

ORIGINAL

SHANIX
TECHNOLOGY
NC.



UNIVERSITY OF RHODE ISLAND

Purchasing Department

Dining Services Distribution Center

10 Tootell Road

Kingston RI, 02821-2010

**RFP Number 100791 HRL Security Cameras
Acknowledged: Addendum 1, dated 7/9/2019**



Innovative Systems Integration...
AV • Security • Presentation Technology

July 26, 2019
University of Rhode Island
Purchasing Department
Dining Services Distribution Center
10 Tootell Road
Kingston, RI 02881-2010

Re: RFP Number 100791 HRL Security Cameras
Acknowledged: Addendum No. 1, dated 7/9/2019

On behalf of Shanix Technology, Inc., I would first want to thank the University of Rhode Island and all involved with RFP 100791 HRL Security Cameras for the opportunity to bid on this project. Shanix Technology, Inc., has been a security solution provider to the University of Rhode Island on various projects and products for more than three decades which included security equipment such as Avigilon security products and Audio-Visual solutions as well as other entities.

The National Council for Home Safety and Security named The University of Rhode Island as the 4th safest campus on the list of Safest College Campuses in 2018. The value of safety in the minds of applying students and their parents is a growing concern and a significant influence in their decision-making process. Our team at Shanix understands the value of safety and how it can impact the lives of students, staff and administration on the Campus.

We take this opportunity to better support the vision of safety on the Campus very seriously and look forward being your integrator partner of choice on this RFP. We bring a team of people passionate about security who bring you the expertise who are experienced industry professionals. We are recognized locally as a leader in the security industry. We believe in providing our clients with a broad set of solutions and services at as very competitive cost.

Shanix Technology strives to present you the most cost effective and technologically appropriate solutions. As part of this RFP, we have provided a base bid as specified and we are also providing an Alternative package that can save the University in excess of **\$25,000** if selected.

The alternative package includes all the equipment as specified by the RFP, except for replacing the Servers with Avigilon Servers as well. The alternate includes **Secure Our City Health Monitoring for all the servers for the duration of the server warranty.**

For further questions or request for more information, please do not hesitate to contact me via email at mustapha@shanix.com or my office phone at (401) 941-4222.

Regards,

Mustapha Gharaee
Vice President



Innovative Systems Integration...

AV • Security • Presentation Technology

Prepared In Response to:

RFP Number: 100791
Bid Due Date/Time: 7/26/2019/2:00PM
Addendum 1, dated 7/9/2019
University of Rhode Island
Purchasing Department
Dining Services Distribution Center
10 Tootell Road
Kingston, RI 02881-2010

Prepared By:

Shanix Technology, Inc.
Mustapha Gharaee
mustapha@shanix.com
(401) 941-4222

Re: RFP Number 100791 HRL Security Cameras

Please accept the enclosed information as a response to your RFP 100791 HRL Security Cameras.

Shanix Technology, Inc. is experienced in the Audi-Visual and Systems Integration solutions. Shanix Technology, Inc. holds Certified Technologist certifications for both the general area and installation.

Shanix Technology, Inc. agrees to accept the terms and conditions of University of Rhode Island standard of work order agreement.

Section 1 – Company Overview/References

Section 2 – Minority Business Enterprise Certificate

Section 3 – Business Licenses and Certificates

Section 4 – Bid Form/Bond

Section 5 – Data Sheets

Section 6 – Alternate Bid Price with Avigilon Servers



UNIVERSITY OF RHODE ISLAND

RFP 100791

HRL Security Cameras

Due Date: July 26, 2019

Time: 2:00 PM

COMPANY OVERVIEW & REFERENCES

2	MINORITY BUSINESS ENTERPRISE CERTIFICATE
3	BUSINESS LICENSES & CERTIFICATES
4	BID FORM & BOND
5	DATA SHEETS
6	ALTERNATE BID PRICE (AVIGILON SERVERS)
7	N/A
8	N/A

COMPANY OVERVIEW

Shanix Technology, Inc. opened for business in 1981 as a closed-circuit television service repair company when video security technology was first being introduced. Over time, Shanix carved out a niche in the security industry as a result of their responsive service capabilities. As the marketplace grew, customer requests began to change. These changes became the catalyst that afforded Shanix the opportunity to become an integrator and certified product distributor.

Our leadership team believes that experience is the best teacher. Our team of professionals never lost sight of the critical nature of customer service which serves as the foundation for this business. Today this philosophy started by Kekin Shah nearly 40 years ago continues to instill this philosophy in every employee on our team every day. The Shanix team is comprised of over 30 dedicated business professionals who value a strong work ethic along with a passion for customer satisfaction. Kekin Shah sets the standard for having a "strong sense of urgency in meeting customer service demands". We are extremely proud of our best practice technicians who believe in a "touch it once robust philosophy". Our engineering teams design systems that are practical and functional.

We pride ourselves as being different from our industry competition. We offer a proficient cybersecurity awareness education with protecting our private information. We have a continuous improvement philosophy for factory and equipment training certifications and staying certified with the standard trade associations. We always comply with the Department of Labor State Licensing, and all technicians satisfy the latest Occupational Safety and Health Administration requirements. We use rigid hiring standards by administering human resources skills assessments, criminal background checks, and pre-employment drug screens.

Please see Appendix 1.3 for Minority Business Enterprise and Appendix 1.4 for Shanix Company Data Report

REFERENCES

BROWN UNIVERSITY

Ron Dunleavy
164 Angell Street
Providence, RI 02912
(401) 863-2716

RI HOSPITAL
William Helm
593 Eddy Street
Providence, RI 02903
(401) 444-8000

TORAY PLASTICS (AMERICA), INC.

Michael Fontaine
50 Belver Avenue
North Kingstown, RI 02852
(401) 294-1550 x 3230

VA MEDICAL CENTER – PROVIDENCE (VAMC)

Lt. Anthony Gatta
830 Chalkstone Avenue
Providence, RI 02908
(401) 457-3308



Innovative Systems Integration
AV • Security • Presentation Technology

CORPORATE DATA

Corporate Name	Shanix, Inc. <i>dba</i> Shanix Technology, Inc.	
Address	40 Worthington Road, Cranston, RI 02920	
Phone Numbers	Toll Free: (800) 783-2067 Main Line: (401) 941-4222 Facsimile: (401) 941-4333	
Date & State Incorporated	State of Rhode Island & Providence Plantations 1983	
President	Kekin A. Shah	
Federal Tax Identification Number	05-0399282	
Dun & Bradstreet Number	034396879	
Company Website	www.shanix.com	
Number of Employees	35	
Fields of Expertise	<ul style="list-style-type: none"> - Security Surveillance/Access Control/Intrusion - Audio/Video Presentation Technology & System Integration - Partnerships with Builders, Contractors, Design Consultants, ECs & GCs 	
Certifications	<ul style="list-style-type: none"> - National Minority Supplier Development Council (#GN01756) - Rhode Island Master Price Agreement (MPA #416 & #419) - Rhode Island Telecommunications System Contractor - Massachusetts Security Systems Contractor - Massachusetts Division of Capital Asset Management (DCAM) - Criminal Offender Record Information (CORI) - Occupational Safety and Health Administration (OSHA) - Transportation Worker Identification Credential (TWIC) - Common Access Card (CAC) - US Department of Defense (DOD) Clearance - Commercial and Government Entity Program (CAGE) Code 1QUD5 - Several Technical Manufacturers Certifications - Crestron Certified Programmer - Crestron Certified Designer - Certified Technology Specialist (CTS) - Certified Technology Specialist Installation (CTS-I) 	
Memberships	<ul style="list-style-type: none"> - Professional Security Association (PSA) - American Society for Industrial Security (ASIS) - International Security Conference (ISC) - InfoComm International - IPVM 	

THIS CERTIFIES THAT

Shanix Inc.

dba Shanix Technology, Inc.



NMSDC
National Minority Supplier
Development Council

* Nationally certified by the: **GREATER NEW ENGLAND MINORITY SUPPLIER DEVELOPMENT COUNCIL**

*NAICS Code(s): 561621; 238210; 561622; 541512

* Description of their product/services as defined by the North American Industry Classification System (NAICS)

07/24/2018

Issued Date

GN01756

Certificate Number

07/31/2019

Expiration Date

Louis Green

Peter F. Hurst, Jr., President and CEO

By using your password (NMSDC issued only), authorized users may log into NMSDC Central to view the entire profile: <http://nmsdc.org>

Certify, Develop, Connect, Advocate.

* MBEs certified by an Affiliate of the National Minority Supplier Development Council, Inc.®



State of Rhode Island and Providence Plantations
Contractors' Registration and Licensing Board
Shanix, Inc.



Kekin Shah

has met the requirements of the law and has been granted this
certificate of registration as an

COMMERCIAL CONTRACTOR

Registration # 36353 Effective: 11/9/18 Expires 12/1/20

REGISTRANT'S SIGNATURE
(NOT VALID UNLESS SIGNED)

CHAIRPERSON

License Details - Telecommunications

Name KEKIN A SHAH **Company** SHANIX INC
Address 40 WORTHINGTON ROAD **Expiration Date** 2/28/2021
CRANSTON, RI 02920-
Telephone (401) 941-4222

License #	Status	Description	Issue Date	Category
TSC 1922	CURRENT	TELECOM SYS CONTRACT	1/12/1995	DATA VIDEO TELEP SOUND

License Details - Telecommunications

Name MUSTAPHA GHARAEI **Company** SHANIX INC
Address 40 OLD LOUISQUISSET PIKE #1204L **Expiration Date** 7/31/2020
NORTH SMITHFIELD, RI 02896-
Telephone (401) 358-4750

License #	Status	Description	Issue Date	Category
TSC 1920	CURRENT	TELECOM SYS CONTRACT	1/12/1995	DATA VIDEO TELEP SOUND

License Details - Telecommunications

Name PATRICK D HAY **Company** SHANIX TECHNOLOGY
Address 30 SCOTT DRIVE **Expiration Date** 3/31/2021
RIVERSIDE, RI 02915
Telephone (401) 451-2981

License #	Status	Description	Issue Date	Category
TST 7626	CURRENT	TELECOM TECHNICIAN	3/27/2018	DATA VIDEO

License Details - Telecommunications

Name ZECHARIAH A LOMAS
Address 40 WORTHINGTON ROAD
 CRANSTON , RI 02920
Telephone (401) 941-4222

Company SHANIX TECHNOLOGY
Expiration Date 8/31/2020

License #	Status	Description	Issue Date	Category
APPR 7924	CURRENT	TELECOM SYS APPRENT	5/13/2019	

License Details - Telecommunications

Name JACOB J TORRES
Address 146 HIGH STREET
 CUMBERLAND , RI 02864
Telephone (401) 481-1130

Company SHANIX TECHNOLOGY INC
Expiration Date 4/30/2021

License #	Status	Description	Issue Date	Category
TST 7359	CURRENT	TELECOM TECHNICIAN	5/26/2015	DATA VIDEO

License Details - Telecommunications

Name MICHAEL C LEWIS
Address 132 DANIELSON PIKE
 FOSTER , RI 02825
Telephone (401) 481-1173

Company SHANIX INC.
Expiration Date 9/30/2020

License #	Status	Description	Issue Date	Category
TST 6406	CURRENT	TELECOM TECHNICIAN	10/27/2009	DATA VIDEO

License Details - Telecommunications

Name BRYAN D OLIVARES **Company** SHANIX TECHNOLOGY INC
Address 40 WORTHINGTON ROAD **Expiration Date** 2/28/2020
 CRANSTON , RI 02920
Telephone (401) 359-4200

License #	Status	Description	Issue Date	Category
TST 7324	CURRENT	TELECOM TECHNICIAN	4/28/2015	VIDEO

License Details - Telecommunications

Name MICHAEL V SOUSA **Company** SHANIX TECHNOLOGY
Address 250 SMITHFIELD ROAD **Expiration Date** 10/31/2020
 NORTH PROVIDENCE , RI 02904
Telephone (401) 578-9353

License #	Status	Description	Issue Date	Category
TST 7589	CURRENT	TELECOM TECHNICIAN	11/28/2017	DATA VIDEO

License Details - Telecommunications

Name AUSTIN R ROURKE **Company** SHANIX TECHNOLOGY
Address 40 WORTHINGTON ROAD **Expiration Date** 11/30/2020
 CRANSTON , RI 02920
Telephone (401) 808-4820

License #	Status	Description	Issue Date	Category
APPR 7925	CURRENT	TELECOM SYS APPRENT	5/13/2019	

901 Deerfield Parkway
 Buffalo Grove, IL 60089
 (847) 205-1922
 Fax (847) 205-1962
 www.bcdvideo.com
 www.linkedin.com/company/bcdvideo

To Whom It May Concern,

Shanix Technology Inc. is an authorized & certified Security Integrator. They are approved by BCDVideo for purchase and installation of all product offerings. The solution provided for University of Rhode Island is based off the below calculation:

45% Indoor & 75% Outdoor Motion Option

Resolution	Compression	FPS	Days	Cameras	Recording %	Disk Space, GB	Bandwidth, Mbit/s	Bitrate,kbit/s	Comment
2592x1944 (5 MP)	H.264-15 (High Quality)	15	30	228	75	394866.5	1624.97	7127	20C-H4A-4MH-360
2592x1944 (5 MP)	H.264-15 (High Quality)	15	30	45	75	77934.2	320.72	7127	15C-H4A-3MH-180
2048x1536 (3 MP)	H.264-15 (High Quality)	15	30	103	75	110720.3	455.64	4424	3.0C-H4A-DO1-IR
2048x1536 (3 MP)	H.264-15 (High Quality)	15	30	184	45	118674.9	813.96	4424	3.0C-H4A-D1

Important: Real frame size value highly depends on image complexity, lens and CCD/CMOS quality. For detailed explanation, please visit: www.ivsq.com/software/help/

Total FPS	Disk space,GB	Bandwidth, Mbit/s
8400	702195.9	3215.29

- With 20% overhead, 842TB of storage is required and bandwidth is around 3,860Mbps.

If any questions or clarification is needed, please reach out to me directly.

Regards,

Phil Luongo
 Senior Solutions Specialist
 e: pluongo@bcdvideo.com
 o: 847-509-2955

July 16, 2018

To whom it may concern:

Re: Manufacturer Authorization Letter

This letter is to confirm that the company at the address noted below is a certified Avigilon Service Provider and is a Partner in good standing.

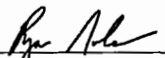
**SHANIX INC.
40 WORTHINGTON ROAD
CRANSTON RI 02920
USA**

In order to be an authorized Partner in good standing, a company is promptly paying all invoices, has an adequate number of employees who are fully certified as having been trained through Avigilon training programs on how to install and provide first line of support for all Avigilon products, and has completed several Avigilon solution implementations.

This letter is subject to review and renewal on an annual basis, and good standing can be revoked at any time. Please contact the undersigned if you have any questions.

Sincerely,

AVIGILON CORPORATION

Per: 

Ryan Nolan
Senior Vice President, Business Operations
Office: 214-445-4650



AVIGILON

Certificate of Completion

This certificate acknowledges that

Patrick Hay

has successfully completed the 17 hour

ACC™ 6 Certification

08/01/2018

Alicia Scheffler
Director, Global Training



AVIGILON
Certificate of Completion

This certificate acknowledges that

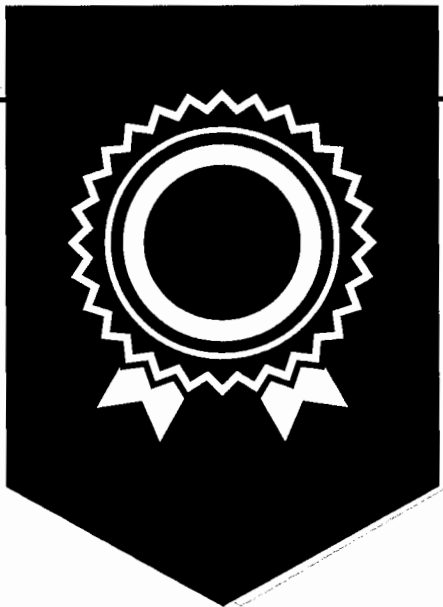
Zechariah Lomas

has successfully completed

ACM™ Installer 1 Certification

05/01/2019

Alicia Scheffler
Director, Global Training



AVIGILON

Certificate of Completion

This certificate acknowledges that

Zechariah Lomas

has successfully completed

ACM™ Installer II Certification

05/03/2019

Alicia Scheffler
Director, Global Training

PureSafety®

Certificate of Completion

Presented to

Patrick Hay

of

Smiths Detection

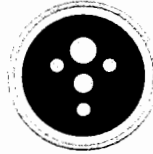
for successful completion of

**OSHA 10 Hour General Industry Outreach Training
Course (CEU=1.0)**

on

1/18/2012

Certificate of Completion



360training.com[®]

This Certifies That

Zechariah Lomas

is awarded this certificate for

OSHA 10 Hour Outreach Training Program - Construction

Credit Hours: 10.00

Completion Date: 04/11/2019



Curtis Chambers, Trainer C 26-0106073 and G 26-0079775

“As an OSHA authorized trainer, I verify that I have conducted this OSHA outreach training class in accordance with OSHA Outreach Training Program requirements. I will document this class to my authorizing OSHA training organization. Upon successful review of my documentation, I will provide each student their completion card within 90 days of the end of the class.”

6801 N Capital of Texas Hwy, Bldg I, Suite 250 ♦ Austin, TX 78731 ♦ 877.881.2235 ♦ www.360training.com

OEC-13207397

CERTIFICATE OF COMPLETION



MICHAEL SOUSA

Has diligently and with merit completed a
10-Hour OSHA Hazard Recognition Training for the Construction Industry Course
on 2/7/2017
from the OSHA Education Center and the American Safety Council Inc., and is awarded 1.0 IACET CEU.

A handwritten signature in black ink, appearing to read "Jeffrey Pairan".

Director: Jeffrey Pairan



As an IACET Accredited Provider, American Safety Council Inc. offers CEUs for its programs that qualify under the ANSI/IACET Standard.



11-004983291

This card acknowledges that the recipient has successfully completed a
10-hour Occupational Safety and Health training Course in
Construction Safety and Health

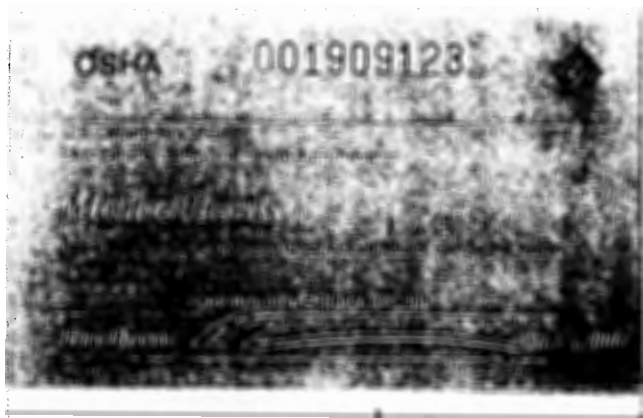
Jacob Torres

Guy Lanzi

5/5/2015

(Trainer name - print or type)

(Course end date)





HILTI. Outperform. Outlast.

Qualified Installer of Firestop Products 0679789

This certifies that Patrick Hay
(Name of Installer)

has received training on the correct installation of trade specific firestop systems and products Security / Telecom on: 8-22-17
Trade Date

Antonio Chiosso 30716
Signature of Installer Number of Affiliated Hilti Fire Guards

I have received instruction on the correct selection and installation of Hilti Firestop systems and products specified, and agree to comply with all rules and regulations governing their use.

Signature [Signature]

For more information on Hilti Firestop products and installation, please visit our website at www.hilti.com/firestop

#



HILTI. Outperform. Outlast.

Qualified Installer of Firestop Products 0679786

This certifies that Paulo Rodrigues
(Name of Installer)

has received training on the correct installation of trade specific firestop systems and products Installer on: 8-21-17
(List trade) (Date)

Thomas Chavira 30716
(Signature of Authorized Instructor) (Number of Authorized Instructor Card)

I have received instruction on the correct selection and installation of the Hilti Firestop systems and products specified, and agree to comply with all rules and regulations governing their use.

Signature Paulo Rodrigues

Failure to comply with any of the rules and regulations for safe installation of Firestop products shall be cause for the immediate revocation of this card, which must be surrendered upon demand to the applicable authority.

Qualified Installer of Firestop Products 0679782This certifies that ROBERTO PEREIRA
(Name of Installer)has received training on the correct installation of trade specific firestop
systems and products on: CEILING
(List Trade) (Date)Antonio Chico 30716
(Signature of Authorized Instructor) (Number of Authorized Instructor Card)I have received instruction on the correct selection and installation of
the Hilti Firestop systems and products specified, and agree to comply
with all rules and regulations governing their use.Signature [Signature]Failure to comply with any of the rules and regulations for safe installation of Firestop products shall be cause for the
immediate revocation of this card, which must be surrendered upon demand to the applicable authority.



HILTI. Outperform. Outlast.

Qualified Installer of Firestop Products 0679779

This certifies that JAKOB TORRES
(Name of Installer)

has received training on the correct installation of trade specific firestop systems and products TECHNICIAN on: 8/22/17
(List trade) (Date)

[Signature]
(Signature of Authorized Instructor) 30716
(Number of Authorized Instructor Card)

I have received instruction on the correct selection and installation of the Hilti Firestop systems and products specified, and agree to comply with all rules and regulations governing their use.

Signature [Signature]

Failure to comply with any of the rules and regulations for safe installation of Firestop products shall be cause for the immediate revocation of this card, which must be surrendered upon demand to the applicable authority.



Hilti. Outperform. Outlast.

Qualified Installer of Firestop Products 0679783

This certifies that Bryan Olin
(Name of Installer)

has received training on the correct installation of trade specific firestop systems and products Teach on: 7/22
(List trade) (Date)

David Clarke 80716
(Signature of Authorized Instructor) (Number of Authorized Instructor Card)

I have received instruction on the correct selection and installation of the Hilti Firestop systems and products specified, and agree to comply with all rules and regulations governing their use.

Signature Bryan Olin

Failure to comply with any of the rules and regulations for safe installation of Firestop products shall be cause for the immediate revocation of this card, which must be surrendered upon demand to the applicable authority.



HILTI. Outperform. Outlast.

Qualified Installer of Firestop Products 0679788

This certifies that Michael Sousa
(Name of Installer)

has received training on the correct installation of trade specific firestop
systems and products TOLCOMMUNICATIONS on: 8/22/17
(List trade) TECH (Date)

James Chavez 30766
(Signature of Authorized Instructor) (Number of Authorized Instructor Card)

I have received instruction on the correct selection and installation of
the HILTI Firestop systems and products specified, and agree to comply
with all rules and regulations governing their use.

Signature [Signature]

Failure to comply with any of the rules and regulations for safe installation of Firestop products shall be cause for the
immediate revocation of this card, which must be surrendered upon demand to the applicable authority.

Quasi-Public
University of Rhode Island

SECTION 1 – RIVIP VENDOR INFORMATION


Bid/RFP Number: 100791
Bid/RFP Title: HRL SECURITY CAMERAS
Bid Contact Person: PURCHASING
Bid Contact Phone: 4018742171
Opening Date & Time: 7/17/2019 2:00 PM
RIVIP Vendor ID #: 2450
Vendor Name: Shanix, Inc.
Address: 40 Worthington Road
Telephone: (401) 941-4222
Fax: (401) 941-4333
E-Mail: mustapha@shanix.com
Contact Person: Mustapha Gharaee
Title: Vice President

NOTE: AWARD OF CONTRACTS AND PURCHASE ORDERS SHALL BE SUBJECT, AT THE DISCRETION OF THE PURCHASING AGENT, TO THE OFFEROR COMPLETING AN ON-LINE RIVIP REGISTRATION at www.purchasing.state.ri.us. It is THE RESPONSIBILITY OF THE VENDOR to make on-line corrections/updates using the Vendor maintenance program on the RI Division of Purchases Web Site.

Submission Information

Submit offers as required within the Bid/RFP document. This contract is NOT a state bid.

Signature below commits vendor to the attached offer and certifies (1) that the offer has taken into account all solicitation amendments, (2) that the above statements and information are accurate, (3) that vendor understands and has complied with the requirements set forth.



Vendor's Signature: I/we certify that the above vendor information is correct and complete.

