# a Motorola Solutions Company

## Integrated Security Solutions

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**Security Solutions that Provide Actionable Results** 

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Avigilon, a Motorola Solutions company, designs, develops and manufactures solutions in video analytics, cloud, security cameras, video management software and hardware, and access control.

### Smarter. Safer. Together.

Motorola Solutions Video and Security Systems Portfolio4	ł
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#### **Cloud Services**

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Avigilon is an industry leader and, together with Motorola Solutions, provides integrated solutions for video security, access control and critical communications.



## Smarter. Safer. Together. Motorola Solutions Video and Security Systems Portfolio

Together with Motorola Solutions, Avigilon provides an integrated source for actionable information. If suspicious activity is flagged by Avigilon software, Motorola Solutions radios allow security operators to quickly contact each other, enabling them to take immediate action. This helps to simplify and support proactive event response for a safer site.

With the integration of Avigilon Control Center (ACC) video management software and Motorola Solutions' CommandCentral Aware and Ally softwares, an unparalleled solution for public safety now exists. CommandCentral Aware is part of Motorola Solutions' end-to-end suite of command center software, and through integration with ACC<sup>™</sup> software, dispatchers and intelligence analysts will have one source for real-time intelligence that includes video feeds, incident details, alerts, data mapping and responder location.

And with our latest integration, Radio Alert, alarms can be sent as either a text or an audio alert right to a Motorola Solutions radio.



## AI & Video Analytics Detect, Verify and Act on Critical Events





Designed to solve real-world challenges and change the way you interact with your security system, our AI solutions help you detect, verify and act on critical events.

Person Loitering Camera 064 3:12 pm

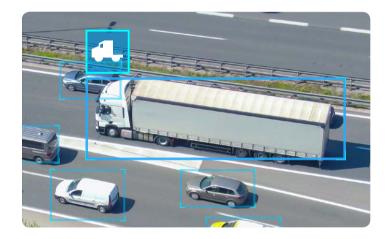
## Focus of Attention Interface

A cutting-edge user interface for live video monitoring that leverages AI and video analytics technologies to determine what information is important and should be presented to security operators.

## Avigilon Next-Generation Video Analytics

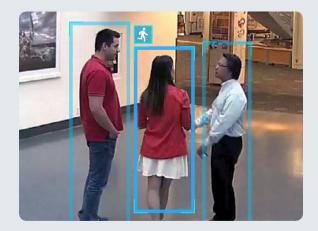
#### Video Security, Transformed

Expanded object classifications and more accurate detection in crowded scenes will help focus your attention on the most important information needed to help you detect, verify and act faster.



## Self-Learning Video Analytics Focus Your Attention Where it Matters Most

You can't be everywhere all the time — our self-learning video analytics solutions can monitor an area 24/7/365. They are designed to accurately recognize the movement of people and vehicles, differentiating it from motion that is not relevant to a scene. Their ability to constantly learn helps reduce false positives and ensure meaningful alerts.



Features and functionalities may not yet be available and, if and when available, may not be as depicted. User interfaces have been simulated for illustrative purposes.

## Avigilon Appearance Search Search Made Simple

Leverage the power of our Al video search engine, which can help dramatically improve incident response time. Sort through hours of video with ease to quickly locate a specific person or vehicle of interest across an entire campus, shopping center or facility.

Avigilon Appearance Search<sup>™</sup> technology works with Avigilon video analytics cameras to generate, record and classify video data for effective searches. Avigilon Appearance Search technology provides advanced video search capabilities to enhance the user experience of a complete Avigilon solution.

ENABLED WITH

ACC SOFTWARE P8

AI APPLIANCE P22

NVR4 P20

## **Unusual Motion Detection**

#### Turn Unknowns into Insights

Comb through hours of video with ease to find what you're looking for and reveal events that may have otherwise been missed. Without any predefined rules or setup, Unusual Motion Detection (UMD) technology uses artificial intelligence to continuously learn what typical activity in a scene looks like and then detect and flag unusual motion for your review.



EMBEDDED IN

WORKS WITH

H4A CAMERA LINE

H4 SL CAMERA LINE

H4 MINI DOME CAMERA P12

## License Plate Recognition Analytics Highly Accurate Capture, Recognition & Search

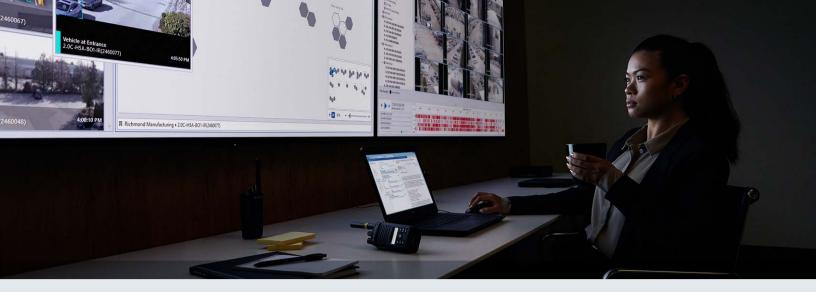
Our license plate recognition (LPR) analytics technology automatically reads license plate information from vehicles, linking it to both live and recorded video. Create and import multiple vehicle license plate watch lists for instant alarm notification when a license plate match is detected, or search and quickly find specific captured license plate video for verification and investigation.

H4 LICENSE PLATE CAPTURE CAMERA P18









## Video Management Software

#### **Avigilon Control Center<sup>™</sup> Software**

Powerful software doesn't have to be complicated. ACC software leverages AI technology to help give you control over your video security and focus your attention on what matters most.

#### ACC FEATURES

- Automatic device discovery
- Support for third-party ONVIF<sup>®</sup> compliant cameras and encoders
- Support for H.265, H.264, MPEG4, MJPEG and JPEG2000 video compression
- ACC Mobile application
- Recording schedules
- Light and dark user interface themes to suit different viewing environments
- Video analytics overlays
- UMD timeline filtering with Skip Play
- Intelligent Motion, thumbnail and event search
- Two-factor authentication
- Two-person authenticated recorded video viewing

#### ACC EDITION COMPARISON

Core	Standard	Enterprise
24	75	>300*
1	1	>100*
2	10	Unlimited
0	51	Unlimited
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ONVIF is a trademark of ONVIF, Inc.

\*Avigilon has tested up to the number indicated, however no limits are imposed by licensing. Actual limits will depend on the hardware environment.





## Mobile Video Management Capabilities

The ACC Mobile 3 app gives you the ability to monitor event alerts and video from your mobile device. Alerts can be sent directly to you and your team within seconds on mobile devices with the app installed.



#### Powered by AI for Fast & Efficient Search

Avigilon Appearance Search technology sorts through hours of video with ease to quickly locate a specific person or vehicle of interest across a site or multiple sites in near realtime. The bookmark, event, alarm and thumbnail search options in ACC software are designed to enhance the way you interact with your systems, improve event response times and help make video actionable.

LEARN MORE AI AND AN

AI AND ANALYTICS P5



#### **Cybersecurity & Privacy Protection**

ACC security measures include strong password enforcement, connection authentication and data encryption, as well as strict user permissions to access search functionality that uses personally-identifiable information.

**Blurred Export** helps support compliance with new data protection and privacy requirements of GDPR\* by allowing you to export Avigilon Appearance Search results in ACC software while blurring the background of the camera view to feature only the person of interest in the video.



