

MOTOROLA SOLUTIONS CONCEALED WEAPONS DETECTION (CWD)

Motorola Solutions Concealed Weapons Detection (CWD) is designed to address the active shooter epidemic by taking a proactive approach to keeping people and assets safe. Using advanced sensors and artificial intelligence to detect a wide range of concealed weapons and threats, it is the world's first and only touchless security screening solution that is conducive to supporting post-pandemic security screening requirements. The CWD integrates with Avigilon Unity Video software, Motorola Solutions' AI-powered video management software, to help security screeners see, understand, and act on threats with more speed and accuracy than ever before, making it possible to deliver unprecedented safety while also enhancing the visitor experience. Once a threat is detected and confirmed by a security screener, alarms are sent directly to Avigilon Unity Video. Avigilon H5A Modular cameras on board the towers then stream live video to Avigilon Unity Video, which gets recorded alongside the fixed video security feeds that are installed at the venue.



FEATURES



SMART, AI-BASED SENSOR PLATFORM

The CWD seamlessly screens up to 3,600 people per hour (60 per minute), eliminating any bottlenecks at points of entry. Unlike legacy metal detectors, wands, and pat downs, the system can intelligently distinguish between threats and everyday items like a cellphone, coins or keys.



EASY TO OPERATE

Helping security teams to see, understand, and act on potential threats with more speed and accuracy than ever before, CWD provides a simple, targeted solution. Security personnel can see in real-time where the potential threat is on a person's body or in their bag reducing the amount of physical contact. If an object is detected, the individual will be sent to secondary for further investigation.



RESPECTFUL, HASSLE-FREE EXPERIENCE

A quick, unobtrusive workflow with no stopping required, as individuals are not required to empty their pockets or place their bags in another area for inspection. Visitors and employees can walk naturally side-by-side or in groups through multi-lane entrances without any pause, based on the site's pre-defined procedures.



FLEXIBLE DEPLOYMENT OPTIONS

CWD is easy to set up and move and can be used both indoors and outdoors. This flexibility enables the system to be used at different entrances and for special events. Choose from five different sensitivity settings to optimize for different threat levels.



BUILT-IN AVIGILON H5A MODULAR CAMERA

Featuring two 3 MP Micro Bullet imager modules installed on the front and back, operators can see what's happening at the tower in high-resolution. The imager modules' Wide Dynamic Range provides clear image details in varying lighting conditions, including areas with strong backlight, which can be common at entrances. Its seamless connectivity with Avigilon Unity Video software brings a suite of AI-powered capabilities such as Avigilon Appearance Search™ technology and Facial Recognition for operators to proactively safeguard their facility.

SPECIFICATIONS

CONCEALED WEAPONS DETECTOR (CWD)

PHYSICAL	INDOOR MODELS			OUTDOOR MODELS	
		STANDARD WIDTH	WIDE WIDTH	STANDARD WIDTH	WIDE WIDTH
Width	Single-Lane	66.7 in (169.4 cm)	74.7 in (189.7 cm)	70.1 in (178.1 cm)	78.1 in (198.3 cm)
	Dual-Lane	116.4 in (295.7 cm)	132.4 in (336.2 cm)	116.7 in (296.4 cm)	132.6 in (336.7 cm)
Depth		40.3 in (102.4 cm)	40.3 in (102.4 cm)	46.8 in (118.9 cm)	46.8 in (118.9 cm)
Lane Opening		32.0 in (81.3 cm)	39.8 in (101.0 cm)	28.9 in (73.5 cm)	36.4 in (92.4 cm)
Height	TX Tower	74.1 in (188.1 cm)	74.1 in (188.1 cm)	74.8 in (189.9 cm)	74.8 in (189.9 cm)
	RX Tower	73.7 in (187.2 cm)	73.7 in (187.2 cm)	73.7 in (187.2 cm)	73.7 in (187.2 cm)
	Mat	0.9 in (2.3 cm) at top 0.2 in (0.5 cm) at front lip	0.9 in (2.3 cm) at top 0.2 in (0.5 cm) at front lip	0.9 in (2.3 cm) at top 0.2 in (0.5 cm) at front lip	0.9 in (2.3 cm) at top 0.2 in (0.5 cm) at front lip
Total System Weight	Single-lane	268 lbs. (122 kg)	268 lbs. (122 kg)	284 lbs. (129 kg)	284 lbs. (129 kg)
	Dual-lane	334 lbs. (151 kg)	334 lbs. (151 kg)	350 lbs. (159 kg)	350 lbs. (159 kg)

