Blickfeld QbVolume

Smart 3D LiDAR for accurate and on-demand volume data

QbVolume continuously captures and processes 3D data on-device, providing volume information on various goods and materials.
The integrated, user-friendly software is fully customizable, enabling remote and automated volume monitoring of diverse goods and materials.The sensor also supports measuring silo fill levels and determining pallet's loading volumes. QbVolume offers reliable detection in both indoor and outdoor environments, consistently performing in harsh weather and lighting conditions as well as dusty surroundings.

TECHNICAL DATA

PERFORMANCE

Technology	3-dimensional laser ranging (LiDAR) with edge processing	
Maximum field-of-view a	90° x 50° (horizontal x vertical) a	
Typ. application range b	1 - 100 m	
Coverage a	Installation height, tilt angle 3 m / 9.8 ft, 30° 5 m / 16.4 ft, 30° 10 m / 32.8 ft, 35° 15 m / 49.2 ft, 40° 20 m / 65.6 ft, 40°	Coverage (width x depth) 15 x 12 m / 49.2 x 39.4 ft 28 x 22 m / 91.9 x 72.2 ft 35 x 28 m / 115 x 91.9 ft 41 m x 28 m / 135 x 91.9 ft 56 m x 45 m / 184 x 148 ft
Typical range precision (1 sigma)	< +-2 cm	
Frame rate	1 – 50 Hz depending on configured scan pattern	
Number of returns	3	
Vertical resolution	2 – 400 scan lines per frame c (user-configurable)	
Horizontal resolution	0.25°, 0.5°, 0.75° (user-configurable)	

LASER

Laser class	Class 1, eye-safe (IEC 60825-1:2014)
Laser wavelength	Infrared, 905 nm
Laser beam divergence	0.25° x 0.25°

ON-DEVICE SOFTWARE AND OUTPUT DATA

Integrated web interface	Interactive 3D LiDAR point cloud visualization, device configuration and setup, output specification, data recording d
Central processing unit	Broadcom Quad-core (ARM v8) 64-bit, 1.5 GHz
Zone management	Volume zone configuration, material shape configuration, volume measurement, object detection, exclusion of areas from analysis
Dashboard (optional)	Volume data (real-time and historic), multiple zones and sites, mass calculation via pre-defined density value, alarm generation for volume limits
Integrated inertial measurement unit (IMU)	TDK InvenSense ICM-20600
LiDAR data and IMU	Available via API

OPERATIONAL

Dimensions (H x W x D) e	Ca. 75 mm x 111 mm x 83 mm
Weight e	Ca. 535 g
Voltage input	Power over Ethernet (PoE), IEEE 802.3at Type 1
Ingress protection f	IP67 (IEC 60529)
Operating ambient temperature	-30 °C ... +60 °C
Storage temperature	-30 °C ... +60 °C
Conformity marks / compliance	CE, UKCA, REACH, FDA, FCC, SRRC TAA-compliant product variants available upon request

Blickfeld
LiDAR / scan your world

Blickfeld GmbH / Barthstr. 14 / 80339 Munich
Europe: +49 89 230 69 35 - 00 / USA: +1 855 335 4327
info@blickfeld.com / www.blickfeld.com

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INTERFACES	
LAN connection	Ethernet 1000 Base-T (1 Gbit/s)
WiFi connectivity	2.4 GHz: IEEE 802.11b/g/n, antenna included
Ethernet connector	M12x1 Industrial Ethernet connector, 8-pole, X-coded (EN 61076-2-109), IP67 g
Security	User & API-key authentication (multiple access levels, read-only access), 802.1X & WPA2 (EAP)
Protocols	ARP, ICMP, DHCP, DNS, TLS, 802.1X, UDP, NTP, IPv4, IPv6, TCP/IP, HTTP, HTTPS, gRPC, MQTT h

ACCESSORIES	
Antenna	Matching WiFi antenna (included). WiFi operation only permitted with Blickfeld-authorized antenna.
Cable	Matching Ethernet cable, length: 3 / 7 / 10 m. M12x1 Industrial Ethernet connector to RJ45, straight, Cat. 6a, X-coded, 8-pole, UV-resistant, halogen-free, PUR jacket
Mounting	Pan-tilt mounting bracket, weather protection roof
Add-on	Weather protection roof

a non-rectangular field-of-view

b Range performance depends on many factors including but not limited to object reflectivity, orientation, surface texture, ambient light level, and ambient temperature. Reduced accuracy and resolution in small areas of the field of view in close distance to the sensor.

