





# ABOUT HIKVISION

# **An Industry Pioneer**

Hikvision is an IoT solution provider with video as its core competency. Featuring an extensive and highly skilled R&D workforce, Hikvision manufactures a full suite of comprehensive products and solutions for a broad range of vertical markets. In addition to the security industry, Hikvision extends its reach to smart home tech, industrial automation, and automotive electronics industries to achieve its long-term vision. Hikvision products also provide powerful business intelligence for end users, which can enable more efficient operations and greater commercial success.

## **Global Operations**

Hikvision has established one of the most extensive regional networks in the industry, comprising 66 international subsidiaries and branch offices to ensure quick responses to the needs of customers, users, and partners.

### Core Technologies









Perception



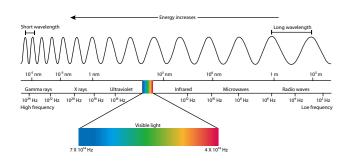


Video Codec

# THE BASICS OF THERMAL CAMERAS

Each type of radiation has a unique wavelength.

Any object with a temperature above absolute zero can emit a detectable amount of infrared radiation. The higher an object's temperature, the more infrared radiation is emitted.



While invisible to human eyes, thermal cameras detect this kind of radiation (from wavelength 8 to  $14 \, \mu m$ , or  $8,000 - 14,000 \, nm$ ) and produce images using temperature differences, making it possible to see the environment without visible light.

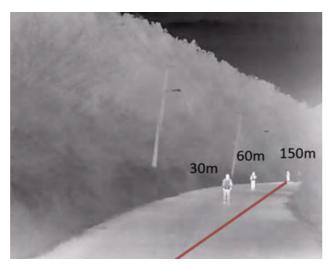
An infrared camera's effective range is what is meant by "seeing an object". Defined thresholds, known as Johnson's Criteria, refer to the minimum number of pixels necessary to either detect, recognize, or identify targets captured by scene imagers. The lower limits of detection, recognition, and identification (DRI), according to Johnson criteria are:

 $\begin{tabular}{ll} \textbf{Detection:} In order to distinguish an object from the background, the image must be covered by 1.5 or more pixels. \end{tabular}$ 

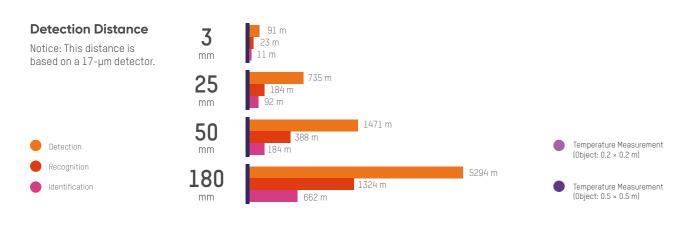
Recognition: In order to classify the object (animal, human, vehicle, boat, etc.), the image must have at least 6 pixels across its critical dimension.

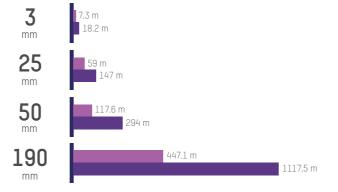
Identification: In order to identify the object and describe it in details, the

critical dimension must be at least 12 pixels across.



Detection, recognition and identification distances (with 8 mm lens)





# WHY DO WE USE THERMOGRAPHY CAMERAS FOR TEMPERATURE MEASUREMENT?

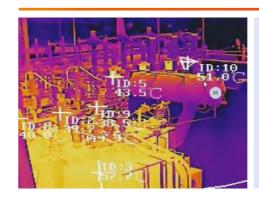
Hikvision thermography cameras have been widely used in detecting temperature anomalies before a fire starts, finding hot spots and invisible defects on machinery or electrical systems that could indicate a potential problem. These cameras are also used for surveying areas that are hard to reach with conventional measurement tools.

# Detect Fire Risks Right Away



Hikvision thermography cameras can efficiently identify temperature anomalies with visualized images. When the surface temperature of an object is abnormal, the camera will immediately trigger the alarm for fast and accurate troubleshooting.

# Get Accurate Temperatures Instantly



Through strict calibration and standardized testing procedures, Hikvision has established a temperature measurement model that offers high accuracy up to ±2 °C or ±2% (whichever is greater), along with a wide range from 20 to 550°C (-4°F to 1,022°F).

Flexible measurement rules help create more sensing methods.

# Real-Time Warnings



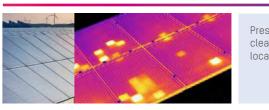
Identifies temperature anomalies within a few seconds to help protect your property.

