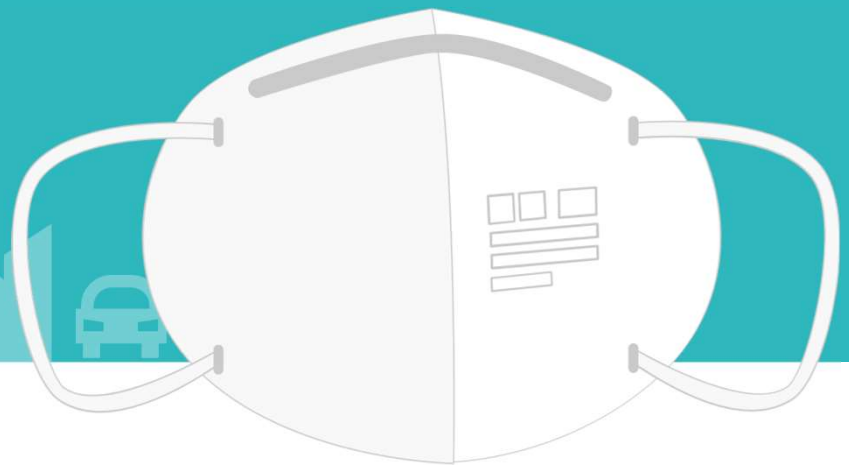
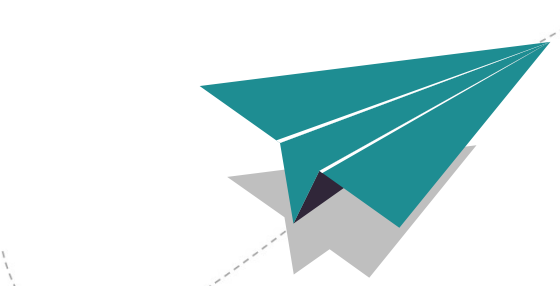
Fever screening thermal
Solutions and products



THERMAL



Principle

Thermal principle introduction

Process

Thermal fever screening process

Solutions

Fever screening solutions

Products

Product showcase

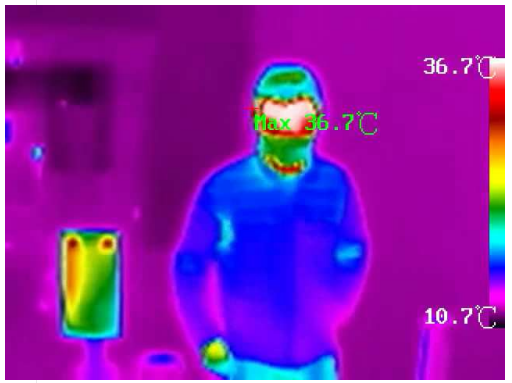
Successful cases

FAQ

What is thermal?

Principle

Any object with temperature above absolute zero emits a detectable amount of radiations. Thermal camera converts IR radiations into gray value, and establishes the accurate corresponding relation between gray value and temperature through the temperature measurement algorithm model. The model (Temperature Gray Level Curve) is obtained by black-body calibration.



