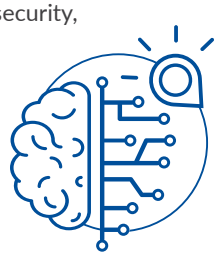



3D LiDAR Flow Management™ Platform

MQ-8™ & QORTEX DTC™ Solution

HIGH ACCURACY | REAL-TIME 3D | PRIVACY PROTECTION | COMPATIBILITY WITH LEADING VMS

The MQ-8/QORTEX DTC Solution is an integrated hardware and software platform that combines Quanergy's MQ-8 LiDAR sensor with QORTEX DTC (Detect, Track, Classify) perception software for reliable, real-time people and vehicle tracking in security, smart city, and smart space applications.



The solution uses 3D perception algorithms to scan the sensor's field of view, analyze point cloud data, and provide anonymized information on detected objects. This enables automated flow management that is both cost-effective and easy to operate. The solution allows users to:

- Identify and classify objects as people or vehicles, as well as types of subvehicles†
- Track individual people and vehicles and provide real-time, centimeter level accurate location information
- Configure rules to trigger point cloud recordings, network actions and/or automatically control PTZ camera movement to follow selected individuals

100x Broader Coverage Area Than Cameras at a Lower TCO (Total Cost of Ownership)

The solution delivers industry-leading range, capable of tracking and classifying people and vehicles at a range of up to 140 meters. Due to its asymmetrical beam design, a single MQ-8 solution can cover up to 15,000 m^2 area—up to 100x broader coverage compared to equivalent camera-based systems. This enables complete coverage of large areas like malls, airports, and parking lots. At a much lower TCO, the MQ-8 provides broader coverage than cameras, utilizing much fewer sensors to help reduce expensive installation, configuration, and cabling.

High Accuracy and Low Rate of False Alarms

QORTEX DTC can provide greater than 95% detection accuracy and 24/7 reliability in all lighting and atmospheric conditions. The accuracy and reliability of QORTEX DTC significantly reduces false alarms, ultimately saving time and costs. Even camera-based security systems can greatly benefit from adding QORTEX DTC for enhanced sensing and perception, lowering the false alarm rate as much as 95%.

Automated ID Handover™

Automated ID Handover (AIDH) allows continuous tracking of an object throughout the entire system by unifying the output from QORTEX DTC™ servers and preserving an object's ID across multiple servers. This capability is extremely powerful in terms of reliably tracking objects within large-scale multi-server, multi-sensor installations such as perimeter intrusion detection at large critical infrastructure facilities, curb to gate applications at airports, business intelligence analytics in retail, and more.

Zero Personal Identifiable Information (PII) Risk

The patent pending QORTEX perception software does not rely on facial recognition technology and does not require capturing or storing any personally identifiable information. As a result, the solution protects individual privacy and poses zero PII risk.

Easy to Manage, Automated Solution

The solution is easy to install, configure, and manage. For example, the solution features autocalibration of LiDAR and PTZ cameras to simplify installation and configuration. A rules engine automates point cloud recordings, PTZ control, and network actions based on real-time events. In addition, QORTEX DTC is integrated with leading VMS platforms to provide a unified security solution and PTZ camera integration.

Product Acceleration with Fast Track Software Bundle

With the QORTEX DTC Fast Track Software bundle, customers can reduce their product time-to-market by focusing their efforts on value-added application-level development. The Fast Track Software bundle includes source code, tools, and business logic to help customers and partners go to market faster. The bundle also includes features like Google Map visualization, sensor coverage, geo-location, port monitoring, and alerts.

Applications

- Perimeter security
- Critical infrastructure

- Traffic intersections & pedestrian crosswalks

- Retail
- Commercial buildings
- Stadiums & public venues
- Airport

- Social distancing

QORTEX DTC™ SPECIFICATIONS

SPECIFICATIONS	QORTEX DTC CLIENT
Application	Visualize and configure QORTEX DTC Server (not required during normal operation)
Operating System	Windows 10 and Ubuntu 18.04
Minimum System Requirements	Intel Core i3 with AVX2, 4 GB RAM, OpenGL-compliant graphics, Gigabit Ethernet
Display Resolution Support	1024x768, 1280x800, 1280x1024, 1366x864, 1440x900, 1600x900, 1920x1080, 2048x1536, 2560x1440, 3840x2160 and 4096x2160

SPECIFICATIONS	QORTEX DTC SERVER
Application	Object detection, tracking and classification for security, smart buildings, smart spaces, and social distancing
Operating System	Ubuntu 18.04
Object Information	Provides an object list with 3D direction and position, speed and classification in Protobuf, JSON or XML format
†Classification Types	Human, Vehicle (Two Wheeler, Passenger and Commercial), Unknown
Continuous Tracking Range (3m mounting height, 10% object refl.)	Ultra: 140m (70m radius range) Plus: 100m (50m radius range)
Maximum Number of Simultaneous Objects	Up to 600 objects depending on hardware processing platform and number of sensors: QPU-L7: 300-400 objects, QSPU: 300-600 objects
Minimum System Requirements	Intel Core i3 with AVX2, 4 GB RAM, Gigabit Ethernet (2 virtual cores + 1 virtual core per sensor) 100 MB storage memory (no recording)
Recording Storage Requirement	150 MB/sensor/min (single return mode)
VMS Compatibility	Genetec GSC (RSA, PFA & TTE), Milestone XProtect®, Mirasys VMS, Surveill Professional
Additional Features	Rules Engine, PTZ Camera control (ONVIF Profile S)**

SPECIFICATIONS	MQ-8-PoE
Laser Class	Class I Laser Product (eye safe, IEC 60825-1)
Wavelength	905nm
Frame Rate	5–20Hz
Field of View (FOV)	Horizontal: 360°, Vertical: 12.43° (-1.6°/–14°)
MTBF	60,000 hours
Ambient Light Immunity	80,000 lux
Output Connection	RJ-45 802.3at (PoE+)
Nominal Power	18W
Input 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 +221°F)
Nominal Weight	1375g
Dimensions	115mm (D) x 134mm (H)
Shock and 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	M SERIES MOUNT
Appearance	Powder coated white
Weight	1.4kg
Dimension	161mm x 161mm x 140mm
Material	Aluminum and steel

*Specifications are subject to change without notice **Contact Quanergy Sales for the supported camera list

433 Lakeside Drive, Sunnyvale, CA 94085, USA | +1 (408) 245-9500 | sales@quanergy.com | quanergy.com

QPN 96-00080 Rev M