

SN-TPC4107KV-F

Thermal Imaging Security Network Bullet Camera



Key Features

- 384 × 288 VOx uncooled thermal sensor, 17 μm pixel pitch, NETD $\leq 40 \text{ mK}$
- Optional fixed thermal lenses: 9 mm / 15 mm / 25 mm / 35 mm / 50 mm
- Supports human and vehicle detection, as well as smoking detection and fire spot detection
- Intelligent analytics: intrusion, smart motion detection, line crossing, loitering, wrong-way detection, enter area, leave area, and people counting
- Temperature monitoring with exception alarms
- Supports temperature measurement rules: spot, line, and area
- Temperature measurement range: $-20 \text{ }^{\circ}\text{C}$ to $150 \text{ }^{\circ}\text{C}$; accuracy $\pm 8 \text{ }^{\circ}\text{C}$
- NDAA compliant, IP66, IK10-rated housing

Specifications

Camera

Image Sensor	VOx uncooled focal plane array
Max Resolution	384 × 288 thermal resolution, upscaled output up to 1280 × 720
Pixel Pitch	17 μm
Spectral Range	8–14 μm
NETD	≤ 40 mK

Lens

Lens Type	Fixed lens
Focal Length	9 mm / 15 mm / 25 mm / 35 mm / 50 mm (optional)
Max. Aperture	F1.0
Field of View (FOV)	9 mm: H: 37°, V: 28° 15 mm: H: 28°, V: 21° 25 mm: H: 14°, V: 11° 35 mm: H: 10°, V: 8° 50 mm: H: 7.4°, V: 5.6°
Focus Control	Focus-free

Intelligent Analytics

AI Multi-Target Detection	Supports human and vehicle detection
Intelligent Analysis	Intrusion, smart motion detection, single-line crossing, double-line crossing, loitering, wrong-way detection, enter area, leave area; supports alarm triggering based on specified target types (human/vehicle)
People Counting	Supported
Smoking Detection	Supported
Fire Spot Detection	Supported

Video & Audio

Resolution	Stream 1: 1280 × 720, D1, 384 × 288 Stream 2: D1, 384 × 288, CIF
Frame Rate	Up to 25 fps
Bit Rate Control	CBR/VBR
Bit Rate	Stream 1: 100 Kbps to 8 Mbps Stream 2: 100 Kbps to 6 Mbps
Smart Encoding	Supported
Audio Compression	G.711 A-law, G.711 μ-law, RAW_PCM
Audio Bit Rate	64 Kbps (G.711), 128 Kbps (RAW_PCM)

Image

Image Adjustment	Brightness, Contrast, Sharpness
Scene Mode	Mirror
Pseudo-color Setting	Up to 17 colors (White-hot / Black-hot / Rainbow / Iron red / HSV / Bone / Cool / Copper / Fire-hot / Pink / Spring / Summer / Autumn / Winter / Jet / Flame / Rose -Bengal)
FFC Control	Auto / Manual
Noise Reduction	2D/3D DNR
Privacy Masking	Up to 4 configurable zones

Thermal Function

Temperature Range	-20 °C to 150 °C (-4 °F to 302 °F)
Accuracy	±8 °C
Temperature Detection	Supports 3 rule types (spot, line, and area); up to 20 rules, including 1 full-screen rule and 19 spot/line/area rules
Temperature Alarm	Temperature difference alarm, temperature threshold alarm, and temperature rise alarm
Temperature Display	Lower-left corner display; cursor-based display of maximum, minimum, and average temperature values
Response Time	≤ 30 ms

Event

Alarm Triggers	IVS, temperature anomaly, motion detection, alarm input, network alarm, disk alarm, and abnormal sound detection
Event Actions	Alarm recording, FTP upload, SMTP email notification, alarm output, and audible alarm output

Network

Protocols	IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTP/RTCP, TCP/UDP, NTP, ARP, UPnP, FTP, SMTP, QoS, ICMP, IGMP, SMTP, 802.1x, SNMP, Multicast
Application Programming Interface	ONVIF (Profile S/T/G/M), SDK, CGI
Max Concurrent Streams	10 channels
User/Host Level	32+ users, 3 levels: Administrator, Operator, and Media user
Web Viewer	Chrome, Firefox, Microsoft Edge, IE11 or earlier

Security

OS / Firmware Protect	Encrypted firmware, Signed firmware
User Authentication	Digest authentication, Brute-force attack protection
Network Authentication	IEEE 802.1X (EAP-TLS)
Secure Communication	HTTPS, WSS (WebSocket Secure), SRTP
Access Control	IP-based access control, Auto logout
Data Protect	Encryption credentials
Audit	Access, system, and event logs
Supply Chain Security	SBOM

Interface

Network Interface	1 × RJ45 10/100 Mbps Ethernet port
Audio Interface	1 input (RCA), 1 output (RCA)
Alarm Interface	2 inputs, 2 outputs
RS-485	1 × RS-485
CVBS Output	1 × BNC
SD Card Slot	Built-in microSD card slot (up to 1 TB)
Reset Button	Supported

General

Language	English, Chinese, Traditional Chinese, Polish, Italian, Portuguese, Spanish, Russian, French, Czech, Hungarian, Japanese, Korean. Default: English
Power Supply	12 VDC / 24 VAC / PoE (802.3af)
Power Consumption	Max 4.5 W
Operating Temperature	-40 °C to 60 °C (-40 °F to 140 °F)
Operating Humidity	≤ 95% RH (non-condensing)
Ingress Protection	IP66, IK10-rated housing,
Certifications	CE-EMC: EN 55032, EN IEC 61000-6-4, EN IEC 61000-3-2, EN 61000-3-3, EN 55035, EN 50130-4 FCC: 47 CFR Part 15, Subpart B
Material	Aluminium alloy
Dimensions	φ120.5 × 315.9 ~ 352.6 mm (φ4.74" × 12.44" ~ 13.88")
Net Weight	1.62 kg (3.57 lb) with 9mm lens

