VEHICLE & EQUIPMENT GUIDANCE

Manufacturing | Defense | Education | Industrial | Marine | Geological | Aerial Surveying & Mapping


DOCKING


PROXIMITY


DETECT


GUIDANCE


DISTANCE


HEIGHT

DOCKING

Being able to acquire accurate measurements to almost any type of surface will make vessel- and shore-based maneuvers a whole lot more manageable.

Instantly know bridge gap values, water lock heights or any other measurement value you may need.

PROXIMITY

Blind spots cause costly collisions and can ruin an entire operation. Avoid them altogether with these lightning-fast sensors that will ensure nothing encroaches into your safety zones.

HEIGHT

Precise and reliable height measurements can certainly assist with a safe landing, especially through fog or airborne particulates generated from high winds.

* Sensors used on aircraft are subject to U.S. export controls.

VEHICLE & EQUIPMENT GUIDANCE SENSORS

Universal Laser Sensor (ULS)

These sensors are highly accurate and fully programmable and offer a variety of I/O formats. Easily control parameters such as the laser power levels or short and long-range gates.

*All sensors include field installation cable.

ULS
Ideal for applications requiring extremely high accuracy.
#7005400

ULS OEM
Ideal for system integration.
#7005395

TruSense® S-Series

All these sensors are powerful, compact and more affordable. Use any one of the variety of targeting modes to customize what you want the laser to detect.

*All sensors include field installation cable & interface software.

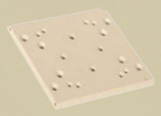
S-100
More cost-effective.
#7005770

S-100 OEM
Ideal for system integration.
#7005780

S-200
Offers higher accuracy.
#7005785

S-200 OEM
Ideal for system integration.
#7005910

Accessories



Universal Adaptor Plate
Attach to any LTI sensor or the LTI Mounting Bracket.
#7035137

Swivel Mount
Permanently mount your LTI sensor with swivel and tilt adjustments.
(Requires LTI Mounting Plate.)
#3004959

Sun Shade
Protect your LTI sensor from inclement weather, sun and overhead dust.
#1134749

SENSOR SPECIFICATIONS

Accessories Continued

Power/Comm Cable

A completely pre-assembled configuration cable for your convenience.
(Not intended for field installation. Only 1 recommended regardless of sensor quantity.)
ULS #7054667
S-100 #7054670
S-200 Series #7054671

ULS Interface Kit

A software program to configure your ULS.
(Not intended for field installation. Includes download cable & software. Only 1 recommended regardless of sensor quantity.)
#7034740

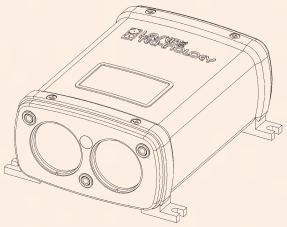
	Specifications	Universal Laser Sensor (ULS)	TruSense S-100	TruSense S-200
Performance	Min range	1.5 ft (46 cm)	1.5 ft (0.46 m)	1.5 ft (46 cm)
	Max range to - reflective target - nonreflective target	5,249 ft (1,600 m) 1,640 ft (500 m)	7,546 / 5,249 ft (2,300 / 1,600 m)	9,514 / 5,249 ft (2,900 / 1,600 m) low-accuracy mode 4,921 / 2,953 ft (1,500 / 900 m) medium-accuracy mode 2,461 / 2,461 ft (750 / 750 m) high-accuracy mode
	Accuracy	0.70 in (2 cm)	3.3 ft (1 m)	0.1 ft (4 cm) in short-range mode 0.3 ft (8 cm) in medium-range mode 0.5 ft (15 cm) in long range-mode
	Data output rate	<1 Hz to 2 kHz	<1 Hz to 6 Hz	<1 Hz to 14 Hz
	Target modes	Averaging, binning, detection, last	Closest, farthest, closest-farthest, strongest, first	First, strongest, last, first-second-third, Last-second to last, first-strongest-last, First-second-third-strongest-last
	Wavelength	905 nm (near IR)	905 nm (near IR)	905 nm (near IR)
Optical & Electrical	Divergence	3 mrad (equal to 1 ft beam diameter @ 328 ft or 30 cm @ 100 m)	3 mrad (equal to 1 ft beam diameter @ 328 ft or 30 cm @ 100 m)	3 mrad (equal to 1 ft beam diameter @ 328 ft or 30 cm @ 100 m)
	I/O	RS232, RS485, 4-20	RS232, TRIG	S-200 = TRIG, SDI12, RS232 without alignment laser S-210 = TRIG, SDI12, RS232 with alignment laser S-230 = 4-20, 4-20 HART, RS232 with alignment laser
	Input power	12-24 VDC (12 VDC recommended)	6 to 11 VDC (9 VDC recommended)	12-24 VDC (12 VDC recommended)
Physical	Current draw	Measuring = 150 mA	Measuring = 140 mA, Idle = 50 mA Sleep = 30 mA	Measuring = 150 mA, Standby = 40 mA
	Dimensions (L x W x H)	5.3 x 4.75 x 2.5 in (134.6 x 120.7 x 50.8 mm)	4.11 x 3.22 x 1.64 in (104.4 x 81.7 x 41.6 mm)	4.11 x 3.22 x 1.64 in (104.4 x 81.7 x 41.6 mm)
	Weight	Standard = 32.8 oz (929.9 g) OEM = 15.5 oz (439.3 g)	Standard = 4.8 oz (138.6 g), OEM = 2.7 oz (76 g)	Standard = 4.8 oz (138.6 g), OEM = 2.7 oz (76 g)
	Housing and frame material	Aluminum	Glass-filled polycarbonate	Glass-filled polycarbonate
Environmental	Eye safety	Class 1, 7mm (FDA, CFR21) Class 1m (IEC 60825 - 1 : 2001)	Class 1, 7 mm (FDA, CFR21) Class 1m (IEC 60825 - 1 : 2001)	Class 1, 7 mm (FDA, CFR21) Class 1m (IEC 60825 - 1 : 2001)
	Shock / vibration	MIL-STD-810	MIL-STD-810	MIL-STD-810
	Moisture	IP54	IP54	IP54
	Operating temperature	- 20° to 140° F (- 28° to 60° C)	- 20° to 140° F (- 28 to 60° C)	- 20° to 140° F (- 28° to 60° C)

