

[Datasheet](#)[4 MP](#)[8 MP](#)

Compliant with NDAA 2019  
Section 889

# H6XP Bullet Camera

## Flexibility And Compliance At Your Fingertips



Combine multiple use cases into one with the Avigilon **H6XP Short Bullet Camera**, empowering you to do more with less. It includes an IoT hub that provides compatibility with Z-Wave devices, such as panic buttons and sensors, making the camera more powerful and reducing ownership costs.



### Z-Wave compatible

Connect with Z-Wave compatible devices to enhance control and integrate with existing systems. Expand the camera's intelligence to cover multiple use cases, all while reducing costs.



### Audio analytics & recording

Stay alert with real-time notifications for gunshots<sup>1</sup>, breaking glass, screaming and more. Quickly review video from the triggering camera and choose to record audio as needed.



### Low-light clarity

Capture clear images even in total darkness with our IR cameras. Both camera forms offer low-light visibility, minimizing maintenance while ensuring consistent performance in all conditions.

<sup>1</sup>Separate license required.



### AI-powered video analytics

Be proactive with advanced analytics that detect unusual crowds or people crawling near your perimeter. Classify more objects with event support, including vans and various trucks.



### Dynamic privacy masking

Preserve people's privacy by tracking and blurring people and vehicles appearing on camera, with the flexibility for authorized personnel to lift it during investigations.



### Secure & Compliant

Trust that your data is well-protected with advanced cybersecurity features such as an onboard FIPS 140-2 level 3 compliant TPM and Secure Boot.

For more information, visit [avigilon.com/security-cameras/h6xp-bullet](http://avigilon.com/security-cameras/h6xp-bullet).



# Specifications

| IMAGE PERFORMANCE                       |                    | 4.0 MP   | 8.0 MP (4K ULTRA HD)  |  |  |  |
|---|--------------------|--|---|--|--|--|
| Image Sensor                            |                    | 1/1.8" progressive scan CMOS   |   |  |  |  |
| Max Resolution (H x V) and Aspect Ratio | Primary            | (16:9) 2688 x 1520, 2560 x 1440, 1920 x 1080<br>(4:3) 1984 x 1488  | (16:9) 3840 x 2160, 3328 x 1872, 3200 x 1800, 3072 x 1728<br>(4:3) 2880 x 2160, 2560 x 1920   |  |  |  |
|   | Secondary          | (16:9) 2688 x 1520*, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288<br>(4:3) 1984 x 1488*, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384, 384 x 288; | (16:9) 3840 x 2160*, 2560 x 1440, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288<br>(4:3) 2880 x 2160*, 2560 x 1920, 2304 x 1728, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384 |  |  |  |
|   | Tertiary           | (16:9) 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216<br>(4:3) 1280 x 960, 800 x 600, 640 x 480, 512 x 384, 368 x 264  | (16:9) 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216<br>(4:3) 1920 x 1440, 1600 x 1200, 1280 x 960, 800 x 600, 640 x 480, 512 x 384, 384 x 288, 368 x 264                                   |  |  |  |
| Dynamic Range                           | WDR Off            | Up to 83 dB  |   |  |  |  |
|   | WDR On (IEC 62676) | Up to 106dB (dual exposure, 30 fps) Up to 136dB (triple exposure, 20 fps or less)  | Up to 130dB (dual exposure, 30 fps)   |  |  |  |
|   | WDR On             | Up to 120dB (dual exposure, 30 fps) Up to 144dB (triple exposure, 20 fps or less)  | Up to 144 dB (dual exposure, 20 fps or less)  |  |  |  |
| Max Image Rate <sup>1</sup>             |                    | (50 Hz/60 Hz): 50 fps/60 fps in High Frame Rate Mode <sup>2</sup> , otherwise 25 fps/30 fps  | (50 Hz/60 Hz): 25 fps/30 fps  |  |  |  |
| Bandwidth Management                    |                    | HDSM SmartCodec technology; Idle scene mode  |   |  |  |  |
| Signal-to-Noise Ratio(SNR)              |                    | > 50 dB  |   |  |  |  |

\*Only available at half frame rate of the primary stream.

<sup>1</sup> Max Frame Rate of 15 fps when classified object privacy masking is enabled.

<sup>2</sup> Max Frame Rate of 60 fps is only achievable with High Frame Rate mode enabled. High Frame Rate mode will disable analytics.