# Non-Contact Inspection



Prevents damage to facilities and operations while providing continuous monitoring.

# Visualized Image



Presents heating distribution clearly to vizualize fire locations easily.

ision Thermal Products

# **SMALL-AREA** FIRE PREVENTION

## Indoors









# Outdoors



# Temperature Detectionn

070 070

Provides non-contact temperature measurement for fast and visible detection, so actions can be taken early enough to prevent a fire before the worst happens.



# Light & Audio Warning

Detects threats in a timely manner and triggers a strobe light with customizable audio alarms.









## **Forklift Filter**

With the help of an Al algorithm, Hikvision thermography cameras recognize and ignore the heat from forklift engines to reduce unwanted alarms.

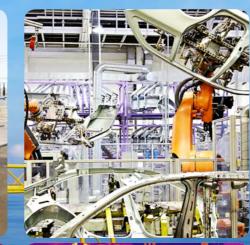


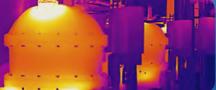
## **Sun Reflection**

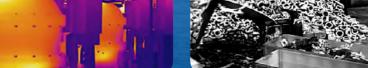
Our thermography cameras can analyze potential fire points. In the case of overexposure, the alarm will be filtered out.



# **Industrial Scenarios**



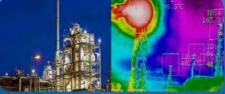












Energy



HIKVISION

Manufacturing

# LARGE-AREA FIRE PREVENTION

Excellent for protection in natural areas, both public and private



# Wide Coverage

Hikvision thermal PT cameras cover vast areas with fewer installation points for maximum cost reduction.



# Stability

Since remote device replacement is difficult, likvision products are designed for maximum stability and durability.



### Accuracy

Our solution boosts low false alarm rates and timely, accurate detections to reduce potential losses.

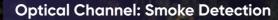


### Timelines

Our solution provides 24/7 monitoring and detects fires as early as possible, deploying patrol routes to shorten intervals.

### Thermal Channel: Fire Source Detection

compare temperatures between a target and environment to detect difference against the set threshold.



Optical lenses in PTZ cameras deliver smoke detection as a supplement to thermal fire-source detection. Since smoke comes before fire, and fire may be covered by leaves or terrain, the smoke detection algorithm helps to locate hazards early.



High-Value Plantations

Wildlife Parks



**HIKVISION**°

# PRODUCT MODELS

Thermographic Network Bullet Camera



Thermal: 256 x 192, 12 µm, Optical: 2688 x 1520 Lens (Thermal): 3 / 7 mm Lens (Optical): 4 / 6 mm FOV (Thermal): 3 mm: 50.0 x 37.3°; 7 mm: 24.9 x 18.7°Audible Alert and Strobe Light Temperature Exception / Anomaly Temperature Exception Range: -20 to 150° C Temperature Accuracy: ±8° C Operating Temperature: -40 to 65° C (-40 to 149° F)

### DS-2TD2137T-4P/7P

Thermographic Network Bullet Camera



Thermal: 384 x 288, 17 um Lens: 4 / 7 mm FOV: 4 mm: 90 x 65.3°; 7 mm: 60 x 44.1° VCA: Line crossing / Intrusion / Region entry & exit Temperature Exception / Anomaly Temperature Exception Range: -20° C to 550° C (-4 to +1,022° F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: 2 ch. of inputs (0-5 VDC) Alarm Output: 2 ch. of relay outputs, alarm response actions configurable Operating Temperature: -40 to 65° C (-40 to 149° F)

### DS-2TD1228T/QA

Turret Camera



Thermal: 256 x 192, 12 µm, Optical: 2688 x 1520 Lens (Thermal): 2 / 3 mm Lens (Optical): 2 / 4 mm FOV (Thermal): 2 mm: 90.0 x 65.4°; 3 mm: 50.0 x 37.3° Audible Alert and Strobe Light Temperature Exception / Anomaly Temperature Exception Range: -20 to 150° C Temperature Accuracy: ±8° C Operating Temperature: -40 to 65° C (-40 to 149° F)

### DS-2TD3017T

Thermographic Network Cube Camera



Thermal: 160 x 120, 17 µm; Optical: 1600 x 1200 Lens (Thermal): 2 / 3 mm FOV (Thermal): 2 mm: 90.0 x 66.4°; 3 mm: 50.0 x 37.2° Audible Alert and Strobe Light Temperature Exception Range: -20 to 150° C / 20 to 550° C Temperature Accuracy: ±2° C or 2% Operating Temperature: -20 to 50° C (-4 to 122° F) IP67

