



Perimeter Protection in All Weather

Hikvision Thermal Products



ABOUT HIKVISION



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



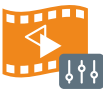
Video Codec



Audio and Video Data Storage



Cross-Media Perception and Reasoning



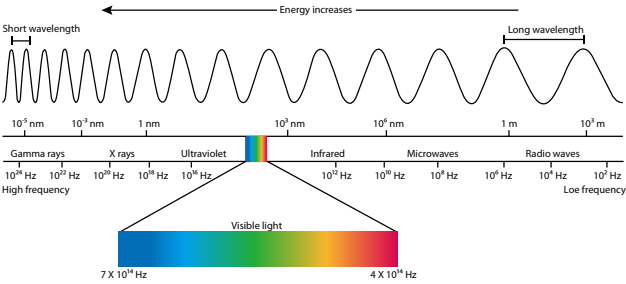
Streaming Media Networking and Management



Embedded Systems Development

BASIC PRINCIPLES 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.



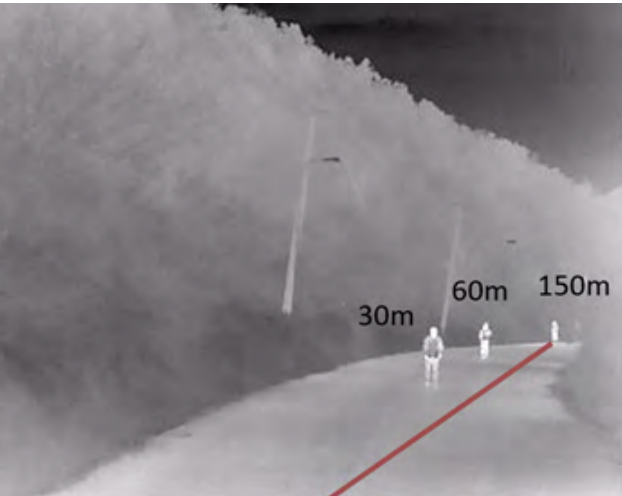
While invisible to human eyes, thermal cameras detect this kind of radiation (from wavelength 8 to 14 μm, or 8,000 – 14,000 nm) and produce images using temperature differences, making it possible to see the environment without visible light.

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:

Detection: In order to distinguish an object from the background, the image must be covered by 1.5 or more pixels.

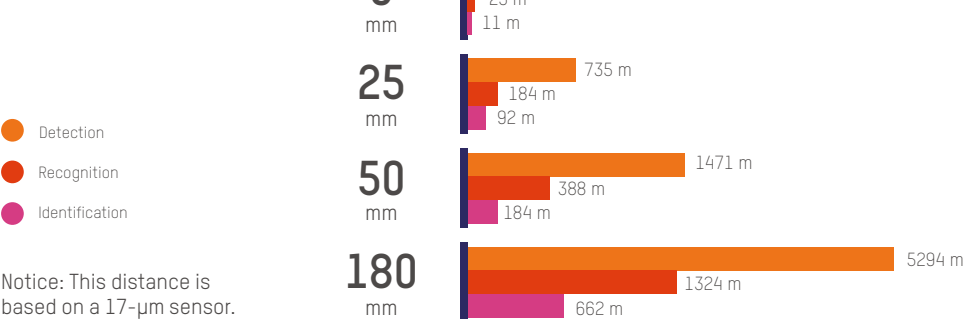
Recognition: In order to classify the object (animal, human, vehicle, boat, etc.), the image must have at least 6 pixels across its critical dimension.

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)

Detection Distance



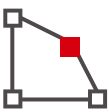
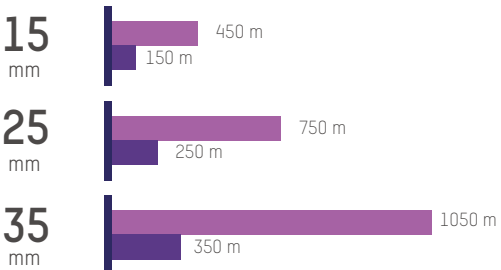
Notice: This distance is based on a 17-μm sensor.

VCA Distance

VCA rules: line crossing, intrusion, region entrance, region exit

- Vehicle
- Human

Notice: This distance is based on a 17-μm sensor.