Date 7/26/2019

MUSTAPHA GHARAE, VICE PRESIDENT

Print Name and Title of company official signing offer



BID/PROPOSAL

COMMODITY: HRL SECURITY CAMERAS DATE: 6/19/2019

FORMAL BID NO. _____ PUBLIC BID NO. 100791 RFP NO. _____

BIDS ARE TO BE RECEIVED IN URI PURCHASING DEPARTMENT BY: DATE: 7/17/2019 TIME: 2:00 PM
Eastern Time

BUYER: XENIYA JONES/dz XJ SURETY REQUIRED: YES: X NO: _____

PRE-BID/PROPOSAL CONFERENCE: DATE: 6/27/2019 TIME: 9:00 AM

MANDATORY: YES: X NO: _____

LOCATION: URI OFFICE OF CAPITAL PROJECTS, CONFERENCE ROOM
60 TOOTELL ROAD, KINGSTON, RI 02881

Questions concerning this solicitation must be received by the URI Purchasing Department at URIPurchasing@uri.edu no later than DATE: 7/3/2019 TIME: NOON Please reference the Bid/RFP No. on all correspondence.

Questions received, if any, will be posted on the internet as an addendum to this solicitation at the conclusion of the question period. It is the responsibility of all interested parties to download this information.

For Bid Solicitation Information visit: <http://web.uri.edu/purchasing/bid-information/>

BE SURE ALL INFORMATION SHOWN BELOW IS CORRECT.
FEDERAL EMPLOYER IDENTIFICATION NUMBER MUST BE INCLUDED.

COMPANY NAME: SHANIX, INC. dba: SHANIX TECHNOLOGY, INC. FEIN: 05-0399282

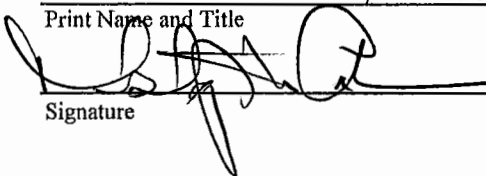
STREET AND NUMBER: 40 WORTHINGTON ROAD

CITY, STATE & ZIP CODE: CRANSTON, RI 02920

No offer will be considered that is not accompanied by the attached University of Rhode Island Bidder Certification Form/Contract Offer completed and signed by the offeror.

MUSTAPHA GHARAEI, VICE PRESIDENT
Print Name and Title

(401)941-4222/(401)941-4333
Telephone Number/Facsimile Number


Signature

7/26/2019
Date

mustapha@shanix.com
E-mail address

THIS BID WILL NOT BE HONORED UNLESS SIGNED

The University of Rhode Island is an equal opportunity employer committed to the principles of affirmative action.

Award will be made to the responsive and responsible offeror quoting the lowest net price in accordance with specifications, for any individual item(s), for major groupings of items, or for all items listed, at the University's sole option.

BID SURETY. Where bid surety is required, bidder must furnish a bid bond or certified check for 5% of the bid total with the bid, or for such other amount as may be specified. Bids submitted without a required bid surety will not be considered.

SPECIFICATIONS. Unless specified "no substitute", product offerings equivalent in quality and performance will be considered (at the sole option of the University) on the condition that the offer is accompanied by detailed product specifications. Offers which fail to include alternate specifications may be deemed nonresponsive.

VENDOR AUTHORIZATION TO PROCEED. When a purchase order, change order, contract/agreement or contract/agreement amendment is issued by the University of Rhode Island, no claim for payment for services rendered or goods delivered contrary to or in excess of the contract terms and scope shall be considered valid unless the vendor has obtained a written change order or contract amendment issued by the University of Rhode Island Purchasing Office PRIOR to delivery.

Any offer, whether in response to a solicitation for proposals or bids, or made without a solicitation, which is accepted in the form of an order OR pricing agreement made in writing by the University of Rhode Island Purchasing Office, shall be considered a binding contract.

REGULATIONS, GENERAL TERMS AND CONDITIONS GOVERNING STATE AND BOARD OF GOVERNORS FOR HIGHER EDUCATION CONTRACTS. This solicitation and any contract or purchase order arising from it are issued in accordance with the specific requirements described herein, and the State's Purchasing Laws and Regulations and other applicable State Laws, including the Board of Governors for Higher Education General Terms and Conditions of Purchase. The regulations, General Terms and Conditions are incorporated into all University of Rhode Island contracts and can be viewed at: www.ribghe.org/procurementregs113006.pdf and www.purchasing.ri.gov.

ARRA SUPPLEMENTAL TERMS AND CONDITIONS. Contracts and sub-awards funded in whole or in part by the American Recovery and Reinvestment Act of 2009. Pub.L.No. 111-5 and any amendments thereto, such contracts and sub-awards shall be subject to the Supplemental Terms and Conditions for Contracts and Sub-awards funded in whole or in part by the American Recovery and Reinvestment Act of 2009. Pub.L.No. 111-5 and any amendments thereto located on the Division of Purchases website at www.purchasing.ri.gov.

EQUAL EMPLOYMENT OPPORTUNITY. Compliance certificate and agreement procedures will apply to all awards for supplies or services valued at \$10,000 or more. Minority Business Enterprise policies and procedures, including subcontracting opportunities as described in Title 37 Chapter 14.1 of the Rhode Island General Laws also apply.

PERFORMANCE BONDS. Where indicated, successful bidder must furnish a 100% performance bond and labor and payment bond for contracts subject to Title 37 Chapters 12 and 13 of the Rhode Island General Laws. All bonds must be furnished by a surety company authorized to conduct business in the State of Rhode Island. Performance bonds must be submitted within 21 calendar days of the issuance of a tentative notice of award.

DEFAULT and NON-COMPLIANCE Default and/or non-compliance with the requirements and any other aspects of the award may result in withholding of payment(s), contract termination, debarment, suspension, or any other remedy necessary that is in the best interest of the state/University of Rhode Island.

COMPLIANCE Vendor must comply with all applicable federal, state and local laws, regulations and ordinances.

SPRINKLER IMPAIRMENT AND HOT WORK. The Contractor agrees to comply with the practices of the State's insurance carrier for sprinkler impairment and hot work. Prior to performing any work, the Contractor shall obtain the necessary information for compliance from the Risk Management Office at the Department of Administration or the Risk Management Office at the University of Rhode Island.

Each bid proposal for a *public works project* must include a "public copy" to be available for public inspection upon the opening of bids. **Bid Proposals that do not include a copy for public inspection will be deemed nonresponsive.**

For further information on how to comply with this statutory requirement, see R.I. Gen. Laws §§ 37-2-18(b) and (j). Also see State of Rhode Island Procurement Regulation 5.11 at <http://www.purchasing.ri.gov/rulesandregulations/rulesAndRegulations.aspx>

ALL CONTRACT AWARDS ARE SUBJECT TO THE FOLLOWING DISCLOSURES & CERTIFICATIONS

Offerors must respond to every disclosure statement. A person authorized to enter into contracts must sign the offer and attest to the accuracy of all statements.

Indicate Yes (Y) or No (N):

N 1 State whether your company, or any owner, stockholder, officer, director, member, partner, or principal thereof, or any subsidiary or affiliated company, has been subject to suspension or debarment by any federal, state, or municipal government agency, or the subject of criminal prosecution, or convicted of a criminal offense with the previous five (5) years. If so, then provide details below.

N 2 State whether your company, or any owner, stockholder, officer, director, member, partner, or principal thereof, or any subsidiary or affiliated company, has had any contracts with a federal, state or municipal government agency terminated for any reason within the previous five (5) years. If so, then provide details below.

N 3 State whether your company or any owner, stockholder, officer, director, member, partner, or principal thereof, or any subsidiary or affiliated company, has been fined more than \$5000 for violation(s) of Rhode Island environmental laws by the Rhode Island Department of Environmental Management within the previous five (5) years. If so, then provide details below.

Y 4 I/we certify that I/we will immediately disclose, in writing, to the University Purchasing Agent any potential conflict of interest which may occur during the course of the engagement authorized pursuant to this contract.

Y 5 I/we acknowledge that, in accordance with (1) Chapter §37-2-54(c) of the Rhode Island General Laws "no purchase or contract shall be binding on the state or any agency thereof unless approved by the Department [of Administration] or made under general regulations which the Chief Purchasing Officer may prescribe," and (2) RIGL section §37-2-7(16) which identifies the Board of Governors for Higher Education as a public agency and gives binding contractual authority to the University Purchasing Agent, including change orders and other types of contracts and under State Purchasing Regulation 8.2.1.1.2 any alleged oral agreement or arrangements made by a bidder or contractor with any agency or an employee of the University of Rhode Island may be disregarded and shall not be binding on the University of Rhode Island.

Y 6 I/we certify that I or my/our firm possesses all licenses required by Federal and State laws and regulations as they pertain to the requirements of the solicitation and offer made herein and shall maintain such required license(s) during the entire course of the contract resulting from the offer contained herein and, should my/our license lapse or be suspended, I/we shall immediately inform the University of Rhode Island Purchasing Agent in writing of such circumstance.

Y 7 I/we certify that I/we will maintain required insurance during the entire course of the contract resulting from the offer contained herein and, should my/our insurance lapse or be suspended, I/we shall immediately inform the University of Rhode Island Purchasing Agent in writing of such circumstance.

Y 8 I/we certify that I/we understand that falsification of any information herein or failure to notify the University of Rhode Island Purchasing Agent as certified herein may be grounds for suspension, debarment and/or prosecution for fraud.

Y 9 I/we acknowledge that the provisions and procedures set forth in this form apply to any contract arising from this offer.

Y 10 I/we acknowledge that I/we understand the State's Purchasing Laws (§37-2 of the General Laws of Rhode Island) and Purchasing Regulations and General Terms and Conditions available at the Rhode Island Division of Purchases Website (<http://www.purchasing.ri.gov>) and the Board of Governors Website (www.ribghe.org/procurementregs113006.pdf) apply as the governing conditions for any contract or purchase order I/we may receive from the University of Rhode Island, including the offer contained herein.

Y 11 I/we certify that the bidder: (i) is not identified on the General Treasurer's list, created pursuant to R.I. Gen. Laws § 37-2.5-3, as a person or entity engaging in investment activities in Iran described in § 37-2.5-2(b); and (ii) is not engaging in any such investment activities in Iran.

N 12 If the product is subject to Department of Commerce Export Administration Regulations (EAR) or International Traffic in Arms Regulations (ITAR), please provide the Export Control Classification Number (ECCN) or the US Munitions List (USML) Category: _____

Y 13 I/we certify that the above information is correct and complete.

IF YOU HAVE ANSWERED "YES" TO QUESTIONS #1 - 3 OR IF YOU ARE UNABLE TO CERTIFY YES TO QUESTIONS #4 - 11 and 13 OF THE FOREGOING, PROVIDE DETAILS/EXPLANATION IN AN ATTACHED STATEMENT. INCOMPLETE CERTIFICATION FORMS SHALL BE GROUNDS FOR DISQUALIFICATION OF OFFER.

Signature below commits vendor to the attached offer and certifies (1) that the offer has taken into account all solicitation amendments, (2) that the above statements and information are accurate and that vendor understands and has complied with the requirements set forth herein.

Vendor's Signature:  Bid Number: 100791 Date: 7/26/2019

(Person Authorized to enter into contracts; signature must be in ink)

(if applicable)

MUSTAPHA GHARAEI, VICE PRESIDENT

Print Name and Title of Company official signing offer Telephone Number _____

University of Rhode Island Bidder Certification Form

ALL OFFERS ARE SUBJECT TO THE REQUIREMENTS, PROVISIONS AND PROCEDURES CONTAINED IN THIS CERTIFICATION FORM. Offerors are expected to read, sign and comply with all requirements. Failure to do so may be grounds for disqualification of the offer contained herein.

Rules for Submitting Offers

This Certification Form must be attached in its entirety to the front of the offer and shall be considered an integral part of each offer made by a vendor to enter into a contract with the University of Rhode Island. As such, submittal of the entire Bidder Certification Form, signed by a duly authorized representative of the offeror attesting that he/she (1) has read and agrees to comply with the requirements set forth herein and (2) to the accuracy of the information provided and the offer extended, is a mandatory part of any contract award.

To assure that offers are considered on time, each offer must be submitted with the specific Bid/RFP/LOI number, date and time of opening marked in the upper left hand corner of the envelope. Each bid/offer must be submitted in separate sealed envelopes.

A complete signed (in ink) offer package must be delivered to the University of Rhode Island Purchasing Office by the time and date specified for the opening of responses in a sealed envelope.

Bids must be submitted on the URI bid solicitation forms provided, indicating brand and part numbers of items offered, as appropriate. Bidders must submit detailed cuts and specs on items offered as equivalent to brands requested WITH THE OFFER. Bidders must be able to submit samples if requested.

Documents misdirected to other State locations or which are not present in the University of Rhode Island Purchasing Office at the time of opening for whatever cause will be deemed to be late and will not be considered. For the purposes of this requirement, the official time and date shall be that of the time clock in the reception area of the University of Rhode Island Purchasing Office. Postmarks shall not be considered proof of timely submission.

RIVIP SOLICITATIONS. To assure maximum access opportunities for users, public bid/RFP solicitations shall be posted on the RIVIP for a minimum of seven days and no amendments shall be made within the last five days before the date an offer is due. Except when access to the Web Site has been severely curtailed and it is determined by the Purchasing Agent that special circumstances preclude extending a solicitation due date, requests to mail or fax hard copies of solicitations will not be honored. When the result of an internet solicitation is unsuccessful, the University of Rhode Island will cancel the original solicitation and resolicit the original offer directly from vendors.

PRICING. Offers are irrevocable for sixty (60) days from the opening date (or such other extended period set forth in the solicitation), and may not be withdrawn, except with the express permission of the University Purchasing Agent. All pricing will be considered to be firm and fixed unless otherwise indicated. The University of Rhode Island is exempt from Federal excise taxes and State Sales and Use Taxes. Such taxes shall not be included in the bid price. PRICES QUOTED ARE FOB DESTINATION.

DELIVERY and PRODUCT QUALITY. All offers must define delivery dates for all items; if no delivery date is specified, it is assumed that immediate delivery from stock will be made. The contractor will be responsible for delivery of materials in first class condition. Rejected materials will be at the vendor's expense.

PREVAILING WAGE, OSHA SAFETY TRAINING and APPRENTICESHIP REQUIREMENTS. Bidders must comply with the provisions of the Rhode Island labor laws, including R.I. Gen. Laws §§ 37-13-1 et seq. and occupational safety laws, including R.I. Gen. Laws §§ 28-20-1 et seq. These laws mandate for public works construction projects the payment of prevailing wage rates, the implementation and maintenance of occupational safety standards, and for projects with a minimum value of \$1 Million, the employment of apprentices. The successful Bidder must submit certifications of compliance with these laws from each of its subcontractors prior to their commencement of any work. Prevailing wage rates, apprenticeship requirements, and other workforce and safety regulations are accessible at www.dlt.ri.gov.

PUBLIC RECORDS. Offerors are advised that all materials submitted to the University for consideration in response to this solicitation will be considered without exception to be Public Records pursuant to Title 38 Chapter 2 of the Rhode Island General Laws, and will be released for inspection immediately upon request once an award has been made. Offerors are encouraged to attend public bid/RFP openings to obtain information; however, bid/RFP response summaries may be reviewed after award(s) have been made by visiting the Rhode Island Vendor Information Program (RIVIP) at www.purchasing.ri.gov, Solicitation Opportunities +, Other Solicitation Opportunities or appearing in person at the University of Rhode Island Purchasing Office Mondays through Fridays between 8:30 am – 3:30 pm. Telephone requests for results will not be honored. Written requests for results will only be honored if the information is not available on the RIVIP.

Solicitation # : 100791
Solicitation Title: HRL SECURITY CAMERAS

BID FORM

To: University of Rhode Island, Purchasing Department
10 Tootell Road, Kingston, RI 02881

Project: Housing and Residential Life Security Cameras Upgrade
URI Project # KC.R.MISC.2019.001

Bidder:

SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.

Legal name of entity

40 WORTHINGTON ROAD CRANSTON, RI 02920

Address

MUSTAPHA GHARAEEmustapha@shanix.com

Contact name

Contact email

(401)941-4222 x 714 (401)941-4333

Contact telephone

Contact fax

1. Base BID PRICE

The Bidder submits this bid proposal to perform all of the work (including labor and materials) as described in the Solicitation for this Base Bid Price, (including the costs for all Allowances, Bond, and Addenda):

\$1,525,278.00 Includes, permit cost, performance Bond,
as well as required allowances

(Base Bid Price *in figures* printed electronically, typed, or handwritten legibly in ink)

One Million, Five Hundred Twenty Five, Two Hundred Seventy Eight dollars
Includes, permit cost, performance Bond, as well as required allowances

(Base Bid Price *in words* electronically, typed, or handwritten legibly in ink)

Solicitation # : 100791
Solicitation Title: HRL SECURITY CAMERAS

• **ALLOWANCES**

The Base Bid Price ***includes*** the costs for the following Allowances as defined in Specification Section 01 2010:

- | | |
|--|------------------|
| 1. Unforeseen asbestos abatement due to hidden conditions. | \$ 40,000 |
| 2. Masonry repairs to concrete masonry units and brick due to hidden conditions. | \$ 25,000 |
| 3. Gypsum board and suspended ceiling repair due to hidden conditions. | \$ 22,000 |
| 4. Additional patching and painting. | \$ 25,000 |
| 5. Additional firestopping in hidden conditions | <u>\$ 25,000</u> |
| 6. Total Allowances | \$ 137,000 |

• **BONDS**

The Base Bid Price ***includes*** the costs for all Bid and Payment and Performance Bonds required by the solicitation.

• **ADDENDA**

The Bidder has examined the entire solicitation (including the following Addenda), and the Base Bid Price ***includes*** the costs of any modifications required by the Addenda.

All Addenda must be acknowledged.

Addendum No. 1, dated 7/9/2019

Addendum No. 2, dated _____

Addendum No. 3, dated _____

2. **ALTERNATES** (*Additions to Base Bid Price*)

The Bidder offers to: (i) perform the work described in these Alternates as selected by the State in the order of priority specified below, based on the availability of funds and the best interest of the State; and (ii) increase the Base Bid Price by the amount set forth below for each Alternate (further defined in Specification Section 01 2010) selected.

NONE

3. **UNIT PRICES**

The Bidder submits these predetermined Unit Prices as the Basis for any change orders approved in advance by the State. These Unit Prices include ***all*** costs, including labor, materials, services, regulatory compliance, overhead, and profit.

DESCRIPTION OF SERVICES	CONTRACTORS UNIT
-------------------------	------------------

Solicitation # : 100791
 Solicitation Title: HRL SECURITY CAMERAS

	COST
--	------

Unit Price No. 1	Qty 1 BCD218X-PVS-116-140T-10 & BCD-WA-P2000 & BCD-PNM-SVR-1YR	
	Video Management Server	\$ 21,970.00

Unit Price No. 2	Qty 1 3.0C-H4A-D1-B	
	Camera Model 1	\$,619.00

Unit Price No. 3	Qty 1 3.0C-H4A-BO1-IR-B	
	Camera Model 2	\$,767.00

Unit Price No. 4	Qty 1 15C-H4A-3MH-180	
	Camera Model 3	\$ 1,334.00

Unit Price No. 5	Qty 1 20C-H4A-4MH-360	
	Camera Model 4	\$ 1,556.00

Unit Price No. 6	Qty 1 ACC6-ENT	
	Camera License	\$,206.66

Unit Price No. 7	Qty 1 ACC6-ENT-FO	
	Redundancy License	\$,30.74

Unit Price No. 8	Qty 1,000 LF	
	1,000 LF of CAT 6A cable intended for use on this project.	\$,581.00

Unit Price No. 9	Hourly Rate	
	Hourly Rate for Project Manager	\$,135.00

Solicitation # : 100791
 Solicitation Title: HRL SECURITY CAMERAS

Unit Price No. 10	Hourly Rate									
	Hourly Rate for Lead Technician	\$,	1	1	0	.	00
Unit Price No. 11	Hourly Rate									
	Hourly Rate for Apprentice	\$,	9	0	.	00	

4. CONTRACT TIME

The Bidder offers to perform the work in accordance with the timeline specified below:

- Start of Construction September 9, 2019
- Substantial Completion of work in student rooms
 Work over winter break December 23, 2019 – January 17, 2020
- Substantial Completion of all work March 21, 2020
- Final Completion March 28, 2020

There are no time restrictions for the work in the period between December 23, 2019 to January 23, 2020.

Work between August 20, 2019 and December 23, 2019 shall start at 8:00 am and stop at 5:00 pm., 7 days/week.

The Final Completion date for Work shall be within 207 calendar days of the Purchase Order from the Division of Purchases.

5. LIQUIDATED DAMAGES

The successful bidder awarded a contract pursuant to this solicitation shall be liable for and pay the State, as liquidated damages and not as a penalty, the following amount for each calendar day of delay beyond the dates for substantial completion (January 17 and March 21), as determined in the sole discretion of the State: One Thousand Dollars (\$1,000.00) per day.

BID FORM SIGNATURE(S)

Solicitation # : 100791
Solicitation Title: HRL SECURITY CAMERAS

This bid proposal is irrevocable for 60 days from the bid proposal submission deadline.

If the Bidder is determined to be the successful bidder pursuant to this solicitation, the bidder will promptly: (i) comply with each of the requirements of the Tentative Letter of Award; and (ii) commence and diligently pursue the work upon issuance and receipt of the purchase order from the State and authorization from the user agency.

The person signing below certifies that he or she has been duly authorized to execute and submit this bid proposal on behalf of the Bidder.

Date: 7/26/2019

BIDDER

SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.

Name of Bidder

Signature in ink

MUSTAPHA GHARAEI, VICE PRESIDENT

Printed name and title of person signing on behalf of Bidder

36353

Bidder's Contractor Registration Number

**Bid or
Proposal
Bond**

Westfield Insurance Co.

Westfield Insurance® 1 Park Circle, P O Box 5001,
Westfield Center, Ohio 44251-5001 Toll Free 800-243-0210

KNOW ALL MEN BY THESE PRESENTS, that we, Shanix, Inc. dba Shanix Technology, Inc., as Principal, and the Westfield Insurance Co., an Ohio Corporation, with its principal office at Westfield Center, Ohio, as Surety, are held and firmly bound unto University of Rhode Island, as Obligee, in the penal sum of Seventy four thousand five hundred seventy four DOLLARS, lawful money of the United States of America, for the payment of which, well and truly to be made, we bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the said Principal is herewith submitting a bid or proposal for supplying and installing security cameras for University of Rhode Island;

NOW THEREFORE, the condition of the above obligation is such, that if the said Principal shall execute a contract and give bond for the faithful performance thereof, if required by the contract, or if the Principal or Surety shall pay the Obligee the difference, not exceeding the penal sum hereof, between the amount of the contract entered into in good faith to perform the work to which the bid or proposal relates and the amount bid or proposed by the Principal, then this obligation shall be void; otherwise it shall remain in full force and effect.

SIGNED this 24th day of July, 2019.

Shanix, Inc. dba Shanix Technology, Inc.

Principal

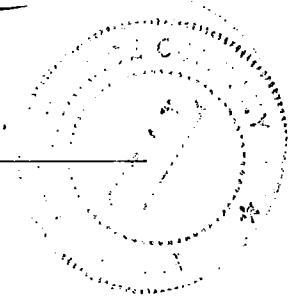
By: [Signature]

(President)

Westfield Insurance Co.

By: [Signature]

Kerry Germanoski, Attorney-in-fact



THIS POWER OF ATTORNEY SUPERCEDES ANY PREVIOUS POWER BEARING THIS SAME POWER # AND ISSUED PRIOR TO 09/07/18, FOR ANY PERSON OR PERSONS NAMED BELOW.

