



# Capture the Invisible at a Glance

Hikvision Thermography Cameras

**HIKVISION**<sup>®</sup>

# ABOUT HIKVISION

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## Industry Pioneer

Since 2001, Hikvision has grown from being a single-product supplier to the world's leading provider of security products and solutions. From the early digital age to today's intelligence era, we have seized every opportunity to advance the industry with our innovative technologies. And venturing into new areas of inspiring technology – such as Artificial Intelligence, cloud computing, and the fusion of deep learning and multi-dimensional perception technologies, to name a few – Hikvision leads the security industry as an IoT provider with video as the core competency.

## Global Operations

Hikvision has established one of the most extensive marketing networks in the industry, comprising 44 international subsidiaries and branch offices to ensure quick responses to the needs of customers, users and partners.

## Core Technologies



Visual Perception



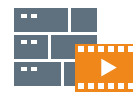
Cloud Storage



Big Data



Video Codec



Audio and Video Data  
Storage



Cross-Media Perception  
and Reasoning



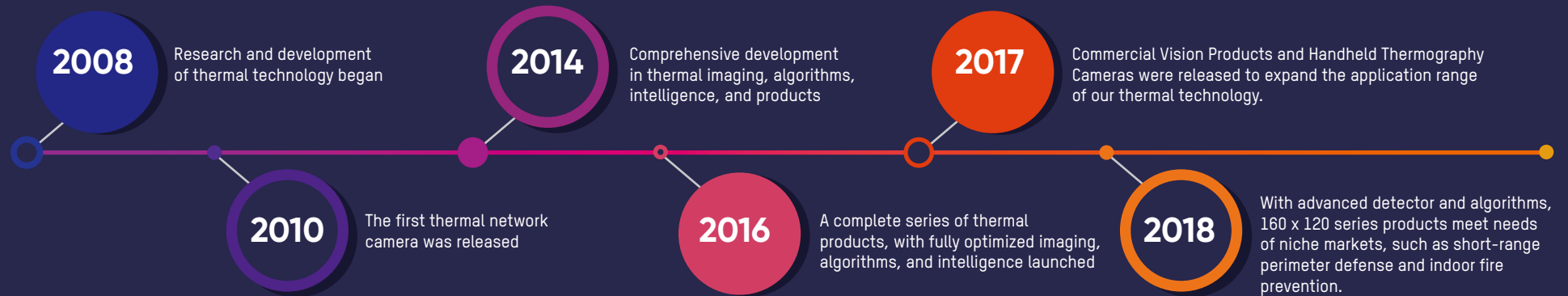
Streaming Media Networking  
and Management



Embedded Systems  
Development

## HIKVISION

# Thermal Product Development Timeline



## HIKVISION

# Thermography Cameras

Hikvision's thermography cameras have been used widely 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. They are also used for surveying areas that are hard to reach with conventional measurement tools.

