

# AVIGILON™

## H5A Thermal Camera



The Avigilon H5A Thermal camera combines powerful heat-sensing technology with Next-Generation Video Analytics to deliver long-range perimeter protection in areas with poor visibility, complete darkness or tough conditions, such as smoke or foliage. This versatile camera can detect the presence and movement of people and vehicles, and alert the operator of potentially critical events while minimizing false alarms. Sites can also support safety applications with the camera's built-in radiometric capabilities to identify hot spots or overheating equipment.

### Next-Generation Video Analytics

Detects people and vehicles with enhanced object classification, enabling faster responses to critical events.

### Radiometric Capabilities

Measures an object's surface temperature and sends alarms when the temperature is above or below the predefined value or when there are abnormal changes over a predefined period of time.

### FIPS 140-2 Cryptography with Integrated TPM & Secure Boot

Meets the high data security standards required by federal government agencies and heavily regulated enterprises with FIPS-compliant cryptography support, integrated TPM and Secure Boot.

### Multiple VGA & QVGA Lens Options

Choose from the many VGA and QVGA lens options available to achieve the most optimal site coverage.

### Durable Designs

Rated IK10, IP66/67 and NEMA 250 Type 4X for impact, water and windblown dust resistance, along with a degree of protection from corrosion. Operates effectively between -40° C to 65° C (-40° F to 149° F).

### ONVIF® Compliant

ONVIF Profile S and T compliance enables easy integration with existing ONVIF infrastructures. Profile G supports search, playback and retrieval of recordings on the edge, while Profile M allows for cross-functionality with third-party analytic solutions.

ONVIF is a trademark of Onvif, Inc.

# Specifications

Image Performance	QVGA	VGA
Image Sensor	320 x 256 Uncooled VOx Microbolometer	640 x 512 Uncooled VOx Microbolometer
Pixel Pitch	12µm	
Spectral Range	8µm to 14µm	
Aspect Ratio	5:4	
Imaging Rate	Up to 30 fps	
Dynamic Range	-40°C to 225°C (-40°F to 437°F) [may vary based on operating temperature]	
Resolution Scaling	320 x 256, can be scaled up to 640 x 512	640 x 512, can be scaled down to 320 x 256
3D Noise Reduction Filter	Yes	
Sensitivity	NETD ≤50 mK (NETD ≤40 mK on 30 fps models when Frame Averager feature is enabled)	
Thermal Palettes	White Hot, Black Hot, Rainbow, RainHC, IronBow, Lava, Artic, GlowBow, GradedFire, Hottest	
Image Uniformity Optimization	Automatic Flat Field Correction (FFC) - Thermal and Temporal	

Mechanical	320F-H5A-THC-BO12	320F-H5A-THC-BO16	320F-H5A-THC-BO24	320F-H5A-THC-BO50	640F-H5A-THC-BO12	640F-H5A-THC-BO18	640F-H5A-THC-BO24	640F-H5A-THR-BO32	640F-H5A-THR-BO50
Lens	18.0 mm, F1.0	13.8 mm, F1.0	9.1 mm, F1.0	4.3 mm, F1.0	36.0 mm, F1.0	24.3 mm, F1.0	18.0 mm, F1.0	14.0 mm, F1.0	9.2 mm, F1.0
Angle of View (H x V)	12.2° x 9.7°	16.0° x 12.8°	24.1° x 19.2°	50.0° x 40.0°	12.2° x 9.8°	18.0° x 14.4°	24.3° x 19.5°	32.0° x 25.6°	49.9° x 39.3°

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
Bandwidth Management	Idle Scene Mode, HDSM SmartCodec Technology
Motion Detection	Pixel and Classified Objects
Tamper Detection	Yes
Privacy Zones	Up to 64 Zones
Audio Compression Method	Opus, G.711 PCM 8 kHz
Electronic Image Stabilization	Yes

Network	
Network	100BASE-TX
Cabling Type	CAT5
Connector	RJ-45
ONVIF	ONVIF® compliant with Profile S, Profile T, Profile G, and Profile M
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication, FIPS 140-2 L1 (with optional camera license), onboard FIPS 140-2 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, QoS, DSCP
Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP, SRTP
Device Management Protocols	SNMP v2c, SNMP v3



Peripherals	
USB Port	USB 2.0
Onboard Storage	microSD/microSDHC/microSDXC slot – video speed class card required. Class V10 or better recommended
External I/O Terminals	Alarm In, Alarm Out
Audio Input/Output	Line level input and output