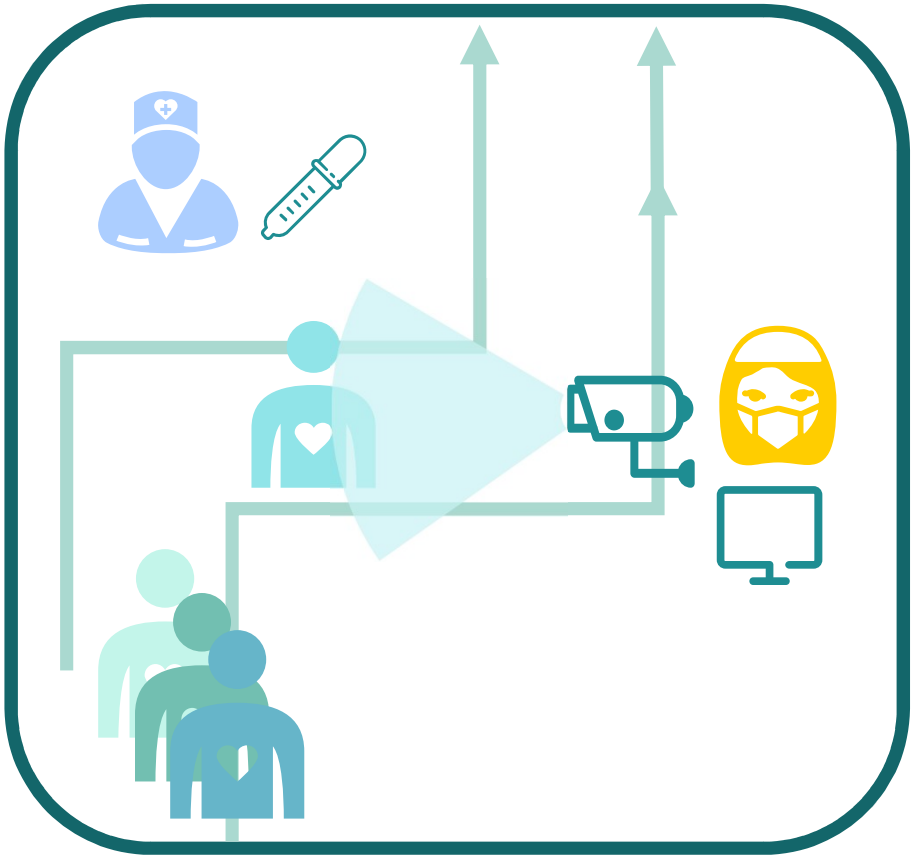
Application

It is well-known that one major symptom of virus infections is fever. Therefore, thermal camera with high temperature accuracy can detect the elevated body temperature to make the preliminary screening. Thermal cameras are advisable to be installed at the places with long queues such as passport control.

Advantages

1. **High Efficiency:** It takes only one second that thermal camera can detect temperature of each person. Thus, no congestion will be made when passing through the site where temperature needs to check.
2. **Safety:** Thermal camera supports non-contact temperature measurement which can achieve accurately measuring temperature around 1 meter away. That reduces the risk of infection coming from physical contact.

Thermal Fever Screening Process



1. Set up a quick channel

Set up a quick screening channel **in the indoor space** to separate space into few parts.

2. Thermal camera quick screening

Using thermal fever screening solutions to do quick screening of moving crowd and ensure the efficiency

3. Thermometer secondary check

For the person who is doubt fever symptoms, **using thermometer to do secondary check is necessary.**

Solution - Fever screening thermographic handheld camera

Solution composition:

Thermographic handheld camera + Tripod (Optional) + Monitor operator

Solution Advantages:

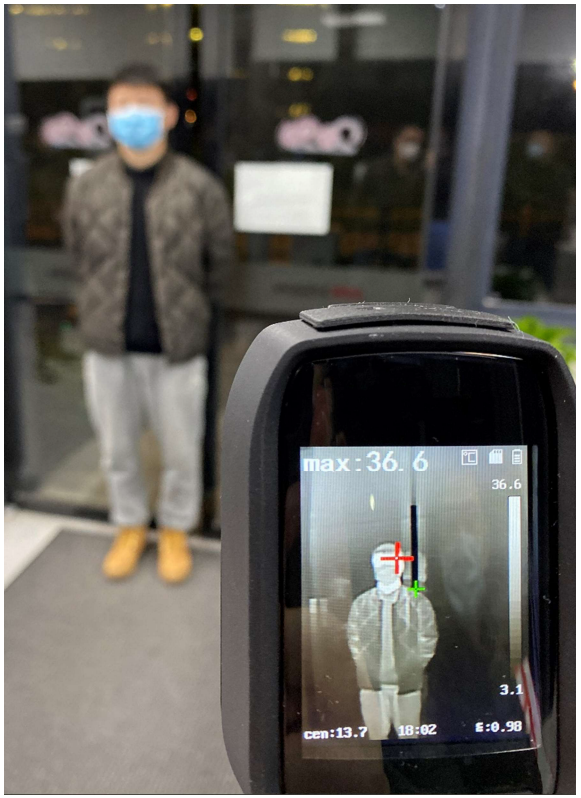
- Flexible and simple to use
- Rapid setting up and adapt to sudden event
- Accuracy is **±0.5 degree**, satisfy preliminary fever screening requirement

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 - Fever screening thermographic handheld camera

