# ZK-TH225-32A/70A/100A
## 5MP Dual-spectrum Thermal Bullet Camera

- Dual lens (Thermal + Visible Light)
- Vanadium oxide 12 micron uncooled focal plane detector
- Effective pixels: 256x192 ; NETD≤40mK
- ±2°C industrial temperature measurement accuracy
- IVA (Smart Function) Supported
- Built-in white light and speaker that produce light and sound alarms
- Multiple Web Browser Supported, IE/Safari/Chrome/Firefox
- IP67 Ingress Protection

**5MP** | **3D DNR** | | | **IP67** |

## Product Overview

TH225 series dual-spectrum Bullet network camera is a new type of dual-spectrum network camera which integrates infrared thermal imaging function and high-definition visible light function. The product integrates advanced passive infrared thermal imaging detector, with advanced industrial temperature analysis tools, pyrotechnic detection algorithm and dual spectral behavior analysis algorithm, with a variety of linkage alarm functions, truly achieve 24 hours security monitoring and fire warning. The products can be widely used in indoor and outdoor scene monitoring.

## Functions

### Vanadium oxide 12 micron uncooled focal plane detector

Using The latest generation of 12 micron uncooled infrared detectors integrates leading infrared image algorithms to image farther and clearer

### Dual lens (Thermal + Visible Light)

Visible light and thermal imaging dual spectral imaging, to meet the 24-hour security monitoring needs

### Accurate temperature measurement

±2°C industrial temperature measurement accuracy,The temperature measurement range is from -20° to +550°.

### Docking platform

Provide supporting VMS software, support ONVIF protocol, GB28181 and other standard protocols, can provide secondary development SDK.

### Alarm

It supports temperature alarm, fire alarm and equipment abnormal alarm etc.

### IVA (Intelligent Video Analysis)

It supports intelligent behavior analysis functions such as area intrusion and trip wire intrusion based on dual-spectrum and neural network. Support sound and light alarms when alarm occurs

# Technical Specification

## Thermal Camera

| Detector Type | ZK-TH225-32A | ZK-TH225-70A | ZK-TH225-100A |
|---|---|---|---|
| Spectral Range | 8~14μm | | |
| Thermal Sensitivity(NETD) | ≤40mK@25℃ @F/1.0 | | |
| Effective Pixels | 256(H)×192(V) | | |
| Pixel Size | 12μm | | |
| Palette | 20 palettes available such as Whitehot/Blackhot/Rainbow. | | |
| Thermal Image Stabilization | N/A | | |
| Digital Detail Enhancement (DDE) | Supported | | |
| Digital Zoom | N/A | | |
| Thermal AGC | Supported | | |
| Thermal Noise Reduction | 2D,3D Denoising | | |

## Thermal Lens

| Lens Type | uncool fixed focus | | |
|---|---|---|---|
| Focal Length | 3.2mm | 7mm | 10mm |
| FOV | 56.0°×42.2° | 24.8°×18.7° | 17.5°×11.3° |
| Max. Aperture | F1.1 | F1.0 | F1.0 |
| IFOV | 3.75mrad | 1.7mrad | 1.2mrad |
| Close Focus Distance | 0.3m | 0.5m | 0.5m |

## Visible Camera

| Sensor | 5MP 1/2.8" Progressive Scan CMOS | | |
|---|---|---|---|
| Min. Illumination | Color:0.005Lux ,Black&white:0.0005Lux ,IR light on:0Lux | | |
| Day/Night Conversion | ICR auto conversion/ Electronic color to B/W | | |
| Filling Light | Infrared filling light | | |
| Illuminator On/Off Control | Auto/Manual | | |
| IR Number | 1 | | |
| IR Range | 30m | | |
| Max. Resolution | 2560(H)×1920(V) | | |
| Wide Dynamic | 120dB | | |
| Angle Adjustment for Installation | Pan: 0°–360° Tilt: 0°–90° Rotation: 0°–360° | | |
| Horizontal Definition | N/A | | |
| Visible AGC | Supported | | |
| S/N Ratio | 120dB | | |
| Defog | N/A | | |
| BLC | Supported | | |
| HLC | Supported | | |

## Visible Camera

| Lens Type | Fixed Lens | | |
|---|---|---|---|
| Max. Aperture | F2.0 | | |
| Focal Length | 4mm | 8mm | 12mm |
| FOV | 82°×59° | 39°×29° | 25°×18° |
| Iris Type | Fixed | | |
| Close Focus Distance | 0.3m | | |

