

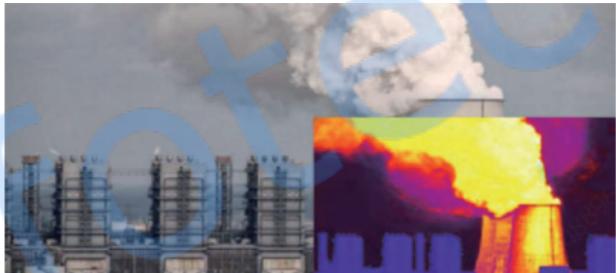
THERMAL

Network Camera

Thermal cameras detect infrared radiation in wavelengths from $8 \mu\text{m}$ to $14 \mu\text{m}$ and provide images based on temperature differences, allowing visibility without the need for visible light.

Thermal cameras can be widely used in border, gasstations, chemical plants, museum, machine room, etc.

Key Features



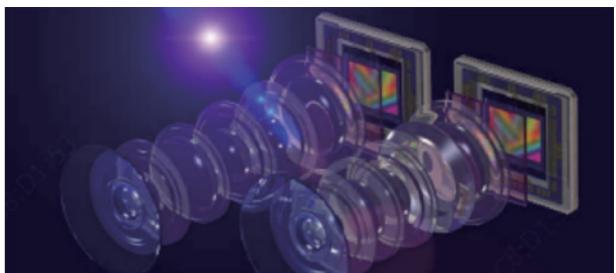
Excellent detection performance based on Bi-spectrum



Fire detection via advanced algorithm



Accurate behavior analysis functions, based on line crossing, intrusion, region entry and exit etc.



Single IP address, dual video

Key Features

Thermal

- Up to 640×512 resolution
- Adopt vanadium oxide uncooled focal plane arrays
- NETD is less than 40mk
- 75mm

Optical

- Up to 2688×1520 resolution
- 56x optical zoom for positioning system
- 1/1.8"
- 7 inputs & 2 outputs for alarms; 1 input & 1 output for audio



DRI (Detection Recognition Identification) Distance

Detection Range (Vehicles: 4.0×1.4 m)	Detection Range (Humans: 1.8×0.5 m)	Detection Range (Vehicles: 4.0×1.4 m)	Detection Range (Humans: 1.8×0.5 m)	Identification Range (Vehicles: 1.4×4.0 m)	Identification Range (Humans: 1.8×0.5 m)
8385m	3248m	2096m	812m	1398m	541m

TIC2A32SA-F3-4F4AC-I1

TIC2A32SA-F7-4F6AC-I1

TIC2A32SA-F10-4F8AC-I1

- Thermal module | 256×192 , 3.2/7/10mm

- Optical module | 1/2.8, 4MP, 4/6/8mm

- Universal | 2 inputs & 2 outputs for alarms / DC12V, PoE



TIC3612SA-F2-4F3AC-I1

TIC3612SA-F3-4F4AC-I1

TIC3612SA-F7-4F6AC-I1

- Thermal module | 256×192 , 2.1/3.2/7mm

- Optical module | 1/2.8, 4MP, 2.6/4/6mm

- Universal | 2 inputs & 2 outputs for alarms / DC12V, PoE



**Appearance**

Max Resolution	4MP
Sensor-Optical	1/2.8" CMOS
Min. Illumination-Optical	Colour: 0.003 lux (F1.6, AGC ON) B/W: 0.002lux(F1.6,AGC ON) 0 lux with IR
Original Resolution-Thermal	256*192
Pixel Size	12 um
NETD	< 50 mk @ F1.0 @ 25 °C
WDR	120dB WDR
S/N	>56dB
Lens Type-Optical	4mm
Iris-Optical	F1.6
Field of View (H)-Optical	72.9°
Field of View (V)-Optical	44.4°
Field of View (D)-Optical	89.8°
Lens Type-Thermal	3mm
Field of View (H)-Thermal	58.0°
Field of View (V)-Thermal	42.5°
Field of View (D)-Thermal	72°
DORI Distance (Detect)-Optical	90.0m(295.3ft)
DORI Distance (Observe)-Optical	36.0m(118.1ft)
DORI Distance (Recognize)-Optical	18.0m(59.1ft)
DORI Distance (Identify)-Optical	9.0m(29.5ft)
Video Compression	Ultra 265 H.265 H.264 MJPEG
Edge Storage	Micro SD, up to 512 GB
Compatible Integration	ONVIF (Profile S, Profile G, Profile T) API
Audio I/O	1/1
Alarm I/O	2/2
Serial Port	1 channel RS485 interface
Network	RJ45
Storage Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Power	DC12V(±25%), PoE(IEEE802.3af)
Power Consumption	Max 12W
Power Interface	Ø 5.5 mm coaxial power plug
Dimensions	Φ 129mm*114mm
Weight	0.72kg(1.6lb)
Working Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Maximum Bitstream	35
Maximum Bandwidth	50Mbps
OSD Character Number	40