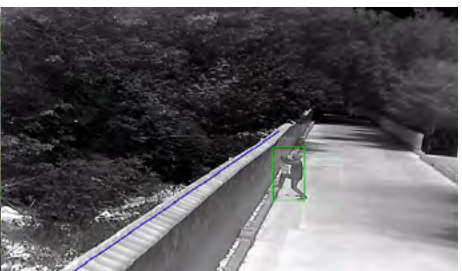
WHY DO WE USE THERMAL CAMERAS FOR PERIMETER PROTECTION?

Superior Environmental Adaptability



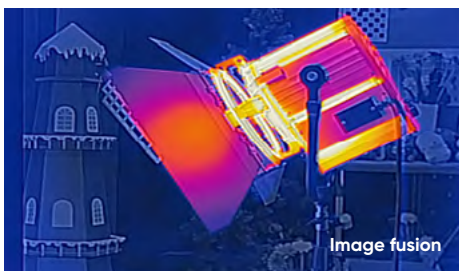
Thermal cameras capture sharp images around-the-clock, regardless of environmental factors such as light levels, contrast, backlighting, shadows, fog, smog, rain, etc.

High Alarm Accuracy



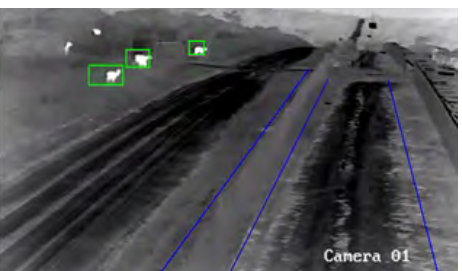
Based on deep learning algorithms, thermal cameras provide ultra-effective detection for line crossing, intrusion, and region entry and exit. False alarms triggered by non-human and non-vehicle objects are vastly reduced.

Better Visuals



With thermal cameras, you can easily discover objects and potential risks that are invisible to conventional cameras. In addition to thermal images, the built-in visible-light module can provide supplementary recorded evidence – lowering costs for installation.

Extended Distances



Thermal detection covers much larger distances and requires fewer devices to do it, compared against conventional, optical cameras.

SHORT-RANGE PROTECTION

3-steps VCA

With a 3-step configuration, users can easily set up VCA rules for the camera with no need to calibrate manually.



Enable VCA



Draw a detection area



Set human/vehicle as the target

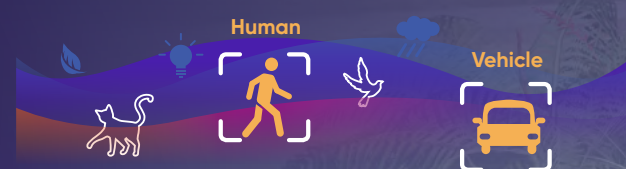
Human & Vehicle Classification

Hikvision's VCA 2.0 is an intelligent video content analysis technology based on deep learning algorithms. It detects and classifies targets into human or vehicle types while filtering out the other objects.

Thermal Lens Detection



Deep Learning Classification



Light & Audio Warning

Our cameras detect intrusion threats in a timely manner and trigger the strobe light and customizable audio alarms. You can achieve arm or disarm easily with a few taps via Hik-Connect.

Rule Determination



HeatPro

MEDIUM-RANGE PROTECTION

Advanced Intelligence

Based on deep learning algorithms, Hikvision's thermal products deliver powerful and accurate behavior analyses, including detections such as line crossing, intrusion, region entrance and exit, and more. The intelligent human/vehicle detection feature helps reduce false alarms caused by animals, camera shake, falling leaves, or other irrelevant objects, significantly improving alarm accuracy.

Deep-learning-based dynamic fire source detection takes advantage of Hikvision's security big data, containing over 100,000 samples of global climate information to provide the highest possible detection accuracy. This front-end device can detect fire based on raw, frame-by-frame data, ensuring firsthand image analysis and rapid alarm triggering.



Smart Tracking Linkage

The Hikvision Thermal Smart Linkage Tracking System is formed by one bi-spectrum bullet camera offering panorama and one optical PTZ camera smartly tracking moving targets.

The bullet camera for all-weather protection offers live view 24/7 of significant passageways, highly accurate detection in specified areas and human & vehicle classifications. The speed dome identifies trespassers with auto or manual tracking for multiple targets and can be zoomed in for more details.

Within the linkage system, it is easy to achieve one-touch connection and automatic alignment between the bi-spectrum bullet camera and optical PTZ camera.