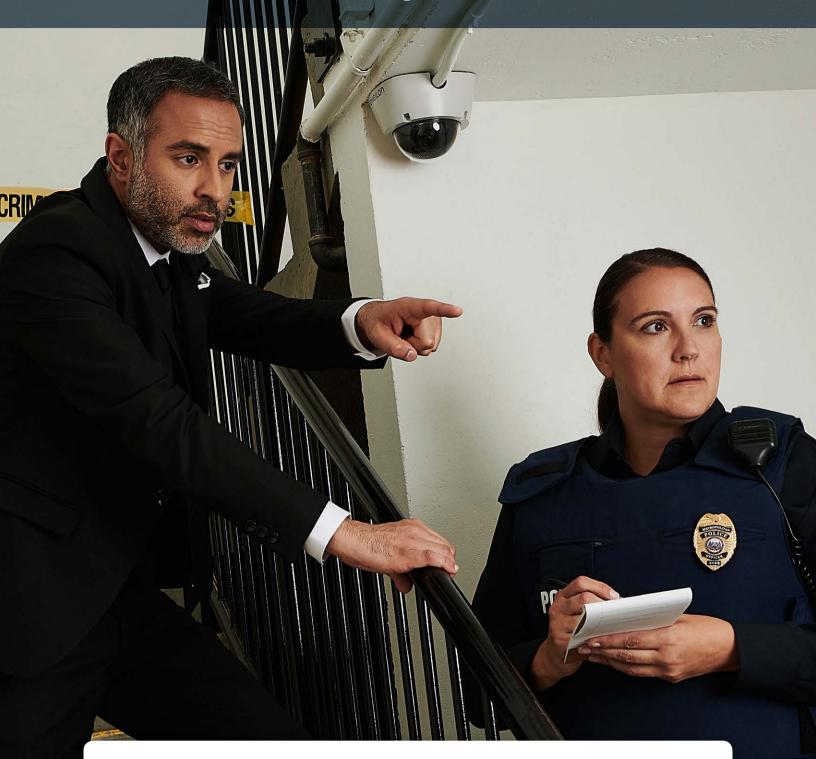
#### H4 Video Intercom Support

Enables operators to monitor and control access at entry points through two-way audio communication, video verification, and the ability to send a door grant through ACC software.

Images and user interfaces have been simulated for illustrative purposes

\*This statement is provided for informational purposes only and is not legal advice. If you are seeking legal or professional advice relating to compliance with applicable privacy legislation (including GDPR), you should contact qualified legal counsel.

## Cameras & Sensors See What You've Been Missing





Our cameras not only provide the level of image detail you need but are also built with the intelligence to help you make sense of what you're seeing. Find your solution.

10 CAMERAS & SENSORS

## Key Camera Technologies

### Low-Light Image Capture



#### LightCatcher<sup>™</sup> Technology

Produces significantly more color detail from a low-light scene by increasing the amount of light and detail captured via the camera and decreasing the noise in the image. This combination results in the ability to identify objects of interest more effectively.



#### **IR Illumination Options**

Content adaptive IR technology is an effective and flexible way to capture visual detail without a visible light source. Cameras with a zoom lens offer **zoom** adaptive IR to help ensure uniform illumination over the entire imaging area at a wide range of zoom distances.

### **Bandwidth Management**



#### High Definition Stream Management (HDSM) Technology

Reduces bandwidth from the server to the ACC Client by to provide maximum image detail while minimizing bandwidth usage, helping to keep internet connectivity costs down.



#### HDSM SmartCodec<sup>™</sup> Technology

Enables cameras to enhance compression levels for regions in a scene to help reduce bandwidth by up to 50% compared to standard H.264 and H.265 compression.



#### **High Efficiency Video Coding**

Offers about double the data compression ratio at the same level of quality compared to H.264 compression and supports resolutions up to 32 MP.

### **Integration with Third-Party Systems**

As an ONVIF member, Avigilon continues to demonstrate commitment to open architecture and offering products that support interoperability with other ONVIF compliant solutions.





#### **ONVIF Profile S Compliance**

Meets ONVIF specifications relating to sending video data over an IP network to a Profile S client, as well as other functions like PTZ control, audio in, multicasting and relay outputs.



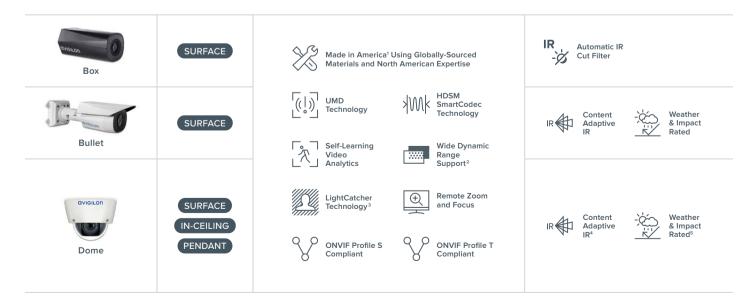
#### **ONVIF Profile T Compliance**

Supports advanced video streaming features such as the use of advanced encoding formats, imaging settings and alarm events such as motion and tampering detection, in addition to the functionalities required for Profile S compliance.



## H4A Camera Line **SMP SMP 2MP 1MP** Exceptional Image Quality, Video Analytics & Artificial Intelligence

H4A cameras offer great coverage and high image detail in a range of lighting environments and settings such as offices, hallways and building entrances.



<sup>1</sup> With manufacturing facilities in both the United States and Canada, our "Made in America" claim only applies to products from our Plano, Texas facility.

<sup>3</sup> LightCatcher technology is available on 1 MP to 5 MP models.

- <sup>4</sup> Optional. ⁵ Outdoor model only.
- <sup>2</sup> For H4 Box and H4 Bullet cameras, wide dynamic range technology is available on 1 MP to 3 MP models only.



A versatile and cost-effective security solution that is backed by an industry-leading warranty. With value and simplicity at the heart of this camera line, you will enjoy the ease of installation, flexible design features and various lens options the H5SL offers.



## H4 Mini Dome Camera (3MP) (2MP) (13MP)

#### Small & Discreet with a Modular Design

Ideal for your most space-constrained areas, the H4 Mini Dome camera provides exceptional features and image quality at an entry-level price point. The innovative, modular design allows it to snap into various mount adapters for fast and easy installations.



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## H4 Pro Camera

Security Industry's First Single-Sensor 30 MP (7K) Camera

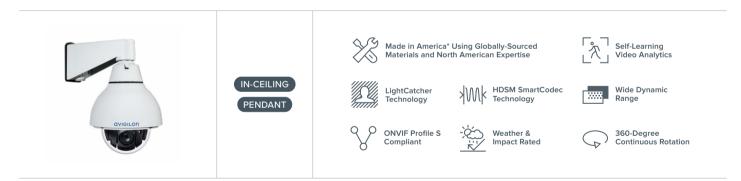
H4 Pro cameras capture high-quality, detailed images over vast areas, making them ideal for stadiums, ports and critical infrastructure. They're built on the H4 platform to deliver greater processing power, increased frame rates and improved image quality, while intelligently managing storage and bandwidth.



### H4 PTZ Camera (MP)

#### Powerful, High-Speed Tracking with 360° Coverage

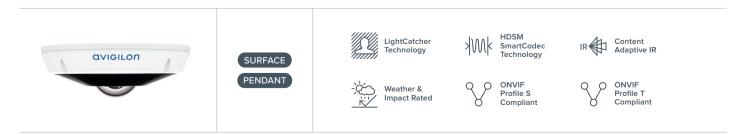
1 MP model offers 45x zoom and 2 MP model offers 30x zoom for high-quality, detailed images.



## H4 Fisheye Camera 12MP 6MP

#### **Capture a Complete Panoramic Scene without Blind Spots**

Cost-effective, easy-to-install solution that's designed to provide high-resolution 360° coverage with fewer cameras.

