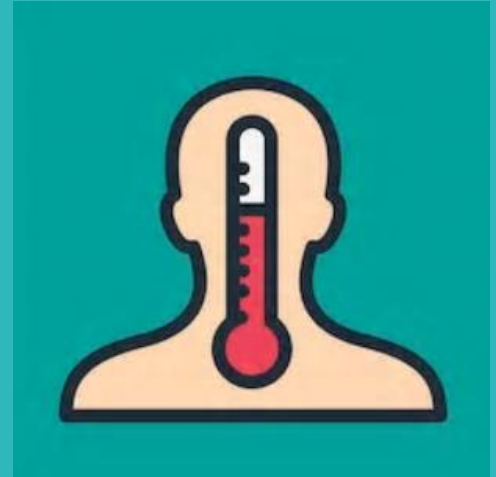


# Fever Screening Thermal Solutions and Products



**HIKVISION**<sup>®</sup>

# HIKVISION THERMAL



## Principle

Thermal principle  
introduction



## Process

Thermal fever  
screening process



## Solutions

Fever screening  
solutions



## Products

Product showcase  
Successful cases  
FAQ



# What's Thermal?

## Principle



Any object with temperatures above **absolute zero** emits a detectable amount of radiation. A thermal camera converts IR radiation into grayscale values, and matches grayscale values to temperature values through an algorithm model.

## Application



Thermal cameras with high temperature accuracy can help **detect elevated body temperatures which may indicate the presence of a fever**. Thermal cameras can be used for the **fever screening of travelers, shoppers, and office workers**.

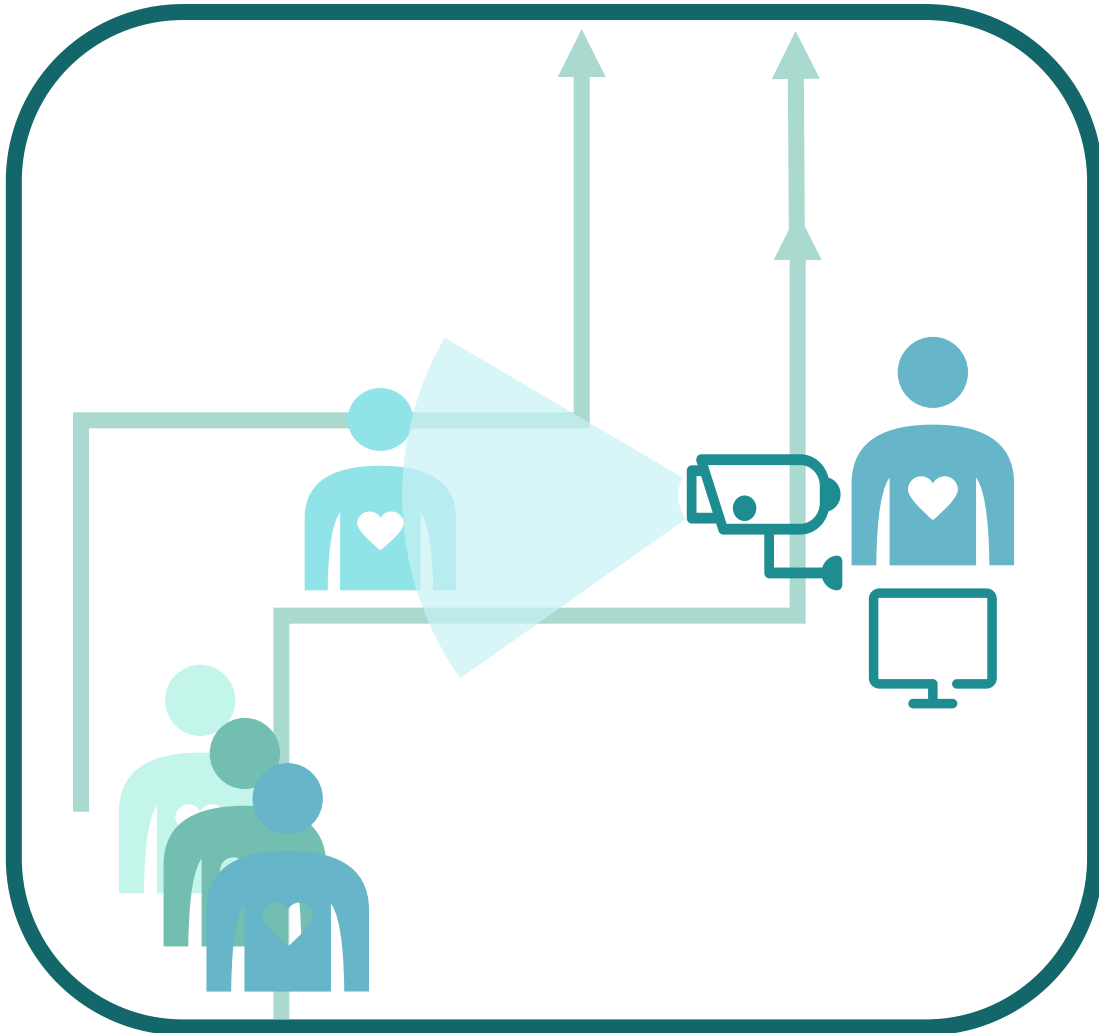
## Advantages



1. **High Efficiency:** It takes only one second for a thermal camera to detect temperature of a person, thus allows screening of large numbers of people at a time.
2. **Safety:** Thermal cameras feature non-contact temperature measurement from about one meter away, avoiding unnecessary physical contact.



# Thermal Fever Screening Process



## 1. Set up a screening channel

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



## 2. Thermal camera quick screening

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



## 3. Thermometer secondary check

For a person identified with a fever, **use a thermometer** to double-check.



