60 SERIES
HC60TB4RxVTxx

Bi-Spectrum Thermal Bullet VGA Cameras

5 YEAR WARRANTY · **ONVIF®** | **S** **G** **T** **M**

> Honeywell's 60 Series Bi-Spectrum Thermal Bullet VGA Cameras simultaneously capture both heat signatures and detailed visual images of people or objects at a greater distance in low light conditions for faster response to potential threats.

In an increasingly security-conscious world, enterprise businesses are turning to advanced technologies to safeguard their assets and operations. Bi-spectrum thermal surveillance cameras stand out as a revolutionary solution, integrating both thermal imaging and high-definition optical capabilities into a single device.

This dual functionality allows for continuous monitoring in various conditions, including complete darkness, fog, or glare, ensuring that no potential threat goes unnoticed. By leveraging the unique strengths of thermal sensors to detect heat signatures and high-definition cameras to verify and capture details, these systems significantly enhance a company's security posture.

Investing in bi-spectrum thermal surveillance protects valuable resources and promotes a safer environment for employees and customers alike, making it an essential tool for modern enterprise security strategies.

ENHANCED DETECTION AND RECOGNITION
- Superior image quality by 5MP optical resolution and 640 x 512 thermal heat-seeking resolution sensor combine in one camera to see more detail at a longer distance for earlier detection of threats.
- Multiple optical and thermal lens options to select right models based on environment needs
- Optical sensor offers longer detection distance up to 390 m (1,279.53 ft)
- Thermal sensor can detect a human up to 2,083 m (6,833.99 ft) and can recognize a human up to 521 m (1,709.32 ft)
- Thermal temperatures measured in environments from -0°C up to 350°C (32°F to 662°F)

INTELLIGENT SURVEILLANCE
- Advanced video analytics combined with thermal heat seeking signature detect living beings, overheating equipment, smoke, fire hot spots, and open flames.
- Other analytics for vehicle detection include line crossing, double line crossing, and wrong way detection for perimeter and checkpoint applications
- Customizable voice warning feature for early warning to vacate the area
- Bounding boxes are displayed in live video based on object classification and alarm event

INCREASED OPERATIONAL EFFICIENCY
- 24 x 7 monitoring under all environmental conditions – rain, fog, or pitch-dark night.
- Robust design with IP67, IP66 & IK10 rating enhances camera durability.
- PT Driver accessory (HAS1PTD) enables camera to function with Pan/Tilt with 90-degree vertical
- Reduced false alarms – bi-spectral noise filtering algorithms improve accuracy by filtering out noise more effectively, therefore focusing on genuine changes in the scene and minimizing false triggers and alarms
- Preventive Maintenance - monitor equipment for early signs of overheating or mechanical stress, serving dual roles in industrial safety and security.

COMPLIANCE
- NDAA compliant
- IEC/ANSI/ISA-62443-4-1-2018
- NEMA TS2

POTENTIAL APPLICATIONS:

COMMERCIAL:
- Building Intruder / Break Ins
- Fence Line and Door Intrusion
- Server / Computer Room
- Electric Car Charging Station Monitoring

ENTERPRISE:
- Perimeter Security
- Checkpoints / Entry & Exit Points
- Utilities / Substations / CIP – Flame Detection
- Datacenter / Computer Room
- Solar Panel Plants
- Combustible Material Monitoring
- Electric Car Station Monitoring

