H6A and H6X Bullet Cameras

Flexibility And Compliance At Your Fingertips



Compliant with NDAA 2019 Section 889

The Avigilon **H6A camera line** elevates your situational awareness to new heights by combining onboard video analytics with audio analytics. It comes with a built-in mic to alert you of auditory disturbances, allowing you to not only see, but also hear what's happening. If you need to meet certain privacy and/or cybersecurity requirements, the AI-powered **H6X camera line** has been designed with no built-in mic nor wireless technology for easy compliance. See farther distances and secure more ground with the **short and long bullet** form factor that's available on both camera lines.

Secure & Compliant

Trust that your data is well-protected with advanced cybersecurity features such as an onboard FIPS 140-3 level 3 compliant TPM and Secure Boot.

Audio Analytics & Recording

Expand your awareness with alerts for gunshots[1], breaking glass, screaming and more. Review video from the triggering camera to investigate the sound. Have the option to record audio when you need it.

Dynamic Privacy Masking

Easily meet privacy requirements with the ability to track and blur people and vehicles appearing in video, but have the flexibility for authorized personnel to lift it during investigations.

[1]Separate license required.

Outdoor Ready Design

Safeguard the outdoors with the bullet's exceptionally tough exterior that is rated IK10/11, IP66/67/68 and NEMA Type 4X[2] to withstand impact, water, corrosion and more.

Low-Light Clarity

Never miss a moment in low-light or completely dark conditions with IR illumination built into the bullet camera. Achieve 24/7 visibility of your site at all times.

[2]Separate license required.

For more information, visit avigilon.com/security-cameras/h6a-dome or avigilon.com/security-cameras/h6x-dome.

Specifications

Image Performance		2.0 MP	4.0 MP	6.0 MP	8.0 MP (4K Ultra HD)
Image Sensor		1/2.8” progressive scan CMOS	1/1.8” progressive scan CMOS		
Max Resolution (H x V) and Aspect Ratio	Primary	(16:9) 1920 x 1080	(16:9) 2688 x 1520, 2560 x 1440, 1920 x 1080 (4:3) 1984 x 1488	(16:9) 3328 x 1872, 3200 x 1800, 2688 x 1520, 2560 x 1440, 1920 x 1080 (4:3) 2880 x 2160, 2304 x 1728, 2048 x 1536	(16:9) 3840 x 2160, 3328 x 1872, 3200 x 1800, 3072 x 1728 (4:3) 2880 x 2160, 2560 x 1920
	Secondary	(16:9) 1920 x 1080*, 1280 x 720, 768 x 432, 640 x 360, 512 x 288	(16:9) 2688 x 1520*, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288 (4:3) 1984 x 1488*, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384, 384 x 288;	(16:9) 3328 x 1872*, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288 (4:3) 2880 x 2160*, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384, 384 x 288	(16:9) 3840 x 2160*, 2560 x 1440, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288 (4:3) 2880 x 2160*, 2560 x 1920, 2304 x 1728, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384
	Tertiary	(16:9) 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216	(16:9) 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216 (4:3) 1280 x 960, 800 x 600, 640 x 480, 512 x 384, 368 x 264	(16:9) 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216 (4:3) 1280 x 960, 768 x 576, 640 x 480, 512 x 384, 384 x 288, 368 x 264	(16:9) 1920 x 1080 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216 (4:3) 1920 x 1440, 1600 x 1200, 1280 x 960, 800 x 600, 640 x 480, 512 x 384, 384 x 288, 368 x 264
Dynamic Range	WDR Off	Up to 83 dB			
	WDR On (IEC 62676)	Up to 126 dB (dual exposure, 30 fps) Up to 144 dB (triple exposure, 20 fps or less)	Up to 106dB (dual exposure, 30 fps) Up to 136dB (triple exposure, 20 fps or less)	Up to 130dB (dual exposure, 30 fps)	
	WDR On	Up to 130 dB (dual exposure, 30 fps) Up to 150 dB (triple exposure, 20 fps or less)	Up to 120dB (dual exposure, 30 fps) Up to 144dB (triple exposure, 20 fps or less)	Up to 144 dB (dual exposure, 20 fps or less)	
Max Image Rate[1]		(50 Hz/60 Hz): 50 fps/60 fps in High Frame Rate Mode[2], otherwise 25 fps/30 fps		(50 Hz/60 Hz): 25 fps/30 fps	
Bandwidth Management		HDSM SmartCodec technology; Idle scene mode			
Signal-to-Noise Ratio(SNR)		> 50 dB			

