

# THERMAL BODY TEMPERATURE MEASUREMENT SOLUTIONS

PROTECTING PEOPLE & PLACES AGAINST COVID19



PROTECH  
SOLUTIONS

IT | AUDIO-VISUAL | SECURITY SYSTEMS

# PURPOSE & FEATURES

This ground breaking thermal camera system has been extensively deployed in thousands of sites globally in response to the COVID19 (Coronavirus) outbreak. It is an essential tool within a bigger co-ordinated strategy to reduce ongoing virus vulnerabilities at any busy workplace.

The system can quickly and accurately identify people with elevated body temperatures, one of the key symptoms of COVID-19 (88% of people). It provides organizations, campus' and school buildings with an additional layer of protection against exposure to the Coronavirus.

The key questions organisations need to ask before assessing the right system for them are:

- *How many people will be coming into the location?*
- *Is their arrival time concentrated or a steady flow?*
- *How many entrances would normally be in use – do we need them all?*
- *How will we respond to people presenting with an elevated temperature?*

*The answers will help to shape the requirements that any chosen system must meet.*

*The location will also impact which system is best for you.*

We will work closely with you in deciding which system works best for your circumstances.

For large sites requiring multiple installations we will conduct on-site recces.

## NEW FROM 1 JUNE 2020

2 NEW SYSTEMS ADDED TO OUR SOLUTIONS PORTFOLIO TO COVER LOW, MEDIUM & HIGH FOOTFALL AREAS AND BUDGETS

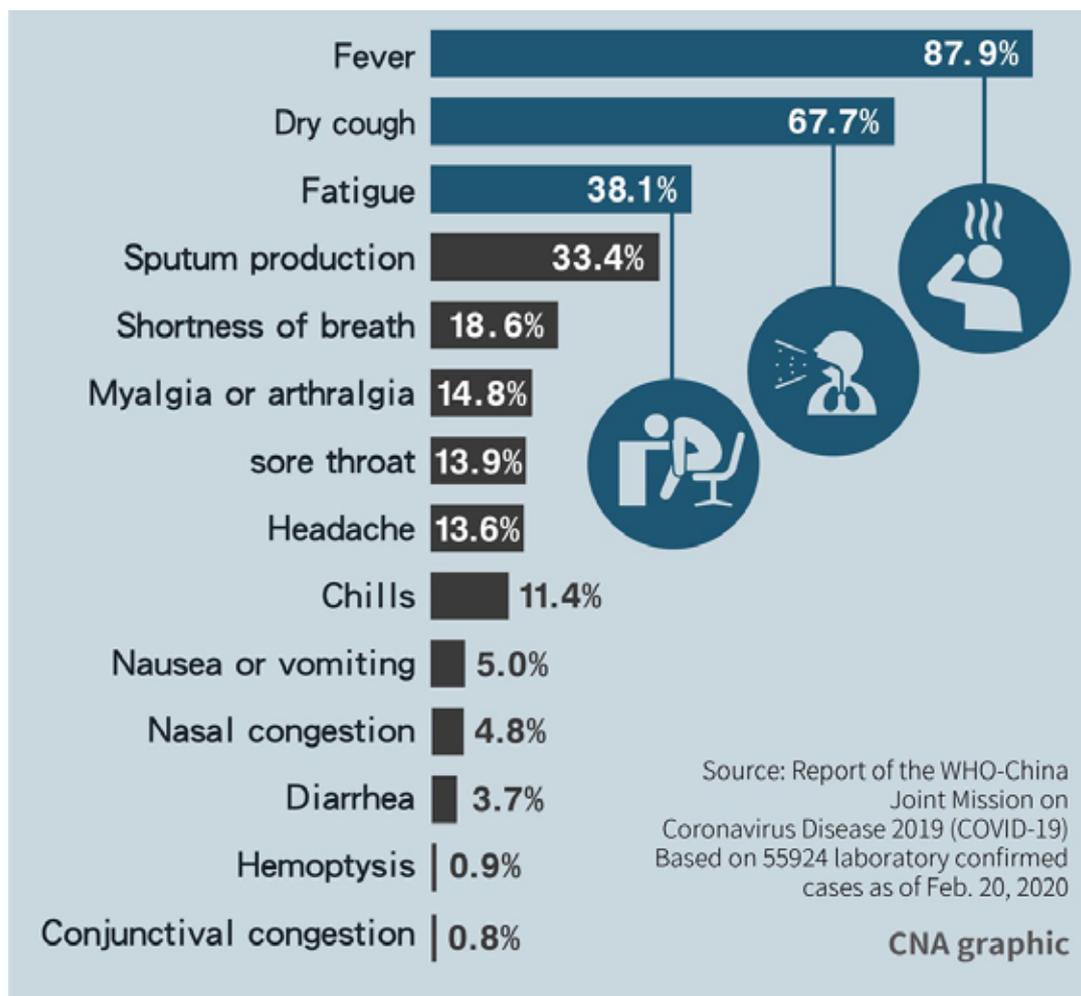


# SCIENTIFIC RESEARCH

11 March 2020 Imperial College London COVID-19 Response Team  
Report 8: Symptom progression of COVID-19

In Hong Kong, Japan, Singapore and South Korea, fever was the most frequently reported symptom....fever is often reported at onset (where the mean time to develop fever is 0.77 days). The possibility of COVID-19 should be considered primarily in patients with fever and/or respiratory tract symptoms.

## **SYMPTOMS OF COVID-19 (WHO research)**



A Harvard study published in March 2020 suggested the threat of virus re-emergence will be here until 2024. Social distancing may need to continue or be used intermittently for next two years until 2022 even if the virus were seemingly eliminated.

The paper – by five researchers with the Harvard T.H. Chan School of Public Health, and published in the journal Science – found that a re-emergence of the virus was possible in the next four years.

