# H4 Thermal Elevated Temperature Detection (ETD) Solution

**VGA**

The Avigilon H4 Thermal Elevated Temperature Detection camera is embedded with edge-based analytics to detect faces and notify operators of elevated skin temperature*. It is designed to intelligently focus on a subject's face, ignoring irrelevant temperature signatures from surrounding sources. The temperature reading displays prominently over the bounding box on the detected face, highlighting elevated skin temperature events with a red bounding box.

This indoor security-grade thermal camera, coupled with a blackbody uniform temperature source, provides a low friction, contactless alternative to traditional screening methods. The solution enables high-throughput pre-screening of people to detect elevated skin temperatures. The blackbody device acts as an absolute temperature reference point for the thermal camera.

Built to work seamlessly with Avigilon Control Center (ACC™), elevated temperature events can be configured in ACC along with complete end-to-end workflows for monitoring, assigning and acknowledgement of elevated temperature alarms. Powerful search tools enable you to quickly search through recorded video for elevated temperature events, so you can take action with an informed response.

## Features

**AUDIO CAPABILITIES**
Available ports for external audio including sirens, microphones and/or loudspeakers for audio talk-down situations.

**HDSM SMARTCODEC™ TECHNOLOGY**
Optimizes compression levels for regions in a scene to help maximize bandwidth savings, helping to keep internet connectivity costs down.

**ONVIF® COMPLIANT**
Built on an open platform to allow integration with other security solutions.

**EXPANDABLE STORAGE**
Slot for either SD or MicroSD memory prevents loss of recorded video during network or server interruptions.

**RELAY I/O CONNECTIONS**
Configure input/output actions and alarms for fast event response.

**MADE IN NORTH AMERICA**
Manufactured with North American† expertise and globally-sourced parts, to enable product quality control and accelerate the speed at which we go from innovation, to prototyping, to final product and delivery.

* Not a replacement for FDA-approved medical-grade devices or a professional medical opinion.

ONVIF is a trademark of Onvif, Inc.

† With manufacturing facilities in both the United States and Canada, our "Made In North America" claim only applies to products from our Plano, Texas and Richmond, British Columbia facilities.