**TIC3612SA-F7-4F6AC-I1**

Max Resolution	4MP
Sensor-Optical	1/2.8" CMOS
Min. Illumination-Optical	Colour: 0.003 lux (F1.6, AGC ON) B/W: 0.002lux(F1.6,AGC ON) 0 lux with IR
Original Resolution-Thermal	256*192
Pixel Size	12 um
NETD	< 50 mk @ F1.0 @ 25 °C
WDR	120dB WDR
S/N	>56dB
Lens Type-Optical	6.0 mm
Iris-Optical	F1.6
Field of View (H)-Optical	49.1°
Field of View (V)-Optical	26.9°
Field of View (D)-Optical	60.4°
Lens Type-Thermal	7.0 mm
Field of View (H)-Thermal	25.2°
Field of View (V)-Thermal	19.3°
Field of View (D)-Thermal	31°
DORI Distance (Detect)-Optical	135.0m(442.9ft)
DORI Distance (Observe)-Optical	54.0m(177.2ft)
DORI Distance (Recognize)-Optical	27.0m(88.6ft)
DORI Distance (Identify)-Optical	13.5m(44.3ft)
Video Compression	Ultra 265 H.265 H.264 MJPEG
Edge Storage	Micro SD, up to 512 GB
Compatible Integration	ONVIF (Profile S, Profile G, Profile T) API
Audio I/O	1/1
Alarm I/O	2/2
Serial Port	1 channel RS485 interface
Network	RJ45
Storage Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Power	DC12V(±25%), PoE(IEEE802.3af)
Power Consumption	Max 12W
Power Interface	Ø 5.5 mm coaxial power plug
Dimensions	Φ 129mm*114mm
Weight	0.72kg(1.6lb)
Working Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Maximum Bitstream	35
Maximum Bandwidth	50Mbps
OSD Character Number	40

**TIC3612SA-F2-4F3AC-I1**

Max Resolution	4MP
Sensor-Optical	1/2.8" CMOS
Min. Illumination-Optical	Colour: 0.01 lux (F2.0, AGC ON) B/W: 0.005 lux(F2.0,AGC ON) 0 lux with IR
Original Resolution-Thermal	256*192
Pixel Size	12 um
NETD	< 50 mk @ F1.0 @ 25 °C
WDR	120dB WDR
S/N	>56dB
Lens Type-Optical	2.6 mm
Iris-Optical	F1.6
Field of View (H)-Optical	129.4°
Field of View (V)-Optical	69.9°
Field of View (D)-Optical	168.2°
Lens Type-Thermal	2.1 mm
Field of View (H)-Thermal	90.0°
Field of View (V)-Thermal	65.6°
Field of View (D)-Thermal	117.0°
DORI Distance (Detect)-Optical	58.5m(191.9ft)
DORI Distance (Observe)-Optical	23.4m(76.8ft)
DORI Distance (Recognize)-Optical	11.7m(38.4ft)
DORI Distance (Identify)-Optical	5.9m(19.2ft)
Video Compression	Ultra 265 H.265 H.264 MJPEG
Edge Storage	Micro SD, up to 512 GB
Compatible Integration	ONVIF (Profile S, Profile G, Profile T) API
Audio I/O	1/1
Alarm I/O	2/2
Serial Port	1 channel RS485 interface
Network	RJ45
Storage Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Power	DC12V(±25%), PoE(IEEE802.3af)
Power Consumption	Max 12W
Power Interface	Ø 5.5 mm coaxial power plug
Dimensions	Φ 129mm*114mm
Weight	0.72kg(1.6lb)
Working Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Maximum Bitstream	35
Maximum Bandwidth	50Mbps
OSD Character Number	40

