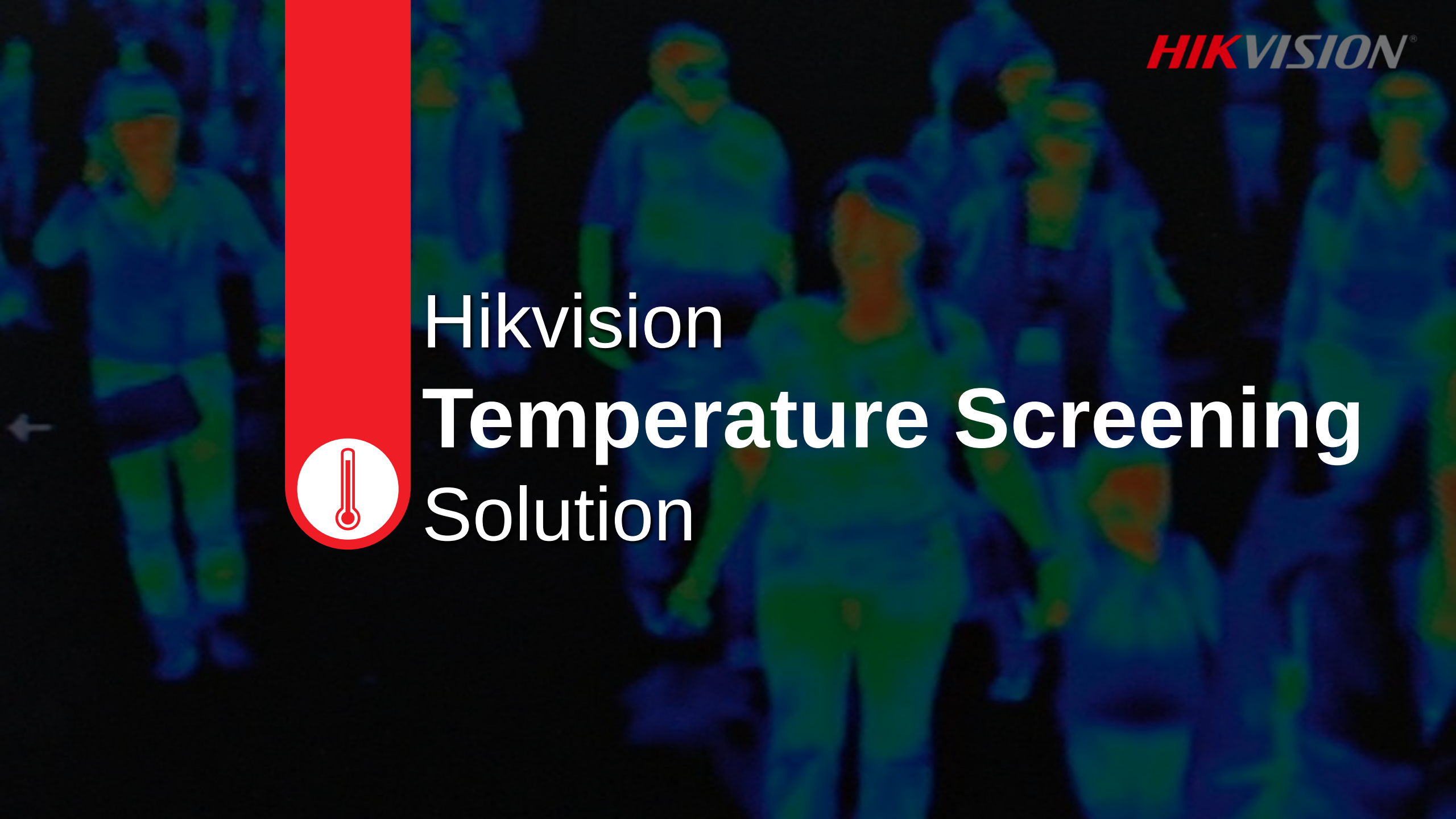

HIKVISION
Hikvision
Temperature Screening
Solution

Current Situation

Traditional methods like using the ear thermometer or mercury thermometer perform well in detecting people with abnormal skin-surface temperature. However, all of these methods have obvious and significant deficiencies:

Close Contact, High Risk

- Close contact among users, leading to high risk of infection.

High Cost, Low Efficiency

- Lots of manpower invested.
- Person-by-person inspection is inefficient.

Difficult to Collect Statistics

- Manual registration is required, which may lead to human error and not so timely feedback.

Solution Value

Using machines instead of manpower alone is a much better choice in many aspects.

- Reducing the contact among people. The detection process can be fast and convenient, as imperceptible as possible, and can minimize the impact on people's daily travel.

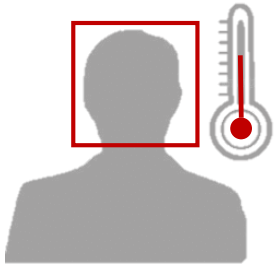
- Effectively reducing manpower and the duration of skin-surface temperature measurement.