General Power of Attorney

POWER NO. 3211242 16

Westfield Insurance Co. Westfield National Insurance Co. Ohio Farmers Insurance Co. Westfield Center, Ohio

CERTIFIED COPY

Know All Men by These Presents, That WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, corporations, hereinafter referred to individually as a "Company" and collectively as "Companies," duly organized and existing under the laws of the State of Ohio, and having its principal office in Westfield Center, Medina County, Ohio, do by these presents make, constitute and appoint MYESHA R. CARMON, FRANKIE H. MURRAY, KERRY M. GERMANOSKI, JENNIFER L. UNDERHILL, DUVALL MCCASKILL, MEREDITH MCMILLEN, TIAH BOLER, LISA MURRAY, JOINTLY OR SEVERALLY

of RALEIGH and State of NC its true and lawful Attorney(s)-In-Fact, with full power and authority hereby conferred in its name, place and stead, to execute, acknowledge and deliver any and all bonds, recognizances, undertakings, or other instruments or contracts of suretyship-

LIMITATION: THIS POWER OF ATTORNEY CANNOT BE USED TO EXECUTE NOTE GUARANTEE, MORTGAGE DEFICIENCY, MORTGAGE GUARANTEE, OR BANK DEPOSITORY BONDS.

and to bind any of the Companies thereby as fully and to the same extent as if such bonds were signed by the President, sealed with the corporate seal of the applicable Company and duly attested by its Secretary, hereby ratifying and confirming all that the said Attorney(s)-In-Fact may do in the premises. Said appointment is made under and by authority of the following resolution adopted by the Board of Directors of each of the WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY:

"Be It Resolved, that the President, any Senior Executive, any Secretary or any Fidelity & Surety Operations Executive or other Executive shall be and is hereby vested with full power and authority to appoint any one or more suitable persons as Attorney(s)-In-Fact to represent and act for and on behalf of the Company subject to the following provisions:

The Attorney-In-Fact may be given full power and authority for and in the name of and on behalf of the Company, to execute, acknowledge and deliver, any and all bonds, recognizances, contracts, agreements of indemnity and other conditional or obligatory undertakings and any and all notices and documents cancelling or terminating the Company's liability thereunder, and any such instruments so executed by any such Attorney-in-Fact shall be as binding upon the Company as if signed by the President and sealed and attested by the Corporate Secretary."

"Be it Further Resolved, that the signature of any such designated person and the seal of the Company heretofore or hereafter affixed to any power of attorney or any certificate relating thereto by facsimile, and any power of attorney or certificate bearing facsimile signatures or facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached." (Each adopted at a meeting held on February 8, 2000).

In Witness Whereof, WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY have caused these presents to be signed by their National Surety Leader and Senior Executive and their corporate seals to be hereto affixed this 07th day of SEPTEMBER A.D., 2018.

Corporate Seals Affixed



WESTFIELD INSURANCE COMPANY WESTFIELD NATIONAL INSURANCE COMPANY OHIO FARMERS INSURANCE COMPANY

By: Dennis P. Baus, National Surety Leader and Senior Executive

State of Ohio County of Medina ss.:

On this 07th day of SEPTEMBER A.D., 2018, before me personally came Dennis P. Baus to me known, who, being by me duly sworn, did depose and say, that he resides in Wooster, Ohio; that he is National Surety Leader and Senior Executive of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, the companies described in and which executed the above instrument; that he knows the seals of said Companies; that the seals affixed to said instrument are such corporate seals; that they were so affixed by order of the Boards of Directors of said Companies; and that he signed his name thereto by like order.

Notarial Seal Affixed



David A. Kotnik, Attorney at Law, Notary Public My Commission Does Not Expire (Sec. 147.03 Ohio Revised Code)

State of Ohio County of Medina ss.:

I, Frank A. Carrino, Secretary of WESTFIELD INSURANCE COMPANY, WESTFIELD NATIONAL INSURANCE COMPANY and OHIO FARMERS INSURANCE COMPANY, do hereby certify that the above and foregoing is a true and correct copy of a Power of Attorney, executed by said Companies, which is still in full force and effect; and furthermore, the resolutions of the Boards of Directors, set out in the Power of Attorney are in full force and effect.

In Witness Whereof, I have hereunto set my hand and affixed the seals of said Companies at Westfield Center, Ohio, this 24th day of July AD 2019.



Frank A. Carrino, Secretary

BPQAC2 (combined) (06-02)

THE UNIVERSITY OF RHODE ISLAND INSTRUCTIONS TO BIDDERS PUBLIC WORKS LARGE CONSTRUCTION (PWC)

Compliance with Instructions to Bidders

These Instructions to Bidders contain terms and conditions that will govern the preparation and submission of a bid proposal and any contract awarded pursuant to this solicitation.

Bidders must comply with each and every requirement of these Instructions to Bidders. Any failure to comply with any requirement may result in the determination of a nonresponsive bid proposal and/or the rejection of the bid proposal.

Priority of Terms and Conditions

The terms and conditions in these Instructions to Bidders *supersede* any and all inconsistent or conflicting terms and conditions in any other provision of any other document in this solicitation or in the bid proposal and govern this solicitation, the bid proposal, and any contract awarded pursuant to this solicitation.

Offer to Contract

Bid proposals constitute an offer to contract with The University of Rhode Island (URI) through the URI Purchasing Department on the terms and conditions contained in the solicitation, the laws of the State of Rhode Island, including all procurement statutes, the State of Rhode Island Procurement Regulations (available at <http://www.purchasing.ri.gov/rulesandregulations/rulesAndRegulations.aspx>) and the Board of Governors for Higher Education Procurement regulations (available at <http://www.ribghe.org/procurementregs113006.pdf>), and applicable federal and local law, all of which are incorporated into this solicitation and any contract awarded pursuant to this solicitation by this reference.

Comprehensive Review and Inspection

The bidder is responsible for carefully reviewing all of the requirements of this solicitation, inspecting the project location, including checking and/or verifying measurements, site conditions, any limitations, and other details, prior to preparing and submitting its bid proposal. Failure to submit a complete bid proposal may result in rejection of the bid proposal. Claims for additional costs or time resulting from the bidder's failure to inspect and/or verify will not be considered.

Addenda

Responses to questions from bidders, interpretations of plans and specifications, changes prior to the bid proposal submission deadline, approvals of any substitutions, and supplemental instructions and terms will be posted as addenda on the Division of Purchases website at www.purchasing.ri.gov, and all addenda become incorporated into this solicitation upon posting. Bidders are responsible for checking the website to determine the issuance of any addenda. No addenda will be posted within the 5-day period preceding the bid proposal submission deadline except for an addendum withdrawing the solicitation or extending the bid proposal submission deadline.

Pre-bid Conference

At the discretion of the University Purchasing Agent, a pre-bid conference - mandatory or nonmandatory - may be held. Bidders must attend a mandatory pre-bid conference and are encouraged to attend a non-mandatory pre-bid conference. The bidder's representative must register with the URI Purchasing representative at a mandatory pre-bid conference and identify the bidder he or she represents.

Costs

The bidder is responsible for all costs and expenses to develop and submit a bid proposal in response to this solicitation.

Preparation of Bid Proposal

Bid proposals must be made on the Bid Form included in the solicitation and in accordance with the instructions in this solicitation. All applicable blanks must be completed in a legible manner, printed electronically, typed, or handwritten in ink, and amounts must be expressed in both words and figures. In the event of any contradictory terms, handwritten terms prevail over printed or typed terms, and words prevail over figures. Signatures must be in ink. No additional provisions, conditions, or limitations may be made by the bidder, and any erasures and/or corrections must be initialed in ink by the person signing on behalf of the bidder.

This solicitation contains a Bid Preparation Checklist to assist the bidder in preparing a bid proposal for submission.

Submission of Bid Proposal

Each bid proposal (a complete package, with the signed URI Bidder Certification Cover Form, signed Bid Form, Bid Surety, if applicable -, signed General Contractor Apprenticeship Certification, if applicable, and public copy CD-R media disk) must be submitted in a *separate sealed envelope* with the bidder's name and address and the specific "Solicitation Number," "Solicitation Title," and the "Bid Proposal Submission Deadline" marked in the upper left-hand corner of the envelope.

The bid proposal must be delivered (via mail, messenger service, or personal delivery) to the URI Purchasing Office and date-stamped receipted by the date and time specified for the bid proposal submission deadline. Bidders should mail bid proposals sufficiently in advance of the bid proposal submission deadline to ensure timely delivery to the URI Purchasing Office or, when delivering a bid proposal in person or by messenger, should allow additional time for parking and clearance through security checkpoints. Bid proposals must be addressed to:

MAIL TO:

UNIVERSITY OF RHODE ISLAND
P.O. BOX 1773
PURCHASING DEPARTMENT
KINGSTON, RI 02881

COURIER:

UNIVERSITY OF RHODE ISLAND
PURCHASING DEPARTMENT
DINING SERVICES DISTRIBUTION CENTER
10 TOOTELL ROAD
KINGSTON, RI 02881-2010

Bid proposals that are not received by the URI Purchasing Office by the bid proposal submission deadline for whatever reason will be deemed late and will not be considered. The submission time will be determined by the time clock in the URI Purchasing Office. Postmarks will not be considered proof of timely submission.

At the bid proposal submission deadline, bid proposals will be opened and read aloud in public.

Bid Price

The bidder must submit a Base Bid Price on the Bid Form to perform all of the work specified in the solicitation, including the cost of the bonds and any allowances and addenda. The costs of alternates shall not be included in the calculation of the Base Bid Price. The bidder shall separately provide the cost for each alternate listed in the Bid Form. The cost for each alternate must be designated as an addition to, or subtraction from, the Base Bid Price. Alternates will be selected, if any, by the University of Rhode Island in the order of priority listed in the Bid Form.

Bidder Certification Cover Form

A fully executed URI/BOGHE Bidder Certification form, supplied with this bid proposal, must be submitted with the bidder's response.

Public Copy

Bid proposals submitted in response to this solicitation are public records pursuant to the Rhode Island "Access to Public Records Act," R. I. Gen. Laws §§ 38-2-1 et seq. Each bid proposal must include a "public copy" to be available for public inspection upon the opening of bids. Bidders may redact in the public copy any trade secrets or commercial or financial information which is of a privileged or confidential nature pursuant to the Access to Public Records Act. Instructions for submitting a Public Copy are included with this bid solicitation.

Contractors Registration

The bidder must have and maintain a valid certificate of registration issued by the Contractors' Registration Board throughout the term of the contract awarded pursuant to this solicitation and ensure that its subcontractors, unless exempt from registration, also obtain and maintain valid certificates of registration

Subcontractors

Where applicable, the bidder must demonstrate that it is able to perform a substantial portion of the work using its own workforce. Any bidder that does not maintain a permanent workforce and/or proposes to perform a disproportionate amount of the work through one or more subcontractors will be considered unqualified. The successful bidder must establish to the satisfaction of the Purchasing Agent the reliability and responsibility of any subcontractors proposed to perform any work pursuant to this solicitation.

Taxes

The State of Rhode Island is exempt from federal excise taxes and state and municipal sales and use taxes. The bidder shall not include such taxes in any prices in the bid proposal.

Bid Surety

When required in the bid solicitation, bidders must furnish, with their bid proposals, either a bid bond from a surety licensed to conduct business in the State of Rhode Island or a certified check payable to the University of Rhode Island in the amount of five (5%) percent of the bid proposal. An attorney-in-fact who executes a bond on behalf of the surety must provide a certified current copy of the power of attorney. A successful bidder who fails to submit the additional documentation required by the tentative letter of award and/or fails to commence and pursue the work in accordance with the contract awarded pursuant to this solicitation may forfeit, at the discretion of the Purchasing Agent, the full amount of the bid surety as liquidated damages. The University will retain the bid surety of all bidders until the earliest of: (i) the issuance of the Purchase Order; (ii) the 61st day following the bid proposal submission deadline; or (iii) the rejection of all bid proposals.

Divestiture of Investments in Iran Requirement

No bidder engaged in investment activities in Iran as described in R.I. Gen. Laws § 37-2.5-2(b) may submit a bid proposal to, or renew a contract with, the University of Rhode Island Purchasing Department. Each bidder submitting a bid proposal or entering into a renewal of a contract is required to certify that the bidder does not appear on the list maintained by the General Treasurer pursuant to R.I. Gen. Laws § 37-2.5-3.

Domestic Steel

Any steel products required by the plans and specifications in this solicitation must be formed, extruded, forged, cast, fabricated, or otherwise processed from steel made in the United States.

Withdrawal

A bidder may withdraw its bid proposal at any time prior to the bid proposal submission deadline. Bid proposals are irrevocable for a period of 60 days following the bid proposal submission deadline.

Reservation of Rights

The University Purchasing Department reserves the right, at any time, for any reason, in its sole discretion, to: (i) revoke, suspend, or terminate this solicitation; (ii) accept or reject any and all bid proposals, in whole or in part; (iii) waive any technical defects, irregularities, or omissions in any bid proposals; and/or (iv) terminate any contract awarded pursuant to this solicitation, with or without cause.

Award

The University Purchasing Agent, in his or her sole discretion, will award the contract pursuant to this solicitation to the responsive and responsible bidder who submits the lowest responsive and responsible bid proposal. The University Purchasing Agent may determine, in his or her sole discretion, the low bid proposal on the basis of the amount of the Base Bid Price plus the alternates selected in accordance with the Bid Form. The successful bidder will receive a tentative letter of award from the University Purchasing Department with instructions for the bidder to submit further documentation. The successful bidder shall be authorized to commence work only upon the issuance of the Purchase Order by the University Purchasing Department and, in addition, an authorization from the user agency. The issuance

of the Purchase Order and the continuation of any contract awarded pursuant to this solicitation is contingent upon the availability of funds.

Payment and Performance Bonds

When required in the bid solicitation, the successful bidder must furnish a 100% payment and performance bond from a surety licensed to conduct business in the State of Rhode Island upon the tentative award of the contract pursuant to this solicitation.

Prevailing Wages

For contracts priced under \$1 Million

The successful bidder and its subcontractors must pay their workers at the applicable prevailing wage rates (adjusted every July 1) for the various trades on a weekly basis, pay their workers one and one-half times the applicable prevailing wage rates for each hour worked in excess of 8 hours in any one day or 40 hours in any one week, and submit certified weekly payroll forms on a monthly basis to the University department. Prevailing wage posters and rate schedules, available at the Rhode Island Department of Labor and Training website at www.dlt.ri.gov, must be posted at the project site.

For contracts priced \$1 Million or More

The successful bidder and its subcontractors must pay their workers at the applicable prevailing wage rates (adjusted every July 1) for the various trades on a weekly basis, pay their workers one and one-half times the applicable prevailing wage rates for each hour worked in excess of 8 hours in any one day or 40 hours in any one week, submit certified weekly payroll forms on a monthly basis to the user agency, and maintain a certified prevailing wage daily log at the project site. Prevailing wage posters and rate schedules, available at the Rhode Island Department of Labor and Training website at www.dlt.ri.gov, must be posted at the project site.

See the attached Contract Addenda.

Apprenticeship

If the value of the project pursuant to this solicitation is at least \$1 Million (including all alternates), the successful bidder must employ apprentices on this project (in accordance with the apprentice to journeyman ratio for each trade approved by the State Apprenticeship Council. The bidder must complete, sign, and submit the General Contractor Apprenticeship Certification Form, included in the solicitation, with the bid proposal.

The successful bidder will also be required to complete, sign, and submit the General Contractor Apprenticeship Re-Certification and Certification Form following receipt of the tentative letter of award, and, in addition, each subcontractor must complete, sign, and submit to the successful bidder the Subcontractor Apprenticeship Certification Form prior to the commencement of any work on the project pursuant to this solicitation.

Specific information about apprentice occupations and apprenticeship requirements is available on the Rhode Island Department of Labor and Training website at www.dlt.ri.gov/apprenticeship.

Occupational Safety

The successful bidder must ensure (if the total contract price is at least \$100,000) that all employees at the project site possess a card issued by the United States Department of Labor certifying successful completion of an OSHA ten (10) hour construction safety program.

Hazardous Substances

The successful bidder must submit a chemical identification list to the Rhode Island Department of Labor and Training upon receipt of a Purchase Order from the University Purchasing Department prior to performance of the contract awarded pursuant to this solicitation and make available to all employees a list of any hazardous substances that may present a risk of exposure.

Substitutions

Any proposal in response to a request for substitutions in this solicitation must include the detailed information necessary for a comprehensive evaluation, including (without limitation) the name of the material or equipment of the proposed substitution and a complete description of the proposed substitution, with drawings and performance and test data. Products specified in this solicitation establish a standard of quality, performance, dimension, function, and appearance. Proposed substitutions must meet the standard and will not be considered without the prior written approval of the University Purchasing Department. All substitution approvals will be posted, as addenda to the solicitation on the Division of Purchases website.

Licenses

The successful bidder and anyone performing any work on the contract awarded pursuant to this solicitation must possess all of the licenses required by any federal, state, or local law to perform such work.

Insurance

The successful bidder must submit a copy of an endorsement and a certificate of insurance that references the solicitation number and names the State of RI, The University of Rhode Island and the RI Board of Education as "additional insured" upon the issuance of the tentative letter of award, on an annual basis during the term of the contract awarded pursuant to this solicitation, and from time to time upon request. The certificate of insurance must state that 30 days' advance notice of cancellation, nonrenewal, or material change in coverage (referencing the solicitation number) will be sent to: , URI Risk Manager 210 Flagg Rd., Kingston, RI 02881 and provide evidence of the following specific types and amounts of insurance:

--Insurance Continued--

Type of Insurance & Amount of Coverage

Comprehensive General Liability \$1 Million each occurrence (inclusive of both bodily injury and property damage)_

\$1 Million products and completed operations aggregate

\$1 Million general aggregate

Comprehensive General Liability coverage shall include:

Independent contractors

Contractual (including construction "hold harmless" and other types of contracts or agreements in effect for insured operations)

Completed operations

Personal injury (with employee exclusion deleted)

Automobile Liability

Combined Single Limit \$1 Million each occurrence

Bodily injury, property damage, including nonowned and/or hired vehicles and equipment

Workers Compensation

Coverage B \$100,000

Environmental Impairment \$1 Million or 5% of contract amount,
("pollution control") whichever is greater

Builder's Risk - Contract amount

All insurance required by this solicitation, whether through a policy or an endorsement, shall include: (i) a waiver of subrogation, waiving any right the insurance company may have to recover against the the University of Rhode Island; and (ii) a provision that the bidder's insurance coverage shall be primary in relation to any insurance, self-insurance, or self-retention maintained by the University of Rhode Island, and any insurance, self-insurance, or self-retention maintained by the University of Rhode Island shall be in excess of the bidder's insurance.

The University Purchasing Agent reserves the right to accept alternate forms and plans of insurance and/or to require additional or more extensive coverage.

Minority Business Enterprises

The University Purchasing Department reserves the right to give additional consideration to bid proposals submitted by minority/women business enterprises certified by the Division of Purchases, Minority Business Office ("MBEs") provided that any such bid proposal is fully responsive to the terms and conditions of this solicitation, and the bid price is determined, in the discretion of the University Purchasing Department, to be within a competitive range.

Any bidder who does not intend to perform all of the work with its own forces shall recruit and engage MBEs to perform at least 10% of the dollar value of the contract awarded pursuant to this solicitation. To reach that goal, the bidder may allocate up to 60% of its costs for materials and supplies obtained from MBE dealers or 100% of its costs for materials and supplies obtained from MBE manufacturers.

The successful bidder must submit a plan to meet this requirement for approval by the Division of Purchases, Minority Business Enterprise Compliance Office within the 21-day period following the tentative letter of award, identifying all MBEs, and must also demonstrate its good faith best efforts to

meet these MBE goals. Information about this requirement and a directory of MBEs certified in Rhode Island is available at <http://odeo.ri.gov/offices/mbeco/index.php> or (401) 574-8670.

Equal Opportunity

The successful bidder must demonstrate a commitment to equal opportunity and submit an affirmative action plan for review by the Rhode Island Department of Administration State Equal Opportunity Office within the 21-day period following the tentative letter of award. Information about this requirement is available at <http://odeo.ri.gov/offices/eoo/index.php> or (401) 222-3090.

Drug-Free Workplace

The successful bidder shall comply, and require that its employees comply, with the State of Rhode Island Drug Free Workplace policy and provide a certificate of compliance within the 21-day period following the tentative letter of award.

Sprinkle Impairment and Hot Work

The successful bidder must comply with the requirements of the University of Rhode Island's insurance carrier for sprinkler impairment and hot work, accessible at the URI Public Safety & Fire Life Safety Department under Policies and Forms: <https://web.uri.edu/publicsafety/>

Foreign Corporations

No foreign corporation or limited liability company may transact business in the State of Rhode Island until it shall have obtained a Certificate of Authority from the Rhode Island Secretary of State, and no foreign limited partnership may transact business in the State of Rhode Island until it shall have obtained a Certificate of Registration from the Rhode Island Secretary of State. The successful bidder, if a corporation or limited liability company, will be required to provide a Good Standing Certificate, and if a limited partnership, will be required to provide a Letter of Legal Existence, issued by the Rhode Island Secretary of State within the 21-day period following the tentative letter of award.

Campaign Finance

The successful bidder who has contributed, within the 24 months preceding the contract award, an aggregate amount of more than \$250.00 within a calendar year to any Rhode Island general officer, candidate for general office, any member of the general assembly, or any Rhode Island political party, must file a "Vendor Affidavit" with the State of Rhode Island Board of Elections. Information about "Vendor Affidavits" and electronic filing is available at www.elections.ri.gov or Board of Elections, Campaign Finance, (401) 222-2056.

Binding Contract

The form of agreement the successful bidder will be required to execute is included in the solicitation. A binding contract between the University of Rhode Island and the successful bidder will be formed by the issuance of a Purchase Order from the University Purchasing Department, *and only by the issuance of a Purchase Order, and only to the extent of available funds.* The binding contract will incorporate and be subject to the terms and conditions of the solicitation, including the Invitation to Bid, the Instructions to Bidders, the General Conditions, any Supplemental Conditions, the Plans and Specifications, the Bid Preparation Checklist, the Bid Form, the Bidder Certification Cover Form, the Agreement, and also the

Purchase Order. The successful bidder shall be authorized to commence work only upon the issuance of the Purchase Order and, in addition, an authorization from the responsible University department.

Compliance with Terms of Contract

Failure of the successful bidder to comply with the terms and conditions of any contract awarded pursuant to this solicitation may result in nonpayment, suspension or termination of the contract, suspension or debarment of the bidder, or any other necessary or appropriate remedy.

THE
UNIVERSITY
OF RHODE ISLAND

DIVISION OF
ADMINISTRATION
AND FINANCE

THINK BIG  WE DO™

PURCHASING DEPARTMENT
10 Tootell Road, Suite 3, Kingston, RI 02881 USA

p: 401.874.2171

f: 401.874.2306

uri.edu/purchasing



REVISED 12/12/13

NOTICE TO VENDORS

Each bid proposal for a *public works project* must include a “public copy” to be available for public inspection upon the opening of bids. **Bid proposals that do not include a copy for public inspection will be deemed nonresponsive.**

The public copy must be submitted in .pdf (portable document file) format on a *read-only* CD-R media disc. The disc must include *all of the documents* submitted in response to the solicitation concatenated or merged into one file. The file must be named in the following manner:

BidNumber_DateofBid_VendorName.pdf

The Bidder Certification Cover Form contains all of the information for the file name. The date of the bid must appear as mm-dd-yyyy. The vendor name must appear as one word, with no spaces or punctuation. Underscores must separate the fields.

Example: 3210_01-08-2014_OceanStateCompanyInc.pdf

The public copy disc must be separately enclosed in a protective cover clearly marked “Public Copy” and include the following information (all available from the Bidder Cover Page): (1) title of solicitation; (2) name of bidder (3) bid number and (4) date of bid.

The public copy may redact any trade secrets or commercial or financial information which is of a privileged or confidential nature pursuant to the “Access to Public Records Act,” R.I. Gen. Laws §§ 38-2-1 *et seq.*

For further information on how to comply with this statutory requirement, see R.I. Gen. Laws §§ 372-18(b) and (j). Also see State of Rhode Island Procurement Regulation 5.11 accessible at <http://www.purchasing.ri.gov/rulesandregulations/rulesAndRegulations.aspx>

The University of Rhode Island is an equal opportunity employer committed to the principles of affirmative action.

STATE CONTRACT ADDENDUM
RHODE ISLAND DEPARTMENT OF LABOR AND TRAINING
PREVAILING WAGE REQUIREMENTS
(37-13-1 ET SEQ.)

