

SEE THE WORLD IN A NEW WAY
HIKVISION THERMAL CAMERAS

HIKVISION[®]

A thermal image of a wolf pack in a forest at night. The wolves are visible as bright, glowing shapes against the dark background of the trees and forest floor. The pack is spread out, with some wolves in the foreground and others further back in the woods. The overall scene is dark and atmospheric, highlighting the heat signatures of the animals.

THERMAL CAMERAS

All objects with a temperature above absolute zero emit thermal radiation, even at low levels.

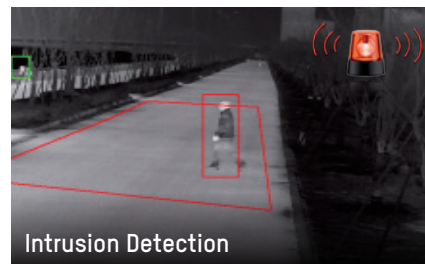
This kind of radiation, invisible to the human eye, can be detected by thermal imaging sensors. Thermal cameras can produce images in the visual spectrum by detecting temperature differences between an object and its surroundings. The larger the difference, the bigger the contrast variety, making details visible. Compared to visible-light cameras, thermal cameras can be used for applications in more challenging environments.

ADVANCED DETECTION ABILITY

Integrated with intelligent video applications such as line crossing and intrusion detection, these cameras can automatically trigger an alert and at the same time trigger a traditional pan / tilt / zoom camera to supply pertinent video to an operator. This application becomes especially effective in perimeter protection and area surveillance applications.



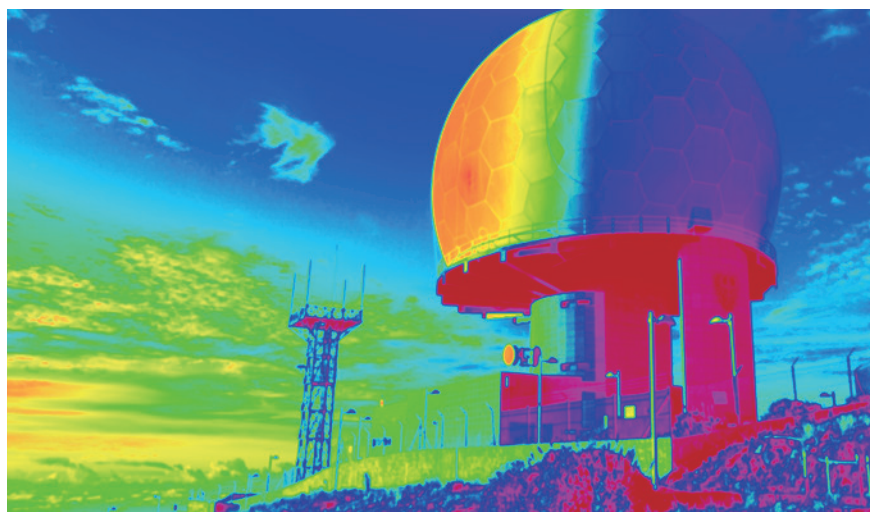
Line Crossing Detection



Intrusion Detection

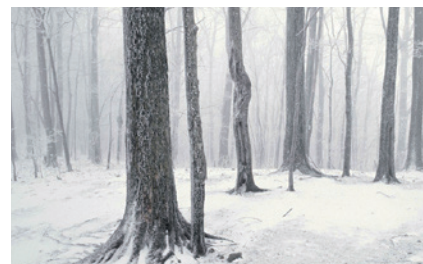
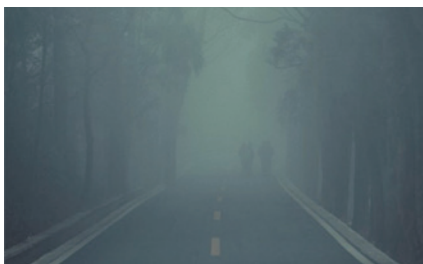
TEMPERATURE MEASUREMENT

Thermal cameras can monitor temperatures of specified objects; if temperatures exceed or fall below a certain limit, an alarm will be triggered. They can also track highlighted temperature-spans in an image through isothermal palettes. This enables an interpretation of events in a scene. Thermal cameras are the ideal choice for the prevention of fires, equipment over-heating, damage caused by freezing, and many other hazards.



