HIKVISION

Hikvision – Apaq **Fever Screening** Solution

Foreword

Human Skin-Surface temperature is an important indicator of physical health. In many scenarios, people with abnormal skinsurface temperatures need to be detected quickly and accurately in order to take measures to prevent the situation from further deterioration.



Current Situation

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

Close Contact, High Risk

 Close contact among the 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.



Better Approach

Using machines instead of manpower alone can be a much better choice in many ways.

- 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 improving the detection rate of abnormal skin-surface temperature.
- Producing real-time and accurate temperature measurement data for management and decision-making.



Solution Business Flow



Distant and accurate check with no contact, reducing crossinfection possibilities.

Automatic alarm triggering, reducing manpower invested.

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

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

Solution - Fever screening thermographic handheld camera



DS-2TP31B

Solution composition:

Thermographic handheld camera + Tripod (Optional) + Monitor operator

Solution Advantages:

- Flexible and simple to use
- Rapid setting up and adapt to sudden event
- Accuracy is ±0.5 degree, satisfy preliminary fever screening requirement

Set up tips:

- The camera is recommended to install in 1.5 meter high, keep the distance between target and camera about 1m
- Recommend to install in a stable environment without wind indoors.
- People pass by the thermographic camera one by one, the operator read the maximum value in the screen.



Solution - Fever screening thermographic handheld camera

Scheme performance :







Solution – Economical thermographic fever screening scheme

Scheme performance :





Solution – Professional thermographic fever screening scheme





Performance videos of thermal & optical channel

> Temporary setting up & monitoring scheme

Long-term setting up scheme



Solution – Access Control + Fever Screening





Thermal bullet camera

- Thermal: 384 \times 288, lens: 15 mm/13/10mm ;
- Optical: 2688 × 1520, lens: 6mm/6mm/4mm ;
- Accuracy: ±0.5°C (± 0.3°C with black body)
- Measurement range: 30-45°C
- Working temperature: 10-35°C
- Al human detection, false alarms reduction
- Simultaneous fever screening for multiple people (Up to 30 people)



DS-2TD2636B-15/P DS-2TD2636B-13/P DS-2TD2637B-10/P



Turnstile Metal Detector Door 650-1100 mm width left/middle/right lane • 18 independent detection zones, • Speed of throughput: up to 60 people/min LCD screen • 12 pairs of IR light detectors DS-K3B601series Build-in controller & IC card reader Thermal camera resolution: 160 x SUS304 stainless steel pedestal & acrylic swing 120 • Face recognition terminal & temperature Temperature range: 30~45°C measuring, and device installation hole is reserved. ISD-SMG318LT-F Temperature accuracy: ±0.5°C

Fever screening face recognition terminal

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



DS-K5604A-3XF/V (for new or existing barrier gate)

DS-K5604A-3XF/V (stand alone or existing barrier gate)

Interactive Screen

- 65" or 75" or 85", 4K(3840 × 2160), 20 points infrared touch control, industrial screen protection.
- Built-in Wi-Fi realizes wireless screen mirroring without any cable connection. Built-in interactive whiteboard system allows annotating and sharing.





OPS box (Open Pluggable Specification)

- Inserted in interactive display slot (not including Operation System)
- Intel® Skylake_U/Kabylake_U
 Core™ i5, Intel® HD Graphics 4600, 8 GB memory, 12 8GB SSD

Monitor

 1080P, HDMI/VGA input, view angle:178°/178°, plastic casing, VESA, base bracket included, 7*24h





(23.8") (31.5")

(43")

DeepinMind NVR

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



iDS-6708NXI-I/8F(B)



iDS-7716(/32)NXI-I4/(16P)/X(B) iDS-9616(/32/64)NXI-I8/X(B)

POE switch

DS-D5AS5/8S1L

 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



DS-3E0105P-E(B)



DS-3E0109P-E(C)

Solution - Fever screening thermographic handheld camera

DS-2TP31B-3AUF

Thermal thermographic handheld camera

- Thermal resolution: 160 × 120;
- Measurement range: 30-45°C
- Touch screen
- Accuracy: ±0.5°C
- Bi-spectrum image fusion
- Distance : 1m
- Speed : Real time
- Display: Thermal image
- Efficiency: 60 persons / minute
- Information preservation: Screenshot



Thermographic Handheld Camera Advantages

- Keep distance between the operator and the target person, reduce the risk of decrease transmission
- Higher efficiency, more suitable for flow of fast moving crowded.
- Easy to use, the operator less steps in operate cameras, need only read the maximum value in the screen
- Able to preserve the screenshot of potential risky target person as an evidence

Products Introduction - Highlights

Fever screening face recognition terminal



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Products Introduction - Highlights





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Products Introduction - Highlights



Fever screening face recognition module for barriers



Solution - Metal Detector Door & body temperature measurement



customs, airports, train stations, bus stations, subway stations, etc.

Solution Business Flow and Typical Scene Overview



Non-contact, long distance and

accurate, reduce cross-infection

possibility.