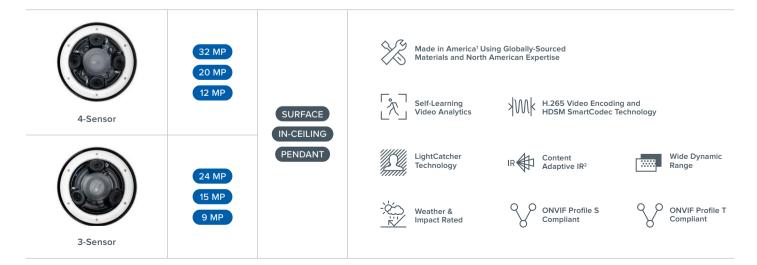


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#### H4 Multisensor Camera Exceptional Scene Coverage & Self-Learning Video Analytics

Provides exceptional scene coverage and high image detail with 3 or 4 individually-configurable camera sensors that can be positioned to monitor virtually any area. Delivers broad scene coverage with high image detail up to 32 MP total resolution and uses H.265 compression technology to significantly reduce bandwidth and storage requirements.



<sup>1</sup>With manufacturing facilities in both the United States and Canada, our "Made in America" claim only applies to products from our Plano, Texas facility. <sup>2</sup> Optional. avigilon

## H4 IR PTZ Camera **PTZ Control with Advanced IR Performance**

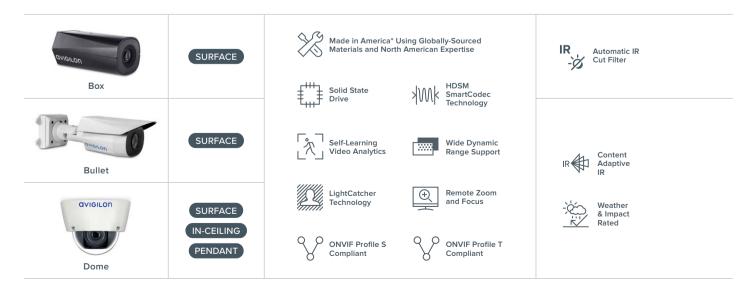
Zoomable IR technology — with a 250-meter (820-foot) illumination range — provides broad coverage and exceptional image quality in a range of lighting conditions and environments, including the rain. 1 MP model offers 45x zoom and 2 MP model offers 30x zoom.



## H4ES Camera Line IMP (MP)

#### Camera, NVR & Video Management Software — All in One

Combines high-definition imaging, self-learning video analytics, network video recorder functionality with up to 256 GB on-board solid-state drive and embedded ACC software to create an all-in-one Avigilon intelligent security solution.



\*With manufacturing facilities in both the United States and Canada, our "Made in America" claim only applies to products from our Plano, Texas facility.





Detect the movement of people and vehicles even in areas with poor visibility, challenging lighting conditions, absolute darkness and partly camouflaged scenes — without the need for additional light sources.



### H4 License Plate Capture Camera I

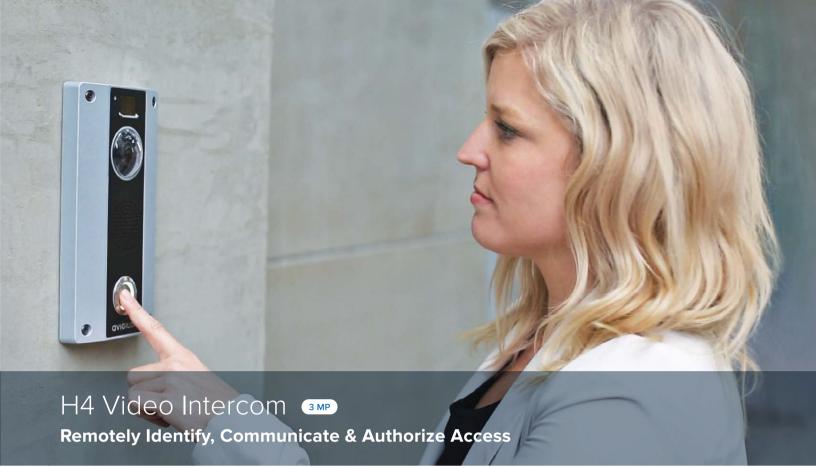
#### Accurate License Plate Capture at a Range of Distances & Speeds

For applications where it's critical to obtain character recognition at vehicle speeds up to 100 km/hr (62 mph), from a range of distances, even in challenging lighting conditions.



Images and user interfaces have been simulated for illustrative purposes.

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Integrates a 3 MP camera for clear viewing and an intercom with echo-canceling technology for effective two-way communication with visitors. Combines with ACC and ACM software to create a secured entry system that enables operators to take action, whether they need to grant access, trigger a lockdown or initiate an Appearance Search for a visitor.



### Avigilon Presence Detector Sensor

#### Accurately Detect the Presence of a Person

A small form-factor impulse radar device, with self-learning radar analytics, that helps to solve the challenge of human presence detection in indoor areas where traditional devices may be limited. Provides extremely high accuracy at distances up to 9 meters (30 feet) from the sensor, even if the person is hidden or obstructed by objects such as blankets, cardboard, wood and drywall.



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## Video Infrastructure

Store as much or as little as you need with our secure, reliable and scalable video recording solutions, purpose-built for 24/7/365 video security performance.

## Network Video Recorder

#### Pre-Loaded & Pre-Configured with ACC Server Software

Fourth-generation Avigilon Network Video Recorders (NVRs) offer our highest capacity, retention and throughput to provide secure, reliable and scalable platforms for high-performance security solutions. NVR4s come standard with optimized recording technology, a three-year Avigilon limited warranty with dedicated support and numerous additional features, including Avigilon Appearance Search technology.



Family		Network Vid	leo Recorder	
Model	NVR4 Premium	NVR4 Standard	NVR3 Value	NVR3 Workstation
Max. Throughput (Mbps)	1,800	1,150	384	120
Max. Record Rate (Mbps)	1,450	700	256	120
Storage Capacity (TB)	64–157	16–48	6–18	8
Max. Video Data Hard Drives	18 (RAID 6)	8 (RAID 6)	4 (RAID 5)	2 (JBOD)
Power over Ethernet Ports		(	C	
Self-Learning Video Analytics		2	×	
Avigilon Appearance Search Support	~	/	✓*	×
Built-In Network Switch		>	×	
Local Viewing		×		$\checkmark$

\* Requires optional GPU kit.

## HD Video Appliance

#### All-in-One Server, Storage Solution, Workstation & Network Switch



Our HD Video Appliances (HDVAs) are designed to help shorten installation time, simplify deployment and reduce the cost and complexity of your security system. All Avigilon HDVAs come pre-loaded with ACC software so you can be up and running in no time, plus our Pro 24-Port and 16-Port models feature advanced functionalities including replaceable power supplies and video drives, larger storage capacities and increased throughput.



Pro 24-Port

## ACC ES Appliance

**Record Locally. View Centrally.** Manage Remotely.



All-in-one appliances that bring edge intelligence and built-in ACC software to organizations with multiple sites and critical assets requiring protection and monitoring. ACC ES products help avoid bandwidth issues by storing 30+ days of HD video locally near the camera, so you can easily view it remotely from a central location.

