

35 SERIES HC35TE5RxJTxx



Bi-Spectrum Thermal Ball Cameras



Honeywell's 35 Series Bi-Spectrum Thermal Ball 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 today's increasingly complex commercial landscape, the need for effective security solutions has never been greater. Bi-spectrum thermal surveillance cameras are at the forefront of this demand, offering a revolutionary approach to monitoring and protecting assets. By integrating advanced thermal imaging technologies with high-definition optical capabilities, these cameras provide unparalleled visibility in both challenging lighting conditions and diverse environments.

The camera's ability to detect heat signatures in total darkness while simultaneously verifying threats with exceptional optical clarity makes them an essential tool for businesses to enhance security measures, safeguard properties, and minimize risk for a robust return on investment.

ENHANCED DETECTION AND RECOGNITION

- Superior image quality by 5MP optical resolution and 256 x 192 thermal heat-seeking resolution sensor combine in one camera device to be able to see more detail at a longer distance for earlier detection of threats.
- Multiple optical and thermal lens options to select from based on environment needs
- Optical sensor offers longer detection distance up to 82 m (269 ft) and recognition up to 16.4 m (53.81 ft).
- Thermal sensor can detect a human up to 146 m (479 ft) and can recognize a human up to 36 m (118.11 ft).

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
- 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.
- 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

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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35 SERIES BI-SPECTRUM THERMAL BALL CAMERAS

OPERATIONAL		
CAMERA	OPTICAL	THERMAL
Image Sensor	1/2.7" CMOS	Vanadium oxide uncooled focal plane detector
Sensor Size (H x V)	6.6 mm x 4.3 mm	10.5 mm x 7.4 mm
Number Of Pixels (H x V)	2880 x 1620	256 x 192
Noise Reduction	2D/3D DNR	2D/3D DNR
Lens	HC35TE5R3JT21: 2.2 mm, F2.2 HC35TE5R4JT35: 4 mm, F1.6	HC35TE5R3JT21: 2.1 mm, F1.0 HC35TE5R4JT35: 3.5 mm, F1.0
Angle Of View (H x V)	HC35TE5R3JT21: H: 119°, V: 69.98° HC35TE5R4JT35: H: 91.58°, V: 46.53°	HC35TE5R3JT21: H: 90°, V: 64° HC35TE5R4JT35: H: 48°, V: 36°
Privacy Masking	Off / On (4 Areas)	Off / On (4 Areas)
Defog	Supported	Supported
Focus Mode	Fixed	Fixed
Min. Focusing Distance	HC35TE5R3JT21: 0.3 m HC35TE5R4JT35: 1 m	HC35TE5R3JT21: 0.15 m HC35TE5R4JT35: 0.4 m
Image Setting	Brightness, Saturation, Sharpness, Contrast	Brightness, Sharpness, Contrast
Mirror	Normal, Horizontal, Vertical, Horizontal+Vertical	Normal, Horizontal, Vertical, Horizontal+Vertical
Scanning System	Progressive	
Minimum Illumination (Color/BW)	HC35TE5R3JT21: Color: 0.05 Lux @(F2.2, 30 IRE), B/W: 0.005 Lux @(F2.2, 30 IRE), 0Lux with IR HC35TE5R4JT35: Color: 0.01 Lux @(F1.6, 30 IRE), B/W: 0.001 Lux @(F1.6, 30 IRE), 0Lux with IR	
S/N Ratio	> 55 dB	
Electronic Shutter Speed	1/5 to 1/20,000 s	
IR Distance	HC35TE5R3JT21: 15 m (49.21 ft) HC35TE5R4JT35: Up to 35 m (114.83 ft)	
IR Light Control	Smart IR (Auto/Manual)/OFF	
IR Light Number	2 (1 IR + 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		12 μm
Spectral Range		8 ~ 14 μm
Sensitivity (NETD)		≤ 50 Mk, F1.0
Pseudo-color Setting		White Hot, Black Hot, Rainbow, Ironbow, HSV, Bone, Cool, Copper, Fire-Hot, 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	1 Ch Input, 1 Ch Output			
Analog Output Support	Supported			
RS485	Supported			
Reset	Supported			
VIDEO	OPTICAL		THERMAL	
Resolution	PAL	NTSC	PAL	NTSC
	Stream 1 2880 x 1620, 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 2880 x 1620, 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 1 704 x 576 @25fps Stream 2 704 x 576, 352 x 288, 256 x 192 @25fps	Stream 1 704 x 480 @30fps Stream 2 704 x 480, 352 x 240, 256 x 192 @30fps
Region of Interest	8		8	
Bit Rate	Stream 1 2880 x 1620, 2560 x 1440, 2304 x 1296, 1920 x 1080, 500kbps-12000kbps 1280 x 720, 200kbps-8000kbps 1920 x 1080 (MJPEG), 500kbps-8000kbps 1280 x 720(MJPEG), 100kbps-5000kbps Stream 2 1920 x 1080, 500kbps-12000kbps 1280 x 720, 200kbps-8000kbps 704 x 576(PAL)/704 x 480(NTSC), 100kbps-6000kbps 640 x 480, 10kbps-3000kbps 704 x 576(PAL)/704 x 480(NTSC) (MJPEG), 100kbps-5000kbps 640 x 480(MJPEG) 10kbps-3000kbps		Stream 1 704 x 576(PAL)/704 x 480(NTSC), 100kbps-3000kbps 704 x 576(PAL)/704 x 480(NTSC)(MJPEG), 100kbps-3000kbps Stream 2 704 x 576(PAL)/704 x 480(NTSC), 100kbps-3000kbps 352 x 288(PAL)/352 x 240(NTSC), 100kbps-1500kbps 352 x 288(PAL)/352 x 240(NTSC) (MJPEG), 10kbps-1500kbps 256 x 192, 10kbps-1500kbps 256 x 192(MJPEG), 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 and MicroSD card			
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			