## LENS AND IR ILLUMINATION

|  |  |
|--|--|
| IR Illumination Max Distance <sup>1</sup> (high power 850 nm LEDs) | 70 m (229 ft), full tele<br>30 m (131 ft), full wide   |
| Minimum Illumination   | 4 MP<br>With IR: 0 lux in monochrome mode<br>Without IR: 0.003 lux in monochrome mode; 0.008 lux in color mode |
|  | 8 MP<br>With IR: 0 lux in monochrome mode<br>Without IR: 0.006 lux in monochrome mode; 0.02 lux in color mode  |
| Horizontal Angle of View Based on Aspect Ratio                     | 4 MP<br>(16:9) 47° – 111°<br>(4:3) 35° – 78°   |
|  | 8 MP<br>(16:9) 47° – 109°<br>(4:3) 35° – 78°   |
| Vertical Angle of View Based on Aspect Ratio                       | 4 MP & 8 MP<br>(16:9) 26° – 57°<br>(4:3) 26° – 57°   |
| Max Aperture   | F1.3   |
| Control  | Remote Zoom and Focus, Autofocus, IR Cut Filter  |

<sup>1</sup> IR illumination power may be reduced at higher operating temperatures.



## IMAGE CONTROL

|                                |   |
|--------------------------------|---|
| Image Compression Method       | H.264 HDSM SmartCodec, H.265 HDSM SmartCodec, Motion JPEG                       |
| Streaming                      | Multi-stream H.264, Multi-stream H.265, Motion JPEG                             |
| Motion Detection               | Pixel motion: Selectable sensitivity and threshold. Classified object detection |
| Camera Tamper Detection        | Yes   |
| Electronic Shutter Control     | Automatic, Manual (1/7.5 to 1/15000 sec)  |
| Iris Control                   | Automatic, Open, Closed, P-iris   |
| Day/Night Control              | Automatic, Manual, External   |
| Flicker Control                | 60 Hz, 50 Hz  |
| White Balance                  | Automatic, Manual   |
| Backlight Compensation         | Adjustable  |
| Image Rotation                 | 0°, 90°, 180°, 270° including Corridor Mode                                     |
| Privacy Zones                  | Up to 64 zones  |
| Electronic Image Stabilization | Yes   |

## NETWORK

|                             |   |
|-----------------------------|---|
| Network                     | 100BASE-TX for H6A, 1000BASE-T for H6X  |
| Cabling                     | CAT5e   |
| Connector                   | RJ-45   |
| ONVIF                       | ONVIF® compliance Profile S, Profile T, Profile M and Profile G ( <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, FIPS 140-2 L1 (with optional camera license), onboard FIPS 140-2 L3 certified TPM, Secure Boot, Signed and encrypted firmware |
| Protocols                   | IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMPv3, ICMP, DHCP, Zeroconf, HSTS, QoS, DSCP   |
| Streaming Protocols         | RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP, SRTP   |
| Device Management Protocols | SNMP v2c, SNMP v3   |

## PERIPHERALS

|                              |   |
|------------------------------|---|
| USB Port                     | USB 2.0   |
| Onboard Storage <sup>2</sup> | Two microSD/microSDHC/microSDXC slots – video speed class card required. Class V10 or better recommended. |

<sup>2</sup> Tested maximum capacity is 1.5TB.

## AUXILIARY I/O

|                          |   |
|--------------------------|---|
| Audio Compression Method | G.711 PCM 8 kHz, Opus   |
| Audio Input/Output       | Line level input and output   |
| External I/O Terminals   | 1 x Relay In, 1 x Relay Out, 1 x 12 VDC out at 50 mA  |
| Microphone               | Built-in microphone for audio analytics, for certain variants, with physical disable switch |



## MECHANICAL

|                    |   |
|--------------------|---|
| Dimensions (LxWxH) | 311 mm x 133 mm x 133 mm; 12.23" x 5.23" x 5.23"                    |
| Weight             | Camera 2.11 kg; 4.65 lbs  |
|                    | Wall Plate 0.15 kg; 0.33 lbs  |
| Body               | Polycarbonate and aluminum  |
| Housing            | Backbox Mount   |
| Finish             | High polished plastic injection mold; Powdercoat grey, pantone 427C |
| Adjustment Range   | Hinge +/- 90°, Rotation +/- 175°                                    |