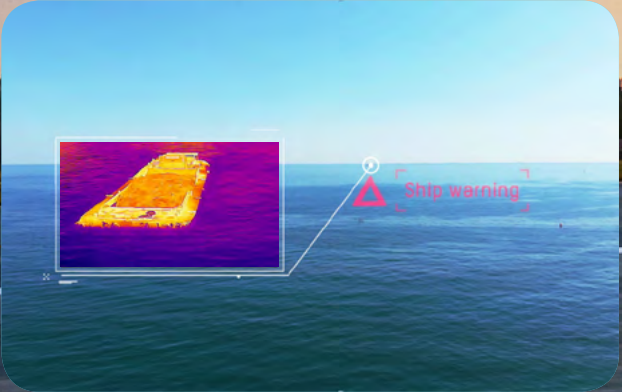


LONG-RANGE PROTECTION



Hikvision's thermal PTZ cameras are tailored for super long detection, providing highly accurate and effective perimeter protection with a smaller number of devices.

These cameras can detect with excellent image performance of moving vehicles within 38 km and humans within 12 km.



Hikvision's thermal cameras for vessel detection use deep learning algorithms, discerning the different heat emissions of various targets.

These cameras provide accurate ship flow and dredger detections, meet or exceed requirements for specific scenarios such as fishery, offshore windfarms, salmon/shrimp farms, ports, offshore oilfields, and more.



In a drone response system, the radar detects unmanned aircraft and sends the location to the PTZ positioning system.

This way, it tracks the targets fast, zooms in for detailed information, and identifies potentially dangerous payloads attached to the drone.



PRODUCT MODELS

DS-2TD2628/QA

Thermal Network
Bullet Camera



Thermal: 256 × 192, 12 μm, Optical: 2688 × 1520
Lens (thermal) : 3 / 7 / 10 mm
Lens (optical) : 4 / 6 / 8 mm
VCA : Line crossing / Intrusion / Region entrance / Region exitingAudible Alert and Strobe Light
Temperature Exception
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
IP67

DS-2TD1228/QA

Thermal Network
Turret Camera



Thermal: 256 × 192, 12 μm, Optical: 2688 × 1520
Lens (thermal) : 2 / 3 / 7 mm
Lens (optical) : 2 / 4 / 6 mm
VCA : Line crossing / Intrusion / Region entrance / Region exitingAudible Alert and Strobe Light
Temperature Exception
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
IP66

DS-2TD2617/QA

Bi-Spectrum Network
Bullet Camera



Thermal : 160 × 120, 17 μm; Optical : 2688 × 1520
Lens (thermal) : 2 / 3 / 7 mm
Lens (Optical) : 4 / 6 / 8 mm
VCA : Line crossing / Intrusion / Region entrance / Region exitingAudible Alert and Strobe Light
Temperature Exception
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
IP67

DS-2TD1217/QA

Thermal Network
Turret Camera



Thermal : 160 × 120, 17 μm; Optical : 2688 × 1520
Lens (thermal) : 2 / 3 / 7 mm
Lens (Optical) : 2 / 4 / 6 mm
VCA : Line crossing / Intrusion / Region entrance / Region exitingAudible Alert and Strobe Light
Temperature Exception
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
IP66

DS-2TD2138/QY

Thermal Network
Bullet Camera



Thermal: 384 × 288, 12 μm
Lens : 7 / 10 / 15 / 25 mm
7 mm: 42.0° × 32.0° / 10 mm: 26.0° × 20.0° / 15 mm: 17.0° × 13.0°/25 mm: 11.0° × 8.0°
VCA : Line crossing / Intrusion / Region entrance / Region exiting
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Alarm Input : 2-ch inputs (0-5 VDC)
Alarm Output : 2-ch relay outputs, alarm response actions configurable
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
Anti-corrosion Coating
IP67

DS-2TD2167/P(Y)

Thermal Network
Bullet Camera



Thermal: 640 × 512, 17 μm
Lens : 7 / 15 / 25 / 35 mm
7 mm: 88.5° × 73.2° / 15 mm: 42.5° × 33.6° / 25 mm: 24.55° × 19.75° / 35 mm: 17.67° × 14.18°
VCA : Line crossing / Intrusion / Region entrance / Region exiting
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Alarm Input : 2-ch inputs (0-5 VDC)
Alarm Output : 2-ch relay outputs, alarm response actions configurable
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
Anti-corrosion Coating (PY)
IP67

DS-2TD2367/P(Y)

Thermal Network
Bullet Camera



Thermal: 640 × 512, 17 μm
Lens : 50 / 75 / 100 mm
50 mm: 12.4° × 10° / 75 mm: 8.3° × 6.6° / 100 mm: 6.22 × 4.96
VCA : Line crossing / Intrusion / Region entrance / Region exiting
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Alarm Input : 2-ch inputs (0-5 VDC)
Alarm Output : 2-ch relay outputs, alarm response actions configurable
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
Anti-corrosion Coating (PY)
IP67

