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## 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 challenging lighting and weather conditions including dust, mist, rain and snow.

Several 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, M8-Ultra or M8-PoE+.

Additionally, the M8 LiDAR sensor is designed and manufactured under the highest quality and reliability standards, which include compliance with 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 (AVs).
- **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
- SKU option for IEEE 802.3at PoE+ support



M8-Core  
M8-Plus  
M8-Ultra

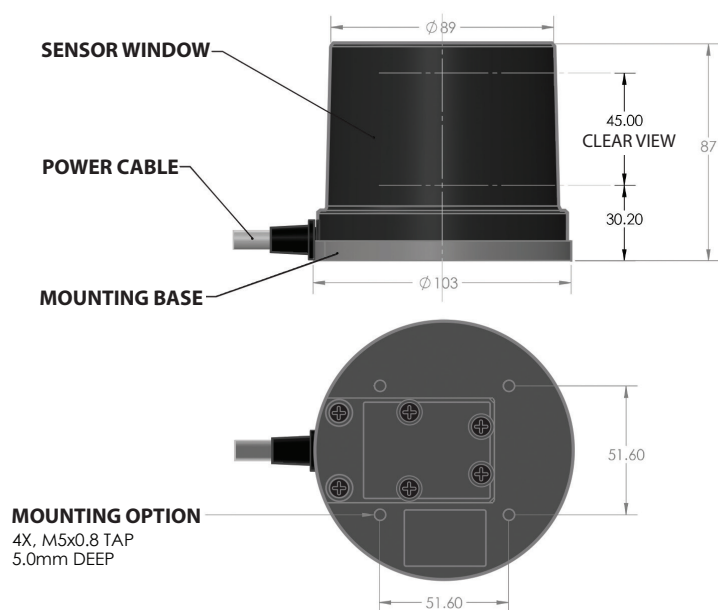
M8-PoE+

# M8 SENSOR SPECIFICATIONS

PARAMETER	M8-CORE	M8-PLUS	M8-ULTRA	M8-PoE+
Laser Class	Class I (Eye Safe, IEC 60825-1)			
Wavelength	905 nm			
Measurement Technique	Time of Flight (TOF)			
Minimum Range	0.5 m (80% reflectivity)			
Maximum Range	>100 m (80% reflectivity)	>150 m (80% reflectivity)	>200 m (80% reflectivity)	>150 m (80% reflectivity)
Range Accuracy (1 $\sigma$ at 50 m)	<3 cm			
Frame Rate (Update Frequency)	5-20 Hz			
Angular Resolution	0.2-0.13° dependent on frame rate			
Detection Layers	8			
Field of View (FOV)	Horizontal: 360°, Vertical: 20° (+3°/-17°)			
Output Connection	M19 Connector – 100/1000 Mbps Ethernet			RJ45 802.3at (PoE+)
Data Outputs	Angle, Distance, Intensity, Synchronized Time Stamps			
Returns	3			
Output Rate	420,000 points per second (1 return) 1.26M points per second (3 returns)			
Nominal Power	17 W			19 W
Operating Voltage	24 VDC +/- 1.2 V			37-57 VDC
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			1360 g
Dimensions	103 mm diameter x 87 mm height			115 mm diameter x 133 mm height
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

## M8 SENSOR



## M8 PoE+ SENSOR