- Producing real-time and accurate temperature measurement data for management and decision-making.

Solution Business Flow

Entering

1



Human skin-surface temperature measurement

2

Locating potential elevated temperature

3

Double check with mercury or ear thermometers.

4

Fast preliminary temperature screening without contact

S AFE

Distant and accurate check without physical contact, reducing cross-infection possibilities.

E FFICIENT

Automatic alarm triggering, reducing manpower invested.

A DAPTABLE

Multiple product types, easy to deploy, and suitable for different scenarios.

T RACEABLE

Combining temperature, image and face identification for easy management and query.

Solution Overview

Solution 1 Temperature Screening with Fast Deployment

- ✓ Entrances with short-term requirements
- ✓ Unsuitable for complicated wiring and installation

1-1 Thermographic Cameras

Visualized Bi-spectrum Live View

- ■ With Thermographic Camera
- ■ Blackbody is **optional**

1-2 Wireless Devices

Easy Connection, Cable Free

- ■ With Handheld Thermographic Camera

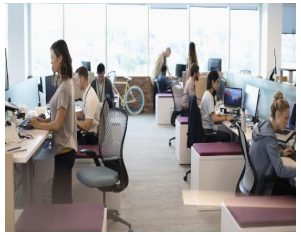
1-3 Metal Detector Doors

Real-time Sound and Light Alarm

- ■ With Metal Detector Door

Solution Overview

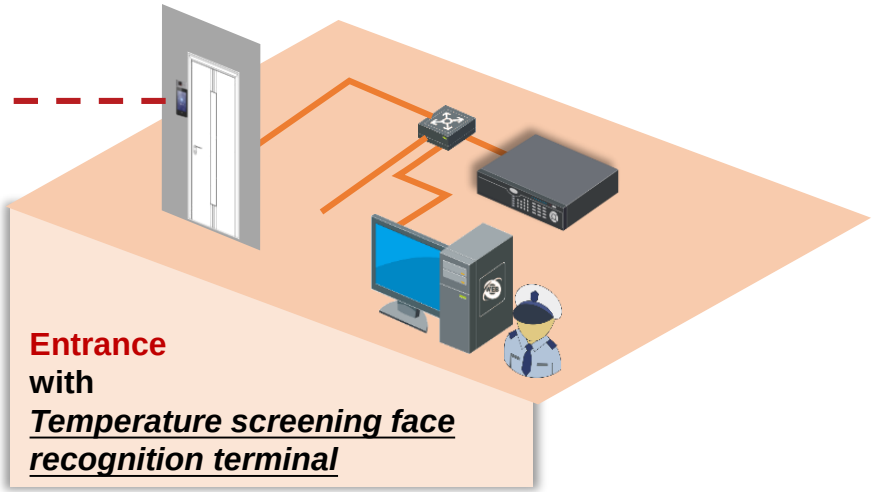
Solution 2 Temperature Screening with Access Control



- ✓ Indoor space without wind
- ✓ Security control and Temperature screening at the entrance which has a route to guide people flow

Touch-Free, Access is Easier but Safer

- ■ With Door Control
  - Wall-mount to control the door



Entrance
with
Temperature screening face recognition terminal

Solution 3 Group Temperature Screening

- ✓ Indoor open space without wind
- ✓ Large people flow
- ✓ Temperature screening on crowds

High-risk Group Screening with High Efficiency

- ■ With Thermographic Bullet Camera
- ■ Blackbody is **optional**

Solution Overview

Solution 4 Temperature Screening on Patrol

- ✓ Indoor open space without wind
- ✓ Patrolling without a fixed route

Anytime, Anywhere, Just one click.

- ■ With Handheld Thermographic Camera

Solution 5 Temperature Screening & Mask Detection

- ✓ Indoor open space without wind
- ✓ Face recognition with mask on

Intuitive Demonstration

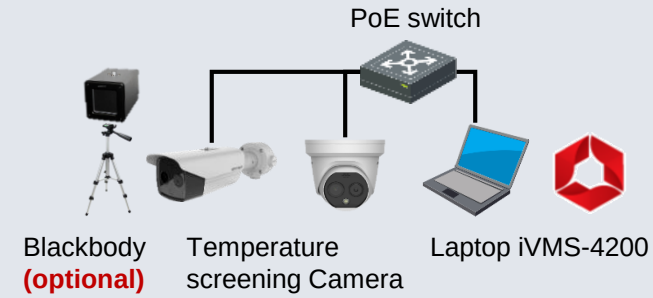
- ■ With Thermographic Camera & DeepinMind NVR

1.-1 Temperature Screening with Fast Deployment – Thermographic Cameras

Visualized Bi-spectrum Live View

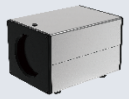
Solution Introduction

- Indoor space without wind
- Route for passenger flow is recommended
- 5 minutes' stay after entrance is recommended
- Use the Black Body calibrator to improve the accuracy to ±0.3℃



