H5A THERMAL CAMERA

640 x 512 320 x 256

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.

FEATURES

NEXT-GENERATION VIDEO ANALYTICS

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

RADIOMETRIC CAPABILITIES[1]

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 DESIGN

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.

MOTOROLA SOLUTIONS

AVIGILON

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[1]	White Hot, Black Hot, Rainbow, RainHC, IronBow, Lava, Artic, GlowBow, GradedFire	
Image Uniformity Optimization	Automatic Flat Field Correction (FFC) - Thermal and Temporal	

[1] Best detection analytics performance on White Hot or Black Hot palettes.

LENS[1]	320F-H5A-THC-B012	320F-H5A-THC-B016	320F-H5A-THC-B024	320F-H5A-THC-B050	640F-H5A-THC-B012	640F-H5A-THC-B018	640F-H5A-THC-B024	640F-H5A-THC-B032	640F-H5A-THC-B050
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°

[1] Figures for 640F-H5A-THC-B032 and 640F-H5A-THC-B050 also apply to radiometric (THR) variants.

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

NETWORK	
Network	100BASE-TX
Cabling Type	CAT5
Connector	RJ-45
ONVIF	ONVIF® compliant with Profile S, Profile T, and Profile M
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication
Protocols	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, ARP
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	microSD/microSDHC/microSDXC slot – video speed class card required. Class V10 or better recommended

PERIPHERALS	
External I/O Terminals	Alarm In, Alarm Out
Audio Input/Output	Line level input and output

MECHANICAL[1]		320F-H5A-THC-B012	320F-H5A-THC-B016	320F-H5A-THC-B024	320F-H5A-THC-B050	640F-H5A-THC-B012	640F-H5A-THC-B018	640F-H5A-THC-B024	640F-H5A-THC-B032	640F-H5A-THC-B050
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								

[1] Figures for 640F-H5A-THC-B032 and 640F-H5A-THC-B050 also apply to radiometric (THR) variants.

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% non-condensing

CERTIFICATIONS	QVGA	VGA
Certifications/Directives	UL, cUL, CE, UKCA, ROHS, RCM, BIS, NOM	
Safety	UL/CSA/IEC/EN 62368-1	
Environmental	- 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-B018, 640F-H5A-THC-B024, 640F-H5A-THR-B032, 640F-H5A-THC-B032 - Type 4X
Electromagnetic Emissions	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	EN 55035, EN 61000-6-1, EN 50130-4	

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	
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.

TEACH BY EXAMPLE	
Teach By Example	Yes, when used with Avigilon Control Center™

CLASSIFIED OBJECT DETECTION RANGE[1]	320F-H5A-THC-B012	320F-H5A-THC-B016	320F-H5A-THC-B024	320F-H5A-THC-B050	640F-H5A-THC-B012	640F-H5A-THC-B018	640F-H5A-THC-B024	640F-H5A-THC-B032	640F-H5A-THC-B050
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′)

[1] Figures for 640F-H5A-THC-B032 and 640F-H5A-THC-B050 also apply to radiometric (THR) variants.

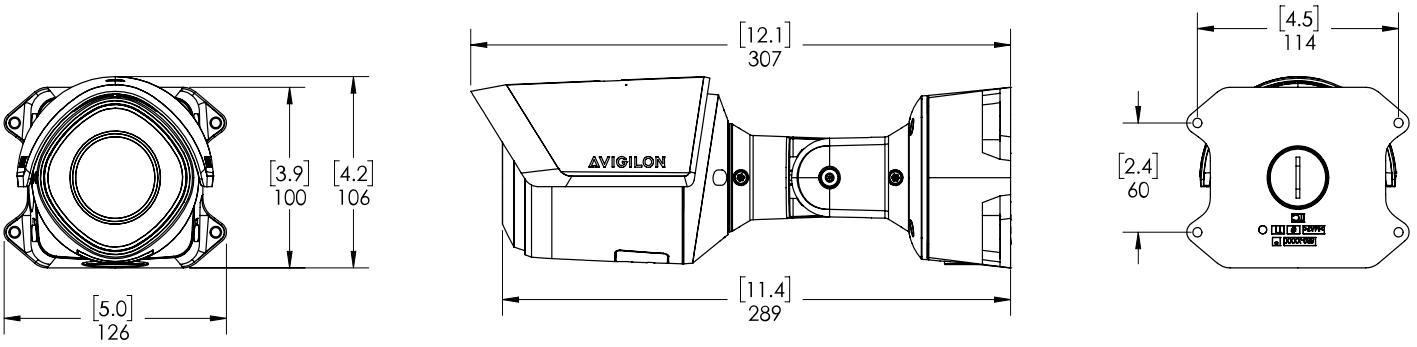
The detection ranges may vary in different weather conditions.

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

[X.X]	INCHES
X	MM

CAMERA



ORDERING INFORMATION

SYSTEM MODELS

	RESOLUTION	NETD	LENS	HDSM SMARTCODEC	RADIOMETRIC
320F-H5A-THC-BO12	320 x 256	< 50 mK	18.0 mm	✓	
320F-H5A-THC-BO16	320 x 256	< 50 mK	13.8 mm	✓	
320F-H5A-THC-BO24	320 x 256	< 50 mK	9.1 mm	✓	
320F-H5A-THC-BO50	320 x 256	< 50 mK	4.3 mm	✓	
640F-H5A-THC-BO12	640 x 512	< 50 mK	36.0 mm	✓	
640F-H5A-THC-BO18	640 x 512	< 50 mK	24.3 mm	✓	
640F-H5A-THC-BO24	640 x 512	< 50 mK	18.0 mm	✓	
640F-H5A-THC-BO32	640 x 512	< 50 mK	14.0 mm	✓	
640F-H5A-THC-BO50	640 x 512	< 50 mK	9.2 mm	✓	
640F-H5A-THR-BO32	640 x 512	< 50 mK	14.0 mm	✓	✓
640F-H5A-THR-BO50	640 x 512	< 50 mK	9.2 mm	✓	✓

ACCESSORIES

PLMT-1001	Pole Mount for H5A Thermal Camera, compatible with WLMT-1001
CRNMT-1001	Corner Mount for H5A Thermal Camera, compatible with WLMT-1001
USB-AC56-NA-MSI	USB WiFi Adapter Install Kit (North America)
USB-AC56-EU-MSI	USB WiFi Adapter Install Kit (Europe)

MOTOROLA SOLUTIONS

AVIGILON

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