

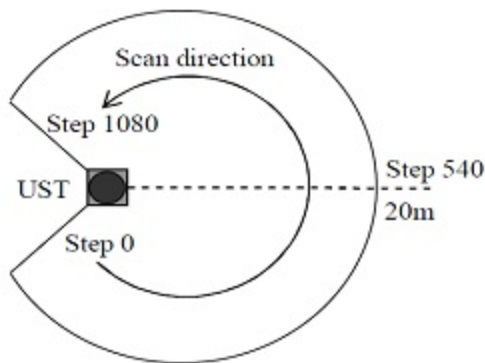
Hokuyo UST-20LX



Features

- 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

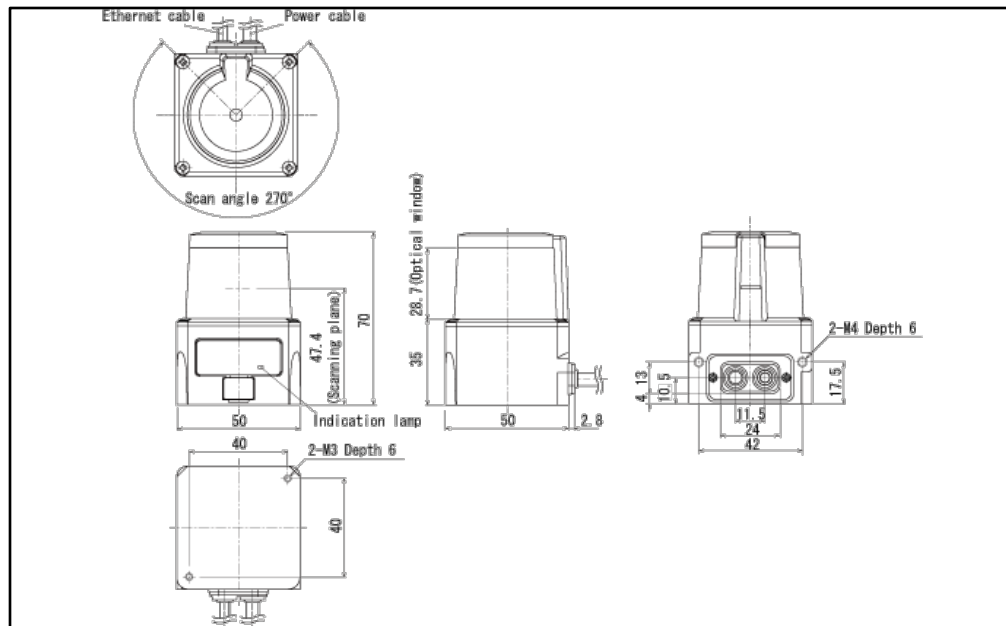


Measurement steps 1081

Detection angle 270°

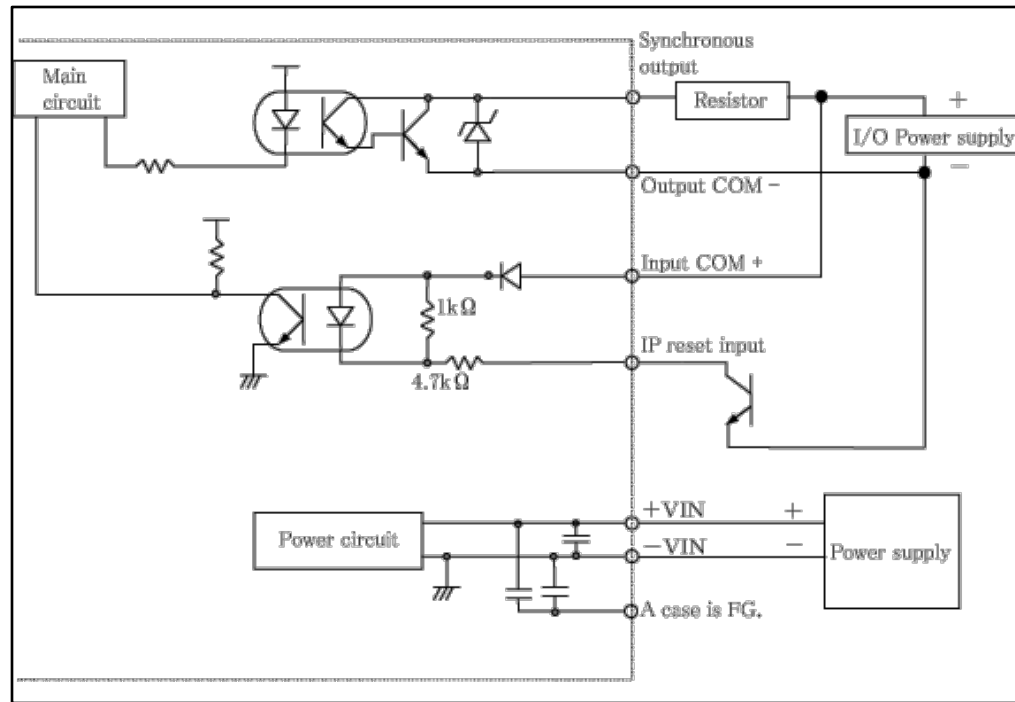
Angular resolution 0.25°

External Dimensions



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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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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

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Specifications

Product name	Scanning Laser Range Finder	
	Model	UST-10LX
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 ^{*1}	
Repeated accuracy	σ <30mm ^{*1}	
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.	
Interface	Ethernet 100BASE-TX	
LED display	Power supply LED display(Blue) : Blinks during start up and malfunction state.	
Surrounding intensity	Less than 15,000lx Note : Avoid direct sunlight or other illumination sources as it may cause sensor malfunction	
Ambient temperature and humidity	-10° C to +50° C, below 85%RH(without dew, frost)	
Storage temperature and humidity	-30° C to +70° C, below 85%RH(without dew, frost)	
Vibration resistance	10 to 55Hz double amplitude of 1.5mm for 2hrs in each X, Y, and Z direction 55 to 200Hz 98m / s ² sweep of 2min for 1hr in each X,Y and Z direction	
Vibration resistance(Operating)	55 to 150Hz 19.6m/s ² sweep of 2min for 30min in each X,Y and Z direction	
Shock resistance	196m/s ² (20G) X,Y and Z direction 10 times.	
EMC standards	(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	
Protective structure	IP65	
Weight	130g(Excluding cable)	
Material	Front case: Polycarbonate, Rear case: Aluminum	
Dimensions (W×D×H)	50×50×70mm(sensor only)	

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