## ELECTRICAL

|                         |  |
|-------------------------|--|
| Power Consumption       | 25W Max  |
| Power Source            | PoE IEEE 802.3af Class 3   |
|                         | PoE+ IEEE 802.3at Class 4  |
| IR Illuminator Behavior | PoE Above 60 °C (140 °F), IR will be disabled. Between -5 °C (23 °F) and 55 °C (131 °F), IR operates at 30% power. Below -20 °C (-4 °F), IR operates at 10% power. Hysteresis at 5 °C (9 °F).                |
|                         | PoE+ or Aux Power Above 60 °C (140 °F), IR will be disabled. Between 50 °C (122 °F) and 60 °C (140 °F), IR operates at 50% power. Below -20 °C (-4 °F), IR operates at 50% power. Hysteresis at 5 °C (9 °F). |
| External Power          | 12-24 VDC +/-10%   |
| RTC Backup Battery      | 3V manganese lithium   |
| Memory                  | 4GB RAM, 4GB Flash   |
| Redundant Power         | Seamless failover between PoE and Aux and back without interrupt in camera operation   |

## ENVIRONMENTAL

|                              |  |
|------------------------------|--|
| Operating Temperature        | -50°C to +65°C (-58°F to 149°F)                          |
| Startup Temperature          | -40°C to +65°C (-40°F to 149°F)                          |
| Absolute Maximum Temperature | 74°C (165°F) per NEMA TS2 (Temp.) para 2.2.7.2 - 2.2.7.7 |
| Storage Temperature          | -10°C to +70°C (14°F to 158°F)                           |
| Humidity                     | 0 - 100% non-condensing                                  |

## CERTIFICATIONS

|                                     |   |
|-------------------------------------|---|
| Certifications/Approvals            | UL, cUL, FCC, IC, Z-Wave  |
| Safety Standards                    | UL 62368-1, CSA 62368-1, IEC/EN 62368-1, IEC 62471  |
| Environmental Standards/Ratings     | IEC 60529 IP66, IP67, IP68, IPX9K, NEMA 4X, IEC 60068-2 Shock & Vibration, NEMA TS2 Sec 2.2.7-2.2.9, IK10 |
| Electromagnetic Emissions Standards | FCC Part 15 Subpart B Class B, ICES-003 Class B   |
| Electromagnetic Immunity Standards  | N/A   |
| Radio                               | FCC Part 15 Subpart C, FCC KDB 447498, RSS-210, RSS-102   |
| Warranty                            | Limited 5 Year Warranty ( <a href="http://avigilon.com/warranty">avigilon.com/warranty</a> )              |



# Analytics Specifications

| SUPPORTED ANALYTICS EVENTS <sup>1</sup> |  |
|---|--|
| Objects in Area                         | The event is triggered when the selected object type moves into the region of interest. This event can be used to count objects.   |
| Object Loitering                        | The event is triggered when the selected object type moves into the region of interest and then stays 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.  |
| 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 moves into a region of interest and then stops moving for the specified threshold time.  |
| Direction Violated                      | The event is triggered when an object moves in the prohibited direction of travel.   |
| Smart Motion Rule                       | Events are sent for person (including crawling) and vehicle present, against default unchangeable parameters.  |
| Tamper Detection                        | The event is triggered when the scene unexpectedly changes.  |
| Crowd Size                              | This event is triggered when the number of people is exceeded over a configurable duration.  |
| Unusual Crowd Growth                    | This event is triggered when a crowd size grows unexpectedly.  |
| Unusual Crowd Size                      | This event is triggered when an unusual crowd size is detected.  |

<sup>1</sup> Analytics capabilities, including detection range, may vary by camera line. Please consult the Avigilon Self-Learning Video Analytics Design Guide for details.

| SUPPORTED CLASSIFIED OBJECT TYPES |   |
|-----------------------------------|---|
| Object Types in Outdoor Mode      | Vehicle, sub-types: Car, Pickup Truck, Large Truck, Van, Bicycle, Motorcycle, Bus<br>Person |
| Object Types in Indoor Mode       | Person  |

| TEACH BY EXAMPLE |  |
|------------------|--|
| Teach By Example | Yes, when used with Avigilon Control Center™ or Avigilon Unity Video |

| SUPPORTED AUDIO ANALYTICS EVENTS |                 |
|----------------------------------|-----------------|
| Scream                           | Up to 15 meters |
| Glass Break                      | Up to 15 meters |
| Car Alarm                        | Up to 30 meters |
| Smoke Alarm                      | Up to 15 meters |
| Dog Bark                         | Up to 15 meters |
| Tire Screech <sup>2</sup>        | Up to 15 meters |
| Loud Noise                       | Up to 40 meters |



## SUPPORTED AUDIO ANALYTICS EVENTS

|                                     |                 |
|-------------------------------------|-----------------|
| Ultrasonic Panic Alarm <sup>3</sup> | Up to 40 meters |
|-------------------------------------|-----------------|

<sup>2</sup> The detection range is limited to up to 8 meters in loud environments.