EXCELLENT ENVIRONMENTAL ADAPTABILITY

Thermal sensors are only slightly affected by changing light conditions, total darkness, or other challenging weather such as rain, fog or snow. This makes thermal cameras a perfect platform on which to build more efficient, 24/7 surveillance systems.

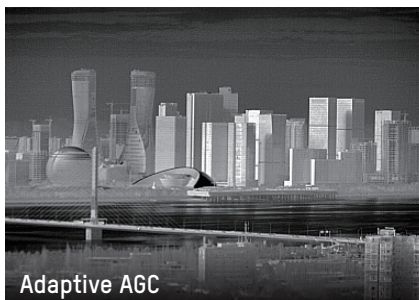
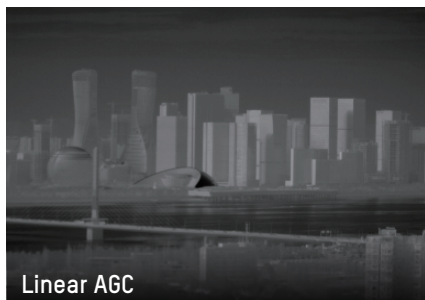


HIKVISION'S THERMAL TECHNOLOGY ADVANTAGES

AUTO GAIN CONTROL (AGC):

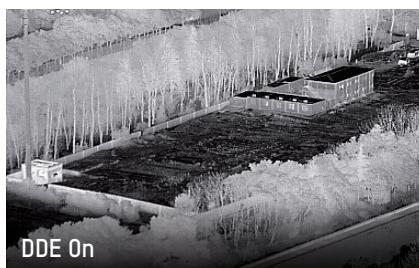
Adjusts the dynamic range of an image & retains permeability.

"Adaptive" AGC – a feature of Hikvision thermal cameras – is a more advanced algorithm than "linear" AGC, found in other manufacturers' cameras.



DIGITAL DETAIL ENHANCEMENT (DDE):

Based on an enhanced algorithm for a region of interest, ensures images display more details.



3D DIGITAL NOISE REDUCTION (DNR):

Through noise reduction processing of the original signal, hot pixels are minimized, rendering more refined images.



WIDE COVERAGE RANGE FOR ANY APPLICATION

Pixel Pitch = 17 μm

Lens (focal length)	7mm	10mm	15mm	25mm	35mm	50mm	75mm	100 mm	150 mm	180 mm
Recognition range (Vehicles)	158m	225m	338m	564m	789m	1127m	1691m	2255 m	3382 m	4059 m
Recognition range (Humans)	51m	74m	110m	184m	257m	368m	551m	735 m	1103 m	1324m
Identification range (Vehicles)	79m	113m	169m	282m	395m	564m	846m	1127 m	1691 m	2029m
Identification range (Humans)	26m	37m	55m	92m	129m	184m	276m	368 m	551 m	662m

Applicable models:

DS-2TD2136-7/10/15/25/35, DS-2TD2136T-10/15/25, DS-2TD2166-7/15/25/35, DS-2TD2166T-15/25, DS-2TD2336-50/75/100, DS-2TD2366-50/75/100, DS-2TD2466-25Y/50Y, DS-2TD4136-25/50, DS-2TD4166-25/50, DS-2TD6166-50B2L/75B2L, DS-2TD6236-50H2L/75C2L, DS-2TD6266-50H2L/75C2L/100C2L, DS-2TD8166-75C2F/100C2F/150ZE2F/180ZE2F

Ranges are calculated according to Johnson’s criteria in good weather conditions

A COMPLETE RANGE OF THERMAL PRODUCTS

Combining self-developed thermal imaging technology with Hikvision’s extensive experience in the video surveillance field, we are equipped to provide a full range of thermal products – all of which are able to meet our customers’ various requirements. The single-lens bullet cameras provide an economical total cost of ownership, and the dual-lens products – bullet cameras, speed domes, and positioning systems – offer pan & tilt flexibility and simultaneous video streams that include both visible light and thermal imaging.