* All specifications are subject to change without notice. Rev. 3 Jan 2014

ac·cu·ra·cy *(noun)*: the degree of conformity of a measurement to a standard or a true value.

con·verge *(verb)*: two or more light rays proceeding inward toward a point.

co·op·er·a·tive tar·get *(noun)*: a highly reflective surface or object, such as a glass corner cube or reflective tape.



dif·fuse re·flec·tion *(verb)*: a light striking a target and being scattered over a wide angle.

di·verge *(verb)*: two or more light rays proceeding outward from a point.

eye safe *(noun)*: lasers emitting energy with no hazards to the human eye.

fre·quen·cy *(noun)*: the number of repeating events per unit of time. A1 kHz laser firing rate means a laser is firing 1,000 times per second.

harsh am·bi·ent con·di·tions *(noun)*: the challenging atmosphere between the sensor and a target.

in·fra·red light *(noun):* invisible light with wavelengths roughly between 700 nm and 1550 nm.

la·ser *(noun):* acronym for light amplification by stimulated emission of radiation. A device that produces a monochromatic coherent beam of light by energizing atomic energy levels.

lens *(noun):* an optical element that converges or diverges light.

max·i·mum range *(noun)***:** the farthest reaching distance the sensor can acquire a measurement.

min·i·mum range *(noun):* accuracy may be compromised if a measurement is made from less than this distance.

non·con·tact *(noun):* a measurement made without a sensor touching the target. A preferred measurement method in many applications.

non·co·op·er·a·tive tar·get *(noun):* a target not designed to reflect light and that has less than 90% reflectivity.

o·pac·i·ty *(noun):* the degree to which light is not allowed to travel through.

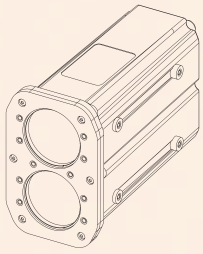
par·al·lax *(noun):* displacement or difference in a focus along two different optical axes; e.g., closing the left eye and viewing an object with the right eye–the object will appear to shift when the right eye is closed and viewed with the left eye.

pre·ci·sion *(noun):* the repeatability of a series of test results; whether the method gives the same answer under the same set of circumstances or sampling criteria.

re·flec·tance *(noun):* the fraction of incident light returned by a surface. Higher target reflectance will increase range. General surface reflectance (R) ratios are: reflective=90+%, white=90%, gray=20%, black=5%.

re·frac·tion *(noun):* the change in direction of light as it passes from one medium to another of a different density; e.g., from air to water.

res·o·lu·tion *(noun):* the minimum distance between two adjacent features or objects or the minimum size of a feature or object that can be detected. For a measurement, it is the smallest unit of resolve; for example, 0.001 meter has 1 millimeter of resolution. Not to be confused with accuracy.



sam·ple rate *(noun):* the frequency with which the sensor updates its range output. This can be set as low as one sample every few seconds and as high as 2,000 per second.

tar·get *(noun):* term used to refer to an object or point that is being measured or detected.

wave·length *(noun):* the distance between two points on adjacent waves that have the same phase, such as the distance between two consecutive peaks or troughs; e.g., 905 nanometers means this distance is 0.000000905 meters between two adjacent points on the light wave.