SENTEK solutions

HOKUYO

YLM-10LX

3D LiDAR

10m

10 METRE RANGE

110°

110°(H) X 90°(V) FOV

QVGA: 0.375°
VGA: 0.188°
ANGULAR
RESOLUTION

ETHERNET
1000BASE-T

Solid state 3D Range Sensor (3D LiDAR)

The YLM-10LX is a solid-state 3D LiDAR sensor developed with **Lumotive**. Utilising the polarisation properties of liquid crystal, it allows for 3D environmental recognition through its unique beam steering technology, LCM*. This enables the laser beam direction to be adjusted without the need for mechanical components.

Using LCM, horizontal line light is scanned vertically and received line by line, which reduces multipath interference and stabilises distance measurement compared to other technologies.

The sensor offers a 110° horizontal and programmable 90° vertical field of view, allowing for flexible scanning tailored to specific application needs.

Ideal for applications such as AMR, forklifts and service robots.

*LCM (Light control Metasurface) is a unique technology patented by Lumotive.

Model Number	YLM-10LX
Range	10m
Field of View (FoV)	110°(H) x 90°(V), Vertical FoV can be adjusted via software
Light source	VCSEL Laser (λ=905nm)
Supply voltage	12V/24V DC ±10%
Supply current	25W or less, DC24V: 1A
Detection range (*a,*b)	0.3 ~ 10m (10% reflectivity) 1m ~ 15m (90% reflectivity)
Distance accuracy (*a,*b)	0.3 ~ 2.0m: <±80mm 2m ~:<± 2.0%
Framerate (*a,*b)	2~60Hz (Framerate changes depending on vertial FOV / other parameters) Ex. QVGA, vertical FOV 90° (full frame) : 9.25Hz (default)
Angular resolution (*a)	QVGA: 0.375° VGA: 0.188° (in both horizontal and vertical direction)
Discrete line scanning speed (*a,*b)	840 lines/sec
Point Cloud output	Approx. 500,000 points per/sec (default: QVGA, vertical FOV 90°x9.25Hz)
Interface	Ethernet 1000BASE-T
Protective structure	IP64
Vibration resistance	10~55Hz double amplitude 1.5mmp-p each 2 hours. 55~200Hz 98m/s^2 (10G) sweep 2min each 1 hour in X, Y and Z directions
Shock resistance	196m/s^2 (20G) each 10 times in X, Y and Z directions
Operation temperature	-20°C to +50°C. Less than 85% humidity (without dew, frost)
Weight	650g
Dimensions	120mm(w) x 57.2mm(d) x 63.5mm (h)
Laser safety class	Class 1 (compliant with IEC-60825-1)

Please note that specifications are subject to change.

*LCM (Light control Metasurface) is a unique technology patented by Lumotive.

*a. LiDAR performance is defined through software using the Programmable LiDAR API.

*b. Unless otherwise stated, specifications are based on detection targets with 10% reflectivity, a resolution of 320 x 240 (QVGA) and measurements taken along the axis.

SENTEK™ solutions

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