.15
Carbon Dioxide	0.0	Polyvinyl Chloride Resin	0.15
Carbon Tetrachloride	0.10	Porcelain	0.25…0.40
Celluloid	0.15	Powdered Milk	0.20
Cement Powder	0.25	Press Board	0.10…0.30
Cereal	0.15…0.30	Quartz Glass	0.20
Chlorine Liquid	0.10	Rubber	0.15…0.90
Ebonite	0.15	Salt	0.35
Epoxy Resin	0.15…0.35	Sand	0.15…0.30
Ethanol	0.85	Shellac	0.15…0.25
Ethylene Glycol	0.93	Shell Lime	<0.05
Fired Ash	0.05	Silicon Varnish	0.15
Flour	0.05	Soybean Oil	0.15
Freon R22 & 502 (liquid)	0.35	Styrene Resin	0.15
Gasoline	0.10	Sugar	0.15
Glass	0.20…0.55	Sulphur	0.15
Glycerine	0.98	PTFE	0.10
Marble	0.50	Toluene	0.10
Melamine Resin	0.25…0.55	Transformer Oil	0.10
Mica	0.35	Turpentine Oil	0.10
Nitrobenzine	0.93	Urea Resin	0.30…0.45
Nylon	0.20…0.30	Vaseline	0.10
Oil Saturated Paper	0.25	Water	1.0
Paper	0.10	Wood, Dry	0.10…0.40
Paraffin	0.10	Wood, Wet	0.60…0.85

Approximate Dimensions [mm (in.)]

Cable Style

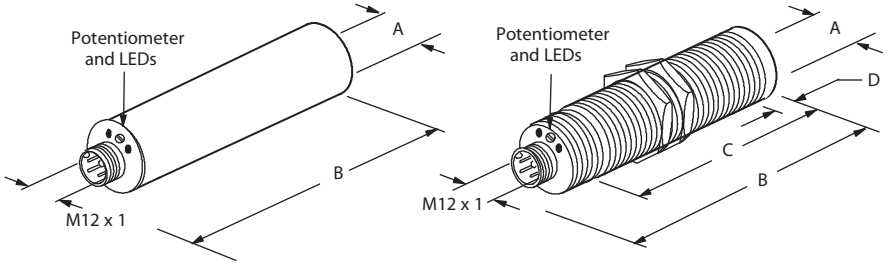


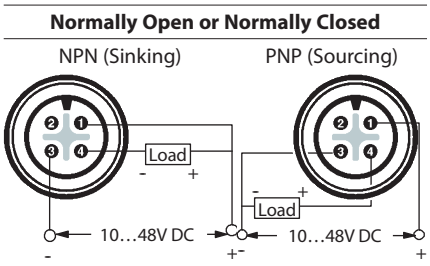
Wiring Diagrams



Thread Size	A	B	C
M18 x 1	18.0 (0.71)	52.0 (2.05)	52.0 (2.05)
M30 x 1.5	30.0 (1.18)		46.1 (1.81)
34	34.0 (1.34)		N/A

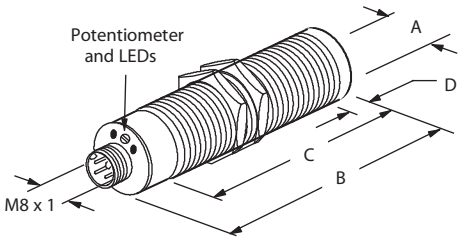
Micro QD Style

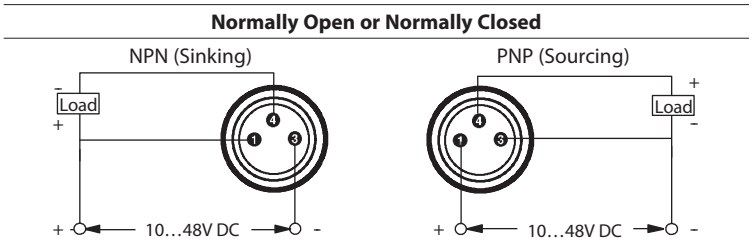




Thread Size	A	B	C	D
M30 x 1.5	30.0 (1.18)	66.0 (2.60)	53.0 (2.08)	1.0 (0.04)
34	34.0 (1.34)	65.0 (2.56)	N/A	N/A

Pico QD Style





Thread Size	A	B	C	D
M18 x 1	18.0 (0.71)	61.0 (2.40)	52.0 (2.04)	1.0 (0.04)

Rockwell Automation maintains current product environmental information on its website at
http://www.rockwellautomation.com/rockwellautomation/about-us/sustainability-ethics/product-environmental-compliance.page

www.rockwellautomation.com

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