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60 SERIES BI-SPECTRUM THERMAL BULLET VGA CAMERAS

OPERATIONAL		
CAMERA	**OPTICAL**	**THERMAL**
Image Sensor	1/1.8" CMOS	Vanadium oxide uncooled focal plane detector
Sensor Size (H x V)	7.9 mm x 4.5 mm	18 mm x 16 mm
Number Of Pixels (H × V)	2688 x 1520	640 x 512
Noise Reduction	2D/3D DNR	2D/3D DNR
Lens	**HC60TB4R1VT09**: 4 mm, F1.6 **HC60TB4R4VT15**: 6 mm, F1.6 **HC60TB4R2VT25/HC60TB4R2VT35/HC60TB4R2VT50**: 10~30 mm, F1.6	**HC60TB4R1VT09**: 9 mm, F1.0 **HC60TB4R4VT15**: 15 mm, F1.0 **HC60TB4R2VT25**: 25 mm, F1.0 **HC60TB4R2VT35**: 35 mm, F1.0 **HC60TB4R2VT50**: 50 mm, F1.0
Angle Of View (H x V)	**HC60TB4R1VT09**: H: 88.91°, V: 50.48° **HC60TB4R4VT15**: H: 60.88°, V: 35.44° **HC60TB4R2VT25/HC60TB4R2VT35/HC60TB4R2VT50**: H: 43.35°~15.51°, V: 23.75°~8.83°	**HC60TB4R1VT09**: H: 48°, V: 38° **HC60TB4R4VT15**: H: 32°, V: 26° **HC60TB4R2VT25**: H: 17°, V: 14° **HC60TB4R2VT35**: H: 12°, V: 10° **HC60TB4R2VT50**: H: 8°, V: 7°
Privacy Masking	Off / On (4 Areas)	Off / On (4 Areas)
Defog	Supported	Supported
Focus Mode	**HC60TB4R1VT09\HC60TB4R4VT15:** Fixed **HC60TB4R2VT25/HC60TB4R2VT35/HC60TB4R2VT50:** MFZ	Fixed
Min. Focusing Distance	**HC60TB4R1VT09**: 1 m **HC60TB4R4VT15**: 2.5 m **HC60TB4R2VT25/HC60TB4R2VT35/HC60TB4R2VT50**: 2.5~6 m	**HC60TB4R1VT09**: 3.3 m **HC60TB4R4VT15**: 7.3 m **HC60TB4R2VT25**: 13 m **HC60TB4R2VT35**: 25 m **HC60TB4R2VT50**: 52 m
Image Setting	Brightness, Saturation, Sharpness, Contrast	Brightness, Details enhancement, Sharpness, Contrast
Mirror	Normal, Horizontal, Vertical, Horizontal+Vertical	Normal, Horizontal, Vertical, Horizontal+Vertical
Scanning System	Progressive	
Minimum Illumination (Color/BW)	Color: 0.05 Lux @ (F1.6, 30 IRE), B/W: 0.0001 Lux @ (F1.6, 30 IRE), 0 Lux with light on	
S/N Ratio	> 55 dB	
Electronic Shutter Speed	1/5 to 1/20,000 s	
IR Distance	**HC60TB4R1VT09**: 70 m (229.66 ft) **HC60TB4R4VT15**: 80 m (262.47 ft) **HC60TB4R2VT25/HC60TB4R2VT35/HC60TB4R2VT50**: 100 m (328.08 ft)	
IR Light Control	Smart IR (Auto/Manual)/OFF	
IR Light Number	7 (6 IR lights+1 white light)	
Removable IR-Cut Filter	Yes	
White Light	Strobe light	
Day/Night	Auto/Day/Night/Timing	
Backlight Compensation	WDR, HLC, BLC	
White Balance	Auto/Tungsten/Fluorescent/Daylight/Shadow/Manual	
Gain Control	0~100%	
Wide Dynamic Range	Up to 120 dB	
Pixel Pitch		12μm
Spectral Range		8~14 μm
Sensitivity (NETD)		≤ 40 Mk, F1.0
Pseudo-color Setting		White Hot, Black Hot, Rainbow, Ironbow, HSV, Bone, Cool, Copper, FireHot, Pink, Spring, Summer, Autumn, Winter, Jet, Flame, Rosebengal
Bi-spectrum Image Fusion		Supported

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OPERATIONAL	
RAM	2 x 8 Gigabits
Flash	128 Gigabits
Video Standard	NTSC/PAL
Encryption Chipset**	Supported
Local Storage	Micro SD (up to 1TB)
Alarm Inputs / Outputs	2 Ch Input, 2 Ch Output
Analog Output Support	Supported
RS232	Supported
Reset	Supported
PTZ Driver Compatibility	Yes (Support Pan/Tilt, Preset temperature measurement, Preset VA, Auto tracking)

PTZ (WITH PTZ DRIVER)	
Pan Speed	0.01 ° ~ 120 °/s
Pan Range	0 ° ~ 360 °
Tilt Speed	0.01 ° ~ 60 °/S
Tilt Range	+46 ° ~ 90 °
Preset Locations	400
Auto Pan Scan	Supported
Auto Tracking	Supported
Auto Resume After Power Failure	Resume to home position