# Professional Fever Screening Solution

## Solution Components

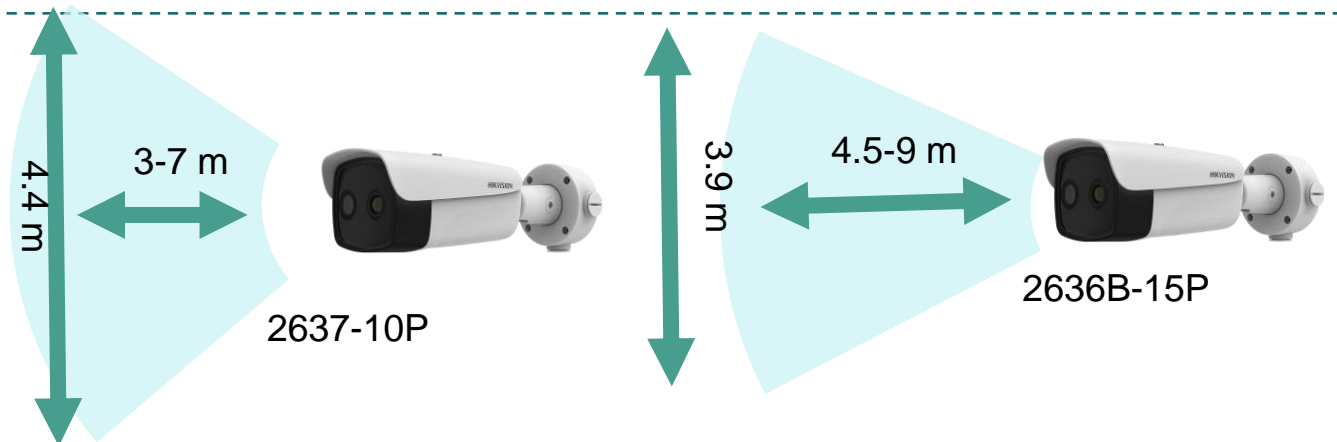
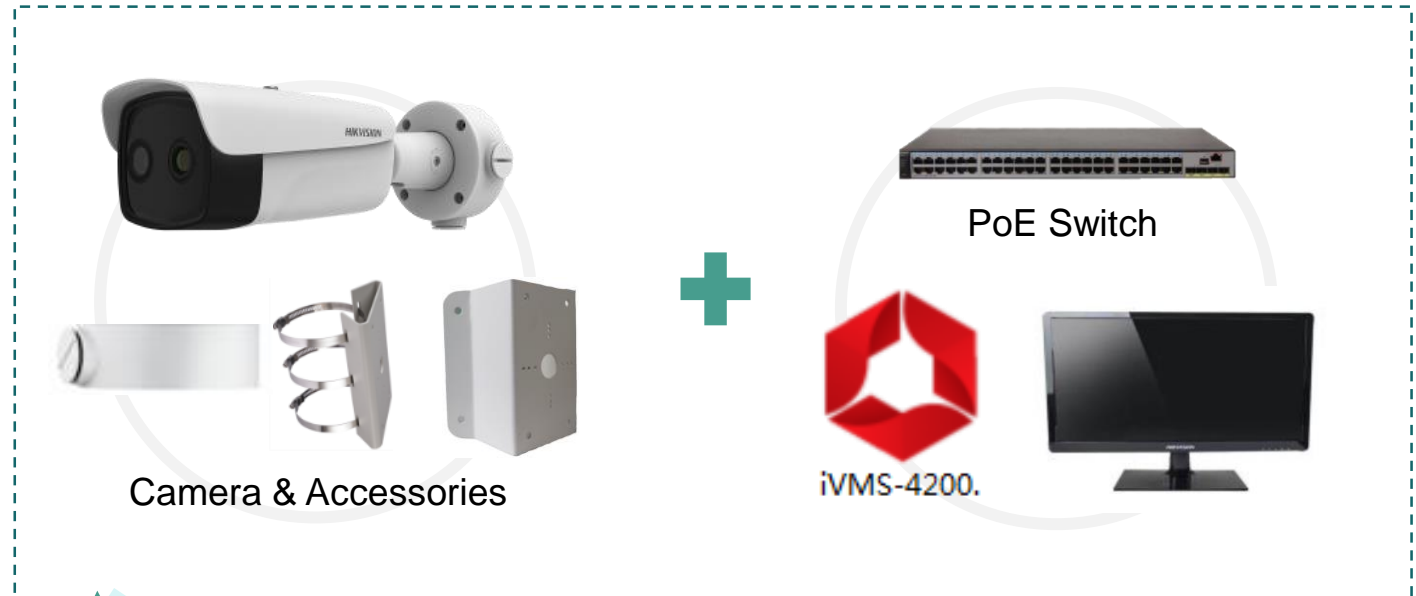
HD Bullet Fever Screening Thermographic Camera +  
Accessories + iVMS-4200 + PoE Switch

## Solution Advantages

- Thermal resolution of **384\*288**, providing more image detail and wider coverage for temperature measurement
- The 15 mm thermal lens provides a fever screening range of **4.5 to 9 meters (2636B-15/P)** or **3 to 7 meters (2637B-10P)**, fitting for long-range use, can be used with handheld thermographic camera
- Fixed solution not only for temporary use but also for **long-term use**
- Accuracy is **±0.5 °C**, satisfying preliminary fever screening requirements
- Supports **4 MP optical channel**, satisfying regular monitoring requirements