ENVIRONMENTAL	
Operating Temperature	Min: -20C, Max: +55C ¹
Storage Temperature	Min: -40C, Max: +70C
Relative Humidity	Up to 95% ²
Ingress Rating	Standard IP54; Outdoor IP56 ³

¹ Shaded cover from direct sunlight required at elevated temperatures.

² Outdoor rated unit is Condensing.

³ Power and data connectors are IP67, resisting water ingress up to 6" (15 cm).

ELECTRICAL	
Power	100VAC - 240VAC (+/-10%); single phase; with power cord supplied
Power Consumption	200W max power consumption

COMPONENTS	
Cameras	2 situational awareness cameras (front and rear) ³
Tablet Display	10 in display (25.4 cm) , 2 per lane (1 Floor and 1 Desktop Stand)
	Standard or Outdoor tablets based on optional Outdoor unit

³ Camera ports are isolated from Express internal and external networks

NETWORK	
Network	100BASE-TX, RJ45 Connector, CAT5e Cabling

PERIPHERALS	
USB Port	USB 2.0
Ethernet Port	Ethernet (RJ45) for Tablet

CERTIFICATIONS	
Certifications/Directives	CE RCM
Safety	EN/IEC 61010-1 U.S. Americans with Disabilities Act Compliant Access*
EMC	FCC Part 15 Subpart B, Class A, ICES-003 Class A, EN 55011

*All Configuration except Outdoor Model with Standard Mat are ADA Compliant.

SITUATIONAL CAMERAS

HUB AND IMAGERS (ONE FORWARD-FACING, ONE REAR-FACING)⁴

MECHANICAL		HUB	IMAGER
Dimensions (LxWxH)	Body Only	105 mm x 123 mm x 34 mm; 4.13 " x 4.84 " x 1.34 "	42 mm x 30 mm diameter; 1.65 " x 1.18 " diameter
	Including HD BNC Connector	114 mm x 123 mm x 34 mm; 4.50 " x 4.84 " x 1.34 "	50 mm x 30 mm diameter; 1.97 " x 1.18 " diameter
Weight		0.517 kg (1.14 lbs)	0.043 kg (0.09 lbs)
Body		Aluminum	Aluminum
Housing		Stainless steel (bracket)	Plastic
Finish		Black	Black

⁴ Hub and imager units are in the middle tower of a dual lane system, or the main tower of a single lane system.

ENVIRONMENTAL	HUB	IMAGER
Operating Temperature	-10 °C to +60 °C (14 °F to 140 °F)	-30 °C to +60 °C (-22 °F to 140 °F)
Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)	-10 °C to +70 °C (14 °F to 158 °F)
Humidity	0 - 100% RH	0 - 100% RH
Environmental	N/A	IP66 Rating

ELECTRICAL	HUB
Power Consumption	13 W Max
Power Source	VDC: 12 V +/-10%, 11.5 W min PoE: IEEE 802.3af Class 3 compliant
Power Connector	2-pin terminal block
RTC Battery Backup	3V manganese lithium

NETWORK (CAMERA HUB UNIT)	
Network	100BASE-TX
Cabling Type	CAT5E cabling for PoE Coaxial cabling for imager modules
Connector	RJ-45 for PoE HD BNC for imager modules
ONVIF	ONVIF compliance Profile S, Profile T, and Profile G (www.onvif.org)
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), FIPS 140-2 L3 (with optional accessory)
Protocols	IPv4, IPv6, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMPv2, 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

PERIPHERALS	HUB
Onboard Storage	2 x microSD/microSDHC/microSDXC slots - video speed class card required. Class V10 or better recommended. One of the two SD card slots is available for onboard storage.