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F	ID Video Applianc	e		ACC ES Appliance	•
Pro 24-Port	Pro 16-Port	8-Port	8-Port Appliance	Analytics Appliance	HD Recorder
400	356	200	210	13	30
300	256	100	130	8	0
24	12	4	4–8	2-	-4
4 (RAID 5)	4 (RAID 5)	1	1	1	1
24	16	8	8	4	4
	×		×	~	×
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	$\checkmark$			~	
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Images and user interfaces have been simulated for illustrative purposes

## Avigilon Al Appliance

Adds patented self-learning video analytics and Avigilon Appearance Search technology to any ONVIF-compliant IP camera to recognize the presence and movement of people and vehicles. Designed for high performance, capacity and resiliency, the AI Appliance features leading-edge hardware and comes in two models to support up to sixty 2 MP cameras for enterprise scalability.



#### **Analytics for Virtually Any Camera**

Bring the intelligence of Avigilon self-learning video analytics to any ONVIF compliant third-party camera for recognition of the presence and movement of people and vehicles.

#### **Reliable & Easy to Install**

Built on the same platform as the latest Avigilon NVR, includes onsite parts delivery and works with ACC software out of the box with minimal configuration.

#### **On-Board GPU**

Supports Avigilon Appearance Search technology when combined with ACC software, regardless of the NVR used.

#### Avigilon Video Archive (AVA)

A scalable storage expansion solution that integrates with ACC software and Avigilon NVRs. This cost-effective, storage option provides a path for expanding video archives incrementally over time. Built with the latest storage technology, the AVA delivers exceptional reliability with near-zero downtime, ensuring your video archives are preserved for swift on-demand retrieval and review.



#### **Remote Monitoring Workstation**

An easy way to implement additional high-resolution monitoring stations to existing systems. Select either a two- or four-monitor workstation, pre-loaded with ACC software. Featuring a maximum resolution of 3840 x 2160 (4K) per monitor.



#### **Analog Video Encoder**

A cost-effective way to migrate your legacy analog system to a network-based IP system, while still using your analog cameras. You get benefits like sharper, clearer images, remote viewing and monitoring, and the ability to migrate to a full digital system when you're ready.

Images and user interfaces have been simulated for illustrative purposes

## Simplify Your Video Security Deployment

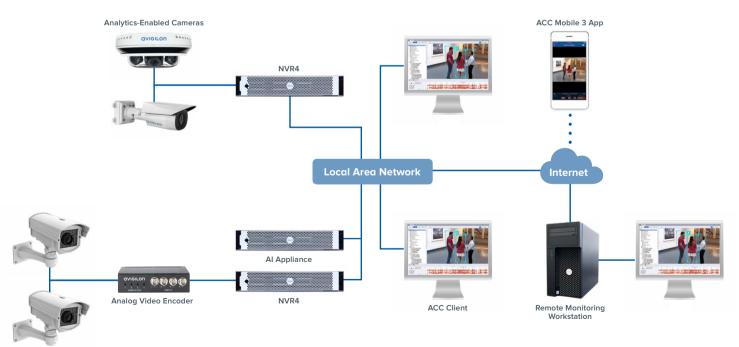
Whether you need a couple of cameras to monitor a storefront or a thousand cameras to secure a large campus, using a complete Avigilon solution helps take the risk out of deployment and maintenance. Avigilon NVRs and appliances are pre-configured for enhanced system performance and to save you time during deployment.

#### Performance

Avigilon NVRs are designed specifically for the high-throughput workload required by video security systems. They are designed to work in low-latency, high-consistency environments, providing a significant increase in performance over comparable off-the-shelf servers.

#### Cybersecurity

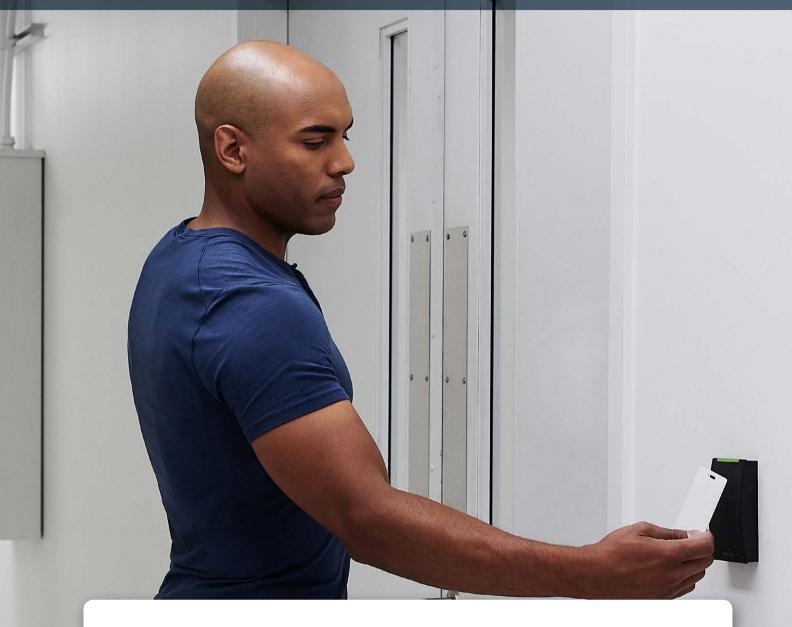
You don't need to be an IT expert to deploy a system that meets the highest security standards. Avigilon NVRs are designed with high security site requirements in mind. Unused operating system services, ports and applications are all disabled to reduce attack vectors while also maximizing performance.



Non-Analytic Cameras

Images and user interfaces have been simulated for illustrative purposes.

## Access Control



NNN

The Avigilon access control platform scales to the changing needs of your business, with flexible solutions that range from our Access Control Manager (ACM) enterprise system to our entry-level ACM Embedded Controller<sup>™</sup> system.



All Avigilon access control systems are 100-percent browser-based and require no software installation, delivering a ready-to-deploy solution that provides the performance you expect from a technology-driven security company.



## Access Control Manager System

Scalable enterprise platform provides uncompromising performance and is engineered with IT professionals in mind.

- Integrate with open-field hardware from leading manufacturers
- Exchange identity information with multiple directories and database types
- **Software integrations** enable wireless locks, biometrics, intrusion panel management, video verification and visitor management



## ACM Embedded Controller System

Entry-level platform delivers an access system for small-sized businesses and is easy to order, configure and navigate.

- No server required ACM<sup>™</sup> software is factory installed on the controller
- Automatic configuration of doors, inputs and outputs after each interface panel is created
- **Simplified navigation structure** is easy to understand and you're never more than two clicks away from most operations

ACM Enterprise Plus System	Features	ACM Embedded Controller
1-2,048+	Reader Doors	4 – 16
500,000	Operators	10
50	Simultaneous Operators	2
500,000	Identities	2,000
150,000,000	Stored Transactions	25,000
$\checkmark$	Custom Reports	×
$\checkmark$	Software Integrations	×
$\checkmark$	<b>Biometric Integration</b>	×
$\checkmark$	Alarm Management	×
$\checkmark$	Identity Management & Badging	×
$\checkmark$	Hot Standby Auto Fail-over	×
$\checkmark$	RAID & Hot-Swap Components	×

## Solution Comparison



ACM EMBEDDED CONTROLLER P38

		Cold College	(off Tame (7, 12a)	Repeat Count	Brep Cause
00.	29		1		
	29				
000	29				
00.	1	000	29		
00.	1		25		
.00	1		29		
000	1		29		
.00	1		25		
00.	2		2	6	3
	2	000	2	7	1
.00	3		14		2
	1	00.	4	4	2
.00	4	00.	1	25	2
	<ul> <li>00</li> </ul>	• 00       28         • 00       28         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1         • 00       1	OC         28         OCO           000         28         OCO           OC         28         OCO           OC         28         OCO           OC         1         OCO           OC         1         OCO           OC         1         OCO           OC         1         OCO           OC         2         OCO	000       23       000       1         000       23       000       1         000       23       000       1         000       1       000       23         000       1       000       23         000       1       000       23         000       1       000       23         000       1       000       23         000       1       000       24         000       2       000       2         000       2       000       2         000       1       000       14         000       1       000       14	OCO         28         OCO         4         5           • OO         28         OCO         1         8           • OO         28         OCO         1         8           • OO         28         OCO         1         8           • OO         1         000         28         8           • OO         2         000         2         5           • OO         2         000         2         7           • OO         1         000         14         8

Cancel Changes



Instant to Defaul

The ACM system is a physical access control system for enterprise-class installations, designed to help you focus on securing your people, property and assets, while giving you the flexibility to respond to alerts wherever you are. It seamlessly integrates with ACC software to provide you with a powerful and unified security solution that helps you proactively monitor and secure your sites.