VIDEO	OPTICAL		THERMAL	
	PAL	NTSC	PAL	NTSC
Resolution	**Stream 1** 2688 x 1520, 2560 x 1440, 2304 x 1296, 1920 x 1080, 1280 x 720 @25fps **Stream 2** 1920 x 1080, 1280 x 720, 704 x 576, 640 x 480@25fps	**Stream 1** 2688 x 1520, 2560 x 1440, 2304 x 1296, 1920 x 1080, 1280 x 720 @30fps **Stream 2** 1920 x 1080, 1280 x 720,704 x 480, 640 x 480@30fps	**Stream 1** 1920 x 1080, 1280 x 1024, 1280 x 720, 640 x 512 @25fps **Stream 2** 704 x 576, 640 x 480, 640 x 512, 352 x 288 @25fps	**Stream 1** 1920 x 1080, 1280 x 1024, 1280 x 720, 640 x 512 @30fps **Stream 2** 704 x 480, 640 x 480, 640 x 512, 352 x 240 @30fps
Region of Interest	8		8	
Bit Rate	**Stream 1** 2688 x 1520, 500kbps-16000kbps 2560 x 1440, 2304 x 1296, 1920 x 1080, 500kbps-12000kbps 1280 x 720, 100kbps-8000kbps **Stream 2** 1920 x 1080, 500kbps-12000kbps 1280 x 720, 100kbps-8000kbps 704 x 576(PAL)/704 x 480(NTSC), 100kbps-6000kbps 640 x 480, 100kbps-3000kbps		**Stream 1** 1920 x 1080, 500kbps-12000kbps 1280 x 1024, 1280 x 720, 100kbps-8000kbps 640 x 512, 100kbps-3000kbps 640 x 512 (MJPEG), 100kbps-6000kbps **Stream 2** 704 x 576(PAL)/704 x 480(NTSC), 100kbps-6000kbps 640 x 480, 640 x 512, 100kbps-3000kbps 640 x 512 (MJPEG), 100kbps-6000kbps 352 x 288(PAL)/352 x 240(NTSC), 100kbps-1500kbps	
Video Compression	H.265 / H.264 / MJPEG, Smart Codec		H.265 / H.264 / MJPEG, Smart Codec	
Number of Video Streams	2		2	

ANALYTICS	OPTICAL	THERMAL
Video Analytics*	Motion Detection, Smart Motion, Scene Change, Intrusion, Multi-Loitering, People Counter, Face Detection, Line Crossing Detection, Double Line Crossing Detection, Unattended Object Detection, Missing Object Detection, Wrong Way Detection, Smoke and Flame Detection	Motion Detection, Smart Motion, Intrusion, Multi-Loitering, People Counter, Line Crossing Detection, Double Line Crossing Detection, Wrong Way Detection, Smoker Detection, Fire Spot Detection

EVENTS	
Event Type	Analytics Alarm, Security Alarm, Disk Alarm, Recording Alarm
Event Linkage	Email, Push Notification, SD Card Recording, Digital Output
Event	Event notification using digital output SMTP, FTP and MicroSD card

*For specific usage and limitation, please refer to the user guide.
**For detailed encryption information, please refer to the A&E documents.

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AUDIO	
Audio Compression	G.711 a/ G.711 Mu
Audio Stream	2 way, Full duplex
Audio Interface	1Ch Input, 1Ch Output, Built-in Mic and Speaker

THERMAL TEMPERATURE MEASUREMENT*	
Measurement Range	-20 °C ~ 150 °C (-4 °F ~ 302 °F) and 0°C to 350°C (32°F to 662°F) selectable
Measurement Accuracy	±2 °C/±2%
Measurement Mode	Spot/Line/Area
Measurement Configuration	3 temperature measurement rule types, 20 rules in total, 1 full screen, 19 others (spot, areas, line)
Temperature Alarm	Support temperature difference alarm, threshold alarm, temperature section alarm, temperature raise alarm

NETWORK	
Ethernet	10 Base-T/100 Base-TX Ethernet (RJ-45)
Supported Web Browsers	Microsoft Edge, Chrome
Supported OS	Microsoft Windows 10, Windows 11
Protocols*	IPv4, IPv6, TCP/IP, HTTP, HTTPS, UPnP, RTSP/RTP/RTCP, IGMP, SMTP, DHCP, NTP, DNS, DDNS, QoS, SNMP, 802.1X, UDP, ICMP, ARP, TLS, FTP/SFTP, Bonjour
Interoperability	ONVIF Profile G/S/T/M
Maximum Users Access	10 Users
Security	User account and password protection, HTTPS, IP Filter, Digest authentication, TLS1.2&1.3, Stream encryption, AES128 / 256, SSH / Telnet closed, PCIDSS compliance, encryption Chipset Built-In
Secure Boot	Supported
Languages Supported	Arabic, Chinese (Traditional), Czech, Dutch, English, French, German, Italian, Japanese, Korean, Polish, Portuguese (Brazil), Spanish, Turkish