Thermographic Bullet Camera

Tripod Adaptor


Black body (optional)

PoE Switch

Thermographic Turret Camera

Tripod

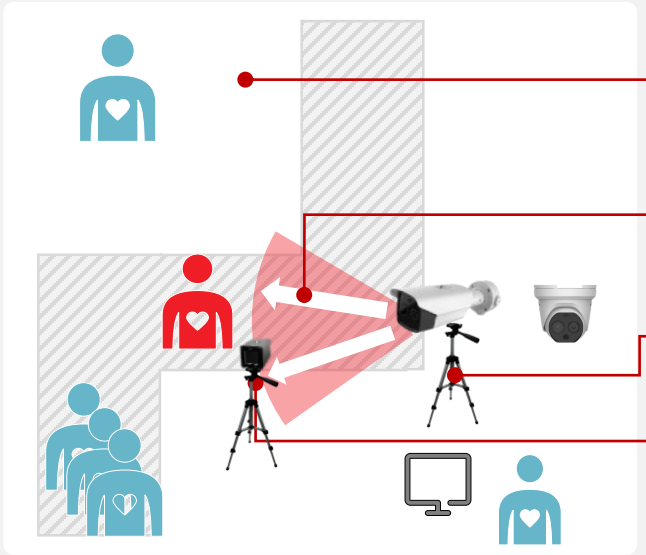
iVMS-4200

Laptop

Product Design

Cost-effective Series

- Thermal: 160 × 120, lens: 3 mm / 6 mm
- Optical: 2688 × 1520, lens: 4 mm / 8 mm
- Accuracy: ±0.5℃ (± 0.3℃ with black body)
- Measurement range: 30-45℃
- Working temperature: 10-35℃
- Embedded audio alarm for abnormal temperatures
- AI detection to reduce false alarms by other heat resources



Double check by mercury thermometer, ear thermometer etc.

Distance between camera and people: 0.8-1.5 m (3 mm lens) 1.5-3 m (6 mm lens)

Installation height is 1.5 m

Distance between camera and Black Body calibrator: 1 m (3 mm lens), 2 m (6 mm lens). Keep the Black Body in the upper left / upper right corner of the camera's view

1-2 Temperature Screening with Fast Deployment - Wireless Devices

Easy Connection, Cable Free

Solution Introduction

- For building entrances, elevator halls, airport security checks, etc.
- **Wireless** deployment without cables (by the app or the iVMS-4200 client)
- Indoor space without wind
- Route for passenger flow is recommended
- 5 minutes' stay after entrance is recommended

Tripod

Handheld thermographic camera

Hik-Thermal app

Laptop

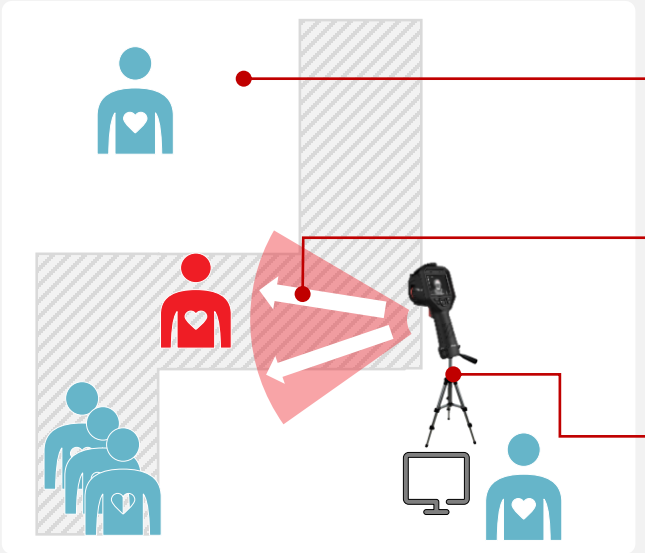
iVMS-4200

Hotspot

Handheld thermographic camera

Product Design

- Thermal resolution: 160 × 120 ;
- Optical resolution: 640 × 480 ;
- Accuracy: ±0.5℃
- Measurement range: 30-45℃
- 3.5" LCD touch screen
- Supports Wi-Fi hotspot, live view on PC or mobile client for less eye fatigue
- Supports real-time audio alarm and automatic uploading of screen captures



Double check by mercury thermometer, ear thermometer etc.