Thermal thermographic handheld camera

Distance : 1m

Speed : Real time

Display: Thermal image

Efficiency: 60 persons / minute

Information preservation: Screenshot

forehead thermometer

Distance : 1-3 cm

Speed : 1-5 seconds

Display: Numeric only

Efficiency: 12 persons / minute

Information preservation: No preserve

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

Solution – Economical thermographic fever screening scheme

Solution composition:

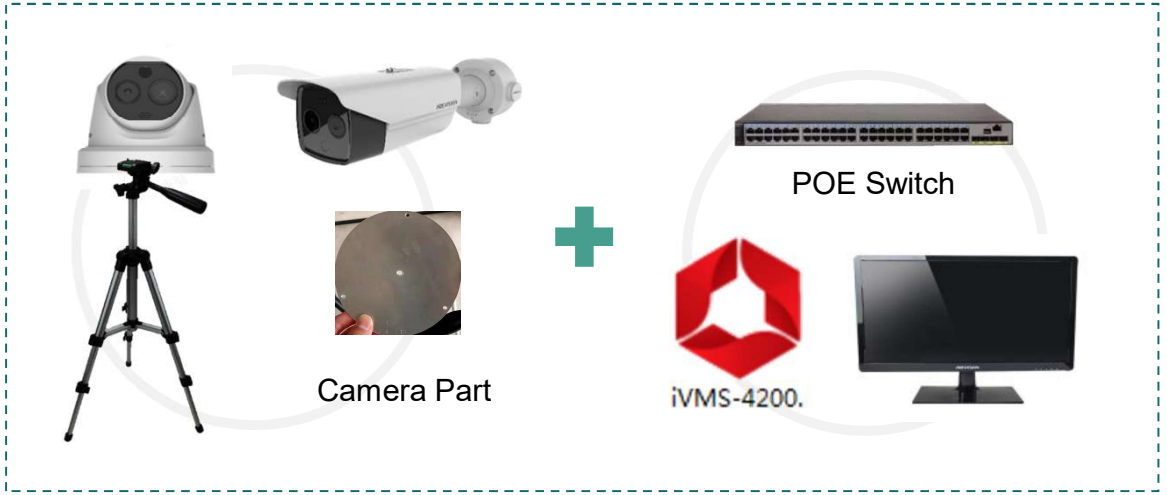
Thermographic fever screening bullet / turret
+ Tripod + Tripod adaptor + VMS(4200) + POE Switch

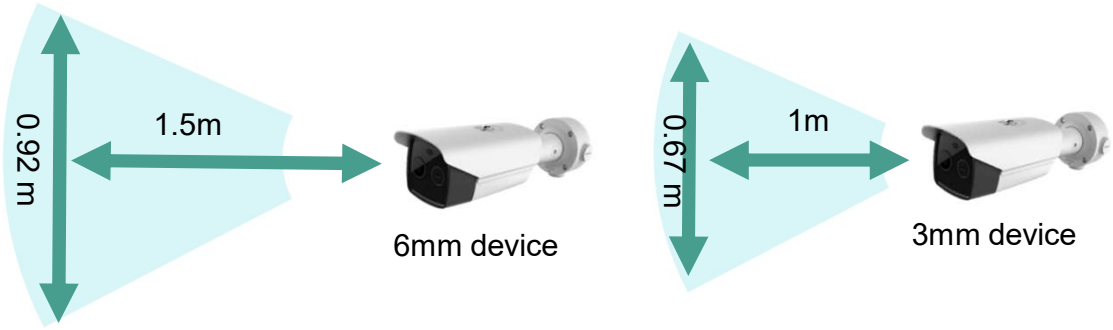
Solution Advantages:

- Thermographic turret / bullet support human temperature-exception **audio alarm** to notice the operator in time
- Easy installation and simple configuration.
- Support **AI face detection**, multiple targets screening at the same time, reduce false alarms.
- 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 **1 ~1.5 m**
- Recommend to set up the solution in a stable environment without wind **in the indoor space** .