*Only available at half frame rate of the primary stream.

[1] Max Frame Rate of 15 fps when classified object privacy masking is enabled.

[2] Max Frame Rate of 60 fps is only achievable with High Frame Rate mode enabled. High Frame Rate mode will disable analytics.

Lens and IR Illumination	Short Bullet		Long Bullet[4]	
	2.8 - 12 mm	4.4 - 9.3 mm	4.5 - 148.5 mm	6.9 - 214.6 mm
IR Illumination Max Distance[3] (high power 850 nm LEDs)	50 m (164 ft), full tele 30 m (98 ft), full wide	70 m (229 ft), full tele 40 m (131 ft), full wide	170m (558 ft), full tele	

Lens and IR Illumination		Short Bullet		Long Bullet[4]	
		2.8 - 12 mm	4.4 - 9.3 mm	4.5 - 148.5 mm	6.9 - 214.6 mm
				40m (131ft), full wide	
Minimum Illumination	2 MP	With IR: 0 lux in monochrome mode Without IR: 0.003 lux in monochrome mode; 0.01 in color mode	N/A	With IR: 0 lux in monochrome mode Without IR: 0.004 lux in monochrome mode; 0.01 lux in color mode	
	4 MP	N/A	With IR: 0 lux in monochrome mode Without IR: 0.003 lux in monochrome mode; 0.008 lux in color mode	With IR: 0 lux in monochrome mode Without IR: 0.004 lux in monochrome mode; 0.01 lux in color mode	
	6 MP & 8 MP	N/A	With IR: 0 lux in monochrome mode Without IR: 0.006 lux in monochrome mode; 0.02 lux in color mode	With IR: 0 lux in monochrome mode Without IR: 0.008 lux in monochrome mode; 0.03 lux in color mode	
Horizontal Angle of View Based on Aspect Ratio	2 MP	(16:9) 27° – 118°	N/A	(16:9) 2.3° – 59.8°	
	4 MP	N/A	(16:9) 47° – 111° (4:3) 35° – 78°	(16:9) 2.9° – 62.5° (4:3) 2.2° – 47°	
	6 MP & 8 MP	N/A	(16:9) 47° – 109° (4:3) 35° – 78°	(16:9) 2.9° – 62.5° (4:3) 2.2° – 48°	
Vertical Angle of View Based on Aspect Ratio	2 MP	(16:9) 15° – 64°	N/A	(16:9) 1.3° – 37°	
	4 MP	N/A	(16:9) 26° – 57° (4:3) 26° – 57°	(16:9) 1.6° – 36° (4:3) 1.6° – 36°	
	6 MP & 8 MP	N/A	(16:9) 26° – 57° (4:3) 26° – 57°	(16:9) 1.6° – 36° (4:3) 1.6° – 36°	
Max Aperture		F1.4	F1.3	F1.65	
Control		Remote Zoom and Focus, Autofocus, IR Cut Filter			

[3] IR illumination power may be reduced at higher operating temperatures.

[4] Minimum Illumination with IR was measured at F/1.4.

