



SENSE

100% Solid-State

No Vertical Gaps

65 m Range

Global Shutter

High-Precision Mode

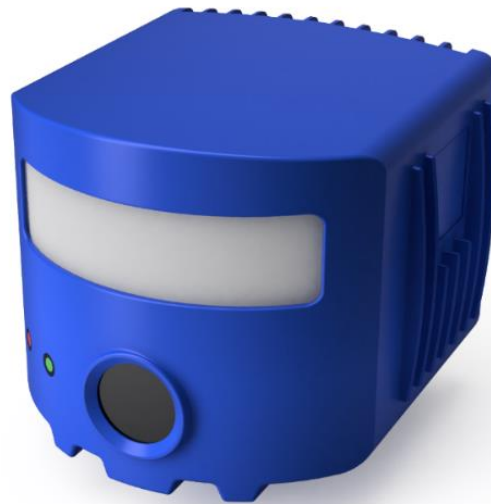
Robotic Workcells
Conveyor Systems
Inventory Scanning
Part Handling / Polishing
Product Inspection
Bin Picking

Warehouse Mode

AGVs
Industrial Vehicles
Automated Forklifts
Heavy Equipment
Security / Monitoring
Pallet Detection
Area Surveying

Sense One

Longest range industrial 3D camera



Designed specifically with industrial applications in mind, **Sense One combines range, resolution, frame rate, and reliability to facilitate robust object detection.**

Track pedestrians, detect obstacles in warehouses, and improve factory throughput with the best price-performance of any production LiDAR.

One million points per second of unmatched 3D clarity in a design without any moving parts allows users to deploy Sense One at large scale. Offered in 3 variants with pre-loaded operating modes to maximize performance in different use-cases.

1. **Focus** provides up to 65m range
2. **Balanced** optimizes FoV and range
3. **Wide** offers 95° vertical coverage

Active illumination powered by the Sense Illuminator maintains depth accuracy in all ambient lighting conditions. An array of thousands of micro-VCSELs printed on a flexible substrate output uniform 940nm light without solar interference.

The entire illuminated scene is imaged simultaneously where all 3D points per frame return the same timestamp just like a global shutter camera. To fuse color, simply overlay RGB pixels onto the 2D depth map.

	Focus	Balanced	Wide
HFoV	80°	80°	95°
VFoV	30°	60°	75°
Range	65 m	30 m	20 m

Key Specifications

Laser Safety	Class 1 eye-safe per IEC 60825-1
Wavelength	Sense Illuminator - 940 nm VCSEL Array
Angular Resolution	0.27° H x 0.27° V for all variants (Focus, Balanced, Wide)
Range Accuracy	3.5 cm (Typical) ¹
Depth Accuracy at Max Range	10 cm
Output	Point Cloud (X, Y, Z), Intensity, 2D Depth Map
Frame Rate	2-10 Hz (configurable)
Data Rate	~200,000 – 1,000,000 points / sec
Interface & Synchronization	Gigabit Ethernet (TCP/IP) with PTP Support (IEEE 1588)

Mechanical, Electrical, Environmental

Mounting	1/4-20" Threaded (Bottom)
Dimensions	140 mm (H) x 184 mm (W) x 187 mm (D)
Operating Temperature	-10°C to +50°C
Storage Temperature	-40°C to +80°C
Weight	4.3kg
Ingress Protection	IP67
Vibration	2.77g (rms), 10 - 1000 Hz, 3 axes w/ 8 hr duration ea. (IEC 60068-2-64, random)
Shock	500 m/s ² Amplitude, 6 ms Duration, IEC 60068-2-27
Connectors	Data - RJ45 Power - Amphenol Lite M3 (2-pin)
Voltage & Power	12V to 24V DC 17 W (Nominal Consumption) ²

Compliance

Electrical	IEC 61010-2-201
EMI	IEC 61000-6-4 Radiation Interfere (pending Q3 2020) IEC 61000-6-2 Noise Immunity (pending Q3 2020)
Certifications	FCC RoHS CE (pending Q3 2020)

¹ Typical accuracy refers to ambient wall test performance across pixel array and may vary with range, operating temperature, and target reflectivity

² Operating power may be influenced by factors including desired range and mode of operation