## Installation Tips

- Recommend to install in a stable **indoor** environment without wind



Thermographic camera coverage area (Distance & Width)  
Maximum range



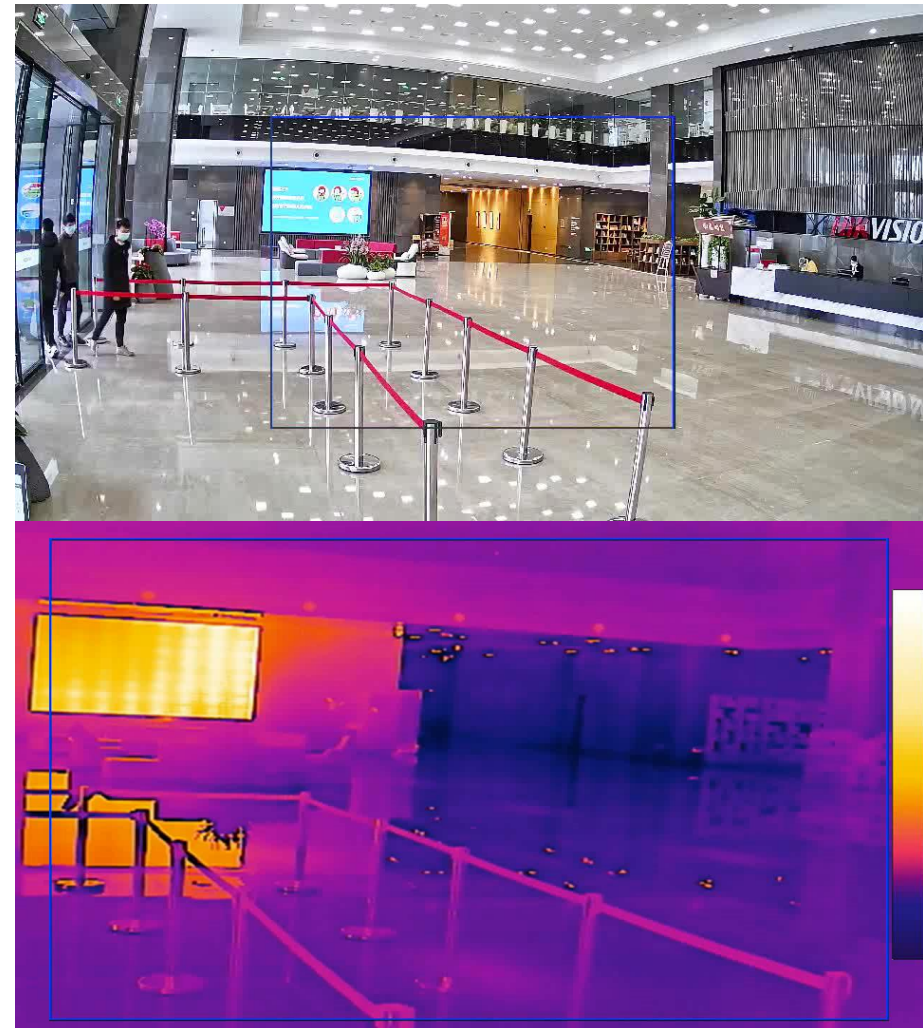
# Professional Fever Screening Solution

## Temporary Installation & Monitoring Scheme



1.7 m

## Video Of The Thermal & Optical Channels



# Handheld Fever Screening Solution



## Solution Components

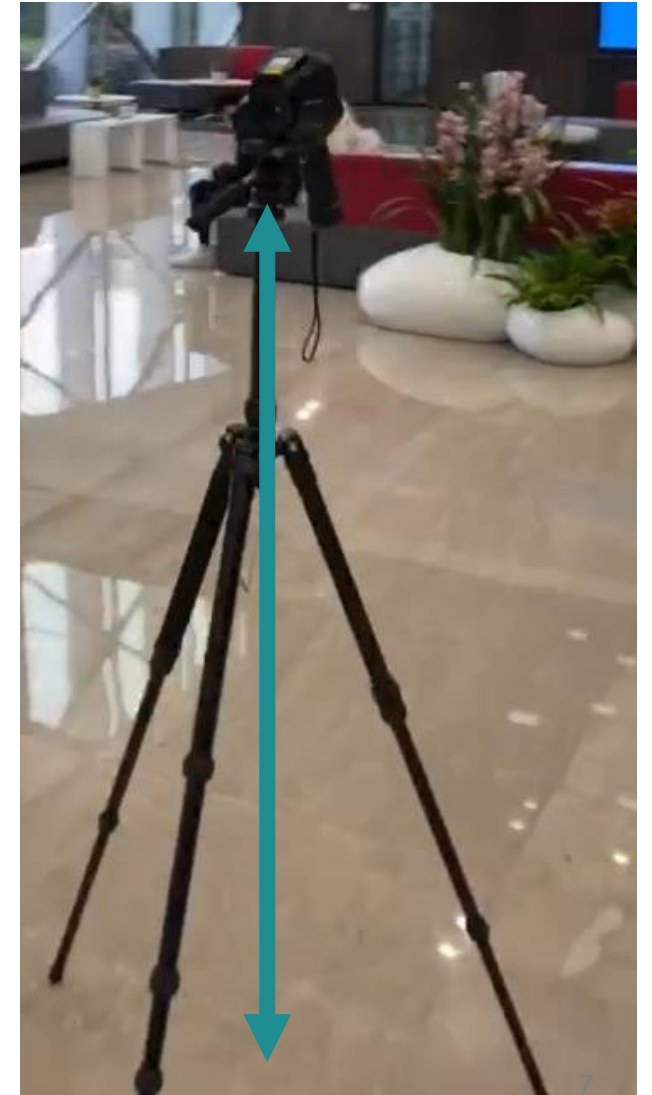
Professional handheld thermographic camera + Tripod (optional) + **iVMS-4200 (PC) / Hik-Thermal (Mobile app)**

## Solution Advantages

- Thermographic handheld camera **supports Wi-Fi**, can integrate with a PC / Mobile client, and supports **real-time audio alarm and automatic uploading of screen captures**.
- Touch screen to ensure user experience
- Supports flexible temperature measurement areas
- Accuracy is **±0.5 °C**, satisfy preliminary fever screening requirements

## Installation Tips

- The camera is recommended to install at a height of **1.5 meters**, keeping the distance between the targets and the camera at **1.5 to 2 meters**
- Recommend to install in a stable **indoor** environment without wind
- People pass by the thermographic camera one by one