Mechanical		320F-H5A-THC-BO12	320F-H5A-THC-BO16	320F-H5A-THC-BO24	320F-H5A-THC-BO50	640F-H5A-THC-BO12	640F-H5A-THC-BO18	640F-H5A-THC-BO24	640F-H5A-THR-BO32	640F-H5A-THR-BO50
Dimensions (LxWxH)	307 mm x 126 mm x 106 mm; 12.1" x 5.0" x 4.2" (including junction box)									
Weight	Camera	1.43 kg (3.15 lbs)	1.45 kg (3.20 lbs)	1.42 kg (3.13 lbs)	1.42 kg (3.13 lbs)	1.52 kg (3.35 lbs)	1.46 kg (3.22 lbs)	1.45 kg (3.20 lbs)	1.44 kg (3.17 lbs)	1.46 kg (3.22 lbs)
	Junction Box	0.47 kg (1.04 lbs)								
Body	Aluminum									
Sunshield	Polycarbonate									
Finish	Powder coat, close to Pantone 427C									
Adjustment Range	±175° pan, ±90° tilt, ±175° azimuth									

Electrical	
Power Consumption	10W
Power Source	VDC: 12V +/- 10%, 9W min. VAC: 24V +/- 10%, 15VA min. PoE: IEEE802.3af Class 3 compliant
RTC Backup Battery	3V manganese lithium

Environmental	
Operating Temperature	-40 °C to +65 °C (-40 °F to 149 °F)
Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)
Humidity	0 - 93% (Condensing)

Certifications	QVGA	VGA
Certifications/Approvals	UL, cUL, CE, UKCA, ROHS, RCM, BIS, NOM	
Safety Standards	UL/CSA/IEC/EN 62368-1	
Environmental Standards	- IEC/EN 60529 (IP66, IP67 rating) - IEC/EN 62262 Impact (IK10 rating) includes window impact on all models - Type 4X	- IEC/EN 60529 (IP66, IP67 rating) - IEC/EN 62262 Impact (IK10 rating) includes window impact only on models 640F-H5A-THC-BO18, 640F-H5A-THC-BO24, 640F-H5A-THR-BO32 - Type 4X
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	
Electromagnetic Immunity Standards	EN 55035, EN 61000-6-1, EN 50130-4	
Warranty	5-year limited warranty. Extended warranty not available. See <a href="http://avigilon.com/support/warranty">avigilon.com/support/warranty</a> .	



# Analytics Specifications

Supported Video Analytic Events	
Objects in Area	The event is triggered when the selected object type moves into the region of interest.
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. This event can be used to count objects.
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.
Direction Violated	The event is triggered when an object moves in the prohibited direction of travel.
Tamper Detection	The event is triggered when the scene unexpectedly changes.

Radiometric Events <sup>1</sup>	
Temperature Below, Above, Match Pre-Defined Value	The event is triggered when the temperature in the region of interest is below, above or match a pre-defined temperature value.
Temperature Changed	The event is triggered when the temperature changed a predefined value during a designated period of time.