### HM-TD2037T-4X/7X/10X

Thermographic Network Automation Camera



Thermal: 384 x 288, 17 µm Lens (Thermal): 4 / 7 / 10 mm FOV: 4 mm: 90 x 65.2°: 7 mm: 60 x 44.1°: 10 mm: 37.5 x Temperature Exception / Anomaly Temperature Exception Range: -20 to 550° C (-4 to +1,022°F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: 1 ch. of input (0-3.3 VDC) Alarm Output: 1 ch. of relay outputs, alarm response actions configurable Operating Temperature: From -20 to 50° C (-40 to 149° F); Humidity: 90% or less IP40

### DS-2TD2637T-10P/15P

Thermographic Network Bullet Camera



Thermal: 384 x 288, 17 um, Optical: 2688 x 1520 Lens: 10 / 15 mm FOV: 10 mm: 37.5 x 28.5°; 15 mm: 42.5 x 33.6° VCA: Line crossing / Intrusion / Region entry & exit Temperature Exception / Anomaly Temperature Exception Range: -20 to 550° C (-4 to +1,022°F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: 2 ch. of inputs (0-5 VDC) Alarm Output: 2 ch. of relay outputs, alarm response actions configurable Operating Temperature: -40 to 65° C (-40 to 149° F) IP67

Thermal: 640 x 512, 17 µm, Optical: 2688 x 1520

VCA: Line crossing / Intrusion / Region entry & exit

Alarm Output: 2 ch. of relay outputs, alarm response

Operating Temperature: -40 to 65° C (-40 to 149° F)



Thermal: 640 x 512, 17 um Optical: 2688 x 1520 Lens (Thermal): 9 / 25 mm; Optical: 6-240 mm FOV: 9 mm: 72.0 x 56.1°; 25 mm: 24.5 x 19.7° VCA: Line crossing / Intrusion / Region entry & exit Temperature Exception / Anomaly Temperature Exception Range: -20 to 550° C (-4 to +1,022°F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: Up to 7 ch. of input (0-5 VDC) actions configurable Operating Temperature: -40 to 65°C (-40 to 149°F)

### HM-TD2067T-6/X

Thermographic Network Automation Camera

DS-2TD4167T-9W/25W

Network Bi-Spectrum

Speed Dome



Thermal:: 640 512, 17 µm Lens (Thermal): 6 mm F0V: 6 mm: 88.5 x 73.2° Temperature Exception / Anomaly Temperature Exception Range: -20 to 550° C (-4 to +1,022°F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: 1 ch. of input (0-3.3 VDC) Alarm Output: 1 ch. of relay outputs, alarm response actions configurable Operating Temperature: From -20 to 50° C (-40 to 149° F); Humidity: 90% or less IP40

Network Bi-Spectrum Speed Dome

DS-2TD4228T-10/W



Thermal: 256 x 192 12 µm Optical: 2688 x 1520 Lens (Thermal): 10 mm; Optical: 4.8-153 mm, 32X F0V: 10 mm: 18 x 13.5° VCA: Line crossing / Intrusion / Region entry & exit Temperature Exception / Anomaly Temperature Exception Range: -20 to 550°C (-4 to +1.022°F) Temperature Accuracy: Max (±2°C, ±2%) Alarm Input: Up to 7 ch. of input (0-5 VDC) Alarm Output: 2 ch. of relay outputs, alarm response actions configurable Operating Temperature: -40 to 65°C (-40 to 149° F)

### DS-2TD4237T-10/V2

Network Bi-Spectrum Speed Dome



Thermal: 384 x 288, 17 µm, Thermal: 384 x 288, 17 µm, Optical: 1920 x 1080 Optical: 2688 x 1520 Lens (Thermal): 10 mm; Optical: 4.8-153 mm Lens (Thermal): 9 / 25 / 50 mm; Optical: 6-240 mm F0V: 10 mm: 37.7 x 28.7° FOV: 9 mm: 37.9 x 28.7 °; 25 mm: 14.9 x 11.2 °; VCA: Line crossing / Intrusion / Region entry & exit VCA: Line crossing / Intrusion / Region entry & exit Temperature Exception / Anomaly Temperature Exception / Anomaly Temperature Exception Range: Temperature Exception Range: -20 to 550° C (-4 to +1.022°F) -20 to 550° C (-4 to +1.022°F) Temperature Accuracy: Max (±2° C, ±2%) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: Up to 7 ch. of input (0-5 VDC) Alarm Input: Up to 7 ch. of input (0-5 VDC) Alarm Output: 2 ch. of relay outputs, alarm response Alarm Output: 2 ch. of relay outputs, alarm response actions configurable actions configurable Operating Temperature: -40 to 65°C (-40 to 149°F) Operating Temperature: -40 to 65°C (-40 to 149°F) IP66

