

Transit Authorities | DOT | Public & Private Traffic Engineering



TRIGGER



COUNT



SPEED



TIME
& DISTANCE



PROFILE



DETECT



PROFILE

It takes an extremely rapid and highly accurate laser to collect every vehicle's height, length and traveling distance between other vehicles.

DETECT & COUNT

Collect and report all the data you will ever need when you submit your traffic study for future infrastructure improvements or major additions.



TRIGGER

From red light cameras to toll booths, parking spaces, traffic lights and anything else you can think of, these sensors can make any system produce reliable results.

TRAFFIC MANAGEMENT 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® T-100

This single sensor can be used for a wide variety of traffic management applications, such as red light camera triggering, toll booth vehicle detection and more.

*This sensor includes a field installation cable & interface software.

T-100
Ideal for event triggering and general data capture.
#7005880



TruSense® Speed System

Combining these two sensors changes everything, because it not only can profile and classify vehicles, it can calculate the speed as well as the time and distance between vehicles.

*Includes: T-100 and T-200 sensor, optics, cables and traffic spacer bar.

TruSense Speed System
Ideal for measuring the height, length and speed of vehicles.
#7035125



Accessories



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



Mounting Bracket
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



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
T-100 #7054669

SENSOR SPECIFICATIONS

Accessories Continued



Traffic Spacer Bar
To easily mount the TruSense Speed System for overhead and side-fire installations.
#1154815



Optics Kit
Expand the sensor's beam for increased coverage for specific applications.
#7024839



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)	T-100
Performance	Min range	1.5 ft (46 cm)	1.5 ft (46 cm)
	Max range (to reflective target / to nonreflective target)	5,249 / 1,640 ft (1,600 / 500 m)	165 ft (50 m)
	Accuracy	0.70 in (2 cm)	distance = 3.9 in (10 cm) speed = 2% with dual sensor 75 cm spacing
	Data output rate	<1 Hz to 2 kHz	<1 Hz to 2 kHz
	Target modes	Averaging, binning, detection, last	Profile, speed (dual sensors), Time between cars (TBC), height, length, distance
Optical and Electrical	Wavelength	905 nm (near IR)	905 nm (near IR)
	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)
	I/O	RS232, RS485, 4-20	RS232, RS485, TRIG
	Input power	12-24 VDC (12 VDC recommended)	12-24 VDC (12 VDC recommended)
	Current draw	Measuring = 150 mA	Measuring = 150 mA
Physical	Dimensions (L x W x H)	5.3 x 4.75 x 2.5 in (134.6 x 120.7 x 50.8 mm)	6.8 x 2.9 x 4.5 in (172.7 x 73.7 x 114.3 mm)
	Weight	Standard = 32.8 oz (929.9 g) OEM = 15.5 oz (439.3 g)	Standard = 18.2 oz (517.10 g)
	Housing and frame material	Aluminum	Glass-filled polycarbonate
Environmental	Eye safety	Class 1, 7mm (FDA, CFR21) Class 1m (IEC 60825 - 1 : 2001)	Class 1, 7mm (FDA, CFR21) Class 1m (IEC 60825 - 1:2001)
	Shock / vibration	MIL-STD-810	MIL-STD-810
	Moisture	IP54	IP54
	Operating temperature	- 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. 1 January 2012

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. A 1 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.

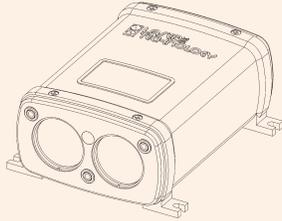
la-ser (*noun*): acronym for light amplification by stimulated emission of radiation. A device that produces a monochromatic coherent beam of light by energizing atomic energy levels.

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.

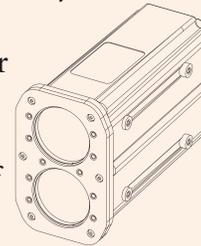
par-al-lax (*noun*): displacement or difference in a focus along two different optical axes; e.g., closing the left eye and viewing an object with the right eye—the object will appear to shift when the right eye is closed and viewed with the left eye.

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.