

# Thermal & Optical Bi-spectrum Network Bullet Camera

TIC2A32SA-F7-4F6AC-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	6.0 mm	7 mm
Iris	F1.6	F1.0
Field of View (H)	53.8°	25.0°
Field of View (V)	29.3°	18.8°
Field of View (D)	66.2°	30.8°
<b>DORI</b>	<b>Description</b>	
DORI Distance (Detect)	135.0m(442.9ft)	N/A
DORI Distance (Observe)	54.0m(177.2ft)	N/A
DORI Distance (Recognize)	27.0m(88.6ft)	N/A
DORI Distance (Identify)	13.5m(44.3ft)	N/A

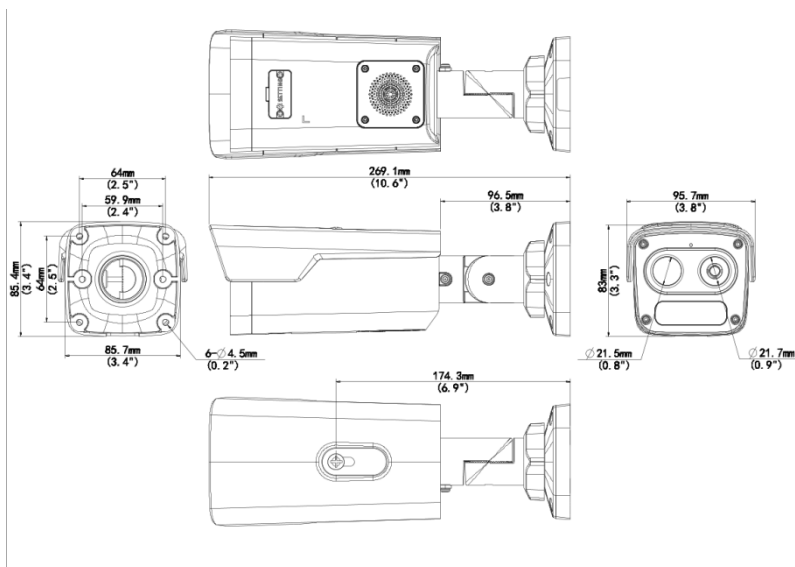
entify)		
<b>Illuminator</b>	<b>Description</b>	
Wavelength	750 nm	N/A
Illumination Distance (IR)	50m	N/A
Light On/Off Control	Auto/Manual	N/A
<b>Video</b>	<b>Description</b>	
Frame Rate	4MP(2688*1520), Max 30fps	960P(1280*960), Max 30fps
Video Compression	Ultra 265 H.265 H.264 MJPEG	
Video Bit Rate	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	Normal Flip Vertical 180°  Flip Horizontal 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 D	Support	N/A

etection		
Temperature Measurement Accuracy	$\pm 8^{\circ} \text{C}$ ( $\pm 14.4^{\circ} \text{F}$ ) or $\pm 8\%$ (whichever is greater)	
Temperature Range	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 1k $\Omega$ ; amplitude 2.5V [p-p] 1 Output: impedance 600 $\Omega$ ; amplitude 2V [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	6KV	
Reset Button	Support	
RTC	Support	
Web Client Language	1 Language English	

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

## Dimensions



## Accessories

TR-UP06-B-IN

Bullet Pole Mounting Bracket



TR-WM06-C-IN

Wall Mounting Bracket for 6-inch Bullet Camera



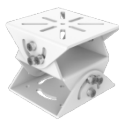
TR-UP06-IN

Universal Pole Mounting Bracket



TR-UV06-A-IN

3D Adjustable Mounting Bracket



TR-JB06-A-IN

Middle Bullet Junction Box(Elegant White)



TR-UP06-C-IN

Pole Mounting Bracket for Bullet Junction Box Only



TR-A01-IN

NPT 3/4" Waterproof Cable Gland



## 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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