FIPS-Validated Bullet Cameras

Impeccable Detail at Distance and in Any Conditions

Overview

Verkada's Bullet Series is designed to withstand harsh conditions and its visible form factor helps deter potential threats. There are two FIPS-validated CB52 models: the CB52-E-F, which has a wide-angle field of view and the CB52-TE-F, which has a powerful zoom. Additionally, the cameras feature powerful long-range IR LEDs that enable them to produce clear images even at a distance of up to 50 meters at anytime, including in low-light conditions.

Bullet cameras are designed for use in exposed outdoor environments. They are constructed with a robust aluminum unibody that encloses hermetically sealed internal electrical components. The camera's design includes a built-in pigtail connector that allows for easy insertion of an PoE cable without needing to remove the outer body. The external housing offers IP67 protection against dust and heavy rain and IK10 protection against damage from hail and flying debris.

All 2nd generation bullet cameras are outfitted with a cutting-edge system on a chip (SOC) which features a dedicated computer vision co-processor. Powered by Ambarella CV25 chipsets, these cameras can accurately capture license plates from vehicles traveling at speeds of up to 80mph / 128kph and do so simultaneously across three lanes. The Bullet Series is the single line of Verkada cameras that supports our License Plate Recognition feature, enabling users to capture and search for specific vehicles by their license plate numbers.

In addition, the Bullet Series has powerful edge processing capabilities that enable advanced computer vision features, including Verkada's People and Vehicle Analytics. The CB52-E-F and the CB52-TE-F also offer capabilities such as FIPS data encryption, onboard storage and motion detection, which help organizations rapidly scale their security coverage and enhance situational awareness across multiple locations.

Key features

Enterprise-grade performance

- High-resolution sensors up to 5MP
- License Plate Recognition available only on CB52-TE-F and CB62-TE-F models
- Advanced edge processing for motion, people and vehicle analytics

Certifications

- IP67 weather rating
- IK10 impact rating

Storage and processing

- 256GB–2TB of onboard storage
- Up to 365 days of retention in standard quality
- Low-bandwidth impact, only using 20–50 kbps per camera at rest

Government-grade security

- Meets the FIPS 140-2 standard, as validated by NIST
- Designated FedRAMP Moderate Ready by the Federal Risk and Authorization Management Program (FedRAMP®)
- TAA and FY2019 NDAA compliant

FIPS Bullet Series
Tech Specs

CB52-E-F

Camera features

Image Sensor	1 / 2.8" Progressive CMOS	Shutter Speed	1 / 30 sec. to 1 / 10,000 sec.
Sensor Resolution[1]	5MP (2688 x 1944)	Day/Night	IR-cut filter for day and night function
Lens Type	Varifocal; motorized zoom	IR Cut Filter	Yes
Focal Length	2.8mm–8mm	IR Range	30m / 98ft
Aperture	F1.3–F2.4	Minimum Illumination	0.009 lux @ F1.9 (Color) 0 lux with IR Illuminators on
Iris	P–Iris	Onboard Storage	Capacity: From 256GB to 2TB Card: MicroSD, SDXC
Field of View (after LDC[2])	Horizontal: 41° – 99° (39° – 95°) Vertical: 30° – 74° (30° – 74°) Diagonal: 50° – 125° (48° – 110°)	CPU	Ambarella CV25S88
Camera Movement	Tilt: 0° to 90° Pan: 360° Rotation: 360°		

Standard video settings

Compression	H.265, H.264	Historical Video Settings	Adaptive quality[1]
Frame Rate[3]	24fps	Live Streaming Settings	High quality (HQ): Up to 3,000 Kbps (default) Standard quality (SQ): Up to 600 Kbps

Standard audio settings

Audio	Not supported

Power and network

Power Input[4]	With IR: IEEE 802.3at Type 2 PoE+ Without IR: IEEE 802.3af Type 1 PoE Extended temperature range: IEEE 802.3at Type 2 PoE+	Connectivity	RJ-45 cable connector for network/PoE connection; 10/100 Mbps
Power Consumption[4]	With IR: 37-57V, 0.38-0.25A, 14W Without IR: 37-57V, 0.09-0.06A, 3.46W Extended temperature range: 37-57V, 0.61-0.37A, 22.57W	RTSP	RTSP 1.0 RFC 2326 Max concurrent streams: 2 Audio support: No

1. All our cameras record in "adaptive quality," capturing both standard (SQ) and high quality (HQ) streams. SQ video is stored up to the amount of retention specified by the customer. The amount of HQ video stored on the camera will depend on the amount of motion detected by the camera over time. To learn more, visit our website: https://docs.verkada.com/docs/adaptive-quality-recording-whitepaper.pdf
2. Lens Distortion Correction (LDC) crops the sensor field of view to deliver a rectified, undistorted output image.
3. Frame rate can be adjusted by support.
4. Extended temperature range includes operating temperatures below -8.5°C / 16.7°F and assumes IR will be enabled.