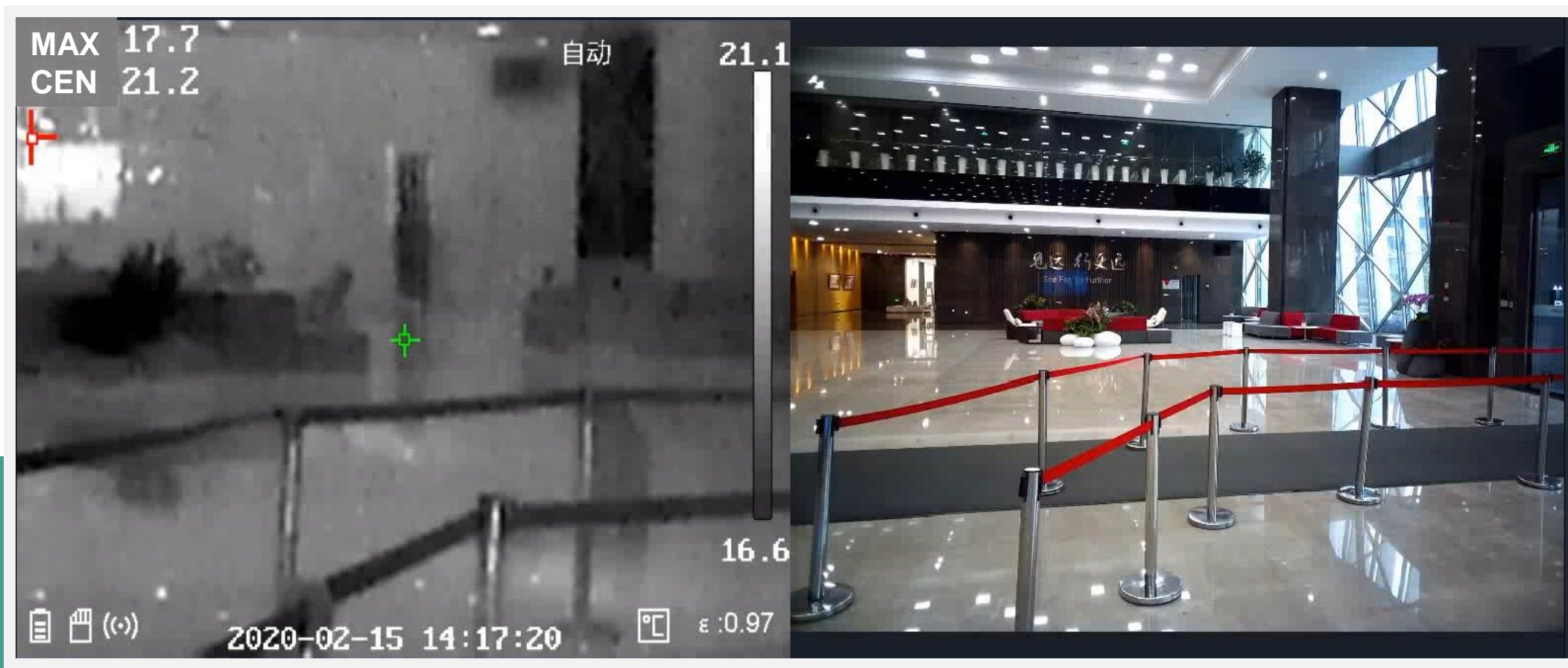


**1.5 m**



# Handheld Fever Screening Solution

## Field Performance

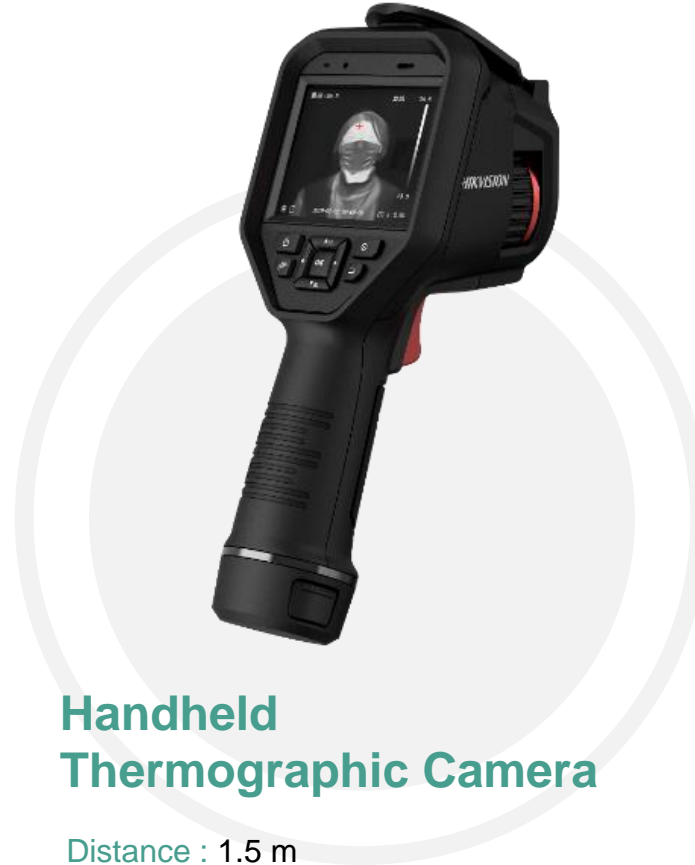




# Handheld Fever Screening Solution



VS



## Forehead Thermometer

Distance : 0.01-0.03 m

Speed : 1-5 seconds

Display: Numeric only

Efficiency: 12 persons / minute

Information storage: No

## Handheld Thermographic Camera

Distance : 1.5 m

Speed : Real-time

Display: Thermal images

Efficiency: 60 persons / minute

Information storage: Screenshots / Video

Wi-Fi supported

## Thermographic Camera Advantages

- Secures a distance between the operator and the target persons, avoiding unnecessary physical contact
- Higher efficiency, more suitable for flow of fast moving crowds
- Easy to use and operate, only needs to read the maximum value on the screen
- Able to save screenshots of potentially risky persons as an evidence
- Can integrate with a PC/Mobile Client, as a flexible solution

# Economical Fever Screening Solution

## Solution Components

Bullet/Turret Fever Screening Thermographic Camera + Tripod  
+ Tripod adaptor + iVMS-4200+ PoE Switch