CERTIFICATIONS	
Certifications/Directives	UL, cUL, CE, UKCA, ROHS, RCM
Safety	UL 62368-1, CSA 62368-1, IEC/EN 62368-1
Electromagnetic Emissions	FCC Part 15 Subpart B Class A, ICES-003 Class A, EN 55032 Class A, EN 61000-3-2, EN 61000-3-3
Electromagnetic Immunity	EN 55035, EN 61000-6-1
Warranty	4-year limited warranty. Extended warranty not available. ⁵

⁵ Warranty continues past 4 years for software only, as long as the software subscription is still being paid.

IMAGE PERFORMANCE (3.0 MP IMAGER)

Image Sensor	1/2.7 " Progressive Scan	
Imaging Area (H x V)	5.4 mm x 3.9 mm; 0.213 " x 0.154 "	
Max Image Rate	(50 Hz/60 Hz): 25 fps/30 fps	
Streaming Resolutions	Primary Stream:	2128 x 1536; 1920 x 1080
	Secondary Stream:	1248 x 904; 832 x 600; 672 x 480; 528 x 384; 400 x 288; 1280 x 720; 720 x 480; 640 x 360; 512 x 288; 384 x 216
Dynamic Range	WDR Off:	Up to 82 dB
	WDR On:	Up to 120 dB
3D Noise Reduction Filter	Yes	

LENS (3.0 MP IMAGER)

Lens	2.8 mm fixed	
Minimum Illumination	0.1 lux	
Horizontal Angle of View (HFOV)	110 °	
Vertical Angle of View (VFOV)	80 °	
Max Aperture	F2.0	
Control	Fixed	

IMAGE CONTROL (3.0 MP IMAGER)

Electronic Shutter Control	Automatic, Manual (1/7.5 to 1/8000 sec)	
Iris Control	Fixed	
Day/Night Control	Automatic, Manual	
Flicker Control	60 Hz, 50 Hz	
White Balance	Automatic, Manual	
Backlight Compensation	Adjustable	
Privacy Zones	Up to 64 zones	

CONNECTOR (3.0 MP IMAGER)

Cabling Type	Coaxial cable	
Connector	HD BNC	

ANALYTICS SPECIFICATIONS



CLASSIFIED OBJECT DETECTION™ (COD)

Detects and classifies people to help operators respond faster.



AVIGILON APPEARANCE SEARCH™ (AS)

Quickly locates a specific person or vehicle of interest across an entire site using a sophisticated deep learning AI search engine.



FACE RECOGNITION (FR)

Detects matches from managed watchlists to alert operators of people of interest. Requires Appearance Search and an additional license.

ACC Enterprise required

ACC7-FACE license required



NO FACE MASK DETECTION

Determines whether a person is not wearing a face mask to help prevent community transmission.

ACC Enterprise required



UNUSUAL ACTIVITY DETECTION (UAD)

Automatically detects atypical behavior of learned objects.

ACC7-VAC license required

SUPPORTED RULE BASED VIDEO ANALYTIC EVENTS (PER IMAGER)

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.
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	This 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 left 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.
Tamper Detection	The event is triggered when the scene unexpectedly changes.