Preliminary Specifications - Subject to Change

# General Specifications

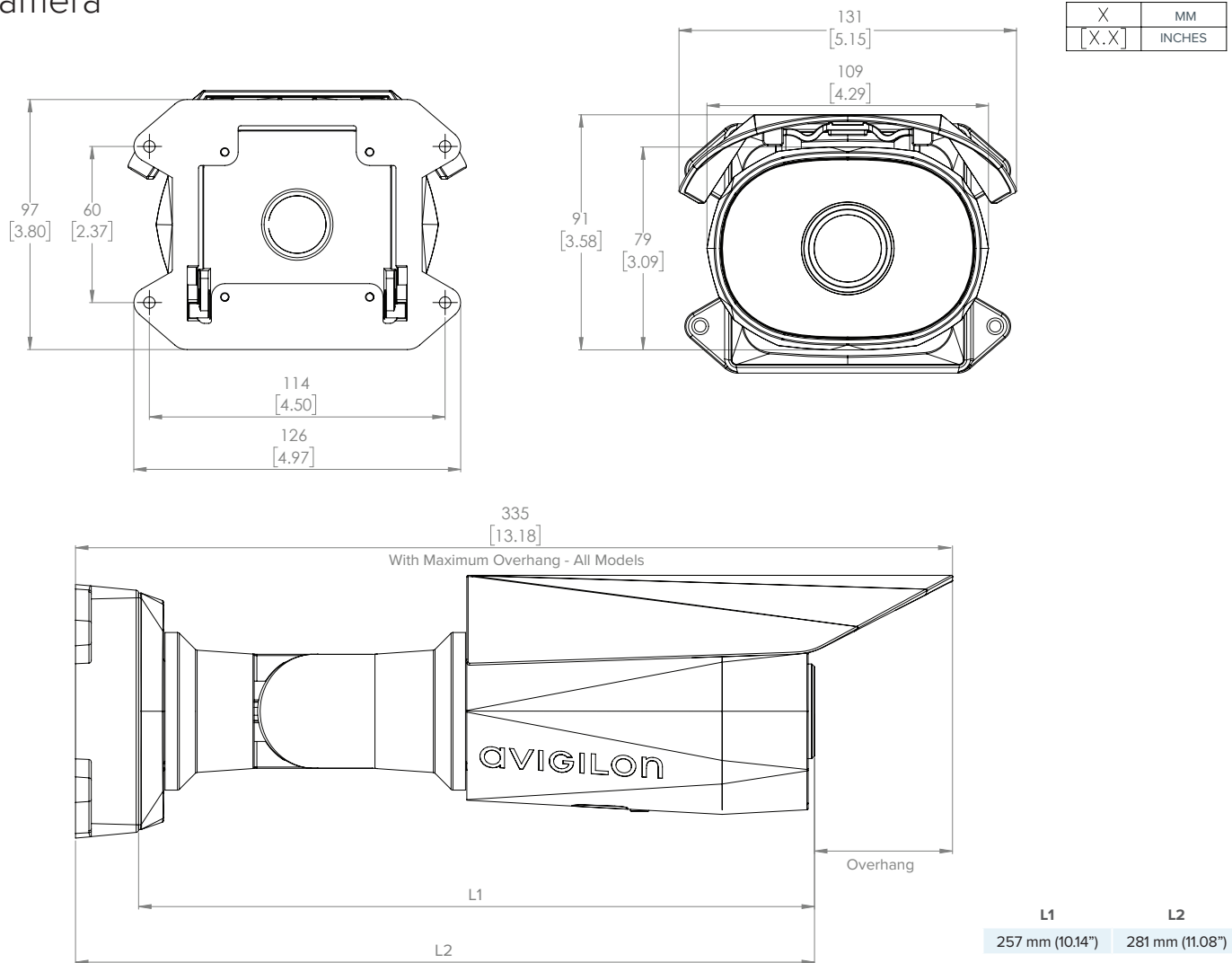| | |
|---|---|
| Accuracy | ±0.5 ℃ (±0.9 ℉) for ambient temperature 18 ℃ – 25 ℃ (65 ℉ – 77 ℉) |
| Operating Temperature | 18 ℃ to 25 ℃ (65 ℉ to 77 ℉) |

# Camera Specifications

| | | | |
|---|---|---|---|
| **IMAGE PERFORMANCE** | Image Sensor | | 640x512 Uncooled VOx Microbolometer |
| | Pixel Pitch | | 12µm |
| | Spectral Range | | 8µm to 14µm |
| | Aspect Ratio | | 5:4 |
| | Imaging Rate | | 8.6 fps |
| | Sensitivity | | NETD <60mK |
| **LENS** | Lens | | 8.7 mm, F1.0, Athermalized |
| | Angle of View (H x V) | | 50.7° x 40.4° |
| **IMAGE CONTROL** | Image Compression Method | | H.264 (MPEG-4 Part 10/AVC), Motion JPEG, HDSM SmartCodec Technology |
| | Streaming | | Multi-stream H.264 & MJPEG |
| | Bandwidth Management | | Idle Scene Mode, HDSM SmartCodec Technology |
| | Privacy Zones | | Up to 64 Zones |
| | Audio Compression Method | | G.711 PCM 8kHz |
| **NETWORK** | Network | | 100BASE-TX |
| | Cabling Type | | CAT5 |
| | Connector | | RJ-45 |
| | ONVIF | | ONVIF® compliant with Profile S (www.onvif.org) |
| | Security | | Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication |
| | Protocols | | IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, ARP |
| | Streaming Protocols | | RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP |
| **PERIPHERALS** | Onboard Storage | | SD/SDHC/SDXC slot – minimum class 4; class 6 or better recommended |
| | External I/O Terminals | | Alarm In, Alarm Out |
| | Audio Input/Output | | Line level input and output |
| **MECHANICAL** | Dimensions (LxWxH) | | 335 mm x 126 mm x 91 mm; 13.18" x 4.97" x 3.58" (including mounting bracket and fully extended sunshield overhang) |
| | Weight | Camera | 1.72 kg (3.79 lbs) |
| | | Mounting Bracket | 0.21 kg (0.46 lbs) |
| | Environmental | | IP66 weather rating |
| **ELECTRICAL** | Power Consumption | | 9W |
| | Power Source | | PoE: IEEE802.3af Class 3 compliant |
| **SUPPORTED VIDEO ANALYTIC EVENTS** | Elevated Temperature | | The event is triggered when estimated temperature from the hottest point of the face is higher than a set threshold. |
| **SUPPORTED CLASSIFIED OBJECT TYPES** | Object Types | | Face detection |

