Blickfeld Qb2

Smart 3D LiDAR with on-device processing for intelligent and customizable sensing solutions

Qb2 is an integrated smart LiDAR that allows capturing and processing of 3D data on a single device. By incorporating Blickfeld's cutting-edge technologies and research, customers benefit from an intuitive and cost-effective system while drastically simplifying installation and operation in various use cases.

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
Central processing unit	Broadcom Quad-core (ARM v8) 64-bit, 1.5 GHz
Perception software	Object detection and tracking, 3D zones for occupancy detection, volume monitoring, traffic monitoring, intrusion detection, and exclusion
Blickfeld Flow	Low-code programming interface based on Node-RED
Integrated inertial measurement unit (IMU)	TDK InvenSense ICM-20600
LiDAR data	Cartesian coordinates and Intensity per return, timestamp per acquisition
IMU data	3 axis accelerometer

OPERATIONAL	
Dimensions (H x W x D) d	Ca. 75 mm x 111 mm x 83 mm
Weight d	Ca. 535 g
Voltage input	Power over Ethernet (PoE), IEEE 802.3af / 802.3at Type 1 Typ. 10 W, max. 12.95 W
Ingress protection e	IP67 (IEC 60529)
Operating ambient temperature f	-30 °C ... +60 °C
Storage temperature	-40 °C ... +60 °C
Conformity marks / compliance	CE, UKCA, REACH, FDA, FCC, SRRC TAA-compliant product variants available upon request

Blickfeld
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INTERFACES	
LAN connection	Ethernet 1000 Base-T (1 Gbit/s)
WiFi connectivity	2.4 GHz: IEEE 802.11b/g/n
Ethernet connector	M12x1 Industrial Ethernet connector, 8-pole, X-coded (EN 61076-2-109), IP67 g
Mounting	Back side: 4x M4 tapped holes
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

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

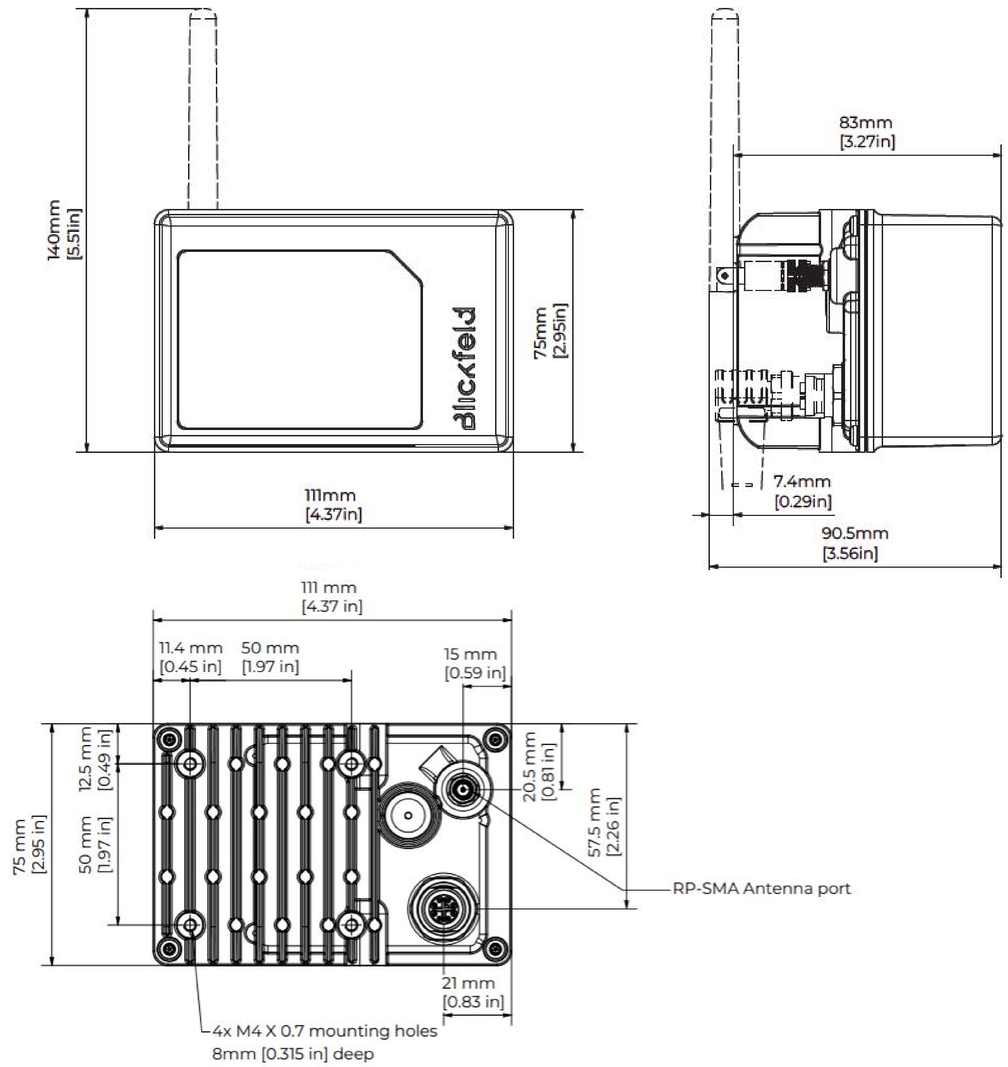
d Without antenna or Ethernet cable attached, without connectors

e With antenna and Ethernet cable attached or with protective caps attached

f Continuous operation between -37°C and 60°C. Increased start-up time (max. 30 min) for temperatures below -30°C

g IP67 with Ethernet cable and protective cap attached

DIMENSIONS



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

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