Distance between camera and people: 1 - 2m

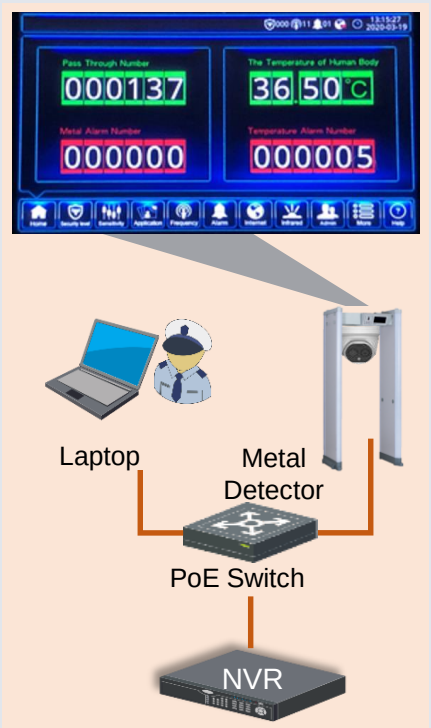
Installation height is 1.5 m

1- 3 Temperature Screening with Fast Deployment – Metal Detector Doors

Real-time Sound and Light Alarm

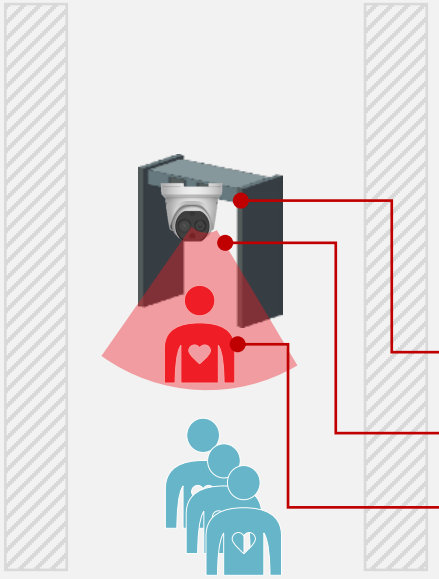
Solution Introduction

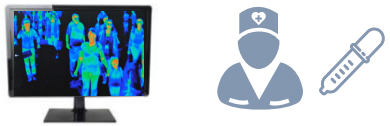
- Long-term Temperature screening with metal detector door for entrances of police station, subway station, airport security check, etc.
- Indoor space without wind.
- Thermographic turret camera fixed on walk-through metal detector door.



Product Design

- 18 independent detection zones,
- 7-inch LCD temperature indicator
- 2,200 mm * 850 mm * 480 mm
- Thermal imaging resolution: 160 * 120
- Temperature measurement accuracy: ±0.5 ℃
- Temperature measurement range: 30-45 ℃
- Onboard audio alarm for abnormal temperature or metal.



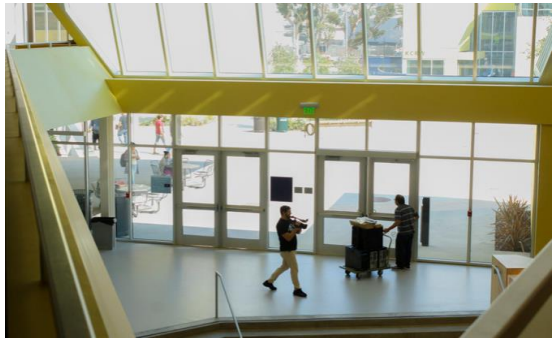


Real-time alarm monitoring

Double check by mercury thermometer, ear thermometer etc.

1 Application Scenarios

School



Entrance of college building

Entrance of dormitory

Retail

Entrance of supermarket

Entrance of restaurant

Office Building

Elevator hall of parking lot

Entrance of office building

Airport

Security Check at Airport

Entrance of terminal

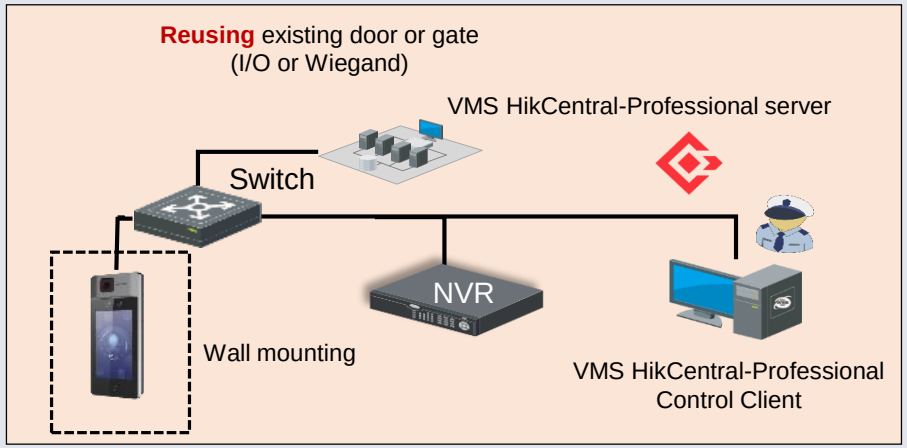
Recommended for indoor scenarios, as large fluctuations of outdoor temperature will influence the temperature measurement accuracy.