Image Control	
Image Compression Method	H.264 HDSM SmartCodec, H.265 HDSM SmartCodec, Motion JPEG
Streaming	Multi-stream H.264, Multi-stream H.265, Motion JPEG
Motion Detection	Pixel motion: Selectable sensitivity and threshold. Classified object detection
Camera Tamper Detection	Yes
Electronic Shutter Control	Automatic, Manual (1/7.5 to 1/15000 sec)
Iris Control	Automatic, Open, Closed, P-iris
Day/Night Control	Automatic, Manual, External

Image Control	
Flicker Control	60 Hz, 50 Hz
White Balance	Automatic, Manual
Backlight Compensation	Adjustable
Image Rotation	0°, 90°, 180°, 270° including Corridor Mode
Privacy Zones	Up to 64 zones
Electronic Image Stabilization	Yes
Digital Defog	Adjustable/Off
Network	
Network	100BASE-TX for H6A, 1000BASE-T for H6X
Cabling	CAT5e or higher
Connector	RJ-45
ONVIF	ONVIF® compliance Profile S, Profile T, Profile M and Profile G (www.onvif.org)
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication, CC EAL6+, FIPS 140-2 L1 (with optional camera license), onboard FIPS 140-3 L3 certified TPM, Secure Boot, Signed and encrypted firmware
Protocols	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMPv3, ICMP, DHCP, Zeroconf, HSTS, QoS, DSCP, FTP, MQTT
Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP
Device Management Protocols	SNMP v2c, SNMP v3
Peripherals	
USB Port	USB 2.0
Onboard Storage[5]	Two microSD/microSDHC/microSDXC slots – video speed class card required. Class V10 or better recommended.

[5] Tested maximum capacity is 1.5TB.

Auxiliary I/O		
Audio Compression Method	G.711 PCM 8 kHz, Opus	
Audio Input/Output	Line level input and output	
External I/O Terminals	1 x Relay In, 1 x Relay Out, 1 x 12 VDC out at 50 mA	
Microphone	Built-in microphone for audio analytics, for certain variants, with physical disable switch	
Mechanical	**Short Bullet**	**Long Bullet**
Dimensions (LxWxH)	311 mm x 133 mm x 133 mm; 12.23" x 5.23" x 5.23"	407mm x 137mm x 138mm; 16.02" x 5.39" x 5.43"

Mechanical		Short Bullet	Long Bullet
Weight	Camera	2.11 kg; 4.65 lbs	2.92 kg; 6.43 lbs
	Wall Plate	0.15 kg; 0.33 lbs	
Body		Polycarbonate and aluminum	
Housing		Backbox Mount	
Finish		High polished plastic injection mold; Powdercoat grey, pantone 427C	
Adjustment Range		Hinge +/- 90°, Rotation +/- 175°	
Electrical		**Short Bullet**	**Long Bullet**
Power Consumption		25W Max	
Power Source	PoE	IEEE 802.3af Class 3	
	PoE+	IEEE 802.3at Class 4	
IR Illuminator Behavior	PoE	Above 60 °C (140 °F), IR will be disabled. Between -5 °C (23 °F) and 55 °C (131 °F), IR operates at 30% power. Below -20 °C (-4 °F), IR operates at 10% power. Hysteresis at 5 °C (9 °F).	Above 60 °C (140 °F), IR will be disabled. Between -5 °C (23 °F) and 55 °C (131 °F), IR operates at 30% power. Below -20 °C (-4 °F), IR operates at 10% power. Hysteresis: 5 °C (9 °F).
	PoE+ or Aux Power	Above 60 °C (140 °F), IR will be disabled. Between 50 °C (122 °F) and 60 °C (140 °F), IR operates at 50% power. Below -20 °C (-4 °F), IR operates at 50% power. Hysteresis at 5 °C (9 °F).	Above 60 °C (140 °F), IR will be disabled. Between 50 °C (122 °F) and 60 °C (140 °F), IR operates at 60% power. Below -20 °C (-4 °F), IR operates at 60% power. Hysteresis: 5 °C (9 °F).
External Power		12-24 VDC +/-10%	
RTC Backup Battery		3V manganese lithium	
Memory		4GB RAM, 4GB Flash	
Redundant Power		Seamless failover between PoE and Aux and back without interrupt in camera operation (for H6X only)	
Environmental			
Operating Temperature		-50°C to +65°C (-58°F to 149°F)	
Startup Temperature		-40°C to +65°C (-40°F to 149°F)	
Absolute Maximum Temperature		74°C (165°F) per NEMA TS2 (Temp.) para 2.2.7.2 - 2.2.7.7	
Storage Temperature		-10°C to +70°C (14°F to 158°F)	
Humidity		0 - 100% condensing	
Certifications			
Certifications/Approvals		UL, cUL, CE, ROHS, RCM, UKCA, NOM, KC, BIS	
Safety Standards		UL 62368-1, CSA 62368-1, IEC/EN 62368-1, IEC 62471	
Environmental Standards/Ratings		IEC 60529 IP66, IP67, IP68 (1.8m depth for 2 hours), IPX9K, NEMA 4X, IEC 60068-2 Shock & Vibration, NEMA TS2 Sec 2.2.7-2.2.9, IK10	

