

# H4 HD Indoor Dome Camera with Self-Learning Video Analytics

Avigilon offers a broad range of high definition cameras – from 1 – 5 MP and 4 – 7K (based on horizontal resolution) – and are available in a variety of formats, including dome, panoramic and fixed. Whether it’s a small storefront that requires a few cameras or a large complex system requiring complete coverage of numerous areas, you can trust that you’re getting an exceptional solution for your security needs.

The innovative H4 HD indoor dome cameras are just one way Avigilon can help provide effective monitoring and protection.



The H4 HD indoor dome cameras are a great solution for monitoring both daytime and nighttime activities. Embedded with self-learning video analytics, the H4 HD cameras seamlessly integrate with Avigilon Control Center (ACC)<sup>TM</sup>, allowing security personnel to respond proactively and mitigate an incident before damage is done. They feature an integrated lens for remote focus and zoom control and are ONVIF compliant for easy integration.

Avigilon’s indoor dome cameras are equipped with new Triple Exposure Ultra-Wide Dynamic Range (WDR) and patented LightCatcher<sup>TM</sup> technology, ensuring you receive excellent image detail. P-Iris control also allows the cameras to automatically set their iris position to enhance image quality in all lighting conditions, while onboard storage capabilities let you manage storage directly on the cameras using a standard SD memory card. Avigilon HDSM SmartCodec technology<sup>TM</sup> H4 platform optimizes the video stream in real time using automatic ROI encoding to save bandwidth and storage requirements while maintaining image quality.

## KEY FEATURES

|   |
|---|
| 1-5 megapixel and 4K Ultra HD (8 MP ) resolution  |
| Patented Advanced Video Pattern Detection and Teach by Example Technology   |
| Self-learning video analytics   |
| Patented High Definition Stream Management (HDSM) <sup>TM</sup> Technology  |
| Wi-Fi camera configuration support  |
| Available with 3-9 mm F1.3, 4.3-8 mm F1.8, or 9-22 mm F1.6 P-Iris lens with remote focus and zoom   |
| Zoom and content adaptive integrated IR (Infrared) LEDs provide uniform illumination in the dark, even at 0 lux, up to a maximum of 30 m (98 ft) away |
| Avigilon LightCatcher technology provides exceptional image quality in low light environments (1-5 MP models)   |
| Triple Exposure Ultra Wide Dynamic Range (1-3 MP models)  |
| ONVIF compliant with version 2.2.0 of the Analytics Service Specification   |
| Avigilon HDSM SmartCodec technology for reduce bandwidth and storage requirements   |
| Idle Scene Mode lowers bandwidth and storage usage if there are no motion events detected in the scene  |
| Full Feature or High Framerate camera operating modes (4K Ultra HD model)   |
| Vandal resistant construction   |