# Accurate Temperature Measurement

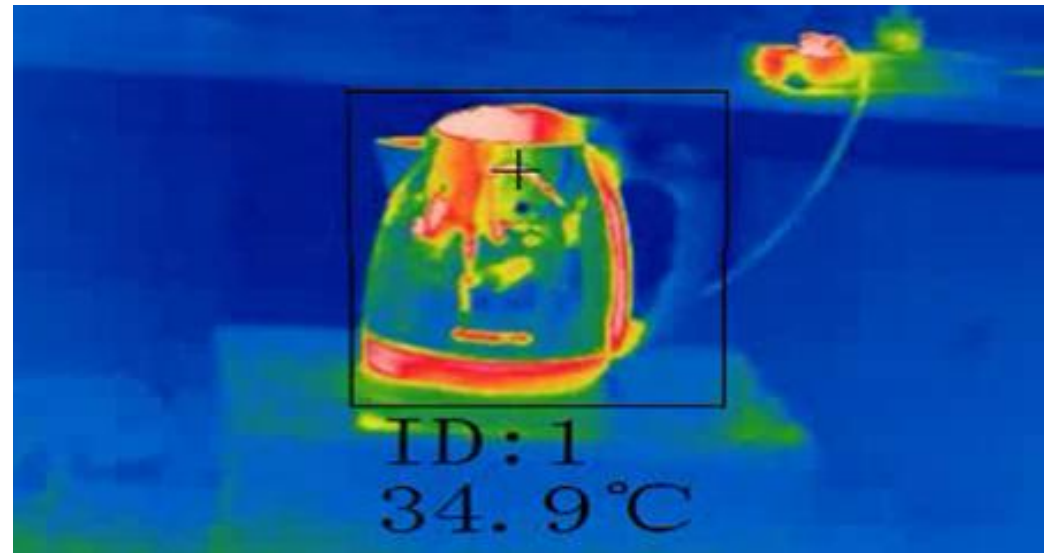
# Clear Imaging

# Intuitive User Interface

## Accurate Temperature Measurement

Through strict calibration and standardized testing procedures, Hikvision has established a temperature measurement model that offers great stability and high accuracy – up to  $\pm 2^{\circ}\text{C}$  or  $\pm 2\%$  (whichever is greater).

In addition, Hikvision thermal products support multiple temperature measurement rules including point, line, and frame measurements. Users can select rules for various scenarios to reach maximum accuracy.



# Clear Imaging

With advanced features such as automatic gain control, digital detail enhancement, and 3D digital noise reduction, Hikvision thermal cameras offer crystal clear thermal imaging unparalleled in the industry.

## Auto Gain Control (AGC)

Based on AGC 2.0 technology, AGC 4.0 improves details in images with low temperature differences, highlighting brightness differences with high temperature objects.

## Digital Detail Enhancement (DDE)

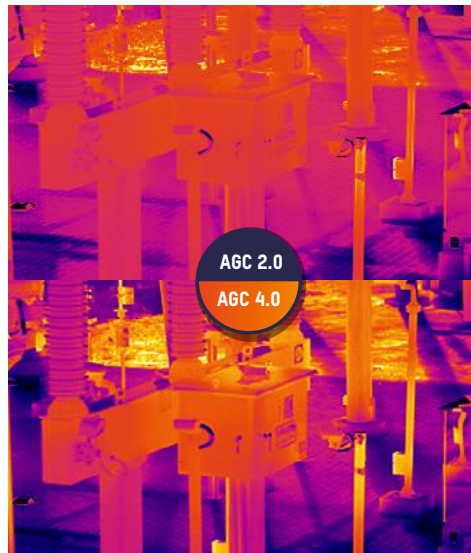
DDE is an advanced technology based on enhanced algorithms. This feature renders details more sharply in low contrast in any given region of interest.

## 3D Digital Noise Reduction (3D DNR)

3D DNR effectively removes the grainy or fuzzy quality in images under low light, rendering much clearer and finer images compared with 2D DNR.

## Bi-Spectrum Image Fusion

Hikvision's signature thermal technology – bi-spectrum image fusion – combines features from both thermal and optical images, and creates a unique hybrid that provides extra details for more precise detection and decision-making.



# Advantages

## Intuitive User Interface

Temperature Measurement software:  
iVMS-4800  
Hik-Thermal APP

Powerful and professional software for temperature analysis online and offline. It allows users to set up measurement rules, displays results visually, and provides test reports.

**Hik-Thermal app**

Download on the App Store

GET IT ON Google Play

**Exporting reports**

**Test Report:**

| Thermography Parameters |                  |                     |                  |
|-------------------------|------------------|---------------------|------------------|
| Thermography            | Max. Temperature | Average Temperature | Min. Temperature |
| Thermography            | 37.3°C           | 29.4°C              | 24.6°C           |

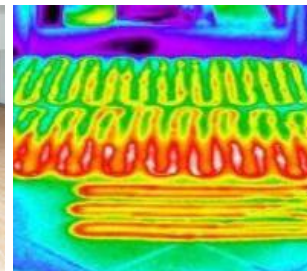
# Electrical

Temperature anomalies in electrical switches, contacts, and transformers due to oxidation, corrosion, or loosening can be detected before a hazard.



