



DOUBLE E
Engineering Excellence

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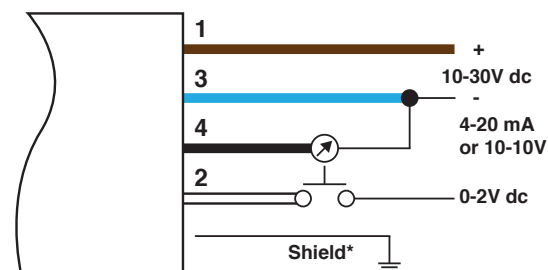
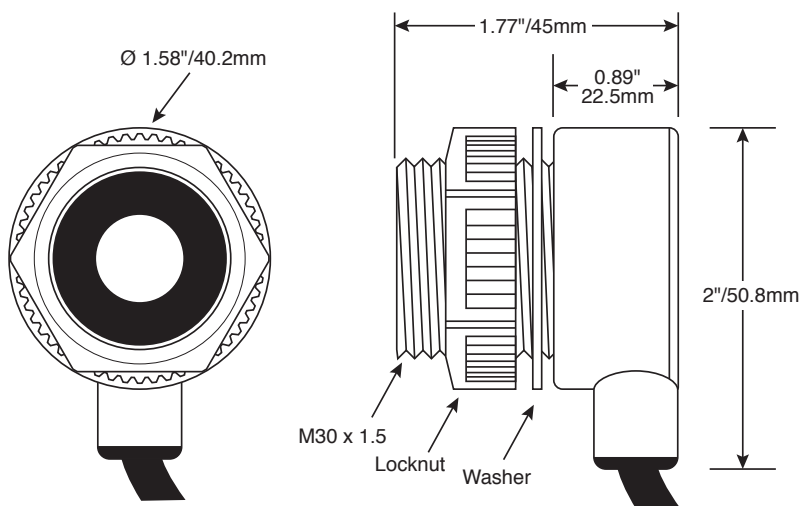
Ultrasonic Sensor

The Double E Ultrasonic Diameter Sensor uses sound waves to measure distance from the sensor to the roll of material. Distance is calculated by measuring the time it takes for the sensor to emit the sound wave and then receive it back after it has been reflected off the outer surface of the roll. The measured distance is then scaled to match an analog output signal, either 0-10V or 4-20mA depending on the model of sensor. This sensor is excellent for use in open-loop unwind tension control applications, soft loop unwind applications and for inertia compensation calculation on advanced roll unwind and winding applications.

Features:

- Teach mode programming for simple setup. Teach can be performed either through pushbutton or remote contacts.
- High accuracy with built in temperature compensation
- LED's for operating status
- Rugged IP67 enclosure with fully encapsulated electronics
- Integrated cable
- Choice of analog outputs: (0-10V, 4-20mA)
- 2-second output hold upon loss of signal, useful for harsh and unstable conditions
- Combine with a controller to create start and end of roll alarms





Wiring Key

- 1 = Brown
- 2 = White
- 3 = Blue
- 4 = Black

Technical Specifications

Sensing Range Standard models	100 mm to 1 m	3.9" to 39"
Sensing Range Long range models	200 mm to 2 m	7.8" to 78"
Ultrasonic Frequency Standard models	224 kHz	
Ultrasonic Frequency Long Range models	174 kHz	
Supply Voltage	10 to 30V dc	
Analog Output	0 to 10V dc or 4 to 20 mA, depending on model	
Output Response Time	Standard models: 45 ms (fast); 105 ms (slow)	
Output Response Time	Long Range models: 92 ms (fast); 222 ms (slow)	
Temperature Effect	0.02% of distance/°C	0.01% of distance/°F
Linearity	0.25% of distance	
Resolution Standard models	0.1% of distance (0.5 mm min.)	0.02" min
Resolution Long Range models	0.1% of distance (1.0 mm min.)	0.04" min
Minimum Window Size	10 mm	0.4"
Loss of Signal Indication 0 to 10V dc models	Analog output goes to 0V	
Loss of Signal Indication 4 to 20 mA models	Analog output goes to 3.6 mA	
Environmental Rating	Leakproof design, rated IP67 (NEMA 6)	
Connections	2 m (6.5 ft) shielded 4-conductor (with drain) PVC cable	
Operating Conditions		
Temperature	-40 °C to +70 °C	-40 °F to +158 °F
Humidity	95% at +50 °C (non-condensing)	95% at +122 °F
Certifications	CE	



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