#### Secure Operating System

An open-source Linux<sup>®</sup> platform provides protection against network vulnerabilities.

#### **Easy Synchronization & Role Management**

Enforce policy restrictions, meet regulations and reduce the risk of duplicate data entry by integrating with external IT and HR identity management solutions. Map physical access to enterprise roles such as departments, locations and titles.

#### **Retain Existing Investments**

Capitalize on company investment in existing hardware by moving from proprietary or unsupported hardware to the ACM system.

#### System Redundancy

Optional hot standby-auto failover solution automatically saves policies, settings and identities from any one primary appliance to a standby appliance.

## **Global Access**

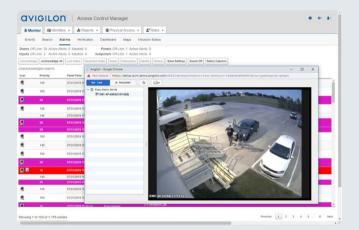


Avigilon ACM solutions are available 24/7/365 from any internet accessible location, using any device with a browser, and can be managed by multiple operators simultaneously. Whether using ACM Enterprise or ACM Virtual system, all changes are automatically synchronized across the entire access system, displaying only the most up-to-date information.

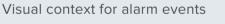
## User-Friendly Interface



The ACM system interface keeps most system operations at your fingertips, allowing you to effectively manage, act on and create custom reports for critical security events.



## Alarm Management and Video Interface



Monitor ·	- 💼 Iden	titics - 🔒	Reports Ph	ysical Access	Roles	; •
Reports	Custom Rep	iorts				A)
Grid: Area Ide	entity Repor	t				
Area Name	Last Name	First Name	Last Accessed Do	Last Accessed Tir	Identity Type	Token Internal Nu
Inside HQ	Backup	Robert	1-6 ACC-Door	07/31/2019 15:11:2		2033
Inside HQ	64	Clara	1-2 Rear Dock In	07/31/2019 15:50:5		2006
Inside HQ	Hatelead	Stian .	2-2-Research Lab (	07/31/2019 15:58:3		2028
Inside HQ	Pray	Chancy	1-2 Rear Dock In	07/31/2019 15:55:1		2008
Inside HQ	Terret	Bryan	2-2-Research Lab (	07/31/2019 15:54:3		2018
Inside Research La	Allester	Janes	2 1 Research Lab I	07/31/2019 15:57:0		2025
Inside Research La	Antifanti	1000	2-1-Research Lab I	07/31/2019 15:52:1		2015
Inside Research La	Brendan	Thater	2-1 Research Lab I	07/31/2019 15:59:3		2031
Inside Research La	Danytesk	Fault	2-1-Research Lab I	07/31/2019 15:54:3		2019
Inside Research La	Learnerd	Shauna	2-1 Research Lab I	07/31/2019 15:50:5		2012
Inside Research La	Lindbeck	Brown	2-1-Research Lab I	07/31/2019 16:02:0		2035
Inside Research La	Lunch	Darry	2-1-Research Lab I	07/31/2019 15:46:0		2043

#### Area Identity Report

Snapshot of on-site identities and their locations based on doors accessed



#### **Personnel Locator and Occupancy Tracker** Enhance the safety of key personnel

Monitor Mild	entities • dt Reports •	Physical Access + ARoles +		
Events Search	Alarms Verification Das	hboard Maps Intrusion Status		
nels Assa	Points 📥 Outputs			
Master - Perim	eter + Disarm Silence	Reset Sensors		
Status:	Fitter:			
×	Status	Area	Panel	
8		Chemical	Bosch Intrusion B8512G	
	1.	Factory	Bosch Intrusion B8512G	
1940		(9467)	Constrainment Decree	

#### **Intrusion Event Monitoring and Control** Correlate alarms with system actions

16 M	AcM verify <sup>an</sup> Virtual Station #Il      Bragency meeting area      Identified I
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## ACM Verify Virtual Stations

Allows any browser-enabled smart device to act as a virtual station. It works by recording and confirming an individual's identity using a PIN code, enabling you to extend the capability of your access system to locations where physical access doors are not feasible.

#### **Key Features**

- Device Pairing Easily link a device to a virtual station for higher level of security
- **Profile Verification** Quickly compare a person's appearance with the saved database image
- Event Reporting Send verification events to the ACM<sup>™</sup> system and view a list of recorded personnel for each virtual station
- Event Triggering Activate global actions from events generated by virtual stations
- Virtual Station Setup Easily enable or disable virtual stations from the ACM system



#### **Example Scenarios**

Record personnel remotely as they report to mustering locations Track attendance at company meetings, training sessions and events Monitor students during field trips Record teacher status, homeroom attendance, and school drills Add virtual stations to any temporary location, such as a construction site

Images and user interfaces have been simulated for illustrative purposes.



## ACM System Integrations



#### Video Security

Bi-directional alarm, video and event management.



#### **Intrusion Panels**

Monitor and control intrusion panels and access events from one location.



#### **Biometrics** Enroll and manage biometric identities.

### Map custom fields and roles for easy

Map custom fields and roles for easy visitor check-in.

LEARN MORE

ACM SYSTEM INTEGRATIONS P32

## **Open-Platform Hardware Support**



Controllers & Sub-Panels





**Credentials & Readers** 

P35



Power Supplies & Enclosures



Wireless Locks

Visitor Management

ACCESS CONTROL MANAGER SYSTEM 29

## ACM Appliance Comparison

#### **ACM** Professional

Provides smaller business with powerful features at a lower cost of ownership. This system is a great choice for business owners looking to start with a small desktop machine and expand as their needs change.

#### **ACM Enterprise & Enterprise Plus**

Perfect for companies of all sizes looking to secure their facilities, people and assets across a variety of offices or locations. These systems include essential features for enterprise-grade businesses, provide seamless integration with existing IT and physical security systems.



#### ACM Virtual

Purpose-built for organizations that have migrated their IT infrastructure to a secure, private cloud environment, this Certified VMware Ready solution is designed for deployment on a virtual server, maintaining scalable design while reducing capital and operating expenditures.

