

## UST-10LX/20LX

## SOKUIKI sensor for intelligent robots



UST-10LX

UST-20LX

### Feature

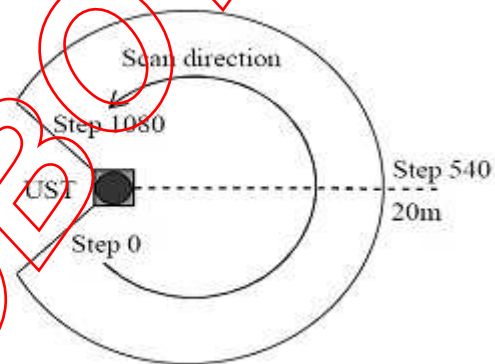
- The smallest and the lightest of its kind, 130g
- Mid-detection range 10m/20m, Wide detection angle 270°, Fast response 25msec, High angular resolution 0.25°
- It is possible to detect size, position and the moving direction of objects.

### Laser scanning image

Measurement steps 1081

Detection angle 270°

Angular resolution 0.25°



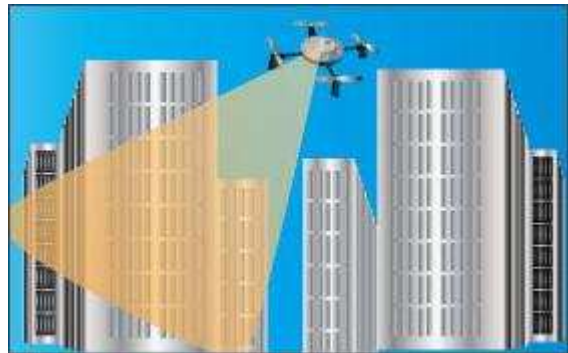
### Applications

#### Autonomous robots



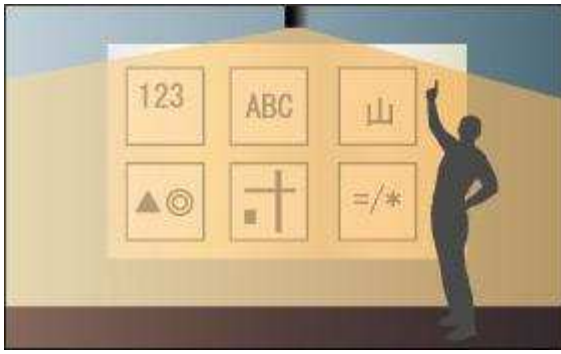
Environmental recognition

#### Unmanned Aerial Vehicle



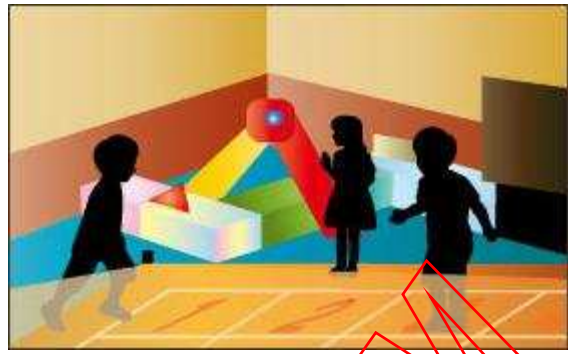
Small and light enough to mount on UAVs for environmental recognition

## Air touch panel



Projecting image linked with hands' motion

## Interactive exhibit



Interactive attraction

## People counting



Counting the number of visitors at public facilities for marketing purposes

## Analysis of human movement patterns



Adjusting air-conditioning and lighting depending on the density of people for energy-saving

## Specifications

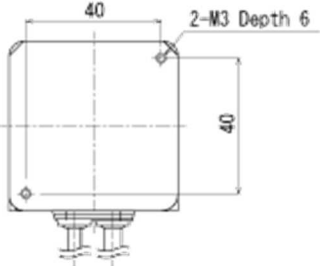
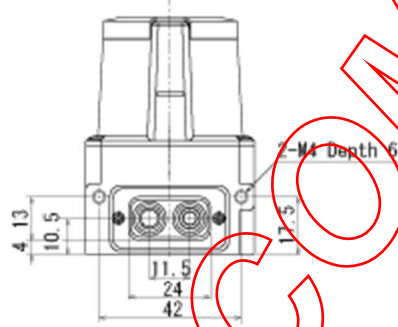
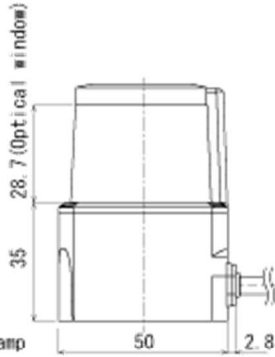
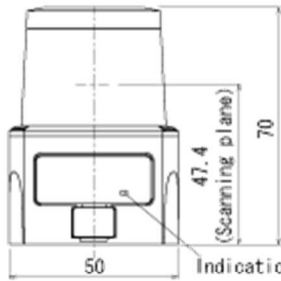
Product name	Scanning Laser Range Finder	
Model	UST-10LX	UST-20LX
Supply voltage	DC 12V/DC 24V (operation range 10 to 30V ripple within 10%)	
Supply current	150mA or less (during start up 450mA is necessary.)	
Light source	Laser semiconductor (905nm), Laser class 1(IEC60825-1:2007)	
Detection range	0.06m to 10m (white Kent sheet) 0.06m to 4m (diffuse reflectance 10% ) Max. detection distance : 30m	0.06m to 20m (white Kent sheet) 0.06m to 8m (diffuse reflectance 10% ) Max. detection distance : 60m
Accuracy	±40mm <sup>*1</sup>	
Repeated accuracy	σ<30mm <sup>*1</sup>	
Scan angle	270°	
Scan speed	25ms (Motor speed 2400rpm)	
Angular resolution	0.25°	
Start up time	Within 10 sec (start up time differs if malfunction is detected during start up)	
Input	IP reset input, photo-coupler input(current 4mA at ON)	
Output	Synchronous Output, photo coupler open collector output 30VDC 50mA MAX.	

