UXM-30LAH-EWA   **SOKUIKI sensor for intelligent robots**
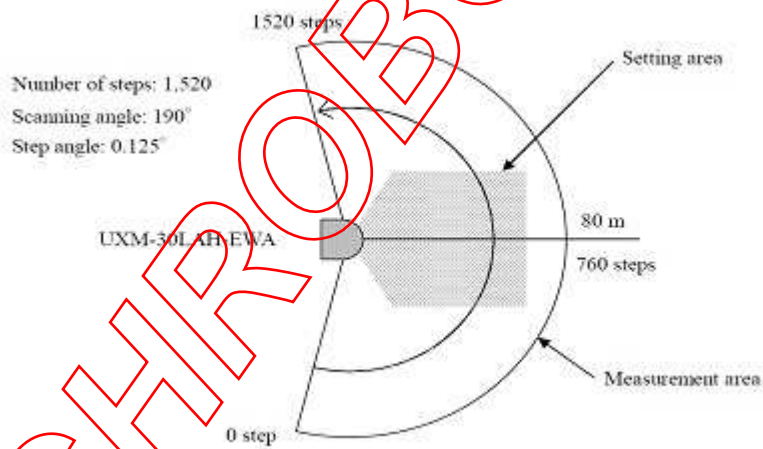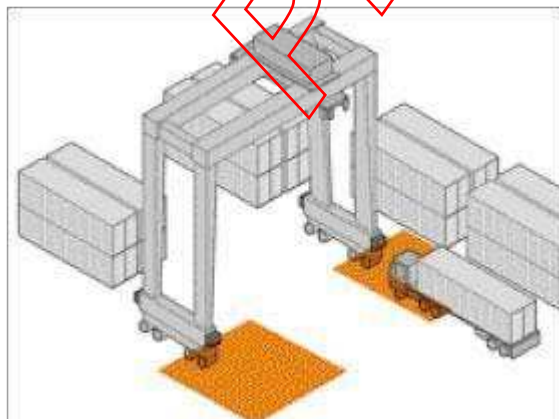

Feature

- Synchronization functionality for preventing interference
- More flexible field setting available
- Built-in heater for cold environments
- Better accuracy, finer resolution, longer scanning distance