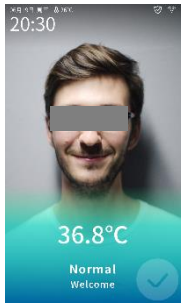
2 Temperature Screening with Access Control

Touch-Free, Access is Easier but Safer

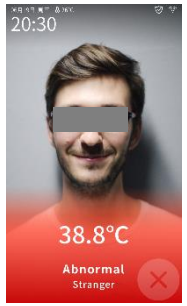
Solution Introduction

- Long-term Temperature screening with access control for building related projects
- Indoor space
- Centralized management for access control with temperature records





Normal temperature

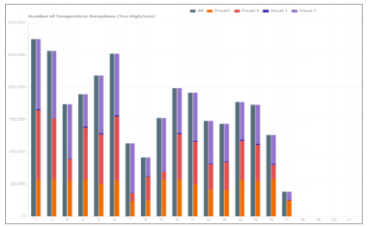


Abnormal temperature

Double check by mercury thermometer, ear thermometer etc.

VMS Centralized management for access control system support:

① Exportable access records with temperature statistics
② Handling real-time Temperature alarms and tracing back records
③ Centralized management for multiple screening sites



Batch Access Verification Log

Basic Information
Export Time: 2020/02/10 15:01:28
Exported by: admin
Export Content: Name, ID, Card Number, Person Group, Device Time, Access Point, Access Result, Access Mode, Body Temperature
Report Time: 2019/10/22 00:00:00 - 2019/10/22 23:59:59
Total Number: 86

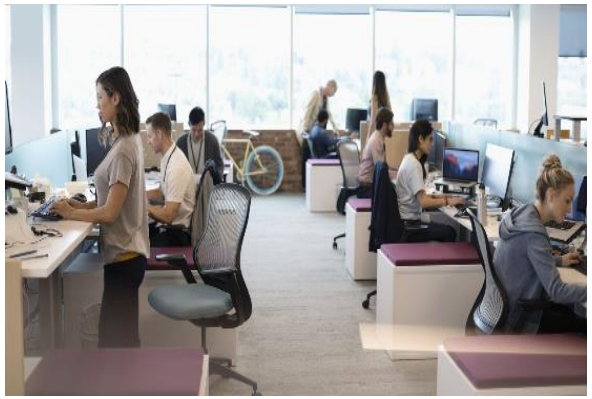
Name	ID	Card Number	Person Group	Device Time	Access Point	Access Result	Access Mode	Body Teperature
John Johnson	34564352	1232134341	Sales	2019/10/22 20:37:41	605Door 01_Cardreader 01	Succeed	Face Recognition	36.5℃
Black Griffin	34234913	2332123343	Sales	2019/10/22 19:56:34	605Door 01_Cardreader 01	Failed	Face Recognition Failed	36.3℃
Tim Duncan	89218471	2439278394	Sales	2019/10/22 19:53:22	605Door 01_Cardreader 01	Failed	Temperature higher than threshold	37.7℃
Roger Federer	21231234	2456457545	Manager	2019/10/22 18:36:43	605Door 01_Cardreader 01	Succeed	Face Recognition	36.7℃

Note: The NVR and HikCentral are both customized in this solution.

Product Design

- AI face locating, avoiding interference by objects with high temperature, thus increasing the precision of Temperature screening.
- Contact-free: Personnel identification, Temperature screening, and mask detection (card reader for DS-K1T671TM-3XF)
- Masked-face recognition is supported.
- Voice reminder of not-wearing masks, and no-mask entrance is prohibited.
- Max.50,000 faces capacity
- Temperature accuracy ±0.5℃ , range: 30~45℃

2 Application Scenarios



Entrance of offices

Entrance of office building

Entrance of Factory

Protect the safety of employees

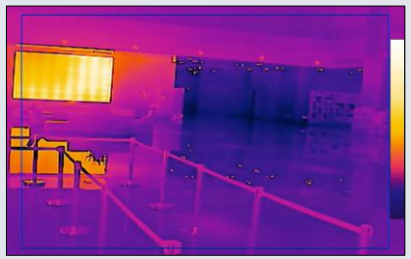
Recommended for indoor scenarios, as large fluctuations of outdoor temperature will influence the temperature measurement accuracy.

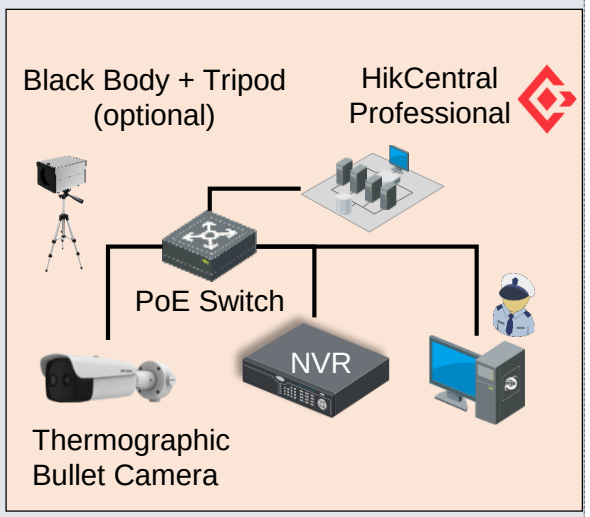
3 Group Temperature Screening

High-risk Group Screening with High Efficiency

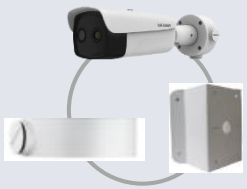
Solution Introduction

- Temperature screening of crowd with high efficiency (indoor), simultaneous Temperature screening of multiple people
- The Black Body calibrator is **only** used to improve the accuracy to ±0.3℃
- Centralized management for CCTV with temperature record