The prevailing wage requirements are generally set forth in RIGL 37-13-1 et seq. These requirements refer to the prevailing rate of pay for regular, holiday, and overtime wages to be paid to each craftsmen, mechanic, teamster, laborer, or other type of worker performing work on public works projects when state or municipal funds exceed one thousand dollars (\$1,000).

All Prevailing Wage Contractors and Subcontractors are required to:

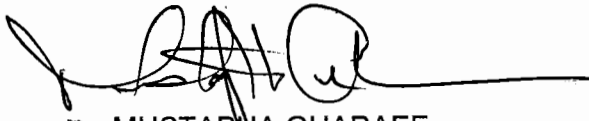
1. Submit to the Awarding Authority a list of the contractor's subcontractors for any part or all of the prevailing wage work in accordance with RIGL § 37-13-4;
2. Pay all prevailing wage employees at least once per week and in accordance with RIGL §37-13-7 (see Appendix B attached);
3. Post the prevailing wage rate scale and the Department of Labor and Training's prevailing wage poster in a prominent and easily accessible place on the work site in accordance with RIGL §37-13-11; posters may be downloaded at www.dlt.ri.gov/pw/Posters.htm or obtained from the Department of Labor and Training, Center General Complex, 1511 Pontiac Avenue, Cranston, Rhode Island;
4. Access the Department of Labor and Training website, at www.dlt.ri.gov on or before July 1st of each year, until such time as the contract is completed, to ascertain the current prevailing wage rates and the amount of payment or contributions for each covered prevailing wage employee and make any necessary adjustments to the covered employee's prevailing wage rates effective July 1st of each year in compliance with RIGL §37-13-8;
5. Attach a copy of this CONTRACT ADDENDUM and its attachments as a binding obligation to any and all contracts between the contractor and any subcontractors and their assignees for prevailing wage work performed pursuant to this contract;
6. Provide for the payment of overtime for prevailing wage employees who work in excess of eight (8) hours in any one day or forty (40) hours in any one week as provided by RIGL §37-13-10;

7. Maintain accurate prevailing wage employee payroll records on a Rhode Island Certified Weekly Payroll form available for download at www.dlt.ri.gov/pw.forms/htm, as required by RIGL §37-13-13, and make those records available to the Department of Labor and Training upon request;
8. Furnish the fully executed RI Certified Weekly Payroll Form to the awarding authority on a monthly basis for all work completed in the preceding month.
9. For general or primary contracts one million dollars (\$1,000,000) or more, shall maintain on the work site a fully executed RI Certified Prevailing Wage Daily Log listing the contractor's employees employed each day on the public works site; the RI Certified Prevailing Wage Daily Log shall be available for inspection on the public works site at all times; this rule shall not apply to road, highway, or bridge public works projects. Where applicable, furnish both the Rhode Island Certified Prevailing Wage Daily Log together with the Rhode Island Weekly Certified Payroll to the awarding authority.
10. Assure that all covered prevailing wage employees on construction projects with a total project cost of one hundred thousand dollars (\$100,000) or more has a OSHA ten (10) hour construction safety certification in compliance with RIGL § 37-23-1;
11. Employ apprentices for the performance of the awarded contract when the contract is valued at one million dollars (\$1,000,000) or more, and comply with the apprentice to journeyperson ratio for each trade approved by the apprenticeship council of the Department of Labor and Training in compliance with RIGL §37-13-3.1;
12. Assure that all prevailing wage employees who perform work which requires a Rhode Island trade license possess the appropriate Rhode Island trade license in compliance with Rhode Island law; and
13. Comply with all applicable provisions of RIGL §37-13-1, et. seq;

Any questions or concerns regarding this CONTRACT ADDENDUM should be addressed to the contractor or subcontractor's attorney. Additional Prevailing Wage information may be obtained from the Department of Labor and Training at www.dlt.ri.gov/pw.

CERTIFICATION

I hereby certify that I have reviewed this CONTRACT ADDENDUM and understand my obligations as stated above.



By: MUSTAPHA GHARAE

Title: VICE PRESIDENT

Subscribed and sworn before me this 26th day of July, 2019



Notary Public

My commission expires: 7-26-22

PAULA M. MONTANARO
Notary Public-State of Rhode Island
My Commission Expires
July 26, 2022

APPENDIX A

TITLE 37

Public Property and Works

CHAPTER 37-13

Labor and Payment of Debts by Contractors

SECTION 37-13-5

§ 37-13-5 Payment for trucking or materials furnished – Withholding of sums due. – A contractor or subcontractor on public works authorized by a proper authority shall pay any obligation or charge for trucking and material which have been furnished for the use of the contractor or subcontractor, in connection with the public works being performed by him or her, within ninety (90) days after the obligation or charge is incurred or the trucking service has been performed or the material has been delivered to the site of the work, whichever is later. When it is brought to the notice of the proper authority in a city or town, or the proper authority in the state having supervision of the contract, that the obligation or charge has not been paid by the contractor or subcontractor, the proper authority may deduct and hold for a period not exceeding sixty (60) days, from sums of money due to the contractor or subcontractor, the equivalent amount of such sums certified by a trucker or materialman creditor as due him or her, as provided in this section, and which the proper authority determines is reasonable for trucking performed or materials furnished for the public works.

APPENDIX B

TITLE 37

Public Property and Works

CHAPTER 37-13

Labor and Payment of Debts by Contractors

SECTION 37-13-7

§ 37-13-7 Specification in contract of amount and frequency of payment of wages.
- (a) Every call for bids for every contract in excess of one thousand dollars (\$1,000), to which the state of Rhode Island or any political subdivision thereof or any public agency or quasi-public agency is a party, for construction, alteration, and/or repair, including painting and decorating, of public buildings or public works of the state of Rhode Island or any political subdivision thereof, or any public agency or quasi-public agency and which requires or involves the employment of employees, shall contain a provision stating the minimum wages to be paid various types of employees which shall be based upon the wages that will be determined by the director of labor and training to be prevailing for the corresponding types of employees employed on projects of a character similar to the contract work in the city, town, village, or other appropriate political subdivision of the state of Rhode Island in which the work is to be performed. Every contract shall contain a stipulation that the contractor or his or her subcontractor shall pay all the employees employed directly upon the site of the work, unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account, the full amounts accrued at time of payment computed at wage rates not less than those stated in the call for bids, regardless of any contractual relationships which may be alleged to exist between the contractor or subcontractor and the employees, and that the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work; and the further stipulation that there may be withheld from the contractor so much of the accrued payments as may be considered necessary to pay to the employees employed by the contractor, or any subcontractor on the work, the difference between the rates of wages required by the contract to be paid the employees on the work and the rates of wages received by the employees and not refunded to the contractor, subcontractors, or their agents.

(b) The terms "wages", "scale of wages", "wage rates", "minimum wages", and "prevailing wages" shall include:

- (1) The basic hourly rate of pay; and
- (2) The amount of:

(A) The rate of contribution made by a contractor or subcontractor to a trustee or to a third person pursuant to a fund, plan, or program; and

(B) The rate of costs to the contractor or subcontractor which may be reasonably anticipated in providing benefits to employees pursuant to an enforceable commitment to carry out a financially responsible plan or program which was communicated in writing to the employees affected, for medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity, or insurance to provide any of the foregoing, for unemployment benefits, life insurance, disability and sickness insurance, or accident insurance, for vacation and holiday pay, for defraying costs of apprenticeship or other similar programs, or for other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other federal, state, or local law to provide any of the benefits; provided, that the obligation of a contractor or subcontractor to make payment in accordance with the prevailing wage determinations of the director of labor and training insofar as this chapter of this title and other acts incorporating this chapter of this title by reference are concerned may be discharged by the making of payments in cash, by the making of contributions of a type referred to in subsection (b)(2), or by the assumption of an enforceable commitment to bear the costs of a plan or program of a type referred to in this subdivision, or any combination thereof, where the aggregate of any payments, contributions, and costs is not less than the rate of pay described in subsection (b)(1) plus the amount referred to in subsection (b)(2).

(c) The term "employees", as used in this section, shall include employees of contractors or subcontractors performing jobs on various types of public works including mechanics, apprentices, teamsters, chauffeurs, and laborers engaged in the transportation of gravel or fill to the site of public works, the removal and/or delivery of gravel or fill or ready-mix concrete, sand, bituminous stone, or asphalt flowable fill from the site of public works, or the transportation or removal of gravel or fill from one location to another on the site of public works, and the employment of the employees shall be subject to the provisions of subsections (a) and (b).

(d) The terms "public agency" and "quasi-public agency" shall include, but not be limited to, the Rhode Island industrial recreational building authority, the Rhode Island economic development corporation, the Rhode Island airport corporation, the Rhode Island industrial facilities corporation, the Rhode Island refunding bond authority, the Rhode Island housing and mortgage finance corporation, the Rhode Island resource recovery corporation, the Rhode Island public transit authority, the Rhode Island student loan authority, the water resources board corporate, the Rhode Island health and education building corporation, the Rhode Island higher education assistance authority, the Rhode Island turnpike and bridge authority, the Narragansett Bay water quality management district commission, Rhode Island telecommunications authority, the convention center authority, the board of governors for higher education, the board of regents for elementary and secondary education, the capital center commission, the housing resources commission, the Quonset Point-Davisville management corporation, the Rhode Island children's crusade for higher education, the Rhode Island depositors economic protection corporation, the Rhode Island lottery commission, the Rhode Island

partnership for science and technology, the Rhode Island public building authority, and the Rhode Island underground storage tank board.



**RI Department of Labor and Training
Workforce Regulation and Safety Division
Professional Regulation - Prevailing Wage**

General Contractor Apprenticeship Certification Form

This form **MUST** be completed and submitted at the time of bidding and is available on the Department of Labor and Training's Website at www.dlt.ri.gov, under Workforce Regulation and Safety, Prevailing Wage, Publications and Forms.

Bid/RFP Number: 100791
Bid/RFP Title: HRL SECURITY CAMERAS
RIVIP Vendor ID#: 2450
Vendor Name: SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.
Address: 40 WORTHINGTON ROAD CRANSTON, RI 02920
Telephone: (401)941-4222
Fax: (401)941-4333
E-Mail: mustapha@shanix.com
Contact Person and Title: MUSTAPHA GHARAEI, VICE PRESIDENT

SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.
40 WORTHINGTON ROAD CRANSTON, RI 02920 (Company Name & Address) (hereafter "bidder") hereby certifies that bidder meets the general contractor apprenticeship requirements of R. I. Gen. Laws § 37- 13-3.1 because bidder meets one of the following qualifications (check):

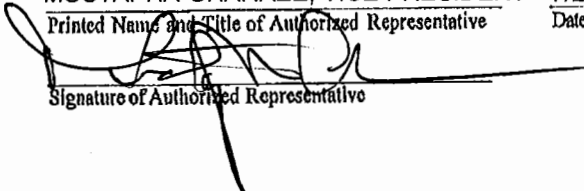
- A. Bidder sponsors a current and duly approved Rhode Island Department of Labor and Training Apprenticeship Program and currently employs at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing on the contract (attach apprenticeship program standards and apprenticeship agreement);
- B. Bidder sponsors a current and duly registered Rhode Island Department of Labor and Training reciprocal apprenticeship program pursuant to R. I. Gen. Laws § 28-45-16 and currently employs at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach apprenticeship program standards, apprenticeship agreement and Rhode Island Department of Labor and Training Reciprocal Apprenticeship Program Approval);

- C. _____ Bidder has entered into a current collective bargaining agreement with a duly approved Rhode Island Department of Labor and Training Apprenticeship Program sponsor and, pursuant to the terms of the collective bargaining agreement, will employ at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach relevant section of collective bargaining agreement and signature page);
- D. _____ Bidder has entered into a current labor agreement with a duly approved Rhode Island Department of Labor and Training Apprenticeship Program sponsor and, pursuant to the terms of the labor agreement, will employ at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach relevant section of labor agreement and signature page);
- E. _____ Bidder will not perform work on the awarded contract except through subcontractors (non performance);
- F. Bidder has received approval from the Rhode Island Department of Labor and Training that it satisfies the general contractor requirements of R. I. Gen. Laws §37-13-3.1 for purposes of a particular bid (attach Rhode Island Department of Labor and Training correspondence).
Reg. # 36353

MUSTAPHA GHARAEI, VICE PRESIDENT 7/26/2019

Printed Name and Title of Authorized Representative

Date


Signature of Authorized Representative



**RI Department of Labor and Training
Workforce Regulation and Safety Division
Professional Regulation - Prevailing Wage**

General Contractor Apprenticeship Re-Certification and Certification Form

This form MUST be completed and submitted at the time the contract is awarded and is available on the Department of Labor and Training's website at www.dlt.ri.gov, Workforce Regulation and Safety, Prevailing Wage, Publications and Forms.

Bid/RFP Number: 100791
 Bid/RFP Title: HRL SECURITY CAMERAS
 RIVIP Vendor ID#: 2450
 Vendor Name: SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.
 Address: 40 WORTHINGTON ROAD CRANSTON, RI 02920
 Telephone: (401)941-4222
 Fax: (401)941-4333
 E-Mail: mustapha@shanix.com
 Contact Person and Title: MUSTAPHA GHARAEI, VICE PRESIDENT

Part A

SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.
 40 WORTHINGTON ROAD CRANSTON, RI 02920 (Company Name & Address) (hereafter "General Contractor") hereby re-certifies that it meets the apprenticeship requirements of R. I. Gen. Laws § 37-13-3.1 because General Contractor meets one of the following qualifications (check):

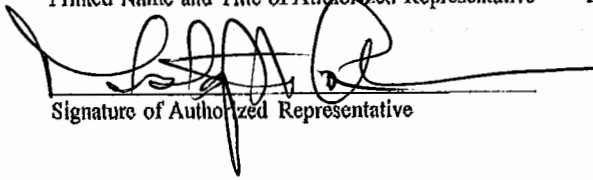
- A. General Contractor sponsors a current and duly approved Rhode Island Department of Labor and Training Apprenticeship Program and currently employs at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing on the contract (attach apprenticeship program standards and apprenticeship agreement);
- B. General Contractor sponsors a current and duly registered Rhode Island Department of Labor and Training reciprocal apprenticeship program pursuant to R. I. Gen. Laws § 28-45-16 and currently employs at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach apprenticeship program standards, apprenticeship agreement and Rhode Island Department of Labor and Training Reciprocal Apprenticeship Program Approval);

- C. ___ General Contractor has entered into a current collective bargaining agreement with a duly approved Rhode Island Department of Labor and Training Apprenticeship Program sponsor and, pursuant to the terms of the collective bargaining agreement, will employ at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach relevant section of collective bargaining agreement and signature page);
- D. ___ General Contractor has entered into a current labor agreement with a duly approved Rhode Island Department of Labor and Training Apprenticeship Program sponsor and, pursuant to the terms of the labor agreement, will employ at least one apprentice per trade/occupation, who will obtain "on the job training" experience in the apprentice's trade by performing work on the contract (attach relevant section of labor agreement and signature page);
- E. ___ General Contractor will not perform work on the awarded contract except through subcontractors (non performance);
- F. General Contractor has received approval from the Rhode Island Department of Labor and Training that it satisfies the general contractor requirements of RIGL §37-13-3.1 for purposes of a particular bid (attach Rhode Island Department of Labor and Training correspondence).

Reg. # 36353

SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.
 40 WORTHINGTON ROAD CRANSTON, RI 02920 _____ (Company Name & Address) (hereafter "General Contractor") hereby certifies that its subcontractor(s) meet the apprenticeship requirements under R. I. Gen. Laws §37-13-3.1.

MUSTAPHA GHARAEI, VICE PRESIDENT 7/26/2019
 Printed Name and Title of Authorized Representative Date



 Signature of Authorized Representative

**Public Works
Vendor Bid Response Checklist**

Title: HRL SECURITY CAMERAS

This checklist is provided to assist the bidder in preparing a bid proposal for submission. It is NOT a substitute for a thorough review of the bid documents nor a comprehensive list of all bid proposal requirements. Each bidder is responsible to review the instructions contained in the bid proposal and to comply with all requirements of the solicitation.

Bid Proposal Package is to include:

- ✓ Bid Cover Page, signed, in ink.
- ✓ URI Bidder Certification Form (3 pages), completed and signed in ink.
- ✓ Bid Form:
 - All applicable blank spaces on the Bid Form have been completed.
 - All addenda have been acknowledged.
 - Bid price printed legibly in ink (in both words and figures that match where specified).
 - Erasures or corrections have been initialed by the person signing the form.
 - Bid Form is signed in Ink.
- ✓ Bid Surety
 - Bid Bond or Certified Check made payable to the University of RI.
 - Bid Surety is five percent (5%) of the bid total (unless otherwise specified).
 - Bid Bond is signed by the bidder and surety.
 - Bid Bond is issued by a company licensed in the State of RI.
 - Power of attorney is attached to the Bid Bond (if applicable) showing the name of the person who signed the surety bond.
- ✓ A Public Copy of the bid proposal in pdf format on a read-only CD-R media disk.
- ✓ Contractor's Registration Board number or Applicable license has been indicated and copy submitted if indicated.
- ✓ Form 2013-17 State Contract Addendum certifying Prevailing Wage is signed and Notarized
(*Note: this is not mandatory at the time of the bid but will be required for award.*)

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OF RHODE ISLAND

DIVISION OF
ADMINISTRATION
AND FINANCE

THINK BIG  WE DO™

PURCHASING DEPARTMENT

10 Tootell Road, Suite 3, Kingston, RI 02881 USA p: 401.874.2171 f: 401.874.2306 url.edu/purchasing



- ✓ General Contractor Apprenticeship Certification Form (2013-14) for projects (\$1,000,000 and greater) required at the time of the bid proposal submission deadline.

Note: General Contractor Apprenticeship Re-Certification and Certification Form "2013-16" and Subcontractor Apprenticeship Certification Form "2013-15" are not required at the time of bid proposal submission deadline.

- ✓ All bid proposal documents are to be submitted in a sealed envelope with the specific solicitation#, Solicitation Title, and the bid proposal submission deadline marked in the upper left hand corner of the envelope.
- ✓ If responses to multiple bids are being submitted, EACH bid proposal is submitted in a separate sealed envelope.

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Important Notice

Please note that the address for the URI Purchasing Office has changed although we have **not** moved and are still located in the Dining Services Distribution Center building.

Our new address is: 10 Tootell Road

Due to the added extension of Plains Road, the street name where our building resides has been changed and is now considered an extension of Tootell Road.

Also please remember to **always** write the Bid No. and the Bid Date/Time on the upper left-hand side of your envelope:

Bid No: 100791
Bid Date/Time: 7/26/2019/2:00PM

TO MAIL YOUR BID: University of Rhode Island
 P.O. Box 1773
 Purchasing Department
 Kingston, RI 02881

TO COURIER YOUR BID: University of Rhode Island
 Purchasing Department
 Dining Services Distribution Center
 10 Tootell Road
 Kingston, RI 02881-2010

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p: 401.874.2171

f: 401.874.2306

uri.edu/purchasing



The University of Rhode Island, Kingston Campus - Contract Vendor Protocol

Operational Procedures:

- Please review the University's policy regarding parking on campus at the following website: <https://web.uri.edu/parking/visitorparking/>
- No parking on any grassy surfaces, handicap spots, fire lanes or on sidewalks unless specifically authorized. Service vehicles must have appropriate signage/labeling. Vendors must park in designated areas and follow all parking rules. For additional information, please visit the URI Parking Services website at: <https://web.uri.edu/parking/visitorparking/>
- For questions on deliveries to our Central Receiving warehouse please call: 401.874.5468

Proper Attire:

- On site technicians are to be properly attired. No tank tops, sleeveless shirts, hats with anything other than vendor company logo will be allowed. Shirts shall only display the company logo or be unadorned with a company identification badge clearly displayed and be available for inspection at any time
- No sunglasses will be worn inside any building.
- No smoking in or within 50 feet of any University of Rhode Island building.

URI Standard Documents:

The latest version of the following documents, available on the URI Capital Projects website, <http://web.uri.edu/capitalprojects/manual-for-construction-project-safety-procedures/>, will apply to all of the work at the University and are hereby incorporated by reference:

- URI Sexual Harassment Policy
- Manual for Construction Project Safety Procedures
- Hot Work Procedure
- Managing Fire Protection System Impairment
- URI Water System Regulations/Policies

*Note: If there are any contradictions between the above and specific contract requirements, the contract requirements will supersede the above.

Professional, Scalable Performance for Video Processing and Archiving

Benefit from scalable storage performance and video processing with the BCD218-PVS server. This 2U, 2-socket platform brings you scalability and performance to adapt to a variety of the most demanding and process intensive video surveillance applications.

Up to 252TB of raw storage allows for long term video storage and archiving, while up to (2) Intel® Xeon® Silver 4116 Scalable processors provide unrivaled throughput and computing potential. (24) DDR4 DIMM slots allow for maximum memory bandwidth utilization with support for six-channel memory architecture.

Dual M.2 SSDs for the operating system and application accelerated load times. System reliability and high availability is guaranteed with redundant 1100W power supplies and RAID 5/6 storage options, while a five-year, on-site, next business day, Keep Your Hard Drive warranty ensures peace of mind.