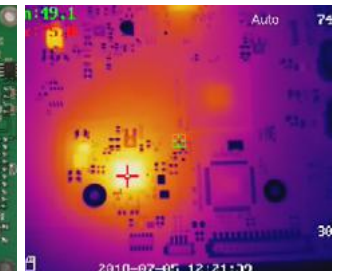
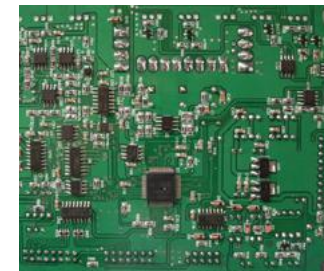
# Building

Invisible design defects, leaking pipes, and other related issues can be intelligently revealed with a thermography camera.



# Manufacturing

Use a handheld thermography camera to check heat distribution in a circuit and optimize the arrangement of electronic components.



# Handheld Thermography Cameras



**DS-2TP31-3AUF**

|                |                       |   |
|----------------|-----------------------|---|
| Thermal Module | Image Sensor          | Uncooled Focal Plane Arrays, VOx  |
|                | Max. Resolution       | 160 x 120   |
|                | Pixel Pitch           | 17 $\mu$ m  |
|                | NETD                  | < 40 mK (@ 25 °C, F#=1.0)   |
|                | Field of View         | 37.2° x 50°   |
|                | Focal Length          | 3.1 mm  |
|                | IFOV                  | 5.48 mrad   |
|                | Min. Focal Length     | ≥ 150 mm  |
| Image Display  | Aperture              | F 1.1   |
|                | Monitor               | 320 x 240 resolution 2.4" LCD display   |
|                | Palettes              | Black hot, White hot, Rainbow, Ironbow  |
| Thermography   | Rules                 | 3 Thermography points: max. temperature; min. temperature; center temperature |
|                | Range                 | -20 °C to 550 °C (-4 °F to 1022 °F)   |
|                | Accuracy              | Max (±2 °C, ±2%)  |
| Battery        | Battery Type          | Rechargeable lithium battery  |
|                | Operating Time        | Max 8h  |
| Functions      | Laser                 | For pointing to the target  |
|                | Photo                 | Supported   |
| General        | Hardware Interface    | micro USB   |
|                | Operating Temperature | -10 °C to 50 °C (14 °F to 122 °F)   |
|                | Protection level      | IP54  |
|                | Dimension             | 196 mm x 117 mm x 59 mm (7.7" x 4.6" x 2.3" )                                 |
|                | Weight                | 350 g (0.77 lb)   |
|                | Accessories           | Power adaptor, USB cable, 8 GB memory card, user manual, wrist strap          |





**DS-2TP21-6AVF/W**

|                       |                       |   |
|-----------------------|-----------------------|---|
| <b>Thermal Module</b> | Image Sensor          | Uncooled Focal Plane Arrays, V0x  |
|                       | Max. Resolution       | 160 × 120 @ 25 Hz   |
|                       | Pixel Pitch           | 17 μm   |
|                       | NETD                  | < 40 mK (@ 25 °C, F#=1.0)   |
|                       | Field of View         | 25° × 18.7°   |
|                       | Focal Length          | 6.2 mm (manual focus)   |
|                       | IFOV                  | 2.74 mrad   |
|                       | Aperture              | F 1.1   |
| <b>Optical Module</b> | Max. Resolution       | Max 8MP   |
| <b>Image Display</b>  | Monitor               | 640 x 480 resolution 3.5" LCD touch display   |
|                       | Palettes              | Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain                                       |
|                       | Digital Zoom          | Thermal: 1×, 2×, 4×   |
|                       | Thermal / Optical     | Thermal / Optical / Image Fusion / Picture in picture   |
|                       | Video Recording       | Supports on-board video recording   |
| <b>Thermography</b>   | Rules                 | Max. temperature; min. temperature; center temperature<br>Custom point, line and frame Thermography |
|                       | Range                 | -20 °C to 550 °C (-4 °F to 1022 °F)   |
|                       | Accuracy              | Max (±2 °C, ±2%)  |
| <b>Battery</b>        | Battery Type          | Replaceable and rechargeable lithium battery  |
|                       | Operating Time        | 4 hours continuous running  |
| <b>Functions</b>      | Laser                 | For pointing to the target  |
|                       | Photo                 | Supported   |
|                       | Lighting              | Supported   |
|                       | Wi-Fi                 | Supported   |
| <b>General</b>        | Operating Temperature | -10 °C to 50 °C (-4 °F to 122 °F)   |
|                       | Protection level      | IP54  |
|                       | Dimension             | 244 mm x 100 mm x 104 mm (9.6" x 3.9" x 4.1" )  |
|                       | Weight                | 660 g (1.46 lb)   |
|                       | Accessories           | Power adapter/USB cable/16G Memory card /User manual/wrist strap/Pouch                              |