# Specifications

|                           |   | 1.0 MP   | 2.0 MP      | 3.0 MP                                | 5.0 MP   | 4K ULTRA HD (8.0 MP)   |
|---------------------------|---|--|-------------|---------------------------------------|--|--|
| <b>IMAGE PERFORMANCE</b>  | Image Sensor                                      | 1/2.8" progressive scan CMOS   |             |                                       | 1/1.8" progressive scan CMOS   | 1/2.3" progressive scan CMOS                                       |
|                           | Aspect Ratio                                      | 16:9   |             | 4:3                                   |  | 16:9   |
|                           | Active Pixels (H x V)                             | 1280 x 720   | 1920 x 1080 | 2048 x 1536                           | 2592 x 1944  | 3840 x 2160  |
|                           | Imaging Area (H x V)                              | 4.8 mm x 2.7mm;<br>0.189" x 0.106"                                     |             | 5.12 mm x 3.84 mm;<br>0.202" x 0.151" | 6.22 mm x 4.66 mm<br>0.245" x 0.183  | 5.95 mm x 3.35 mm<br>0.234" x 0.132"                               |
|                           | IR Illumination (option) (High Power 850 nm LEDs) | 30 m (98 ft) max. distance at 0 lux                                    |             |                                       |  | 15 m (50 ft) max distance at 0 lux                                 |
|                           | Minimum Illumination                              | 0.04 lux (F1.3) in color mode; 0.008 lux (F1.3) in monochrome mode     |             |                                       | N/A  | N/A  |
|                           | 3 - 9 mm lens:                                    | N/A  |             |                                       | 0.033 lux (F1.8) in color mode; 0.0066 lux (F1.8) in monochrome mode                         | 0.29 lux (F1.8) in color mode; 0.058 lux (F1.8) in monochrome mode |
|                           | 4.3 - 8 mm lens:                                  | N/A  |             |                                       | 0.026 lux (F1.6) in color mode; 0.005 lux (F1.6) in monochrome mode                          | N/A  |
|                           | 9 - 22 mm lens:                                   | 0.08 lux (F1.6) in color mode; 0.016 lux (F1.6) in monochrome mode     |             |                                       | 0.026 lux (F1.6) in color mode; 0.005 lux (F1.6) in monochrome mode                          | N/A  |
|                           | Image Rate (full resolution)                      | 30 fps   |             | 30 fps (20 fps with WDR enabled)      | 30 fps   | 20 fps (30 fps in High Framerate mode)                             |
|                           | Dynamic Range                                     | 67 dB  |             |                                       | 83 dB  | 91 dB  |
|                           | Dynamic Range (WDR enabled)                       | 120 dB triple exposure (20 fps or less); 100 dB dual exposure (30 fps) |             |                                       | N/A  | N/A  |
|                           | Resolution Scaling                                | Down to 768 x 432  |             |                                       | Down to 1792 x 1344  | Down to 3072 x 1728  |
| Camera Operating Mode     | N/A   |  |             |                                       | Full Feature or High Framerate mode (HDSM 2.0 and analytics disabled in High Framerate mode) |  |
| 3D Noise Reduction Filter | Yes   |  |             |                                       |  |  |

| <b>LENS</b>     | Lens          | 3 - 9 mm lens:   | F1.3, P-Iris, remote focus and zoom |           |           |
|-----------------|---------------|------------------|-------------------------------------|-----------|-----------|
|                 |               | 4.3 - 8 mm lens: | F1.8, P-Iris, remote focus and zoom |           |           |
|                 |               | 9 - 22 mm lens:  | F1.6, P-Iris, remote focus and zoom |           |           |
|                 | Angle of View | 3 - 9 mm lens:   | 30° – 91°                           | 32° – 98° | N/A       |
|                 |               | 4.3 - 8 mm lens: | N/A                                 | N/A       | 46° – 86° |
| 9 - 22 mm lens: |               | 14° – 29°        | 15° – 31°                           | 18° – 41° |           |
|                 |               |                  |                                     | 44° – 81° |           |
|                 |               |                  |                                     | N/A       |           |

|                      |                            |   |  |  |  |  |
|----------------------|----------------------------|---|--|--|--|--|
| <b>IMAGE CONTROL</b> | Video Compression          | H.264 (MPEG-4 Part 10/AVC), Motion JPEG, HDSM SmartCodec Technology |  |  |  |  |
|                      | Streaming                  | Multi-stream H.264 and Motion JPEG                                  |  |  |  |  |
|                      | Bandwidth Management       | (1.0 - 3.0 MP) HDSM; (5.0 MP and 4K Ultra HD) HDSM 2.0              |  |  |  |  |
|                      | Motion Detection           | Pixel and Classified Objects  |  |  |  |  |
|                      | Camera Tampering Detection | Yes   |  |  |  |  |
|                      | Electronic Shutter Control | Automatic, Manual (1/6 to 1/8000 sec)                               |  |  |  |  |
|                      | Iris Control               | Automatic, Manual   |  |  |  |  |
|                      | Day/Night Control          | Automatic, Manual   |  |  |  |  |
|                      | Flicker Control            | 50 Hz, 60 Hz  |  |  |  |  |
|                      | White Balance              | Automatic, Manual   |  |  |  |  |
|                      | Backlight Compensation     | Adjustable  |  |  |  |  |
|                      | Privacy Zones              | Up to 64 zones  |  |  |  |  |
|                      | Audio Compression Method   | G.711 PCM 8 kHz   |  |  |  |  |
|                      | Audio Input/Output         | Line level input/output, A/V mini-jack (3.5 mm)                     |  |  |  |  |
|                      | Video Output               | (1.0 - 2.0 MP only) NTSC/PAL, A/V mini-jack (3.5 mm)                |  |  |  |  |
|                      | External I/O Terminals     | Alarm In, Alarm Out   |  |  |  |  |
|                      | USB Port                   | USB 2.0   |  |  |  |  |