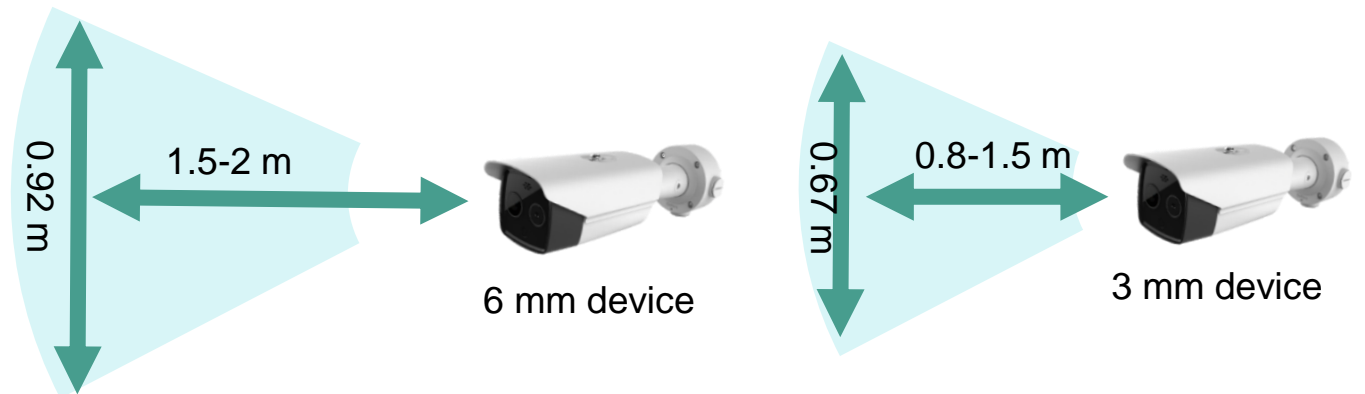
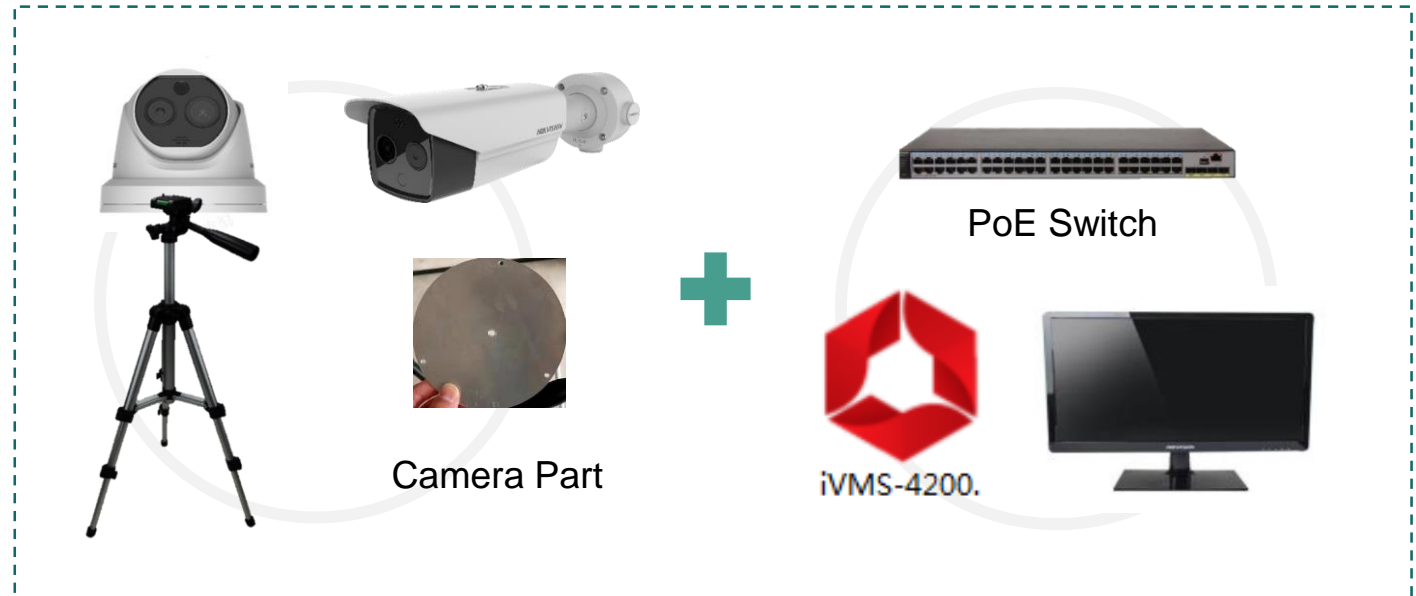
## Solution Advantages

- Bullet/Turret Fever Screening Thermographic Camera supports temperature-exception **audio alarms** to notify the operator in time
- Supports **AI human body detection**, screening multiple targets at the same time, with reduced false alarms
- Accuracy is  $\pm 0.5\text{ }^{\circ}\text{C}$ , satisfying preliminary fever screening requirements
- Supports **4 MP optical channel**, satisfying regular monitoring requirements
- Easy installation and simple configuration

## Installation Tips

The camera is recommended to install at a height of **1.5 meters**, keeping the distance between the targets and the camera at **0.8 to 1.5 m (3 mm camera) or 1.5 to 2 m (6 mm camera)**

- Recommend to install in a stable **indoor** environment without wind

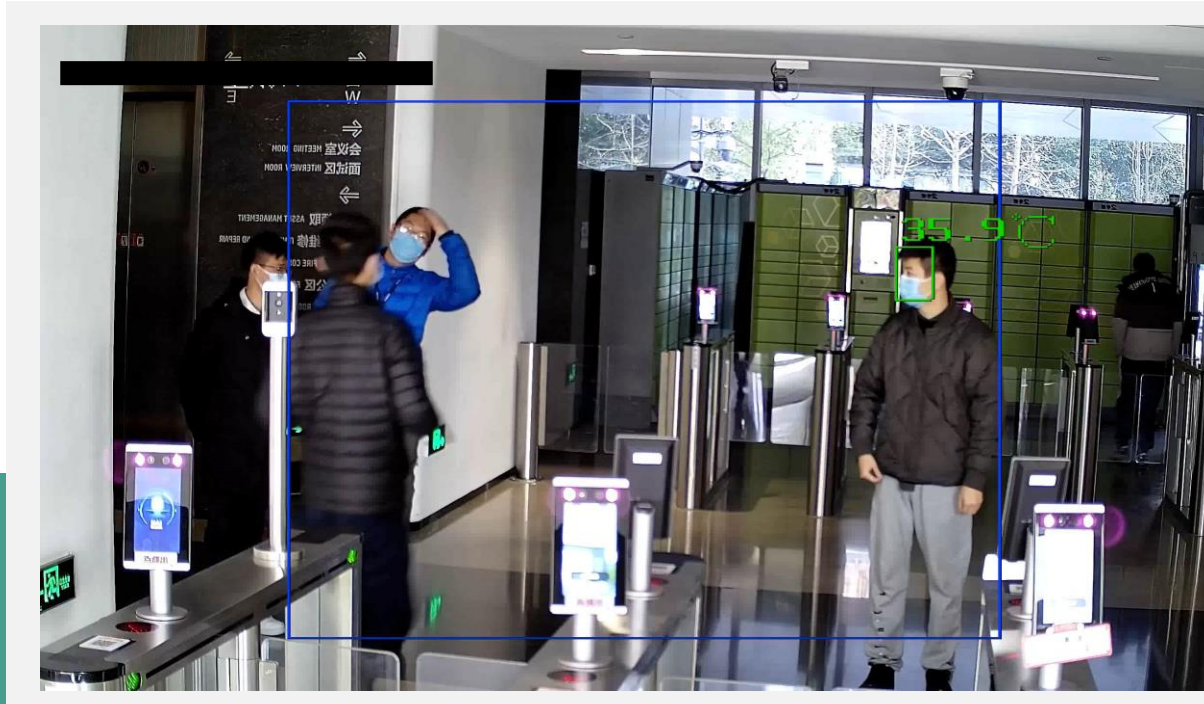


Thermographic camera coverage area

# Economical Fever Screening Solution

## Multi-person Fever Screening

- Reduce false alarms triggered by AI body detection
- Detection of up to 30 persons at a time
- Recommended distance between targets and camera is 0.8 to 1.5 m for a 3 mm thermal lens