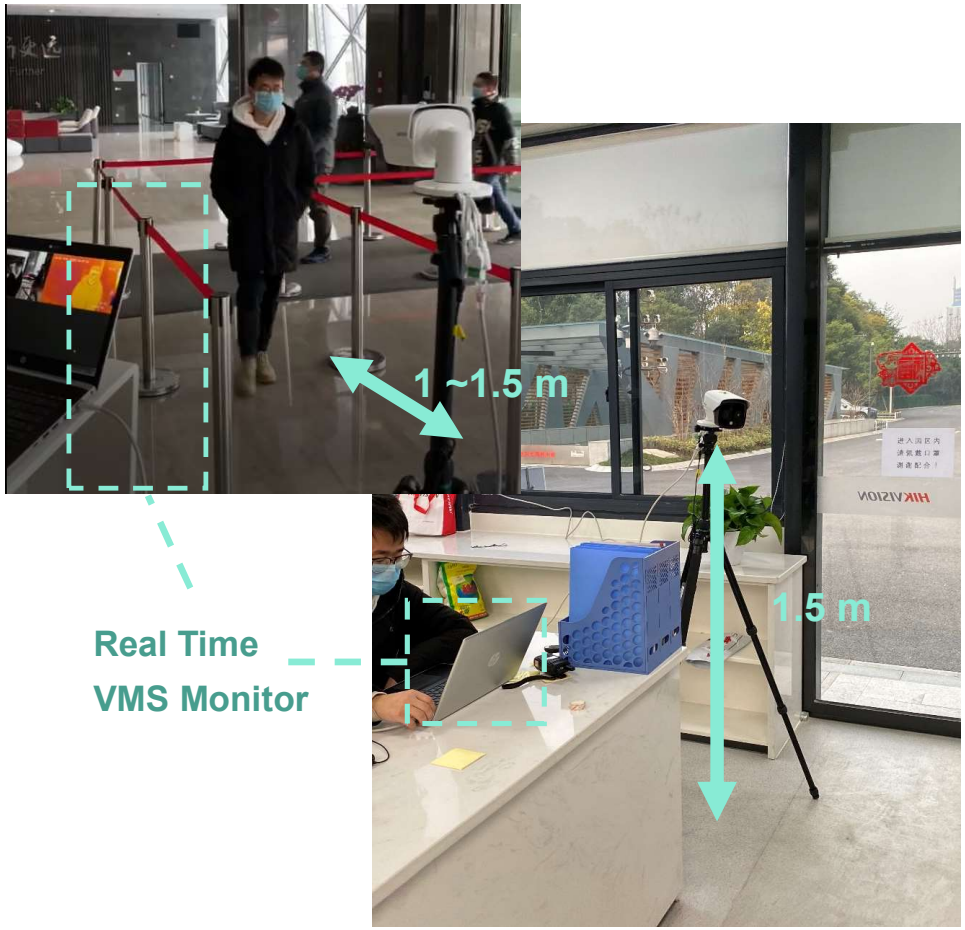




Thermographic fever screening scheme cover range

Solution – Economical thermographic fever screening scheme

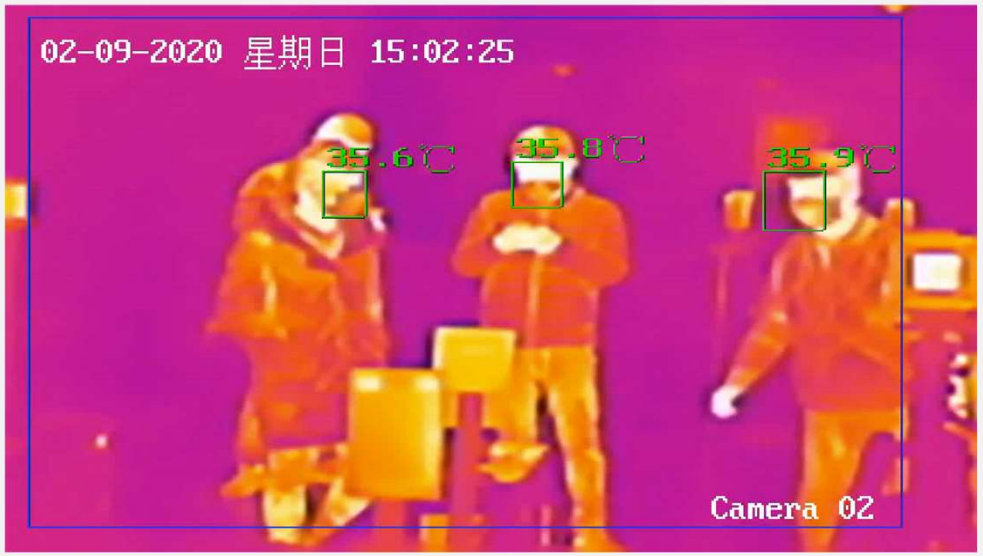
Scheme performance :