## Product Showcase



**DS-2TP23-10VF/W**

|                |                       |   |
|----------------|-----------------------|---|
| Thermal Module | Image Sensor          | Uncooled Focal Plane Arrays, V0x  |
|                | Max. Resolution       | 384 x 288 @ 25 Hz   |
|                | Pixel Pitch           | 17 $\mu$ m  |
|                | NETD                  | < 40 mK (@ 25 °C, F#=1.0)   |
|                | Field of View         | 37.5° x 28.5°   |
|                | Focal Length          | 10 mm (manual focus)  |
|                | IFOV                  | 1.7 mrad  |
| Optical Module | Aperture              | F 1.0   |
|                | Max. Resolution       | 1920 x 1080   |
| Image Display  | Monitor               | 640 x 480 resolution 3.5" LCD touch display   |
|                | Palettes              | Black hot, White hot, Red hot, Rainbow, Ironbow, Fusion, Rain                                       |
|                | Digital Zoom          | Thermal: 1x, 2x, 4x   |
|                | Thermal / Optical     | Thermal / Optical / Image Fusion / Picture in picture   |
|                | Video Recording       | Supports on-board video recording   |
| Thermography   | Rules                 | Max. temperature; min. temperature; center temperature<br>Custom point, line and frame Thermography |
|                | Range                 | -20 °C to 550 °C [-4 °F to 1022 °F]   |
|                | Accuracy              | Max ( $\pm 2$ °C, $\pm 2\%$ )   |
| Battery        | Battery Type          | Replaceable and rechargeable lithium battery  |
|                | Operating Time        | Max 4h  |
| Functions      | Laser                 | Pinpoints targets for accuracy  |
|                | Photo                 | Supported   |
|                | Lighting              | Supported   |
|                | Wi-Fi                 | Supported   |
| General        | Operating Temperature | -10 °C to 50 °C (14 °F to 122 °F)   |
|                | Protection level      | IP54  |
|                | Dimension             | 244 mm x 100 mm x 104 mm (9.6" x 3.9" x 4.1" )  |
|                | Weight                | 660 g (1.46 lb)   |
|                | Accessories           | Charger/power adapter/USB cable/64G memory card/User manual/ wrist strap/ box                       |

# Online Thermography Cameras

## Thermographic Cube Camera



**DS-2TA21 Series**

|                |                                    |   |
|----------------|------------------------------------|---|
| Thermal Module | Image Sensor                       | Uncooled Focal Plane Arrays, V0x                          |
|                | Max. Resolution                    | 160 × 120 @ 25 Hz   |
|                | Pixel Pitch                        | 17 μm   |
|                | NETD                               | < 40 mK (@ 25 °C, F#=1.0)                                 |
|                | Focal Length                       | 2/3mm   |
|                | IFOV                               | 2.74 mrad   |
|                | Aperture                           | F 1.1   |
|                | Field of View                      | 90° × 66.4° / 50° × 37.2°                                 |
| Optical Module | Min. Focusing Distance             | 0.1 or 0.15 m   |
|                | Max. Resolution                    | 1600 × 1200   |
|                | Focal Length                       | 2 mm  |
| Smart Feature  | Field of View                      | 92.6° × 75.8°   |
|                | Temperature Range                  | -20 °C to 350 °C (-4 °F to 662 °F)                        |
|                | Temperature Accuracy               | Max (±2 °C, ±2%)  |
| Interface      | Temperature Measurement Type       | 10 Custom Points / 1 Line / 10 Area                       |
|                | Communication Interface            | 1 RJ45 Ethernet port, 1 RS-485 interface                  |
|                | Alarm                              | 1 input, 1 output   |
| General        | Metadata Output                    | Max. 25 fps (16bit 160 × 120)                             |
|                | Power Supply                       | 10-30 VDC, Max. 4 W PoE (802.3af, class 2)                |
|                | Operating Temperature and Humidity | -20 °C to 50 °C (-4 °F to 122 °F), humidity less than 95% |
|                | Protection Level                   | IP67  |
|                | Dimensions                         | 56 mm × 38.8 mm × 110 mm (2.20" × 1.53" × 4.33")          |
|                | Weight                             | 335 g (0.74 lb)   |