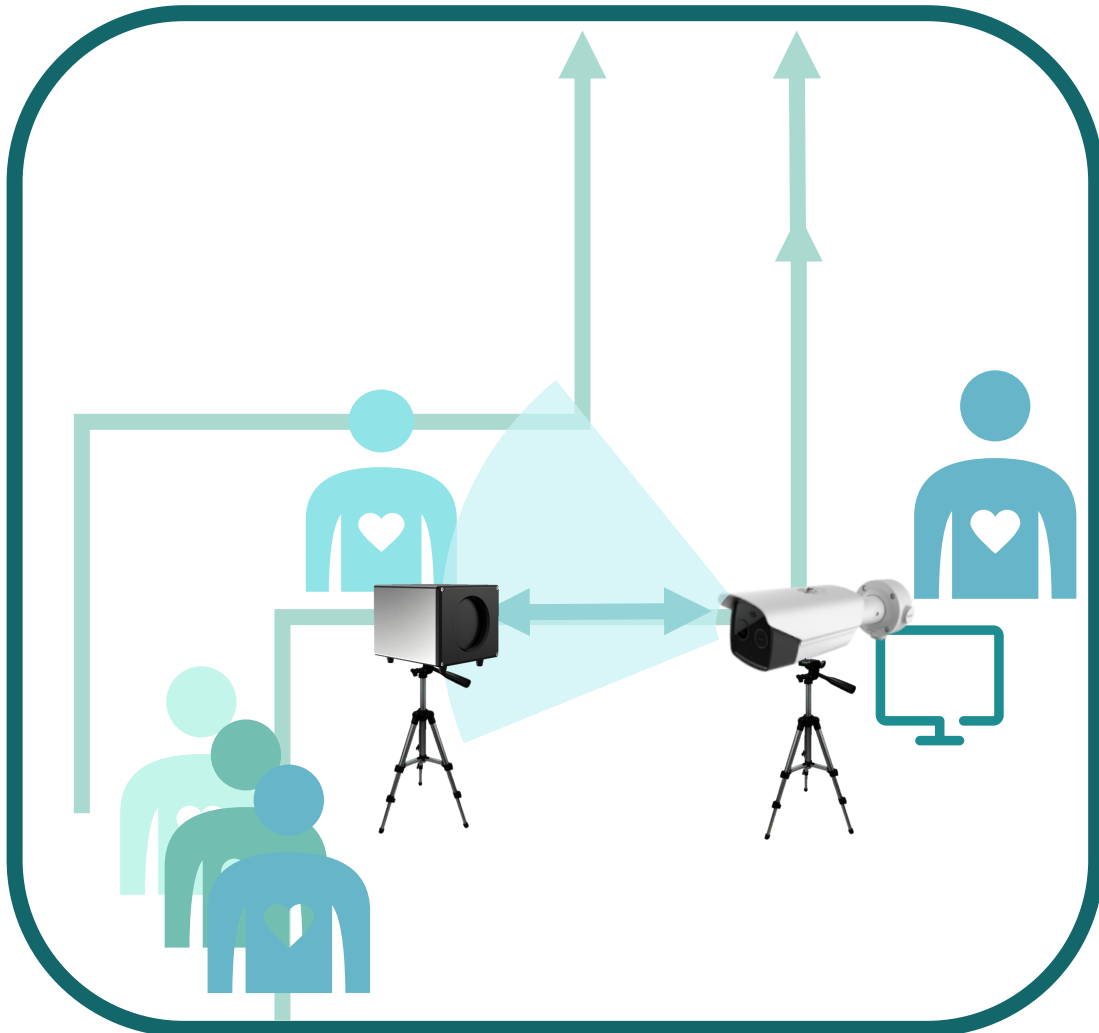
Optical channel



Thermal channel

\*In this footage, a person places a bottle of warm water on his forehead to simulate abnormal body temperature and the system alarms.

# High-End Fever Screening Solution



## Solution Components

Bullet/Turret Fever Screening Thermographic Camera  
+ Tripod + Tripod adaptor + iVMS-4200 + PoE Switch + **Blackbody calibrator**

## Solution Advantages

- With higher accuracy  $\pm 0.3^{\circ}\text{C}$ , the solution can reduce understated missing alarms

## Installation Tips

- The camera is recommended to install at a height of **1.5 meters**
- The blackbody calibrator is used together with the camera, **1 m (3 mm device)**, **2 m (6 mm device)**, **3 m (10/13mm device)**, **5m (15mm device)** away from the camera
- Make sure that the blackbody calibrator always appears in the **upper left / upper right corner** of the camera's view.
- Make sure that the blackbody calibrator **would not be blocked** by other targets during temperature measurement
- Recommend to install in a stable **indoor** environment without wind



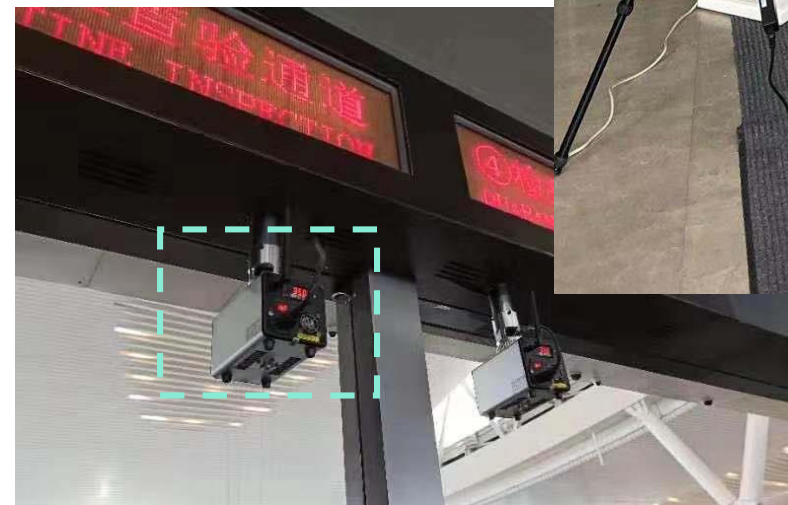
# High-End Fever Screening Solution



Video Of The Thermal & Optical Channels

Temporary Installation & Monitoring Scheme

Long-term Installation Scheme



# Applications

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**Hospital**



**Shop**



**Station**



**Airport**



**Railway**



**Office**



**School**



**Factory**



# Product Showcase – High-End Thermal Products

## DS-2TD2636B-15/P DS-2TD2636B-10/P

- Thermal: 384 × 288;
- Lens: 15 mm;
- Optical: 2688 × 1520;
- Optical lens: 6 mm;
- Accuracy:  $\pm 0.5^{\circ}\text{C}$
- Range: 30-45 $^{\circ}\text{C}$



