

Blickfeld QbProtect



QbProtect – The Smart 3D Security LiDAR by Blickfeld provides advanced physical security thanks to innovative on-device processing of 3D data. With accurate 3D point cloud data, it ensures reliable threat detection, minimizing false alarms and enabling a dependable response to actual security incidents. The system features real-time object detection through on-device processing, seamless integration with industry-standard interfaces, and object-size based threat assessment. Built-in tampering and malfunction detection ensure system reliability, and rule-based alarm generation allows for a prompt response. The LiDAR system, based on Qb2 hardware, boasts a solid-state design, IP67-rated housing for durability in both indoor and outdoor applications.

TECHNICAL DATA

Technology	3-dimensional Laser Ranging (LiDAR) with edge processing
Maximum field-of-view	90° x 50° (Horizontal x vertical) a
Maximum number of scan lines	1200, configurable
Laser class	Class 1, eye-safe (IEC 60825-1:2014)
Laser wavelength	Infrared, 905 nm
Laser beam divergence	0.25° x 0.25°
Multiple returns	up to 3, configurable (highest, nearest, farrest)

Range b	Foveated area	Non-foveated area
Description	Range performance of up to 80m under typical conditions by focusing on a defined area of interest with a denser scan pattern; ideal for applications like securing fences, facades or larger areas.	Range performance of up to 60m under typical conditions with a uniform scan pattern across the entire field of view; suitable for gates, entrances or similar applications with homogeneous coverage.
Human (150 x 50 cm)	80m	60m
Frame rate	1 - 50 Hz depending on configured scan pattern	
Point spacing	0.25° ; 0.5° ; 0.75°	
Scan pattern	High Density Pattern with ROI c	High Density Pattern
	304 scan lines	240 scan lines
Mounting height	3 – 8 m	0.5 – 25 m
	recommended mount see accessories	recommended mount see accessories

EMBEDDED SOFTWARE

Integrated web interface	Interactive 3D LiDAR point cloud visualization, Device configuration / setup, Zone placement and configuration, Alarm logic definition, Interface / output specification
Alarm types	Pre-Alarms, Intrusion detection, Sabotage / Tampering, Malfunction detection
Alarm parameters	Object Size (small, human, big) Direction Number of objects Alarm duration Alarm logic (AND/OR/NOT)
Central Processing Unit	Broadcom Quad-core (ARM v8) 64-bit, 1.5 GHz
Integrated Inertial Measuring Unit (IMU)	TDK InvenSense ICM-20600
Output interfaces	MQTT; TCP
LiDAR data and IMU	available via API

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 802.3at Type 1
Power consumption	Typ. 10 W; max. 13 W
Ingress Protection	IP67 ^e (IEC 60529)
Operating ambient temperature	-30 °C ... +60 °C
Storage temperature	-30 °C ... +60 °C