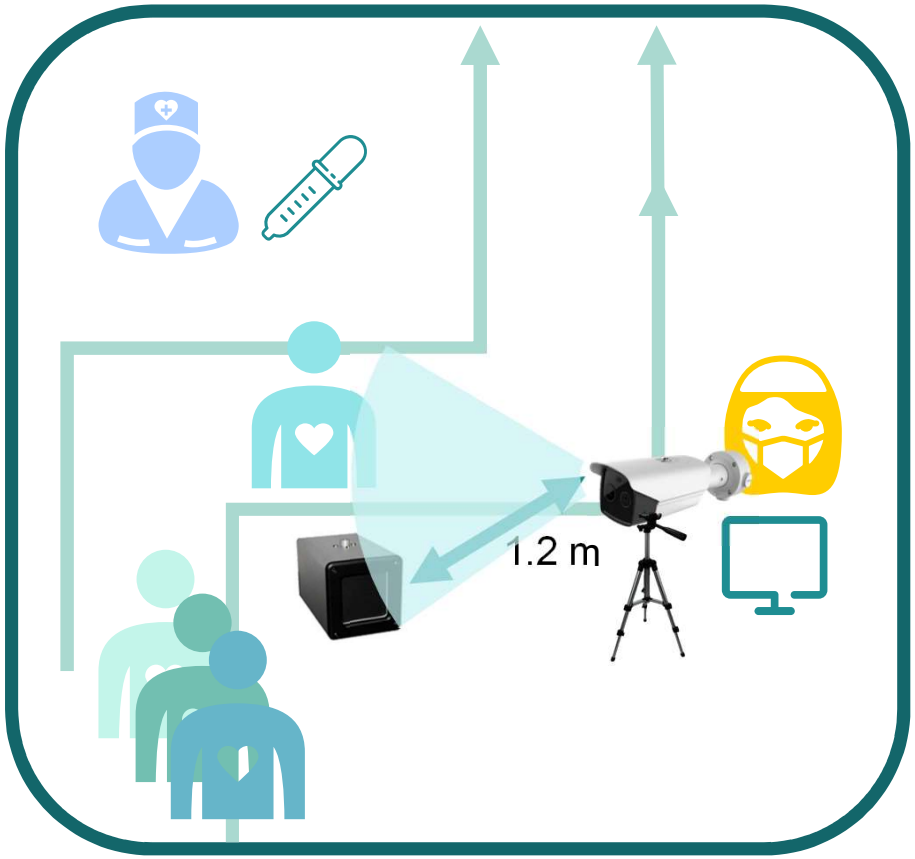
Solution – Professional thermographic fever screening scheme

Multi-faces detection fever screening

- Reduce false alarms triggered by other heat sources such as coffee
- Up to 30 faces detection



Solution – Professional thermographic fever screening scheme



Solution composition:

Thermographic fever screening bullet / turret
+ Tripod + Tripod adaptor + VMS(4200) + POE Switch **+ Black Body**

Solution Advantages:

- With higher accuracy **±0.3 degree**, the scheme

Set up tips:

- The camera is recommended to install in **1.5 meter high**, keep the distance between target and camera about **1 ~1.5 m**
- The black body is used together with body temperature measurement bullet/turret, **1.2m** away from the camera
- Make sure that the black body always appears in the **upper left / upper right corner** of the camera view.
- Make sure that the black body **would not be blocked** by other targets during temperature measurement
- Recommend to set up the solution in a stable environment without wind **in the indoor space** .