**TIC2A32SA-F3-4F4AC-I1**

Max Resolution	4MP
Sensor-Optical	1/2.8" CMOS
Min. Illumination-Optical	Colour: 0.01 lux (F2.0, AGC ON) B/W: 0.005 lux(F2.0,AGC ON) 0 lux with IR
Original Resolution-Thermal	256*192
Pixel Size	12 um
NETD	< 50 mk @ F1.0 @ 25 °C
WDR	120dB WDR
S/N	>56dB
Lens Type-Optical	4 mm
Iris-Optical	F1.6
Field of View (H)-Optical	129.4°
Field of View (V)-Optical	69.9°
Field of View (D)-Optical	168.2°
Lens Type-Thermal	3.2 mm
Field of View (H)-Thermal	90.0°
Field of View (V)-Thermal	65.6°
Field of View (D)-Thermal	117.0°
DORI Distance (Detect)-Optical	58.5m(191.9ft)
DORI Distance (Observe)-Optical	23.4m(76.8ft)
DORI Distance (Recognize)-Optical	11.7m(38.4ft)
DORI Distance (Identify)-Optical	5.9m(19.2ft)
Video Compression	Ultra 265 H.265 H.264 MJPEG
Edge Storage	Micro SD, up to 512 GB
Compatible Integration	ONVIF (Profile S, Profile G, Profile T) API
Audio I/O	1/1
Alarm I/O	2/2
Serial Port	1 channel RS485 interface
Network	RJ45
Storage Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Power	DC12V(±25%), PoE(IEEE802.3af)
Power Consumption	Max 12W
Power Interface	Ø 5.5 mm coaxial power plug
Dimensions	Φ 129mm*114mm
Weight	0.72kg(1.6lb)
Working Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Maximum Bitstream	35
Maximum Bandwidth	50Mbps
OSD Character Number	40

**Appearance**

Max Resolution	4MP
Sensor-Optical	1/2.8" CMOS
Min. Illumination-Optical	Colour: 0.003 lux (F1.6, AGC ON) B/W: 0.002 lux(F1.6,AGC ON) 0 lux with IR
Original Resolution-Thermal	256*192
Pixel Size	12 um
NETD	< 50 mK @ F1.0 @ 25 °C
WDR	120dB WDR
S/N	>56dB
Lens Type-Optical	8.0 mm
Iris-Optical	F1.6
Field of View (H)-Optical	41.2°
Field of View (V)-Optical	23.6°
Field of View (D)-Optical	50.7°
Lens Type-Thermal	10.0 mm
Field of View (H)-Thermal	17.5°
Field of View (V)-Thermal	13.2°
Field of View (D)-Thermal	21.5°
DORI Distance (Detect)-Optical	180.0m(590.6ft)
DORI Distance (Observe)-Optical	72.0m(236.2ft)
DORI Distance (Recognize)-Optical	36.0m(118.1ft)
DORI Distance (Identify)-Optical	18.0m(59.1ft)
Video Compression	Ultra 265 H.265 H.264 MJPEG
Edge Storage	Micro SD, up to 512 GB
Compatible Integration	ONVIF (Profile S, Profile G, Profile T) API
Audio I/O	1/1
Alarm I/O	2/2
Serial Port	1 channel RS485 interface
Network	RJ45
Storage Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Power	DC12V(±25%), PoE(IEEE802.3af)
Power Consumption	Max 12W
Power Interface	Ø 5.5 mm coaxial power plug
Dimensions	269.1 x 95.7 x 83mm(10.6" x 3.75" x 3.25")
Weight	0.95kg(2.1lb)
Working Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)
Maximum Bitstream	35
Maximum Bandwidth	50Mbps
OSD Character Number	40