c Less than 35 scan lines requires reduced field-of-view

d On request: Customized on-device dashboard

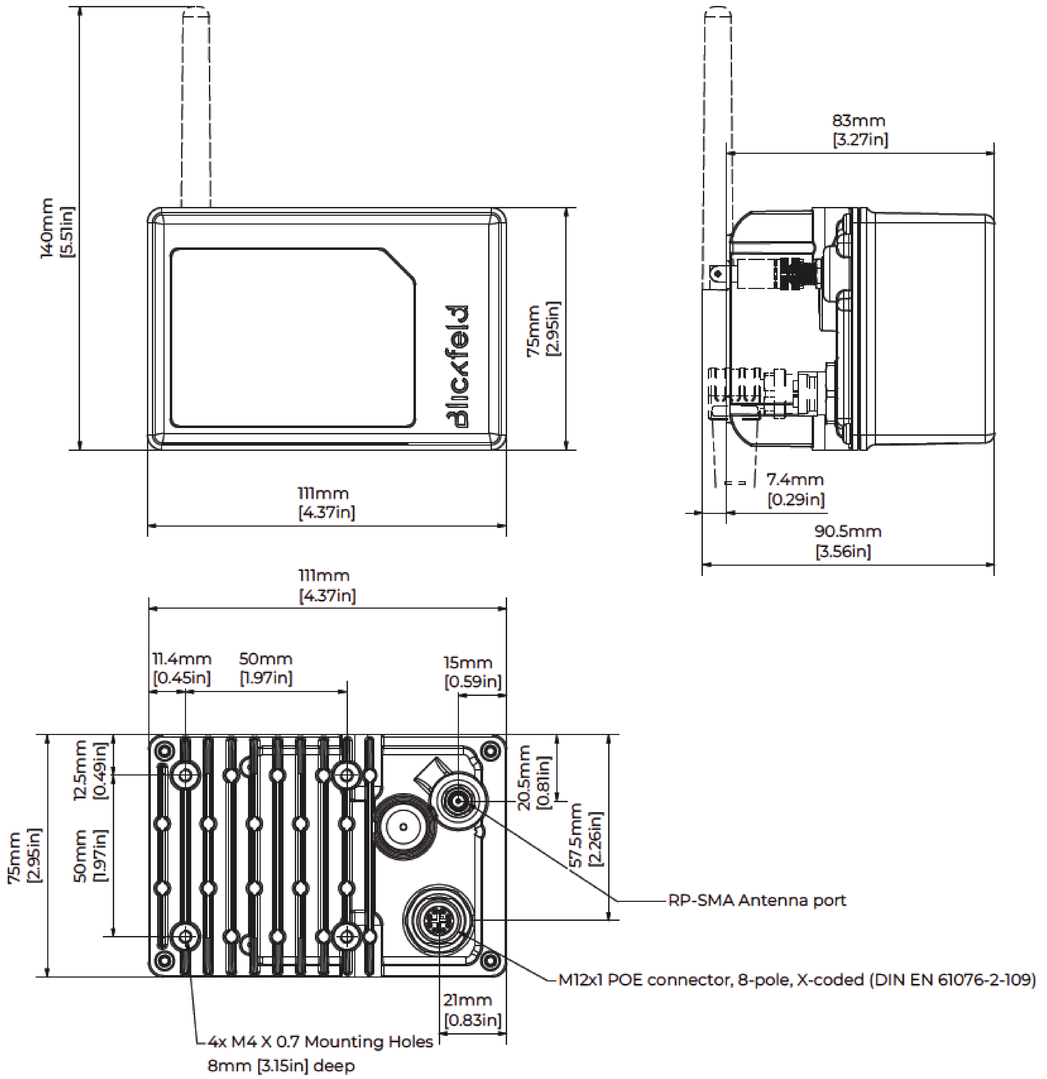
e without antenna or cables attached

f with antenna and Ethernet cable attached or with protective caps attached

g IP67 with cable and protective cap attached

h On request: OPC-UA, Modbus TCP, Profinet, REST-API

DIMENSIONS



values in brackets are calculated and may contain round-off errors

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