## DS-2TP21B-6AVFW

- Thermal resolution: 160 × 120 ;
- Optical resolution: 640 × 480 ;
- Accuracy:  $\pm 0.5^{\circ}\text{C}$
- Range: 30-45 $^{\circ}\text{C}$
- Touch screen
- Bi-spectrum image fusion
- Supports Wi-Fi
- Supports audio alarms
- Automatic screen capture & upload



## DS-2TE127-G4A

- Blackbody Calibrator
- Improve accuracy to  $\pm 0.3^{\circ}\text{C}$
- Temperature resolution: 0.1 $^{\circ}\text{C}$
- Temperature stability:  $\pm 0.1^{\circ}\text{C}/\text{h}$
- Effective emissivity:  $0.97 \pm 0.02$
- Operating temperature: 0-40 $^{\circ}\text{C}$
- **Can't be used with Handheld camera**



# Product Showcase – Economical Thermal Products



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

- 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°C
- Range: 30-45°C
- Supports audio alarms



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

- 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°C
- Range: 30-45°C
- Supports audio alarms



**Brackets and Calibrator**

### Tripod

- UNC 1/4"-20 tripod connection
- It is recommended to purchase the tripod at local to meet the standards

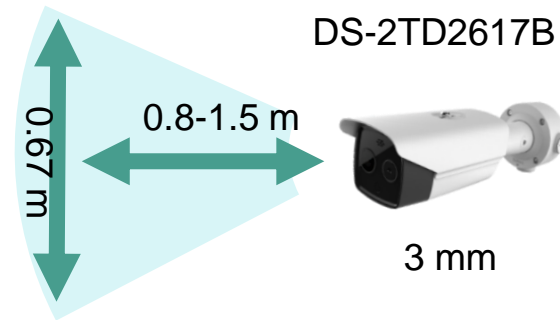
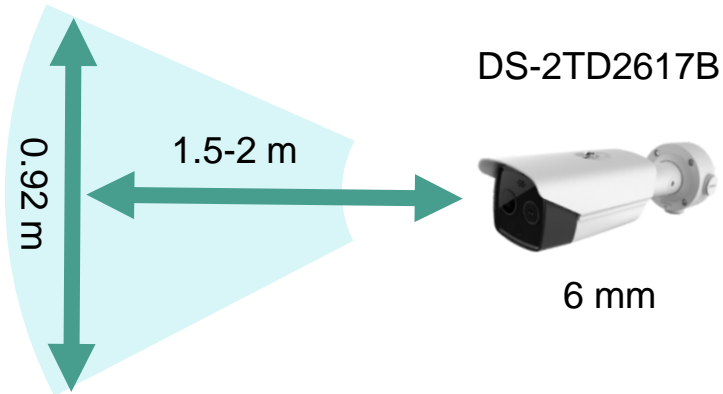
### Tripod Adaptor

- Required for bullet/turret camera to be fit on a tripod
- DS-2908ZJ for Turret camera
- DS-2909ZJ for bullet camera

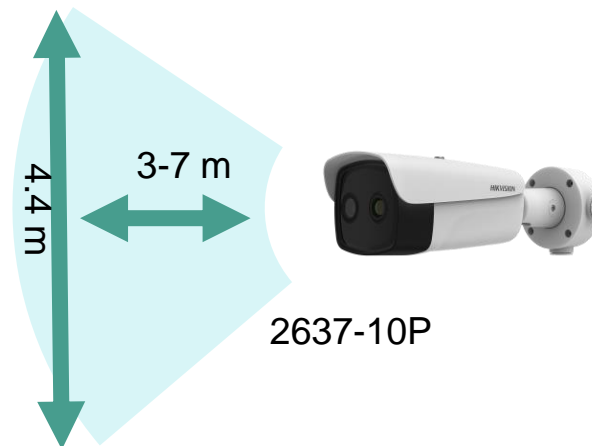
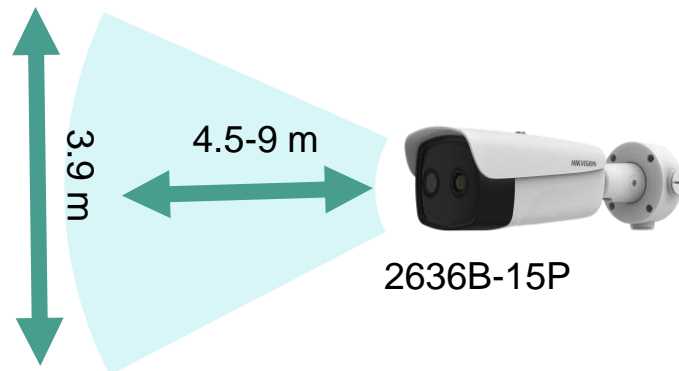