KEY FEATURES

- Up to 252TB of Raw Storage
- Intel® Xeon® Silver 4116 Scalable Processors
- Operating System: Windows Server 2016
- iDRAC features include:
 - Remote Management
 - Disaster Recovery
 - Critical Resource Monitoring



SSD & 24/7 Duty Cycle SATA Drives



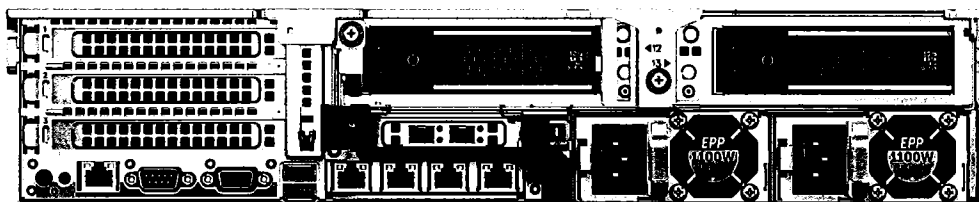
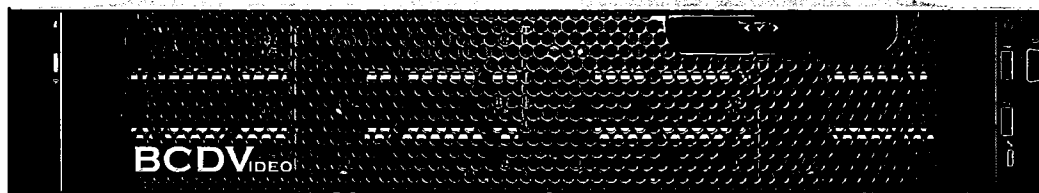
Redundant Power



RAID Options 0, 1, 5, 6, 10



**5-Year, On-site, NBD,
Keep Your Hard Drive Warranty**



Back - Dual Processor Models

FOR MORE INFORMATION: bcdvideo.com | sales@bcdvideo.com | +1.847.205.1922 **TECH SUPPORT:** support@bcdvideo.com | +1.844.462.2384

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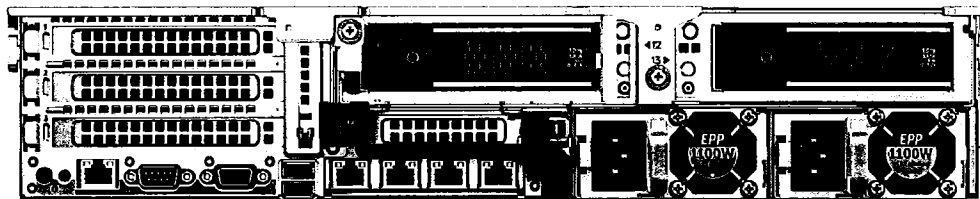
CERTIFIED | PURPOSE BUILT | GUARANTEED

SYSTEM

Processor(s)	Up to (2) Intel® Xeon® Silver 4116 Scalable Processors (12 Cores, 24 Threads, 3.00GHz)
Processor Passmark	Intel® Xeon® Silver 4116: 15,320 Dual Intel® Xeon® Silver 4116: 20,362
Maximum Storage	Up to 252TB
Operating System	Windows Server 2016
Memory	Single Processor: 16GB (2x 8GB) Dual Processors: 32GB (4x 8GB) Maximum Configuration: Up to 1.5TB LRDIMM, 192GB NVDIMM (24x DDR4 DIMM Slots)
RAID	OS RAID 0, 1; Data RAID 0, 1, 5, 6, 10
RAID Controller	PERC H740P (8GB NV Cache, Supports RAID 0, 1, 5, 6, 10)
Networking	Single Processor Models: (4) 1GbE RJ45 Ports Dual Processor Models: (4) 1GbE RJ45 Ports, (2) 10GbE SFP+ ports
Expansion Slots	Single Processor: (2) Full-height PCIe x8, (1) Low-profile x8 slots (In default configuration) Dual Processors: (2) Full-height PCIe x8 slots (In default configuration)
USB(s)	Rear (2) USB 3.0, Front (2) USB 2.0, Internal (1) USB 3.0
Video Outputs	(1) VGA
Remote Management	iDRAC Express
Manufacturer	BCDVideo
Warranty	5-Year, On-site, NBD, Keep Your Hard Drive Warranty

MECHANICAL

Form Factor	2U Rackmount
Rack Support	Sliding Rack Rail with Cable Management Arm
Hard Drive Bays	(18) 3.5" Hot Swappable Bays & (2) M.2 SSD Slots
Hard Drives Supported	PCIe NVMe & SATA
Power Supply(s)	(2) 1100W (100-240VAC) 80 Plus Platinum
Maximum Power Draw	860W
Operating Temperature	(Min) 50°F - (Max) 95°F [(Min) 10°C - (Max) 35°C]
Operating Humidity	5 ~ 90% (non-condensing)
Dimensions (WxDxH)	19" (482.6mm) x 29.7" (755mm) x 3.4" (86.8mm)
Max. Weight	73 lbs. (33.1kg)



Back - Single Processor Models

FOR MORE INFORMATION: bcdvideo.com | sales@bcdvideo.com | +1.847.205.1922 **TECH SUPPORT:** support@bcdvideo.com | +1.844.462.2384

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www.bcdvideo.com
www.linkedin.com/company/bcdvideo

To Whom It May Concern,

Shanix Technology Inc. is an authorized & certified Security Integrator. They are approved by BCDVideo for purchase and installation of all product offerings. The solution provided for University of Rhode Island is based off the below calculation:

45% Indoor & 75% Outdoor Motion Option

Resolution	Compression	FPS	Days	Cameras	Recording %	Disk Space, GB	Bandwidth, Mbit/s	Bitrate,kbit/s	Comment
2592x1944 (5 MP)	H.264-15 (High Quality)	15	30	228	75	394866.5	1624.97	7127	20C-H4A-4MH-360
2592x1944 (5 MP)	H.264-15 (High Quality)	15	30	45	75	77934.2	320.72	7127	15C-H4A-3MH-180
2048x1536 (3 MP)	H.264-15 (High Quality)	15	30	103	75	110720.3	455.64	4424	3.0C-H4A-DO1-IR
2048x1536 (3 MP)	H.264-15 (High Quality)	15	30	184	45	118674.9	813.96	4424	3.0C-H4A-D1

Important: Real frame size value highly depends on image complexity, lens and CCD/CMOS quality. For detailed explanation, please visit: www.ivsq.com/software/help/

Total FPS	Disk space,GB	Bandwidth, Mbit/s
8400	702195.9	3215.29

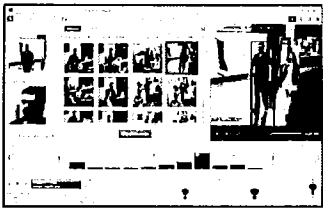
- With 20% overhead, 842TB of storage is required and bandwidth is around 3,860Mbps.

If any questions or clarification is needed, please reach out to me directly.

Regards,

Phil Luongo
Senior Solutions Specialist
e: pluongo@bcdvideo.com
o: 847-509-2955

Avigilon Control Center™ 6 Software



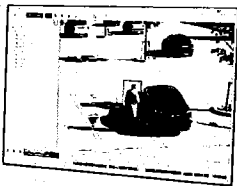
ACC™ software is easy-to-use video management software that optimizes the way security professionals manage and interact with high-definition video. It efficiently captures and stores high-definition video, while intelligently managing bandwidth and storage using our patented High Definition Stream Management (HDSM)™ technology. ACC 6 software combines an intuitive interface with advanced search functions called Avigilon Appearance Search™ video analytics technology and Unusual Motion Detection (UMD). Avigilon Appearance Search technology and UMD are sophisticated deep learning artificial intelligence (AI) search engines that enable users to quickly locate a specific person or vehicle of interest or identify motion anomalies across an entire site.

RECORDING NVR PLATFORMS PURPOSE-BUILT FOR ACC SOFTWARE AND AVIGILON APPEARANCE SEARCH TECHNOLOGY



ACC software is pre-installed and configured on HD Video Appliances, HD Network Video Recorders (NVRs), HD NVR Workstations, ACC Edge Solution (ES) HD Recorders, ACC ES Analytics Appliances and the H4 ES camera line. It also works as a stand-alone software, to meet the needs of a wide variety of installations. With the addition of a GPU, our NVRs quickly become capable of running Avigilon Appearance Search technology.

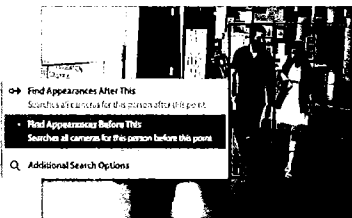
SELF-LEARNING VIDEO ANALYTICS



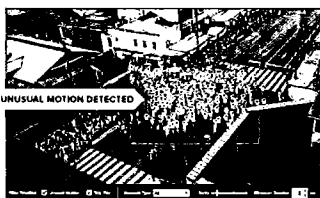
ACC video management software enables analytics events and alarms to be viewed and searched through an intuitive user interface. Real-time events and forensic capabilities detect and notify scene changes and rules violations.



AVIGILON APPEARANCE SEARCH TECHNOLOGY



Avigilon Appearance Search video analytics technology is a sophisticated AI search engine for video data that now incorporates the characteristics of a person's face. It sorts through hours of footage with ease, to quickly locate vehicles of interest or people even if items such as their clothing change over time across an entire site with ease. Using Avigilon Appearance Search technology can dramatically improve incident response time and enhance forensic investigations by allowing operators to build robust video evidence and create a powerful narrative of events. Appearance Search now allows users to initiate a search for a person by selecting certain specific physical descriptions.



UNUSUAL MOTION DETECTION

UMD is an advanced artificial intelligence (AI) technology that brings a new level of automation to surveillance. Without any predefined rules, UMD technology continuously learns what typical activity in a scene looks like, and then detects and records motion anomalies. UMD is supported by the H4A, H4 SL and H4 Mini Domes camera lines.

Advanced Avigilon Control Center Features



HDSM™ Technology

Efficiently compresses and preserves image quality while intelligently managing HD image transmission throughout the Avigilon system — sending only the requested portions of captured images to operator workstations.



HDSM SmartCodec™ Technology Support

Avigilon HDSM SmartCodec technology automatically optimizes compression levels for regions in a scene, to maximize bandwidth while still maintaining image quality.



Avigilon Appearance Search Technology

Allows you to quickly search recorded video to find instances of a person or vehicle across the entire site from all Avigilon cameras with self-learning analytics. Search for a person by selecting specific physical descriptions, including upper lower clothing color, hair color and gender.



Intelligent Search

Powerful search tools enable you to quickly search recorded video for motion, the presence of classified objects (people or vehicles), background changes in the scene (thumbnail search), and for events.



Simple Camera and Server Installation

Plug-and-play capabilities for NVRs and cameras that automatically identify themselves on the network, without manual configuration or searching.



Avigilon Presence Detector™ Support

The Avigilon Presence Detector (APD) sensor is a small form factor impulse radar device with self-learning radar analytics that accurately detects the presence of a person even if they have stopped moving or are hidden. It has the ability to detect presence through blankets, cardboard, wood and drywall.



License Plate Recognition (LPR) Analytics

ACC 6.10 features an upgraded LPR analytics engine with easy configuration and improved accuracy for faster security response.



ACM™-ACC interoperability

Receives, processes, and acts on ACM door events, hardware input events, and access grants, enabling operators to unlock access doors directly from a camera view. New Identity Verification feature enables users to see ACM credentials dynamically displayed with ACC camera views.



Alarm Escalation

Allows the creation of complete end-to-end workflows for the monitoring, assignment, and acknowledgement of alarms.



ACC Mobile Software

Push alarm notifications, live and recorded alarm video, audio talkdown, self-learning video analytics overlays, and digital output triggers for Android™ and iOS mobile devices.



Detailed Management, Monitoring, and Reporting of System Status and Security

Detailed logs of storage, network, and overall system status to ensure the highest possible system uptime for critical applications.



POS Transaction Engine

Link HD surveillance footage (viewed instantly) with transaction data to address compliance requirements and reduce shrinkage and theft.



Scalable Integration with Legacy Systems

Distributed architecture features a .NET-based API that can easily be integrated with other systems, such as access control and building management.



ONVIF® Profile S Conformant VMS

ONVIF profile S conformance ensures interoperability between IP based ONVIF security devices regardless of manufacturer.



Unusual Motion Detection

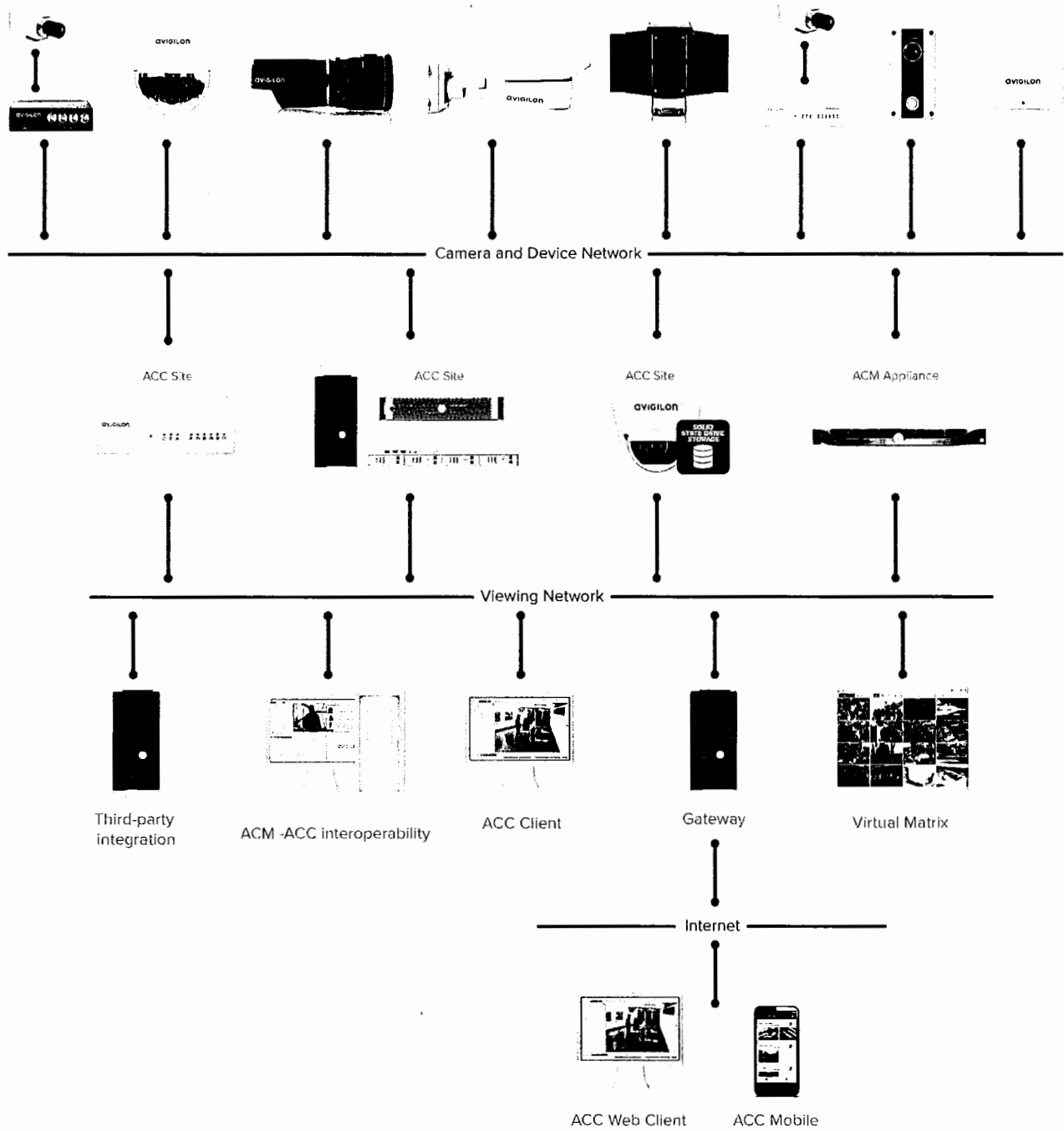
UMD enables fast video search and is designed to reduce hours of work to minutes by narrowing potentially thousands of motion events to a handful. This allows operators to focus their attention on video footage needing further investigation.



H4 Video Intercom

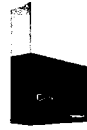
The H4 Video Intercom integrates a 3 MP camera with a high-performance intercom and features exceptional wide dynamic range, low-light, noise reduction and echo-cancelling technologies for clear viewing and two-way communication with visitors.

System Architecture



Core, Standard & Enterprise

To create a system most suited for your surveillance needs, the Avigilon Control Center software is offered in three editions: Core, Standard and Enterprise. The Enterprise edition includes more advanced features for a sophisticated solution, whereas the Standard edition is used for more focused needs or for those looking to transition to HD surveillance in a cost-effective way. ACC Core software is an entry-level version of our award-winning software that delivers advanced high definition surveillance capabilities, ease of use, and superior image quality to smaller implementations. No matter what the size of your installation, you can customize a solution that is right for you.



SYSTEM	CORE	STANDARD	ENTERPRISE
Number of cameras per server	24	75	300+
Number of cameras per site	24	75	10 000+
Number of servers per site	1	1	100+
Number of client licenses per server	2	10	Unlimited
High Definition Stream Management (HDSM) Technology	Yes	Yes	Yes
HDSM SmartCodec Technology Support	Yes	Yes	Yes
Dual Streaming for ONVIF compliant cameras	Yes	Yes	Yes
DEVICE SUPPORT	CORE	STANDARD	ENTERPRISE
Automatic device discovery	Yes	Yes	Yes
Third-party IP cameras & encoders	Yes	Yes	Yes
HD Pro cameras	No	No	Yes
Avigilon Presence Detector (APD) sensor	Yes	Yes	Yes
H4 HD cameras with self-learning video analytics	Yes	Yes	Yes
HD cameras with self-learning video analytics	Yes	Yes	Yes
HD Micro Dome, HD Multisensor, HD Panoramic, HD PTZ, IR PTZ, H4 Fisheye, H4 SL cameras, H4 Mini Dome	Yes	Yes	Yes
H4 Video Intercom	Yes	Yes	Yes
ONVIF compliant cameras & encoders	Yes	Yes	Yes
Avigilon encoders	Yes	Yes	Yes
H.264 support	Yes	Yes	Yes
MPEG4 support	Yes	Yes	Yes
MJPEG support	Yes	Yes	Yes
JPEG2000 support	Yes	Yes	Yes
CLIENT	CORE	STANDARD	ENTERPRISE
Powerful, easy-to-use client interface	Yes	Yes	Yes
Video analytics overlays (Self-learning video analytics, Unusual Motion Detection)	Yes	Yes	Yes
Joystick support	Yes	Yes	Yes
ACC Mobile 2 app / HTML5 Web Client / Gateway	Yes	Yes	Yes
ACC Mobile 3 Preview app / Web Endpoint	Yes	Yes	Yes
Saved views	No	Yes	Yes
Maps with configurable icons and camera thumbnail previews	No	Yes	Yes
Web pages	No	Yes	Yes
Active Directory import	No	No	Yes
Windows user authentication	No	No	Yes
Password strength meter	Yes	Yes	Yes
Editable Site View	Yes	Yes	Yes
Intelligent Virtual Matrix	No	No	Yes
Collaborative investigations	No	No	Yes
Multi-camera export with optional password protection	Yes	Yes	Yes
Live export	Yes	Yes	Yes
Hourly configurable recording schedule	Yes	Yes	Yes

SEARCHING	CORE	STANDARD	ENTERPRISE
Avigilon Appearance Search Technology	No	No	Yes
Search for a person by selecting specific physical descriptions (Gender, Hair color, Upper body clothing color, Lower body clothing color)	No	No	Yes
Unusual Motion Detection Timeline filtering with Skip Play	Yes	Yes	Yes
Intelligent motion search	Yes	Yes	Yes
Thumbnail search	Yes	Yes	Yes
Event search	Yes	Yes	Yes
POS transaction search	No	Yes	Yes
Alarm search	No	No	Yes
License plate event search	No	No	Yes

ADD-ON MODULES AND INTEGRATIONS	CORE	STANDARD	ENTERPRISE
Point of Sale Transaction Engine	No	Yes	Yes
Avigilon developed and supported integrations	No	Yes*	Yes
3rd party system integrations	No	Yes	Yes

*ComunScope ;Patch, RS2 Accessit, DDS Amadeus 5 and DSX only

AVIGILON'S ACCESS CONTROL MANAGER (ACM) AND ACC SYSTEM INTEROPERABILITY	CORE	STANDARD	ENTERPRISE
ACM system door and panel Input event triggers	No	Yes	Yes
ACM system door access grants	No	Yes	Yes
ACM system shared operator access	No	Yes	Yes
ACM Identity Verification	No	Yes	Yes

ADDITIONAL FEATURES	CORE	STANDARD	ENTERPRISE
E-Mail event notification (motion & system event)	Yes	Yes	Yes
Central station notifications including ANSI/SIA DC-09-2013	No	Yes	Yes
Digital Input email trigger	No	Yes	Yes
Manual digital output trigger	No	Yes	Yes
Audio recording	No	Yes	Yes
Audio output	No	Yes	Yes
Rule triggers	No	51	Unlimited
Avigilon Presence Detector event trigger	No	Yes	Yes
Self-learning video analytics event configuration	No	Yes	Yes
Redundant recording	No	No	Yes
Fallover connections	No	No	Yes
Alarm escalation	No	No	Yes
One-time Video Archive	No	No	Yes
Tiered Storage Management with Continuous Archive	No	No	Yes
License Plate Recognition	No	No	Yes
Two person authenticated recorded video viewing	Yes	Yes	Yes
Camera Replacement	Yes	Yes	Yes
Standby/Privacy mode for cameras	No	Yes	Yes

For the most current list of integrations and add-ons supported by Avigilon Control Center software, please visit avigilon.com.

System Requirements

NOTE: For all Windows versions, it is recommended that the latest Microsoft service pack is deployed. NVR recording throughput and retention times can vary according to the number of cameras, camera resolution, estimated percent of motion, continuous recording settings and predefined retention period. For full server performance, choose an Avigilon Certified Solution option.

AVIGILON CONTROL CENTER CLIENT SOFTWARE

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
2 Monitor Professional High Performance Remote Monitoring Workstation	HD-RMWS3-2MN	<ul style="list-style-type: none"> Preloaded with Avigilon Control Center (ACC) Client software. Supports high resolution monitors. Includes the adapters and accessories for quick deployment. Avigilon warranty and support Included.
4 Monitor Professional High Performance Remote Monitoring Workstation	HD-RMWS3-4MN	
SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows 7 (32-bit or 64-bit), Windows 8.1 (32-bit or 64-bit) or Windows 10 (32-bit or 64-bit) Microsoft .NET 4.6.2	Windows 10 (64-bit) Microsoft .NET 4.6.2
Processor	Intel® dual-core CPU (2.0 GHz)	Intel® Core™ i5 (Quad-core, 3.3 GHz)
System RAM	4 GB DDR3	8 GB DDR4
Video Card	PCI Express, DirectX 10.0 compliant with 256 MB RAM	NVIDIA® Quadro K620
Network Interface	1 Gbps	1 Gbps
Hard Disk Space	500 MB	500 MB

AVIGILON CONTROL CENTER SERVER SOFTWARE

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
HD NVR Premium	HD-NVR3-PRM-48TB / HD-NVR3-PRM-84TB / HD-NVR3-PRM-137TB	<ul style="list-style-type: none"> Optimized for video surveillance applications in a 24/7/365 environment ACC Server software is preinstalled, configured and enhanced for optimal system compatibility Certified for the Avigilon surveillance environment - ACC software, LPR, Mobile Gateway, Analytics, HDSM and 1-30MP cameras High throughputs of up to 1670 Mbps Documented network architecture for a wide variety of applications Avigilon enhanced warranty and premium support included Access to Avigilon System Design Tool (SDT) to calculate storage requirements
HD NVR Standard	HD-NVR3-STD-24TB / HD-NVR3-STD-36TB	
HD NVR Value	HD-NVR3-VAL-3TB / HD-NVR3-VAL-6TB / HD-NVR3-VAL-12TB / HD-NVR3-VAL-18TB	
SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows Server 2012, Windows Server 2012 R2, Windows 7 (64-bit), Windows 8.1 (64-bit) or Windows 10 (64-bit), Windows Server 2016	Windows Server 2012 R2
Processor	x86 64 bit dual-core (1.9 GHz)	Intel® Xeon® E5 v3 (6 cores, 1.9GHz)
System RAM	4 GB DDR3	16 GB DDR4
Network Interface	1 Gbps	4 x 1 Gbps
Hard Drives	SATA-II 7200 RPM Enterprise Class Hard Drives	SATA-III 7200 RPM Enterprise Class Hard Drives

AVIGILON CONTROL CENTER SERVER WORKSTATION

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
HD Video Appliance	VMA-AS2-8P2 / VMA-AS2-8P4 / VMA-AS2-16P06 VMA-AS2-16P09 / VMA-AS2-16P12 / VMA-AS2-24P12 VMA-AS2-24P18 / VMA-AS2-24P24	<ul style="list-style-type: none"> Preloaded and configured with Avigilon Control Center (ACC) video management software High-performance recording capacity Throughputs of up to 400 Mbps Avigilon warranty and support included Access to Avigilon System Design Tool (SDT) to calculate storage requirements
ACC ES HD Recorder	VMA-RPO-4P2 / VMA-RPO-4P4	
ACC ES Analytics Appliance	VMA-RPA-4P2 / VMA-RPA-4P4	
HD NVR Workstation	HD-NVRWS3-8TB	
SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows Server 2012, Windows Server 2012 R2, Windows 7 (64-bit), Windows 8.1 (64-bit) or Windows 10 (64-bit)	Windows 10 (64-bit)
Processor	Intel Quad-core CPU (2.0 GHz)	Intel Core i5 (Quad-core, 3.3 GHz)
System RAM	4 GB DDR3	8 GB DDR4
Network Interface	1 Gbps	1 Gbps
Video Card	PCI Express, DirectX 10.0 compliant with 256 MB RAM	NVIDIA Quadro K620
Hard Drives	SATA-II 7200 RPM Hard Drives	SATA-III 7200 RPM Hard Drives

AVIGILON APPEARANCE SEARCH TECHNOLOGY

Avigilon Appearance Search technology requires the ACC Analytics Service to be installed on the same computer as the ACC Server software, and must meet the listed system requirements:

AVIGILON CERTIFIED SOLUTIONS	DISPLAY MODEL NUMBER	KEY FEATURES
Analytics Kit for Avigilon Appearance Search Software	HD-NVR3-ANK1-1; HD-NVR-ANK2-1	Tested and verified to provide enough processing power to run Avigilon Appearance Search feature.

SOFTWARE SYSTEM REQUIREMENTS

NVIDIA CUDA Compute Capability	5.0 or above
GPU Memory	4 GB or above

AVIGILON CONTROL CENTER GATEWAY

Avigilon Control Center Gateway can be installed on the same computer as the ACC Server software, but for optimal performance results it is recommended that the Gateway be installed separately. The Gateway can handle up to 36 concurrent video streams if installed on a computer with the listed requirements (with recommended specs).