## Product Showcase

### Thermographic Automation Thermal Camera



|                |                                    |  |
|----------------|------------------------------------|--|
| Thermal Module | Image Sensor                       | Uncooled Focal Plane Arrays, V0x   |
|                | Pixel Pitch                        | 17 $\mu$ m   |
|                | Focal Length                       | 7/15 mm, 384 × 288; 25mm, 640 × 512  |
|                | NETD                               | < 40 mK (@25 °C, F#=1.0)   |
|                | Focus Mode                         | Auto, Manual, Semi-auto<br>Supports Regional Focus   |
| Smart Features | Temperature Range                  | -20 °C to 150 °C (-4 °F to 302 °F)<br>0 °C to 550 °C (32 °F to 1022 °F)  |
|                | Temperature Accuracy               | ±2 °C (±3.6 °F) or ±2% (max)   |
|                | Temperature measurement Type       | Display max. and min. temperatures in live view  |
| General        | Power Consumption and Current      | 12 VDC, 0.5 A, max. 6 W  |
|                | Operating Temperature and Humidity | -20 °C to 50 °C (-4 °F to 122 °F), humidity less than 95%  |
|                | Protection Level                   | IP40   |
|                | Dimensions                         | Camera: 60 mm × 60 mm × 120 mm (2.4" × 2.4" × 4.7")<br>With package: 251 mm × 215 mm × 189 mm (9.9" × 8.5" × 7.4") |
|                | Weight                             | With lens: 600 g (1.32 lb)<br>Without lens: 350 g (0.77 lb)  |

**DS-2TA03 Series**  
**DS-2TA06 Series**

## Bi-Spectrum Network Speed Dome



**DS-2TD4136T** Series  
**DS-2TD4166T** Series

|                       |                                    |  |
|-----------------------|------------------------------------|--|
| <b>Thermal Module</b> | Image Sensor                       | Vanadium Oxide Uncooled Focal Plane Arrays   |
|                       | Detector Pitch                     | 17 $\mu$ m   |
|                       | Focal Length                       | 9/25/50 mm, 384 × 288; 9/25/50 mm, 640 × 512   |
|                       | FOV                                | 41°/15°/7.5°; 72°/ 25°/12.5°IP67   |
|                       | Aperture                           | F1.0   |
|                       | NETD                               | < 40 mK (@25°C, F#=1.0)  |
| <b>Optical Camera</b> | Min. Illumination                  | Color: 0.002 lux @ (F1.5, AGC on)<br>B/W : 0.0002 lux @ (F1.5, AGC on)   |
|                       | Temperature Measurement            | Support 3 temperature measurement rule types, over 256 presets as scene, 21 rules of each scene (10 points, 10 frames, and 1 line) |
|                       | Temperature Range                  | -20 °C to 550 °C (-4 °F to 1022 °F)  |
|                       | Temperature Accuracy               | Max ( $\pm$ 2 °C, $\pm$ 2%)  |
|                       | Fire Detection                     | Supports 10 fire detection points  |
|                       | <b>PTZ</b>                         | Movement Range   |
| Patrol Scan           |                                    | 8; Up to 32 presets per patrol   |
| Pattern Scan          |                                    | 4; More than 10 minutes per pattern  |
| <b>Infrared</b>       | IR Distance                        | Up to 200 m  |
| <b>Integration</b>    | RS485                              | Half-Duplex; HIKVISION, PELCO-P and PELCO-D self-adaptive  |
|                       | Power                              | 24 VAC, 60 W   |
| <b>General</b>        | Operating Temperature and Humidity | From -40 °C to 60 °C (-40 °F to 140 °F); Humidity: 90% or less   |
|                       | Protection Level                   | IP66 standard; TVS 6000V lightning protection, surge protection and voltage transient protection                                   |
|                       | Weight                             | 8 kg (17.64 lb)  |