*“Even in the event of apparent elimination, Sars-CoV-2 surveillance should be maintained since a resurgence in contagion could be possible as late as 2024.”*

# School adds thermal scanner Vancouver Island school adds thermal scanner COVID checks

Jeff Bell / Times Colonist - Jun 2, 2020 / 9:34 am



Vancouver General Hospital, Calgary International Airport thermal-imaging system to its safety plan.

## CBS THIS MORNING

**Maak het met Creative Cloud.**  
Apps voor fotografie, design, video en internet vanaf €12,09 incl. btw per maand

CBS NEWS April 28, 2020, 1:29 PM

# Thermal imaging cameras could play "critical role" in keeping people safe from COVID-19

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**THE NEW NORMAL FEVER-FOCUSED**  
THERMAL-IMAGING TECHNOLOGY ON THE RISE AS BUSINESSES PREPARE TO REOPEN

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# Coronavirus may never go away, World Health Organization warns

14 May 2020

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Coronavirus pandemic



## MyLondon

# Enfield school installs thermal camera to screen children for coronavirus

The academy is very concerned after record numbers of parents have come to its foodbank



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# EQUIPMENT AND TEAM

Protech Solutions has chosen the equipment and software from Dahua for our customers because of its extensive proven on-site testing and reliability.

Dahua Technology is a world-leading video-centric smart IoT solution and service provider with impressive experience and capabilities.

- Annual turnover 2019 : USD 3.73 billion
- 16,000 employees
- 50% involved in R & D
- Operate in 180 countries and regions
- 10% of annual sales reinvested in research, development and technological innovation



Dahua products are widely applied in key vertical markets such as public security, traffic, retail, banking & finance, energy etc.

**Protech Solutions are working in partnership with Optimal Risk Group on the ground in delivering this solution.**

They have been working for over 18 years in the field of technical and strategic risk reduction. Their clients in Europe are from public and private sectors, helping organisations be ready for the plethora of high-risk and high-impact scenarios that could compromise operations or reputation.

Protech Solutions are confident in their approach and experience in assessing physical environments, people and processes to deliver effective COVID-19 installations.