Solution – Professional thermographic fever screening scheme

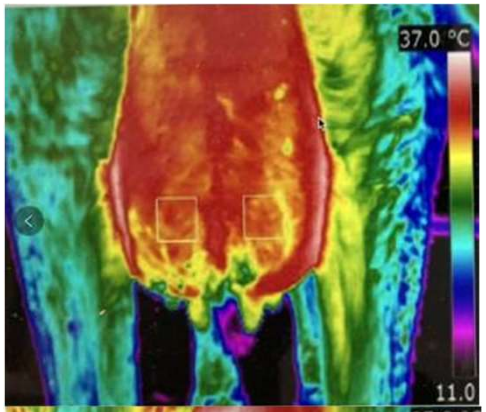
Performance videos of thermal & optical channel

Temporary setting up & monitoring scheme

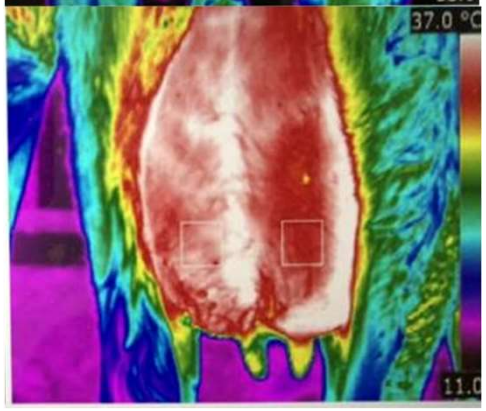
Long-term setting up scheme

Animals Live Body Temperature Measurement

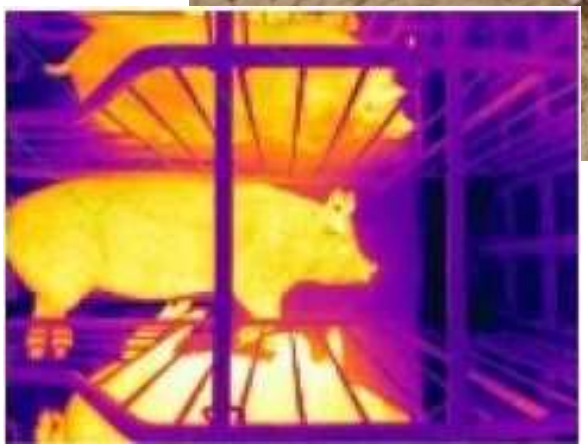
The thermographic fever screening cameras can also be used to measure the temperature of animals, to locate swine fever or other disease rapidly, and ensure the healthy of live stocks



Healthy cow



Unhealthy cow



Applications

HOSPITAL

MARKET

STATION

AIRPORT

RAILWAY

ENTERPRISE

SCHOOL

BUILDINGS

- Place of crowded flow
- Place of high risk
- Entrance security check
- Temporary control

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

LTS
thermographic fever screening cameras

Station in Fuzhou

Product showcase

thermographic fever screening products

DS-2TP31B-3AUF

- Thermal：160 × 120；
- Accuracy：±0.5℃
- Range：30-45℃

DS-2TD2617B-3/6PA(B)

- Thermal：160 × 120；
- Lens: 3mm / 6mm；
- Optical：2688 × 1520；
- Optical lens: 4mm / 8mm；
- Video mode：Bi-spectrum image fusion；
- Accuracy：±0.5℃
  ± 0.3℃ (with black body)
- Range：30-45℃
- Audio alarm support

DS-2TD1217B-3/6PA(B)

- Thermal：160 × 120；
- Lens: 3mm / 6mm；
- Optical：2688 × 1520；
- Optical lens: 4mm / 8mm；
- Video mode：Bi-spectrum image fusion；
- Accuracy：±0.5℃
  ± 0.3℃ (with black body)
- Range：30-45℃
- Audio alarm support

Accessory

Black Body

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

Tripod

- UNC 1/4”-20 tripod connection
- It is recommended that tripod be purchased locally which meet the standards

Hikvision thermographic fever screening Solution Advantages

AI Face detection

Thermographic fever screening Bullet/Turret cameras provide AI Face Detection function, locate multi faces intelligently and measure the faces only , to reduce false alarm from other heat sources.

Onboard Audio Alarm

Thermographic fever screening Bullet/Turret cameras are able to do onboard audio alarm, notice the operator without the requirement of other sirens , reduce the complexity of whole solution.

Unique Self-developed Algorithm

Thermographic fever screening products are embedded with self-developed algorithm, which specially optimized for temperature measurement thermography.
Combined constant temperature/dust-free automated manufacturing process with big data, Hikvision could ensure the accuracy of thermal cameras

Full solution

LTS are able to provide full one-stop solution include thermography , NVR , barriers， detector door， switch. More convenient for customer and user

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 ℃?