Thermographic Bullet Camera



Wall Mounted Bracket

PoE switch

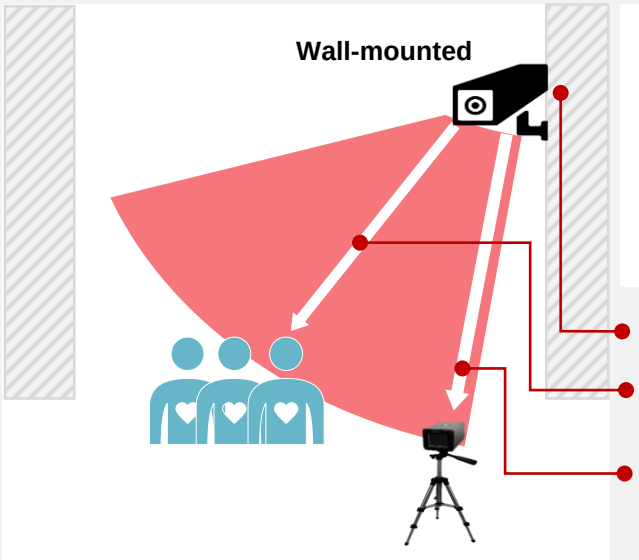
HikCentral Professional

Black Body + Tripod
(optional)

Product Design

- Thermal: 384 × 288, lens: 15 mm
- Optical: 2688 × 1520, lens: 6 mm
- **Accuracy: ±0.5℃ (without blackbody)**
- Measurement range: 30-45℃
- Working temperature: 10-35℃
- **AI detection to reduce false alarms**

Professional Bullet



Real-time alarm monitoring

Double check by a mercury thermometer, ear thermometer, etc.

Installation height: **2.5 m**

Distance between camera and people: **2.5–9 m** (15 mm thermal lens);

Distance between camera and black body: **5 m**. Keep Black Body in the upper left / upper right corner of the camera's view

Note: The NVR and HikCentral are both customized in this solution.

3 Application Scenarios

Railway Station

Airport

Factory

Recommended for indoor scenarios, as large fluctuations of outdoor temperature will influence the temperature measurement accuracy.

4 Temperature Screening on Patrol

Anytime, Anywhere. Just One Click

Solution Introduction

- For preliminary Temperature screening by spot-checking inspectors (indoor)
- Temperature screening without disturbing a person

Hik-Thermal app

iVMS-4200

Handheld Thermographic camera

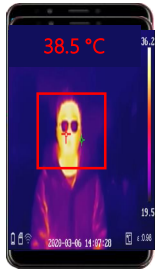
Hotspot

Product Design

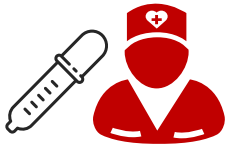
- Thermal resolution: 160 × 120;
- Optical resolution: 640 × 480;
- **Accuracy: ±0.5℃**
- Measurement range: 30-45℃
- 3.5” LCD touch screen
- Supports **Wi-Fi hotspot**, automatic screenshots of a person with Temperature & uploading to the Mobile Client (Hik-Thermal) as evidence
- Supports real-time **audio alarm**
- Operation time: **4-5 hours**

1 m - 2 m

If abnormal



Double check



4 Application Scenarios

Workshop

Office

Classroom

Efficient & Flexible for anywhere

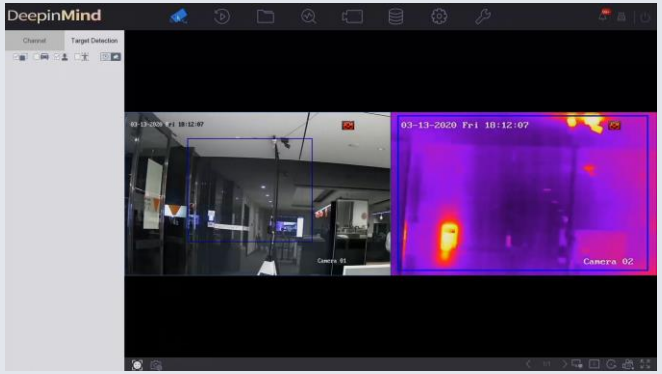
Recommended for indoor scenarios, as large fluctuations of outdoor temperature will influence the temperature measurement accuracy.