Thus, complex functions can be achieved. For example, bi-spectrum linkage can trigger automatic optical tracking if thermal units detect a target, and the fire detection function can locate fires and automatically zoom in with a traditional camera for visible confirmation.

To meet accurate temperature-measuring requirements, we created thermography bullet & PTZ cameras, which support point, line, and frame temperature measurement types. Users can set upper and lower temperature limits. When the temperature exceeds set limits, an alarm will be triggered. We have also introduced handheld thermal devices for industrial testing or outdoor activities. It’s easy to carry and records precise measurements.



APPLICATION EXAMPLES

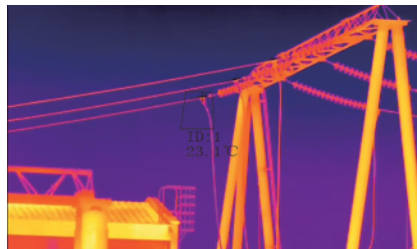
PERIMETER PROTECTION KEY-REGION INTELLIGENT DETECTIONS

Rapid target lock and alarm triggering, even in complete darkness and challenging conditions such as rain, smoke, dust, and snow.



THERMOGRAPHY TO AVOID DAMAGE

The radiometric measurement feature inside the camera can help you detect temperature deviations in an early stage to prevent damage due to overheating.



PROTECTION OF BORDERS & COASTLINES

Long-range perimeter protection is only slightly affected by harsh weather conditions.



FIRE & THEFT PREVENTION IN WAREHOUSE SETTINGS

Thermal cameras can detect temperature anomalies of a starting fire before the smoke is detected by a conventional fire detector. Even in low contrast situations the thermal cameras can detect humans in the early stages of an intrusion.

CASE STUDIES

ECUADOR

ELECTRIC TEMPERATURE MONITORING IN ENERGY SUBSTATION

A total of 60 cameras were installed, providing dedicated client use for temperature measurement and monitoring, and running on a third-party grid platform. This system implements preventive detection of operating events and monitors the main parts of the substation such as insulators, transformers, and more. Once a device is found to exceed the normal operating temperature, alarm information is generated.



DENMARK

Innovative solution for improving safety and security along the waterfront in Aalborg

Hikvision and Milestone Systems teamed up with Aalborg Municipality, the North Jutland Emergency Services, Aalborg University's Faculty of Engineering and Science, and security company Actas A/S to find a solution that utilizes Hikvision thermal cameras. Aalborg University is mapping risk areas and developing a groundbreaking program that can "recognize" accidents and raise an alarm. When someone exhibits dangerous behaviour along the waterfront, either on land or in the water, the emergency services will be notified. A camera on Limfjordsbroen will be activated at the same time to record what is happening, and live footage from the site can be streamed to their control center using the existing video platform. The municipality is also planning an expansion with more cameras, due to the high levels of confidence they have in the system's success.



PRODUCT SHOWCASE



DS-2TD2136-7/10/15/25/35
DS-2TD2136T-10/15/25
Thermal Network Single-lens
Bullet Camera

- Thermal: 384×288
- 7mm(60°)/10mm(36°)/15mm (24°)/ 25mm(15°)/ 35mm (11°) thermal lens optional
- Main/Sub/Third stream in max resolution at 50fps
- Supports line crossing and intrusion detection
- Supports temperature exception alarm
- Supports fire detection
- -T: -20°C ~ 550°C (-4°F to 1,022°F) temperature range, Max (±2°C, ±2%) temperature accuracy (only DS-2TD2136T support)
- IP66



DS-2TD2166-7/15/25/35
DS-2TD2166T-15/25
Thermal Network single-lens
Bullet Camera

