CMIP9T221-3M

Platinum Thermal & Optical Network Bullet Camera

CMIP9T221-3M Thermal Bi-spectrum Network Bullet Camera comes equipped with a built-in GPU which supports intelligent behavior analyses. This camera provides high-precision VCA detections and real-time alarms. It is designed for perimeter defense and fire-prevention in critical infrastructure, residential communities, private villas, construction sites, factories, 4S stores, and more. The pre-alarm system helps users detect threats immediately and prevent property damage.

Smart Functions (Thermal Imaging)

- Leading image processing technology: Adaptive AGC, DDE, 3D DNR, NETD less than 40 mk (@ 25° C, f1.1)
- Powerful behavior analysis based on deep learning algorithm: Line crossing, intrusion, region entrance & exit
- Reliable temperature exception/anomaly alarm
- Advanced fire detection algorithm
- Bi-spectrum image fusion, picture-in-picture preview

Thermal Imaging Module Function

- 160 × 120 resolution sensor (output image resolution: 320 × 240) with high sensitivity; supports contrast adjustment
- Shutter adjustment in various modes
- 3D DNR, 15 palettes of adjustable color, image detail enhancement
- Mirror imaging; digital zoom x2, x4, and x8; local output

Specifications

Thermal Module	
Image Sensor	Vanadium oxide uncooled focal plane arrays
Max. Resolution	160 × 120 (output image resolution 320 × 240)
Pixel Interval	17 μm
Response Waveband	8 to 14 μm
NETD	less than 40 mk (@ 25° C, f1.1)
Focal Length	3.1 mm
MRAD	5.48
Field of View	50° × 37.2° (H × V)
Min. Focusing Distance	0.2 m
Aperture	f1.1

Optical Module	
Max. Image Resolution	1920 × 1080
Image Sensor	1/2.8" Progressive Scan CMOS
Min. Illumination	Color: 0.002 Lux @ f1.5, AGC on; B&W: 0.0002 Lux @ f1.5, AGC on
Shutter Speed	1 to 1/100,000 sec.
Focal Length	4 mm
Field of View	87°× 46.2°(H × V)
WDR	Digital
Day & Night	IR cut filter with auto switch

Image Functions	
Bi-spectrum Image Fusion	Fusion of thermal view and overlaid details of optical channel
Picture in Picture	Combines details of thermal and optical imaging, overlays thermal image on optical

Smart Functions	
Video Content Analyses (VCA)	4 VCA rules (Line crossing; intrusion; region entrance and exiting), up to 8 VCA rules
Temperature Measurement	3 temperature measurement rule types, 21 rules (10 points, 10 areas, and 1 line).
Temperature Range	-4° to 302° F (-20° to 150°)
Temperature Accuracy	± 14.4° F (± 8° C)
Fire Detection	Dynamic fire point detection, up to 10 fire points

Infrared	
IR Distance	Up to 131 ft (40 m)
IR Intensity and Angle	Automatically adjusted

Network	
Main Stream	Visible Light: 50 Hz: 25 fps (1920 × 1080), 25 fps (1280 × 960), 25 fps (1280 × 720) Visible Light: 60 Hz: 30 fps (1920 × 1080), 30 fps (1280 × 960), 30 fps (1280 × 720) Thermal: 25 fps (160 × 120 [output image resolution 320 × 240])
Sub Stream	Visible Light: 50 Hz: 25 fps (704 × 576), 25 fps (352 × 288), 25 fps (176 × 144) Visible Light: 60 Hz: 30 fps (704 × 480), 30 fps (352 × 240), 30 fps (176 × 120) Thermal: 25 fps (160 × 120 [the resolution of output image is 320 × 240])
Video Compression	H.264 / H.264+ / H.265 / H.265+ / MJPEG encoding with Baseline / Main / High Profile
Audio Compression	G .711 u / G.711 a / G.722.1 / MP2L2 / G.726 / PCM
Protocols	IPv4 / IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPnP, SNMP, DNS, DDNS,NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoE
Simultaneous Live View	Up to 20
User / Host level	Up to 32 users, 3 levels: Administrator, Operator, User
Security Measures	User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filtering