Laser scanning image

Number of steps: 1,520
Scanning angle: 190°
Step angle: 0.125°

1520 steps

Setting area

80 m

760 steps
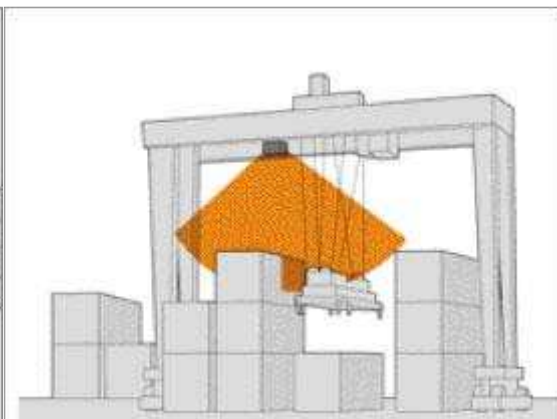
UXM-30LAH-EWA

Measurement area

0 step

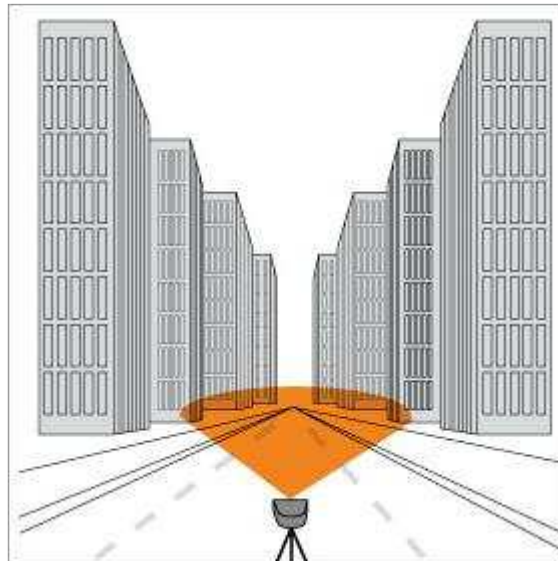# Applications

Collision prevention   Container positioning
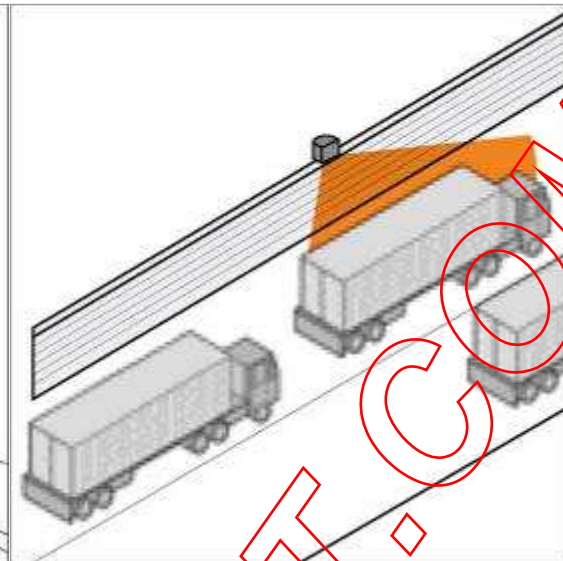
Area monitoring for collision prevention of RTGs, RMGs and AGVs

Possible to pick up containers precisely based on distance and angle measurements obtained from the sensor.

Terrain measurement

Vehicle detection

Terrain measurement and analysis using distance data obtained for maintenance of roads, bridges and cultural properties.

Vehicle detection on roads or within a factory as a safety measure.
Also, possible to detect traffic congestion or speed of vehicles.

Specifications

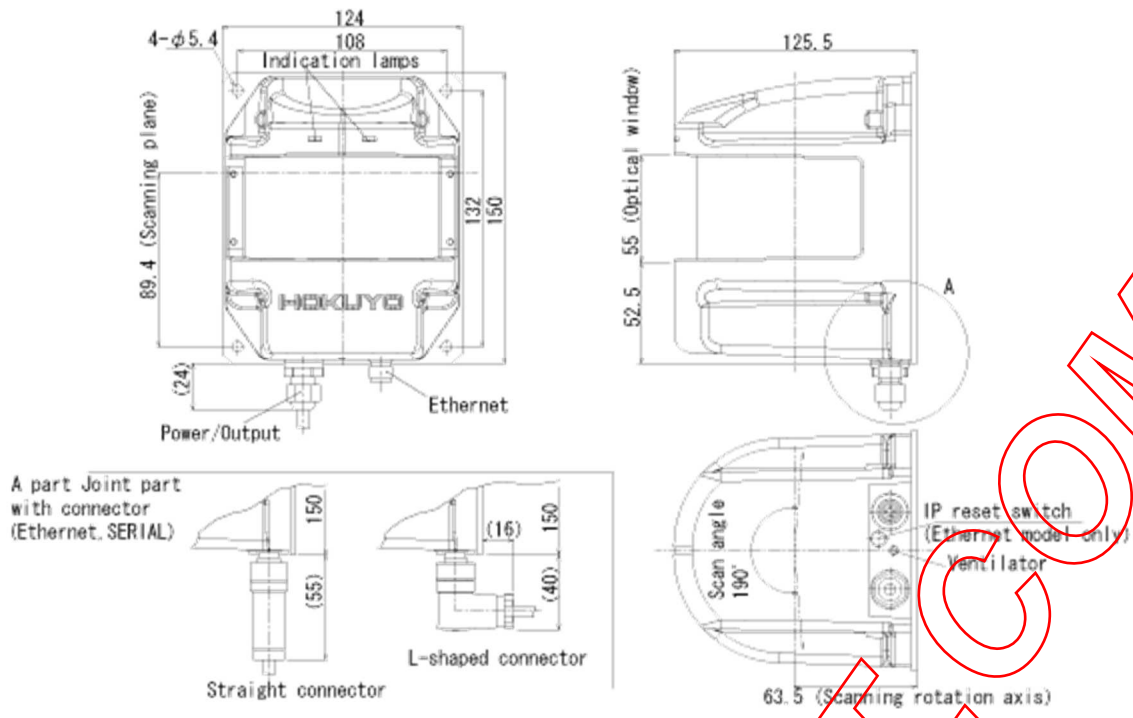| Product name	Laser range finder
Type	UXM-30LAH-EWA
Light source	Semiconductor laser, λ=905nm, safety class of the laser = 1
Power supply voltage	10 to 30VDC
Power supply current	Steady-state current: 600mA or less at 12VDC, 300mA or less at 24VDC Starting current: 1.5A or less at 12VDC, 0.75A or less at 24VDC Heater in use(0°C or below): 1.25A or less at 12VDC, 1.25A or less at 24VDC
Electric power consumption	7.2W or less(at steady-state) Heater in use(0°C or below: 15W or less at 12VDC, 30W or less at 24VDC)
Detecting distance and object to be detected	Guaranteed value of detection: 0.1 to 30m[*1](Reflectance of 10%, black paper, 500mm×500mm) 0.1 to 80m[*1](Reflectance of 90%, white Kent paper, 1,000mm×1,500mm) Maximum detecting distance: 80m(maximum value of area setting) Minimum object to be detected: 33mm(5m), 65mm(10m), 200mm(30m)
Average accuracy by distance	10% reflectance, black paper, 0.1 to 15m:±30mm, 15 to 30m:±50mm[*1] 0.1 to 30m:±50mm[*2] Ambient illuminance: 3,000 lux or less