<sup>3</sup> The detection range is influenced by the quality and power of the device used to create the panic alarm.

## AVIGILON SOFTWARE SUPPORTED FEATURES

|                                    |   |
|------------------------------------|---|
| Avigilon Unity Video 8.4 or higher | All advanced Z-Wave compatibility features.   |
| Avigilon Unity Video 8.0 or higher | All supported analytic events with people and vehicles and all vehicle sub-types as classified objects. Appearance search when paired with appropriate server hardware. Unusual Activity Detection. H.265 supported. Audio analytics. Crowd analytics. Classified object privacy masking. |
| ACC Version 7.2 or higher          | All supported analytic events with people and vehicles as classified objects. Appearance search when paired with appropriate server hardware. Unusual Activity Detection. H.265 supported.  |

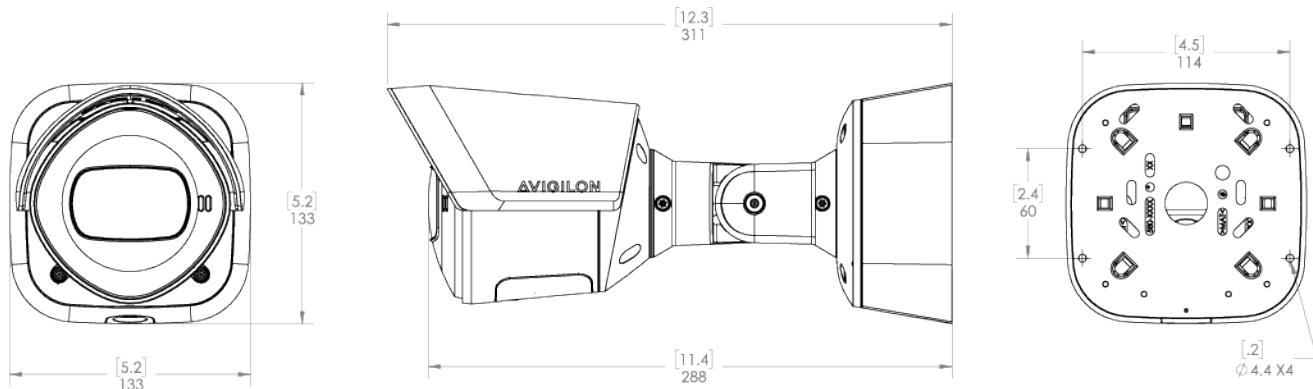


# Outline Dimensions

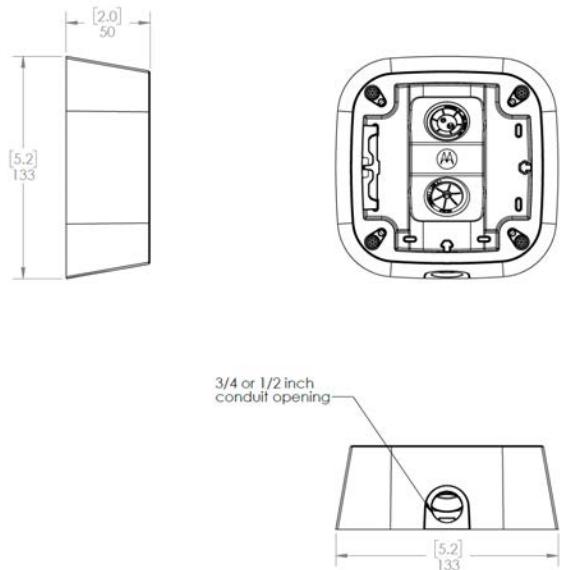
| [X.XX] | INCHES |
|--------|--------|
| X.X    | MM     |

## Short Bullet Camera

(H6XP-B01-IR)