## Dual-spectrum Parameters

| | |
|---|---|
| Dual-Spectrum Fusion | Support the thermal image to fuse visible image to improve the image details |
| Temperature Information Overlay | The camera displays a digital camera image with superimposed thermal imaging temperature measurement information |

## Video and Audio

| | | |
|---|---|---|
| Video Compression | | H.264/H.265 |
| Resolution | Visible: | 50Hz:25fps(2560×1920, 2560×1440,1920×1080) 60Hz:30fps(2560×1920, 2560×1440, 1920×1080) |
| | Thermal: | 50Hz:25fps(1280×960, 1024×768) 60Hz:30fps(1280×960, 1024×768) |
| Noise Reduction | | 3D NR |
| Image Format | | JPEG |
| Max Video Frame Rate | Main Stream — Visible: | 50Hz:25fps(2560×1920, 2560×1440,1920×1080) 60Hz:30fps(2560×1920, 2560×1440, 1920×1080) |
| | Main Stream — Thermal: | 50Hz:25fps(1280×960, 1024×768) 60Hz:30fps(1280×960, 1024×768) |
| | Substream — Visible: | 50Hz:25fps(1920×1080, 1280×720, 704×576, 352×288) 60Hz:30fps(1920×1080, 1280×720, 704×480, 352×240) |
| | Substream — Thermal: | 50Hz:25fps(640×480, 320×288) 60Hz:30fps(640×480, 320×240) |
| Audio Compression | | G.711a/G.711u/AAC/PCM |
| Image Rotation | | Flip Horizontal, Upside Down, 180° Flip |

## Network

| | |
|---|---|
| Communication Interface | 1 RJ45 10M/100M adaptive Ethernet port |
| Network Protocol | IPv4,HTTP,HTTPS,FTP,SMTP,UPnP,DNS,DDNS,NT P,RTSP,RTCP,RTP,TCP,UDP,IGMP,ICMP,DHCP |
| Interoperability | ONVIF, GB28181, SDK |
| Number of Videos Previewed Simultaneously | Support up to 8 channels |
| User Management | Up to 32 users, divided into 3 levels: administrators, operators and users |
| On-Board Storage | Micro SD memory (maximum 256G) |
| Browser | Support browsers such as Google, Firefox, Edge (chrome kernel), Chinese and English are supported |

## Temperature Measurement

| | |
|---|---|
| Measuring Range | -20°C ~150°C , 0°C ~+550°C |
| Measuring Accuracy | ±2°C or ±2%(The larger value shall prevail) |
| Temperature Analysis | Support full frame, spot, line, region temperature measurement rules and linkage alarms |

## Functions

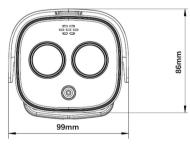| | |
|---|---|
| Fire Warning | Support fire detection |
| Smart Video | Alarm trigger recording, disconnection trigger recording |
| Smart Alarming | Support triggering alarm and linkage alarm of network disconnection, IP address conflict, memory error,illegal access and burn alarm |
| Smart Detecting | Support event analysis functions such as area intrusion, tripwire intrusion, dynamic detection analysis, etc. |
| Voice Intercom | Support two-way voice intercom |
| Linkage Alarm | Video/image/mail/ alarm output / sound and light alarm (built-in) |

| Region of Interest (RoI) | Yes |
|---|---|
| Security | Authorized username and password; attached MAC address; encrypted HTTPS; IEEE 802.1x; controlled network access |
| PIP | N/A |

## Port

| Audio Input | 1 channel |
|---|---|
| Audio Output | 1 channel |
| Alarm Input | 2 channel |
| Alarm output | 1 channel |

## Interface

| Reset Button | Support |
|---|---|
| ANR | N/A |
| USB | N/A |
| RS485 | 1 channel RS485 and support Pelco protocol |

## General

## Power

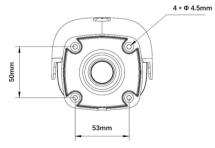| Power Supply | DC 12V±25% / PoE(802.3af ) |
|---|---|
| Operating Temperature& Humidity | -40°C ~+70°C ;<95%RH |
| Protection Level | IP67 |
| Power Consumption | Max.< 6W |
| Dimension (mm) | 265×99×87 (minimum length can be adjusted to 253mm) |
| Weight | 950g |
| Safety | CE-LVD; CE-EMC; FCC certification |

## Ordering Information

| Type | Model | Descripton |
|---|---|---|
| 5MP Thermal Camera | ZK-TH225-32A | 5MP Dual-spectrum Thermal Bullet Camera |
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## Dimensions (mm)