

# H4 Thermal Camera Line

VGA QVGA



Scenes captured with H4 Thermal VGA camera.

## Features



### SELF-LEARNING VIDEO ANALYTICS

Detect and classify objects in challenging lighting/darkness or extreme environments such as weather, dust, debris, smoke or foliage.



### MULTIPLE LENS OPTIONS

Choose from three athermalized lens variants to optimize on-site coverage requirements.



### HDSM SMARTCODEC™ TECHNOLOGY

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



### RELAY I/O CONNECTIONS

Configure input/output actions and alarms for fast event response.



### ONVIF® COMPLIANT

Built on an open platform to allow integration with other security solutions.



### MADE IN NORTH AMERICA

Manufactured in North America\* using globally-sourced materials and North American expertise, Avigilon stands behind the quality of its products.

# Specifications

|                          |                               | QVGA   |                            |                             | VGA  |                             |                             |
|--------------------------|-------------------------------|--|----------------------------|-----------------------------|--|-----------------------------|-----------------------------|
| <b>IMAGE PERFORMANCE</b> | Image Sensor                  | 320x256 Uncooled VOx Microbolometer  |                            |                             | 640x512 Uncooled VOx Microbolometer  |                             |                             |
|                          | Pixel Pitch                   | 12µm   |                            |                             |  |                             |                             |
|                          | Spectral Range                | 8µm to 14µm  |                            |                             |  |                             |                             |
|                          | Aspect Ratio                  | 5:4  |                            |                             |  |                             |                             |
|                          | Imaging Rate                  | 8.6 fps  |                            |                             |  |                             |                             |
|                          | Dynamic Range                 | -40 °C to 225 °C (-40 °F to 437 °F) [may vary based on operating temperature]  |                            |                             |  |                             |                             |
|                          | Resolution Scaling            | 320x256, can be scaled up to 640x512   |                            |                             | 640x512, can be scaled down to 320x256   |                             |                             |
|                          | 3D Noise Reduction Filter     | Yes  |                            |                             |  |                             |                             |
|                          | Sensitivity                   | NETD <60mK   |                            |                             |  |                             |                             |
|                          | Image Uniformity Optimization | Automatic Flat Field Correction (FFC) - Thermal and Temporal   |                            |                             |  |                             |                             |
| <b>LENS</b>              | Lens                          | 4.3 mm, F1.0, Athermalized   | 9.1 mm, F1.0, Athermalized | 18.0 mm, F1.0, Athermalized | 8.7 mm, F1.0, Athermalized   | 18.0 mm, F1.0, Athermalized | 36.0 mm, F1.0, Athermalized |
|                          | Angle of View (H x V)         | 45.9° x 36.5°  | 21.6° x 17.0°              | 10.8° x 8.4°                | 50.7° x 40.4°  | 24.3° x 19.3°               | 12.2° x 9.7°                |
| <b>IMAGE CONTROL</b>     | Image Compression Method      | H.264 (MPEG-4 Part 10/AVC), Motion JPEG  |                            |                             |  |                             |                             |
|                          | Streaming                     | Multi-stream H.264 & MJPEG   |                            |                             |  |                             |                             |
|                          | Bandwidth Management          | Idle Scene Mode, HDSM SmartCodec Technology  |                            |                             |  |                             |                             |
|                          | Motion Detection              | Pixel and Classified Objects   |                            |                             |  |                             |                             |
|                          | Tamper Detection              | Yes  |                            |                             | N/A  |                             |                             |
|                          | Privacy Zones                 | Up to 64 Zones   |                            |                             |  |                             |                             |
|                          | Audio Compression Method      | G.711 PCM 8kHz   |                            |                             |  |                             |                             |
| <b>NETWORK</b>           | Network                       | 100BASE-TX   |                            |                             |  |                             |                             |