### DS-2TD6237T-W

Network Bi-Spectrum Positioning System



Thermal: 384x288, 17 um, Optical: 2688 x 1520 Thermal: 25 / 50 mm, Optical: 6-240 mm FOV: 25 mm:14.88 x 11.19°; 50 mm: 7.47 x 5.61° VCA: Line crossing / Intrusion / Region entry & exitTemperature Exception / Anomaly Temperature Exception Range: -20 to 550° C (-4 to +1,022°F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: Up to 7 ch. of input (0-5 VDC) Alarm Output: 2 ch. of relay outputs, alarm response actions configurable

### DS-2TD6267T-25H4LW/50H4LW

DS-2TD4137T-9W/25W

Network Bi-Spectrum

Speed Dome

Network Bi-Spectrum Positioning System

IP66



Thermal: 640 x 512, 17 um, Optical: 2688 x 1520 Lens (Thermal): 9 / 25 mm, Lens (Optical): 6-240 mm FOV: 25 mm: 24.55 x 19.75°; 50 mm: 12.42 x 9.95° VCA: Line crossing / Intrusion / Region entry & exitTemperature Exception / Anomaly Temperature Exception Range: -20 to 550° C (-4 to +1,022°F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: Up to 7 ch. of input (0-5 VDC) Alarm Output: 2 ch. of relay outputs, alarm response actions configurable

Operating Temperature: -40 to 65° C (-40 to 149°F)

# DS-2TD2628T/QA

Thermographic Network

DS-2TD2167T-7/P

**Bullet Camera** 

Lens: 7 mm

Thermographic Network

Thermal: 640 x 512, 17 um

Temperature Exception / Anomaly

Temperature Accuracy: Max (±2°C, ±2%)

Alarm Input: 2 ch. of inputs (0-5 VDC)

Temperature Exception Range:

-20 to 550° C (-4 to +1,022°F)

VCA: Line crossing / Intrusion / Region entry & exit

Alarm Output: 2 ch. of relay outputs, alarm response

Operating Temperature: -40 to 65° C (-40 to 149° F)

FOV: 7 mm: 88.5 x 73.2°

actions configurable

IP67

IP66

Lens (Optical): 2 mm

Temperature Exception / Anomaly

### DS-2TD2667T-15/P

Lens: 15 mm

Thermographic Network Bullet Camera

FOV: 15 mm: 42.5 x 33.6°

actions configurable

IP67

Temperature Exception / Anomaly

Temperature Accuracy: Max (±2° C, ±2%)

Alarm Input: 2 ch. of inputs (0-5 VDC)

Temperature Exception Range:

-20 to 550° C (-4 to +1,022°F)



Alarm Output: 2 ch. of relay outputs, alarm response

### DS-2TD5537T-W

Bi-spectrum Mini PTZ Camera

Optical: 2560 x 1440

actions configurable

IP66

Operating Temperature: -40 to 65°C (-40 to 149°F)



Thermal: 384 x 288, 17 um. Thermal: 7 / 15 / 25 mm, Optical: 5~160 mm FOV: 7 mm: 54.8° (H) x 42.5°(V) / 15 mm: 24.55° (H) x 18.54°(V) / 25 mm; 24.9° (H) x 20°(V) VCA: Line crossing / Intrusion / Region entry & exitTemperature Exception / Anomaly Temperature Exception Range: -20 to 550° C (-4 to +1,022°F) Temperature Accuracy: Max (±2° C, ±2%) Alarm Input: 2 ch. of input (0-5 VDC) Alarm Output: 2 ch. of relay outputs, alarm response

Operating Temperature: -40 to 65°C (-40 to 149° F)



### DS-2TD8167-ZC(E/G)F(L)W(Y)

Network Bi-Spectrum Positioning System



Thermal : 640 × 512, 17 µm Optical: -C: 2688 × 1520 / -E: 1920 × 1080 Lens (thermal): 150 / 190 / 230 mm Lens (optical): C (6.7-330 mm) / E (12.5-775 mm) / G (16.7-1000 mm) FOV: 150 mm: 20.56° × 16.51° / 190 mm: 17.19° × 13.79° / 230 mm: 26.61° × 21.43° VCA: Line crossing / Intrusion / Region entrance / Region exitingTemperature Exception Temperature Exception Range : -20 to 150°C Temperature Accuracy: ±8°C

Working Temperature: -40°C to 65°C (-40° F to 149° F)

