

3 layer laser scanner UCT series (Card-URG)



**Ultra-thin LiDAR sensor
ideal for forklifts, AGVs
pallet detection application**

UCT-10LCN

Benefits at a glance

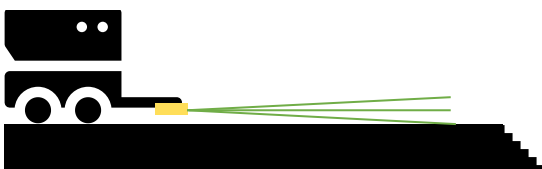
- » Ultra-thin and compact size (80mm × 65mm × 20mm), fits even narrow spaces like forklift forks.
- » Easy retrofit installation thanks to compact size
- » Detection distance up to 10 meters, suitable for pallet and obstacle detection.
- » Wide scanning angle of 100° horizontal by 3° vertical for efficient coverage.
- » Multi-layer (3-layer) vertical detection allows detection of height differences and steps, useful for AGVs/AMRs.
- » Flexible area setting with 5 output points for customized monitoring areas.
- » Multi-echo feature allows detection through rain or fog by selecting the best echo.
- » High resolution with $\Theta < 20$ mm measurement accuracy and 0.125° angular resolution.
- » IP65 rating, lightweight at 100g, and durable aluminum bottom case.
- » Ethernet 100BASE-TX interface enables easy integration with robotic and automation systems.
- » Built-in IMU stabilizes measurements by correcting motion, ensuring accurate detection on moving devices.

Applications

• Pallet Holes Detection

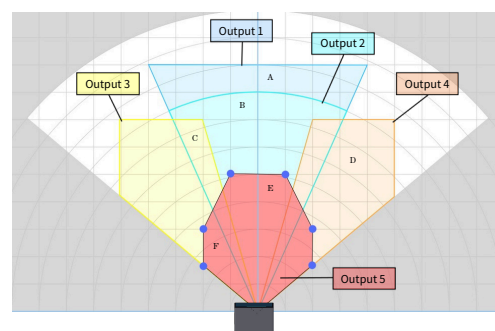


• Mobile Robot Cliff Detection



• Detection Outputs Table

Object position	Output 1	Output 2	Output 3	Output 4	Output 5
A	OFF	ON	ON	ON	ON
B	OFF	OFF	ON	ON	ON
C	OFF	OFF	OFF	ON	ON
D	ON	ON	ON	OFF	ON
E	OFF	OFF	ON	ON	OFF
F	ON	ON	OFF	ON	OFF

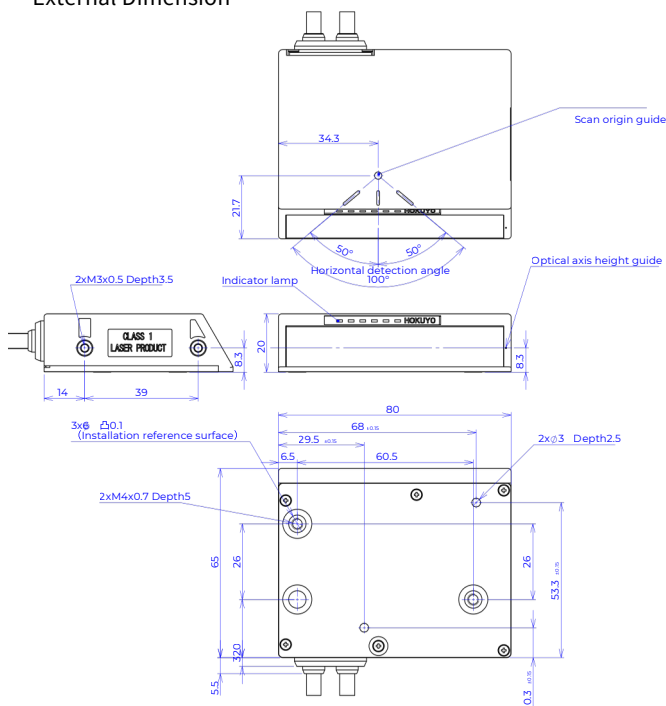


Specification Overview

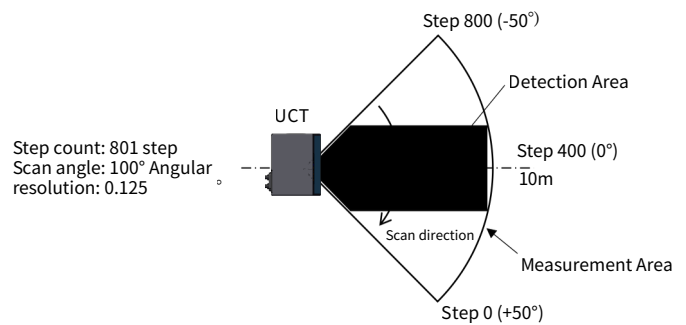
Part Number : UCT-10LCN
 Power Supply: DC12V/DC24V (operation range: 10 to 30V, ripple within 10%)
 Light source: Laser semiconductor (905nm)
 Laser safety: Class1 (IEC60825-1:2014)
 Measurement range
 Scan angle $-45^{\circ}\sim+45^{\circ}$: 0.05m to 10m (90% reflectivity) / 0.05m to 4m (10% reflectivity)
 Scan angle $-50^{\circ}\sim-45^{\circ}$ and $+45^{\circ}$ to 50° : 0.05m to 8m (90% reflectivity) / 0.05m to 3m (10% reflectivity)
 Measurement accuracy: $\pm 40\text{mm}$
 Repeatability: $\sigma < 20\text{mm}$
 Horizontal field of view: 100°
 Vertical field of view: layer1: 0° 、layer2: $+3^{\circ}$ 、Layer3: -3°
 Angular resolution: 0.125°
 Response time: 34ms (multilayer mode), 67ms (multi-layer mode)
 Number of digital input: 1 input for area switching
 Number of digital output: 5 detection outputs, 1 malfunction output, 1 auxiliary output
 Dimension: $80\text{mm} \times 65\text{mm} \times 20\text{mm}$ (W×D×H)
 Weight : 100g (excluding cable)
 Protective structure: IP65
 Ambient temperature: -10 to 50°C
 Ambient light: 100,000 lx
 Connection: Power and I/O: Connector(1m), Ethernet: RJ45(1m)
 Interface: Ethernet 100BASE-TX

External Dimension / Laser Beam Scanning Image

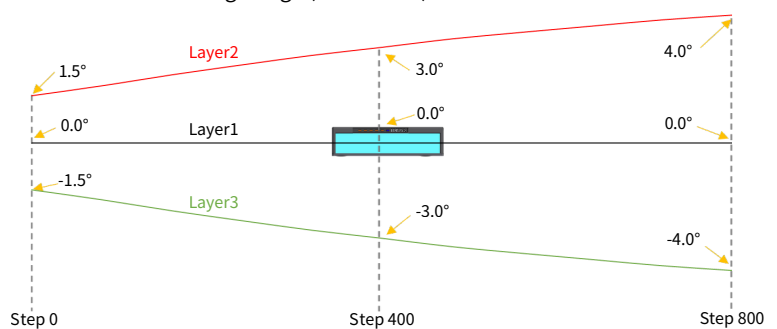
External Dimension



Laser Beam Scanning Image (Top View)



Laser Beam Scanning Image (Front View)



※ the specifications subject to change without notice

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