SUPPORTED CLASSIFIED OBJECT TYPES

Object Types in Indoor Mode	Person
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AVIGILON UNITY VIDEO SUPPORTED FEATURES BY VERSION*

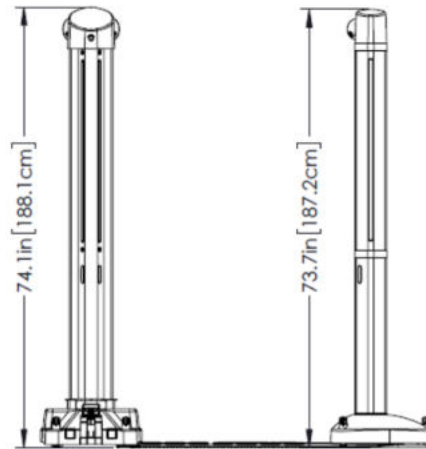
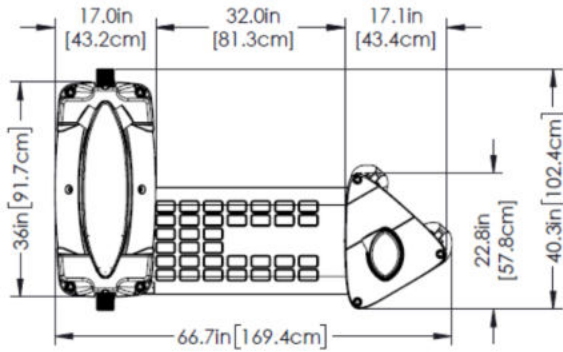
Avigilon Unity Video 8.x	All supported analytic events with people and vehicles and all vehicle sub-types as classified objects. Appearance search when paired with appropriate server hardware. H.265 supported.
ACC Version 7.14.6 or higher	All supported analytic events with people and vehicles and all vehicle sub-types as classified objects. Appearance search when paired with appropriate server hardware. H.265 supported.
ACC Version 6.14.26 or higher	All supported analytic events with two types of classified objects: person or vehicle. Appearance search when paired with appropriate server hardware. H.265 supported.

*Indoor Close-up analytic mode is only supported on ACC 7.14.12 and later. Each main unit consumes only one ACC channel license whether one or two imagers are connected.

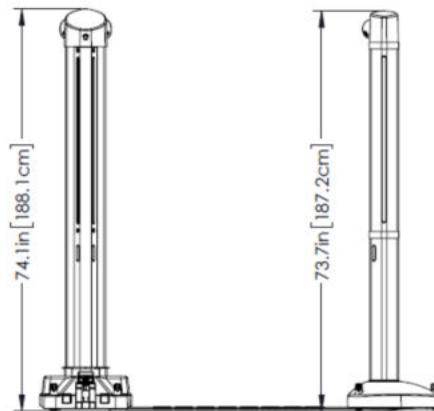
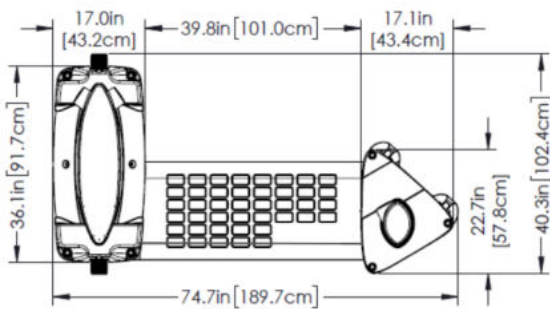
OUTLINE DIMENSIONS

SINGLE LANE, STANDARD WIDTH (INDOOR MODEL)

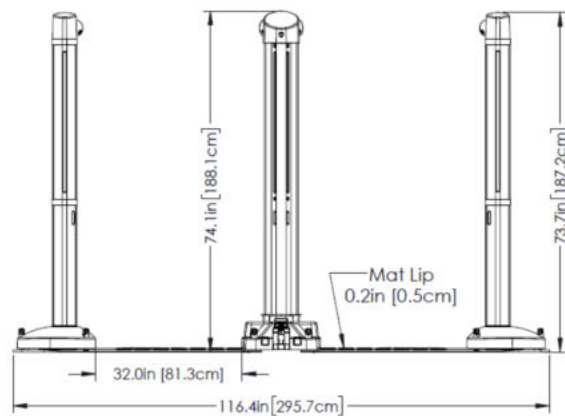
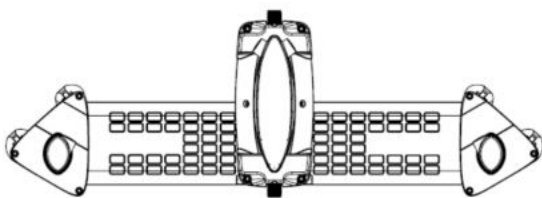
[X.X]	INCHES
X	MM