DS-2TX3742-A(P)/P

Bi-Spectrum
Network
Smart Linkage
System



Thermal: 384 × 288, 12 μm,
Optical: 2688 × 1520
Lens (thermal) : 10 / 15 / 25 / 35 mm
10mm: 37.5°× 28.5° / 15mm: 24.5° × 18.5° / 25mm: 14.9° × 11.2° / 35mm: 10.7° × 8°
Lens (optical) : 6.0-252 mm
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)
Anti-corrosion Coating (PY)
IP67

Effective Coverage Short Range (20-70 m)

HeatPro Series Cameras



VCA Range
(Humans: 1.8 × 0.5 m)



VCA Range
(Vehicles: 1.4 × 4.0 m)

DS-2TDxx17-2/QA

9
26.5

DS-2TDxx17-3/QA

15
45.6

DS-2TDxx17-6/QA

30
91.2

DS-2TD2617-10/PA(QA)

48
142.6

DS-2TD1228-2/QA

17
50.4

DS-2TDxx28-3/QA

29
86.4

DS-2TDxx28-7/QA

55
165.6

DS-2TD2628-10/QA

78
232.8

DS-2TD2637/P(Y)

Bi-Spectrum Network
Bullet Camera



Thermal: 384 × 288, 17 μm, Optical: 2688 × 1520
Lens (thermal) : 10 / 15 / 25 / 35 mm
10mm: 37.5° × 28.5° / 15mm: 24.5° × 18.5° / 25mm: 14.9° × 11.2° / 35mm: 10.7° × 8.0°
Lens (optical) : 4 / 6 / 12 / 15 mm
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)
Anti-corrosion Coating (PY)
IP67

DS-2TD2667/P(Y)

Bi-Spectrum Network
Bullet Camera



Thermal: : 640 512, 17 μm, Optical: 2688 × 1520
Lens (thermal) : 15 / 25 / 35 mm
15mm: 42.5° × 33.6° / 25mm: 24.55° × 19.75° / 35mm: 17.67° × 14.18°
Lens (optical) : 4 / 6 / 8 mm
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)
Anti-corrosion Coating (PY)
IP67

DS-2TD4228-10/W

Network Bi-Spectrum
Speed Dome



Thermal: 256 × 192 12 μm
Optical: 1920 × 1080
Lens (thermal) : 10 mm; Optical: 4.8-153 mm
FOV: 10mm: 18° × 13.5°
VCA : Line crossing / Intrusion / Region entrance / Region exiting
Temperature Exception
Temperature Exception Range : -20 to 150°C
Temperature Accuracy : ±8°C
Working Temperature :
-40°C to 65°C (-40° F to 149° F)
IP66

DS-2TD4137W(Y)

Network Bi-Spectrum
Speed Dome



Thermal: 384 × 288, 17 μm,
Optical: 2688 × 1520
Lens (thermal) : 25 / 50 mm; Optical: 6-252 mm
25 mm: 14.9° × 11.2° , 50 mm: 7.5° × 5.6°
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)
Anti-corrosion Coating (PY)
IP66

DS-2TD4167W(Y)

Network Bi-Spectrum
Speed Dome



Thermal: 640 × 512, 17 μm
Optical: 2688 × 1520
Lens (thermal): 25 / 50 mm; Optical: 6-252 mm
FOV: 25 mm : 24.5° × 19.7°, 50 mm : 7.5° × 5.6°
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)
Anti-corrosion Coating (PY)
IP66

DS-2TD6237-H4L/W(Y)

Network Bi-Spectrum
Speed Dome



Thermal: 384 × 288, 17 μm,
Optical: 1920 × 1080
Lens (thermal): 10 / 25 mm; Optical: 4.8-153 mm
FOV: 10 mm: 37.7° × 28.7°, 25 mm: 14.88° × 11.19°
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)
IP66

DS-2TD6267-H4L/W(Y)

Network Bi-Spectrum
Positioning System



Thermal: 640 × 512, 17 μm
Optical: 2688 × 1520
Thermal: 50 / 75 / 100 mm
Optical: H (6-240 mm) / C (6-336 mm)
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)
Anti-corrosion Coating (PY)
IP66

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)
Anti-corrosion Coating (PY)
IP66

Effective Coverage Medium Range (70-350 m)

Industrial Fixed Cameras

VCA Range
(Humans: 1.8 × 0.5 m)