|                          | Cabling Type                  | CAT5   |                            |                             |  |                             |                             |
|                          | Connector                     | RJ-45  |                            |                             |  |                             |                             |
|                          | ONVIF                         | ONVIF® compliant with Profile S and Profile T ( <a href="http://www.onvif.org">www.onvif.org</a> )                                 |                            |                             | ONVIF® compliant with Profile S ( <a href="http://www.onvif.org">www.onvif.org</a> )             |                             |                             |
|                          | 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  |                            |                             |  |                             |                             |
|                          | Device Management Protocols   | SNMP v2c, SNMP v3  |                            |                             |  |                             |                             |
| <b>PERIPHERALS</b>       | USB Port                      | USB 2.0  |                            |                             |  |                             |                             |
|                          | 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  |                            |                             |  |                             |                             |
| <b>MECHANICAL</b>        | 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)         |                             |  | 1.92 kg (4.23 lbs)          |                             |
|                          |                               | Mounting Bracket   | 0.21 kg (0.46 lbs)         |                             |  |                             |                             |
|                          | Body                          | Aluminium  |                            |                             |  |                             |                             |
|                          | Housing                       | Surface mount, tamper resistant  |                            |                             |  |                             |                             |
|                          | Finish                        | Powder coat, RAL 9003  |                            |                             |  |                             |                             |
|                          | Adjustment Range              | ±175° pan, ±90° tilt, ±175° azimuth  |                            |                             |  |                             |                             |
| <b>ELECTRICAL</b>        | Power Consumption             | 8W   |                            |                             | 9W   |                             |                             |
|                          | Power Source                  | VDC: 12V +/- 10%, 8W min. VAC: 24V +/- 10%, 15VA min. PoE: IEEE802.3af Class 3 compliant   |                            |                             | VDC: 12V +/- 10%, 9W min. VAC: 24V +/- 10%, 15VA min. PoE: IEEE802.3af Class 3 compliant         |                             |                             |
|                          | RTC Backup Battery            | 3V manganese lithium   |                            |                             |  |                             |                             |
| <b>ENVIRONMENTAL</b>     | Operating Temperature         | -40 °C to +65 °C (-40 °F to 149 °F)  |                            |                             |  |                             |                             |
|                          | Storage Temperature           | -10 °C to +70 °C (14 °F to 158 °F)   |                            |                             |  |                             |                             |
|                          | Humidity                      | 0 - 93% non-condensing   |                            |                             |  |                             |                             |
| <b>CERTIFICATIONS</b>    | Certifications/Directives     | UL, cUL, CE, ROHS, Reach (SVHC), WEEE, RCM, EAC  |                            |                             | UL, cUL, CE, ROHS, Reach (SVHC), WEEE, RCM   |                             |                             |
|                          | Safety                        | UL 62368-1, CSA 62368-1, IEC/EN 62368-1  |                            |                             |  |                             |                             |
|                          | Environmental                 | UL/CSA/IEC 60950-22, IEC 60529 IP66 Weather Rating, IK10 Impact Rating (including window)  |                            |                             | UL/CSA/IEC 60950-22, IEC 60529 IP66 and IP67 Weather Rating, IK10 Impact Rating (enclosure only) |                             |                             |
|                          | Electromagnetic Emissions     | FCC Part 15 Subpart B Class B, IC ICES-003 Class B, EN 55032 Class B, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3                     |                            |                             |  |                             |                             |
|                          | Electromagnetic Immunity      | EN 55024, EN 61000-6-1, EN 50130-4   |                            |                             | EN 55024, EN 61000-6-1   |                             |                             |