Temperoray fever screening at entrance



Permanent fever screening inside buildings(Group fever screening or with real time personal identification)

EFFICENT

Efficient, auto alarm triggering, reduce man power resources investment. Scene 2

Permanent fever screening at Entrance (with access control or Metal Detector)



Patrol fever screening

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

 TRACEABLE

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

Temporary Fever Screening at Entrance – Thermal bullet/turret camera based

Cost-effective: 1 camera 2 lens empowered by AI for 2 usage (Fever screening + Security surveillance)





Temporary Fever Screening at Entrance – Stand-along device based

Easy, Flexible, Fast Deployment

Deployment Design

- For building entrance, elevator hall, airport security check, etc.
- Wireless hot-spot deployment without cable for thermal handheld camera(by APP or 4200 client)
- Stand-along fever screening face identification terminal, plug and use.
- Indoor space without wind.
- · Recommend to set up personnel guidance route.
- Recommend to fever screening 5 min after the measured person enters the indoor space 中心:17.7





Product Design



Plug & Use, Visualized Measurement

- Non-contact personal identification & fever screening & mask detection
- Voice reminder for not-wearing mask person, could prohibit from entering
- AI face location, avoid interference by other objects with high temperature & increases the precision of fever screening
- Max.50,000 faces capacity , Max.50,000 cards;
- Temperature range: 30-45°C, accuracy: ±0.5°C
- Face Recognition Duration(1:N) ≤0.2s
- Face Recognition Distance: 0.3m ~ 2m
- Terminal & mounting pole all-in-one, plug & use

Secondary measurement by mercury thermometer, ear thermometer etc.

DS-K5604A-3XF/V

Distance

0.3m-2m

between terminal and person:



Temporary Fever Screening at Entrance – interactive display based

One display, All information

Deployment Design

- For commercial & government office building entrance, elevator hall, etc.
- Inserted computer without laptop (Windows in OPS Box Solution)
- Indoor space without wind.
- Recommend to set up personnel guidance route.
- Recommend to fever screening 5 min after the measured person enters the indoor space







65" or 75" or 85", 4K(3840 × 2160) 20 points infrared touch control, industrial screen protection. Built-in Wi-Fi screen mirroring without any cable connection. Built-in interactive whiteboard system allows annotating and sharing. Ideal for reuse in meeting room.

- Inserted OPS box, act as computer, no need for additional laptop (Not including Operation System)
- Intel® Skylake_U / Kabylake_U Core™ i5, Intel® HD Graphics 4600, 8GB memory, 128GB SSD







Application Scenarios

Note: Recommend indoor installation. Large fluctuations in outdoor ambient temperature influence the accuracy of temperature measurement.





Office Building



Elevator hall of parking lot

Scene

Entrance of office building

Airport

Retail



Jet bridge for departure & arrival flight

Entrance of terminal



Permanent Fever Screening at Entrance - Access Control Based

Double Protection without Touch

Deployment Design

- · Long-term fever screening with access control for building related project
- Indoor space
- Recommend to fever screening 5 min after the measured person enters the indoor space
- Centralized management for access control with temperature record



VMS Centralized management for access control system:

- ① Access record with temperature statistics and export
- ② Real time fever alarm handling and trace back
- ③ Open ability of Access record with temperature information (OpenAPI)
 ④ Temperature Abnormal event links Attendance absence correction





Note: NVR needs customization to store temperature data locally and transmit to HikCentral. HikCentral in this solution is a customized version.

Application Scenarios

Note: Recommend indoor installation. Large fluctuations in outdoor ambient temperature influence the accuracy of temperature measurement.

School

Scene



Entrance of library



Entrance of dormitory





Entrance of factory



Entrance of workshop

Commercial Building



Elevator hall of parking lot



Main entrance of office building



Permanent Fever Screening at Entrance - Metal Detector Based(new project)

Non-Contact, metal detection, real-time alarm

Deployment Design

- Long-term fever screening with metal detector for entrance of police station, subway station, airport security check, etc.
- Indoor space without wind.
- Recommend to fever screening 5 min after the measured person enters the indoor space.
- Thermal Turret camera fixed installation with walk through metal detector







Application Scenarios

Note: Recommend indoor installation. Large fluctuations in outdoor ambient temperature influence the accuracy of temperature measurement.



Scene

Entrance of School



Security Check at Airport



Entrance of Office Building



Entrance of Prison



Entrance of Metro Station



Entrance of Stadium



Permanent Fever Screening with Real Time Personal Identification Personal Identification Even with Mask

Deployment Design

- For long-term preliminary fever screening, personal identification, mask detection (indoor).
- Simultaneous fever screening for multiple person (ca.10-15 persons)
- Centralized management for CCTV with temperature and identity information.
- The black body is used as a basis for screening to improve the accuracy to ±0.3°C



Note: HikCentral & firmware of DeepinMind NVR in this solution is a customized version.