FIPS Bullet Series
Tech Specs

CB52-E-F

General

Operating Temperature	-40°C to 50°C / -40°F to 122°F	**LED Indicator**	System power and status indicator
Humidity	0 to 90%	**Warranty**	10 Years
Certifications	FCC, ICES, CE, UKCA, RCM, VCCI, BIS UL/IEC62368-1, IP67 weather rating, IK10 impact rating, FIPS 140-2 validated, TAA and FY 2019 NDAA compliant	**Included Accessories**	4x M4x8 screws, 4x TP4x30 mount screws, mount plate, junction box adapter, junction box cover, T25 hand tool

Mechanical

Weight	Camera: 1464g / 51.6oz Mount plate: 33g / 1.16oz	**Body**	Aluminum
Dimensions	Ø: 85mm / 3.35in L: 254mm / 10in		

Software capabilities

Alerts	Camera status, motion detection, people detection, vehicle detection, Person of Interest detection, crowd detection, line-crossing detection, loitering detection	**Streaming and Storage**	Cloud backup, configurable retention days, selectable storage location, low bandwidth mode, timelapse, RTSP
People Analytics	People search, attribute search, face search, Occupancy Trends, motion search, trajectory analysis, selective face blurring, AI-powered search	**Sharing and Privacy**	Live Links, live face blur, privacy regions, audit log
Vehicle Analytics	Vehicle search, attribute search, motion search, trajectory analysis, Occupancy Trends, AI-powered search	**License Plate Recognition**	License Plate of Interest alerts, license plate indexing

FIPS Bullet Series
Tech Specs

CB52-TE-F

Camera features

Image Sensor	1 / 2.8" Progressive CMOS	**Shutter Speed**	1 / 30 sec. to 1 / 10,000 sec.
Sensor Resolution[1]	5MP (2688 x 1944)	**Day/Night**	IR-cut filter for day and night function
Lens Type	Varifocal; motorized zoom	**IR Cut Filter**	Yes
Focal Length	8mm–20mm	**IR Range**	50m / 164ft
Aperture	F1.5–F2.8	**Minimum Illumination**	0.009 lux @ F1.9 (Color) 0 lux with IR Illuminators on
Iris	P–Iris	**Onboard Storage**	Capacity: From 256GB to 2TB Card: MicroSD, SDXC
Field of View (after LDC[2])	Horizontal: 16° – 38° (16° – 37°) Vertical: 12° – 28° (12° – 27°) Diagonal: 19° – 48° (19° – 44°)	**CPU**	Ambarella CV25S88
Camera Movement	Tilt: 0° to 90° Pan: 360° Rotation: 360°		

Standard video settings

Compression	H.265, H.264	**Historical Video Settings**	Adaptive quality[1]
Frame Rate[3]	24fps	**Live Streaming Settings**	High quality (HQ): Up to 3,000 Kbps (default) Standard quality (SQ): Up to 600 Kbps

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FIPS Bullet Series
Tech Specs

CB52-TE-F

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Humidity	0 to 90%	**Warranty**	10 Years
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Weight	Camera: 1478g / 52.1oz Mount plate: 33g / 1.16oz	**Body**	Aluminum
Dimensions	Ø: 85mm / 3.35in L: 254mm / 10in		

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Ordering Information

FIPS Bullet Series pricing

Model Number	MP[1]	WDR	Lens	IR Range	Onboard Storage	Maximum SQ Onboard Retention[1]	People/ Vehicle Analytics	Cost (MSRP) USD
CB52-256E-HW-F	5.0MP	✓	Zoom	30m / 98ft	256GB	30 Days	✓	$1,599
CB52-512E-HW-F	5.0MP	✓	Zoom	30m / 98ft	512GB	60 Days	✓	$1,999
CB52-768E-HW-F	5.0MP	✓	Zoom	30m / 98ft	768GB	90 Days	✓	$2,399
CB52-2TBE-HW-F	5.0MP	✓	Zoom	30m / 98ft	2TB	365 Days	✓	$4,099
CB52-256TE-HW-F	5.0MP	✓	Zoom	50m / 164ft	256GB	30 Days	✓	$1,699
CB52-512TE-HW-F	5.0MP	✓	Zoom	50m / 164ft	512GB	60 Days	✓	$2,099
CB52-768TE-HW-F	5.0MP	✓	Zoom	50m / 164ft	768GB	90 Days	✓	$2,499
CB52-2TBTE-HW-F	5.0MP	✓	Zoom	50m / 164ft	2TB	365 Days	✓	$4,199

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Ordering Information

Video Security Cloud License pricing

Model Number	Description	Cost (MSRP) USD
LIC-CAM-1Y	1–Year Camera License	$199
LIC-CAM-1Y	3–Year Camera License	$549
LIC-CAM-5Y	5–Year Camera License	$899
LIC-CAM-10Y	10–Year Camera License	$1,799
LIC-CAM-1Y-G	1-Year Camera License for Government	$299
LIC-CAM-3Y-G	3-Year Camera License for Government	$799
LIC-CAM-5Y-G	5-Year Camera License for Government	$1,349
LIC-CAM-10Y-G	10-Year Camera License for Government	$2,699

Accessories pricing

ACC-MNT-9	Pole Mount, 2nd Generation	$209
ACC-MNT-10	Corner Mount	$199
ACC-MNT-SJBOX-1	Square Junction Box Mount	$89
INJ-POE-PLUS	PoE Plus (802.3at) Injector, GigE	$129

Viewing Station pricing

VX52-HW	VX52 Viewing Station	$499
LIC-VX-1Y	1–Year Viewing Station License	$499
LIC-VX-3Y	3–Year Viewing Station License	$1,299
LIC-VX-5Y	5–Year Viewing Station License	$1,999
LIC-VX-10Y	10–Year Viewing Station License	$3,999