

M8™ LiDAR Sensor

HIGH ACCURACY | FINE RESOLUTION | LONG RANGE | HIGH PERFORMANCE

The M8 high-performance LiDAR sensor provides superior 3D perception using multiple eye-safe laser beams and time-of-flight (TOF) measurement technology. The robust LiDAR sensor features a wide field of view, long measurement range, high accuracy, and fine resolution to reliably solve the most challenging real-world applications—even in harsh environments. In addition, the M8 LiDAR sensor can trigger actions based on real-time scenario analysis powered by QORTEX™, Quanergy's advanced perception software. The M8 is designed and manufactured under the highest quality and reliability standards and comes with a 2-year warranty.



M8-Core
M8-Plus
M8-Ultra

M8-PoE+

Key Features



Wide Field of View (FOV)

M8 LiDAR sensors feature a 360° horizontal field of view and 20° (+3°/-17°) vertical field of view for rapid and reliable scanning of large areas.



Day and Night Vision

The M8 LiDAR sensor is immune to ambient lighting conditions, maintaining high performance even in extremely bright and low light applications.



Angular Resolution

The M8 features an angular resolution of 0.03-0.13° depending on the frame rate to reliably detect objects with pinpoint accuracy.



Range Accuracy

The M8 LiDAR sensor provides accurate and reliable results (< 3 cm range accuracy) even at the far end of the sensor's range—up to 200 m depending on the model.



2 Year Warranty

Applications

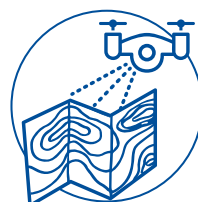
Security



Smart City



Mapping



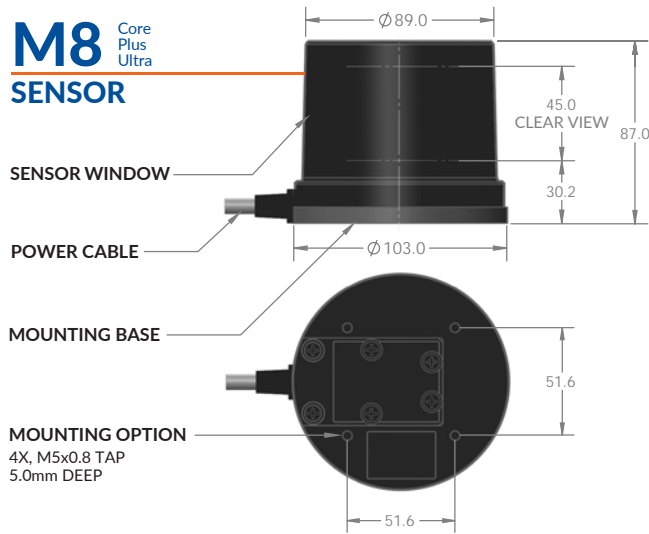
Industrial



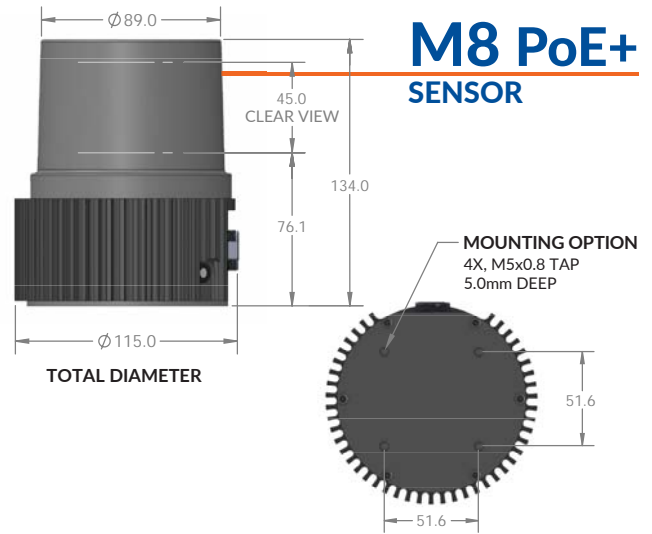
Transportation



M8 Core Plus Ultra SENSOR



M8 PoE+ SENSOR



| Parameter | M8-Core | M8-Plus | M8-Ultra | M8-PoE+ |
|------------------------------------|--|-----------------------------------|---|-----------------------------------|
| Laser Class | Class I (Eye Safe, IEC 60825-1) | | | |
| Wavelength | 905nm | | | |
| Measurement Technique | Time of Flight (TOF) | | | |
| Minimum Range | 0.5m (80% reflectivity) | | | |
| Maximum Range | 100m (80% reflectivity) 35m (10% reflectivity) | 150m (80% ref.) 53m (10% ref.) | Up to 200m (80% ref.) Up to 70m (10% ref.) | 150m (80% ref.) 53m (10% ref.) |
| Range Accuracy (1 σ at 50m) | <3cm | | | |
| Frame Rate (Update Frequency) | 5–20Hz | | | |
| Angular Resolution | 0.033°–0.132° dependent on frame rate | | | |
| Detection Layers | 8 | | | |
| Field of View (FOV) | Horizontal: 360°, Vertical: 20° (+3°/–17°) | | | |
| Output Connection | M19 Connector – 100/1000Mbps Ethernet | | | RJ45 802.3at (PoE+) |
| Data Outputs | Angle, Distance, Intensity, Time Stamps (synchronized to GPS when available) | | | |
| Returns | 3 | | | |
| Output Rate | 430,000 points per second (1 return), 1.3M points per second (3 returns) | | | |
| Nominal Power | 16W | | | 18W |
| Operating Voltage | 24VDC +/-1.2V | | | 42.5–57VDC |
| Operating Temperature | –20°C to +60°C (–4°F to +140°F) | | | |
| Storage Temperature | –40°C to +105°C (–40°F to +220°F) | | | |
| Nominal Weight | 900g | | | 1360g |
| Dimensions | 103mm (D) x 87mm (H) | | | 115mm (D) x 134mm (H) |
| Shock & Vibration | ETSI EN 300 019-2-5, IEC Class 5M3 | | | |
| Environmental Protection | IP69K | | | IP67 |
| Certifications and Compliance | FDA, FCC, CE, RoHS, WEEE, IEC-60079-15, ASTM G154 | | | |
| Warranty | 2 Years | | | |

*Specifications are subject to change without notice