## Standard Features

- Quick online license management
- Global anti-passback, linkages and actions
- Email notification
- Event and alarm management
- Identity search, import/export and management
- Panel and door status and priority door action
- Preconfigured and custom reports

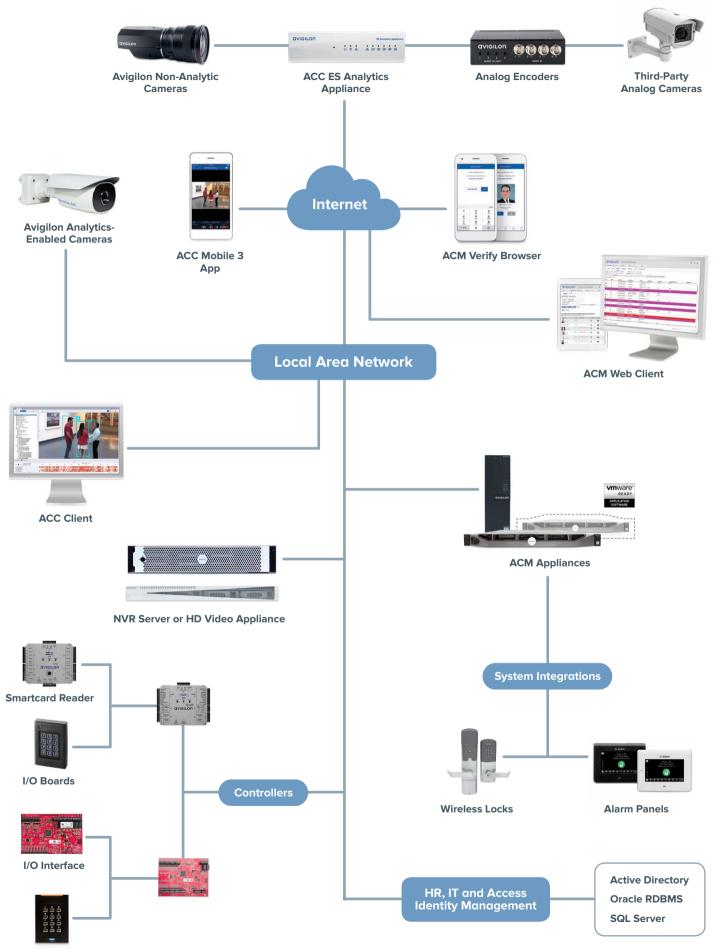
- Timed access (temporary cardholder authorization)
- Firmware updates
- OSDP In/Out reader support
- Backup and restore
- Migration from ACM Embedded
   Controller
- Mercury and HID<sup>®</sup> hardware interoperability
- Graphic maps and muster dashboard

- Photo import/export
- Badging
- Support for Mercury Security M5 & MS bridge, PoE hardware, panel certificates, and large encoded card formats
- Multi-language interface
- System configuration templates for doors, wiring, input, output and readers, to enable quick Batch Add setup

EDITION	Professional	Enterprise	Enterprise Plus	Virtual	
Appliance Type	Small form-factor desktop	1U rack-ma	ount chassis	VMware vSphere® ESX(i) 4–6.x*	
Card Readers	16 – 32	16 – 400	256 – 2048	16 – 2048	
Max. Simultaneous Operators	10	20	50	)	
Max. Identities	75,000	250,000 50		0,000	
Max. Stored Transactions	75,000,000		150,000,000		
Storage (RAID type)	500 HDD (n/a)	1 TB HDD (n/a)	1.3 TB SSD (RAID 5)	1 TB SSD*	
Processor	3.7 GHz Intel® Pentium® G5400	3.0 GHz Intel Xeon® E3-1220 v5	3.8 GHz Intel Xeon E3-1270 v6	3.8 GHz Intel Xeon	
Memory	4 GB (1 × 4 GB)	4 GB (1 x 4 GB)	32 GB (2 x 16 GB)	32 GB*	
Network Interface	1 Gb Ethernet Intel	1 Gb Ethernet Broadcom 5720		1 Gb Ethernet*	
Replication	×	✓			
Hot Standby Auto Failover	×		$\checkmark$		
Hot-Swap Components		×	$\checkmark$	×	
Redundant Power Supply		×	$\checkmark$	×	

\* System recommendations.

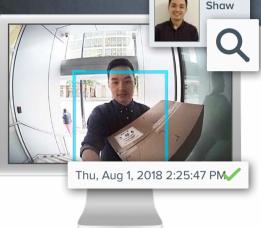
## Integrated Video Security & Access Control Architecture



MultiCLASS SE Reader

## ACM System Integrations

ACM System Integrations enable the creation of a flexible and tightly integrated security platform. The advanced programming interface provides a secure communications path that combines your PACS with third-party video, biometric, intrusion panel, visitor, and locking solutions, and helps keep your people, property, and assets safe.



Δiden

### Video Security

#### Interoperability Between ACC Software and ACM System



#### **Review ACM Door Events & Credentials**

ACC software receives, processes and acts on ACM door events and hardware input events. Identity Verification feature dynamically displays ACM credentials with ACC camera views, allowing you to remotely grant door access. Identity Search corresponds ACM credentials with Avigilon Appearance Search<sup>™</sup> results, offering a new way to locate individuals across an entire site or multiple sites connected to the same ACC Client.



#### H4 Video Intercom Support

The H4 Video Intercom enables operators to monitor and control access at entry points through two-way audio communication, video verification and the ability to send an ACM door grant through ACC software.



#### **Bi-Directional Alarm Management**

ACC alarms work together with ACM alarms including panel/sub-panel, input/output, identity and door-related events, allowing you to acknowledge them through either ACM or ACC. The Alarm Gateway Service can be configured according to project requirements.

Images and user interfaces have been simulated for illustrative purposes.



### **Biometrics**

The ACM system integration leverages the VIRDI solution to add biometric authentication to restricted locations and areas requiring a high level of security.

#### **Enroll and Manage Biometric Identities**

Set up biometric identities directly from ACM software through our integration with the VIRDI Biometrics Enrollment Manager interface — simply connect the USB enrollment reader to any client machine. VIRDI Biometrics Enrollment Manager needs to be installed on a compatible windows client machine with network access to the ACM appliance.



VIRDI Enrollment USB Fingerprint Reader

LEARN MORE

CREDENTIALS & READERS P35



## Intrusion Panels

Optimize the value of access control by monitoring and controlling Bosch intrusion panels from the ACM system. This integration brings increased security, improved accuracy and visual verification of alerts. Incorporating an integrated system enables users to monitor intrusion and access events from a single location.

From there, they can arm and disarm panels by area, set up and assign passcode groups to identities, configure the system to send access events to the central monitoring service and more.

#### **Integration Benefits**

- Faster response due to increased situational awareness
- Quicker verification of intrusion events via live video triggers
- Increased security and convenience with intrusion area control
- Anywhere/anytime availability from internet-enabled mobile devices
- No additional access hardware or wiring required connects to IP networks





## Visitor Management

EasyLobby<sup>®</sup> software from HID Global provides a secure and professional all-in-one visitor management system. Map custom fields and roles in ACM for easy visitor check-in, enabling your operation to run efficiently while protecting the security of your business.

## Wireless Locks

Get the benefits of a wired installation, without the complexity and cost of traditional wired locks.

Wireless lock integration is an excellent solution for educational facilities, healthcare offices, hospitals, commercial businesses or any application that wants to combine all of the components typically found around the door into a simplified all-in-one system.