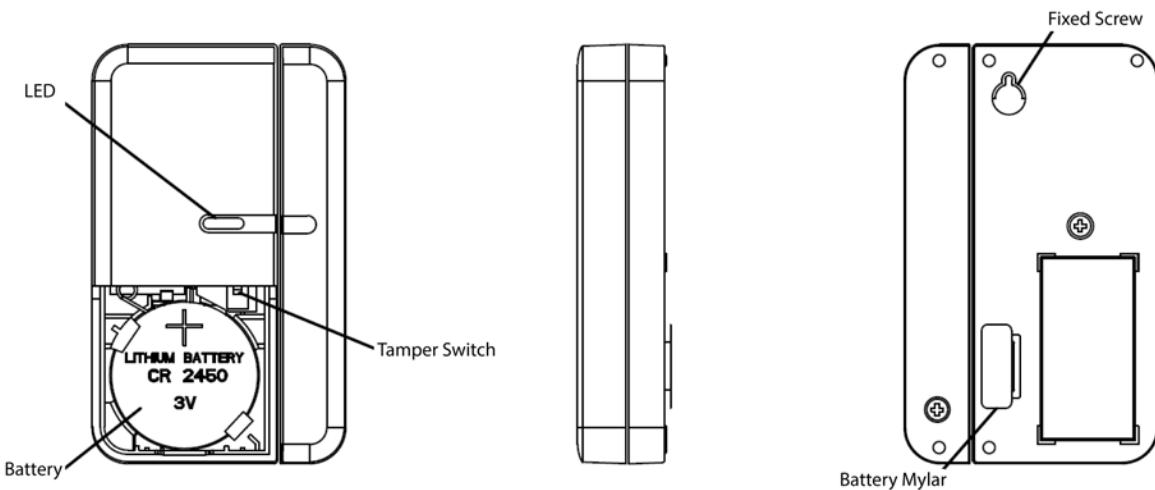


## Junction Box

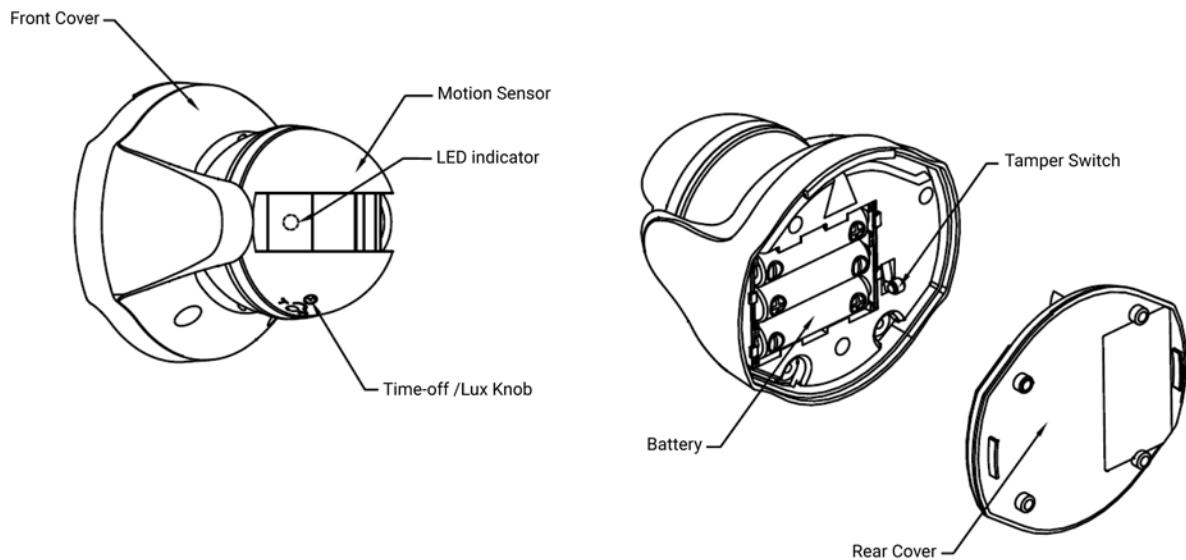


## Z-Wave Sensors

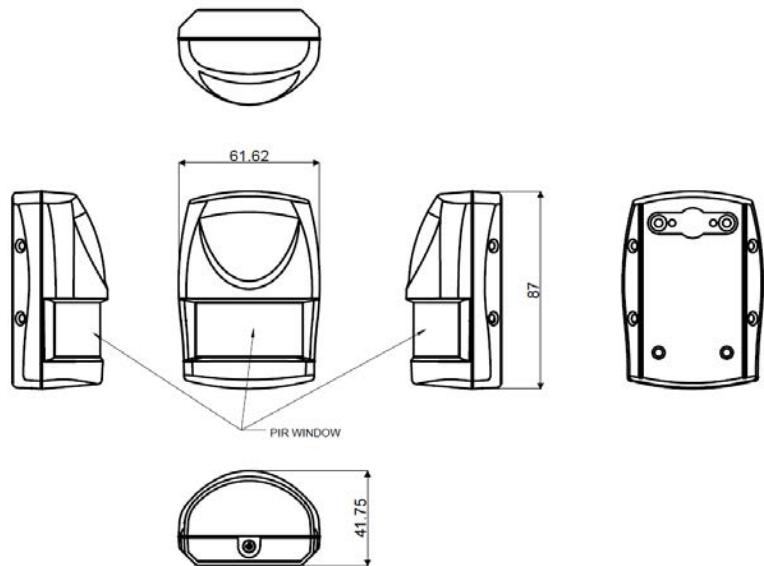
### Z-Wave Door Contact Sensor (SM810)



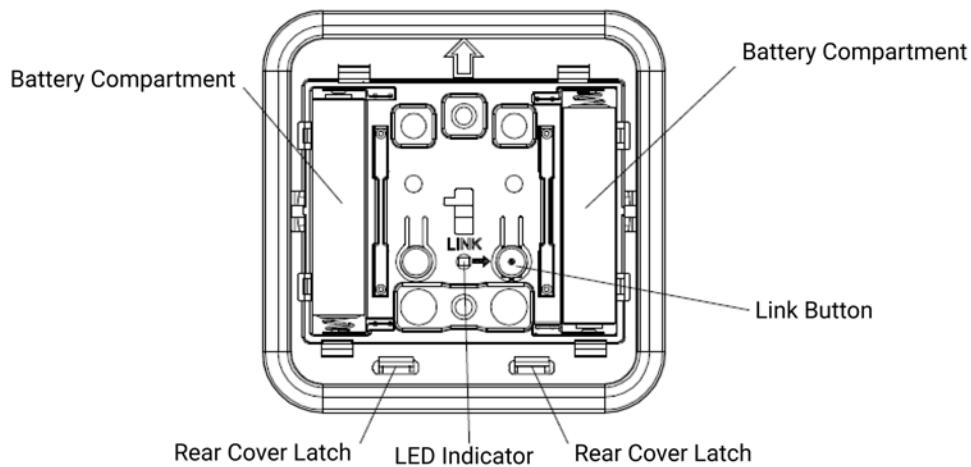
### Z-Wave Outdoor Motion Sensor (SP816)



## Z-Wave Indoor Motion Sensor (SP817)



## Z-Wave Panic Button (AC136)



# Ordering Information

## Bullet Camera

| MODEL               | MP  | WDR | LIGHTCATCHER<br>TECHNOLOGY | LENS         | IR | ANALYTICS | HDSM<br>SMARTCODEC | MICROPHONE |
|---------------------|-----|-----|----------------------------|--------------|----|-----------|--------------------|------------|
| 4.0C-H6XP-BO1-IR-NA | 4.0 | ✓   | ✓                          | 4.4 - 9.3 mm | ✓  | ✓         | ✓                  | ✓          |
| 8.0C-H6XP-BO1-IR-NA | 8.0 | ✓   | ✓                          | 4.4 - 9.3 mm | ✓  | ✓         | ✓                  | ✓          |

## Z-Wave Sensors

|              |                              |
|--------------|------------------------------|
| SM810-NA-AVO | Z-Wave door contact sensor   |
| SP816-NA-AVO | Z-Wave outdoor motion sensor |
| SP817-NA-AVO | Z-Wave indoor motion sensor  |
| AC136-NA-AVO | Z-Wave panic button          |

## Bullet Camera Accessories

|              |   |
|--------------|---|
| H6A-BO-SHLD1 | Replacement BO1 bullet sunshield                    |
| CAM-FIPS     | Camera license to enable FIPS cryptographic module. |



## Support

For product support, visit: [avigilon.com](http://avigilon.com) or [sales@avigilon.com](mailto:sales@avigilon.com)

To learn more, visit: [avigilon.com](http://avigilon.com)



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