*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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THERMAL TEMPERATURE MEASUREMENT*	
Measurement Range	-20 °C ~ 150 °C (-4 °F ~ 302 °F)
Measurement Accuracy	±8 °C
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/PoE (IEEE 802.3 af)
Power Consumption (Max)	Max. 10 W
MECHANICAL	
Dimensions	Ø126.1 x 114.1 mm (4.96" x 4.49")
Package Dimensions	172 x 162 x 182 mm (6.77" x 6.38" x 7.17")
Product Weight	0.96 kg (2.12 lb)
Package Weight	1.18 kg (2.6 lb)
Body Material	Metal + Plastic
Color	RAL 9003, Black
ENVIRONMENTAL	
Operating Temperature	-40 °C to 60 °C (-40 °F to 140 °F)
Relative Humidity	Less than 90%, non-condensing
Ingress Protection	IP66, IP67
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	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)		
	HC35TE5R3JT21	HC35TE5R4JT35
Detect	43.7 m (143.37 ft)	82 m (269.03 ft)
Observe	17.48 m (57.35 ft)	32.8 m (107.61 ft)
Recognize	8.74 m (28.67 ft)	16.4 m (53.81 ft)
Identify	4.37 m (14.34 ft)	8.2 m (26.9 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**)		
	HC35TE5R3JT21	HC35TE5R4JT35
Detect (Human: 1.8 × 0.5 m)	88 m (288.71 ft)	146 m (479 ft)
Detect (Vehicle: 4 × 1.5 m)	268 m (879.27 ft)	447 m (1466.54 ft)
Recognize (Human: 1.8 × 0.5 m)	22 m (72.18 ft)	36 m (118.11 ft)
Recognize (Vehicle: 4 × 1.5 m)	67 m (219.82 ft)	112 m (367.45 ft)
Identify (Human: 1.8 × 0.5 m)	11 m (36.09 ft)	18 m (59.06 ft)
Identify (Vehicle: 4 × 1.5 m)	34 m (111.55 ft)	56 m (183.73 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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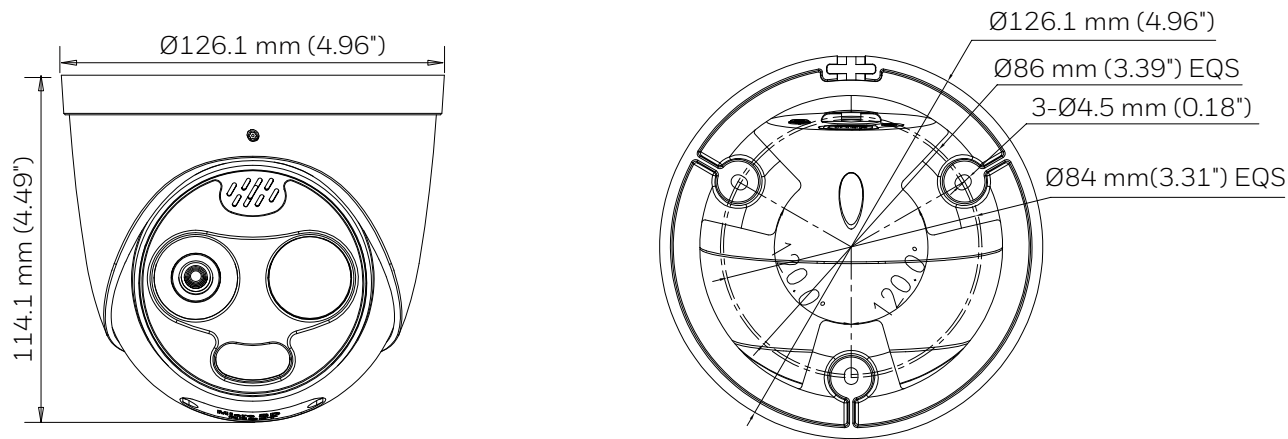
DETECTION RANGE-OPTICAL*		
	HC35TE5R3JT21	HC35TE5R4JT35
VA Detection Distance (Face: 0.15 × 0.25 m)	3~4 m (9.84~13.12 ft)	3~4 m (9.84~13.12 ft)
VA Detection Distance (Human: 1.8 × 0.5 m)	3~27 m (9.84~88.58 ft)	3~27 m (9.84~88.58 ft)
VA Detection Distance (Front/Rear of Vehicle: 4 × 1.5 m)	Up to 90 m (up to 295.28 ft)	Up to 165 m (up to 541.34 ft)
Smoke and Flame Detection (Object: 1.2 × 0.65 m)	2 m (6.56 ft)	2 m (6.56 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*		
	HC35TE5R3JT21	HC35TE5R4JT35
VA Detection Distance (Human: 1.8 × 0.5 m)	2~16 m (6.56~52.49 ft)	4~16 m (13.12~52.49 ft)
VA Detection Distance (Front/Rear of Vehicle: 4 × 1.5 m)	Up to 42 m (up to 137.8 ft)	Up to 90 m (up to 295.28 ft)
Smoker Detection	2~10 m (6.56~32.81 ft)	3.5~12.5 m (11.48~41.01 ft)
Fire Detection (Object: 0.16 × 0.16 m)	10 m (32.81 ft)	13 m (42.65 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