- Thermal: 640×512
- 7mm (88°)/ 15mm (39°)/ 25mm (24°)/35mm (17°) thermal lens optional
- Main/Sub/Third stream in max resolution at 50fps
- Supports line crossing and intrusion detection
- Supports temperature exception alarm
- Supports fire detection
- -T: -20°C ~ 550°C (-4°F to 1,022°F) temperature range, Max (±2°C, ±2%) temperature accuracy (only DS-2TD2166T support)
- IP66



DS-2TD2366-50/75/100
Thermal Network Single-lens
Bullet Camera(Long focal
lens)

- Thermal: 640×512
- 50mm (12.42°)/ 75mm (8.30°)/100mm (6.23°) thermal lens optional
- Supports auto-focus
- Main/Sub/Third stream in max resolution at 50fps
- Supports line crossing and intrusion detection
- Supports temperature exception alarm
- Supports fire detection
- IP66



DS-2TD2336-50/75/100
Thermal Network Single-lens
Bullet Camera(Long focal
lens)

- Thermal: 384×288
- 50mm (7.47°)/ 75mm (4.98°)/100mm (3.74°) thermal lens optional
- Supports auto-focus
- Main/Sub/Third stream in max resolution at 50fps
- Supports line crossing and intrusion detection
- Supports temperature exception alarm
- Supports fire detection
- IP66



DS-2TD2466-25/50
Thermal Network Single-lens
Bullet Camera (Anti-corrosion)

- Thermal: 640×512
- 25mm (24°)/ 50mm (12.42°) thermal lens optional
- Supports auto-focus
- Main/Sub/Third stream in max resolution at 50fps
- Supports line crossing and intrusion detection
- Supports temperature exception alarm
- Supports fire detection
- 316L stainless steel housing
- IP66



DS-2TD2235D-25/50
Thermal + Visible Bi-
spectrum Network Bullet
Camera

- Thermal: 384×288, Visible: 1920×1080
- Thermal: 25mm (21.7°)/ 50mm (11°) thermal lens optional
- Darkfighter Ultra low light, Min. Illumination 0.002lux (color)
- Supports line crossing and intrusion detection
- Supports temperature exception alarm
- Supports fire detection
- Up to 120m IR
- IP66



DS-2TD4035D-25/50
Thermal + Visible Bi-
spectrum Network Speed
Dome

- Thermal: 384×288, Visible: 1920×1080
- Thermal: 25mm (21.7°)/ 50mm (11°) thermal lens optional
- Visible: 4.3-129mm vari-focal lens, 30x optical zoom
- 360° endless pan range, -15°~ 90° tilt range
- Supports line crossing and intrusion, which can be linked to auto tracking
- Supports temperature exception alarm
- Supports fire detection
- Up to 200m IR
- IP66



DS-2TD4166-25/50
Thermal + Visible Bi-
spectrum Network Speed
Dome

- Thermal: 640×512, Visible: 1920×1080
- Thermal: 25mm (24°)/ 50mm (12.42°) thermal lens optional
- Visible: 5.7-205.2 mm vari-focal lens, 36x optical zoom
- Darkfighter Ultra low light, Min. Illumination 0.002lux (color)
- 360° endless pan range, -15°~ 90° tilt range
- Supports line crossing and intrusion, which can be linked to auto tracking
- Supports temperature exception alarm
- Supports fire detection
- Up to 200m IR
- IP66



DS-2TD4136-25/50
Thermal + Visible Bi-spectrum Network Speed Dome

- Thermal: 384×288, Visible: 1920×1080
- Thermal: 25mm (15°) / 50mm (7.47°) thermal lens optional
- Visible: 5.7-205.2 mm vari-focal lens, 36x optical zoom
- Darkfighter Ultra low light, Min. Illumination 0.002lux (color)
- 360° endless pan range, -15°- 90° tilt range
- Supports line crossing and intrusion, which can be linked to auto tracking
- Supports temperature exception alarm
- Supports fire detection
- Up to 200m IR
- IP66



