

# Thermal & Optical Bi-spectrum Network Bullet Camera

TIC2A32SA-F3-4F4AC-I1



## Features

- Thermal & Optical dual-spectrum image, dual video with single IP address, adaptable to more various scenes
- 1/2.8" target surface, high sensitivity sensor, satisfy the need of starlight monitoring
- Thermal module support reliable fire detection, smoking detection and fire shield area
- Thermal module supports temperature detection and cold&hot spot tracking which highlights the abnormal temperature, and link to alarm
- Thermal & Optical dual-spectrum smart intrusion prevention: cross line, enter area, leave area, intrusion
- Optical module supports smog recognition, which can help with fire alarm reconfirm
- Support picture-in-picture mode, real-time contrast live, more convenient and clear
- Support audio and light alarm, with red and blue warning lights built in
- Ultra 265, H.265, H.264, MJPEG
- Max 2688\*1520@30fps in the optical module and Max 960P@30fps in the thermal module

- DC12V±25% or PoE power supply
- Alarm 2 in and 2 out, Audio 1 in and 1 out, Micro SD, up to 512 GB

## Specifications

	Optical	Thermal
<b>Camera</b>	<b>Description</b>	
Sensor	1/2.8" CMOS	Vanadium Oxide Uncooled Focal Plane Arrays
Min. Illumination	Colour: 0.003 lux (F1.6, AGC ON) B/W: 0.002 lux(F1.6,AGC ON) 0 lux with IR	N/A
Day/Night	IR-cut filter with auto switch (ICR)	N/A
Original Resolution -Thermal	N/A	256*192
Pixel Size	N/A	12 um
NETD	N/A	< 50 mk @ F1.0 @ 25 °C
Shutter	Auto/Manual, 1 ~ 1/100000s	N/A
WDR	120dB	N/A
S/N	>56dB	N/A
<b>Lens</b>	<b>Description</b>	
Focal Length	4mm	3.2 mm
Iris	F1.6	F1.0
Field of View (H)	72.9°	58.0°
Field of View (V)	44.4°	42.5°
Field of View (D)	89.8°	72°
<b>DORI</b>	<b>Description</b>	
DORI Distance (Detect)	90.0m(295.3ft)	N/A
DORI Distance (Observe)	36.0m(118.1ft)	N/A
DORI Distance (Recognize)	18.0m(59.1ft)	N/A
DORI Distance (Identify)	9.0m(29.5ft)	N/A