Certifications	
Electromagnetic Emissions Standards	FCC Part 15 Subpart B Class B, ICES-003 Class B, EN 55032 Class B, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 50121-4, EN 50130-4
Electromagnetic Immunity Standards	EN 55035, EN 61000-6-1, EN 50121-4, EN 50130-4
Warranty	Limited 5 Year Warranty (avigilon.com/warranty)
Sustainability	
RoHS	RoHS in accordance with EU RoHS Directive 2011/65/ EU and 2015/863, and standard EN IEC 63000:2018
REACH	REACH in accordance with (EC) No 1907/2006
OECD	Screened for conflict minerals in accordance with OECD guidelines
SCIP UUID	For SCIP UUID, see echa.europa.eu/scip
ISO	ISO certifications in accordance with ISO 14001, ISO 45001, and ISO 9001 standards
WEEE	WEEE compliant with EU WEEE Directive 2012/19/EU and standard EN 50419
Global recycling initiatives	Global recycling initiatives supported for secure, end-of-life product processing, see https://www.motorolasolutions.com/en_us/about/environmental-social-corporate-governance-esg/environment.html
RBA	RBA membership and operations in alignment with Code of Conduct v8.0

Analytics Specifications

Supported Analytics Events	
Objects in Area	The event is triggered when the selected object type moves into the region of interest. This event can be used to count objects.
Object Loitering	The event is triggered when the selected object type moves into the region of interest and then stays for an extended amount of time.
Objects Crossing Beam	The event is triggered when the specified number of objects have crossed the directional beam that is configured over the camera's field of view. The beam can be unidirectional or bidirectional.
Object Appears or Enters Area	The event is triggered by each object that enters the region of interest.
Object Not Present in Area	The event is triggered when no objects are present in the region of interest.
Objects Enter Area	The event is triggered when the specified number of objects have entered the region of interest.
Objects Leave Area	The event is triggered when the specified number of objects have left the region of interest.
Object Stops in Area	The event is triggered when an object moves into a region of interest and then stops moving for the specified threshold time.
Object too Close	The event is triggered when two objects are too close together, based on the specified distance for the event.
Direction Violated	The event is triggered when an object moves in the prohibited direction of travel.
Smart Motion Rule	Events are sent for person (including crawling) and vehicle present, against default unchangeable parameters.
Tamper Detection	The event is triggered when the scene unexpectedly changes.
Crowd Size	This event is triggered when the number of people is exceeded over a configurable duration.
Unusual Crowd Growth	This event is triggered when a crowd size grows unexpectedly.
Unusual Crowd Size	This event is triggered when an unusual crowd size is detected.

Analytics capabilities, including detection range, may vary by camera line. Please consult the Avigilon Self-Learning Video Analytics Design Guide for details.