DS-2TD6135-50/75B2L
DS-2TD6166-50/75B2L
Thermal + Visible Bi-spectrum Network PTZ Camera

- Thermal: 384×288/640×512, Visible: 1920×1080
- Visible: 8-250mm vari-focal lens, 32x optical zoom
- Thermal: 50mm (6135: 11°, 6166: 12.4°) / 75mm (6135: 7.3°, 6166: 8.3°) thermal lens optional
- 360° endless pan range, +40°- -90° tilt range
- Supports line crossing and intrusion detection with smart tracking linkage
- Supports temperature exception alarm
- Supports fire detection
- Up to 500m Laser
- IP66



DS-2TD6135T-25/50A2L
Thermometric Thermal + Optical Bi-spectrum Network PTZ Camera

- Thermal: 384×288, Visible: 1920×1080
- Visible: 4.3-129mm vari-focal lens, 30x optical zoom
- Thermal: 25mm (21.74°) / 50mm (10.97°) thermal lens optional
- 360° endless pan range, +40°- -90° tilt range
- -20°C ~ 550°C (-4°F to 1,022°F) temperature range, Max (±2°C, ±2%) temperature accuracy
- Supports line crossing and intrusion detection with smart tracking linkage
- Supports fire detection
- Up to 500m Laser
- IP66



DS-2TD6236-50H2L/75C2L
Thermal + Visible Bi-spectrum Network PTZ Camera

- Thermal: 384×288, Visible: 1920×1080
- Thermal: 50mm (7.47°) / 75mm (4.98°) thermal lens optional
- Visible: 5.7-205.2mm / 6.7-330 mm vari-focal lens, 36x / 49x optical zoom optional
- 360° endless pan range, +40°- -90° tilt range
- Supports line crossing and intrusion detection with smart tracking linkage
- Supports temperature exception alarm
- Supports fire detection
- Up to 500m Laser
- IP66



DS-2TD6266-50H2L/75C2L/100C2L
Thermal + Visible Bi-spectrum Network PTZ Camera

- Thermal: 640×512, Visible: 1920×1080
- Thermal: 50mm (12.42°) / 75mm (8.30°) / 100mm (6.23°) thermal lens optional
- Visible: 5.7~205.2mm / 6.7~330 mm vari-focal lens, 36x / 49x optical zoom optional
- 360° endless pan range, +40°~ -90° tilt range
- Supports line crossing and intrusion detection with smart tracking linkage
- Supports temperature exception alarm
- Supports fire detection
- Up to 500m Laser
- IP66



DS-2TD8166-75/100C2F
DS-2TD8166-150ZE2F/180ZE2F
Thermal + Visible Bi-spectrum Network Positioning System

- Thermal: 640×512, Visible: 1920×1080
- Thermal: 75mm / 100mm fixed thermal lens
30~150mm/45~180mm vari-focal thermal lens optional
- Visible lens: 6.7~330 mm, 12.5~775mm vari-focal lens optional
- 360° endless pan range, +45°~-45° tilt range
- 0.01°/s to 40°/s pan speed, 0.01°/s to 20°/s tilt speed
- Supports line crossing and intrusion detection with smart tracking linkage
- Supports temperature exception alarm
- Supports fire detection
- Laser module optional, up to 3km
- IP66



DS-2TS03-25UM/W
Handheld Observational Thermal Camera

- Thermal: 384×288
- 25mm (15°) thermal lens
- 0.39" OLED, 1024×768
- Built-in memory module (16GB)
- Hot spot tracking
- Support Wi-Fi
- Support Hik-Connect
- >5 hours operating time
- IP67
- 2m fall resistant level



DS-2TP03-15VM/W
Handheld Thermometric Thermal Camera

- Thermal: 384×288 17μm, Visible: 2MP
- 15mm (25°)thermal lens
- 3.5-inch LCD Capacitive Touch Panel 320×240
- -20°C ~ 650°C (-4°F to 1,202°F) temperature range
- Max (±2°C, ±2%) temperature accuracy
- 64GB built-in memory module
- >4 hours operating time
- IP54

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