|                |                             |  |
|----------------|-----------------------------|--|
| <b>NETWORK</b> | Network                     | 100BASE-TX   |
|                | Cabling Type                | CAT5   |
|                | Connector                   | RJ-45  |
|                | ONVIF                       | ONVIF compliant with version 1.02, 2.00, Profile S and 2.2.0 of the Analytics Service Specification (bounding boxes and scene descriptions not available with third-party VMS) |
|                | Security                    | Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication   |
|                | Protocol                    | 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>MECHANICAL</b> |   | <b>SURFACE MOUNT INDOOR DOME CAMERA</b>       | <b>IN-CEILING DOME CAMERA</b>                 |
|-------------------|---|---|---|
|                   | Dimensions (LxWxH)  | 163 mm x 163 mm x 118 mm (6.4" x 6.4" x 4.7") | 181 mm x 181 mm x 164 mm (7.1" x 7.1" x 6.5") |
| Weight            | 0.95 kg (2.09 lbs)  | 1.6 kg (3.5 lbs)                              |   |
| Dome Bubble       | Polycarbonate, clear  |   |   |
| Body              | Plastic, Aluminum   | Plastic, Aluminum                             |   |
| Housing           | Surface mount, tamper resistant   | Recessed mount, tamper resistant              |   |
| Finish            | Plastic, gray   | Plastic, gray; Aluminum, powder coat, black   |   |
| Adjustment Range  | 360° pan, 9° - 95° tilt (30° - 95° tilt with -IR option), ±180° azimuth |   |   |
| Onboard Storage   | SD/SDHC/SDXC slot – minimum class 4; class 6 or better recommended      |   |   |

|                       |                           |  |     |                     |                  |              |                            |                                    |              |          |
|-----------------------|---------------------------|--|-----|---------------------|------------------|--------------|----------------------------|------------------------------------|--------------|----------|
| <b>ELECTRICAL</b>     | Power Consumption         | 7 W (9 W for -IR option)   |     |                     |                  |              |                            |                                    |              |          |
|                       | Power Source              | VDC: 12 V +/- 10%, 7 W min (9 W min with -IR option)<br>VAC: 24 V +/- 10%, 10 VA min (13 VA min with -IR option) |     |                     |                  |              |                            | PoE: IEEE802.3af Class 3 compliant |              |          |
|                       | Power Connector           | 2-pin terminal block   |     |                     |                  |              |                            |                                    |              |          |
|                       | RTC Backup Battery        | 3V manganese lithium   |     |                     |                  |              |                            |                                    |              |          |
| <b>ENVIRONMENTAL</b>  | Operating Temperature     | -40 °C to +60 °C (-40 °F to 140 °F)<br>(8.0 MP only) -40 °C to +50 °C (-40 °F to 122 °F)                         |     |                     |                  |              |                            |                                    |              |          |
|                       | Storage Temperature       | -10 °C to +70 °C (14 °F to 158 °F)   |     |                     |                  |              |                            |                                    |              |          |
|                       | Humidity                  | 0 - 95% non-condensing   |     |                     |                  |              |                            |                                    |              |          |
| <b>CERTIFICATIONS</b> | Certifications            | UL   | cUL | CE                  | ROHS             | WEEE         | RCM                        | EAC                                | KC           | BIS      |
|                       | Safety                    | UL 60950-1   |     | CSA 60950-1         | IEC/EN 60950-1   |              | IEC 62471 (for -IR option) |                                    |              |          |
|                       | Environmental             | IK10 Impact Rating   |     |                     |                  |              |                            |                                    |              |          |
|                       | 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 | EN 55011 |
|                       | Electromagnetic Immunity  | EN 55024   |     |                     |                  | EN 61000-6-1 |                            |                                    |              |          |

|  |                               |  |
|--|-------------------------------|--|
| <b>SUPPORTED<br/>RULE BASED VIDEO<br/>ANALYTICS<br/>EVENTS**</b> | 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.  |