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. High-precision 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 30 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.

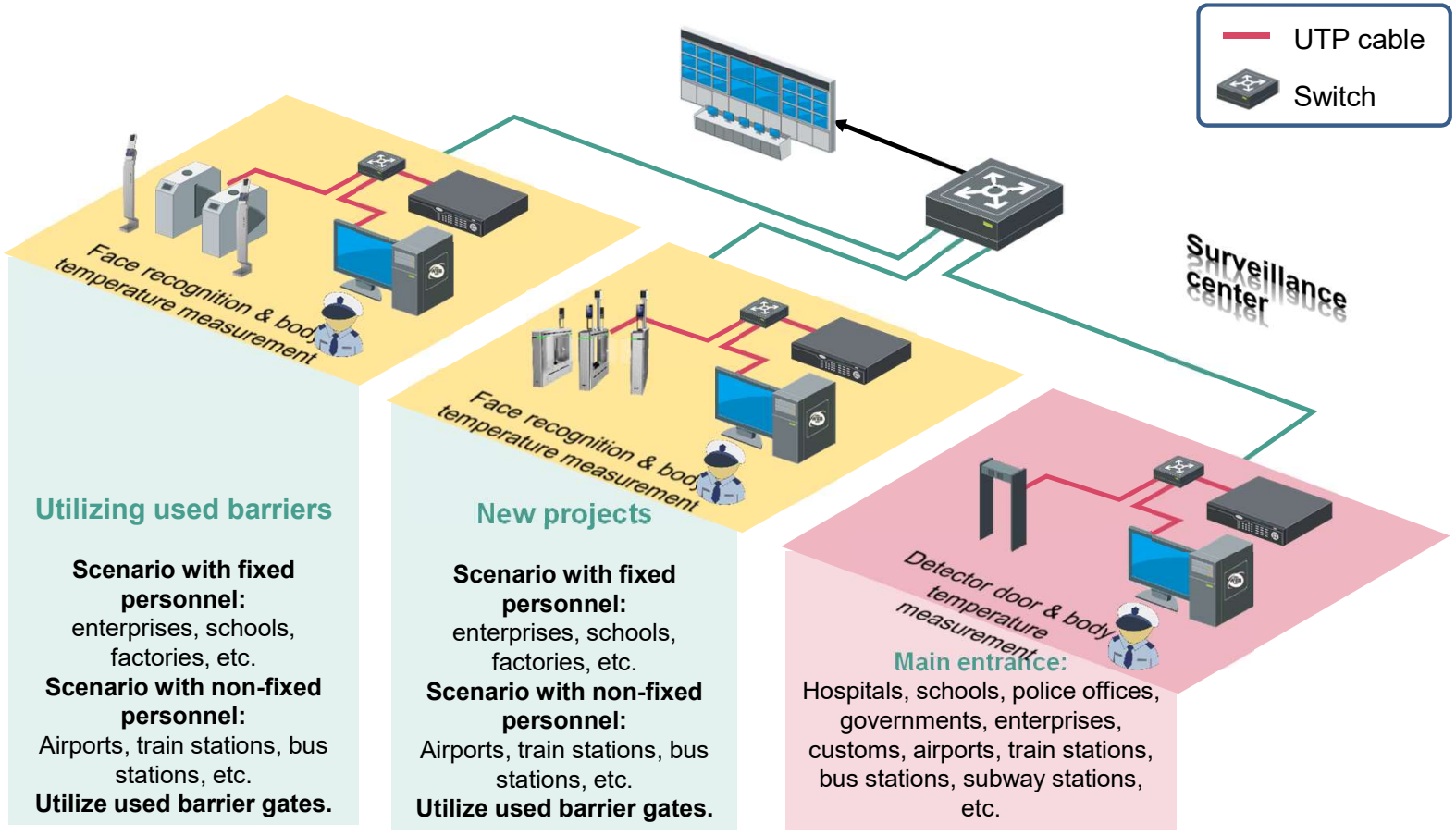
Q:What is black body? What should be noticed before purchase black body?

