![avigilon — a Motorola Solutions Company]

HD Pro 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 HD Pro camera is just one way Avigilon can help provide the very best monitoring and protection.

The new HD Pro camera series with self-learning video analytics is available in 4K (8 MP) to 5K (16 MP) resolutions, which is the industry's highest single-sensor megapixel camera with self-learning video analytics. The new series offers wide scene coverage, highly accurate object detection and the ability to zoom in for clear image detail. The image quality of the HD Pro camera series is made possible by Avigilon's H4 platform, which combines Avigilon's LightCatcher™ technology for unmatched low-light performance, H.264 compression and the latest edition of its patented High Definition Stream Management (HDSM)™ technology, HDSM 2.0. Avigilon HDSM SmartCodec technology™ H4 platform optimizes the video stream in real time using automatic ROI encoding to save bandwidth and storage requirements while maintaining image quality.
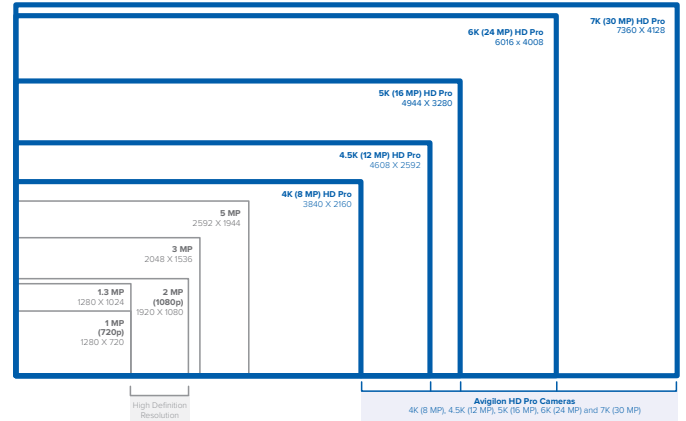
KEY FEATURES

Self-learning video analytics
Patented advanced video pattern detection and teach by example technology
Avigilon's LightCatcher™ technology provides unsurpassed image quality in low light environments
Up to 12 images per second
Patented High Definition Stream Management (HDSM)™ Technology
H.264 and Motion JPEG compression
70 dB true dynamic range
SD card slot for onboard storage support
Compatible with a wide selection of EF and EF-S mount lenses
Power over Ethernet, 24 VAC or 12 VDC power input
External I/O and RS-485 interface
Avigilon HDSM SmartCodec technology for reduce bandwidth and storage requirements

	4K (8 MP)	4.5K (12 MP)	5K (16 MP)
IMAGE PERFORMANCE			
Image Sensor	27.2 mm (Type 1.8) progressive scan CMOS		
Active Pixels	3840 (H) x 2160 (V)	4608 (H) x 2592 (V)	4944 (H) x 3280 (V)
Imaging Area	23.6 mm (H) x 13.4 mm (V); 0.93" (H) x 0.53"		
Minimum Illumination	0.005 lux (at F1.4)		
Dynamic Range	70 dB		
Resolution Scaling	Down to 3072 x 1728		
Image Rate	12		10
3D Noise Reduction Filter	Yes		

LENS	
Lens Mount	EF and EF-S (SLR-style bayonet)

IMAGE CONTROL	
Video Compression	H.264 (MPEG-4 Part 10/AVC), Motion JPEG, HDSM SmartCodec Technology
Streaming	Multi-stream H.264 and Motion JPEG
Motion Detection	Pixel and classified objects
Electronic Shutter Control	Automatic, Manual (1 to 1/8000 sec)
Iris Control	* Automatic, Manual
Day/Night Control	* Automatic, Manual
Flicker Control	50 Hz, 60 Hz
White Balance	Automatic, Manual
Privacy Zones	Up to 64 zones
Audio Compression Method	G.711 PCM 8 kHz
Audio Input/Output	Line level input and output, A/V mini-jack (3.5 mm)
External I/O Terminals	Alarm In, Alarm Out

* dependent on selected lens capability

Image resolution comparison diagram

- 7K (30 MP) HD Pro — 7360 X 4128
- 6K (24 MP) HD Pro — 6016 x 4008
- 5K (16 MP) HD Pro — 4944 X 3280
- 4.5K (12 MP) HD Pro — 4608 X 2592
- 4K (8 MP) HD Pro — 3840 X 2160
- 5 MP — 2592 X 1944
- 3 MP — 2048 X 1536
- 2 MP (1080p) — 1920 X 1080
- 1.3 MP — 1280 X 1024
- 1 MP (720p) — 1280 X 720

High Definition Resolution

Avigilon HD Pro Cameras
4K (8 MP), 4.5K (12 MP), 5K (16 MP), 6K (24 MP) and 7K (30 MP)

NETWORK	
Network	100BASE-TX
Cabling Type	CAT5
Connector	RJ-45
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication
Protocol	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
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)