	Monitor 👻 🛙	dentities	- di F	Reports -	Physi	ical Acces	s Roles	-			
D	oors Templat	es Pan	els Area	s EOL	Resistance	Mercury	LED Modes	Card Formats	Events Globa	Actions Glot	bal Linkages
Do	ors								Ad	d Door Legend	Advanced Fille
Doo	r Action + Doo	r Mode +	Forced +	Held +	Installed +	Delete	Override				
Sea	rch			Device Sta	tus.		* VM_3	2.7-Dallas ACM		Group	
AII	Device Status	Name				A Pa	nel		Door State	D	oor mode
	$\odot$	0-0-1	VS-Emergen	cy Virtual :	Station				Unknown	U	nknown
	$\odot$	0-1-\	0-1-VS-Muster Virtual Station			Unknown	U	nknown			
	$\odot$	0-2-VS-School Bus 240 Virtual Station			Unknown	U	nknown				
	$\odot$	1-1-6	mployee Pa	rking Gate		-	EP1502		Closed	С	ard Only
	$\odot$	1-2-F	Rear Dock In			18	1		Closed	C	ard Only
	$\odot$	1-3-F	Rear Dock O	ut		97			Closed	C	ard Only
~	$\odot$	1-4-1	obby Door In	1					Closed	c	ard Only
	$\odot$	1-5-L	obby Door C	out		1			Closed	C	ard Only
	$\odot$	1-6 A	CC-Door	-			-	-		С	ard Only
	0		Lat	<u>.</u>						C	ard Only
	0					-				C	ard Only
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#### FEATURES

Reduced Hardware Costs	Reduce the cost and complexity of added hardware by connecting the Mercury controller directly to the panel interface module, gateway or communications hub for a secure wireless path to the lock.
Modular Design	Flexibility to customize the lock to meet the needs of the application now, and purpose-built to allow for customizing the lock rather than replacing it in the future, with little to no operational disruption.
Increased Security	Turn any keyed door or sensitive area into a monitored access door to improve security in and around facilities.
Flexible Lock Configurations	Ability to customize the reader type, chassis type, locking functions, power options, lever styles, finishes and more according to the needs of the application.

#### Allegion<sup>™</sup> AD-400 & AD-300 Solution

AD Series electronic locks from Schlage<sup>®</sup> are designed to be modular and provide more options to choose from, more functionality in the lock and more compatibility with existing systems. Its patent-pending modular design allows the lock to be customized to fit the needs of an application now and be changed to meet future needs without removing it from the door.

#### **Allegion NDE Solution**

NDE Series wireless locks with ENGAGE<sup>™</sup> technology from Allegion are designed to be easy to install, connect, use and manage with the ACM system. Developed specifically for facilities that want to upgrade to electronic credentials for improved security and efficiency, NDE Series locks are ideal for use on interior office doors, common area doors and sensitive storage spaces with a cylindrical door preparation.

#### **Allegion LE Series**

Managed with ACM system from Avigilon, the Schlage LE wireless mortise lock with ENGAGE technology is designed to affordably extend electronic access control deeper into the building beyond traditional perimeter and high security openings.

#### **ASSA ABLOY Aperio Solution**

The Avigilon ACM system utilizes ASSA ABLOY Aperio<sup>®</sup> Wireless Technology to reduce the cost and inconvenience of wiring in and around the access door. The Aperio solution can support a wide-range of applications, including interior office room doors, server room cabinets and storage lockers, glass, stone or brick entryways, slim aluminum entry doors and more.



## **Open-Field Hardware**

## Credentials & Readers

ACM Biometric Access Integration leverages the VIRDI solution to add biometric authentication to restricted locations and areas requiring a high level of security. Operators can easily set up and enroll biometric identities directly from the ACM software through integration with the VIRDI Biometrics Enrollment Manager interface.

#### **Detect Fingerprints at Secure Access Points**

Using human capacitance, infrared light and advanced algorithms, VIRDI fingerprint sensors are designed to quickly and accurately detect fingerprints and discern fake biometric attempts.

VIRDI UNIS Software needs to be installed on a compatible windows server with network access to the Avigilon ACM appliance

#### **Avigilon Credentials**

A multipurpose credential from Avigilon. The HID iCLASS SE® cards are designed specifically for Avigilon access control systems. With an advanced 56-bit Avigilon format, these cards provide multiple levels of security to keep your people, property and assets safe.

#### Avigilon iCLASS SE Cards

AC-HID-CARD-ICLASS-SE-3000-AVG

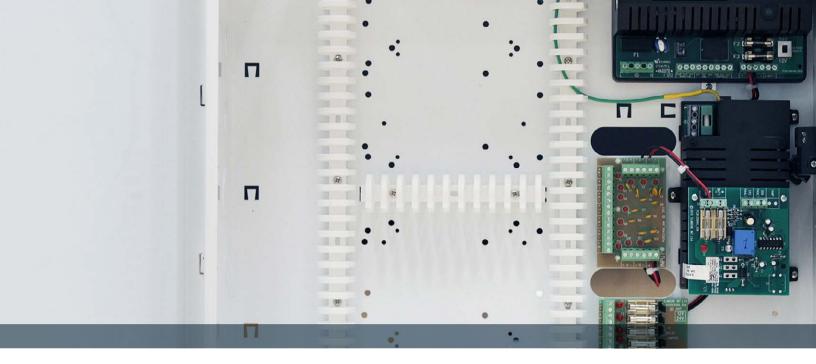
#### Avigilon SE R10 Card Reader

A multipurpose card reader from Avigilon. The HID iCLASS SE® readers help keep security at the forefront by utilizing the latest authentication through the Secure Identity Object (SIO) data model for trusted and secure communications.

#### iCLASS SE10

AC-HID-READ-ICLASS-SE-R10-AVG





## Controllers & Sub-Panels

One way to protect and future-proof your ACM investment is by using hardware from leading manufacturers such as Mercury Security and HID Global. With hardware options for small to enterprise level systems, deploying and managing your ACM system has never been more intuitive and flexible as it is today. Installations will further benefit from a wide selection of hardware that will provide the features needed for most project requirements.

#### **Mercury Security**

#### Controllers, interface modules and I/O modules

Mercury Security focuses on supplying OEM hardware for access control. With more than 2.5 million control panels in operation, Mercury is one of the top players in the market. Avigilon is a Platinum Elite Mercury Partner and offers Mercury controllers, interface modules and I/O modules as part of our Access Control Manager solution.

## HID Global

#### Controllers, interface modules and I/O modules

HID Global is a trusted leader in solutions for creation, management and use of secure identities for millions of customers worldwide. Avigilon is a Platinum HID® Partner and offers HID VertX EVO® controllers and HID VertX® interface and I/O modules as part of our Access Control Manager solution.

## Power Supplies & Enclosures

The Avigilon power enclosure from LifeSafety Power includes all the power needed for four, eight and 16-door applications. These enclosures are specifically designed to house Mercury Security and HID VertX<sup>®</sup> access boards and also includes a separate 24 volt DC circuit that provides lock power within the same enclosure, saving the cost of added hardware and installation time.





				•• 0.•	
ALLEGION	ENGAGE RS485 Gateway	NDE Series Locks	LE Series Locks	HHD Programming Kit	
SCHLAGE	AC-ALL-SCH-GWY-ENGAGE* ENGAGE gateway	Custom lock options available	Custom lock options available	AC-ALL-SCH-HHD-KIT-USB Handheld device kit to program the Schlage locks and PIM devices	
	Schlage PIM400-485	Schlage PIM400-150	1 AD-400 Series L	ocks AD-300 Series Locks	
Allegion app for simplified setup	AC-ALL-SCH-PIM400-485-RSI* 900 MHz PIM for use with the Mercury EP2500 intelligent controller	AC-ALL-SCH-PIM400-150 900 MHz PIM for use w the Mercury EP1501 Po intelligent controller	vith Custom lock oE options	c Custom lock options available	
ASSA ABLOY The global leader in door opening solutions	Aperio RS485 Hub	Aperio USB Radio D	Dongle Aperio S	Geries Locks from Avigilon	
aperio	AC-MER-AH30RN1-RC* Aperio RS485 hub 1:8 with RC enablement SW	AC-MER-APD-10-L Aperio USB radio d	JSB Aperio hub ex	-AA-HUB-EXT-10-ANT xternal omni-directional antenna m lock options available	
Platinum Elite	AC-MER-CONT PoE+ edge-capable inte (2 readers, 2 inputs	<b>-LP1501</b> elligent controller	Intellig	R-CONT-LP1502 gent controller 8 inputs, 4 outputs)	
H H					
	AC-MER-CONT	-LP2500	AC-MER	R-CONT-LP4502	
	Master intelligent (No onboard		Intelligent Controller, Linux Based with 2 doors, 8 inputs and 4 outputs, expandable up to 64 doors		

\* Does not include Mercury hardware from Avigilon.



