

**LS5**

## High Performance Laser Sensor

**Montalvo LS5 Laser Sensor**

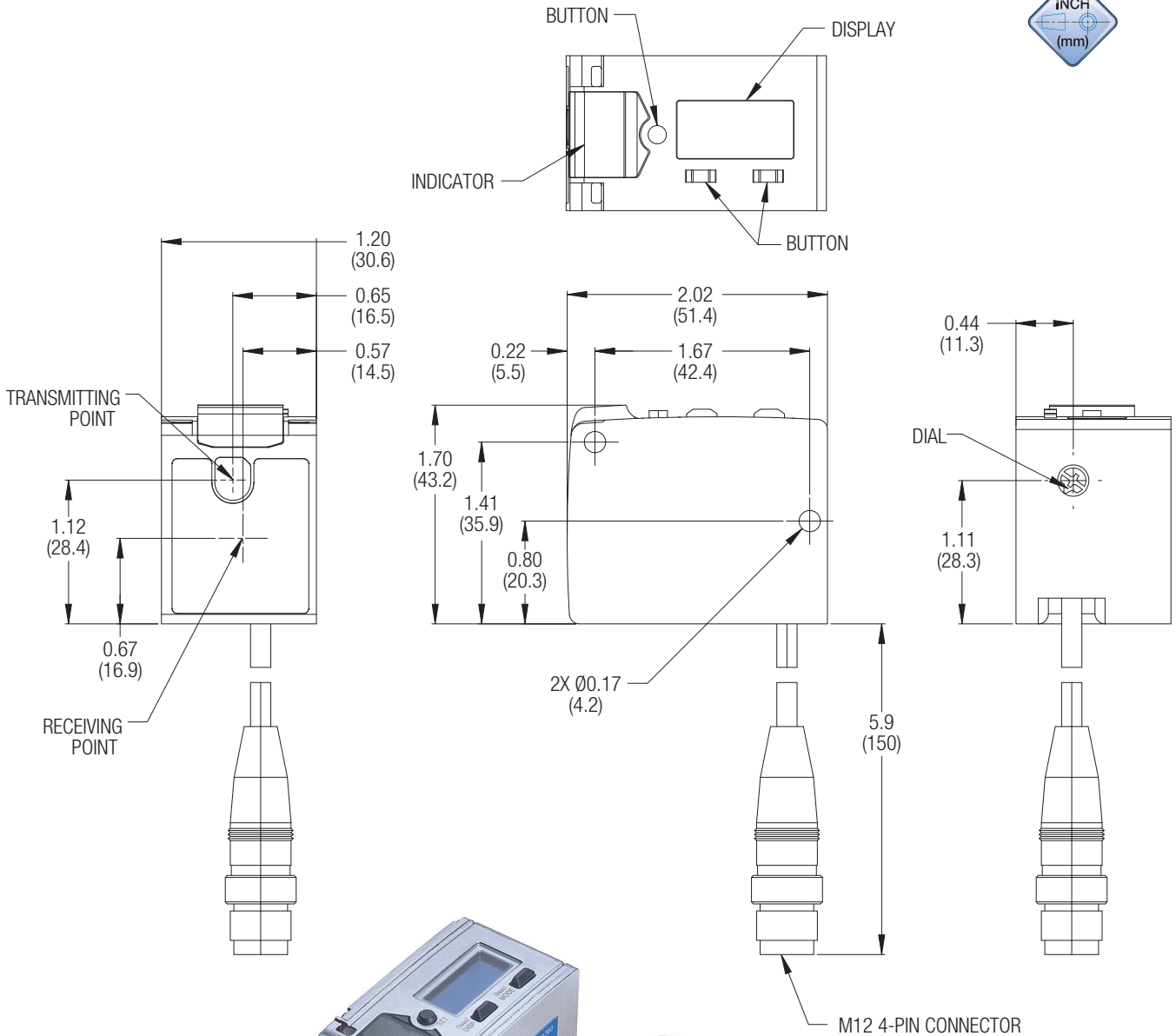
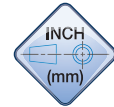
The LS-5 reflective sensor represents a seamless fusion of innovative technology and robust functionality. The Time of Flight (TOF) detection method and custom integrated circuit allow the LS-5 to provide consistently stable detection in all applications. Equally as impressive, this innovative technology is stored in a compact and durable metal housing for versatile installation in any environment. The LS-5 offers user-friendly operability to further minimize installation and set up time. All of these features combine to add a new dimension to non-contact web diameter detection.

