

US4

Ultrasonic Sensor



Optional US4

Laser Alignment Tool Part

#11001498



Montalvo US4 Ultrasonic Sensor

The US4 is an easy to use ultrasonic sensor that works in conjunction with Montalvo's U4, Z4 and 3400 (X, D and DTi) Series of Tension Controllers. The sensor's extended range, built in temperature compensation and simple push button configuration provides flexibility for a variety of applications requiring an accurate non-contact diameter sensor.

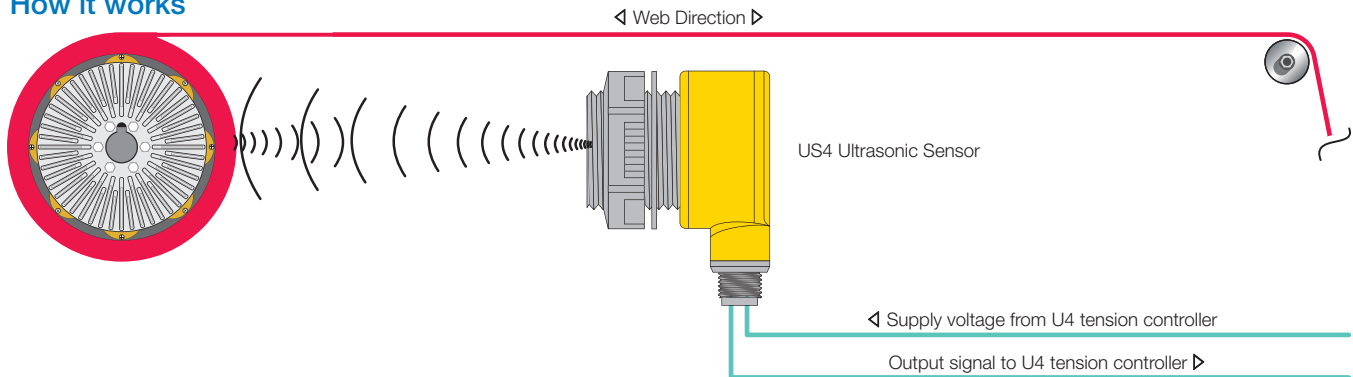
Features

- ▶ Sensing range available in 1, 2 or 3 meter models
- ▶ Output available in 10 VDC or 4-20 mA models
- ▶ Short dead zone (10% of max. range)
- ▶ Built in temperature compensation
- ▶ Fast and easy to use TEACH mode: no potentiometer adjustments
- ▶ Positive or negative analog slope
- ▶ Remote TEACH for security and convenience
- ▶ Wide operating range -40 to + 70°C (-40 to + 158°F)
- ▶ Compact, self-contained, with fully encapsulated electronics
- ▶ Optional mounting kits and cables available

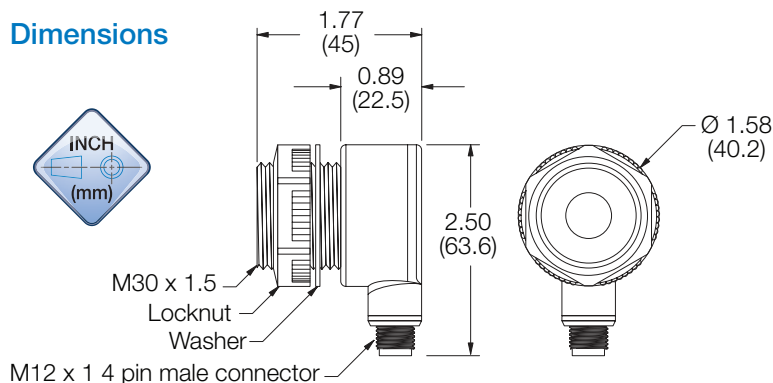


US4 mounted using optional Montalvo mounting bracket.

How it works

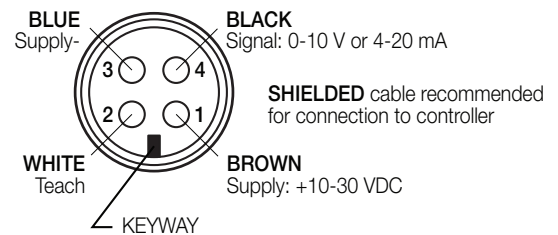


Dimensions



Wiring

View of US4 connector



Specifications

Sensing Range	100mm to 1m (3.9" to 39")		200mm to 2m (7.8" to 78")		300mm to 3m (11.8" to 118")	
Output	0-10 VDC 4-20 mA*		0-10 VDC 4-20 mA*		0-10 VDC 4-20 mA*	
Part Number	11000655 11001389*		11000682 11001386*		11000683 11001390*	
Ultrasonic Frequency	224 kHz		174 kHz		114 kHz	
Output Response ms Fast / Slow	45 / 105		92 / 222		135 / 318	
Resolution	0.1% of distance (0.5 mm min.)		0.1% of distance (1.0 mm min.)		0.1% of distance (1.5 mm min.)	
Output Rating (voltage) (with 10VDC Output)	2.5 kΩ min. load resistance; min. supply for full 10 V output is 12 VDC					
Output Rating (current) (with 10VDC Output)	1 kΩ max. at 24V input; max. load resistance = (Vcc-4)/0.02Ω					
Output Rating (current) (with 4-20mA Output)	Ideal results when total load resistance R = [(Vin - 4)/0.020]Ω					
Supply Voltage	10 to 30 VDC (10% max. ripple) at 40 mA, exclusive of load					
Supply Protection Cicutry	against reverse polarity and transient voltages					
Output Protection Cicutry	protected against short circuit conditions					
Delay at Power-up	500 ms					
Temperature Effect	0.02% of distance / °C					
Linearity	0.25% of distance					
Minimum Window Size	10 mm (0.4")					
Loss of Signal Indication	(0-10VDC) analog output goes to 0V / (4-20 mA) analog output goes to 3.6 mA					
Housing	PBT polyester					
Switch Face	polyester					
Transducer	epoxy/ceramic composite					
Environmental Rating	IP67					
Operating Temperature	-40° to +70° C (-40° to +158° F)					
Operating Relative Humidity (max.)	95% at 50° C non-condensing					
Vibration/Mechanical Shock	Mil. Std. 202F requirements method 201A					
Temperature warmup drift upon power-up	<1% of the sensing distance					
Certifications	CE					

* Only compatible with Montalvo Automation Control Systems