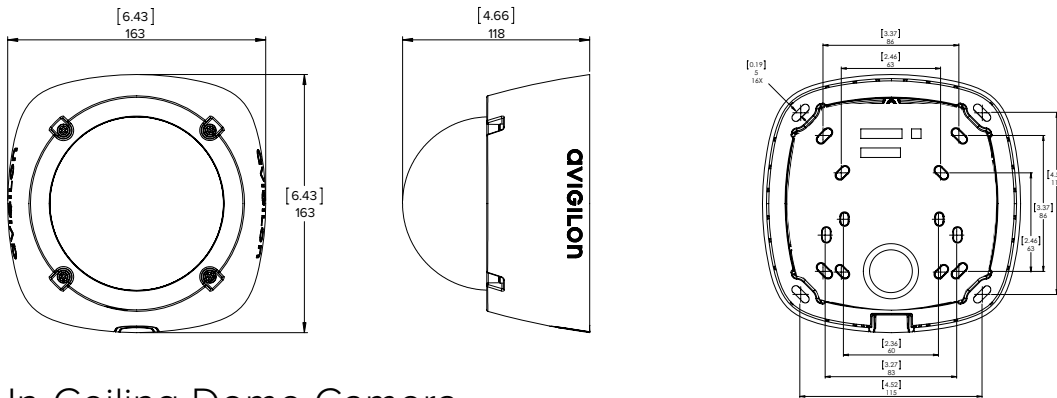
\*\* Rule based and UMD Analytics cannot operate at the same time .

|   |                                |  |
|---|--------------------------------|--|
| <b>SUPPORTED<br/>VIDEO ANALYTICS<br/>EVENTS</b> | Unusual Motion Detection (UMD) | Detects and tags recorded video based on unusual speed, direction, and location of motion. |
|---|--------------------------------|--|

## Outline Dimensions

### Surface Mount Dome Camera

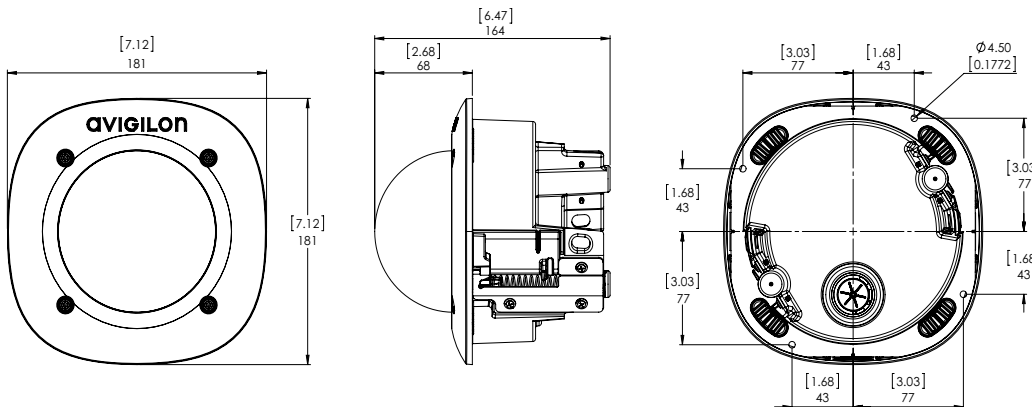
(H4A-D)



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

### In-Ceiling Dome Camera

(H4A-DC)



# Ordering Information

| SURFACE MOUNT INDOOR DOME CAMERAS | MP  | WDR | LightCatcher Technology | Analytics | Lens       | IR | HDSM SmartCodec |
|-----------------------------------|-----|-----|-------------------------|-----------|------------|----|-----------------|
| 1.0C-H4A-D1(-B)*                  | 1.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   |    | ✓               |
| 1.0C-H4A-D1-IR(-B)*               | 1.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   | ✓  | ✓               |
| 1.0C-H4A-D2(-B)*                  | 1.0 | ✓   | ✓                       | ✓         | 9 - 22 mm  |    | ✓               |
| 2.0C-H4A-D1(-B)*                  | 2.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   |    | ✓               |
| 2.0C-H4A-D1-IR(-B)*               | 2.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   | ✓  | ✓               |
| 2.0C-H4A-D2(-B)*                  | 2.0 | ✓   | ✓                       | ✓         | 9 - 22 mm  |    | ✓               |
| 3.0C-H4A-D1(-B)*                  | 3.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   |    | ✓               |
| 3.0C-H4A-D1-IR(-B)*               | 3.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   | ✓  | ✓               |
| 3.0C-H4A-D2(-B)*                  | 3.0 | ✓   | ✓                       | ✓         | 9 - 22 mm  |    | ✓               |
| 5.0L-H4A-D1(-B)*                  | 5.0 |     | ✓                       | ✓         | 4.3 - 8 mm |    | ✓               |
| 5.0L-H4A-D2(-B)*                  | 5.0 |     | ✓                       | ✓         | 9 - 22 mm  |    | ✓               |
| 5.0L-H4A-D1-IR(-B)*               | 5.0 |     | ✓                       | ✓         | 4.3 - 8 mm | ✓  | ✓               |
| 8.0-H4A-D1(-B)*                   | 8.0 |     |                         | ✓         | 4.3 - 8 mm |    | ✓               |
| 8.0-H4A-D1-IR(-B)*                | 8.0 |     |                         | ✓         | 4.3 - 8 mm | ✓  | ✓               |