<sup>1</sup> User selectable burnt-in video radiometry overlays

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

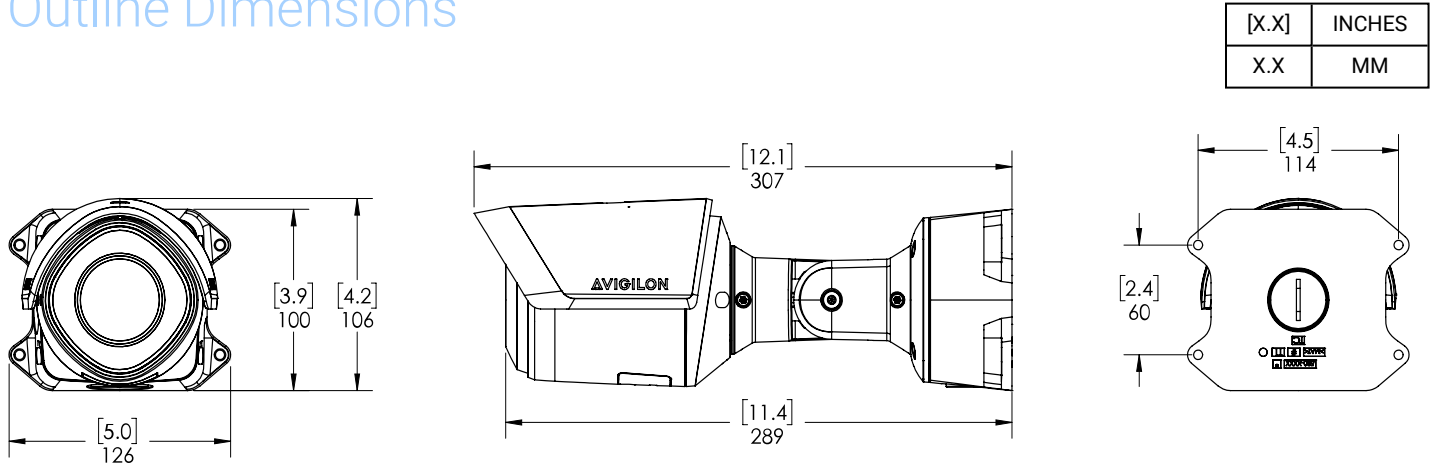
Classified Object Detection Range <sup>2</sup>	320F-H5A-THC-BO12	320F-H5A-THC-BO16	320F-H5A-THC-BO24	320F-H5A-THC-BO50	640F-H5A-THC-BO12	640F-H5A-THC-BO18	640F-H5A-THC-BO24	640F-H5A-THR-BO32	640F-H5A-THR-BO50
Focal Length	18.0 mm	13.8 mm	9.1 mm	4.3 mm	36.0 mm	24.3 mm	18.0 mm	14.0 mm	9.2 mm
Angle of View (H x V)	12.2° x 9.7°	16.0° x 12.8°	24.1° x 19.2°	50.0° x 40.0°	12.2° x 9.8°	18.0° x 14.4°	24.3° x 19.5°	32.0° x 25.6°	49.9° x 39.3°
Human	220 m (722')	180 m (590')	120 m (394')	68 m (224')	310 m (1017')	260 m (853')	210 m (689')	165 m (541')	120 m (394')
Vehicle	225 m (739')	190 m (623')	130 m (426')	80 m (263')	319 m (1047')	275 m (902')	229 m (751')	185 m (607')	142 m (466')

<sup>2</sup>The detection ranges may vary in different weather conditions.

Avigilon Control Center (ACC) Versions Supported Features	
ACC Enterprise Edition Version 7.14.18 or higher	All supported radiometric analytic events when paired with a radiometric (THR) camera variant.



# Outline Dimensions



# Ordering Information

	Resolution	NETD	Lens	HDSM SmartCodec	Radiometric
320F-H5A-THC-B012	320 x 256	< 50 mK	18.0 mm	✓	
320F-H5A-THC-B016	320 x 256	< 50 mK	13.8 mm	✓	
320F-H5A-THC-B024	320 x 256	< 50 mK	9.1 mm	✓	
320F-H5A-THC-B050	320 x 256	< 50 mK	4.3 mm	✓	
640F-H5A-THC-B012	640 x 512	< 50 mK	36.0 mm	✓	
640F-H5A-THC-B018	640 x 512	< 50 mK	24.3 mm	✓	
640F-H5A-THC-B024	640 x 512	< 50 mK	18.0 mm	✓	
640F-H5A-THR-B032	640 x 512	< 50 mK	14.0 mm	✓	✓
640F-H5A-THR-B050	640 x 512	< 50 mK	9.2 mm	✓	✓

PLMT-1001	Pole Mount for H5A Thermal Camera
CRNMT-1001	Corner Mount for H5A Thermal Camera
CAM-FIPS	Camera license to enable FIPS cryptographic module.
USB-AC56-NA-MSI	USB WiFi Adapter (North America)
USB-AC56-EU-MSI	USB WiFi Adapter (Europe)



# Support

For product support, visit: [avigilon.com](https://www.avigilon.com) or [sales@avigilon.com](mailto:sales@avigilon.com)

To learn more, visit: [www.avigilon.com](https://www.avigilon.com)



**AVIGILON™**

Motorola Solutions, Inc. 500 West Monroe Street, Chicago, IL 60661 U.S.A. [motorolasolutions.com](https://www.motorolasolutions.com)

© 2026, Avigilon Corporation. All rights reserved. MOTOROLA, MOTO, MOTOROLA SOLUTIONS and the Stylized M Logo are trademarks or registered trademarks of Motorola Trademark Holdings, LLC and are used under license. All other trademarks are the property of their respective owners.

20260406-en Rev 6