Thermal DRI Distance

Thermal Lens	9 mm	15 mm	25 mm	35 mm	50 mm
Detection (Human: 1.8×0.5 m)	265 m (869.4 ft)	441 m (1,446.9 ft)	735 m (2,411.4 ft)	1,029 m (3,376.0 ft)	1,471 m (4,826.1 ft)
Detection (Vehicle: 4×1.5 m)	812 m (2,664.0 ft)	1,353 m (4,439.0 ft)	2,255 m (7,398.3 ft)	3,157 m (10,357.6 ft)	4,510 m (14,796.6 ft)
Recognition (Human: 1.8×0.5 m)	66 m (216.5 ft)	110 m (360.9 ft)	184 m (603.7 ft)	257 m (843.2 ft)	368 m (1,207.4 ft)
Recognition (Vehicle: 4×1.5 m)	203 m (666.0 ft)	338 m (1,108.9 ft)	564 m (1,850.4 ft)	789 m (2,588.6 ft)	1,127 m (3,697.5 ft)
Identification (Human: 1.8×0.5 m)	33 m (108.3 ft)	55 m (180.5 ft)	92 m (301.8 ft)	129 m (423.2 ft)	184 m (603.7 ft)
Identification (Vehicle: 4×1.5 m)	101 m (331.4 ft)	169 m (554.5 ft)	282 m (925.2 ft)	395 m (1,295.9 ft)	564 m (1,850.4 ft)

Note:

Distances are calculated based on Johnson's Criteria.

Detection: Object must be covered by ≥1.5 pixels.

Recognition: Object must be covered by ≥6 pixels.

Identification: Object must be covered by ≥12 pixels.

Thermal Smart Detection

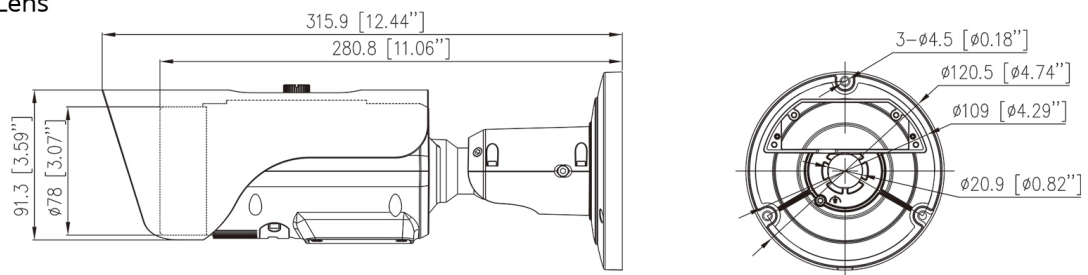
Lens	9 mm	15 mm	25 mm	35 mm	50 mm
VCA Detection (Human: 1.8×0.5 m)	50 m (164.0 ft)	86 m (281.2 ft)	243 m (797.2 ft)	350 m (1,148.3 ft)	500 m (1,640.4 ft)
VCA Detection (Front/Rear of Vehicle: 4×1.5 m)	100 m (328.1 ft)	180 m (590.6 ft)	300 m (984.3 ft)	400 m (1,312.3 ft)	630 m (2,066.9 ft)
Temperature Measurement (1×1 m)	106 m (347.8 ft)	176 m (577.4 ft)	294 m (964.6 ft)	412 m (1,351.7 ft)	588 m (1,929.1 ft)
Temperature Measurement (0.2×0.2 m)	21 m (68.9 ft)	35 m (114.8 ft)	59 m (193.6 ft)	82 m (269.0 ft)	118 m (387.1 ft)
Fire Detection (1×1 m)	265 m (869.4 ft)	441 m (1,446.9 ft)	735 m (2,411.2 ft)	1,029 m (3,376.0 ft)	1,471 m (4,826.1 ft)
Fire Detection (0.2×0.2 m)	53 m (173.9 ft)	88 m (288.7 ft)	147 m (482.3 ft)	206 m (675.9 ft)	294 m (964.6 ft)

Note:

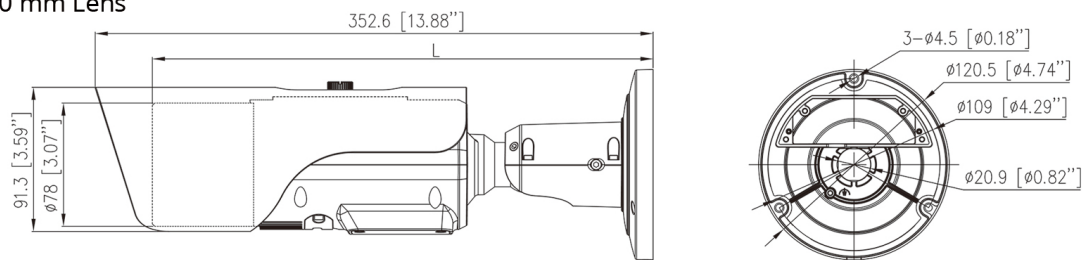
Values are for reference only. Actual detection range may vary with atmospheric conditions, target size, and installation environment.

Dimensions (mm)

F9 / F15 mm Lens



F25 / F35 / F50 mm Lens



f50 L=316.5mm[12.46"]

f35 L=305.3mm[12.02"]

f25 L=296.8mm[11.69"]

Accessories

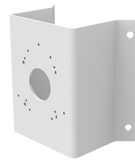
Optional:



SN-CBK645G
Junction Box



SN-CBK101A
Pole Mount



SN-CBK102A
Corner Mount