**TIC2A32SA-F7-4F6AC-I1**

Max Resolution	4MP
Sensor-Optical	1/2.8" CMOS
Min. Illumination-Optical	Colour: 0.003 lux (F1.6, AGC ON) B/W: 0.002 lux(F1.6,AGC ON) 0 lux with IR
Original Resolution-Thermal	256*192
Pixel Size	12 um
NETD	< 50 mK @ F1.0 @ 25 °C
WDR	120dB WDR
S/N	>56dB
Lens Type-Optical	6.0 mm
Iris-Optical	F1.6
Field of View (H)-Optical	53.8°
Field of View (V)-Optical	29.3°
Field of View (D)-Optical	66.2°
Lens Type-Thermal	7.0 mm
Field of View (H)-Thermal	25.0°
Field of View (V)-Thermal	18.8°
Field of View (D)-Thermal	30.8°
DORI Distance (Lens)-Optical	135.0m(442.9ft)
DORI Distance (Detect)-Optical	54.0m(177.2ft)
DORI Distance (Observe)-Optical	27.0m(88.6ft)
DORI Distance (Recognize)-Optical	13.5m(44.3ft)
DORI Distance (Identify)-Optical	Ultra 265 H.265 H.264 MJPEG
VF Laser Range-Optical	Up to 800m(2624.7ft)
Light On/Off Control	Auto/Manual
Video Compression	Ultra 265 H.265 H.264 MJPEG
Video Resolution-Optical	Main Stream: 4MP (2688x1520): Max.60fps Sub Stream: 2MP (1920x1080): Max.60fps Third Stream: D1(720 x 576): Max.60fps
Video Resolution-Thermal	1080P(1920*1080), Max.30fps
Defog	Digital Defog/Optical Defog
Audio Compression	G.711U G.711A
Audio Bitrate	128 Kbps
Sampling Rate	16KHZ
Edge Storage	Micro SD, up to 512 GB
Pan Range	360° (endless)
Pan Speed	0.02°/s ~ 140°/s
Tilt Range	-90° ~ 45°
Tilt Speed	0.02° ~ 50°/s
Number of Presets	1024
Audio I/O	1/1
Alarm I/O	7/2
Serial Port	1 channel RS485 interface
Network	1 x RJ45 10M/100M/1000M Base-TX Ethernet + 1 x 100M/1000M SFP
Surge Protection	6KV
Power	DC 48V±25% DC 24V±15% AC 24V±25%
Power Consumption	Max 135W
Dimensions	526mm x 283mm x 368mm(20.7" x 11.1" x 14.5")
Weight	17.12kg(37.74lb)
Working Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)

**Appearance**

Max Resolution	4MP
Sensor-Optical	1/1.8" CMOS
Min. Illumination-Optical	Colour: 0.0003lux(F1.2, AGC ON) B/W : 0.0001lux(F1.2,AGC ON) 0 Lux with Laser Vanadium Oxide Uncooled Focal Plane Arrays
Original Resolution-Thermal	640*512
Pixel Size	12 um
NETD	≤ 40 mK @ F1.0 @ 25 °C
WDR	120dB WDR
S/N	>52dB
Lens Type-Optical	6 ~ 336 mm
Iris-Optical	F1.2 ~ F4.6
Field of View (H)-Optical	57.9°~ 1.6°
Field of View (V)-Optical	34.6°~ 0.9°
Field of View (D)-Optical	71.2°~ 1.9°
Lens Type-Thermal	75mm
Field of View (H)-Thermal	6.1°
Field of View (V)-Thermal	4.8°
Field of View (D)-Thermal	7.2°
DORI Distance (Lens)-Optical	6~336mm
DORI Distance (Detect)-Optical	155.5m(510.1ft)~4829.4m(15844.5ft)
DORI Distance (Observe)-Optical	62.2m(204.0ft)~1931.8m(6337.8ft)
DORI Distance (Recognize)-Optical	31.1m(102.0ft)~965.9m(3168.9ft)
DORI Distance (Identify)-Optical	15.5m(51.0ft)~482.9m(1584.4ft)
VF Laser Range-Optical	Up to 800m(2624.7ft)
Light On/Off Control	Auto/Manual
Video Compression	Ultra 265 H.265 H.264 MJPEG
Video Resolution-Optical	Main Stream: 4MP (2688x1520): Max.60fps Sub Stream: 2MP (1920x1080): Max.60fps Third Stream: D1(720 x 576): Max.60fps
Video Resolution-Thermal	1080P(1920*1080), Max.30fps
Defog	Digital Defog/Optical Defog
Audio Compression	G.711U G.711A
Audio Bitrate	128 Kbps
Sampling Rate	16KHZ
Edge Storage	Micro SD, up to 512 GB
Pan Range	360° (endless)
Pan Speed	0.02°/s ~ 140°/s
Tilt Range	-90° ~ 45°
Tilt Speed	0.02° ~ 50°/s
Number of Presets	1024
Audio I/O	1/1
Alarm I/O	7/2
Serial Port	1 channel RS485 interface
Network	1 x RJ45 10M/100M/1000M Base-TX Ethernet + 1 x 100M/1000M SFP
Surge Protection	6KV
Power	DC 48V±25% DC 24V±15% AC 24V±25%
Power Consumption	Max 135W
Dimensions	526mm x 283mm x 368mm(20.7" x 11.1" x 14.5")
Weight	17.12kg(37.74lb)
Working Environment	-40 °C ~ 70 °C (-40 °F ~ 158 °F), Humidity: ≤95% RH (non-condensing)