**Features**

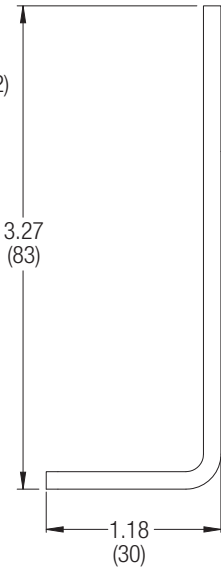
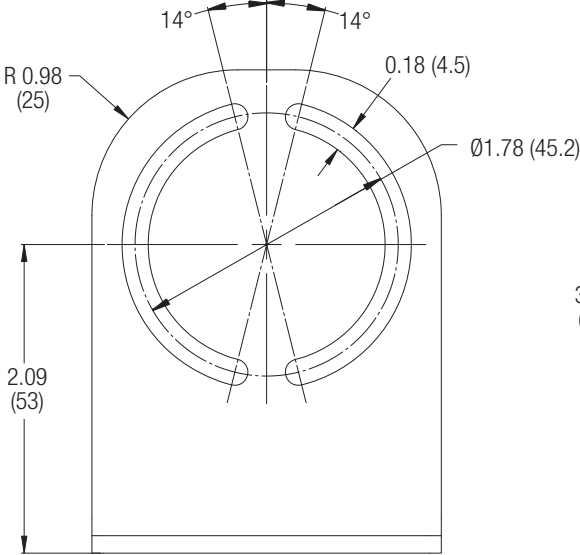
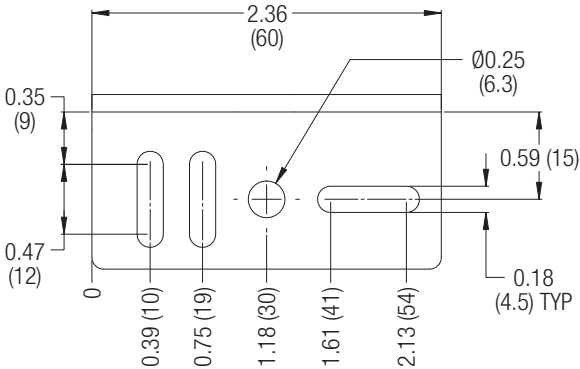
- ▶ **Custom Time of Flight technology** - offers consistently stable detection over long distances regardless of web material
- ▶ **DATUM function** - allows detection of any target in front of the beam even if return beam is prevented
- ▶ **Focus Detection capability** - greatly reduces the influences of surrounding objects
- ▶ **Ambient Light resistance** - prevents effects of factory and other light sources up to 100,000 lux
- ▶ **Mutual Interference prevention** - allows for multiple units in close proximity whether single or multiple targets
- ▶ **Simplified Setup** - OLED display, large indicator, auto tuning, NPN/PNP switching ability, analog output option
- ▶ **Flexible Mounting options** - optional adjustable mounting bracket and ability to mount near or far from target horizontally, vertically or diagonally