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: Thermographic handheld camera support value character turn red automatically when detect temperature-exception, but no other method to notice. Not support link with VMS

Solution - Access Control & Body Temperature Measurement



Utilizing used barriers

Scenario with fixed personnel:
enterprises, schools, factories, etc.
Scenario with non-fixed personnel:
Airports, train stations, bus stations, etc.
Utilize used barrier gates.

New projects

Scenario with fixed personnel:
enterprises, schools, factories, etc.
Scenario with non-fixed personnel:
Airports, train stations, bus stations, etc.
Utilize used barrier gates.

Main entrance:
Hospitals, schools, police offices, governments, enterprises, customs, airports, train stations, bus stations, subway stations, etc.

Solution - Face Recognition & body temperature measurement

Stand-alone solution for utilizing used barriers

Body temperature measurement

Face recognition

- Face recognition & body temperature measurement
- Non-contact fast body temperature measurement (face detection)
- Real-time alarm
- Utilizing used barriers

Key Features:

- 4.3-inch touch screen
- Face capacity: 6,000
- Temperature range: 30~45℃
- Temperature accuracy: ±0.5℃
- Scenarios: enterprises, schools, factories, airports, train stations, etc.

Solution - Face Recognition & body temperature measurement

Swing barrier solution for new projects

- Face recognition & body temperature measurement
- Non-contact fast body temperature measurement (face detection)
- Real-time alarm
- Easy to deploy

Key Features:

- 7-inch touch screen
- Face capacity: 20,000
- Temperature range: 30~45℃
- Temperature accuracy: ±0.5℃
- Scenarios: enterprise, schools, factories, etc.

Note: Indoor installation is recommended for accuracy of temperature measurement.

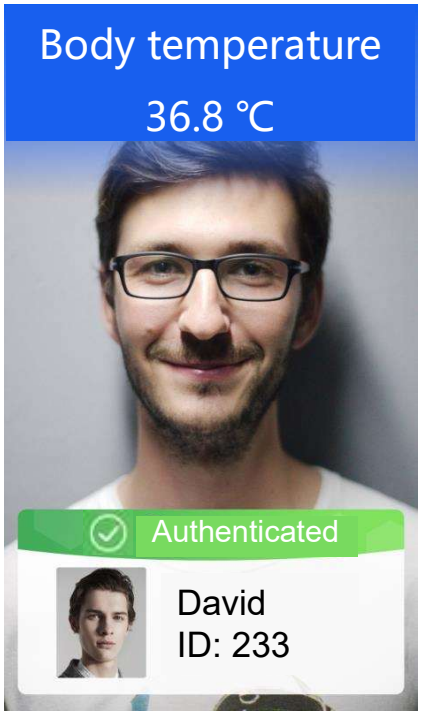
Solution - Metal Detector Door & body temperature measurement

- Non-contact body temperature measurement
- Real-time alarm
- LCD temperature indicator
- Metal detector

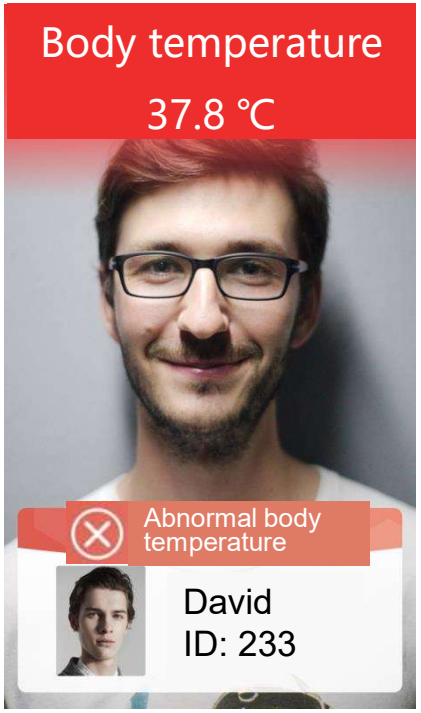
Key Features:

- 12/18 independent detection zones, LCD screen
- Thermal camera resolution: 160 x 120
- Temperature range: 30~45℃
- Temperature accuracy: ±0.5℃
- Scenarios: hospitals, schools, police offices, governments, enterprises, customs, airports, train stations, bus stations, subway stations, etc.

Screenshots of Face Recognition Terminal



Normal body temperature



Abnormal body temperature

Thanks