## GDPR

Facial detection, as opposed to recognition, is used to improve the accuracy of the solution with better positioning of the measuring point on the face. It is not used to detect specific individuals and does not break privacy compliances (such as GDPR).

The issues around privacy & acceptance of new technology, especially around children, are of importance to everyone. If you have questions, please ask us.



*I spent months looking for an AV provider who did not try and baffle me with science and who would charge a fair days price for a fair days work, Protech Solutions stood out for us because of their expertise and willingness to trial products and 'prove' the technology.*

*Professional, efficient, Protech know how to get the job done and do it well. It is so refreshing to find a supplier who does everything exactly how I have outlined. A company who doesn't cut corners and carry out all their promises without you having to chase them.*

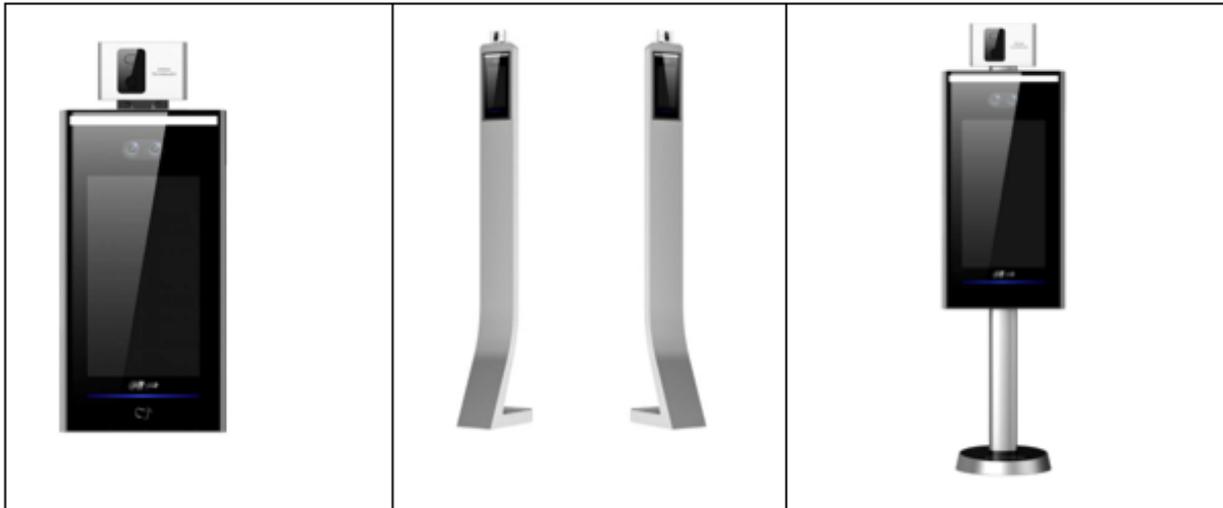
*We could leave everything to them and not have to worry.*



# EQUIPMENT OPTIONS

## LOW FOOTFALL

This comes as standard as a wall mounted unit but there are options to have it on a free standing pedestal or mounted on an access control gate.



- Simple installation near power supply
- Temperature monitoring distance range is 0.3m – 0.8m
- Temperature monitoring accuracy is  $\pm 0.3^{\circ}\text{C}$
- Elevated temperature alarm
- 7 Inch LCD display with resolution of 1024x600
- Supports mask detection

## MEDIUM FOOTFALL

This comes as a package containing:

- Body Temperature Thermal Network Bullet Camera
- 256 x 192 uncooled VOx thermal sensor with 7.5mm lens
- 2MP Visible Resolution Camera with 6mm lens
- Blackbody 35°C constant temperature referencing device (essential to ensure temperature accuracy at distance)
- Rapid deployment tripods (wall/ceiling mounting is an option)
- NVR and monitor