Product Design

- Accuracy: $\pm 0.5^{\circ}C (\pm 0.3^{\circ}C \text{ with black body})$
- Al body detection increases the precision of fever screening.
- Associate personal identity with temperature.
- Accurate personal identification even for person with mask.
- Identify person with abnormal temperature or not-wearing mask, auto alarm in HikCentral professional with video for tracing back.

Abundant statistics of amount of measured



DS-2TD2636B-15/P

DS-2637B-10P

iDS-9616(/32/64)NXIperson, abnormal ratio, not-wearing mask ratio etc. 116/X(B)





Distance between camera and person: 4.5 to 9 meters (2636B-15/P) or 3 to 7 meters (2637B-10P) Distance between camera and black body: **5** m. Keep black body in the upper left / upper right corner of the camera view

Application Scenarios

Note: Recommend indoor installation. Large fluctuations in outdoor ambient temperature influence the accuracy of temperature measurement.



Scene

Hospital

Group Fever Screening for Crow in Open Area



Airport Transport Station



Bank Branch

Fever Screening with Real Time Personal Identification



Entrance of office building



Entrance of factory



Entrance of school



Patrol Fever Screening Anytime, Anywhere, One Click

Deployment Design

- For patrol preliminary fever screening (indoor)
- Fever screening without disturbing occupied person
- Recommend to measure people entering the indoor space longer than 5 min



Product Design

- Thermal resolution: 160 × 120;
- Optical resolution: 640 × 480;
- Accuracy: ±0.5°C
- Measurement range: 30-45°C
- 3.5" LCD touch screen
- Support **WIFI hotspot**, automatic screenshot of abnormal person & upload to Mobile Client(HikThermal) as evidence
- Support real-time audio alarm
- Operation time: 4 5 hours



DS-2TP21B-6AVF









Secondary manual measurement by mercury thermometer, ear thermometer etc.

Fast and flexible preliminary measurement

Automatic **screenshot** & upload to Thermal APP as **evidence**

Scene

Application Scenarios

Note: Recommend indoor installation. Large fluctuations in outdoor ambient temperature influence the accuracy of temperature measurement.

Factory Work shop



Office Building Office area









Bank Entrance of branch



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 & Skintemperature 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 beeasily searched and exported;
- Visualized statistic report helps administrators to assign and adjust manpower;

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Successful cases

Hospital in Chongqing



- Protect the entrance of the hospital all day long.
- The Hospital adopted the scheme of thermographic fever screening camera with the black body, the accuracy is within ±0.3 degree.
- The scheme is running steadily till today

Successful cases

Railway in Jiangxi

Station in Fuzhou





FAQ

Q:Can the thermographic fever screening camera be installed outdoors?

A: Outdoor wind and sun can easily affect the body surface temperature and the working status of the camera, which results in a deviation between the measured body surface temperature and the actual body temperature.

From the perspective of ensure the accuracy, we strongly recommended the solutions used indoors.

Q:Can the accuracy of thermographic fever screening camera reach 0.1 °C?

A: No. At present, cameras with accuracy higher than 0.5 require black-body online real-time calibration and intelligent compensation. The accuracy of black body is currently plus or minus 0.2, and it is impossible to achieve 0.1. Highprecision accuracy solutions right now are all 0.3

Q:Does the camera recognize the face for temperature measurement

A: The camera recognizes faces when screening. It supports up to 10 faces. But still we recommended to carry out temperature measurement in order.

Q:Will other heat sources (such as tea cups, kettles, etc.) cause false alarms?

A: The cameras are able to use face recognition technology, so other heat sources will not cause false alarms.

Q:How long can I use the fever screening function after the camera is turned on?

A: 5 minutes after the handheld camera is turned on, 30 minutes after the bullet / turret camera is turned on. Q:What is black body? What should be noticed before purchase black body?

A: The black body is a standard temperature source, the thermographic cameras are able to calibrated based on the temperature of the black body.

The black body only needs to be powered, no internet required.

Hikvision thermal cameras are available with a black body to increase accuracy.

Currently black body only supports Chinese power supply standards. And **no overseas certification**.

Q: Is thermographic handheld camera support alarm automatically? Or is it support link with VMS

A: No. Fever screening thermographic handheld camera is not designed with alarm sending function and interfaces. Basically it only used to show the maximum value of whole screen APAQ had the honor of being awarded the title

- HIKVISION MALAYSIA AUTHORIZED PROJECT PARTNER 2019-2020





PARTNER OF APAQ



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www.hikvision.com

Hikvision products on show





In stock, fast delivery





HIKVISION[®]

THERMAL CAMERA



Apaq Technology Sdn Bhd is one of Hikvision's major project partners in Malaysia

- One-stop service : equipment sales, installation and maintenance services.

- Involving Hikvision's full range of products, From thermal imaging temperature screening, Security inspection equipment (Security gates, X-RAY luggage detectors, Vehicle inspection scanning, Access control systems), Drones (aircraft, UAV defense systems), Robots, Video surveillance security equipment, Indoor and outdoor large LED screens, conference screens, etc.

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