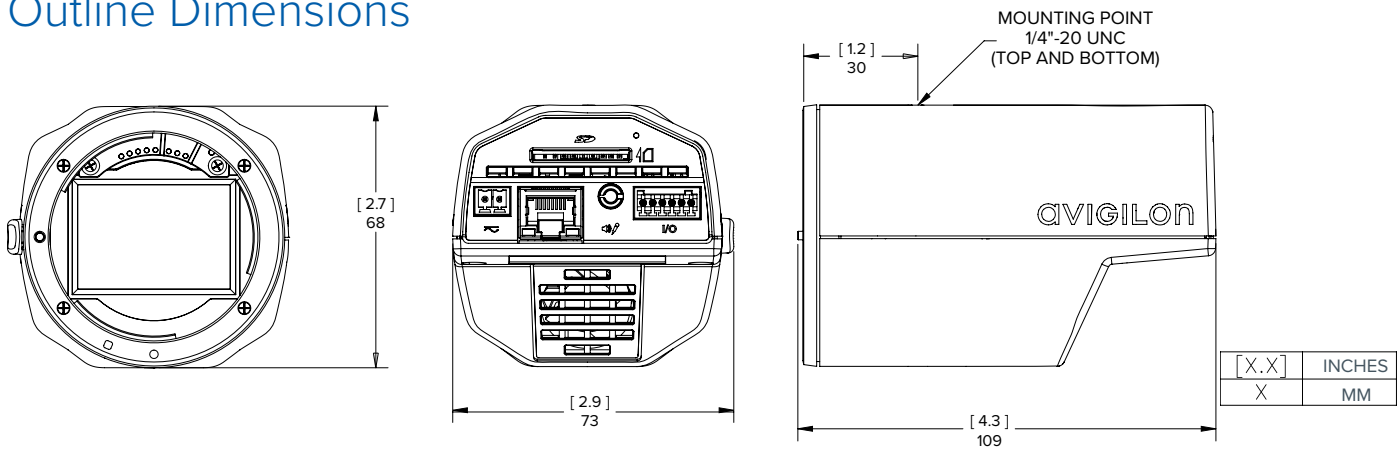| **MECHANICAL**	
Dimensions (L x W x H)	109 mm x 73 mm 68 mm; 4.3" x 2.9" x 2.7"
Weight	0.37 kg (0.8 lb)
Camera Mount	¼"-20 UNC (top and bottom)
Onboard Storage	SD/SDHC/SDXC slot - minimum class 6; class 10 & 64 GB or better recommended

ELECTRICAL			
Power Consumption	13 W		
Power Source	VDC: 12 V +/- 10%, 13 W	VAC: 24 V +/- 10%, 18.4 VA	PoE: IEEE802.3af Class 3 compliant
RTC Backup Battery	3V Manganese Lithium		

ENVIRONMENTAL	
Operating Temperature	-10 °C to +50 °C (14 °F to 122 °F)
Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)
Humidity	0 - 95% non-condensing

CERTIFICATIONS									
Certifications	UL	cUL	CE	ROHS	WEEE	RCM	EAC	KC	BIS
Safety	UL 60950-1				CSA 60950-1		IEC/EN 60950-1		
Electromagnetic Emissions	FCC Part 15 Subpart B Class B		IC ICES-003 Class B		EN 55032 Class B		EN 61000-6-3	EN 61000-3-2	EN 61000-3-3
Electromagnetic Immunity	EN 55024				EN 61000-6-1				

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

Outline Dimensions

MOUNTING POINT
1/4"-20 UNC
(TOP AND BOTTOM)

[1.2]
30

[2.7]
68

[2.9]
73

[4.3]
109

[X.X]	INCHES
X	MM

Ordering Information

8L-H4PRO-B		4K (8 MP) H.264 Pro Color Camera with Self-Learning Video Analytics and HDSM SmartCodec
12L-H4PRO-B		4.5K (12 MP) H.264 Pro Color Camera with Self-Learning Video Analytics and HDSM SmartCodec
16L-H4PRO-B		5K (16 MP) H.264 Pro Color Camera with Self-Learning Video Analytics and HDSM SmartCodec

Lens:	LEF2414CA	Canon 24mm f1.4L, Auto-Iris
	LEF2818CA	Canon 28mm f1.8, Auto-Iris
	*LEFS3014SI	Sigma 30mm f1.4, Auto-Iris
	LEF3514CA	Canon 35mm f1.4L, Auto-Iris
	LEF4028CA	Canon 40mm f2.8, Auto-Iris
	*LEF5012CA	Canon 50mm f1.2L, Auto-Iris
	LEF5014CA	Canon 50mm f1.4, Auto-Iris
	LEF5018CA2	Canon 50mm f1.8, Auto-Iris
	LEF8512CA	Canon 85mm f1.2L, Auto-Iris
	LEF8518CA	Canon 85mm f1.8, Auto-Iris
	LEF10020CA	Canon 100mm f2.0, Auto-Iris
	LEF20028CA	Canon 200mm f2.8L, Auto-Iris
	LEFS111628TO	Tokina 11-16mm f2.8, Auto-Iris, Vari Focal
	LEFS183518SI	Sigma 18-35mm f1.8, Auto-Iris, Vari Focal
	LEF247028TA	Tamron 24-70mm f2.8, Auto-Iris, Vari Focal, with Vibration Control
	LEF7020028CA	Canon 70-200mm f2.8L, Auto-Iris, Vari Focal
	LEF7030040CA	Canon 70-300mm f4-5.6 IS, Auto-Iris, Vari Focal, with image stabilization
	LEF7030040CA2	Canon 70-300mm f/4-5.6L IS Auto-Iris, Vari Focal, with image stabilization
	*LEF163528CA2	Canon 16-35mm f2.8L III, Auto-Iris, Vari Focal
	*LEF10040045CA2	Canon 100-400mm f4.5-5.6L IS II, Auto-Iris, Vari Focal, with image stabilization

*Lenses require AUX power.

	ES-HD-HWS-SM	Outdoor HD Small Enclosure with Heater
	ES-HD-HWS	Outdoor HD Enclosure with Heater
	ES-HD-CWS	Outdoor HD Enclosure with Cooling Fan
	ES-HD-HWS-LG	Outdoor HD Large Enclosure with Heater
	ES-HD-CWS-LG	Outdoor HD Large Enclosure with Cooling Fan
	ES-HD-HS-XL	Outdoor HD X-Large Enclosure
	ES-HD-IPM	Outdoor HD Enclosure PoE Module