# Product Selection

## Eco range camera coverage area

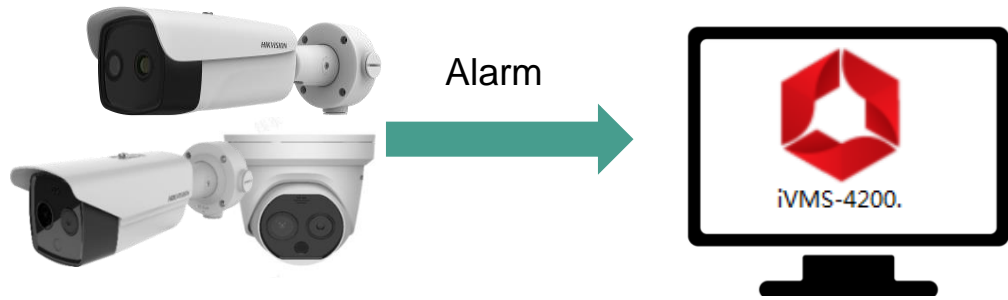


## High-end camera coverage area

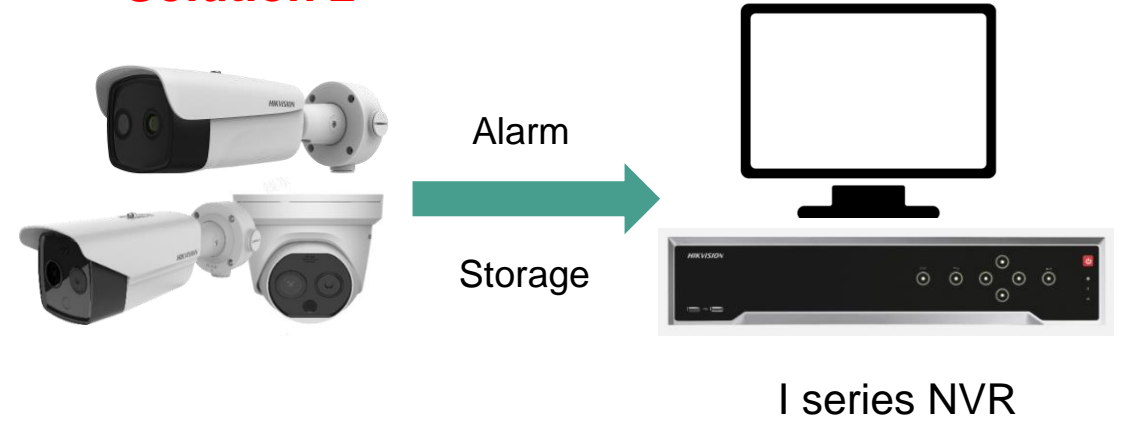


# Product Solution

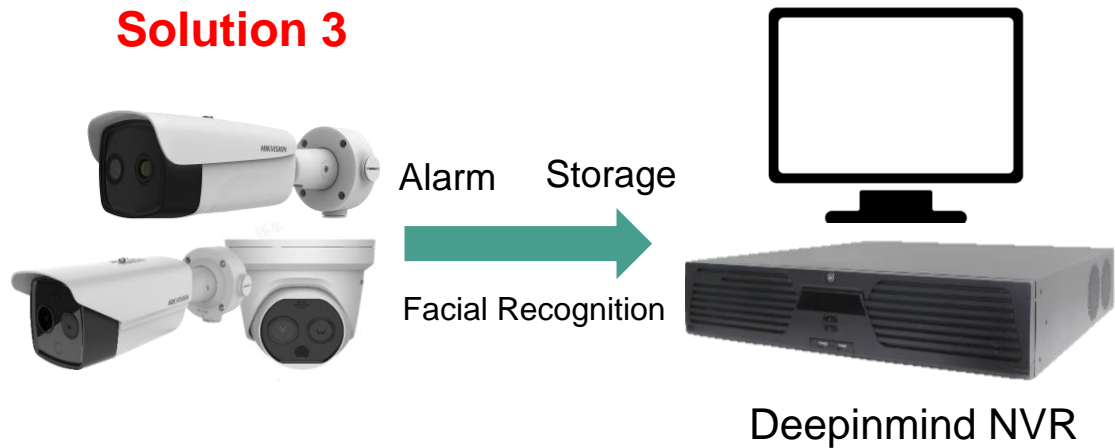
## Solution 1



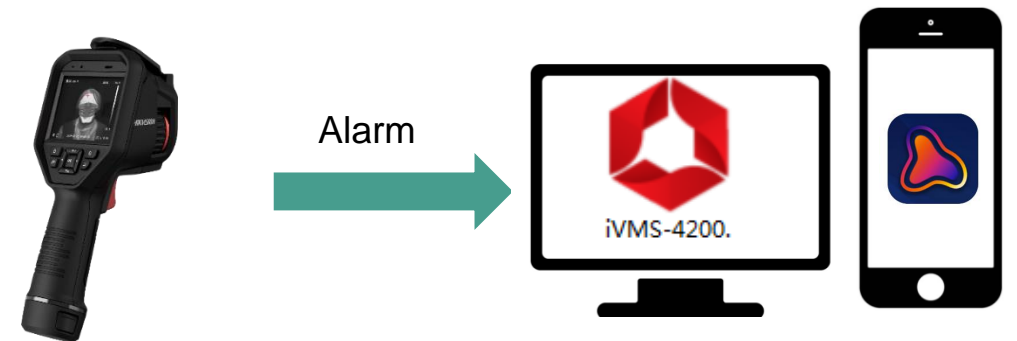
## Solution 2



## Solution 3



## Solution 4



# Deepinmind Solution



**HIKVISION**

## HIKVISION AI FEVER SCREENING SOLUTION

- Special interface in DeepinMind NVR



International Product Marketing Department



### Product Showcase

Product	Product Model	Note
Thermal Camera	DS-2TD2636B-10/P, DS-2TD2636B-15/P	Please updated to the special firmware version
DeepinMind NVR	iDS-9616NXI-I16/X(B), iDS-9632NXI-I16/X(B)	
	iDS-9664NXI-I16/X(B), iDS-7716NXI-I4/X(B) iDS-7732NXI-I4/X(B), iDS-6708NXI-I/8F(B)	

# Advantages of Hikvision's Thermographic Fever Screening Solutions

## AI Human Body Detection

Hikvision Bullet/Turret Fever Screening Thermographic Cameras feature AI human body detection to fix the measurement areas to human bodies, thus reducing false alarms caused by other heat sources.

## Embedded Audio Alarms

With a built-in audio module, Hikvision Bullet/Turret Fever Screening Thermographic Cameras can trigger alarms to notify operators immediately when a person with a fever passes by.



## Unique Self-developed Algorithm

Benefitting from Hikvision's self-developed temperature measurement algorithm and big data obtained by lots of cases, the accuracy of temperature measurement is highly reliable.

## One-Stop Solution

As a world's leading security solution provider, Hikvision offers a rich product portfolio including thermographic cameras, NVR, switches, etc., which is easier for clients to set up a complete and professional solution.



# FAQ

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

**A:** Outdoor wind and sun can easily affect the surface temperatures of human bodies and the working status of the camera, which results in a deviation between the measured body surface temperature and the actual body temperature. To ensure the accuracy, we strongly recommend applying the solutions indoors.

## Q: Can the camera detect multiple faces for temperature measurement

**A:** Cameras supports up to 30 persons at a time. But still we recommend to carry out temperature measurement person by person.

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

**A:** The cameras are able to use human body detection technology, so other heat sources **will not cause false alarms**.

## Q: When can I use the fever screening function after a camera is turned on?

**A:** The cameras need to be warmed up before using. Turn them on and wait for **5 minutes** (handheld camera), **30 minutes** (bullet / turret camera).

## Q: Does a handheld thermographic camera support the alarm function? And does it support VMS linkage?

**A:** Only supported by **high-end models (TP21B)**. Not supported by economical models (TP31B).

## Q: What is a blackbody calibrator? What should be noticed before purchasing it?

**A:** A blackbody is a **standard temperature source**, the thermographic cameras are able to **calibrate** based on the temperature of a blackbody calibrator.

The blackbody only needs to be powered, no internet connection required.

Hikvision thermal cameras are available with a blackbody to **increase accuracy** to  $\pm 0.3$

# Thanks



**HIKVISION**<sup>®</sup>