- *Speedy screening at up to 3m distance*
- *80 to 100 people screened per minute dependent on social distancing guidance.*
- *Audible and visual alarm options*
- *Stand-alone system with option of up to 4 cameras linking back to 1 NVR allows several entrances to be covered*
- *Networking option allows multiple cameras to be deployed*
- *Supports mask detection*

# HIGH FOOTFALL

This comes as a package containing:

- *Body Temperature Thermal Network Bullet Camera*
- *400 x 300 uncooled VOx thermal sensor with 13mm lens*
- *2MP Visible Resolution Camera with 8mm lens*
- *Blackbody 35°C constant temperature referencing device  
(essential to ensure temperature accuracy at distance)*
- *Rapid deployment tripods (wall/ceiling mounting is an option)*
- *NVR and monitor*



- *Rapid screening at up to 6m distance allows greater flexibility of deployment and managing people flow*
- *140 to 160 people screened per minute dependent on social distancing guidance.*
- *Audible and visual alarm options*
- *Stand-alone system with option of up to 4 cameras linking back to 1 NVR allows several entrances to be covered*
- *Networking option allows multiple cameras to be deployed*
- *Supports mask detection*

# EQUIPMENT (HIGH FOOTFALL)

NAME	SPEC	DETAILS
1	Temp Measurement Thermal Camera	DH-TPC-BF3221P-TB7F8-HTM Resolution : 256*192 Thermal lens : 7mm Visible : 1/2.8"CMOS, 1080P Visible lens : 8mm Alarm : Built-in white light warning light, Temperature measurement range : 30°C~45°C Temperature measurement accuracy : ±0.3°C with blackbody ±1°C, without blackbody
1	Blackbody	JQ-D70Z Working temperature : 40.0°C ( environment temperature +5.0°C~ 50.0°C) Temperature resolution : 0.1°C Temperature measurement accuracy ±0.2°C (Single point) Temperature stability : ±( 0.1~0.2 )°C/30min Effective emissivity : 0.97±0.02 Power : 220VAC 50Hz Ambient temperature and humidity : 0~40°C/ ≤80%RH
1	Power lead for Blackbody	UK Plug British Standard Power Line 1.5m cable
2	Tripod	VCT-999 Tall tripod
2	Connector	RAW021-00 Connects the camera to the tripod and connects the blackbody to the tripod
1	POE Switch	DH-PFS3010-8ET-96 8 x10/100M Base-T (PoE power supply) 2 x10/100/1000M Base-T; Port1≤60W, Port2-8≤30W, Total≤96W IEEE802.3af/IEEE802.3at/Hi-PoE Power supply:DC48~57V Dimension: 190mm×100mm×30mm Weight: 480g
1	Monitor	DHI-DHL22-F600-S 21.5"(16: 9) FHD LCD monitor, LED backlight, 1920*1080, 200cd/m2, 1000: 1 static contrast, 178/178 view angle, 5ms response time, 16.7M/8bit display colour,VGA/HDMI/Audio inputs, built-in speakers
1	AI NVR	DHI-NVR5216-16P-I 1. Alarm event access 2. Storage, query and playback of alarm video 3. Face recognition 4. Local display 5. Max 4ch No Mask Detection
1	DHI-DSSExpress-Base-License	DHI-DSSExpress-Base-License 1. Human body high temperature alarm access; 2. Alarm event popup prompt
1	Delivery, installation & training	Delivery to site Installation Training for up to 4 personnel

# PRICING

Pricing for the different options ranges from £5000 - 16,450 per unit depending on installation, training requirements and volumes.

## ADVANCED TECHNOLOGY

Thermal body temperature solutions require, at a minimum, a radiometric thermal camera to measure temperature differences in people entering the field of view.

This more advanced solution uses blackbody devices to help calibrate temperature measurement, especially in less controlled environments where the elements can influence the reading.