**SUPPORTED VIDEO ANALYTIC EVENTS**

|                               |  |
|-------------------------------|--|
| Objects in Area               | The event is triggered when the selected object type moves into the region of interest.  |
| Object Loitering              | The event is triggered when the selected object type stays within the region of interest for an extended amount of time.   |
| Objects Crossing Beam         | The event is triggered when the specified number of objects have crossed the directional beam that is configured over the camera's field of view. The beam can be unidirectional or bidirectional. |
| Object Appears or Enters Area | The event is triggered by each object that enters the region of interest. This event can be used to count objects.   |
| Object Not Present in Area    | The event is triggered when no objects are present in the region of interest   |
| Objects Enter Area            | The event is triggered when the specified number of objects have entered the region of interest.   |
| Objects Leave Area            | The event is triggered when the specified number of objects have left the region of interest.  |
| Object Stops in Area          | The event is triggered when an object in a region of interest stops moving for the specified threshold time.   |
| Direction Violated            | The event is triggered when an object moves in the prohibited direction of travel.   |
| Tamper Detection              | The event is triggered when the scene unexpectedly changes.  |

**CLASSIFIED OBJECT DETECTION RANGE**

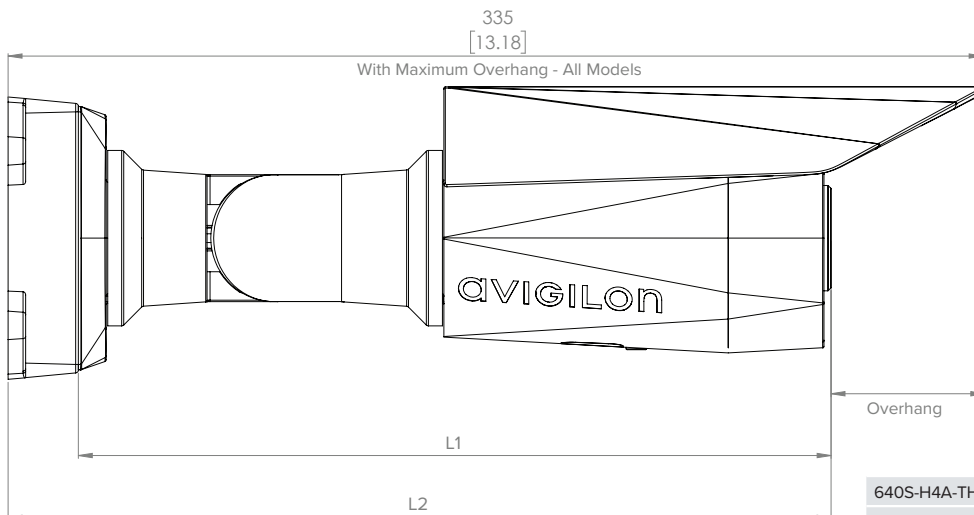
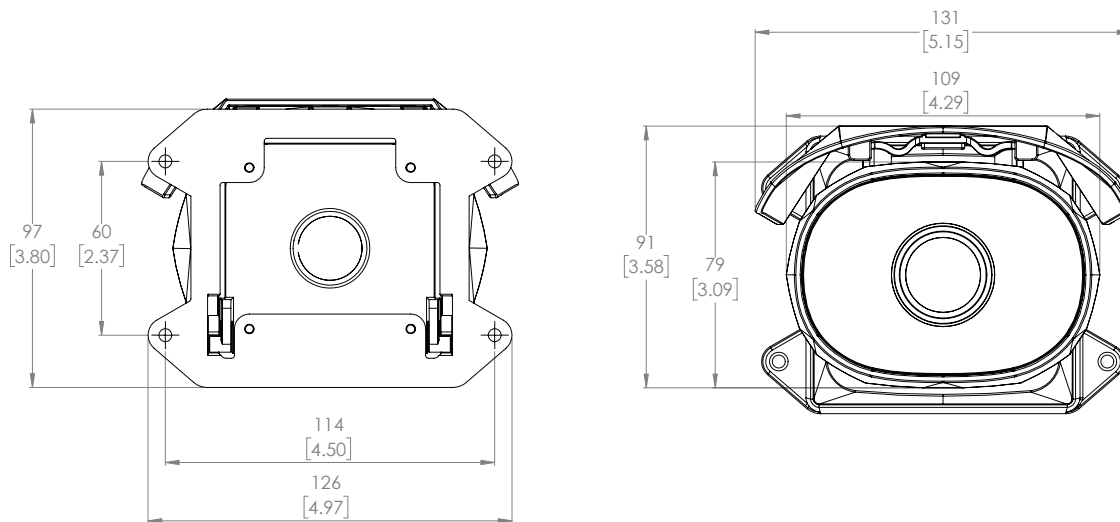
| FOCAL LENGTH | RESOLUTION | VIEWING ANGLE (H X V) | HUMAN        | VEHICLE      |
|--------------|------------|-----------------------|--------------|--------------|
| 4.3 mm       | 320 x 256  | 45.9° x 36.5°         | 68m (224')   | 80m (263')   |
| 9.1 mm       | 320 x 256  | 21.6° x 17.0°         | 150m (493')  | 160m (525')  |
| 18 mm        | 320 x 256  | 10.8° x 8.4°          | 220m (722')  | 225m (739')  |
| 8.7 mm       | 640 x 512  | 50.7° x 40.4°         | 120m (394')  | 142m (466')  |
| 18 mm        | 640 x 512  | 24.3° x 19.3°         | 210m (689')  | 225m (739')  |
| 36 mm        | 640 x 512  | 12.2° x 9.7°          | 310m (1017') | 319m (1047') |

The detection ranges may vary in different weather conditions.