## Product Showcase

### Bi-Spectrum Network Positioning System



**DS-2TD6236T Series**  
**DS-2TD6266T Series**

|                 |                                    |   |
|-----------------|------------------------------------|---|
| Thermal Module  | Image Sensor                       | Vanadium Oxide Uncooled Focal Plane Arrays  |
|                 | Detector Pitch                     | 17 $\mu\text{m}$  |
|                 | Focal Length                       | 25/50 mm, 384 × 288; 25/50 mm, 640 × 512  |
|                 | FOV                                | 15°/7.5°; 25°/12.5°   |
|                 | Aperture                           | F1.0  |
|                 | NETD                               | < 40 mK (@ 25 °C, F#=1.0)   |
| Optical Camera  | Min. Illumination                  | Color: 0.002 lux @ (F1.5, AGC on )<br>B/W: 0.0002 lux @ (F1.5, AGC on )   |
| Smart Functions | Temperature Measurement            | Supports 3 temperature measurement rule types, over 256 presets as scene, 21 rules of each scene (10 points, 10 frames, and 1 line) |
|                 | Temperature Range                  | -20 °C to 550 °C (-4 °F to 1022 °F)   |
|                 | Temperature Accuracy               | Max ( $\pm 2$ °C, $\pm 2\%$ )   |
|                 | Fire Detection                     | Supports 10 fire detection points   |
| PTZ             | Movement Range                     | Pan: 360° (continuous rotate); Tilt: From -90° to + 40° (auto flip)   |
|                 | Patrol Scan                        | 8; Up to 32 presets per patrol  |
|                 | Pattern Scan                       | 4; More than 10 minutes per pattern   |
| Integration     | IR Distance                        | Up to 200 m   |
|                 | Alarm Input                        | Up to 7-ch relay input (0-5 VDC)  |
|                 | Alarm Output                       | Up to 2-ch; supports alarm linkage  |
|                 | RS485                              | Half-Duplex; HIKVISION, PELCO-P and PELCO-D self-adaptive24   |
| General         | Power                              | VAC, 120 W  |
|                 | Operating Temperature and Humidity | From -40 °C to 60 °C (-40 °F to 140 °F);<br>Humidity: 90% or less   |
|                 | Protection Level                   | IP66 standard; TVS 6000V lightning protection, surge protection and voltage transient protection                                    |
|                 | Weight                             | 19 kg (41.89 lb)  |

## Thermal Network Bullet Camera

|                       |                                    |   |
|-----------------------|------------------------------------|---|
| <b>Thermal Module</b> | Image Sensor                       | Vanadium Oxide Uncooled Focal Plane Arrays  |
|                       | Pixel Interval                     | 17 $\mu$ m  |
|                       | Focal Length                       | 10/15/25 mm, 384 × 288; 15/25 mm, 640 × 512   |
|                       | FOV                                | 37°/25°/15°; 40°/25°  |
|                       | Aperture                           | F1.0  |
|                       | NETD                               | Less than 40 mK (@25 °C, F#=1.0)  |
| <b>Smart Function</b> | Video Content Analysis (VCA)       | 4 VCA rule types (Line Crossing, Intrusion, Region Entrance, and Region Exiting), up to 8 VCA rules |
|                       | Temperature Measurement            | 21 temperature measurement rules in 3 types (10 points, 10 frames, and 1 line)                      |
|                       | Temperature Range                  | -20 °C to 550 °C (-4 °F to 1022 °F)   |
|                       | Temperature Accuracy               | Max ( $\pm$ 2 °C, $\pm$ 2%)   |
|                       | Fire Detection                     | Dynamic fire point detection, up to 10 fire points detectable                                       |
| <b>General</b>        | Operating Temperature and Humidity | -40 °C to 65 °C (-40 °F to 149 °F), 90% or less   |
|                       | Protection Level                   | IP66 standard<br>TVS 6000V lightning protection, surge protection, voltage transient protection     |
|                       | Dimensions                         | 352.4 mm × 113.5 mm × 113 mm (13.9" × 4.45" × 4.45")  |
|                       | Weight                             | 2 kg (4.41 lb)  |



**DS-2TD2136T Series**  
**DS-2TD2166T Series**

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# Capturing the Invisible at a Glance

Hikvision Thermography Cameras

**HIKVISION**<sup>®</sup>



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