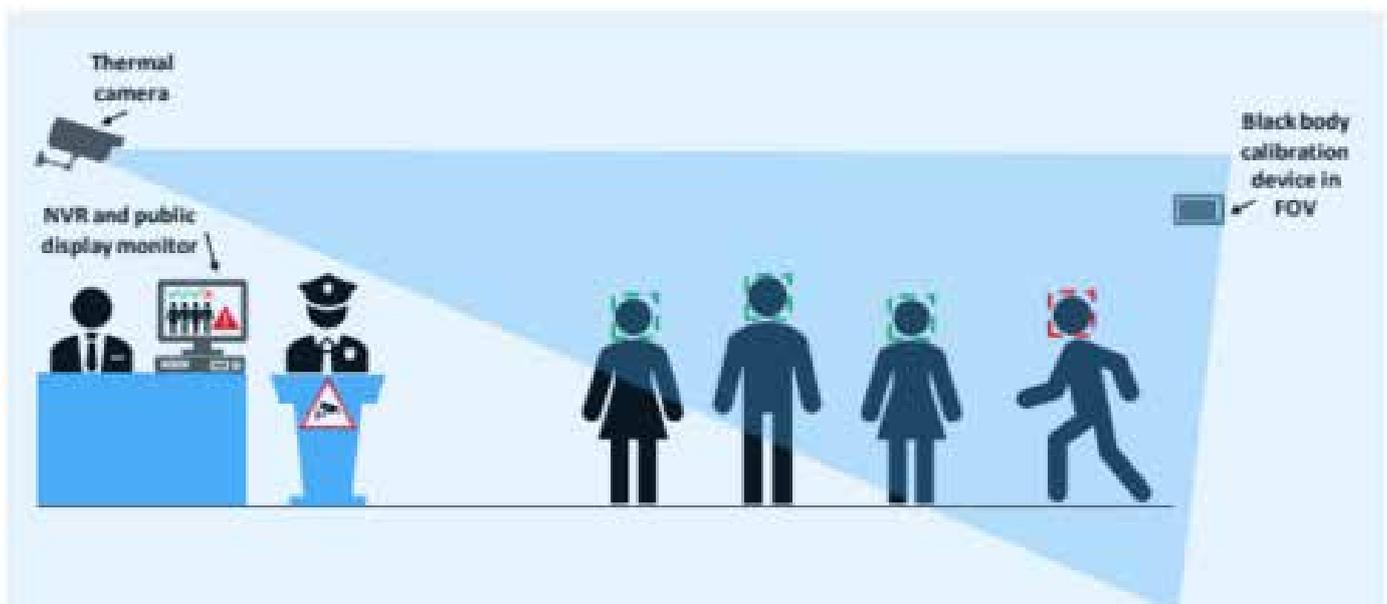
**AI (Artificial Intelligence) algorithms** are integrated to help target the temperature reading on the most accurate part of the body, typically the forehead or near the eyes. This means more accurate readings, especially critical in the case of people wearing masks.

**The blackbody calibration tool** consists of a target object whose temperature is precisely known and controlled. Specifically, this is important in human temperature measurement where accuracy to +/- 0.3 degrees Celsius is advised by many international standards organizations.

By deploying the blackbody calibration tool, it is easier to establish an accurate relationship between gray level and temperature. Essentially there is known fixed temperature object in the field of view which can be used to calibrate and measure all other objects' temperatures.

**False temperature alarms** caused by environmental influence can be effectively reduced by this method, and the accuracy of the thermal body temperature solution can be controlled to more precise parameters.

However, monitoring accuracy does depend on the stability of the body temperature and it is recommended to install the system in a stable environmental condition to ensure that the skin temperature is stable.



# SUPPORT

## Warranty

The Dahua high footfall camera technology comes with a 3-year advanced replacement warranty to the original purchaser of the equipment. The 3 year warranty starts from the original purchase date. Products considered faulty within 30 days of receipt will be replaced with new equipment.

### Applications and installations include :

Beijing metro, Shanghai railway station, Shanghai Hongqiao International Airport, NHS Nightingale Hospital London, banks & financial institutions, media centres, corporate headquarters, manufacturing, public service, medical, distribution & warehousing, hotels, retailers, schools, waiting areas.



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