Date：2025.03.31

Scanning Laser Range Finder
Smart-URG Plus
UST-10LXB-H02
Specification

CE
RoHS

Symbol	Amended Reason			Pages	Date	Amended by	Ref.No
Approved by	Checked by	Drawn by	Designed by	Title	UST-10LXB-H02 Specification		
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1. General

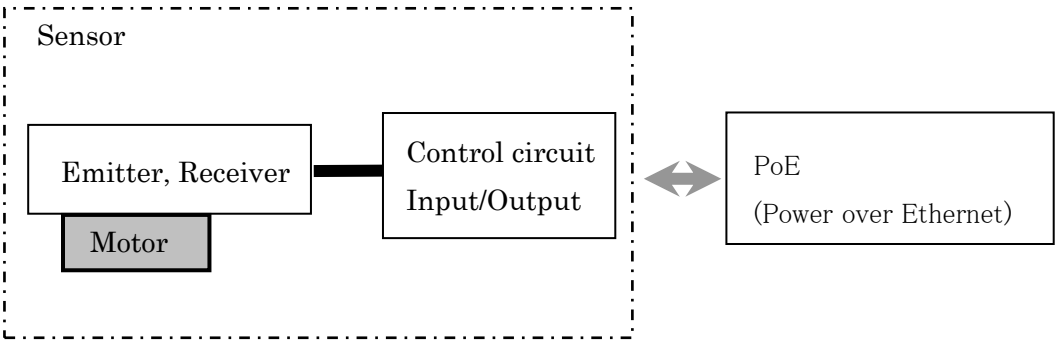
This sensor uses a laser source to scan 270° field of view. Positions of objects in the range are calculated with step angle and distance. Sensor outputs these data through communication channel.

This product supports PoE (Power over Ethernet: IEEE 802.3af) and can be powered through a LAN cable.

The basic functions are equivalent to those of the UST-10LX-H02, and a small-spot laser is used.

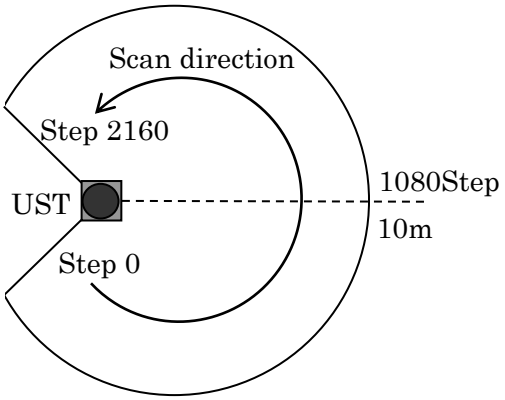
2. Structure

2-1.Strucure diagram



2-2. Laser scanning image

Measurement steps 2161
Detection angle 270°
Angular resolution 0.125°



3. Important notes

(1) This sensor is not a safety device/tool.

(2) This sensor cannot be used for human body detection as per the machinery directives.

(3) Hokuyo products are not developed and manufactured for the use in weapons, equipments or related technologies intended for destroying human lives or causing mass destruction. If such possibilities or usages are revealed, the sales of Hokuyo products to those customers might be halted by the laws of Japan such as Foreign Exchange Law, Foreign Trade Law or Export Trade control order. In addition, Hokuyo products are for the purpose of maintaining the global peace and security in accordance with the above law of Japan.