SOFTWARE SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows Server 2016, Windows Server 2012, Windows Server 2012 R2, Windows 7 (64-bit), Windows 8.1 (64-bit) or Windows 10 (64-bit) Microsoft .NET 4.6.2	Windows 10 (64-bit) Microsoft .NET 4.6.2
Processor	Intel quad-core CPU (2.0 GHz)	Intel Core i5 (Quad-core, 3.3 GHz)
System RAM	4 GB DDR3	8 GB DDR4
Hard Disk Space	500 MB	500 MB

AVIGILON CONTROL CENTER WEB CLIENT

Avigilon Control Center Web Client can be accessed from the listed web browsers.

Web Browsers	Internet Explorer version 9.0 or later Chrome version 20 or later	Firefox® version 15 or later Safari version 9.0 or later
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AVIGILON CONTROL CENTER MOBILE 2.X SOFTWARE

Avigilon Control Center Mobile (ACC Mobile) version 2.x is currently only available for the listed device platforms.

Platforms	Android version 4.x or 5.x	iPad with iOS 7, 8 or 9 iPhone with iOS 7, 8 or 9 iPod touch with iOS 7, 8 or 9
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AVIGILON CONTROL CENTER MOBILE 3.X SOFTWARE PREVIEW

ACC Mobile version 3.x is currently only available for the listed device platforms and requires the ACC Web Endpoint software. The ACC Web Endpoint software comes pre-installed on ACC ES HD Recorder and ACC ES Analytics Appliance. For NVR systems and HD Video Appliances, it should be installed on the same server as the ACC Server software.

Platforms	Android version 5.0 or later	iPad with iOS 9 or later iPhone with iOS 9 or later iPod touch with iOS 9 or later
Processor	n/a	64-bit (Apple A7 or later)

AVIGILON CONTROL CENTER LPR PLUGIN

Avigilon Control Center LPR Plugin is supported on the listed operating systems.

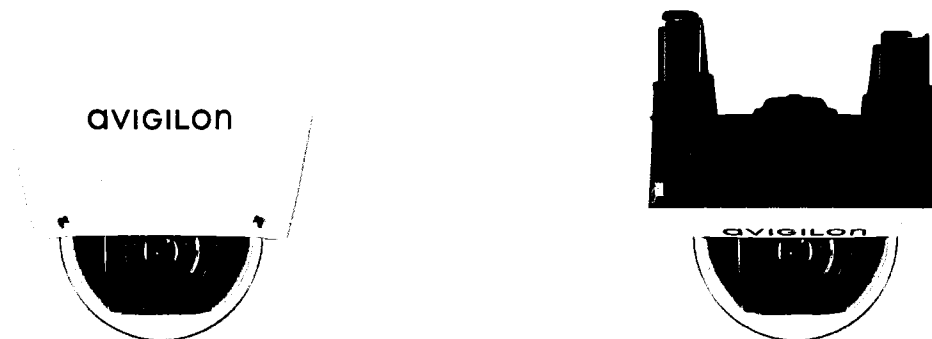
Operating System	Windows Server 2012, Windows Server 2012 R2, Windows 7 (64-bit), Windows 8.1 (64-bit) or Windows 10 (64-bit), Windows Server 2016
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Avigilon certified solutions are recommended for LPR solutions.

H4 HD Indoor Dome Camera with Self-Learning Video Analytics

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

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



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

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

KEY FEATURES

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

Specifications

		1.0 MP	2.0 MP	3.0 MP	5.0 MP	4K ULTRA HD (8.0 MP)	
IMAGE PERFORMANCE	Image Sensor	1/2.8" progressive scan CMOS			1/1.8" progressive scan CMOS	1/2.3" progressive scan CMOS	
	Aspect Ratio	16:9			4:3	16:9	
	Active Pixels (H x V)	1280 x 720	1920 x 1080	2048 x 1536	2592 x 1944	3840 x 2160	
	Imaging Area (H x V)	4.8 mm x 2.7mm; 0.189" x 0.106"		5.12 mm x 3.84 mm; 0.202" x 0.151"	6.22 mm x 4.66 mm 0.245" x 0.183	5.95 mm x 3.35 mm 0.234" x 0.132"	
	IR Illumination (option) (High Power 850 nm LEDs)	30 m (98 ft) max. distance at 0 lux				15 m (50 ft) max distance at 0 lux	
	Minimum Illumination	0.04 lux (F1.3) in color mode; 0.008 lux (F1.3) in monochrome mode			N/A	N/A	
	4.3 - 8 mm lens:	N/A			0.033 lux (F1.8) in color mode; 0.0066 lux (F1.8) in monochrome mode	0.29 lux (F1.8) in color mode; 0.058 lux (F1.8) in monochrome mode	
	9 - 22 mm lens:	0.08 lux (F1.6) in color mode; 0.016 lux (F1.6) in monochrome mode			0.026 lux (F1.6) in color mode; 0.005 lux (F1.6) in monochrome mode	N/A	
	Image Rate (full resolution)	30 fps	30 fps (20 fps with WDR enabled)		30 fps	20 fps (30 fps in High Framerate mode)	
	Dynamic Range	67 dB			83 dB	91 dB	
Dynamic Range (WDR enabled)	120 dB triple exposure (20 fps or less); 100 dB dual exposure (30 fps)			N/A	N/A		
Resolution Scaling	Down to 768 x 432			Down to 1792 x 1344	Down to 3072 x 1728		
Camera Operating Mode	N/A				Full Feature or High Framerate mode (HDSM 2.0 and analytics disabled in High Framerate mode)		
3D Noise Reduction Filter	Yes						
LENS	Lens	3 - 9 mm lens:	F1.3, P-Iris, remote focus and zoom				
		4.3 - 8 mm lens:	F1.8, P-Iris, remote focus and zoom				
		9 - 22 mm lens:	F1.6, P-Iris, remote focus and zoom				
	Angle of View	3 - 9 mm lens:	30° - 91°	32° - 98°	N/A		
		4.3 - 8 mm lens:	N/A	N/A	46° - 86°	44° - 81°	
	9 - 22 mm lens:	14° - 29°	15° - 31°	18° - 41°	N/A		
IMAGE CONTROL	Video Compression	H.264 (MPEG-4 Part 10/AVC), Motion JPEG, HDSM SmartCodec Technology					
	Streaming	Multi-stream H.264 and Motion JPEG					
	Bandwidth Management	(1.0 - 3.0 MP) HDSM; (5.0 MP and 4K Ultra HD) HDSM 2.0					
	Motion Detection	Pixel and Classified Objects					
	Camera Tampering Detection	Yes					
	Electronic Shutter Control	Automatic, Manual (1/6 to 1/8000 sec)					
	Iris Control	Automatic, Manual					
	Day/Night Control	Automatic, Manual					
	Flicker Control	50 Hz, 60 Hz					
	White Balance	Automatic, Manual					
	Backlight Compensation	Adjustable					
	Privacy Zones	Up to 64 zones					
	Audio Compression Method	G.711 PCM 8 kHz					
	Audio Input/Output	Line level input/output, A/V mini-jack (3.5 mm)					
	Video Output	(1.0 - 2.0 MP only) NTSC/PAL, A/V mini-jack (3.5 mm)					
	External I/O Terminals	Alarm In, Alarm Out					
USB Port	USB 2.0						
NETWORK	Network	100BASE-TX					
	Cabling Type	CAT5					
	Connector	RJ-45					
	ONVIF	ONVIF compliant with version 1.02, 2.00, Profile S and 2.2.0 of the Analytics Service Specification (*bounding boxes and scene descriptions not available with third-party VMS)					
	Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication					
	Protocol	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMP, ICMP, DHCP, Zeroconf, ARP					
	Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP					
	Device Management Protocols	SNMP v2c, SNMP v3					
	MECHANICAL	Dimensions (LxWxH)	SURFACE MOUNT INDOOR DOME CAMERA 163 mm x 163 mm x 118 mm (6.4" x 6.4" x 4.7")			IN-CEILING DOME CAMERA 181 mm x 181 mm x 164 mm (7.1" x 7.1" x 6.5")	
		Weight	0.95 kg (2.09 lbs)			1.6 kg (3.5 lbs)	
Dome Bubble		Polycarbonate, clear					
Body		Plastic, Aluminum			Plastic, Aluminum		
Housing		Surface mount, tamper resistant			Recessed mount, tamper resistant		
Finish		Plastic, gray			Plastic, gray; Aluminum, powder coat, black		
Adjustment Range		360° pan, 9° - 95° tilt (30° - 95° tilt with -IR option), ±180° azimuth					
Onboard Storage		SD/SDHC/SDXC slot - minimum class 4; class 6 or better recommended					

ELECTRICAL	Power Consumption	7 W (9 W for -IR option)								
	Power Source	VDC: 12 V +/- 10%, 7 W min (9 W min with -IR option) VAC: 24 V +/- 10%, 10 VA min (13 VA min with -IR option)		PoE: IEEE802.3af Class 3 compliant						
	Power Connector	2-pin terminal block								
	RTC Backup Battery	3V manganese lithium								
ENVIRONMENTAL	Operating Temperature	-40 °C to +60 °C (-40 °F to 140 °F) (8.0 MP only) -40 °C to +50 °C (-40 °F to 122 °F)								
	Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)								
	Humidity	0 - 95% non-condensing								
CERTIFICATIONS	Certifications	UL	cUL	CE	ROHS	WEEE	RCM	EAC	KC	BIS
	Safety	UL 60950-1		CSA 60950-1	IEC/EN 60950-1		IEC 62471 (for -IR option)			
	Environmental	IK10 Impact Rating								
	Electromagnetic Emissions	FCC Part 15 Subpart B Class B		IC ICES-003 Class B	EN 55032 Class B		EN 61000-6-3 EN 61000-3-2 EN 61000-3-3 EN 55011			
	Electromagnetic Immunity	EN 55024		EN 61000-6-1						

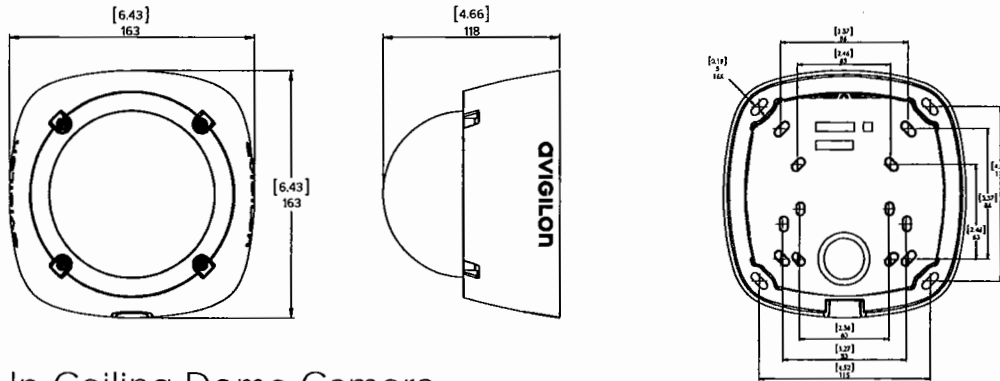
SUPPORTED RULE BASED VIDEO ANALYTICS EVENTS**	Objects in Area	The event is triggered when the selected object type moves into the region of interest.
	Object Loitering	The event is triggered when the selected object type stays within the region of interest for an extended amount of time.
	Objects Crossing 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.

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

SUPPORTED VIDEO ANALYTICS EVENTS	Unusual Motion Detection (UMD)	Detects and tags recorded video based on unusual speed, direction, and location of motion.
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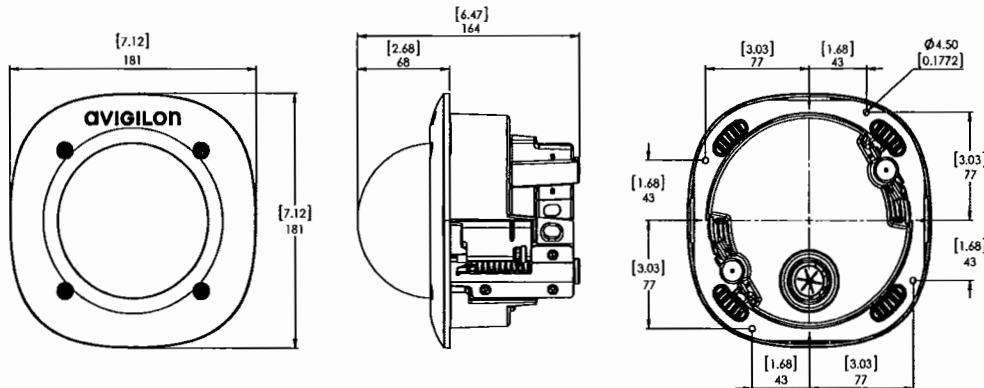
Outline Dimensions

Surface Mount Dome Camera (H4A-D)



[X.X]	INCHES
X	MM

In-Ceiling Dome Camera (H4A-DC)



Ordering Information

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

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

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

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

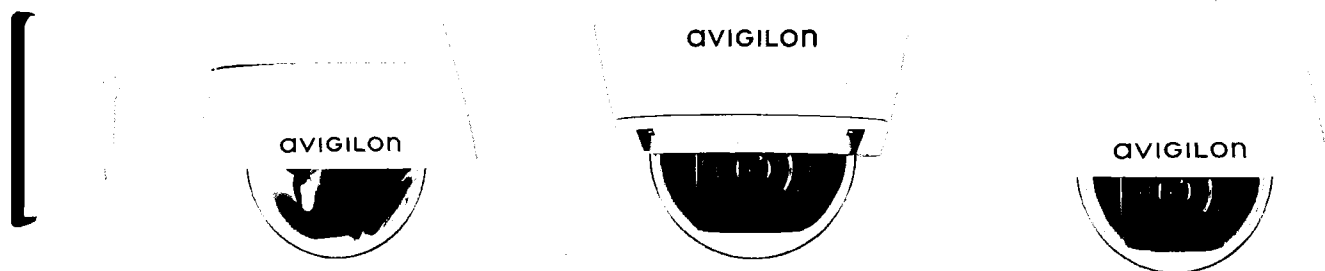
* These models are physically identical. (-B)* depicts an updated hardware version.

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

H4 HD Outdoor Dome Camera with Self-Learning Video Analytics

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

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



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

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

KEY FEATURES

- 1-5 megapixel and 4K Ultra HD (8 MP) resolution
- Patented Advanced Video Pattern Detection and Teach by Example Technology
- Self-learning video analytics
- Patented High Definition Stream Management (HDSM)™ Technology
- Available with 3-9 mm F1.3, 4.3-8 mm F1.8, or 9-22 mm F1.6 P-Iris lens with remote focus and zoom
- Wifi camera configuration support
- Zoom and content adaptive integrated IR (Infrared) LEDs provide uniform illumination in the dark, even at 0 lux, up to a maximum of 30 m (98 ft) away
- Avigilon LightCatcher technology provides exceptional image quality in low light environments
- Triple Exposure Ultra Wide Dynamic Range (1-3 MP models)
- ONVIF compliant with version 2.2.0 of the Analytics Service Specification
- Vandal resistant construction and IP66 compliant
- Avigilon HDSM SmartCodec technology for reduce bandwidth and storage requirements
- Idle Scene Mode lowers bandwidth and storage usage if there are no motion events detected in the scene
- Full Feature or High Framerate camera operating modes (4K Ultra HD model)

Specifications

		1.0 MP	2.0 MP	3.0 MP	5.0 MP	4K ULTRA HD (8.0 MP)
IMAGE PERFORMANCE	Image Sensor	1/2.8" progressive scan CMOS			1/1.8" progressive scan CMOS	
	Aspect Ratio	16:9			16:9	
	Active Pixels (H x V)	1280 x 720			2592 x 1944	
	Imaging Area (H x V)	4.8 mm x 2.7mm; 0.189" x 0.106"			6.22 mm x 4.66 mm; 0.245" x 0.183"	
	IR Illumination Option (high power 850 nm LEDs)	30 m (98 ft) max. distance at 0 lux			15 m (50 ft) max distance at 0 lux	
	Minimum Illumination	3 - 9 mm lens: 0.04 lux (F1.3) in color mode; 0.008 lux (F1.3) in monochrome mode			N/A	
		4.3 - 8 mm lens: N/A			0.033 lux (F1.8) in color mode; 0.0066 lux (F1.8) in monochrome mode	
		9 - 22 mm lens: 0.08 lux (F1.6) in color mode; 0.016 lux (F1.6) in monochrome mode			0.026 lux (F1.6) in color mode; 0.005 lux (F1.6) in monochrome mode	
	Image Rate (Full Resolution)	30 fps			30 fps	
	Dynamic Range	67 dB			83 dB	
Dynamic Range (WDR Enabled)	120 dB triple exposure (20 fps or less); 100 dB dual exposure (30 fps)			N/A		
Resolution Scaling	Down to 768 x 432			Down to 1792 x 1344		
Camera Operating Mode	N/A			Down to 3072 x 1728		
3D Noise Reduction Filter	Yes			Full Feature or High Framerate mode (HDSM 2.0 and analytics disabled in High Framerate mode)		
LENS	Lens	3 - 9 mm lens: F1.3, P-Iris, remote focus and zoom			4.3 - 8 mm lens: F1.8, P-Iris, remote focus and zoom	
		4.3 - 8 mm lens: F1.8, P-Iris, remote focus and zoom			9 - 22 mm lens: F1.6, P-Iris, remote focus and zoom	
	Angle of View	30° - 91°			32° - 98°	
		N/A			N/A	
		N/A			46° - 86°	
	14° - 29°			15° - 31°		
	18° - 41°			N/A		
IMAGE CONTROL	Video Compression	H.264 (MPEG-4 Part 10/AVC), Motion JPEG, HDSM SmartCodec Technology				
	Streaming	Multi-stream H.264 and Motion JPEG				
	Bandwidth Management	(1.0 - 3.0 MP) HDSM; (5.0 MP and 4K Ultra HD) HDSM 2.0				
	Motion Detection	Pixel and classified objects				
	Camera Tampering Detection	Yes				
	Electronic Shutter Control	Automatic, Manual (1/6 to 1/8000 sec)				
	Iris Control	Automatic, Manual				
	Day/Night Control	Automatic, Manual				
	Flicker Control	50 Hz, 60 Hz				
	White Balance	Automatic, Manual				
	Backlight Compensation	Adjustable				
	Privacy Zones	Up to 64 zones				
	Audio Compression Method	G.711 PCM 8 kHz				
	Audio Input/Output	Line level input and output, A/V mini-jack (3.5 mm)				
	Video Output	(1.0 - 2.0 MP only) NTSC/PAL, A/V mini-jack (3.5 mm)				
External I/O Terminals	Alarm In, Alarm Out					
NETWORK	USB Port	USB 2.0				
	Network	100BASE-TX				
	Cabling Type	CAT5				
	Connector	RJ-45				
	ONVIF	ONVIF compliant with version 1.02, 2.00, Profile S and 2.2.0 of the Analytics Service Specification (*bounding boxes and scene descriptions not available with third-party VMS)				
	Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication				
	Protocol	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP/UDP, IGMP, ICMP, DHCP, Zeroconf, ARP				
	Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP				
	Device Management Protocols	SNMP v2c, SNMP v3				
	MECHANICAL	Dimensions (LxWxH)	PENDANT DOME CAMERA			SURFACE MOUNT OUTDOOR DOME CAMERA
		dome camera only: 172 mm x 172 mm x 124 mm; (6.8" x 6.8" x 4.9")			163 mm x 163 mm x 121 mm; (6.4" x 6.4" x 4.8")	
		with wall mount (H4-MT-WALL1): 275 mm x 172 mm x 152.1 mm (10.8" x 6.8" x 6.0")				
		with NPT mount (H4-MT-NPTA1): 172 mm x 172 mm x 172.3 mm (6.8" x 6.8" x 6.8")				
Weight		dome camera only: 1.55 kg (3.42 lbs)			1.35 kg (2.97 lbs)	
		with wall mount (H4-MT-WALL1): 3.00 kg (6.62 lbs)				
		with NPT mount (H4-MT-NPTA1): 1.80 kg (3.98 lbs)				
Dome Bubble		Polycarbonate, clear				
Body		Aluminum				
Housing		Pendant mount, vandal resistant - with wall mount (H4-MT-WALL1) / NPT mount (H4-MT-NPTA1)			Surface mount, vandal resistant	
Finish	Powder coat, RAL 9003					
Adjustment Range	360° pan, 9° - 95° tilt (30° - 95° with -IR option), ±180° azimuth					
Onboard Storage	SD/SDHC/SDXC slot - minimum class 4; class 6 or better recommended					
ELECTRICAL	Power Consumption	7 W (9 W for -IR option)				
	Power Source	VDC: 12 V +/- 10%, 7 W min (9 W min with -IR option)			PoE: IEEE802.3af Class 3 compliant	
		VAC: 24 V +/- 10%, 10 VA min (13 VA min with -IR option)				
	Power Connector	2-pin terminal block				
RTC Backup Battery	3V manganese lithium					
ENVIRONMENTAL	Operating Temperature	-40 °C to +60 °C (-40 °F to 140 °F)				
		(8.0 MP only) -40 °C to +50 °C (-40 °F to 122 °F)				
	Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)				
Humidity	0 - 95% non-condensing					

CERTIFICATIONS	Certifications/Directives	UL	cUL	CE	ROHS	WEEE	RCM	EAC	KC	BIS
Safety		UL 60950-1		CSA 60950-1		IEC/EN 60950-1		IEC 62471 (for -IR options only)		
Environmental		UL/CSA/IEC 60950-22		IEC 60529 IP66 Rating		IK10 Impact Rating				
Electromagnetic Emissions		FCC Part 15 Subpart B Class B		IC ICES-003 Class B		EN 55032 Class B		EN 61000-6-3	EN 61000-3-2	EN 61000-3-3
Electromagnetic Immunity		EN 55024				EN 61000-6-1				EN 55011

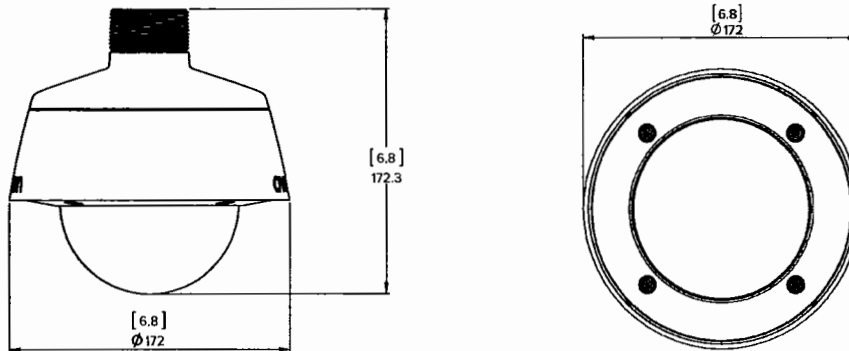
SUPPORTED RULE BASED VIDEO ANALYTICS EVENTS**	Event Description	Trigger Condition
Objects In Area	The event is triggered when the selected object type moves into the region of interest.	
Object Loitering	The event is triggered when the selected object type stays within the region of interest for an extended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

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

SUPPORTED VIDEO ANALYTICS EVENTS	Event Description	Trigger Condition
Unusual Motion Detection (UMD)	Detects and tags recorded video based on unusual speed, direction, and location of motion.	

