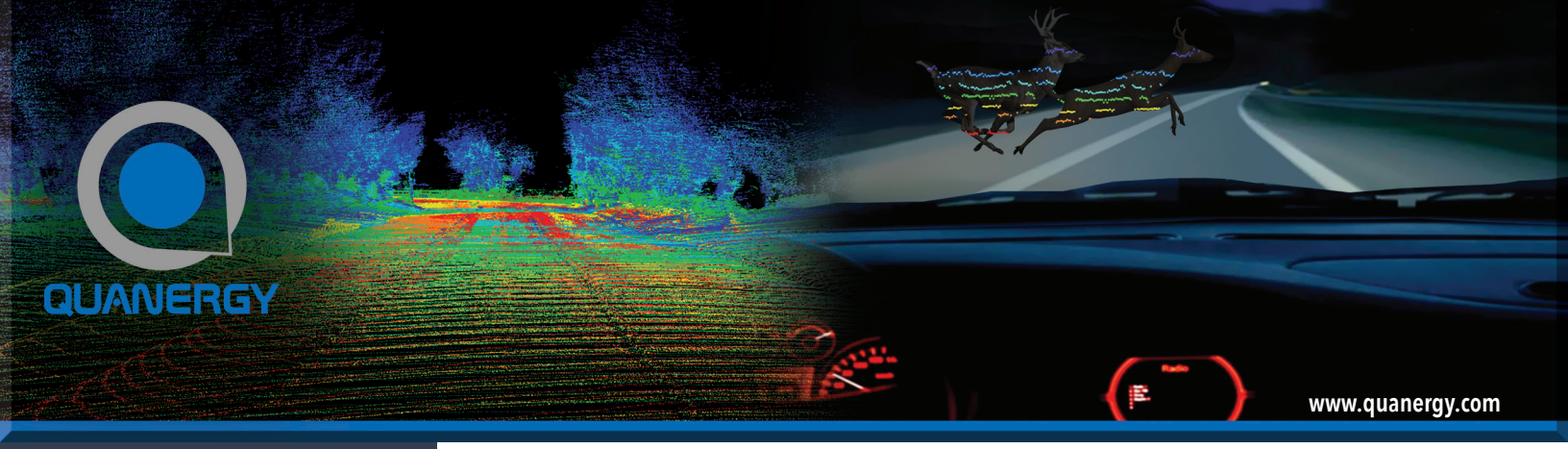



# M8 LIDAR SENSOR

Quanergy's patented M8™ LiDAR sensor is a proven LiDAR powerhouse. This compact and rugged sensor comes at a breakthrough price and was designed to meet the demands of the most challenging real-world applications. Multiple laser beams and Time-of-Flight (TOF) range measurement result in 3D point clouds for spatial sensing. The M8 is the first cost-effective, high-definition TOF LiDAR sensor enabling ubiquitous use of smart sensing in harsh environments. The sensor operates reliably under any lighting condition and works in any weather condition, including dust, mist, rain and snow.

Three models are available in the M8 family of LiDAR sensors to better serve Quanergy's diverse customer base and market applications. Depending on industry and range requirements, choose from the M8-Core, M8-Plus or M8-Ultra.

Additionally, the M8 LiDAR sensor is designed and manufactured under the highest quality and reliability standards, which includes compliance to Quanergy's ISO 9001:2015 certified quality management system. As a result of serving the automotive industry, the M8 was developed from the ground up to be a highly robust and dependable product.


## KEY APPLICATIONS

Quanergy's 3D-sensing M8 LiDAR sensor enables new applications in the security, industrial automation, transportation and mapping markets that have not been commercially feasible due to the high cost of existing LiDAR sensors. Quanergy's smart sensing solutions can be applied to a variety of platforms (e.g., vehicles, robots, production tools, monitoring stations) to enable rapid 3D detection, measurement, tracking, identification and classification of items, as well as triggering actions based on real-time scenario analysis powered by Qortex™, Quanergy's advanced perception software.

- Transportation: Vehicle accidents due to blind spots, poor visibility, changes in traffic flow, and distraction can be virtually eliminated through the use of LiDAR in Advanced Driver Assist Systems (ADAS) and autonomous vehicles (AV).
- Security: Homes, buildings and land can be made more secure and managed intelligently through LiDAR-based surveillance and smart detection.
- Industrial Automation: Factories, warehouses and distribution centers can be run more efficiently and safely.
- Mapping: Highly detailed and accurate 3D maps can be created to improve navigation and survey land via terrestrial and aerial mapping.