ELECTRICAL	
Power Supply	DC12V/DC24V/PoE (IEEE 802.3 af)
Power Consumption (Max)	Max. 25 W

MECHANICAL	
Dimensions	Adjustable 326.6 ~ 346.6 x 144.7 x 125.4 mm (12.86" ~ 13.65" x 5.70" x 4.94")
Package Dimensions	415 × 205 × 175 mm (16.34" x 8.07" x 6.89")
Product Weight	2.7 kg (5.95 lb)
Package Weight	3.16 kg (6.97 lb)
Body Material	Metal + Plastic
Color	RAL 9003, Black

ENVIRONMENTAL	
Operating Temperature	-40 °C to 65 °C (-40 °F to 149 °F) (65 °C with 4h)
Relative Humidity	Less than 90%, non-condensing
Ingress Protection	IP66, IP67, NEMA 4X, NEMA TS 2
Impact Resistance	IK10 (Housing only)

REGULATORY	
Emissions	FCC PART 15, CE (EN 55032), ICES-003, Complies with RCM and UKCA
Immunity	CE(EN 50130-4, EN 55035), Complies with RCM and UKCA
Safety	UL LISTED TO UL/CSA 62368-1, CE(EN 62368-1), COMPLIES WITH RCM AND UKCA
RoHS	CE(EN 63000),UAE(Cabinet Decree No.10 of 2017)
Country of Origin	Vietnam
Warranty	5 year

*Some development may be required in specific user cases to support some of these protocols in the field as they mature over time.

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DORI-OPTICAL* (EN62676-4 STANDARD)			
	HC60TB4R1VT09	HC60TB4R4VT15	HC60TB4R2VT25/HC60TB4R2VT35/HC60TB4R2VT50
Detect	68 m (223.1 ft)	96 m (314.96 ft)	(W) 146 m (479 ft), (T) 390 m (1,279.53 ft)
Observe	27.2 m (89.24 ft)	38.4 m (125.98 ft)	(W) 58.4 m (191.6 ft), (T) 156 m (511.81 ft)
Recognize	13.6 m (44.62 ft)	19.2 m (62.99 ft)	(W) 29.2 m (95.8 ft), (T) 78 m (255.91 ft)
Identify	6.8 m (22.31 ft)	9.6 m (31.5 ft)	(W) 14.6 m (47.9 ft), (T) 39 m (127.95 ft)

*The table is for reference only. The detection value is a theoretical value and may differ from the actual detection value. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

DRI-THERMAL* (JOHNSON CRITERIA**)					
	HC60TB4R1VT09	HC60TB4R4VT15	HC60TB4R2VT25	HC60TB4R2VT35	HC60TB4R2VT50
Detect (Human: 1.8 × 0.5 m)	375 m (1,230.31 ft)	625 m (2,050.52 ft)	1,042 m (3,418.64 ft)	1,456 m (4,776.9 ft)	2,083 m (6,833.99 ft)
Detect (Vehicle: 4 × 1.5 m)	1,150 m (3,772.97 ft)	1,917 m (6,289.37 ft)	3,194 m (10,479 ft)	4,472 m (14,671.92 ft)	6,389 m (20,961.29 ft)
Recognize (Human: 1.8 × 0.5 m)	94 m (308.4 ft)	156 m (511.81 ft)	260 m (853.02 ft)	365 m (1,197.51 ft)	521 m (1,709.32 ft)
Recognize (Vehicle: 4 × 1.5 m)	288 m (944.88 ft)	479 m (1,571.52 ft)	799 m (2,621.39 ft)	1,118 m (3,667.98 ft)	1,597m (5,239.5 ft)
Identify (Human: 1.8 × 0.5 m)	47 m (154.2 ft)	78 m (255.91 ft)	130 m (426.51 ft)	182 m (597.11 ft)	260 m (853.02 ft)
Identify (Vehicle: 4 × 1.5 m)	144 m (472.44 ft)	240 m (787.4 ft)	399 m (1,309.06 ft)	559 m (1,833.99 ft)	799 m (2,621.39 ft)

