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Automated Non-contact Temperature Screening

Organizations are struggling to return to normalcy while mitigating the spread of COVID-19. In addition to wearing masks and handwashing, temperature screening is a fundamental pillar in efforts to re-open businesses and manufacturing. *"Infrared (IR) modalities (are) the only currently viable mass fever screening approaches for outbreaks of infectious disease pandemics such as…severe acute respiratory syndrome (Ghassemi, 2018).*

Temperature screening is the best mass method for detecting a raised core body temperature, an indication of a viral infection.

Traditional screening challenges

In contrast to handwashing and masks, temperature screening technology is complex. Understanding what works, or doesn't, for a given situation is much more difficult. Assuming the temperature screening technology "works" when it doesn't exposes organizations to loss of workers and customer, legal liabilities, and disease.

Fever Inspect - Premium S (FIP-S)

Questions? We can assist at:
Brad 952-974-0595 or 612-562-9380,
support@feverinspect.com

Current issues to consider

1. Traditional infrared (IR) thermography
   - High-cost ($10,000-$30,000/unit)
   - Manual operators w specialized skills (thermography) required

2. "Repurposed" commercial units
   - Large operating areas required
   - Complex setups required by separate external blackbody and thermal device
   - Inaccurate temperature sensitivity ranges (not core body readings)
   - Costly and specialized manual operators required

3. Low-cost forehead scanners
   - Faking accuracy, hiding "regression to the mean" limits, etc.
   - High exposure risk, to manual operators and those who are tested
   - High-cost due to manual hazard pay etc.
   - Slow and inconsistent operation, requires measurement at centimeter increments

4. Overwhelmed supply-chain
   - Chronic low volume 2020-21, "black body" temp reference components in short supply
   - Lack of micro-electromechanical (MEMS) componentry

5. Regulatory landmines
   - Facial recognition regulatory backlash
   - Health Information Privacy and Portability Act (HIPPA) considerations
   - March 2020 Equal Employment Opportunity (EEOC) and American with Disabilities Act (ADA) screening guidelines
   - April 2020 Food and Drug Administration (FDA) enforcement guidance (fever screening is a medical procedure)

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Fever Inspect – Premium Standalone (FIP-S)

The FIP-S is an automated, non-contact infrared thermographic camera for mass core body temperature screening.

Sensing modality: Thermal infrared imaging with dual internal self-calibrating infrared references.

Distance range: 2.5 - 5’ line-of-sight from IR image sensor, integrated distance sensor ensures accuracy in this range.

Operating temperature: 60-80F standard, optional 50-90F, integrated ambient air temperature sensor.

Accuracy: +/- 0.3C surface temperature; +/- 0.5C core body temperature

Temperature reference source:
Two blackbody units for temperature and emissivity (0.1C stability, 0.1C accuracy, 0.05C uniformity) are integrated into the device

Scan time: ~1-3 seconds/ person

Power: Standard two-prong 100-240VAC US/UK/EU, 15W, USB-C port on unit, 4”6’ cord length standard

Display: Four-character numeric temperature display (LED, front and back), green/red indicator light (front and back)

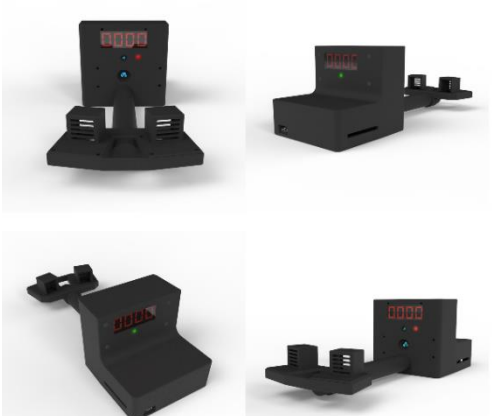
Housing: Nylon 12 (polyamide)

Included in case: Lockable, waterproof carrying case houses FIP-S device, power cord and adapter

Operating Footprint: Requires a 2-3' w. x 4-5’ d. operating space (~8-15 sq. feet). Do not allow excessive drafts or winds in operating space. Do not allow direct, unfiltered sunlight onto the unit or on subjects’ faces.

Processor: Quad-core ARM processor, 32GB memory (20GB free), operating system (OS) Linux

Interface: Optional, one (1) open slot for logic-level signal (3.3V), pulse width modulated (5V) and UART. Hardwire, 6-pin connector.



Fever Inspect - Premium (FIP-S) Unit

Connectivity: Ships as standalone, no network required. Optional: LTE Modem (access via web login), or Wi-fi.

Size: 12.5 oz., 10” L x 4” W x 4” H

Mounting options: Ships as standalone. Optional: floor-mounted tripod, desk-mounted tripod, pole for ceiling mount, wall mount tag

Easy-to-use, automated, and accurate

The FIP-S automates core body temperature screening for hundreds of entrances and exits, serving as an early warning system. Driven by Erik Beall, Ph.D. in imaging physics it combines reliable, automated speed in a small footprint unmatched for integrating into kiosk systems and standalone facility access. Fever Inspect temperature screening is significantly more accurate and cost-effective than alternatives. As a result, school administers, facility managers, thermographic experts and workforces can move forward with health and confidence.

SCREENING OPERATIONS

A simple one-time positioning setup accurately reads faces at a customized range of heights covering people in wheelchairs to very tall people.

SCREENING SETUP

Standalone screening results discretely managed via an organization’s designated HIPPA personnel, such as Human Resources.

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