5 Temperature Screening & Mask Detection

Intuitive Demonstration

Solution Introduction

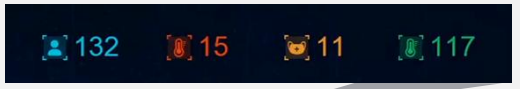
- **Temperature Screening:** Simultaneous Temperature screening for multiple persons (indoor), contact-free
- **Mask Detection:** Detecting whether people wear masks, and timely giving alarms on people without masks
- **Identity Verification & Stranger Alarm:** Confirming identity, even with mask, and giving alarms on strangers



Thermographic Camera

DeepinMind NVR

Product Design



- **Number of People:** total number, abnormal temperature, no mask, normal temperature

- Temperature Status
- Facial Recognition Results
- Mask Detection

➢ **Visualized GUI & Voice Broadcast:**

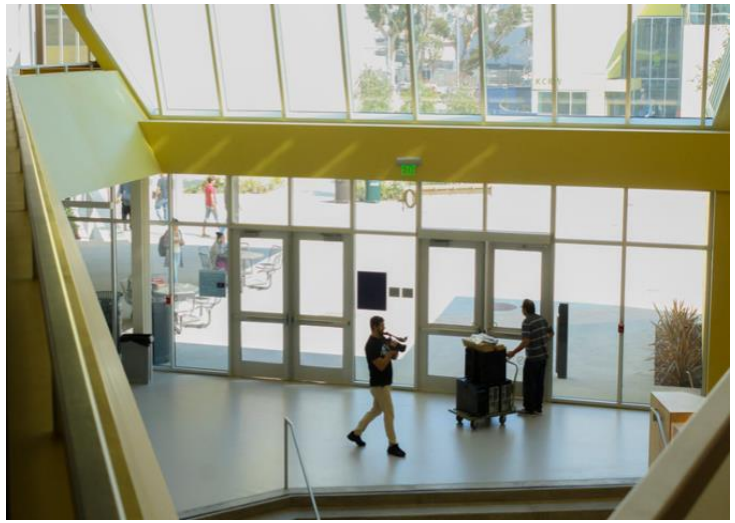
- Special interface in DeepinMind NVR, visually displaying all kinds of information
- Supporting voice broadcast upon mask and temperature status

➢ **Efficient Search & Report:**

- Fast video search of target people, such as people with abnormal temperatures, without masks and so on;
- Exporting reports with ID, skin-surface temperature and mask status

Note: The DeepinMind NVR and thermographic cameras are customized in this solution.

5 Application Scenarios



College

Office Building

Industry Park

Recommended for indoor scenarios, as large fluctuations of outdoor temperature will influence the temperature measurement accuracy.

Product Showcase

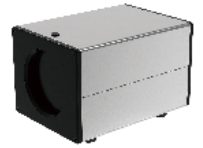
Thermographic bullet camera

- Thermal: 160 × 120
- Lens: 3 mm / 6 mm
- Optical: 2688 × 1520
- Optical lens: 4 mm / 8 mm
- Video mode: Bi-spectrum image fusion
- Accuracy: ±0.5℃ (± 0.3℃ with black body)
- Measurement range: 30-45℃
- Supports audio alarms

Thermographic turret camera

- Thermal: 160 × 120
- Lens: 3 mm / 6 mm
- Optical: 2688 × 1520
- Optical lens: 4 mm / 8 mm
- Video mode: Bi-spectrum image fusion
- Accuracy: ±0.5℃ (±0.3℃ with black body)
- Measurement range: 30-45℃
- Supports audio alarms

Black body Calibrator



- Temperature resolution: 0.1℃
- Accuracy: ±0.1℃
- Temperature stability: ±0.1℃/h
- Effective emissivity: 0.97±0.02
- Operating temperature: 0-30℃

Thermographic bullet camera (Pro)

- Thermal: 384 × 288, lens: 15 mm
- Optical: 2688 × 1520, lens: 6mm
- Accuracy: ±0.5℃ (± 0.3℃ with black body)
- Measurement range: 30-45℃
- Working temperature: 10-35℃
- AI human detection, false alarms reduction
- Simultaneous Temperature screening for multiple people (Up to 30 people)

Handheld thermographic camera

- Thermal resolution: 160 × 120
- Optical resolution: 640 × 480
- Measurement range: 30-45℃
- Touch screen
- Accuracy: ±0.5℃
- Bi-spectrum image fusion
- Supports Wi-Fi
- Supports audio alarms
- Automatic screenshots & uploading

Product Showcase

Temperature screening face recognition terminal

- Face identification, Temperature screening, mask detection
- Voice reminder of not-wearing masks, and no-mask entrance is prohibited
- Face capacity: 50,000
- Temperature accuracy: ±0.5℃, range: 30~45℃
- Face Recognition Duration(1:N) ≤0.2s
- Face Recognition Distance: 0.3m ~ 2m

Metal detector door

- 18 independent detection zones, LCD screen
- Thermal camera resolution: 160 x 120
- Temperature range: 30~45℃
- Temperature accuracy: ±0.5℃

DeepinMind NVR

- 16 channels of picture or 8 channels video streaming; 32-library capacity with up to 100,000 face pictures in total.

