Body Monitoring System (BMS-100 & BMS-300 Series)

1. Introduction
    a. The BMS series body monitoring system has been designed to automate the monitoring of the people walking into buildings, malls or school.
    b. Our unique face recognition feature will differentiate & track the human faces and minimize the potential interference from hot objects, eg hot beverage held by any individuals.
    c. The monitoring system can be set up easily and to be put into operation in short time.
    d. When there is any individual who has a temperature higher than the reference temperature, a real-time & IR image will be saved immediately to the storage. At the same time, there will be multiple methods to activate an alert to relevant personnel, ie sound alarm, light indicator or email with picture of person who is potentially having a fever.

2. Key Features
    a. Ease of setup
    b. Automatic monitoring with multi-alert methods,
    c. Standard accuracy is ±0.5°C which is acceptable in the industry. If a blackbody calibration box is implemented, the accuracy will be improved to ±0.3°C
    d. Face recognition technology used to increase the chances to identity human from hot objects/surfaces. At the same time, even if the person has been covered partially, it can still be detected.
    e. The detected temperature will be displayed for all personnel, even in bigger groups. The person, measured with potential fever will have a “Red” display to differentiate from the others.
    f. The system can be operated without any human presence, and the alert of any personnel with potential fever can be sent by email with images to the HR or security department immediately for action

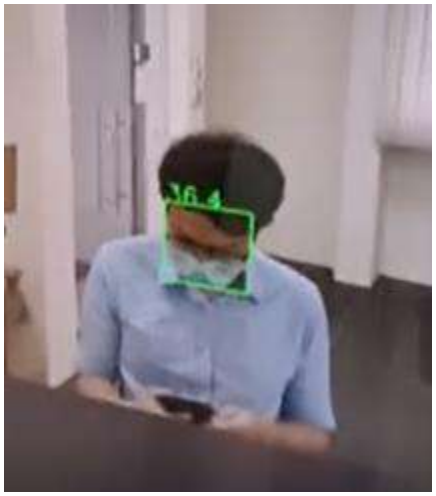
3. Applications
    a. Public buildings
    b. Malls
    c. Factories
    d. Schools
    e. Hospitals

4. Face Recognition Capability
    a. There are different scenarios where the temperature of the person walking through the monitoring system are not measured at all. We have worked on our face technology to minimize such occurrence.

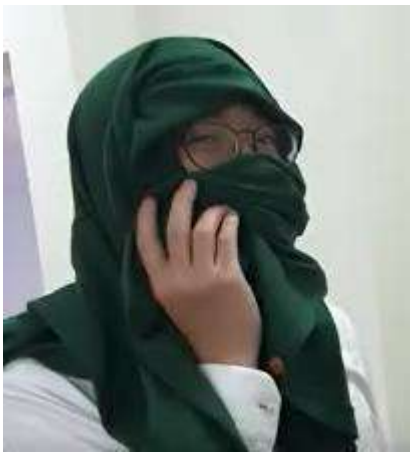
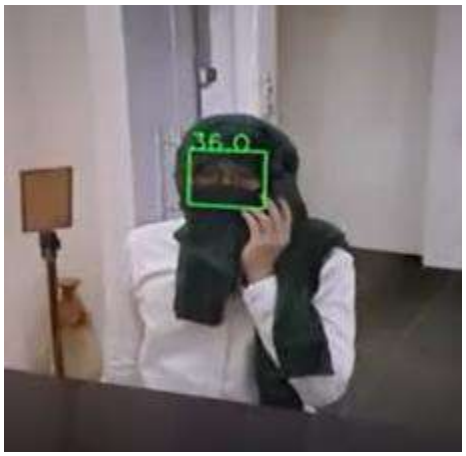

Scenario #1 – Person looking at cellphone


Scenario #2 – Person looking to the side

Scenario #3 – Person with face mask

Scenario #4 – Person with face mask & looking at cellphone

Scenario #5 – Person with scarf covering at least 70% of face

5. Product Selection
    a. We offer 3 different range of products with different lens type
        i. Basic (160px X 120px)

- BMS-100-XB with option of 3mm & 6mm lens
    - This will be used for places where there are 1 to 3 people walking through the monitoring system
    - Camera can be mounted on tripod or to the wall
    - Working range of 1m to 3m

- BMS-100-XT with option of 3mm & 6mm lens
    - This will be used for places where there are 1 to 3 people walking through the monitoring system
    - Can be mounted on the tripod or ceiling
    - Working range of 1m to 3m

ii. Enhanced (384px X 288px)

- BMS-300-XB with option of 10mm, 13mm & 15mm lens
  - Thermal resolution **of 384*288**, providing more image detail and wider coverage for temperature measurement
  - Can be used for places with more than 10 people walking through the monitoring system
  - Can be mounted on the tripod or ceiling
  - Working range of 2m to 8m

6. Installation Tips
   a. The camera is recommended to install at a height of **1.5 meters.**
   b. It is recommended to install the monitoring system in a stable **indoor** environment without wind
   c. The camera needs to be warmed up for 30 mins before usage. If the camera is used immediately, there will be a temperature variation which will have higher temperature error.
   d. To achieve higher accuracy of ±0.3°C, the blackbody calibrator can be used together with the camera
      i. The distance the calibrator is placed from the camera:
         - 1 metre for the 3mm lens
         - 2 metre for the 6 mm lens
         - 3 metre for the 10mm or 13mm lens
         - 5 metre for the 15mm lens
      ii. The blackbody calibrator has to be positioned and be seen in the upper left / upper right corner of the camera's view.
      iii. For the proper performance of the blackbody calibrator, it should not be blocked during the temperature measurement

7. Summary
   a. The BMS-100-XB & XT will be suitable for lower budget, SMEs or small crowd detection area.
   b. The BMS-300-XB will be suitable for higher density area for factories & public buildings
   c. To improve the accuracy of the traceability or situation of a person blocked by another person in front, we would recommend for the consideration to install 2 system on a staggered design to cover the "blind spot"