*The table is for reference only. The detection value is a theoretical value and may differ from the actual detection value. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.
**The Johnson Criteria is the standard that is used for DRI (Detection, Recognition, and Identification). It is calculated based on how many pixels are necessary in order to make an accurate evaluation of your object. The values are as follows:
- Detection: 2 vertical pixels of the target are visible
- Recognition: 8 vertical pixels of the target are visible
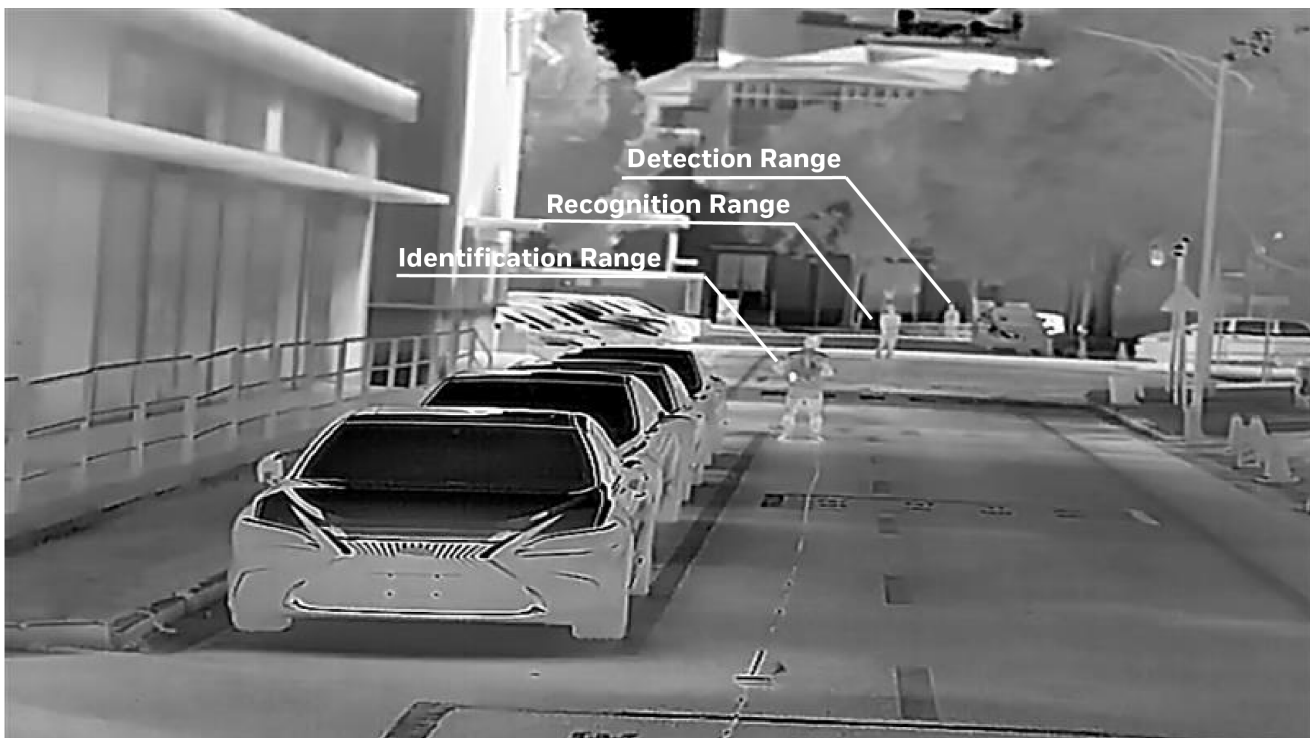- Identification: 14 vertical pixels of the target are visible