INTERFACES

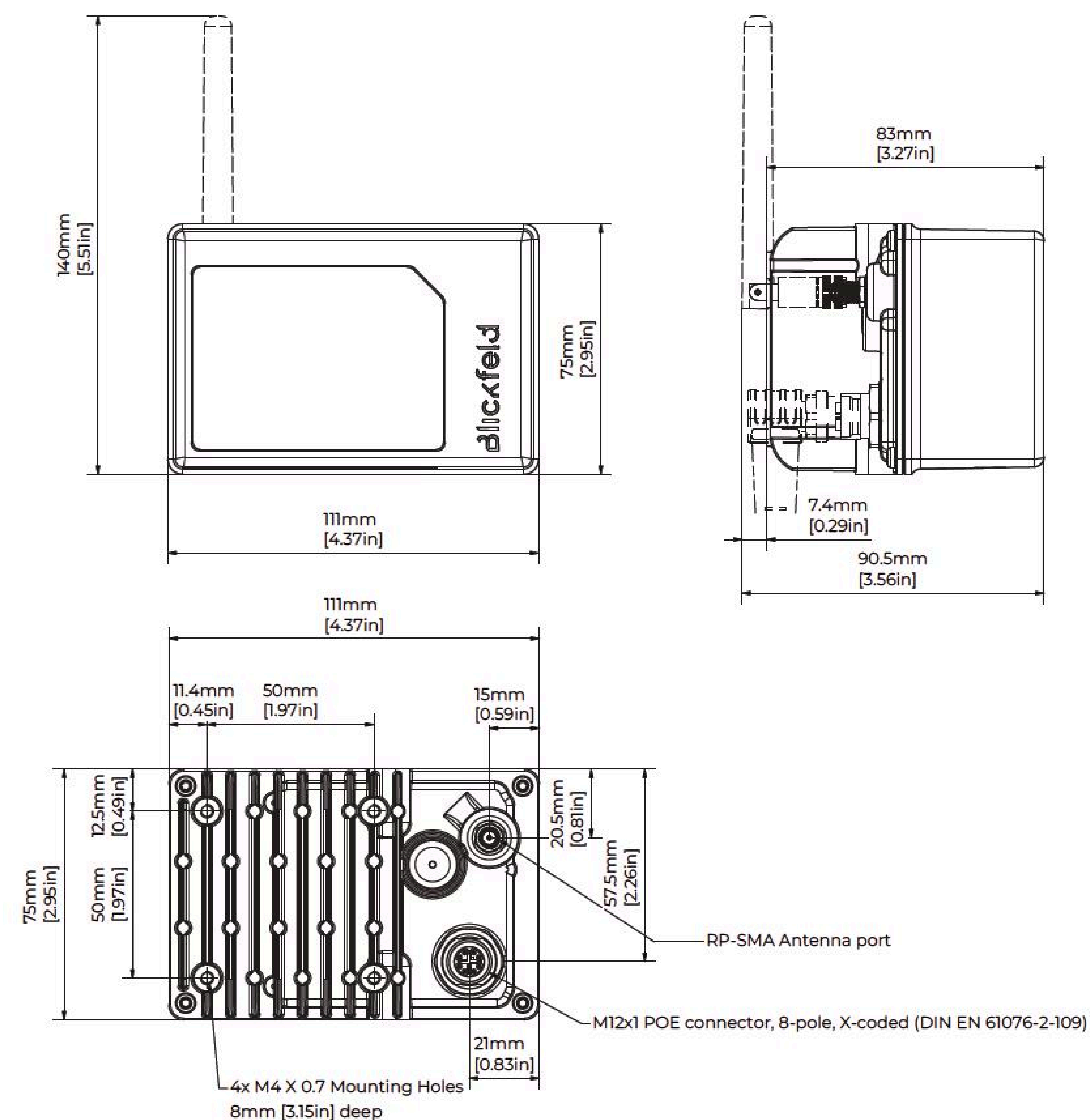
LAN connection	Ethernet 1000 Base-T (1 Gbit/s)
Ethernet connector	M12x1 Industrial Ethernet connector, 8-pole, X-coded (EN 61076-2-109); IP67 ^f

OPTIONS & ACCESSORIES

Cable	Matching Ethernet Cable, Length: 3 m. Technical Specifications: M12x1 Industrial Ethernet Connector to RJ45, straight, Cat. 6a, X-coded, 8-pole, UV-resistant, Halogen-free, PUR jacket
WiFi connectivity	2.4 GHz: IEEE 802.11b/g/n 5 GHz: IEEE 802.11n/ac Matching WiFi antenna. WiFi operation only permitted with Blickfeld-authorized antenna.
Mounting options	Dual sensor mount; Weather protection roof; Pan-tilt mounting bracket

- 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. Stated numbers measured at 25%.
- c configured with 3x density for 8° ROI (region of interest)
- d without cables or antenna attached
- e with antenna and Ethernet cable attached or with protective caps attached
- f IP67 with cable and protective cap attached

DIMENSIONS



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