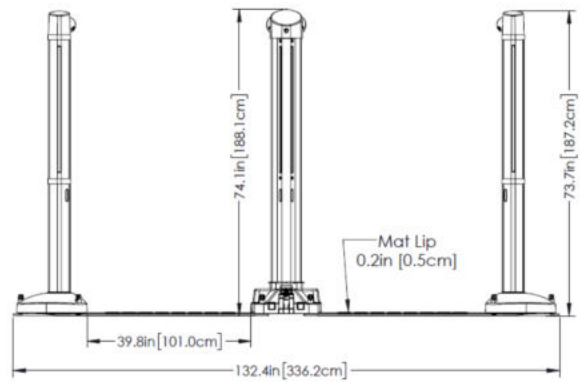
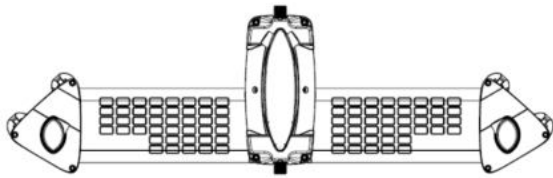
SINGLE LANE, WIDE WIDTH (INDOOR MODEL)



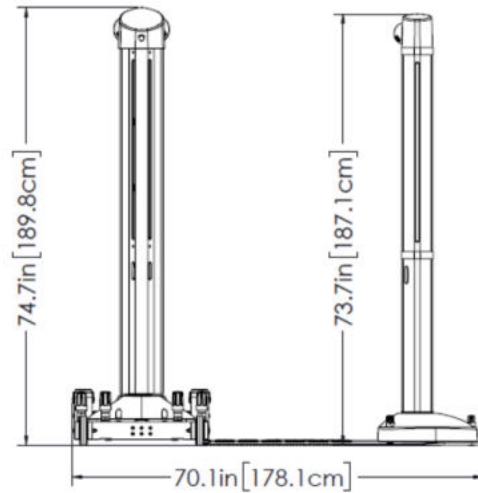
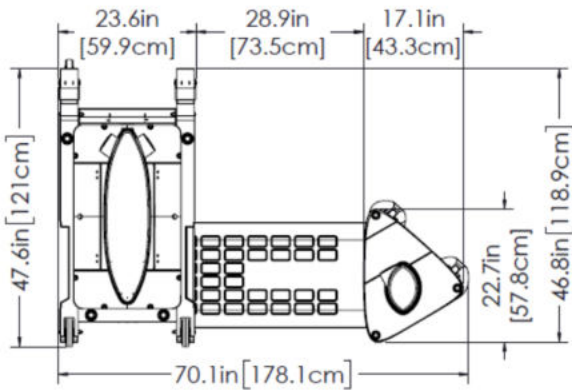
DUAL LANE, STANDARD WIDTH (INDOOR MODEL)



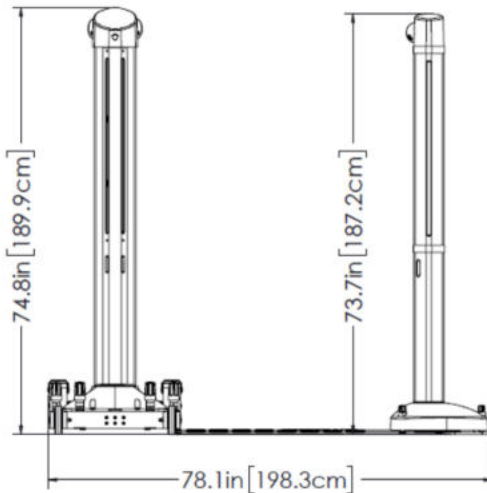
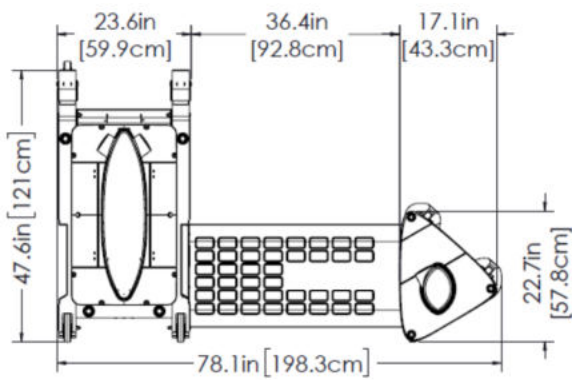
DUAL LANE, WIDE WIDTH (INDOOR MODEL)