4HDD Series

8HDD Series

POE switch

- L2, Unmanaged, 10/100M RJ45 PoE ports, 1 10/100M RJ45 uplink port, 802.3af/at, PoE power budget. 300m long distance transmission, 6KV surge protection

4 Ports POE switch

8 Ports POE switch

- 1080P, HDMI/VGA input, plastic casing, VESA, base bracket included, 7*24h

DS-D5019QE-B (18.5”)

DS-D5032QE (31.5”)

- 1080P, HDMI/VGA input, **build-in speaker**, plastic casing, VESA, base bracket included, 7*24h

DS-D5028FC (28”)

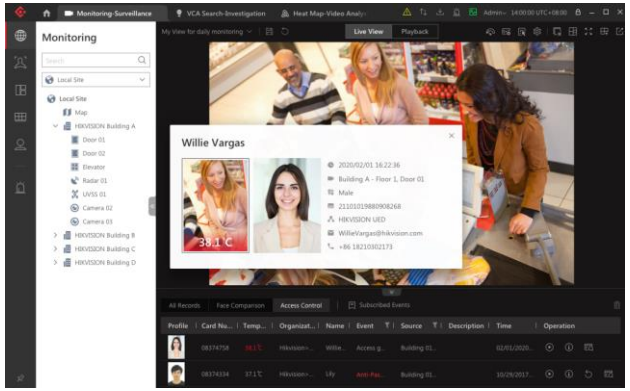
DS-D5050UC (50”)

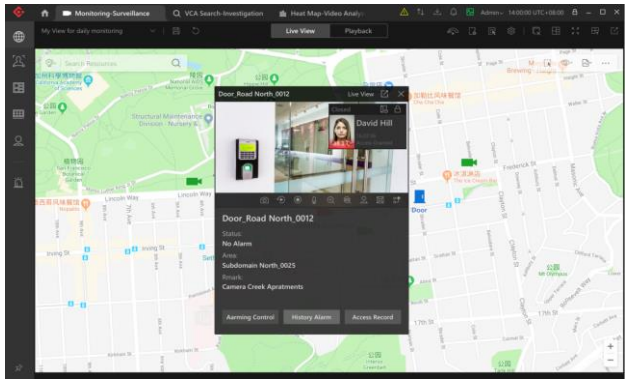
Product Showcase

HikCentral Professional

- Flexible, scalable, reliable and powerful central surveillance system.
- Supports live view, play back, access control, alarm management, personnel identification, temperature data storage, abnormal temperature trend analysis etc.

Management of Registered Identities





Personnel Access Management & Skin-temperature Measurement

- HikCentral links personnel skin-temperature and corresponding identity;
- Access status and temperature live display / recording on HikCentral;
- Administrators can grant the access remotely

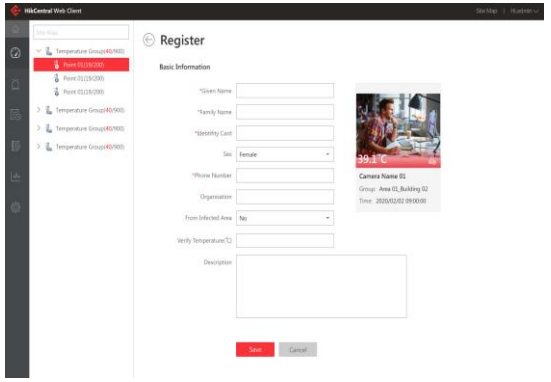
Abnormal Status Management

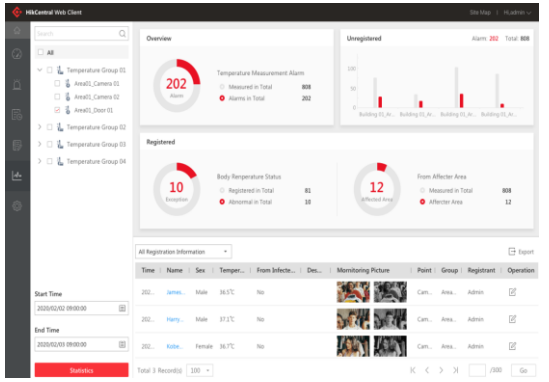
- Detected abnormal temperature from multiple sites will be centralized into HikCentral and displayed on GIS map / E-map;
- Batch attendance handling of people in quarantine

Management of Unregistered Identities

Abnormal Status Registration

- Once abnormal temperature appears, inspectors can type in the identity information and register it to HikCentral;
- All registrations are traceable, and can be easily searched and exported;
- Visualized statistic report helps administrators to assign and adjust manpower;





HIKVISION
Thanks
See far, go further