Supported Classified Object Types	
Object Types in Outdoor Mode	Vehicle, sub-types: Car, Pickup Truck, Large Truck, Van, Bicycle, Motorcycle, Bus Person
Object Types in Indoor Mode	Person

Teach by Example	
Teach By Example	Yes, when used with Avigilon Control Center™or Avigilon Unity Video

Supported Audio Analytics Events	
Scream	Up to 15 meters
Glass Break	Up to 15 meters
Car Alarm	Up to 30 meters
Smoke Alarm	Up to 15 meters
Dog Bark	Up to 15 meters
Tire Screech[1]	Up to 15 meters
Loud Noise	Up to 40 meters
Ultrasonic Panic Alarm[2]	Up to 40 meters

[1] The detection range is limited to up to 8 meters in loud environments.

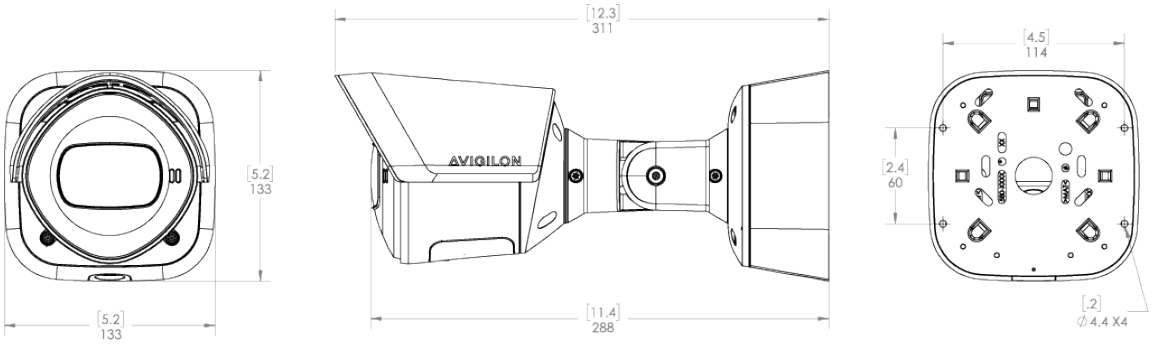
[2] The detection range is influenced by the quality and power of the device used to create the panic alarm.

Avigilon Software Supported Features	
Avigilon Unity Video 8.0 or higher	All supported analytic events with people and vehicles and all vehicle sub-types as classified objects. Appearance search when paired with appropriate server hardware. Unusual Activity Detection. H.265 supported. Audio analytics. Crowd analytics. Classified object privacy masking.
ACC Version 7.2 or higher	All supported analytic events with people and vehicles as classified objects. Appearance search when paired with appropriate server hardware. Unusual Activity Detection. H.265 supported.

Outline Dimensions

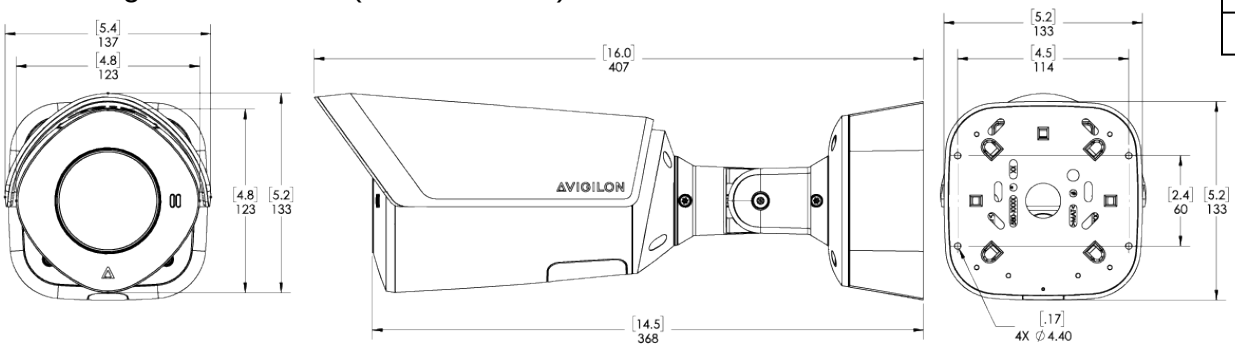
H6A Short Bullet Camera (H6A-BO1-IR-B)