Image source: Honeywell camera test image

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60 SERIES BI-SPECTRUM THERMAL BULLET VGA CAMERAS

DETECTION RANGE-OPTICAL*

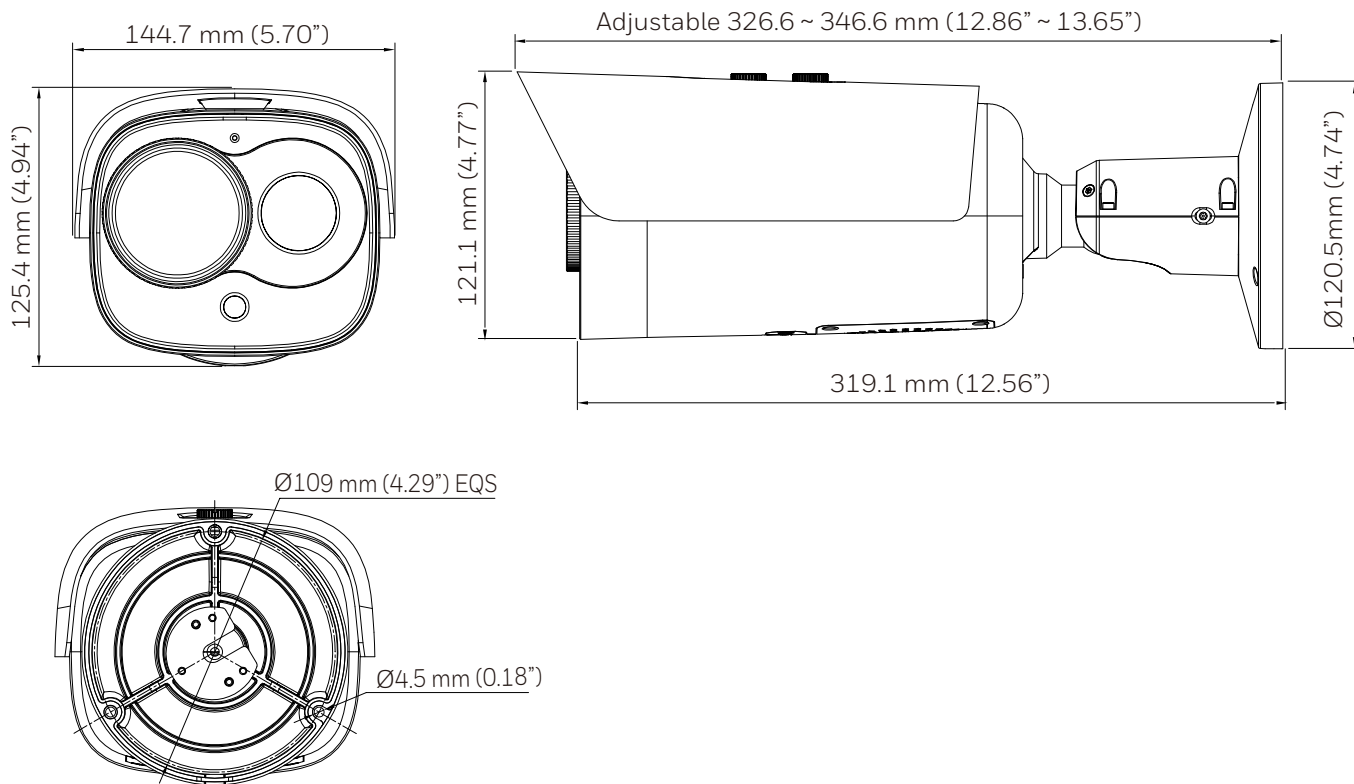|	HC60TB4R1VT09	HC60TB4R4VT15	HC60TB4R2VT25	HC60TB4R2VT35	HC60TB4R2VT50
VA Detection Distance (Face: 0.15 × 0.25 m)	3~4 m (9.84~13.12 ft)	4~6 m (13.12~19.69 ft)	9~10 m (29.53~32.81 ft)	9~10 m (29.53~32.81 ft)	9~10 m (29.53~32.81 ft)
VA Detection Distance (Human: 1.8 × 0.5 m)	3~27 m (9.84~88.58 ft)	4~27 m (13.12~88.58 ft)	9~41 m (29.53~134.51 ft)	9~41 m (29.53~134.51 ft)	9~41 m (29.53~134.51 ft)
VA Detection Distance (Front/Rear of Vehicle: 4 × 1.5 m)	Up to 50 m (164.04 ft)	Up to 110 m (360.89 ft)	Up to 200 m (656.17 ft)	Up to 200 m (656.17 ft)	Up to 200 m (656.17 ft)
Smoke and Flame Detection (Object: 1.2 × 0.65 m)	2 m (6.56 ft)	4 m (13.12 ft)	4 m (13.12 ft)	4 m (13.12 ft)	4 m (13.12 ft)