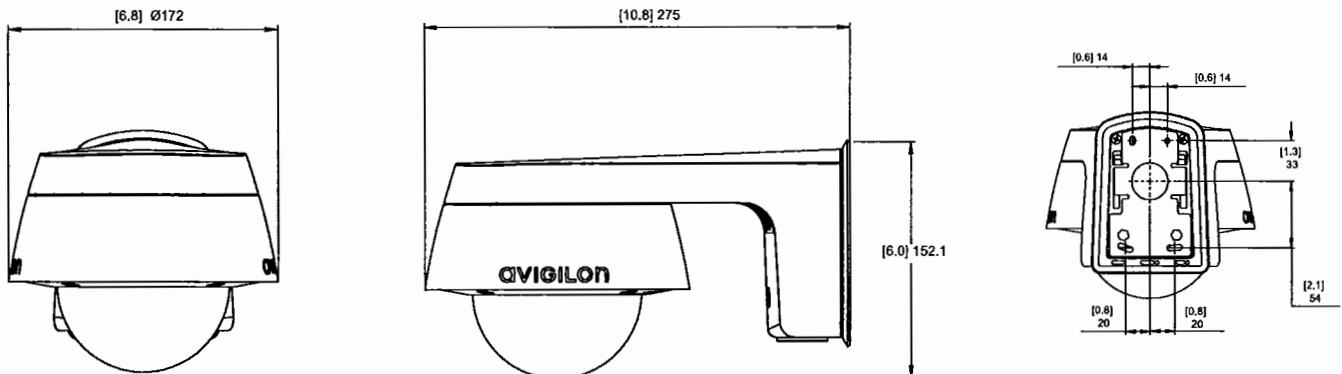
Outline Dimensions Pendant Dome Camera

WITH NPT MOUNT
(H4A-MT-NPTA1)

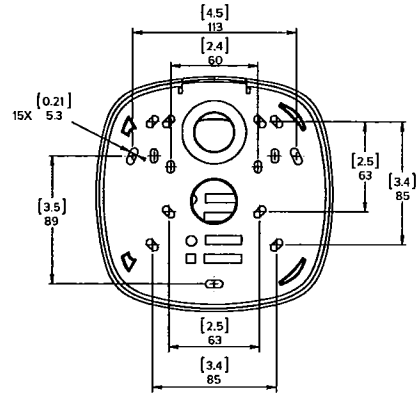
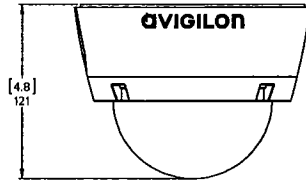
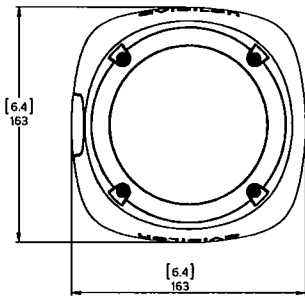


[X.X]	INCHES
X	MM

WITH WALL MOUNT
(H4A-MT-WALL1)



Surface Mount Outdoor Dome Camera (H4A-DO)



Ordering Information

PENDANT DOME CAMERAS	MP	WDR	LightCatcher Technology	Analytics	Lens	IR	HDSM SmartCodec
10C-H4A-DP1(-B)*	1.0	✓	✓	✓	3 - 9 mm		✓
10C-H4A-DP1R(-B)*	1.0	✓	✓	✓	3 - 9 mm	✓	✓
10C-H4A-DP2(-B)*	1.0	✓	✓	✓	9 - 22 mm		✓
2.0C-H4A-DP1(-B)*	2.0	✓	✓	✓	3 - 9 mm		✓
2.0C-H4A-DP1R(-B)*	2.0	✓	✓	✓	3 - 9 mm	✓	✓
2.0C-H4A-DP2(-B)*	2.0	✓	✓	✓	9 - 22 mm		✓
3.0C-H4A-DP1(-B)*	3.0	✓	✓	✓	3 - 9 mm		✓
3.0C-H4A-DP1R(-B)*	3.0	✓	✓	✓	3 - 9 mm	✓	✓
3.0C-H4A-DP2(-B)*	3.0	✓	✓	✓	9 - 22 mm		✓
5.0L-H4A-DP1(-B)*	5.0		✓	✓	4.3 - 8 mm		✓
5.0L-H4A-DP1R(-B)*	5.0		✓	✓	4.3 - 8 mm	✓	✓
5.0L-H4A-DP2(-B)*	5.0		✓	✓	9 - 22 mm		✓
8.0-H4A-DP1(-B)*	8.0			✓	4.3 - 8 mm		✓
8.0-H4A-DP1R(-B)*	8.0			✓	4.3 - 8 mm	✓	✓

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

H4A-MT-WALL1	Indoor/Outdoor Pendant Wall Arm Mount
H4A-MT-NPTA1	Indoor/Outdoor Pendant NPT Mount
H4A-DP-SMOK1	Dome Camera Cover with Smoked Bubble
H4A-DP-CLER1	Dome Camera Cover with Clear Bubble
H4-MT-POLE1	Aluminum pole mounting bracket for H4 HD Pendant Dome Cameras and H4 HD Bullet Cameras
H4-MT-CRNR1	Aluminum corner mounting bracket for H4 HD Pendant Dome Cameras and H4 HD Bullet Cameras
H4A-AC-GROM1	Camera Sealing Grommet, Pack of 10
H4-AC-WIF2-NA / H4-AC-WIF2-EU	USB Wifi Adapter
CM-AC-AVIO1	3.5 mm Jack with 1.8 m Fly Wires
CM-AC-GROM1	Pipe Grommet, Pack of 10

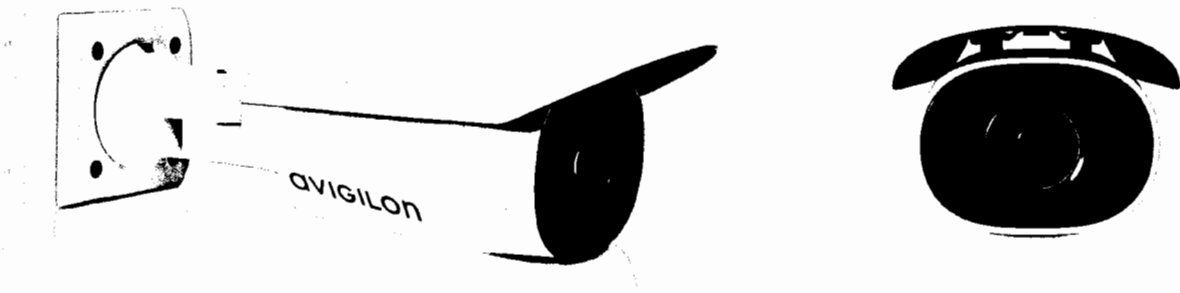
SURFACE MOUNT OUTDOOR DOME CAMERAS	MP	WDR	LightCatcher Technology	Analytics	Lens	IR	HDSM SmartCodec
10C-H4A-DO1(-B)*	1.0	✓	✓	✓	3 - 9 mm		✓
10C-H4A-DO1R(-B)*	1.0	✓	✓	✓	3 - 9 mm	✓	✓
10C-H4A-DO2(-B)*	1.0	✓	✓	✓	9 - 22 mm		✓
2.0C-H4A-DO1(-B)*	2.0	✓	✓	✓	3 - 9 mm		✓
2.0C-H4A-DO1R(-B)*	2.0	✓	✓	✓	3 - 9 mm	✓	✓
2.0C-H4A-DO2(-B)*	2.0	✓	✓	✓	9 - 22 mm		✓
3.0C-H4A-DO1(-B)*	3.0	✓	✓	✓	3 - 9 mm		✓
3.0C-H4A-DO1R(-B)*	3.0	✓	✓	✓	3 - 9 mm	✓	✓
3.0C-H4A-DO2(-B)*	3.0	✓	✓	✓	9 - 22 mm		✓
5.0L-H4A-DO1(-B)*	5.0		✓	✓	4.3 - 8 mm		✓
5.0L-H4A-DO1R(-B)*	5.0		✓	✓	4.3 - 8 mm	✓	✓
5.0L-H4A-DO2(-B)*	5.0		✓	✓	9 - 22 mm		✓
8.0-H4A-DO1(-B)*	8.0			✓	4.3 - 8 mm		✓
8.0-H4A-DO1R(-B)*	8.0			✓	4.3 - 8 mm	✓	✓

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

H4A-DO-SMOK1	Outdoor Dome Camera Cover with Smoked Bubble
H4A-DO-CLER1	Outdoor Dome Camera Cover with Clear Bubble
H4-AC-WIF2-NA / H4-AC-WIF2-EU	USB Wifi Adapter
H4A-AC-GROM1	Camera Sealing Grommet, Pack of 10
CM-AC-AVIO1	3.5 mm Jack with 1.8 m Fly Wires
CM-AC-GROM1	Pipe Grommet, Pack of 10

H4 HD Bullet 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 H4 HD Bullet camera from Avigilon is ideal for seeing objects and activity in complete darkness. Embedded with self-learning video analytics, the H4 HD cameras seamlessly integrate with Avigilon Control Center (ACC)™, allowing security personnel to respond proactively and mitigate an incident before damage is done.

With unique adaptive IR technology, this camera provides both wide and narrow illumination, enabling consistent illumination in complete darkness to enhance image quality regardless of scene conditions. Avigilon bullet cameras are equipped with new Triple Exposure Ultra-Wide Dynamic Range (WDR) and patented LightCatcher™ technology, ensuring you receive excellent image detail. Onboard storage capabilities let you manage storage directly on the camera using a standard SD memory card. 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

- 1-5 megapixel and 4K Ultra HD (8 MP) resolution
- Patented Advanced Video Pattern Detection and Teach by Example Technology
- Self-learning video analytics
- Patented High Definition Stream Management (HDSM)™ Technology
- Available with 3-9 mm F1.3, 4.3-8 mm F1.8, or 9-22 mm F1.6 P-Iris lens with remote focus and zoom
- Wifi camera configuration support
- Avigilon LightCatcher technology provides exceptional image quality in low light environments
- Triple Exposure Ultra Wide Dynamic Range (1-3 MP models)
- Integrated IR (Infrared) LEDs provide uniform illumination in the dark, even at 0 lux, up to maximum of 70 m (230 ft) away
- Zoom and content adaptive IR provides effective illumination throughout zoom positions, while maintaining the best scene illumination
- Avigilon HDSM SmartCodec technology for reduce bandwidth and storage requirements
- Idle Scene Mode lowers bandwidth and storage usage if there are no motion events detected in the scene
- Vandal resistant construction and IP66 compliant
- ONVIF compliant with version 2.2.0 of the Analytics Service Specification
- Full Feature or High Framerate camera operating modes (4K Ultra HD model)

Specifications

		1.0 MP	2.0 MP	3.0 MP	5.0 MP	4K ULTRA HD (8.0 MP)	
IMAGE PERFORMANCE	Image Sensor	1/2.8" progressive scan CMOS			1/1.8" progressive scan CMOS	1/2.3" progressive scan CMOS	
	Aspect Ratio	16:9		4:3	16:9		
	Active Pixels (H x V)	1280 x 720	1920 x 1080	2048 x 1536	2592 x 1944	3840 x 2160	
	Imaging Area (H x V)	4.8 mm x 2.7mm; 0.189" x 0.106"		5.12 mm x 3.84 mm; 0.202" x 0.151"	6.22 mm x 4.66 mm; 0.245" x 0.183"	5.95 mm x 3.35 mm; 0.234" x 0.132"	
	IR Illumination (high power 850 nm LEDs)	3 - 9 mm lens:	50 m (164 ft) max. distance at 0 lux; 30 m (98 ft) at -25 °C (-13 °F) or lower			N/A	N/A
		4.3 - 8 mm lens:	N/A			50 m (164 ft) max. distance at 0 lux; 25 m (82 ft) at -25 °C (-13 °F) or lower	30 m (98 ft) max. distance at 0 lux; 15 m (49 ft) at -25 °C (-13 °F) or lower
		9 - 22 mm lens:	70 m (230 ft) max. distance at 0 lux; 50 m (164 ft) at -25 °C (-13 °F) or lower			N/A	
	Minimum Illumination	3 - 9 mm lens:	0.04 lux (F1.3) in color mode; 0 lux (F1.3) in monochrome mode with IR			N/A	N/A
		4.3 - 8 mm lens:	N/A			0.033 lux (F1.8) in color mode; 0 lux (F1.8) in monochrome mode with IR	0.29 lux (F1.8) in color mode; 0 lux (F1.8) in monochrome mode with IR
		9 - 22 mm lens:	0.08 lux (F1.6) in color mode; 0 lux (F1.6) in monochrome mode with IR			0.026 lux (F1.6) in color mode; 0 lux (F1.6) in monochrome mode with IR	N/A
	Image Rate (Full Resolution)	30 fps		30 fps (20 fps with WDR enabled)	30 fps	20 fps (30 fps in High Framerate mode)	
	Dynamic Range	67 dB			83 dB	91 dB	
	Dynamic Range (WDR enabled)	120 dB triple exposure (20 fps or less); 100 dB dual exposure (30 fps)				N/A	N/A
	Resolution Scaling	Down to 768 x 432			Down to 1792 x 1344		Down to 3072 x 1728
Camera Operating Mode	N/A			N/A		Full Feature or High Framerate mode (HDSM 2.0 and analytics disabled in High Framerate mode)	
3D Noise Reduction Filter	Yes						
LENS	Lens	3 - 9 mm lens:	F1.3, P-Iris, remote focus and zoom				
		4.3 - 8 mm lens:	F1.8, P-Iris, remote focus and zoom				
		9 - 22 mm lens:	F1.6, P-Iris, remote focus and zoom				
	Angle of View	3 - 9 mm lens:	30° - 91°	32° - 98°		N/A	
		4.3 - 8 mm lens:	N/A	N/A		46° - 86°	44° - 81°
	9 - 22 mm lens:	14° - 29°	15° - 31°		18° - 41°	N/A	
IMAGE CONTROL	Video Compression	H.264 (MPEG-4 Part 10/AVC), Motion JPEG, HDSM SmartCodec Technology					
	Streaming	Multi-stream H.264 and Motion JPEG					
	Bandwidth Management	(1.0 - 3.0 MP) HDSM; (5.0 MP and 4K Ultra HD) HDSM 2.0					
	Motion Detection	Pixel and classified objects					
	Camera Tampering Detection	Yes					
	Electronic Shutter Control	Automatic, Manual (1/6 to 1/8000 sec)					
	Iris Control	Automatic, Manual					
	Day/Night Control	Automatic, Manual					
	Flicker Control	50 Hz, 60 Hz					
	White Balance	Automatic, Manual					
	Backlight Compensation	Adjustable					
	Privacy Zones	Up to 64 zones					
	Audio Compression Method	G.711 PCM 8 kHz					
	Audio Input/Output	Line level input and output					
	External I/O Terminals	Alarm In, Alarm Out					
USB Port	USB 2.0						
NETWORK	Network	100BASE-TX					
	Cabling Type	CAT5					
	Connector	RJ-45					
	ONVIF	ONVIF compliant with version 1.02, 2.00, Profile S and 2.2.0 of the Analytics Service Specification (*bounding boxes and scene descriptions not available with third-party VMS)					
	Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication					
	Protocol	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTP, TCP/UDP, IGMP, ICMP, DHCP, Zeroconf, ARP					
	Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP					
Device Management Protocols	SNMP v2c, SNMP v3						

MECHANICAL	Dimensions (LxWxH)	126 mm x 280 mm x 91 mm; 4.97" x 11.04" x 3.58" (including mounting bracket)								
	Weight Camera:	1.71 kg (3.77 lbs)								
	Mounting Bracket:	0.21 kg (0.46 lbs)								
	Body	Aluminum								
	Housing	Surface mount, tamper resistant								
	Finish	Powder coat, RAL 9003								
	Adjustment Range	±175° pan, ±90° tilt, ±175° azimuth								
	Onboard Storage	SD/SDHC/SDXC slot – minimum class 4; class 6 or better recommended								
ELECTRICAL	Power Consumption	13 W								
	Power Source	VDC: 12 V ± 10%, 13 W min	VAC: 24 V ± 10%, 19 VA min		PoE: IEEE802.3af Class 3 compliant					
	RTC Backup Battery	3V manganese lithium								
ENVIRONMENTAL	Operating Temperature	-40 °C to +55 °C (-40 °F to 131 °F) (8.0 MP only) -35 °C to +50 °C (-31 °F to 122 °F)								
	IR Illuminator Behavior	IR illuminator will not turn on if temperature is 45 °C (113 °F) or higher								
	Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)								
	Humidity	0 - 95% non-condensing								
CERTIFICATIONS	Certifications/Directives	UL	cUL	CE	ROHS	WEEE	RCM			
	Safety	UL 60950-1		CSA 60950-1		IEC/EN 60950-1	IEC 62471			
	Environmental	IK10 Impact Rating		UL/CSA/IEC 60950-22		IEC 60529 IP66 Rating				
	Electromagnetic Emissions	FCC Part 15 Subpart B Class B		IC ICES-003 Class B		EN 55032 Class B	EN 61000-6-3	EN 61000-3-2	EN 61000-3-3	EN 55011
	Electromagnetic Immunity	EN 50121-4		EN 55024		EN 61000-6-1				

SUPPORTED RULE BASED 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.

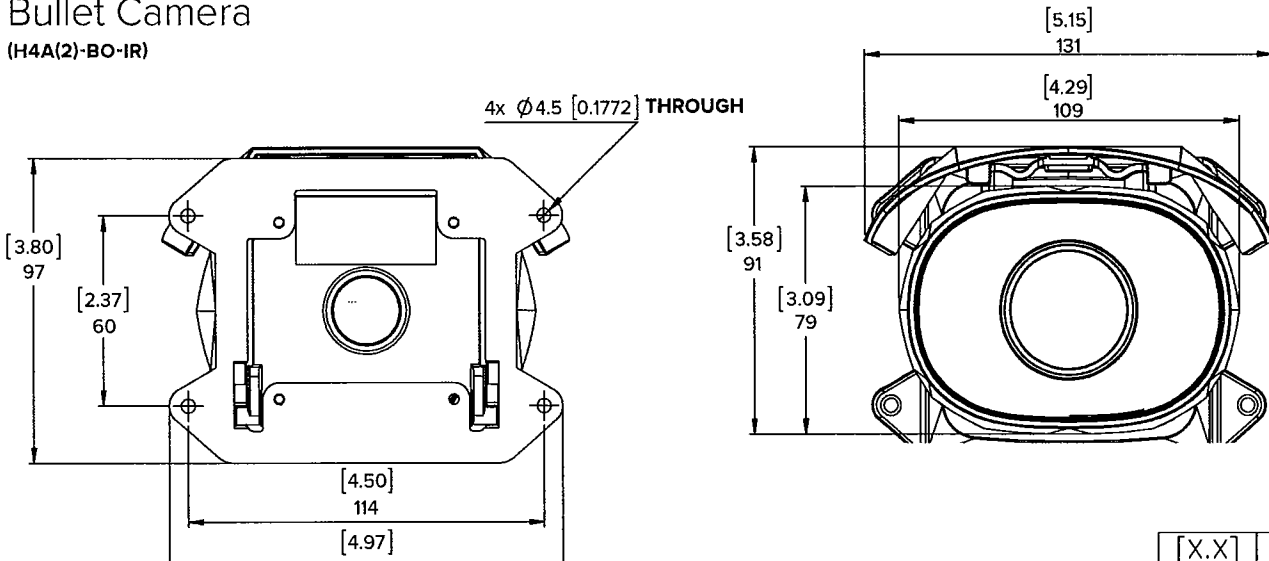
** Rule based and UMD Analytics cannot operate at the same time.

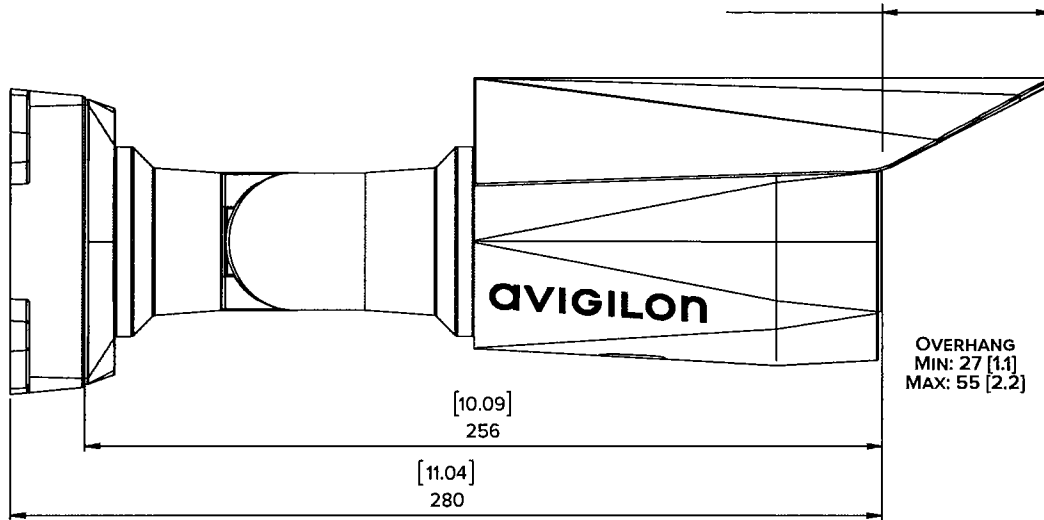
SUPPORTED VIDEO ANALYTICS EVENTS	Unusual Motion Detection (UMD)	Detects and tags recorded video based on unusual speed, direction, and location of motion.
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Outline Dimensions

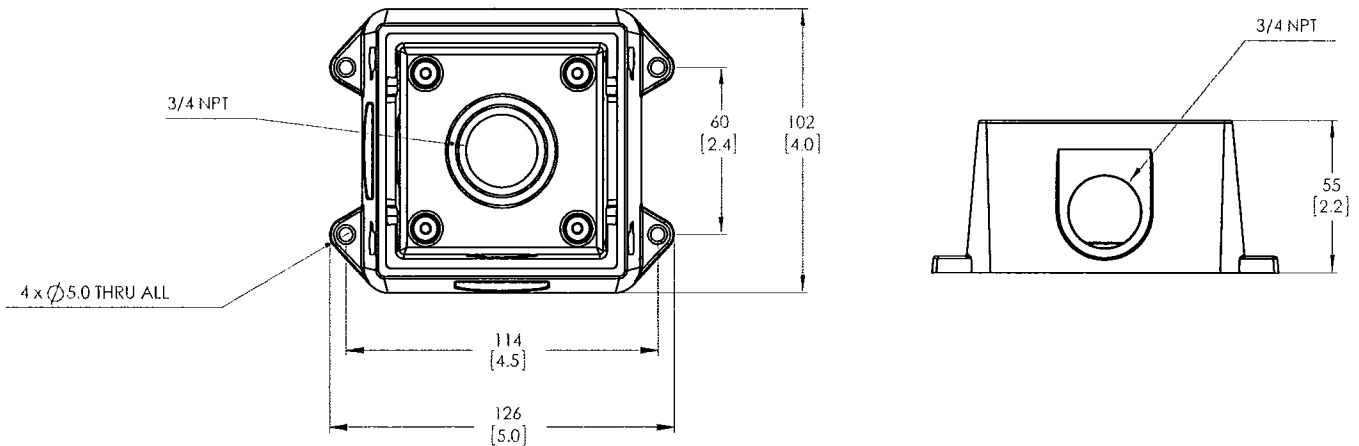
Bullet Camera

(H4A(2)-BO-IR)





HD Bullet Camera Junction Box (H4-BO-JBOX1)



Ordering Information

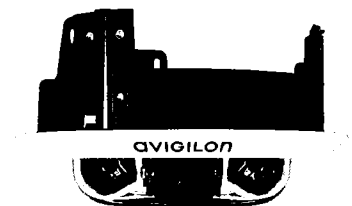
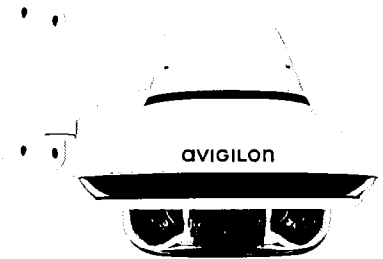
	MP	WDR	LightCatcher Technology	Analytics	Lens	IR	HDSM SmartCodec
1.0C-H4A-BO1-IR(-B)*	1.0	✓	✓	✓	3 - 9 mm	✓	✓
1.0C-H4A-BO2-IR(-B)*	1.0	✓	✓	✓	9 - 22 mm	✓	✓
2.0C-H4A-BO1-IR(-B)*	2.0	✓	✓	✓	3 - 9 mm	✓	✓
2.0C-H4A-BO2-IR(-B)*	2.0	✓	✓	✓	9 - 22 mm	✓	✓
3.0C-H4A-BO1-IR(-B)*	3.0	✓	✓	✓	3 - 9 mm	✓	✓
3.0C-H4A-BO2-IR(-B)*	3.0	✓	✓	✓	9 - 22 mm	✓	✓
5.0L-H4A-BO1-IR(-B)*	5.0		✓	✓	4.3 - 8 mm	✓	✓
5.0L-H4A-BO2-IR(-B)*	5.0		✓	✓	9 - 22mm	✓	✓
8.0-H4A-BO1-IR(-B)*	8.0			✓	4.3 - 8 mm	✓	✓

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

H4-BO-JBOX1	Junction box for H4A(2)-BO-IR H4 HD Bullet Cameras
H4-MT-POLE1	Aluminum pole mounting bracket for H4 HD Pendant Dome Cameras and H4 HD Bullet Cameras
H4-MT-CRNR1	Aluminum corner mounting bracket for H4 HD Pendant Dome Cameras and H4 HD Bullet Cameras
H4-AC-WIFI2-NA	USB Wifi Adapter
H4-AC-WIFI2-EU	USB Wifi Adapter

H4 Multisensor Camera Line

The H4 Multisensor camera line combines Avigilon self-learning video analytics with exceptional coverage, featuring 3 or 4 individually configurable camera sensors that can be positioned to monitor virtually any area. With up to 32 MP effective resolution, the H4 Multisensor can provide the image quality needed to cover larger areas with excellent detail. Combining support for H.265 video compression along with Avigilon's HDSM SmartCodec™ technology, the H4 Multisensor camera has the ability to maintain high-image quality with less bandwidth and storage requirements.