## Dimensions - Sensor

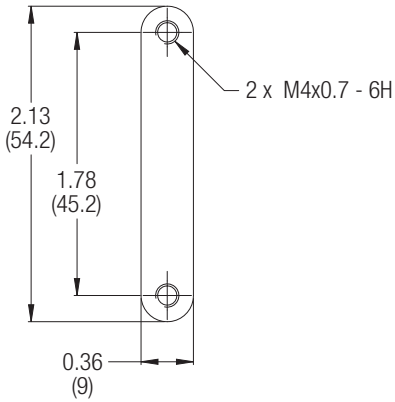
P/N 11001360



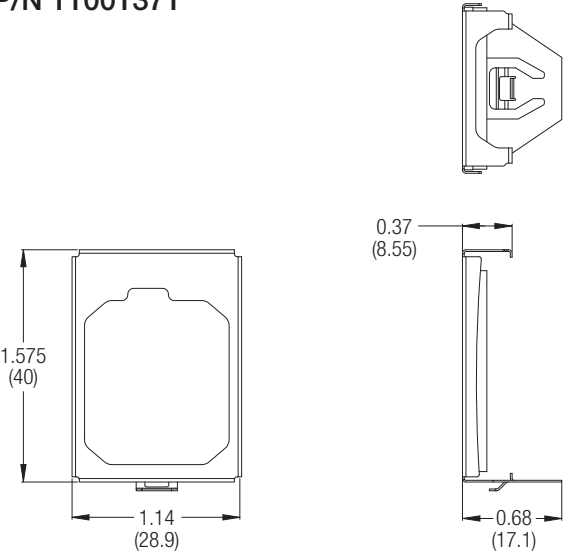
**Dimensions - Mounting Bracket**  
P/N 11001370



Material: SUS304  
Plate thickness: 0.12 (3.0)



**Dimensions - Lens Cover**  
P/N 11001371







**Specifications**

Sensor P/N		11001360
Mounting Bracket P/N		11001370
Protective Cover P/N		11001371
Detectable Distance		2.36"-195.85" (60-5000mm)
Displayable Distance		1.97"-204.72" (50-5200mm)
Spot Diameter		Variable 1.57" (40mm) max.
Response Time		Selectable (1ms, 10ms, 25ms, 100ms, 1000ms)
Light Source	Type	Red Laser 660nm
	Laser class	Class 2 laser product (IEC60825-1, FDA (CDRH) Part1040.10)
Mutual Interference Prevention Function		4 units (when using that function)
Timer		Selectable (OFF/OFF, delay/ON, delay/One-shot)
Power Voltage		20 to 30VDC (including 10% ripple (P-P), Class 2 or LPS)
Current Consumption		50mA max. (no load) 150mA max. (with load)
I/O*	Control output	NPN open collector/PNP open collector selectable 30VDC or less, 50mA or less, residual voltage: 2V or less N.O./N.C. selectable
	External Input	Transmission OFF/Tuning/Reference surface update (when in DATUM mode) selectable Short-circuit current: 1mA or less for both NPN and PNP For the applied voltage, see the wiring diagrams in the instruction manual. For the input times, see the time charts in the instruction manual.
	Analog output	Selectable: Current output / Voltage output Current output: 4 to 20mA with a max. load resistance of 500Ω Voltage output: 0 to 10V with an external load resistance of 5kΩ or more
Protection Circuit		Protection against reverse power connection, power supply surges, output overcurrent, reverse output connection, and output surge.
Environmental Resistance	Enclosure rating	IP65/IP67 (IEC60529)
	Ambient light	Incandescent lamp/Sunlight: 100000 lux or less
	Ambient temperature	-4 to +131°F (-20 to +55°C) (no freezing)
	Relative humidity	35 to 85% RH (no condensation)
	Vibration resistance	10 to 55Hz Double amplitude 0.06" (1.5mm) in the X, Y, Z axis directions respectively, 2 hrs.
Shock resistance		3281 ft/s <sup>2</sup> (1000 m/s <sup>2</sup> ) in X, Y, Z axis directions respectively 6 times
Material		<b>Case</b> - Zinc die cast (Nickel chrome plating) <b>Indicator cover and buttons</b> - PES <b>Lens cover and display</b> - PMMA (scratch-resistant coating specs) <b>Cable bushing</b> - PBT <b>Cable</b> - PVC <b>M12 connector</b> - TPE, PBT, Nickel-plated brass
Weight		Approx. 7oz. (200g)

\* You can select the I/O from the following combinations (For details on the setting method, see the instruction manual).

- Control output × 2, control output + external input
- Control output + analog output
- External input + analog output

\*IO-Link specification v.1.1/COM2 (38.4 kbps) is supported. You can download a setup file from <https://www.montalvo.com>.

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Technical details subject to change without notice. LS5-US-01 © Montalvo