4. Specifications

Product name	Scanning Laser Range Finder
Model	UST-10LXB-H02
PoE Specifications	Compliant with IEEE 802.3af, Class 0
PoE Power Supply	37-57V
Supply current	Normal: 3W (Startup: 5W)
Light source	Laser semiconductor (830nm)　Laser class 1
Detection range	0.06m to 10m　(white Kent sheet) 0.06m to 4m　(diffuse reflectance 10%) Max. detection distance : 30m
Accuracy	±40mm　(*1)
Repeated accuracy	σ< 30mm　(*1)
Scan angle	270°
Scan speed	25ms (Motor speed 2400rpm)
Angular resolution	0.125°
Start up time	Within 10 sec (start up time differs if malfunction is detected during start up)
Interface	Ethernet 100BASE-TX
LED display	Power supply LED display (Blue): Blinks during start up and malfunction state.
Ambient temperature and humidity	-10°C to +50°C, below 85%RH (without dew, frost)
Surrounding intensity	Less than 80,000lx Note : Avoid direct sunlight or other illumination sources as it may cause sensor malfunction
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	EN61326-1：2013 (EMI) EN55011：2009 + A1：2010 (EMS) EN61000-4-2：2009 EN61000-4-3：2006 + A1：2008 + A2：2010 EN61000-4-4：2012 EN61000-4-6：2014 EN61000-4-8：2010
RoHS Directive	(EU)2015/863
Protective Structure	IP40
Weight	130g　(Excluding cable)
Material	Optical window: Polycarbonate, Body: Aluminum, PoE Splitter: Polycarbonate
Dimensions (W×D×H)	50×50×70mm (sensor only)/ 60mm×35mm×25mm(PoE Splitter)

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

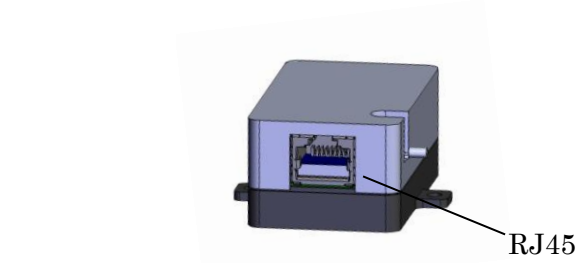
5. Measurement Data

Distance Value (x)	Meaning
x < 21	Output numerical number “4” as Measurement error
21 ≦ x ≦ 30000	Valid distance [mm]
x > 30000	Output numerical number “65533” as Measurement error (object does not exists or object has low reflectivity)

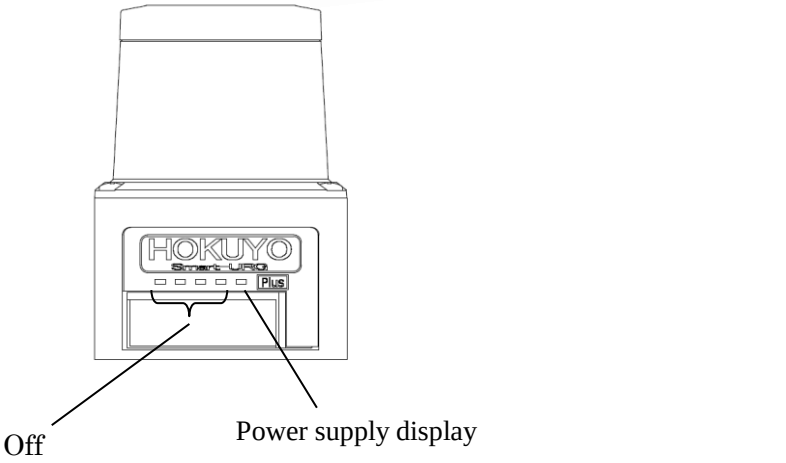
6. Connection

Equipped with an RJ45 connector.

Please use a LAN cable compatible with PoE.



7. LED display



8. Ethernet Setting

1. The setting value is as below.

   IP Initial value :192.168.0.10

   Port number :10940

2. About changing IP address

   It is possible to change and reset the IP address using a specialized application (IP Discovery).

   For details on installation and operation of IP Discovery, Please refer to IP discovery manual. (C-41-02603)

9. Cautions for operation

This sensor uses high speed processing components that generate heat during operation.

The heat is concentrated at the bottom of the unit. When mounting, please attach the bottom of the unit to a good heat sink. A 200mm x 200mm x 2mm aluminum plate is recommended as a heat sink.

If multiple sensors are installed side by side, a sensor might mistake the laser pulses of other units as its own and the detection error occurs. When it happens, usually the error lasts for one or two steps of measurement. Please use software filters to handle this type of error.