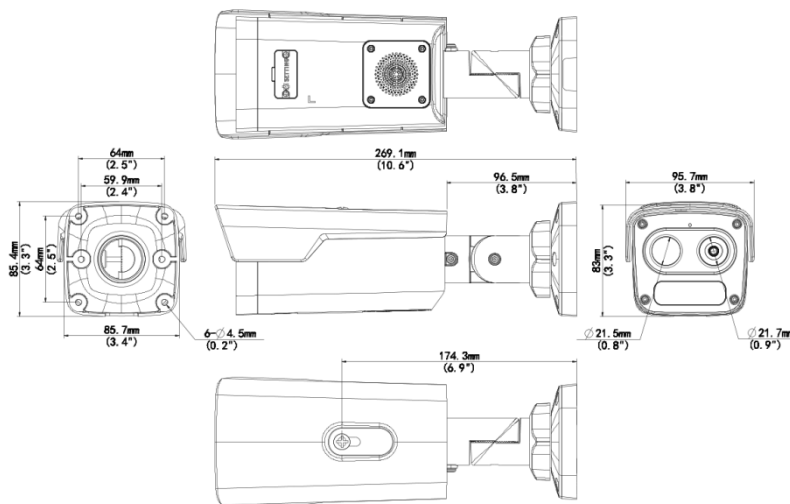
entify)		
<b>Illuminator</b>	<b>Description</b>	
Wavelength	750 nm	N/A
Illumination Distance (IR)	40m	N/A
Light On/Off Control	Auto/Manual	N/A
<b>Video</b>	<b>Description</b>	
Frame Rate	4MP(2688*1520), Max 30fps	960P(1280*960), Max 30fps
Video Compression	Ultra 265 H.265 H.264 MJPEG	
Video Bit Rate	128 Kbps ~ 16 Mbps	
U-code	Support	
ROI	Support	
Video Stream	Triple Streams	
OSD	Up to 8 OSDs	
Privacy Mask	Up to 8 areas (8 blacks/ 8 mosaics)	N/A
<b>Image</b>	<b>Description</b>	
White Balance	Auto Outdoor Fine Tune Sodium Lamp Locked Auto 2	N/A
Digital Noise Reduction	2D/3D DNR	
Flip	Normal Flip Vertical Flip Horizontal 180°  90° Clockwise 90° Anti-clockwise	
Defog	Digital Defog	N/A
Palette-Thermal	N/A	white hot lava iron oxide red hot iron medical arctic rainbow 1 rainbow 2 rainbow 3 depict hot ice hot black hot mazarine fusion red hot green hot color 1 color 2 rain puce
<b>Intelligent</b>	<b>Description</b>	
Smart Intrusion Prevention	Cross line detection, Intrusion detection (support false alarm filtering and the classification of human, non-motor vehicle and vehicle)	Cross line detection, Intrusion detection, Enter area detection, Leave area detection (support false alarm filtering and the classification of human and vehicle)
Smoke and Fire Detection	Support	N/A

Temperature Measurement Accuracy	N/A	$\pm 8^{\circ} \text{C}$ ( $\pm 14.4^{\circ} \text{F}$ ) or $\pm 8\%$ (whichever is greater)
Temperature Range	N/A	Selectable between $-20^{\circ} \text{C} \sim 150^{\circ} \text{C}$ ( $-4^{\circ} \text{F} \sim 302^{\circ} \text{F}$ ) and $100^{\circ} \text{C} \sim 550^{\circ} \text{C}$ ( $212^{\circ} \text{F} \sim 1022^{\circ} \text{F}$ )
Temperature Detection-Thermal	N/A	Thermal channel supports rule-based temperature measurements. Supports real-time display of the highest, lowest, and average temperatures in the rule-defined area on the screen
Smoking Detection-Thermal	N/A	Thermal channel supports the detection of smoking behavior in the environment
<b>Events</b>	<b>Description</b>	
Fire Detection	N/A	Support
Basic Detection	Motion Detection Tampering Alarm Audio Detection	N/A
General Function	Watermark IP Address Filtering Access Policy ARP Protection RTSP Authentication User Authentication H TTP Authentication Alarm Input Alarm Output	
<b>Audio</b>	<b>Description</b>	
Audio Compression	G.711U G.711A	
Audio Bitrate	128 Kbps	
Two-way Audio	Support	
Suppression	Support	
Sampling Rate	16KHZ	
<b>Storage</b>	<b>Description</b>	
Edge Storage	Micro SD, up to 512 GB	
Network Storage	ANR	
<b>Network</b>	<b>Description</b>	
Protocols	IGMP RTP SMTP IPv4 IPv6 ICMP ARP TCP UDP DHCP PPPoE RTSP RTCP RTMP DNS DDNS NTP FTP UPnP HTTP HTTPS 802.1x SNMP QoS SSL/TLS SSH	
Compatible Integration	ONVIF (Profile S, Profile G, Profile T) API SDK	
User/Host	Up to 32 users. 3 user levels: administrator, common user and operator	
Client	EZStation UNV-Link UNV-Link Pro	
Web Browser	Plug-	