[X.X]	INCHES
X.X	MM



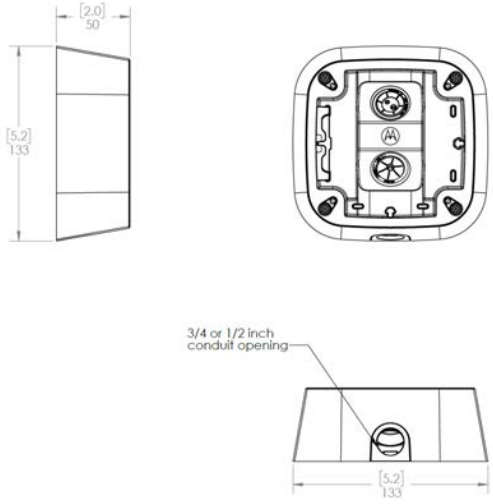
H6A Long Bullet Camera (H6A-BO2-IR-B)

[X.X]	INCHES
X.X	MM



Junction Box

[X.X]	INCHES
X.X	MM



Ordering Information

H6A and H6X Bullet Camera Models

Models	MP	Lightcatcher Technology	Lens	IR	Analytics	HDSM SmartCodec	Microphone	Seamless Failover
2.0C-H6A-BO1-IR-B	2.0	✓	2.8 - 12mm	✓	✓	✓	✓	
2.0C-H6A-BO2-IR-B	2.0	✓	4.5 - 148.5mm	✓	✓	✓	✓	
4.0C-H6A-BO1-IR-B	4.0	✓	4.4 - 9.3mm	✓	✓	✓	✓	
4.0C-H6A-BO2-IR-B	4.0	✓	6.9 - 214.6mm	✓	✓	✓	✓	
6.0C-H6A-BO1-IR-B	6.0	✓	4.4 - 9.3mm	✓	✓	✓	✓	
6.0C-H6A-BO2-IR-B	6.0	✓	6.9 - 214.6mm	✓	✓	✓	✓	
8.0C-H6A-BO1-IR-B	8.0	✓	4.4 - 9.3mm	✓	✓	✓	✓	
8.0C-H6A-BO2-IR-B	8.0	✓	6.9 - 214.6mm	✓	✓	✓	✓	
4.0C-H6X-BO1-IR-B	4.0	✓	4.4 - 9.3mm	✓	✓	✓		✓
4.0C-H6X-BO2-IR-B	4.0	✓	6.9 - 214.6mm	✓	✓	✓		✓
8.0C-H6X-BO1-IR-B	8.0	✓	4.4 - 9.3mm	✓	✓	✓		✓
8.0C-H6X-BO2-IR-B	8.0	✓	6.9 - 214.6mm	✓	✓	✓		✓

Camera Accessories

Accessory Part Numbers	
H6A-BO1-SHLD1	Replacement BO1 bullet sunshield
H6A-BO2-SHLD1	Replacement BO2 bullet sunshield
CBLKIT-1011	USB adapter cable, for use with USB-AC56 Wifi install kit
USB-AC56-NA-MSI	USB Wifi adapter install kit (North America)
USB-AC56-EU-MSI	USB Wifi adapter install kit (Europe)
PLMT-1001	Pole mount adapter
CRNMT-1001	Corner mount adapter
CAM-FIPS	Camera license to enable FIPS cryptographic module.

Support

For product support, visit: avigilon.com or sales@avigilon.com.

To learn more, visit: www.avigilon.com

MOTOROLA SOLUTIONS

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