\* These models are physically identical. (-B)\* depicts an updated hardware version.

|                 |  |
|-----------------|--|
| H4A-DD-SMOK1    | Indoor Dome Camera Cover with Smoked Bubble                |
| H4A-DD-CLER1    | Indoor Dome Camera Cover with Clear Bubble                 |
| H4A-DD-SMOK1-BL | Black Indoor Dome Camera Cover with Smoked Bubble          |
| H4A-DD-CLER1-BL | Black Indoor Dome Camera Cover with Clear Bubble           |
| H4A-DD-SDWL1    | Indoor Dome Camera Sidewall Knockout Plug, Pack of 5       |
| H4A-DD-SDWL1-BL | Indoor Black Dome Camera Sidewall Knockout Plug, Pack of 5 |
| H4A-AC-GROM1    | Camera Sealing Grommet, Pack of 10                         |
| H4-AC-WIFI1-NA  | USB Wi-Fi Adapter  |
| H4-AC-WIFI2-EU  | USB Wi-Fi Adapter  |
| CM-AC-AVIO1     | 3.5 mm Jack with 1.8 m Fly Wires                           |

| IN-CEILING DOME CAMERAS | MP  | WDR | LightCatcher Technology | Analytics | Lens       | HDSM SmartCodec |
|-------------------------|-----|-----|-------------------------|-----------|------------|-----------------|
| 1.0C-H4A-DC1(-B)*       | 1.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   | ✓               |
| 1.0C-H4A-DC2(-B)*       | 1.0 | ✓   | ✓                       | ✓         | 9 - 22 mm  | ✓               |
| 2.0C-H4A-DC1(-B)*       | 2.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   | ✓               |
| 2.0C-H4A-DC2(-B)*       | 2.0 | ✓   | ✓                       | ✓         | 9 - 22 mm  | ✓               |
| 3.0C-H4A-DC1(-B)*       | 3.0 | ✓   | ✓                       | ✓         | 3 - 9 mm   | ✓               |
| 3.0C-H4A-DC2(-B)*       | 3.0 | ✓   | ✓                       | ✓         | 9 - 22 mm  | ✓               |
| 5.0L-H4A-DC1(-B)*       | 5.0 |     | ✓                       | ✓         | 4.3 - 8 mm | ✓               |
| 5.0L-H4A-DC2(-B)*       | 5.0 |     | ✓                       | ✓         | 9 - 22 mm  | ✓               |
| 8.0-H4A-DC1(-B)*        | 8.0 |     |                         | ✓         | 4.3 - 8 mm | ✓               |

\* These models are physically identical. (-B)\* depicts an updated hardware version.

|                 |   |
|-----------------|---|
| H4A-DC-SMOK1    | In-Ceiling Dome Camera Cover with Smoked Bubble       |
| H4A-DC-CLER1    | In-Ceiling Dome Camera Cover with Clear Bubble        |
| H4A-DC-SMOK1-BL | Black In-Ceiling Dome Camera Cover with Smoked Bubble |
| H4A-DC-CLER1-BL | Black In-Ceiling Dome Camera Cover with Clear Bubble  |
| H4-DC-CPNL1     | Metal Ceiling Panel                                   |
| H4A-AC-GROM1    | Camera Sealing Grommet, Pack of 10                    |
| H4-AC-WIFI1-NA  | USB Wi-Fi Adapter                                     |
| H4-AC-WIFI2-EU  | USB Wi-Fi Adapter                                     |
| CM-AC-AVIO1     | 3.5 mm Jack with 1.8 m Fly Wires                      |