**OVIGI** 

Access Control Mana Embedded Controller

P3 RS-485 Port 1

> RS-485 Port 2

P14 Aux Input 1

Relay 1

P17

#### **Simplified Entry-Level Access Control**

The ACM Embedded Controller access system is browser-based and designed for securing up to 16 access doors. This solution uses open-field hardware from HID Global combined with factory-installed software from Avigilon that aligns with the needs of small and medium sized businesses.

Most access systems connect to a physical server optimized for installations requiring a high number of doors, tens of thousands of cardholders and enough room for large amounts of transactional storage. This translates to greater system costs even for smaller projects that don't require all that processing power.

#### FEATURES

Manage from Browser-Based Devices	The familiar interface helps make it quick to learn and understand using any mobile device or PC with an internet connection.
Email Notification	Flexibility to customize the lock to meet the needs of the application now, and purpose-built to allow for customizing the lock rather than replacing it in the future, with little to no operational disruption.
Flexible I/O Linking	Turn any keyed door or sensitive area into a monitored access door to improve security in and around facilities.
Cardholder Import/Export	A convenient way to migrate system cardholders.
Card Formats	26-bit Wiegand, 34-bit Wiegand, 37-bit HID 10304, 56-bit Avigilon
Bundled Kits	With only three part numbers to remember, ordering is easy and convenient.
Database Backup	Easily backup configuration and transactional data over a web browser, saving you valuable time.
Compatible Hardware	HID VertX® V100 (Door/reader interface), V200 (Input monitor interface) and V300 (Output monitor interface)
Easy Migration	As your company grows, the system grows with you. We make the transition to the ACM Professional system easy with a simplified migration path.









#### **Bundled Kits**







ACM Embedded Controller Four-Door Kit*	ACM Embedded Controller Eight-Door Kit*	ACM Embedded Controller 16-Door Kit*
AC-HID-LSP-ACMEC-KIT4	AC-HID-LSP-ACMEC-KIT8	AC-HID-LSP-ACMEC-KIT16

#### Accessories



ACM Embedded Controller Board

AC-HID-ACMEC



Avigilon HID<sup>®</sup> Interface Monitors

Door/reader, input & output AC-HID-VERTX-V100 AC-HID-VERTX-V200 AC-HID-VERTX-V300



**Avigilon Credentials** 

AC-HID-CARD-ICLASS-SE-3000-AVG



Avigilon SE R10 Card Reader

AC-HID-READ-ICLASS-SE-R10-AVG



**Avigilon Power Enclosure** 

Door enclosures AC-LSP-4DR-HID-LCK AC-LSP-8DR-HID-LCK AC-LSP-16DR-HID-LCK

#### **Engineered Solutions for Enterprise Class Businesses**

Avigilon solutions are engineered from the ground up with exceptional IT standards that easily integrate with an organization's existing physical or virtual IT environment. Avigilon is committed to providing the ease-of-use demanded by facility managers and the flexibility required by IT departments.

#### Supported Access Control Solutions

Mercury Security HID Global ASSA ABLOY Allegion Farpointe Data® EasyLobby® by HID® LifeSafety Power ViRDI Biometrics Simons Voss

#### Supported Third-Party Databases

LDAP Active Directory SQL Server Oracle® RDBMS Comma Separated Value XML (Event push)

#### Supported IT Platforms

Linux OpenLDAP<sup>™</sup> Certified VMware Ready Firefox<sup>®</sup> Google<sup>™</sup> Chrome Apple Safari Microsoft EDGE

#### Supported Video Integration Solutions

ACC Software Milestone Systems Salient Systems Exacq Technologies by Tyco Security Dedicated Micros

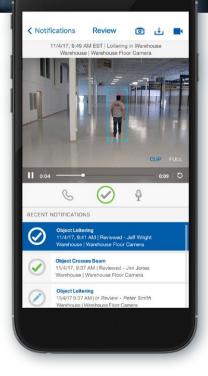
## Video Security as a Service

Cloud-Based Services with Benefits for Both Integrators and End-Users

## **AVIGILON BLUE**

Avigilon Blue is a video security as a service (VSaaS) solution that leverages a subscription-based cloud service platform. It combines on-premise recording, video archiving, and self-learning video analytics technology with cloud management to help customers monitor and manage more sites with fewer resources.

Customers can efficiently manage multiple locations and cameras from a central location or from mobile devices to quickly detect, verify and act on suspicious events, or leverage professional video monitoring by a third-party service.



Images and user interfaces have been simulated for illustrative purposes.

\* The Avigilon Blue platform is only available in the United States, Canada, Australia and New Zealand and is expected to be launching in the United Kingdom in 2019.



## Avigilon Blue Connect Device

On-premise, quick-to-deploy device with 30-day onsite video retention and support for Avigilon cameras, third-party ONVIF compliant cameras and analog video encoders.

		OVIGILON COM COMMENT	dan Bak Director (1999) (1998)
Model	16-Channel	8-Port	4-Channel
Self-Learning Video Analytics		$\checkmark$	
Recording Rate	196 Mbps	130 Mbps	50 Mbps
On-Board Storage	12 TB	8 TB	1 TB
Stream-Out Rate	120 Mbps	50 Mbps	50 Mbps
PoE Ports	_	8	_
Uplink Ports		2 x 1 Gbe	

## Adding Value, Convenience and Analytics Technology



## Patented Avigilon Self-Learning Video Analytics

Technology that works with almost any IP camera already installed on site, to recognize threats with greater accuracy.



#### **Quick Video Verification**

With easy and secure access to video via the Avigilon Blue Mobile app or a desktop browser, users can verify video clips instantly on site or remotely.



#### **Monthly Subscription Costs**

Helping provide a recurring monthly revenue opportunity for Partners, while end-users enjoy the peace of mind of predictable fees for video security services.



## Remote Health Monitoring and Maintenance

Enables remote diagnosis of server and camera status, and allows system upgrades and new features to be pushed directly from the cloud, saving valuable time and resources.



#### **Professional Monitoring Services**

Provides flexible security by allowing businesses to monitor their own security operations or enable third-party remote video monitoring service providers to monitor their sites.



#### North American Manufacturing\*

Avigilon is proud to manufacture trusted security solutions, with Canadian and American expertise and globally sourced materials, at our state-of-theart facilities in Richmond, British Columbia, and Plano, Texas. By manufacturing in North America\*, we provide a level of quality our customers can trust, while being able to accelerate the speed at which we can go from innovation to providing products directly to global markets.



#### Exceptional Customer Service

Avigilon provides extensive customer service and 24/7 technical support by phone or online chat for installed hardware and software. Advance replacement is available for products under warranty and we offer hassle-free returns under our return policy to ensure you are satisfied with your Avigilon solutions.

\*With manufacturing facilities in both the United States and Canada, our "manufactured in North America" claim only applies to products from our Plano, Texas facility and our Richmond, British Columbia facility.





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