VCA Range
(Vehicles: 1.4 × 4.0 m)

DS-2TD2137-4/P



DS-2TD2x37-35/P



DS-2TD2137-7/P



DS-2TD2138-4/QY



DS-2TD2x37-10/P



DS-2TD2138-7/QY



DS-2TD2x37-15/P



DS-2TD2138-10/QY



DS-2TD2x37-25/P



DS-2TD2138-15/QY



DS-2TD2138-25/QY



DS-2TD2x67-25



DS-2TD2167-7/P



DS-2TD2x67-35



DS-2TD2x67-15



DS-2TD23x6-50
DS-2TD28x6-50



DS-2TD23X6-75



DS-2TD23x6-100



Effective Coverage Long Range (over 350 m)

Industrial PT Cameras

VCA Range
(Humans: 1.8 × 0.5 m)

VCA Range
(Vehicles: 1.4 × 4.0 m)

DS-2TD4237-10



DS-2TD4237-25
DS-2TD41x7-25



DS-2TD41x7-50
DS-2TD62x7-50



DS-2TD62x7-75



DS-2TD6267-100



DS-2TD8167-150



DS-2TD8167-190



DS-2TD8167-230





Headquarters

No.555 Qianmo Road, Binjiang District,
Hangzhou 310051, China
T +86-571-8807-5998
Business: overseasbusiness@hikvision.com
Technical Support: support@hikvision.com

Hikvision Australia
T +61-2-8599-4233
salesau@hikvision.com

Hikvision Azerbaijan
T +994 50 369 81 57
Azerbaijan.CATC@hikvision.com

Hikvision Brazil
T +55-11-3318-0050
Latam.support@hikvision.com

Hikvision Canada
T +1-866-200-6690
sales.canada@hikvision.com

Hikvision Colombia
sales.colombia@hikvision.com

Hikvision Czech
T +420 29 6182640
info.cz@hikvision.com

Hikvision Egypt
T +20223066117
sales.eg@hikvision.com

Hikvision Europe
T +31 23 5542770
sales.eu@hikvision.com

Hikvision France
T +33(0)1 85 330 450
info.fr@hikvision.com

Hikvision Germany
sales.dach@hikvision.com

Hikvision Hong Kong , China
sales.hk@hikvision.com

Hikvision Hungary KFT
info.hu@hikvision.com

Hikvision India
T +91-22-6855 9944
sales@pramahikvision.com

Hikvision Indonesia
T +6221 2933 9366
Sales.Indonesia@hikvision.com

Hikvision Israel
T +972 79 5555590
sales.israel@hikvision.com

Hikvision Italy
T +39 0438 6902
info.it@hikvision.com

Hikvision Kazakhstan
T +7 (727) 291-75-88
support@hikvision.kz

Hikvision Kenya
wangchengbin@hikvision.com

Hikvision Korea
T +82-1661-8138
sales.korea@hikvision.com

Hikvision Malaysia
T +60327224000
sales.my@hikvision.com

Hikvision Mexico
T +52 55 2624 0110
sales.mexico@hikvision.com

Hikvision New Zealand
T 09 217 3127
salesnz@hikvision.com

Hikvision New Panama
Sales.centralamerica@hikvision.com

Hikvision Pakistan
T +92-2135147526
support.pk@hikvision.com

Hikvision Philippines
support.ph@hikvision.com

Hikvision Poland
T +48 22 460 01 50
info.pl@hikvision.com

Hikvision Russia
T +7-495-669-67-99
saleru@hikvision.com

Hikvision Romania
marketing.ro@hikvision.com

Hikvision Singapore
T +65 6684 4718
sg@hikvision.com

Hikvision South Africa
T +27 877018113
sale.africa@hikvision.com

Hikvision Spain
T +34 91 737 16 55
info.es@hikvision.com

Hikvision Tashkent
T +99-87-1238-9438
uzb@hikvision.ru

Hikvision Thailand
sales.thailand@hikvision.com

Hikvision Turkey
T +90 216 521 70 70
support.tr@hikvision.com

Hikvision UAE
T +971-4-4432090
salesme@hikvision.com

Hikvision UK & Ireland
T +44(0)1628 902 140
info.uk@hikvision.com

Hikvision Uzbekistan
T +998-71-233-55-50
uzbekistan@hikvision.com

Hikvision USA
T +1-909-895-0400
sales.usa@hikvision.com

Hikvision Vietnam
T +84 24 7300 7586
sale.vn@hikvision.com

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