	0.1 to 20m:±50mm[*2] Ambient illuminance: 100,000 lux or less
	90% reflectance, white Kent paper, 0.1 to 30m:±30mm[*1] 0.1 to 30m:±50mm[*2] Ambient illuminance: 3,000 lux or less 0.1 to 20m:±50mm[*2] Ambient illuminance: 100,000 lux or less
Measurement resolution	Unit of 1mm
Repeat accuracy	10% reflectance, black paper, 0.1 to 15m: σ<10mm, 15 to 30m: σ<15mm[*1] 0.1 to 30m: σ<20mm[*2] Ambient illuminance: 3,000lux or less 0.1 to 20m: σ<30mm[*2] Ambient illuminance: 100,000lux or less 90% reflectance, white Kent paper, 0.1 to 30m: σ<10mm[*1] 0.1 to 30m: σ<15mm[*2] Ambient illuminance: 3,000lux or less 0.1 to 30m: σ<30mm[*2] Ambient illuminance: 100,000lux or less
Scanning angle	190°
Angular resolution	Approx. 0.125°(360°/2880 divisions)
Scanning time	50ms(rotating speed of motor: 1200rpm)
Interface	Ethernet 100BASE-TX(Auto-negotiation)
Output	OUTPUT 6 points: Synchronization master output, synchronization output, output of failure, area detection output 1 to 3
Input	INPUT 5 points: Synchronization input, area input 1 to 4(total 15 patterns)
Output response time	100ms or less;however, it varies depending on the setting
Starting time	Operation starts within 30sec after turning on of power supply.
Indication lamp	Indication lamp for power supply and operation(green), indication lamp for communication measurement(orange) Regarding the operation of indication lamps, refer to sub-clause 7.2.
Ambient operating temperature, humidity	-40 to +50°C 85%RH(However, dew condensation and freezing should not exist.)
Resistance to weather	Detecting distance becomes shorter due to rain, snow, and sunlight.[*3]
Vibration resistance	10 to 55Hz, plural amplitude: 1.5mm in X, Y, Z directions, each 2 hours 55 to 200Hz 19.6m/s² Sweep: 2 minutes in X, Y, Z directions, each 1 hour
Resistance to shock	196m/s² in X, Y, Z directions, each 10 times
Protective structure	IP67
Insulation resistance	10MΩ
Mass	1200g
Material	Front face of the case, optical windows: Polycarbonate, Back face of the case: Aluminum
Outside dimension(W×D×H)	124mm × 126mm × 150mm(connector not included)

*1. Indoor environment(fluorescent lamp, 1,000lux or less)
*2. Detection cannot be guaranteed when direct light(such as sunlight) enters the device.
*3. Regarding the influence of environment, please confirm with the actual equipment.

External dimension