Integration	
Alarm Input Channels	2 inputs (0 - 5 VDC)
Alarm Output Channels	2 relay outputs, alarm response actions configurable
Alarm Action	SD recording / Relay output / Smart capture / FTP upload / Email linkage
Audio Input	1 x 3.5mm Mic in / Line in interface; Line input: 2 - 2.4 V[p-p], output impedance: 1 KΩ ± 10%
Audio Output	Linear Level; Impedance: 600Ω
Reset	1 x Reset Button
Ethernet	1 x RJ45 10/100 Mbps Self-adaptive Ethernet interface, 1 x RS-485 interface
On-Board Memory	Built-in card slot supports MicroSD / SDHC / SDXC cards (up to 128 GB), supports manual / alarm recording
Analog Video Output	1.0 V [p-p] / 75 Ω, PAL / NTSC / BNC
Application Programming	Open-ended API, support ISAPI, SDK and third-party management platform
Web Browsers	IE 9+, Chrome 31 - 44, Firefox 30 - 51, Safari 5.02+ (Mac)

General	
Menu language	English
Power	12 VDC± 20% PoE (802.3 af, class 4)
Power Consumption	12 VDC ± 20%: max. 12 W PoE (802.3 af, class 4)
Operating Conditions	-40° to 140° F (-40° to 60° C), 90% or less
Protection Levels	IP66 Standard TVS 6,000 V lightning protection, surge protection, voltage transient protection
Dimensions	13.9 × 4.5 × 4.5" (352.4 × 113.5 × 114.7 mm)
Weight	Approx. 3.3 lb (1.5 kg)

Detection Range Table

The table is for reference only; performance may vary from camera to camera based on environmental and other conditions.

Smart Function Range

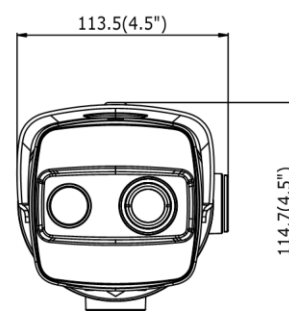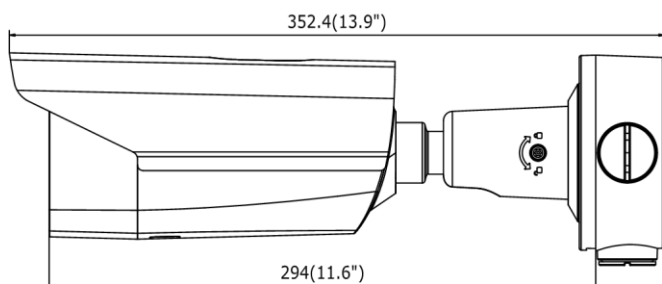Specific targets trigger the VCA events in unique range limits.

VCA Range (Vehicles: 1.4 × 4.0 m)	VCA Range (Humans: 1.8 × 0.5 m)	Temperature Measurement (Objects: 2 × 2 m)	Temperature measurement (Objects: 1 × 1 m)	Fire Detection (Objects: 2 × 2 m)	Fire Detection (Objects: 1 × 1 m)
200 ft (63 m)	70 ft (21 m)	215 ft (66 m)	110 ft (33 m)	590 ft (180 m)	295 ft (90 m)

Wide Range Coverage

Range limits for detecting, recognizing, and identifying human and vehicle targets are below.

Detection Range (Vehicles: 1.4 × 4.0 m)	Detection Range (Humans: 1.8 × 0.5 m)	Recognition Range (Vehicles: 1.4 × 4.0 m)	Recognition Range (Humans: 1.8 × 0.5 m)	Identification Range (Vehicles: 1.4 × 4.0 m)	Identification Range (Humans: 1.8 × 0.5 m)
900 ft (280 m)	300 ft (91 m)	230 ft (70 m)	75 ft (23 m)	115 ft (35 m)	35 ft (11 m)

Dimensions

352.4(13.9")

294(11.6")

113.5(4.5")

114.7(4.5")

Unit:mm(inch)