*The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

DETECTION RANGE-THERMAL*

	HC60TB4R1VT09	HC60TB4R4VT15	HC60TB4R2VT25	HC60TB4R2VT35	HC60TB4R2VT50
VA Detection Distance (Human: 1.8 × 0.5 m)	8~39 m (26.25~127.95 ft)	9~42 m (29.53~137.8 ft)	15~46 m (49.21~150.92ft)	18~75 m (59.06~246.06 ft)	40~140 m (131.23~459.32 ft)
VA Detection Distance (Front/Rear of Vehicle: 4 × 1.5 m)	Up to 125 m (410.1 ft)	Up to 190 m (623.36 ft)	Up to 330 m (1082.68 ft)	Up to 460 m (1509.19 ft)	Up to 600 m (1968.5 ft)
Smoker Detection	3~23 m (9.84~75.46 ft)	6~30 m (19.69~98.43 ft)	10~40 m (32.81~131.23 ft)	18~50 m (59.06~164.04 ft)	40~60 m (131.23~196.85 ft)
Fire Detection (Object: 0.16 × 0.16 m)	9 m (29.53 ft)	18 m (59.06 ft)	28 m (91.86 ft)	40 m (131.23 ft)	70 m (229.66 ft)

*The table is for reference only. The distances within it are subject to actual conditions including atmospheric conditions, target size, the installation site, and more.

DIMENSIONS

144.7 mm (5.70")

125.4 mm (4.94")

Adjustable 326.6 ~ 346.6 mm (12.86" ~ 13.65")

121.1 mm (4.77")

Ø120.5mm (4.74")

319.1 mm (12.56")

Ø109 mm (4.29") EQS

Ø4.5 mm (0.18")

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60 SERIES BI-SPECTRUM THERMAL BULLET VGA CAMERAS

SYSTEM COMPATIBILITY & RECOMMENDED ACCESSORIES

SYSTEM COMPATIBILITY*	
MAXPRO NVR HE	Up to 256 IP channels RAID5/6 enterprise NVR
MAXPRO NVR PE	Up to 192 IP channels RAID5/6 enterprise NVR
MAXPRO NVR SE	Up to 96 IP channels system NVR
MAXPRO NVR XE	Up to 24 IP channels system NVR
MAXPRO NVR Software	Up to 256 IP channels recording software
ADPRO NVR iFT-E**	Up to 32 IP channels with up to 32 VA channels NVRs
ADPRO NVR iFT**	Up to 32 IP channels or 16 IP channels with up to 16 VA channels NVRs
ADPRO NVR eFT-S**	Up to 16 IP channels or 8 IP channels with up to 8 VA channels NVRs
ADPRO NVR iFT Gateway**	4 IP channels + 4 VA channels
Honeywell DVM**	Supported with Honeywell DVM 800
35 Series NVR	4/8/16/32/64-channel 35 series NVRs

OPTIONAL MOUNTS AND ACCESSORIES***	
HA35PCM04B	35S cap for pendent mount, 1.5NPT male
HA35CLM01	35S ceiling mount base with adapter
HA35CLM02	35S ceiling mount pendent extension, 252 mm
HA35JCBHBB	35S bullet junction box , IP66
HA35PLM01	35S pole mount bracket
HA35CNM01	35S corner mount bracket
HAS1PTD	Bi-spectrum bullet PT driver
HAS1PTDP	Bi-spectrum bullet PT driver pendant mount
HAS1TBFN	Bi-spectrum bullet VGA front cover for NEMA
HA60JCBPT	60s Bi-spectrum PT driver junction box

***Mounting accessories are not included with camera and must be ordered separately. Please refer to the cross reference matrix or accessories datasheet for detailed information.

*When it is used with the camera, ADPRO, DVM or 35 Series NVRs will consume 2 channels and MAXPRO will consume 1 license.
**Limited features are supported for compatibility. Please refer to the Integration Matrix for detailed information.

ORDERING

PART NUMBER	DESCRIPTION
HC60TB4R1VT09	60 Series Bi-Spectrum Thermal Bullet VGA Cameras with 9 mm Thermal Lens, PoE
HC60TB4R4VT15	60 Series Bi-Spectrum Thermal Bullet VGA Cameras with 15 mm Thermal Lens, PoE
HC60TB4R2VT25	60 Series Bi-Spectrum Thermal Bullet VGA Cameras with 25 mm Thermal Lens, PoE
HC60TB4R2VT35	60 Series Bi-Spectrum Thermal Bullet VGA Cameras with 35 mm Thermal Lens, PoE
HC60TB4R2VT50	60 Series Bi-Spectrum Thermal Bullet VGA Cameras with 50 mm Thermal Lens, PoE

HEVCAdvance™

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