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OSDOME REV7

OSDome-128
128 channels / 5.2 Mpts/s / 180° V × 360° H / 20 m @ 10% / 9.5–51 V DC



- Full 180°/360° coverage in a compact head—floor-to-ceiling with no deadzones.
- High data density (up to 5.24 M pts/s) with dual returns for cleaner point clouds.
- Fast integration via GbE, IMU and gPTP/PTP + ready-to-use SDK/ROS drivers.
- Built for tough operation – IP68/IP69K, -40...+60 °C, MTTF ≥ 250,000 h.
- REV7/L3 chip provides better range/precision

PRODUCT DESCRIPTION

Hemispherical Coverage
OSDome offers a full 180° vertical field of view and 360° horizontal, providing seamless detection with no dead zone above the sensor. The range is up to 20 m against a dark 10% target and 45 m against an 80% Lambertian target.
Ideal for indoor and short range applications
The hemispherical view is suitable for indoor person detection, security surveillance, mobile robots and short range detection on vehicles. Integrated IMU and IEEE 1588 PTP/gPTP synchronization provide accurate sensor fusion. UDP over Gigabit Ethernet and Ouster's SDK with C++/ROS drivers.
Configurable resolution
Choose 32, 64 or 128 channels vertically, horizontal resolution of 512/1024/2048 points and 10 or 20 Hz rotation. Up to 5.2 million points per second with 0.1 cm distance resolution provides camera-like NIR and signal data.
All-weather rugged
The housing is rated IP68 and IP69K, can operate between -40 °C and +60 °C and meets shock/vibration requirements according to IEC 60068-2-27/-64. Class 1 eye-safe laser according to IEC/EN 60825-1:2014. CE, UKCA and FCC certified as well as UL 62368-1 and UL 60950-22 (outdoor use).

TECHNICAL DATA

Accuracy	±2,5 cm (lambert) / ±5 cm (retroreflektiv)
Ambient light max	1000 lx
Angular measurement accuracy	0.01 °
Angular resolution	0.7 °
Beam diameter at sensor output	5 mm
Beam divergence	0.35 °
Data latency	10 ms
Data profiles	Single, Dual, Low Data Rate
Data rate per profile	1353 Mbit/s
Detector technology	SPAD
Distance resolution	1 mm
False positive rate	10000

Field of view (L)	180 °
Field of view (R)	360 °
Frame rate	20 fps
Frame rate max	20 fps
Horizontal resolution	2048
IMU latency	10 ms
IMU sampling rate	0.1 kHz
IMU timestamp resolution	1 µs
Interface	GigE
IP class	IP68, IP69K
Laser class	Class 1
Minimum range	0.5 m
MTTF	250000 h
Operating temperature from	-40 °C
Operating temperature to	60 °C
Points per second	5242880
Power consumption	20 W
Precision (σ) min/max	±1,0 cm / ±10 cm
Protocol Lidar Data	1000BASE-T, 1000BASE-T1
Range	20 m @ 10% reflektivitet, 45 m @ 80% reflektivitet (1024×10 Hz, 100 klx solljus, >90% detektionssannolikhet)
Range resolution	0.1 cm
Rotation speed	20 Hz
Scanning principle	Flash
Storage temperature max	85 °C
Storage temperature min	-40 °C
Time synchronization – inputs	PTP, gPTP, NMEA $GPRMC, External PPS
Time synchronization – outputs	60 Hz
Timestamp resolution	1 µs
Wavelength	865 Nm
Weight	470 g