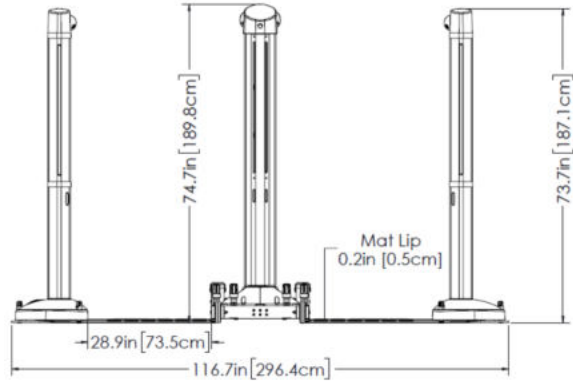
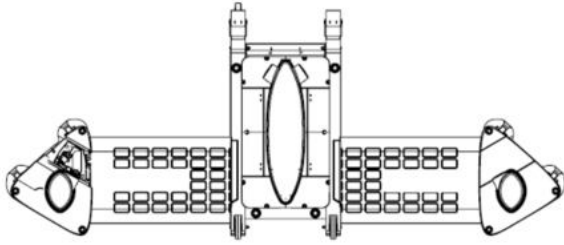
SINGLE LANE, STANDARD WIDTH (OUTDOOR MODEL)



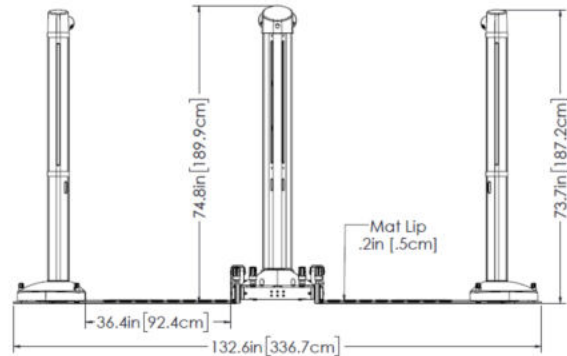
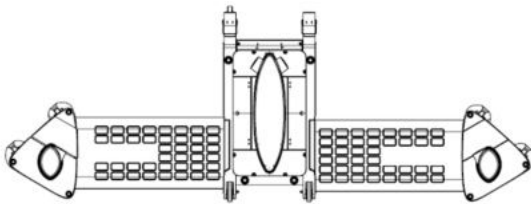
SINGLE LANE, WIDE WIDTH (OUTDOOR MODEL)



DUAL LANE, STANDARD WIDTH (OUTDOOR MODEL)



DUAL LANE, WIDE WIDTH (OUTDOOR MODEL)



PHYSICAL CONFIGURATIONS

CONFIGURATION	DESCRIPTION
2 lane	From the perspective of the security operator watching people exit the towers, the receiver towers are on both sides of the center transmitter tower.
1 lane, Right Side	From the perspective of the security operator watching people exit the towers, the receiver tower is on the right side of the transmitter tower.
1 lane, Left Side	From the perspective of the security operator watching people exit the towers, the receiver tower is on the left side of the transmitter tower.

ORDERING INFORMATION

To place an order for this solution, please contact your [Avigilon Sales Representative](#) for assistance.

