

IK-B4731AT-F

Thermal Imaging Network Bullet Camera



Key Features

- 384 × 288 VOx uncooled thermal sensor, 17 μm pixel pitch, NETD ≤ 40 mK
- Optional fixed thermal lenses: 9 mm / 15 mm / 25 mm / 35 mm / 50 mm
- Supports human/vehicle detection, smoking, and fire point detection
- Intelligent analytics: Intrusion, smart motion detection, single-line crossing, double-line crossing, loitering, wrong-way detection, enter area, leave area, and people counting
- Temperature monitoring and exception alarms
- Supports temperature measurement rules: spot, line, and area
- Temperature range: -20 °C to 150 °C or 0°C to 550°C; accuracy ±2 °C / ±2 %
- Built-in microphone and speaker, two-way audio
- Supports 12 VDC / 24 VAC / PoE power supply
- NDAA compliant, IP66, IK10-rated housing, optional NEMA 4X rating

Specifications

| Camera | |
|-----------------------|---|
| Image Sensor | Vanadium Oxide Uncooled Focal Plane Arrays |
| Max Resolution | Sensor is 384×288. Image can be scaled up to 1280×720 |
| Pixel Pitch | 17 μm |
| Spectral Range | 8 to 14 μm |
| NETD | ≤ 40mK |
| 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 | Supports human/vehicle detection. |
| Intelligent Analysis | Intrusion, smart motion detection, single-line crossing, double-line crossing, loitering, wrong-way detection, enter area, and leave area. - Supports accurate target classification (human/vehicle) |
| People Counting | Supported |
| Smoking Detection | Supported |
| Fire Spot Detection | Supported |
| Video & Audio | |
| Main Stream | 1280×720, D1, 384×288 |
| Sub Stream | D1, 384×288, CIF |
| Frame Rate | Up to 25fps |
| Bit Rate Control | CBR/VBR |
| Bit Rate | Main stream: 100 Kbps to 8 Mbps, Sub stream: 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 |
| OSD | Up to 8 OSD |
| Privacy Masking | 4 areas |
| Thermal Function | |
| Temperature Range | -20°C to 150°C (-4°F to 302°F) or 0°C to 550°C (32°F to 1022°F) |
| Accuracy | ±2°C / ±2% |
| Temperature Detection | Supports 3 rule types (spot, line, area); up to 20 rules in total, including 1 full-screen and 19 spot/line/area rules |
| Temperature Alarm | Temperature difference alarm, Threshold alarm, Temperature rise alarm |
| Temperature Display | Display in the lower left corner; follow the cursor display of the highest temperature, lowest temperature or average temperature |
| Response Time | ≤ 30ms |
| Event | |
| Alarm Triggers | IVS, Motion detection, Alarm input, Network alarm, Disk alarm, Abnormal sound detection |
| Event Actions | Alarm record, Alarm output, FTP upload, SMTP upload, Audible alarm output |
| Network | |
| Protocols | IPv4/IPv6, HTTP/HTTPS, DNS, DDNS, DHCP, PPPoE, RTSP/ RTCP/RTP, 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, Media user |
| Web Viewer | <IE11, Chrome, Firefox, Microsoft Edge |
| Security | |
| OS / Firmware Protect | Encrypted firmware, Signed firmware |
| User Authentication | Digest authentication, Prevent brute-force attack |
| 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 / Event Log management |

| Supply Chain Security | SBOM |
|-----------------------|---|
| Interface | |
| Network Interface | 1 × Ethernet (10/100 Base-T), RJ-45 connector |
| Built-in Microphone | Supported |
| Built-in Speaker | Supported |
| Audio Interface | 1ch Audio In, 1ch Audio Out |
| Alarm Interface | 2ch Alarm In, 2ch Alarm Out |
| Control Interface | 1ch RS-485 |
| CVBS Output | Supported |
| SD Card Slot | Built-in, 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, NEMA 4X (optional) |
| 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 | Metal |
| 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.

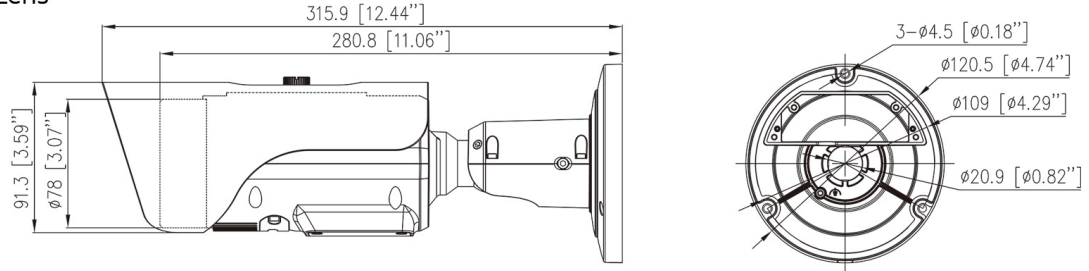
Thermal Smart Detection

| 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) |

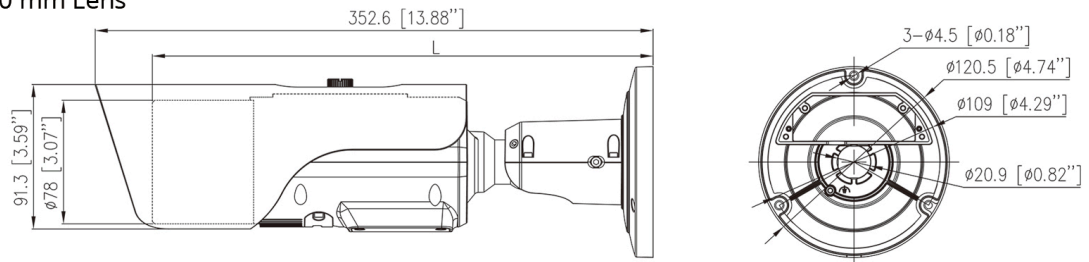
Note:
 Values are for reference only. Actual detection range may vary with atmospheric conditions, target size, and installation environment.

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:

| | | |
|---|---|--|
|  |  |  |
| <p>IK-AJ45G Junction Box</p> | <p>IK-AP01A Pole Mount</p> | <p>IK-ACR02A Corner Mount</p> |