MQ-8™ Series LiDAR Sensor

HIGH ACCURACY | FINE RESOLUTION | LONG RANGE | HIGH PERFORMANCE

The MQ-8™ Series LiDAR sensor is the next generation of Quanergy's 3D LiDAR sensors and smart perception software solutions. Part of Quanergy's Flow Management™ Platform, the MQ-8 Series meets the unique challenges of flow management applications that require accurate, high-volume people and vehicle tracking in the security, smart city, social distancing, and smart spaces industries.

The MQ-8 Series LiDAR sensor features a smart beam structure of narrowly spaced, asymmetric beams that delivers up to 70m continuous tracking range (140m diameter), enabling up to 15,000 m^2 coverage with a single sensor. The MQ-8 sensor is paired with the powerful QORTEX DTC™ perception software to provide a higher classification accuracy compared to traditional LiDAR systems. In addition, the beam pattern provides 360° scanning with flat mounting to maximize coverage and reduce installation time and costs.

The MQ-8 sensor is paired with the powerful QORTEX DTC™ perception software for sophisticated flow management applications that require accurate tracking of large numbers of people and vehicles in complex environments.

MQ-8-PoE-Plus
MQ-8-PoE-Ultra

Key Features

Industry-Leading Classification Range
With an industry-leading classification range, the MQ-8 can detect, track, and classify over 250 people and vehicles with 10% reflectivity up to a range of 70m (140m diameter) with 95% accuracy. Besides, the sensor features a 360° horizontal field of view for rapid and reliable scanning of large areas.
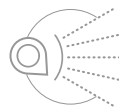
10-20x Lower Cost Than Traditional Camera Systems
A single MQ-8 sensor can cover up to 15,000m² area, up to 100x wider than the equivalent camera-based system. With fewer devices to purchase, install, and maintain, the system provides 10-20X lower cost than traditional camera systems.

Day and Night Vision
The MQ-8 LiDAR sensor is immune to ambient lighting conditions, maintaining high performance even in extremely bright and low light applications.

Angular Resolution
The MQ-8 features an angular resolution of 0.03-0.13° depending on the frame rate to reliably detect objects with pinpoint accuracy.

Automated ID Handover™
The unique QORTEX Automated ID Handover allows continuous tracking of a person or a vehicle throughout the entire systems' field of view, virtually on an unlimited basis. This capability allows for very powerful systems-wide data solutions such as curb to gate application at airport, flow management/footfall analytics in retail, social distancing application in public venue like stadium.

Applications

Security

Smart City

Smart Spaces

Social Distancing

MQ-8-PoE Plus Ultra
SENSOR

Parameter	MQ-8-PoE-Plus	MQ-8-PoE-Ultra
Laser Class	Class I Laser Product (Eye Safe, IEC 60825-1)	
Wavelength	905nm	
Measurement Technique	Time of Flight (TOF)	
Minimum Sensor Range	2m	
Maximum Sensor Range	150m (80% reflectivity) 50m (10% reflectivity)	200m (80% reflectivity) 70m (10% reflectivity)
Range Accuracy (1σ at 50m)	<3cm	
Frame Rate	5–20Hz	
Angular Resolution	0.03°–0.13° dependent on frame rate	
Detection Layers	8	
Field of View (FOV)	Horizontal: 360°, Vertical: 12.4° (−1.6°/−14°)	
Output Connection	RJ45 802.3at (PoE+)	
Data Outputs	Angle, Distance, Intensity, Time Stamps (synchronized to GPS when available)	
Returns	Up to 3	
Output Rate	430,000 points per second (1 return), 1.3M points per second (3 returns)	
Nominal Power	18W	
Operating Voltage	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	1375g	
Dimensions	115mm (D) x 134mm (H)	
Shock & Vibration	ETSI EN 300 019-2-5, IEC Class 5M3	
Environmental Protection	IP67	
Certifications and Compliance	FDA, FCC, CE, RoHS, WEEE	
Warranty	2 Years	

*Specifications are subject to change without notice