

# **CMIP9T221-3M**

## **Thermal & Optical Network Bullet Camera**





CMIP9T221-3M Thermal Bi-spectrum Network Bullet Camera equipped with built-in GPU which support intelligent behavior analysis algorithm, can realize high precision VCA detection and real-time alarm. It is applied to perimeter defense and fire-prevention purposes in critical infrastructures such as: community, villa, construction site, factory, 4S stores, and so on. The pre-alarm system helps you discover unexpected events immediately and protects you from property loss.

### **Smart Function (Thermal Imaging)**

- Leading image processing technology: Adaptive AGC, DDE, 3D DNR, NETD less than 40 mk (@25°C,F#=1.1)
- Powerful behavior analysis function, based on deep learning algorithm: Line crossing, Intrusion, Region Entrance & Exit
- Reliable temperature exception alarm function
- Advanced fire detection algorithm
- Bi-spectrum image fusion, picture in picture preview

### **Thermal Imaging Module Function**

- 160 × 120 (the resolution of output image is 320 × 240) resolution sensor, high sensitivity sensor, support contrast adjustment
- Shutter adjustment in various modes
- 3D DNR, 15 palettes of color adjustable, image detail enhancement
- Mirror image, digital zoom ×2, ×4, ×8, and local output



# Specification

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Thermal Module	
Image Sensor	Vanadium Oxide Uncooled Focal Plane Arrays
Max. Resolution	160 × 120 (the resolution of output image is $320 \times 240$ )
Pixel Interval	17µm
Response Waveband	8μm to 14μm
NETD	less than 40 mk (@25°C,F#=1.1)
Lens (Focal Length)	3.1 mm
MRAD	5.48 mrad
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	1s to 1/100,000s
Lens (Focal Length)	4 mm
Field of View	87° × 46.2°(H × V)
WDR	Digital WDR
Day & Night	IR cut filter with auto switch
Image Function	
Bi-spectrum Image Fusion	Fusion view of thermal view and overlaid details of the optical channel
Picture in Picture	Combins details of thermal and optical image PIP, overlay thermal image on optical image
Smart Function	
VCA (Video Content Analysis)	4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and Region Exiting), up to 8 VCA rules.
Temperature Measurement	3 temperature measurement rule types, 21 rules (10 points, 10 areas, and 1 line).
Temperature Range	-20 °C to +150 °C (-4 °F to +302°F)
Temperature Accuracy	± 8 °C (± 14.4 °F)
Fire detection	Dynamic fire point detection, up to 10 fire points detectable.



R Intensity and AngleAutomatically adjustedNetworkWain StreamVisible Light: 50Hz: 25fps (1920 × 1080), 25fps (1280 × 960), 25fps (1280 × 720) Visible Light: 60Hz: 30fps (1920 × 1080), 30fps (1280 × 960), 30fps (1280 × 720) Thermal: 25fps (160 × 120 (the resolution of output image is 320 × 240))Sub StreamVisible Light: 60Hz: 30fps (704 × 576), 25fps (352 × 288), 25fps (176 × 120) Thermal: 25fps (160 × 120 (the resolution of output image is 320 × 240))Judio CompressionH.265/H.264/MJPEG, H.265+/H.264+ encoding with Baseline/Main/High ProfileAudio CompressionG.711u/G.711a/G.722.1/MP2L2/G.726/PCMProtocolsIPv4/IPv6, HTTP, HTTPS, 802.1x, Qos, FTP, SMTP, UPNP, SNMP, DNS, DDNS,NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, PPPoESimultaneous Live ViewUp to 20User authentication (ID and PW), MAC address binding, HTTPS encryption, IEEE 802.1x access control, IP address filteringAlarm Input2-ch inputs (0-5vDC)Narm OutputSD recording/Relay output/Smart capture/FTP upload/Email linkageAudio Input1.3.5mm Mic in/Line in interface. Line input: 2-2.4V[p-p], output impedance:1KΩ±10%Audio OutputLinear Level; Impedance: 600ΩReset1 Reset ButtonEtternet1 RM45 10M/100M Self-adaptive Ethernet interface, 1 RS-485 interface	Infrared	
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Ethernet 1 RJ45 10M/100M Self-adaptive Ethernet interface, 1 RS-485 interface	Audio Output	Linear Level; Impedance: 600Ω
	Reset	1 Reset Button
Duilt in Mines CD could plat automath Mines CD (CDUC (CDVC could (up to 120C)	Ethernet	1 RJ45 10M/100M Self-adaptive Ethernet interface, 1 RS-485 interface
SD Memory Card support manual/alarm recording	SD Memory Card	Built-in Micro SD card slot, support Micro SD/SDHC/SDXC card (up to 128G), support manual/alarm recording
Analog Video Output 1.0V [p-p]/75Ω, PAL/NTSC/BNC	Analog Video Output	1.0V [p-p]/75Ω, PAL/NTSC/BNC
Application Programming Open-ended API, support ISAPI, SDK and third-party management platform	Application Programming	Open-ended API, support ISAPI, SDK and third-party management platform
Web BrowserIE9+, chrome31-chrome44, Firefox 30-Firefox51, Safari 5.02+(mac)	Web Browser	IE9+, chrome31-chrome44, Firefox 30-Firefox51, Safari 5.02+(mac)

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General	
Menu language	English
Power	12 VDC± 20% PoE (802.3af, class 4)
Power Consumption	12 VDC ± 20%: max. 12W PoE (802.3af, class 4)
Working Temperature/Humidity	-40 °C to 60 °C (-40 °F to 140 °F), 90% or less
Protection Level	IP66 Standard TVS 6000V Lightning protection, surge protection, voltage transient protection
Dimensions	352.4 mm × 113.5 mm × 114.7 mm (13.9" × 4.5" × 4.5 ")
Weight	Approx. 1.5Kg (3.3lb)





### **Detection Range Table**

\* The table is only for reference, the performance may vary from camera to camera.

### **Smart functions Range**

Different targets trigger the VCA events within different range limits.

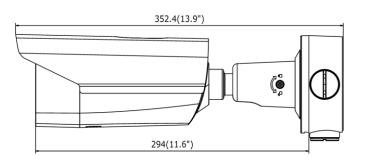
VCA Range (Vehicles: 1.4×4.0m)	VCA Range (Humans: 1.8×0.5m)	Temperature Measurement (Object:2×2 m)	Temperature measurement (Object:1×1 m)	Fire Detection (Object:2×2 m)	Fire Detection (Object:1×1 m)
63 m	21 m	66 m	33 m	180 m	90 m

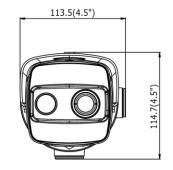
#### Wide Range Coverage

There is range limit for detecting, recognizing, and identifying human/vehicle targets.

Detection Range	Detection Range	Recognition	Recognition	Identification	Identification
(Vehicles:	(Humans:	Range (Vehicles:	Range (Humans:	Range (Vehicles:	Range (Humans:
1.4×4.0m)	1.8×0.5m)	1.4×4.0m)	1.8×0.5m)	1.4×4.0m)	1.8×0.5m)
280 m	91 m	70 m	23 m	35 m	11 m

### Dimension





Unit:mm(inch)

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