## DISRUPTIVE DESIGN

- Low cost
- High performance
  - Long measurement range
  - Fine horizontal resolution
  - Pinpoint accuracy
- Uncompromised reliability and dependability
- Highest quality
- Compact
- Lightweight
- Low power consumption

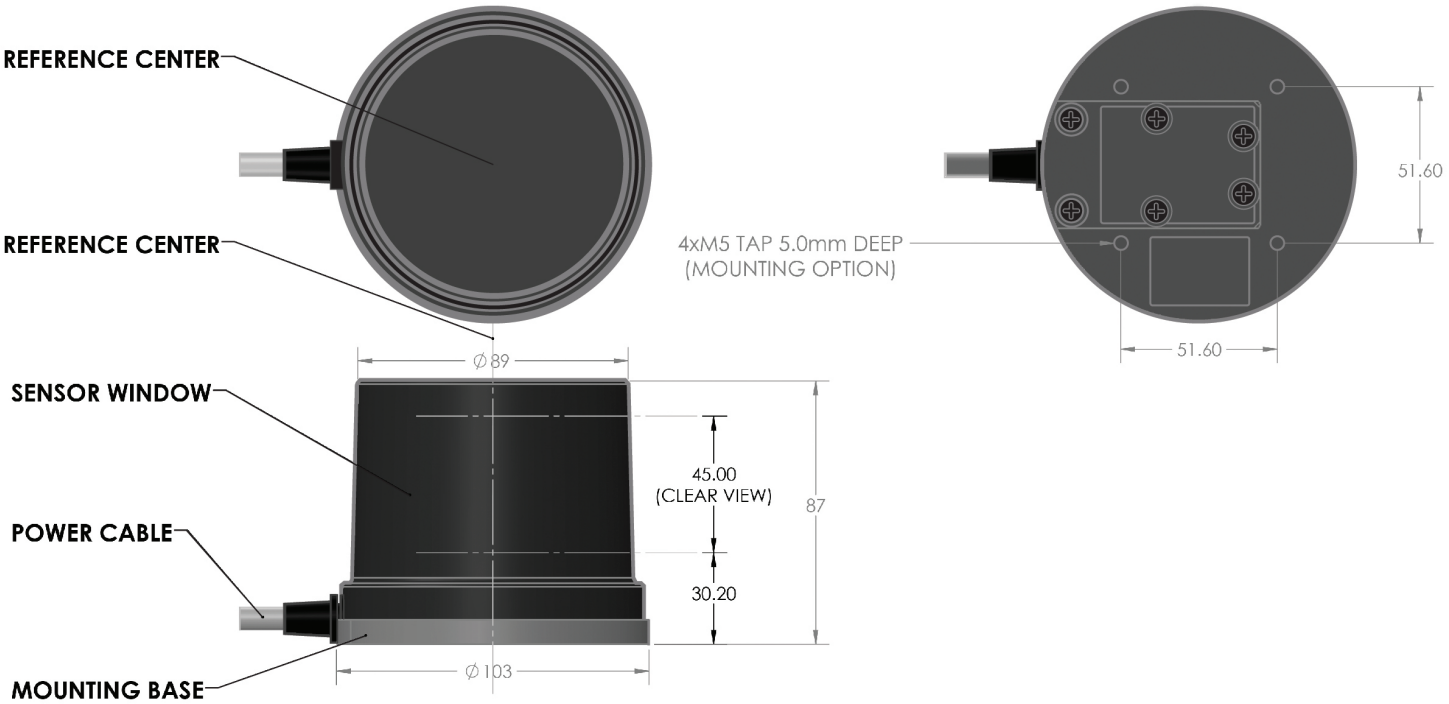
## PRODUCT FEATURES

- 8 detection layers
- Wide Field of View (FOV)
- Day and night vision; no IR heat-signature needed
- Resistance to false returns caused by aerosols (dust, mist, rain, snow)
- PPS input signal to timestamp data and for synchronizing multiple sensors
- Designed to eliminate cross talk from multiple sensors
- Q-View™ Sensor Management and Visualization software support on Linux® and Windows® for easy evaluation
- ROS drivers
- Interoperability with Qortex perception software

# M8 SENSOR SPECIFICATIONS

| PARAMETER | M8-CORE | M8-PLUS | M8-ULTRA |
|---|---|---|---|
| Laser Class | Class I (Eye Safe, IEC 60825-1) | | |
| Wavelength | 905 nm | | |
| Measurement Technique | Time of Flight (TOF) | | |
| Minimum Range | 1 m (80% reflectivity) | | |
| Maximum Range | >100 m (80% reflectivity) | >150 m (80% reflectivity) | >200 m (80% reflectivity) |
| Range Accuracy (1σ at 50 m) | <3 cm | | |
| Frame Rate (Update Frequency) | 5-20 Hz | | |
| Angular Resolution | 0.03–0.2° dependent on frame rate | | |
| Detection Layers | 8 | | |
| Field of View (FOV) | Horizontal: 360°, Vertical: 20° (+3°/–17°) | | |
| Output Connection | 100/1000 Mbps Ethernet | | |
| Data Outputs | Angle, Distance, Intensity, Synchronized Time Stamps | | |
| Returns | 1 | 3 | 3 |
| Output Rate | 420,000 points per second (1 return)<br>1.26M points per second (3 returns) | | |
| Nominal Power | 18 W | | |
| Operating Voltage | 24 VDC +/– 1.2 V | | |
| 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 | 900 g | | |
| Dimensions | 103 mm diameter x 87 mm height | | |
| Shock & Vibration | ETSI EN 300 019-2-5, IEC Class 5M3 | | |
| Environmental Protection | IP69K – rating for ingress protection against dust and water | | |
| Certifications and Compliance | FDA, FCC, CE, RoHS, WEEE, IEC-60079-15, ASTM G154 | | |

*Specifications are subject to change without notice*



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