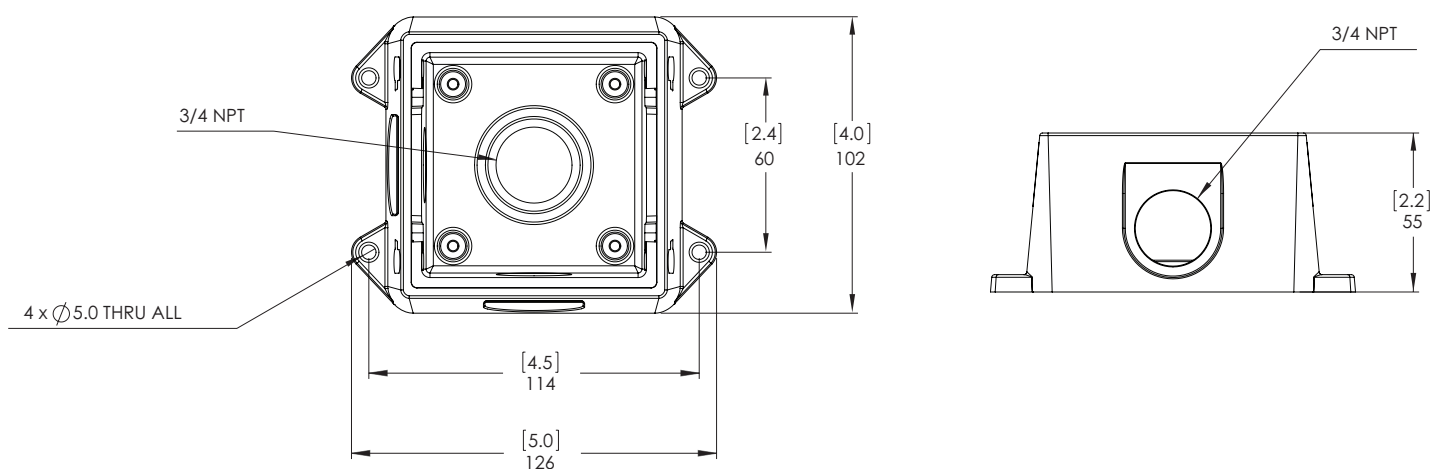| | ACC VERSION | SUPPORTED FEATURES |
|---|---|---|
| **COMPATIBLE AVIGILON CONTROL CENTER (ACC) VERSIONS** | 7.8.x or higher | Temperature overlay on detected face and elevated temperature alerts. |

# Blackbody Specifications

| | |
|---|---|
| Accuracy | ±0.3 ℃ (±0.54 ℉) |
| Power Supply | US - 120 VAC or 240 VAC |
| Mounting | 1/4"-20 Tripod Mount |

# Outline Dimensions

## Camera

| X | MM |
|---|---|
| [X.X] | INCHES |

131
[5.15]

109
[4.29]

97
[3.80]

60
[2.37]

91
[3.58]

79
[3.09]

114
[4.50]

126
[4.97]

335
[13.18]