### DS-2TD2528T/Q

Thermography Explosion-proof Bullet

90% or less

IP68 Standard



Thermal: 256 × 192, 12 µm Optical: 2688 × 1520 Lens (thermal) : 3 / 7 / 10 mm Lens (optical): 3.3 / 4 / 8 mm FOV: 3 mm: / 7 mm: / 10 mm: 50.0° × 37.3°/ 24.9° × 18.7° /18°× 13.5° (H × V) Temperature Exception Range : -20°C to 550°C (-4°F to 1,022°F) Temperature Accuracy : Max (± 2°C, ± 2%) Working Temperature: -40°C to 60°C (-40°F to 140°F),

### DS-2TD2537T/Q

90% or less

Thermography Explosion-proof Bullet



Thermal: 384 × 288, 17 µm Optical: 2688 × 1520 Lens (thermal): 10 / 15 mm Lens (optical): 4 / 4 mm FOV: 10 mm: / 15 mm: 37.9° × 28.7° / 24.2° × 18.4° (H × V) Temperature Exception Range : -20°C to 550°C (-4°F to 1,022°F) Temperature Accuracy: Max (± 2°C, ± 2%) Working Temperature: -40°C to 60°C (-40°F to 140°F),

### DS-2TD6567T-H4LX/W

Thermography Explosion-proof Positioning system

Temperature Measurement

(Object: 0.2 × 0.2 m)



Optical: 2688 × 1520 Lens (thermal) : 25/ 50 mm Lens (optical): 5.7-205.2mm, 36X FOV: 25 mm: / 50 mm: 24°×19°/12.12.4°×10° (H × V) Temperature Exception Range : -20°C to 550°C (-4°F to 1,022°F) Temperature Accuracy : Max (± 2°C, ± 2%) Working Temperature: -40°C to 60°C (-40°F to 140°F), 90% or less

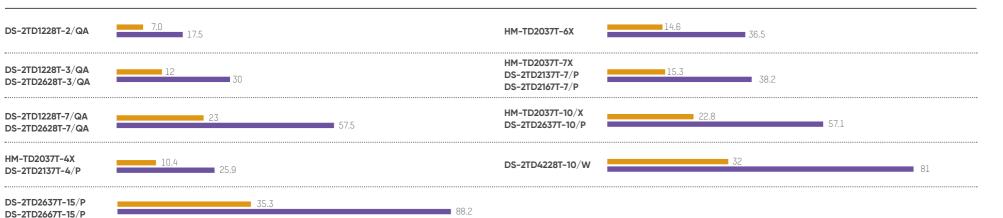
Temperature Measurement (Object: 0.5 × 0.5 m)

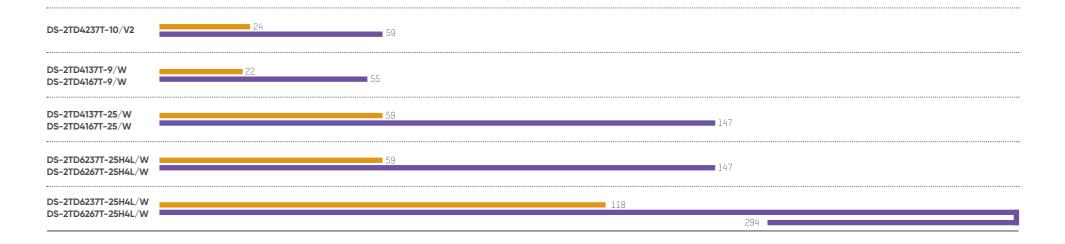
IP68 Standard, ATEX, IECEx IP68 Standard, ATEX, IECEx

# **Effective Coverage**

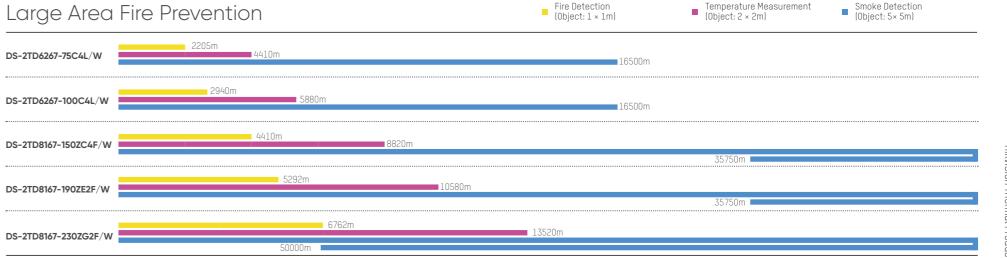
Anti-corrosion Coating (PY)







# **Effective Coverage**





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