# Outline Dimensions

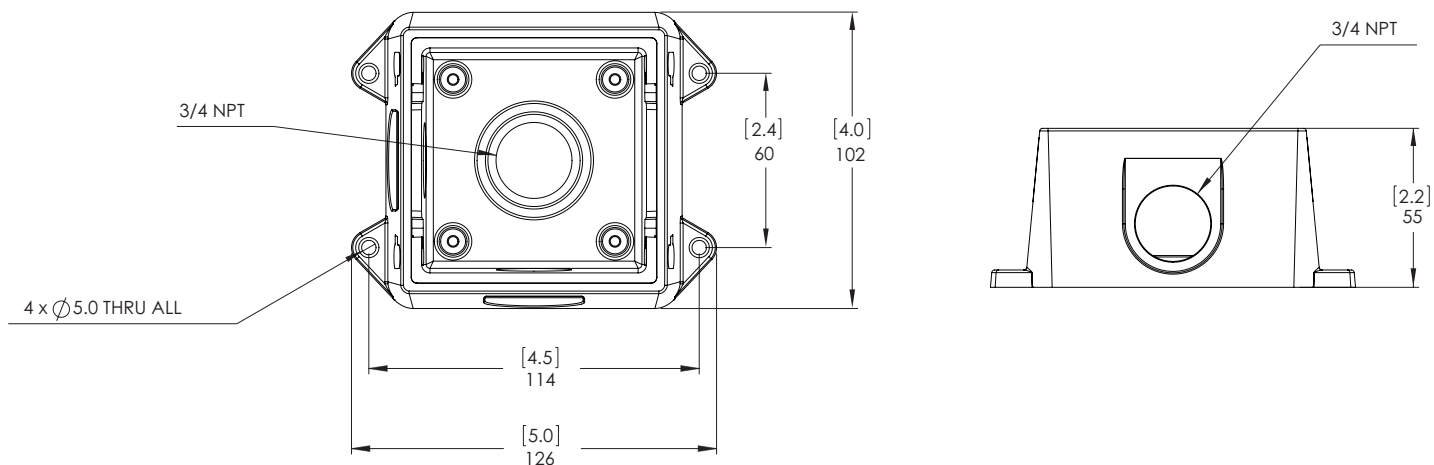
## Camera

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



|                   | L1              | L2              |
|-------------------|-----------------|-----------------|
| 640S-H4A-THC-BO12 | 276 mm (10.87") | 300 mm (11.81") |
| All other models  | 257 mm (10.14") | 281 mm (11.08") |

# Junction Box



## Ordering Information

|                   | Resolution | NETD    | Lens   | HDSM SmartCodec |
|-------------------|------------|---------|--------|-----------------|
| 320S-H4A-THC-BO50 | 320 x 256  | < 60 mK | 4.3 mm | ✓               |
| 320S-H4A-THC-BO24 | 320 x 256  | < 60 mK | 9.1 mm | ✓               |
| 320S-H4A-THC-BO12 | 320 x 256  | < 60 mK | 18 mm  | ✓               |
| 640S-H4A-THC-BO50 | 640 x 512  | < 60 mK | 8.7 mm | ✓               |
| 640S-H4A-THC-BO24 | 640 x 512  | < 60 mK | 18 mm  | ✓               |
| 640S-H4A-THC-BO12 | 640 x 512  | < 60 mK | 36 mm  | ✓               |

|                |                                       |
|----------------|---------------------------------------|
| H4-BO-JBOX1    | Junction box for H4 HD Bullet Cameras |
| H4-MT-POLE1    | Aluminum pole mounting bracket        |
| H4-MT-CRNR1    | Aluminum corner mounting bracket      |
| H4-AC-WIFI2-NA | USB Wifi Adapter                      |
| H4-AC-WIFI2-EU | USB Wifi Adapter                      |