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SYSTEM COMPATIBILITY & RECOMMENDED ACCESSORIES

SYSTEM COMPATIBILITY*		OPTIONAL MOUNTS AND ACCESSORIES***	
MAXPRO NVR HE	Up to 256 IP channels RAID5/6 enterprise NVR	HA35PMC02	35S MFZ camera cap, 1.5NPT male
MAXPRO NVR PE	Up to 192 IP channels RAID5/6 enterprise NVR	HA35CLM01	35S ceiling mount base with adapter
MAXPRO NVR SE	Up to 96 IP channels system NVR	HA35CLM02	35S ceiling mount pendent extension, 252 mm
MAXPRO NVR XE	Up to 24 IP channels system NVR	HA60WLMB1	60S wall mount bracket, 1.5NPT female
MAXPRO NVR Software	Up to 256 IP channels recording software	HA35JCBHA1	35S all-in-one box, white
ADPRO NVR iFT-E**	Up to 32 IP channels with up to 32 VA channels NVRs	HA35PLM01	35S pole mount bracket
ADPRO NVR iFT**	Up to 32 IP channels or 16 IP channels with up to 16 VA channels NVRs	HA35CNM01	35S corner mount bracket
ADPRO NVR eFT-S**	Up to 16 IP channels or 8 IP channels with up to 8 VA channels NVRs	***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.	
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		

*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
HC35TE5R3JT21	35 Series Bi-Spectrum Thermal Ball Cameras with 2.1 mm Thermal Lens, PoE
HC35TE5R4JT35	35 Series Bi-Spectrum Thermal Ball Cameras with 3.5 mm Thermal Lens, PoE

For More Information

hwl.co/securityUK

hwl.co/securityAE

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