	in required live view: IE 10 and above, Chrome 45 and above, Firefox 52 and above, Edge 79 and above	
<b>Interface</b>	<b>Description</b>	
Built-in Mic	Support	
Built-in Speaker	Support	
Audio I/O	1 Input: impedance 1 k $\Omega$ , amplitude 2.5 V [p-p] 1 Output: impedance 600 $\Omega$ , amplitude 2 V [p-p]	
Alarm I/O	2/2	
Serial Port	1 channel RS485 interface	
Network	1 x RJ45 10M/100M Base-TX Ethernet	
Video Output	N/A	1 BNC (For debugging)
<b>Certification</b>	<b>Description</b>	
EMC	CE-EMC (EN 55032: 2015+A1:2020,EN 61000-3-3: 2013+A1: 2019,EN IEC 61000-3-2: 2019+A1: 2021,EN 50130-4:2011+A1:2014) FCC (FCC CFR 47 part15 B, ANSI C63.4-2014)	
Safety	CE LVD (EN IEC 62368-1:2020+A11:2020) UL (UL 62368-1, 2nd Ed., Issue Date: 2014-12-01)	
Environment	CE-RoHS (2011/65/EU;(EU)2015/863); WEEE (2012/19/EU); Reach (Regulation (EC) No 1907/2006)	
Protection	IP67 (IEC 60529:1989+AMD1:1999+AMD2:2013)	
<b>General</b>	<b>Description</b>	
Power	DC12V( $\pm$ 25%), PoE(IEEE802.3af)	
Power Consumption	Max 12W	
Power Interface	$\varnothing$ 5.5 mm coaxial power plug	
Dimensions	269.1 x 95.7 x 83mm (10.6" x 3.75" x 3.25")(L x W x H)	
Weight	0.95kg(2.1lb)	
Working Environment	-40 ° C ~ 70 ° C (-40 ° F ~ 158 ° F), Humidity: $\leq$ 95% RH (non-condensing)	
Storage Environment	-40 ° C ~ 70 ° C (-40 ° F ~ 158 ° F), Humidity: $\leq$ 95% RH (non-condensing)	
Surge Protection	6 KV	
Reset Button	Support	
RTC	Support	
Web Client Language	1 Language English	

Live View	Description
Maximum Bitstream	35
Maximum Bandwidth	50 Mbps
OSD Font	Vector
OSD Color	Support
OSD Character Number	40
Other	Description
Corridor Mode	Support
Software Version	Q6202

## Dimensions



## Accessories

TR-JB06-A-IN

Middle Bullet Junction Box(Elegant White)



TR-UP06-B-IN

Bullet Pole Mounting Bracket



TR-A01-IN

NPT 3/4" Waterproof Cable Gland



TR-UP06-C-IN

Pole Mounting Bracket for Bullet Junction Box Only



## DRI Description

The optimal detection, recognition, and identification distances are calculated according to Johnson's Criteria.

Detection Range: In order to distinguish an object from the background, the object must be covered by 1.5 or more pixels.

Recognition Range: In order to classify the object (animal, human, vehicle, etc), the object must be covered by 6 or more pixels.

Identification Range: In order to identify the object and describe it in details, the object must be covered by 12 or more pixels.

## DRI Range Table

Lens	Detection Range (Vehicles: 4.0 × 1.4 m)	Detection Range (Humans: 1.8 × 0.5 m)	Recognition Range (Vehicles : 4.0 × 1.4 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)
3.2mm	316m	126m	79m	32m	53m	21m
7mm	690m	277m	173m	69m	99m	40m
10mm	986m	395m	247m	99m	141m	56m

## Smart Function Table(Thermal)

Lens	SIP Detection Range (Vehicles:4.0 × 1.4 m)	SIP Detection Range (Humans:1.8 × 0.5 m)	Fire Detection Range (target: 0.1x 0.1 m)	Smoking detection (target: cigarette butt)	Temperature detection (target: 0.1m x 0.1m)
3.2mm	60m	30m	13m	2m	8m
7mm	140m	70m	29m	5m	20m
10mm	200m	100m	48m	7m	30m

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