With Maximum Overhang - All Models

aVIGILON

Overhang

L1

L2

| L1 | L2 |
|---|---|
| 257 mm (10.14") | 281 mm (11.08") |

## Junction Box

3/4 NPT

3/4 NPT

3/4 NPT

[2.4]
60

[4.0]
102

[2.2]
55

4 x ⌀ 5.0 THRU ALL

[4.5]
114

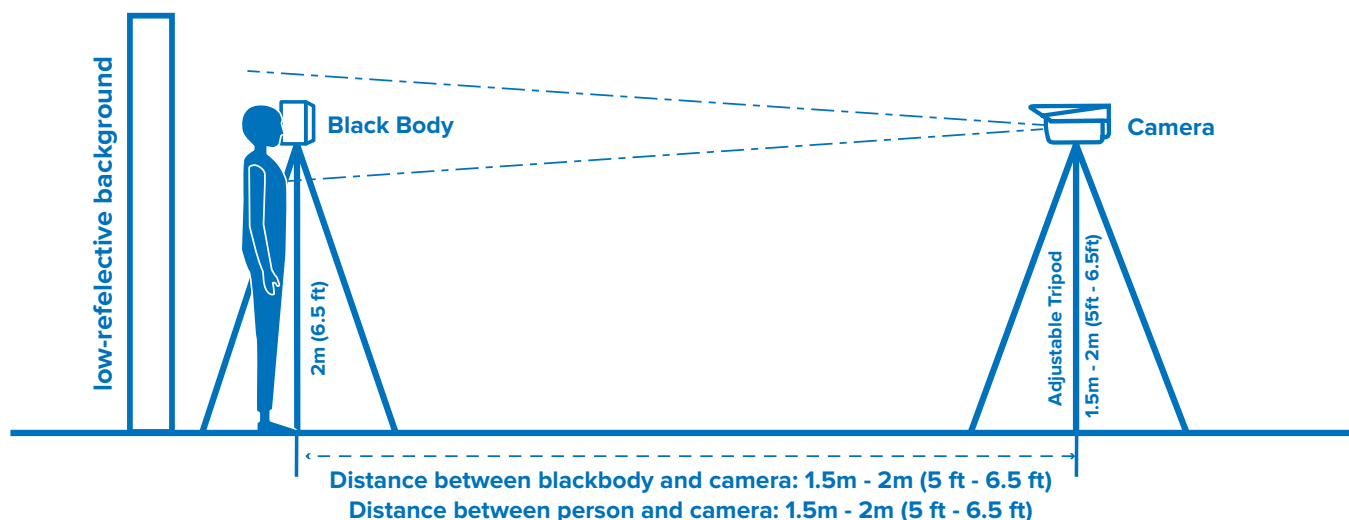[5.0]
126

# Installation Guidelines

- The H4 Thermal Elevated Temperature Detection solution is designed as an initial screening system of individuals for elevated skin temperature.

- The system should only be used in indoor environments with a stable ambient temperature between 18 °C to 25 °C (65 °F to 80 °F), and located in an area that is not subject to air drafts from radiator or HVAC systems.

- Install the solution with a neutral backdrop behind the target subject. The field of view of the camera should not be directed towards outdoor entrance or exit points, and not include thermally reflective surfaces or strong lighting.

- Refer to the installation diagram below for ideal camera and blackbody setup.

  ◦ Height of camera: 1.5m - 2m (5 ft - 6.5 ft)
  ◦ Height of blackbody: 2m (6.5 feet)
  ◦ Distance between blackbody and camera: 1.5m - 2m (5 ft - 6.5 ft)
  ◦ Distance between person and camera: 1.5m - 2m (5 ft - 6.5 ft)
  ◦ The blackbody should be positioned such that it does not get occluded when a person steps in front of the camera for screening.

# Preparing Individuals for Screening

The solution can only be used for screening one person at a time for elevated body temperature.

- Ensure the person is acclimated to the indoor environment before stepping front of the camera.

- To screen for elevated skin temperature the thermal camera must get a clear view of the inner canthus (tear duct) region. The person must not have any occlusion around the eye area: glasses should be removed, and any mask, hat, or headband should be clear of the eye area.

- Once in front of the camera, the person must look straight into the camera for 2-5 seconds.

- Blackbody must be located at approximately the same distance from the camera as the person.

# Installation Diagram



**Black Body**

**Camera**

low-reflective background

2m (6.5 ft)

Adjustable Tripod

1.5m - 2m (5ft - 6.5ft)

**Distance between blackbody and camera: 1.5m - 2m (5 ft - 6.5 ft)**
**Distance between person and camera: 1.5m - 2m (5 ft - 6.5 ft)**

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