<b>Interface</b>	Ethernet 100BASE-TX
<b>LED display</b>	Power supply LED display(Blue) : Blinks during start up and malfunction state.
<b>Surrounding intensity</b>	Less than 15,000lx Note : Avoid direct sunlight or other illumination sources as it may cause sensor malfunction
<b>Ambient temperature and humidity</b>	-10 °C to +50 °C, below 85%RH(without dew, frost)
<b>Storage temperature and humidity</b>	-30 °C to +70 °C, below 85%RH(without dew, frost)
<b>Vibration resistance</b>	10 to 55Hz double amplitude of 1.5mm for 2hrs in each X, Y, and Z direction 55 to 200Hz 98m / s <sup>2</sup> sweep of 2min for 1hr in each X,Y and Z direction
<b>Vibration resistance(Operating)</b>	55 to 150Hz 19.6m/s <sup>2</sup> sweep of 2min for 30min in each X,Y and Z direction
<b>Shock resistance</b>	196m/s <sup>2</sup> (20G) X,Y and Z direction 10 times.
<b>EMC standards</b>	(EMI) EN61326-1 : 2013 EN55011 : 2009 + A1 : 2010 (EMS) EN61326-1:2013 EN61000-4-2:2009 EN61000-4-3:2006 + A1 : 2008 + A2 : 2010 EN61000-4-4:2012 EN61000-4-6:2009 EN61000-4-8:2010
<b>Protective structure</b>	IP65
<b>Weight</b>	130g (Excluding cable)
<b>Material</b>	Front case: Polycarbonate, Rear case: Aluminum
<b>Dimensions (W×D×H)</b>	50×50×70mm(sensor only)

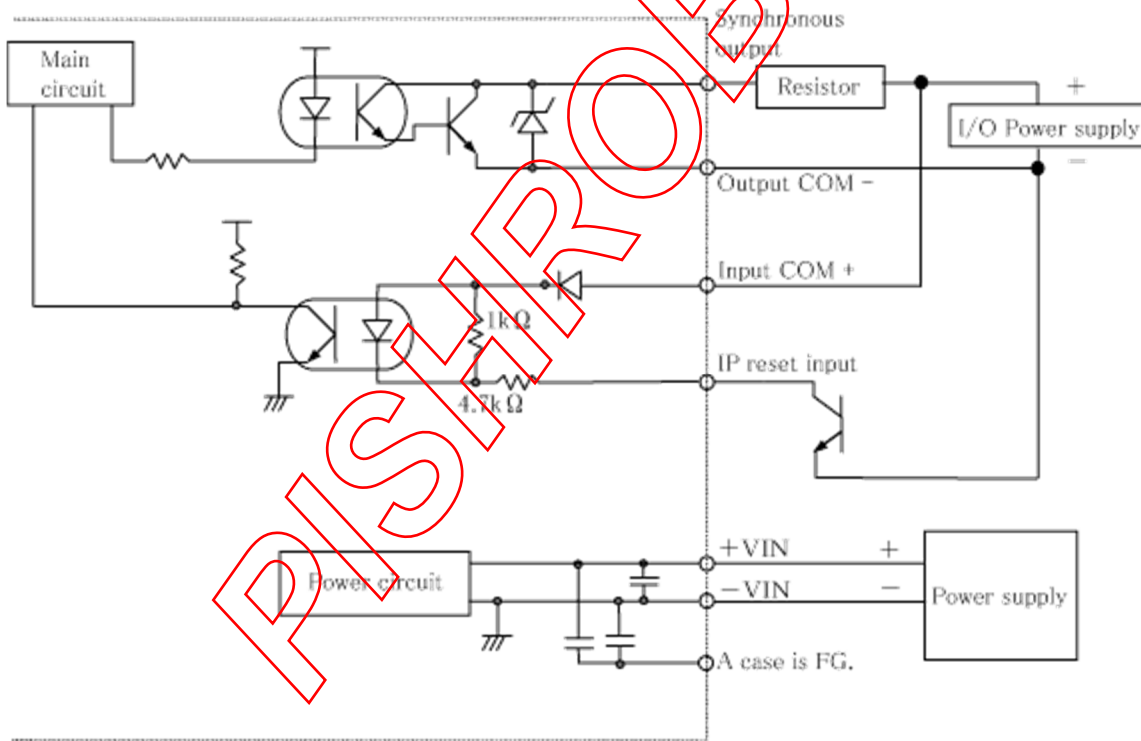
\*1. Under the factory standard testing conditions using white Kent sheet.

## External dimension

Ethernet cable Power cable



## Output circuit



## Connection

Power source, I/O cable

Cable length: 1000mm Flying lead cable(AWG28)

Color	Signal
Red	COM Input+
Gray	COM Output-
Light Blue	IP Reset Input
Orange	Synchronous Output
Brown	+VIN(12VDC/24VDC)
Blue	-VIN

Note : Direction of Inputs and Outputs are mentioned from the sensor's side.

### Ethernet cable

Cable length: 300mm

Color	Signal
Blue	TX+
White	TX-
Orange	RX+
Yellow	RX-

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