With self-learning video analytics on board, the H4 Multisensor camera can detect and differentiate people and vehicles from regular motion, and notify operators of potentially critical events that may need further investigation. Featuring wide dynamic range, Avigilon LightCatcher™ technology and the option to add content adaptive IR to outdoor models, the H4 Multisensor camera can provide exceptional image quality in challenging lighting conditions.

KEY FEATURES AND BENEFITS

- Self-learning video analytics on all sensors
- Increased range of sensor positioning
- High efficiency video encoding using H.265
- Up to 32 MP total resolution
- Wide Dynamic Range and LightCatcher technology on all resolutions
- IP66 and IK10 rated on outdoor models
- Avigilon's HDSM SmartCodec technology
- Content Adaptive IR Technology up to 30m (98ft)
- Interchangeable Camera Mounts

	3-Sensor Model			4-Sensor Model		
Total Resolution	9 MP	15 MP	24 MP	12 MP	20 MP	32 MP
Max Coverage	180°-270°			360°		

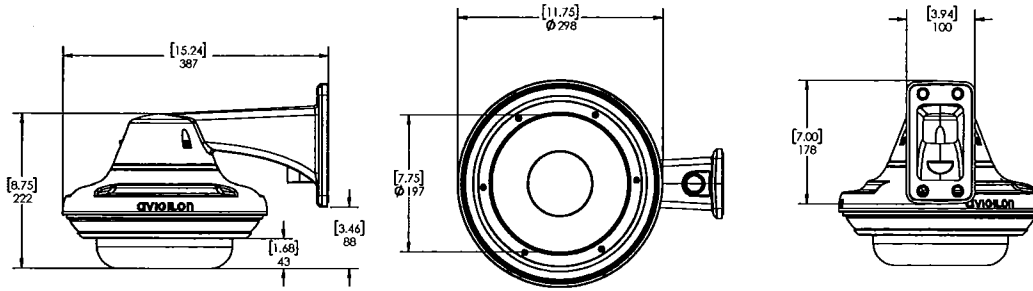
Specifications

		3.0 MP	5.0 MP	4K (8.0 MP)
IMAGE PERFORMANCE (per image sensor)	Image Sensor	1/2.8" progressive scan CMOS	1/2.8" progressive scan CMOS	1/2.5" progressive scan CMOS
	Active Pixels	2048 (H) x 1536 (V)	2592 x 1944	3840 x 2160
	3 x image sensor, max resolution	6144 (H) x 1536 (V)	7776 x 1944	11520 x 2160
	4 x image sensor, max resolution	8192 (H) x 1536 (V)	10368 x 1944	15360 x 2160
	Aspect ratio	4:3	4:3	16:9
	IR Illumination - Optional (high power 850 nm LEDs)	30m (98 ft) maximum distance at 0 lux		
	Minimum Illumination	2.8mm: 0.025 lux (F1.2) in color mode 0.005 lux (F1.2) in mono mode 0 lux with optional IR illuminator		0.2 lux (F1.8) in color mode 0.04 lux (F1.8) in mono mode 0 lux with optional IR illuminator
		4mm: 0.05 lux (F1.6) in color mode 0.010 lux (F1.6) in mono mode 0 lux with optional IR illuminator		
	Dynamic Range	100 dB, true WDR, dual exposure		
	3D Noise Reduction Filter	Yes	Yes	Yes
Image Rate—Analytics Enabled on All Sensors				
3x Image Sensor (60 Hz/50 Hz)	24 / 25 fps	15 / 17 fps	12 / 13 fps	
4x Image Sensor (60 Hz/50 Hz)	20 / 20 fps	13 / 13 fps	8 / 8 fps	
Image Rate—High Framerate Mode				
3x Image Sensor (60 Hz/50 Hz)	30 / 25 fps	20 / 20 fps	15 / 14 fps	
4x Image Sensor (60 Hz/50 Hz)	20 / 20 fps	15 / 14 fps	10 / 10 fps	
LENS (per image sensor)	Lens and Horizontal Field of View	2.8mm f1.2 – 103° 4mm f1.6 – 72° Remote focus	2.8mm f1.2 – 103° 4mm f1.6 – 72° Remote focus	4mm f1.8 – 101° 5.2mm f1.8 – 70° Remote focus
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	Selectable sensitivity and threshold		
	Electronic Shutter Control	Automatic, Manual (1/8 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		
	Audio Compression Method	G.711 PCM 8 kHz		
	Audio Input/Output	Line level input and output		
External I/O Terminals	Alarm In, Alarm Out			
NETWORK	Network	Gigabit Ethernet, 1000BASE-TX		
	Cabling Type	CAT5E		
	Connector	RJ-45		
	API	ONVIF® compliance Profile S and Profile T (www.onvif.org)		
	Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication		
	Protocol	IPv4, IPv6, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP/UDP, IGMP, ICMP, DHCP, Zeroconf, ARP		
	Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP		
	Device Management Protocols	SNMP v2c, SNMP v3		
PERIPHERALS	USB Port	USB 2.0		
	Onboard Storage	MicroSD/microSDHC/microSDXC slot – class 10/UHS-1 or better recommended		

Specifications

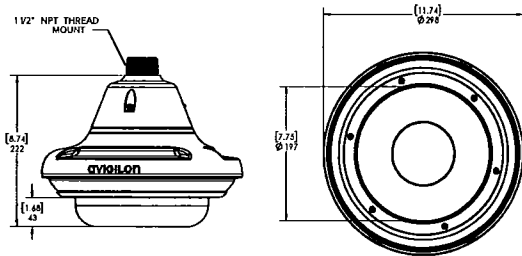
		IN-CEILING MOUNT	SURFACE MOUNT	PENDANT MOUNT
MECHANICAL	Dimension	Ø299 mm x 163 mm (Ø11.77" x 6.42"), below mounting surface: Ø299 mm x 76 mm (Ø11.77" x 2.99")	Ø299 mm x 115 mm (11.77" x 4.53")	With wall arm: 385 mm x 262 mm x 299 mm (15.15" x 10.30" x 11.77") With NPT adapter: Ø299 mm x 248 mm (Ø11.77" x 9.76")
	Weight	5.2 kg (11.5 lbs)	With IR: 7 kg (15.4 lbs) Without IR: 5.8 kg (12.8 lbs)	With wall arm and IR: 8.4 kg (18.5 lbs) With wall arm only: 7.3 kg (16.1 lbs) With NPTA adapter and IR: 7.8 kg (17.2 lbs) With NPTA adapter only: 6.7 kg (14.8 lbs)
	Body	Aluminum, Plastic dome trim	Aluminum	Aluminum
	Finish	Plastic, cool grey	Powder coat, cool grey	Powder coat, cool grey
	Environmental	Not applicable	IK10 Impact Rating and IP66 Weather Rating	
	Optional IR Illuminator Ring	Not available	Optional accessory, 30m (98 ft) IR range	
PER SENSOR	Tilt	+7° to 96° from horizon		
	Pan	+/-120° (depending on position of image sensors)		
	Azimuth	+/-180°		
ELECTRICAL	Power Consumption	26 W with 24 VDC 37 VA with 24 VAC POE+	With IR: 52 W with 24 VDC 74 VA with 24 VAC POE++ or 60W POE Without IR: 26 W with 24 VDC 37 VA with 24 VAC POE+	With IR: 52 W with 24 VDC 74 VA with 24 VAC POE++ or 60W POE Without IR: 26 W with 24 VDC 37 VA with 24 VAC POE+
	External Power	24 VDC ± 10%; 24 VAC rms ± 10%, 50 or 60Hz		
	PoE	25.5W PoE+, IEEE 802.3at Type 2 PoE Plus	With IR: 51W PoE++ Without IR: 25.5W PoE+, IEEE 802.3at Type 2 PoE Plus	
ENVIRONMENTAL	Operating Temperature Range	-10 °C (14 °F) to 50 °C (122 °F)		-40 °C (-40 °F) to 60 °C (140 °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		
	Safety	UL 62368-1, CSA 62368-1, IEC/EN 62368-1		
	Environmental	UL 2043 Plenum	UL/CSA/IEC 60950-22 IEC 60529 IP66 Rating, IK10 Impact Rating, IEC 60068-2-6 IEC 60068-2-27 Vibration and Shock	
	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		
Directives	RoHS, Reach (SVHC), WEEE			
SUPPORTED RULE BASED VIDEO ANALYTIC EVENTS (PER SENSOR)	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 Pendant Wall Mount

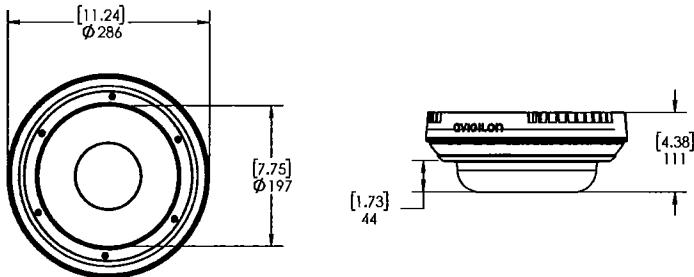


[X.X]	INCHES
X	MM

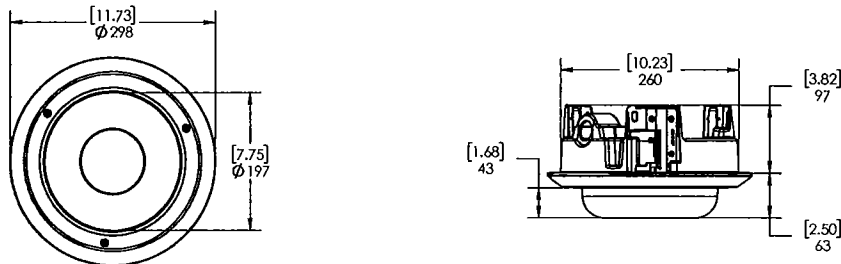
Pendant NPT Mount



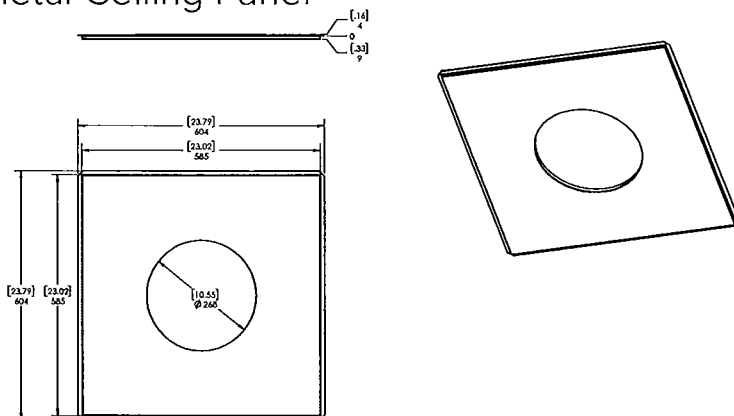
Surface Mount



In-ceiling Mount



Metal Ceiling Panel



Ordering Information

The variety of mounting options for the H4 Multisensor provides maximum flexibility. All the available camera modules can be used in any of the mounting options.

MOUNTING SCENARIO ORDERING INFORMATION

PENDANT WALL MOUNT



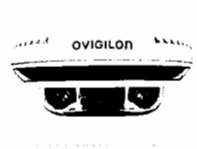
- Order one of:
- Camera module
 - H4AMH-AD-PEND1
 - H4AMH-DO-COVR1 or H4AMH-DO-COVR1-SMOKE
 - IRPTZ-MNT-WALL1
 - Optional, H4AMH-AD-IRIL

PENDANT NPT MOUNT



- Order one of:
- Camera module
 - H4AMH-AD-PEND1
 - H4AMH-DO-COVR1 or H4AMH-DO-COVR1-SMOKE
 - IRPTZ-MNT-NPTA1
 - Optional, H4AMH-AD-IRIL1

SURFACE MOUNT



- Order one of:
- Camera module
 - H4AMH-AD-DOME1
 - H4AMH-DO-COVR1 or H4AMH-DO-COVR1-SMOKE
 - Optional, H4AMH-AD-IRIL1

IN-CEILING MOUNT



- Order one of:
- Camera module
 - H4AMH-AD-CEIL1
 - H4AMH-DC-COVR1 or H4AMH-DC-COVR1-SMOKE
 - Optional, H4AMH-DC-CPNL1 if ceiling panel needed

Camera Modules

With the modular design of the H4 Multisensor, any camera module can be paired with any mounting adapter for maximum versatility and optimal installation. Each camera module must be ordered with a matching mounting adapter and dome cover.

DISPLAY PART NUMBER	DESCRIPTION
9C-H4A-3MH-270	3×3 MP, WDR, LightCatcher, 2.8mm, Camera Only
9C-H4A-3MH-180	3×3 MP, WDR, LightCatcher, 4mm, Camera Only
15C-H4A-3MH-270	3×5 MP, WDR, LightCatcher, 2.8mm, Camera Only
15C-H4A-3MH-180	3×5 MP, WDR, LightCatcher, 4mm, Camera Only
24C-H4A-3MH-270	3×4K (8 MP), WDR, LightCatcher, 4mm, Camera Only
24C-H4A-3MH-180	3×4K (8 MP), WDR, LightCatcher, 5.2mm, Camera Only
12C-H4A-4MH-360	4×3 MP, WDR, LightCatcher, 2.8mm, Camera Only
20C-H4A-4MH-360	4×5 MP, WDR, LightCatcher, 2.8mm, Camera Only
32C-H4A-4MH-360	4×4K (8 MP), WDR, LightCatcher, 4mm, Camera Only

Mounting Adapters and Dome Covers

The H4 Multisensor modular design provides pendant, surface, or in ceiling mounting adapters and a choice of two dome covers compatible with all the H4 Multisensor camera modules.

DISPLAY PART NUMBER	DESCRIPTION
H4AMH-AD-DOME1	Outdoor surface mount adapter, must order either a H4AMH-DO-COVR1 or H4AMH-DO-COVR1-SMOKE.
H4AMH-AD-PEND1	Outdoor pendant mount adapter, must order one of IRPTZ-MNT-WALL1 or IRPTZ-MNT-NPTA1 and one of H4AMH-DO-COVR1 or H4AMH-DO-COVR1-SMOKE.
IRPTZ-MNT-WALL1	Pendant wall arm adapter, for use with H4AMH-AD-PEND1 or H4 IRPTZ.
IRPTZ-MNT-NPTA1	Pendant NPT adapter for use with H4AMH-AD-PEND1 or H4 IRPTZ.
H4-MT-POLE1	Aluminum pole mounting bracket for H4 pendant style cameras or H4 HD bullet cameras.
H4-MT-CRNR1	Aluminum corner mounting bracket for H4 pendant style cameras or H4 HD bullet cameras.
H4AMH-AD-CEIL1	In-ceiling adapter, must order either a H4AMH-DC-COVR1 or H4AMH-DC-COVR1-SMOKE.
H4AMH-DO-COVR1	Dome bubble and cover, for outdoor surface mount or pendant mount, clear.
H4AMH-DO-COVR1-SMOKE	Dome bubble and cover, for outdoor surface mount or pendant mount, smoked. Not recommended for lowlight applications.
H4AMH-DC-COVR1	Dome bubble and cover, for in-ceiling mount, clear.
H4AMH-DC-COVR1-SMOKE	Dome bubble and cover, for in-ceiling mount, smoked. Not recommended for lowlight applications.
H4AMH-DC-CPNL1	Metal ceiling panel.

Optional IR Illuminator

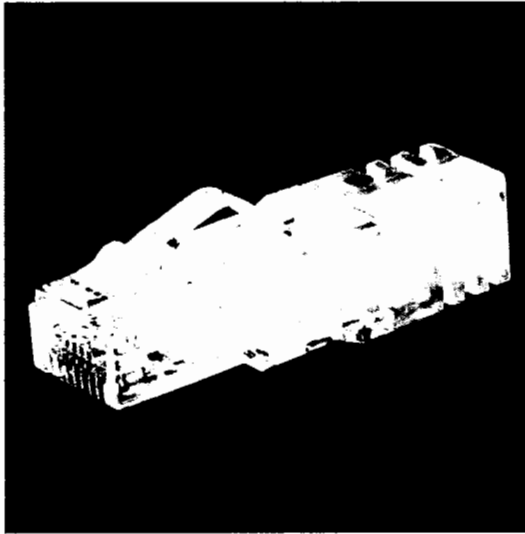
The optional IR Illuminator is available for the H4 Multisensor when mounted in a pendant or surface mount adapter.

DISPLAY PART NUMBER	DESCRIPTION
H4AMH-AD-IRIL1	Optional IR Illuminator ring, up to 30m (100ft), for use with H4AMH-DO-COVR1.

Optional Injectors and Switches

DISPLAY PART NUMBER	DESCRIPTION
ES-PS-S4	Managed switch, 5 port, Outdoor IP66, -40°C (-40°F) to 50°C (122°C), Gigabit Ethernet, AC power input. 1x SFP uplink and 4 port RJ45. Maximum PoE power allocation: Up to 4 ports of PoE+ each, or 2 ports of 60W PoE each. In 60W PoE mode, compatible with H4 PTZ, H4 IR PTZ and H4 Multisensor.
ES-PS-MNT-POLE1	Pole mount bracket for ES-PS-S4 switch.
POE-INJ2-60W-NA	Indoor single port Gigabit PoE++ 60W, North American power cord included. May also be used in European Union, Japan, Australia, New Zealand, Mexico, China, South Korea, Russia, Argentina, Saudi Arabia, Kuwait, UAE and Brazil. Temperature range of the PoE injector is -10 °C to +45 °C (14 °F to 113 °F). When used with the H4 IR PTZ, the camera will operate in a reduced temperature range from -10 °C to +50 °C (14 °F to 122 °F).
POE-INJ2-PLUS	Indoor single port PoE+ injector. Injector operational temperature range -20°C to +40°C (-4°F to 104°F).

BEST SELLER



SP688-C Modular Plug

8-position, 8-wire modular plug, for use with 24 AWG, Category 6, UTP copper cable, 100 pk.



Specifications

Performance Level	Category 6
Connector Type	Modular Plug
Body Material	Plastic with Stamped Metal Shield
Contact Material	Phosphor Bronze
Shield Type	Unshielded (UTP)
Overall Width (In.)	0.46
Overall Width (mm)	11.7
Overall Height (In.)	0.51















Overall Height (mm)	12.95
Overall Depth (In.)	1.6
Overall Depth (mm)	40.64
Color	Clear
Conductor Gauge (AWG)	24
Material	Polycarbonate
RoHS Compliancy Status	Compliant
Min. Order Qty.	100





Packaging Details

UPC	07498391416
Std. Pkg. Qty.	100
Std. Pkg. Volume (cf)	0.1168

Std. Ctn. Qty.	1000
Std. Ctn. Volume (cf)	1.1685

Resources

Part Drawings	Tx6 Plus Modular Plug for Category 6 Patch Cords	US English	PDF 242.18KB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/C-COSP688-C-ENG.pdf)   /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/C-COSP688-C--ENG.pdf
Installation Documents	TX6 PLUS UTP Modular Plug: PN295J-KOR	US English	PDF 1.68MB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/N-COPN--295-RevJ--KOR.pdf)   /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/N-COPN--295-RevJ--KOR.pdf
Installation Documents	TX6 PLUS Category 6 Modular Plug: PN295K	US English	PDF 383.12KB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/N-COPN295--RevK--ENG.pdf)   /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/N-COPN295--RevK--ENG.pdf
Catalogs	Preferred Parts Catalog for Latin America-ENG	US English	PDF 6.26MB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/D-NCCB63--WW-ENG-EnterPrefPartsLATAM-WEB.pdf)   /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/D-NCCB63--WW-ENG-EnterPrefPartsLATAM-WEB.pdf
Catalog Cut Sheets	SP688-C Product Page	US English	PDF 145.07KB   /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/SP688-C%20Product%20Page.pdf /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/SP688-C%20Product%20Page.pdf
Part Drawings	TX6 PLUS Modular Plug for Category 6 Patch Cords: 01185-15 DXF	US English	DXF 1.56MB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/C-COSPS688-C-ENG.dxf)   /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/C-COSPS688-C--ENG.dxf
Part Drawings	TX6 PLUS Modular Plug for Category 6 Patch Cords: 01185-15 DWG	US English	DWG 180.13KB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/C-COSPS688-C-ENG.dwg)   /content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/C-COSPS688-C--ENG.dwg

Specification Sheets	TX6 PLUS Category 6 UTP Modular Plug: COSP388-WW-ENG	US English	PDF 104.26KB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/D-COSP388--WW-ENG-TX6PLUSCat6ModPlug-W.pdf)  (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/D-COSP388--WW-ENG-TX6PLUSCat6ModPlug-W.pdf) 
Catalogs	Enterprise and Data Center Preferred Parts for Network Infrastructure: NCCB78--WW-ENG	US English	PDF 1.29MB (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/D-NCCB69--WW-ENG-EnterprisePrefPartsCatEMEA.pdf)  (/content/dam/panduit/en/products/assets/s/sp/sp6/sp68/sp688c/media/D-NCCB69--WW-ENG-EnterprisePrefPartsCatEMEA.pdf) 

Related Products



MP588-C

8-position, 8-wire modular plug, for use with 24 AWG, Category 5e, UTP copper cable, 100 pk.

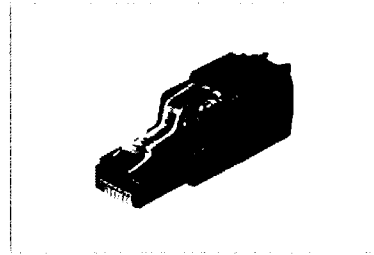
(/en/products/copper-systems/connectors/modular-plugs/mp588c.html)



MPS588-C

8-position, 8-wire, shielded modular plug, for use with 24-26 AWG, Category 5e, shielded copper cable, 100 pk.

(/en/products/copper-systems/connectors/modular-plugs/mps588c.html)



FP6X88MTG

TX6A, Category 6A UTP Field Term RJ45 Plug is a simple-to-attach plug for field termination of 4-pair unshielded twisted pair cable. Provides Category 6A, Category 6 and 5e systems.

(/en/products/copper-systems/connectors/modular-plugs/fp6x88mtg.html)



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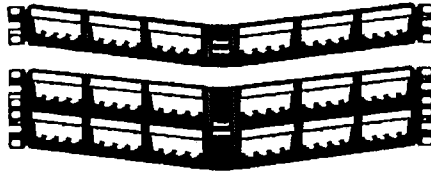
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MPP48BLY Shielded Modular Patch Panel

Ultimate ID 48-port modular patch panel with label covers, (2RU). LABELS SOLD SEPARATELY



Specifications














Patch Panel Style	Flat	Identification Type	Label Pocket
Connector Type	Unshielded	Color	Black
Number of Ports	48	CE Compliant	NA
Module Type	Mini-Com	Identification	Label Pocket
Sub Brand	PanNet	Part Features	NA
Number of Rack Units	2	RoHS Compliant Status	Compliant
		Min. Order Qty.	1

Packaging Details

UPC	07498305969
Std. Pkg. Qty.	1
Std. Pkg. Volume (cf)	0.0766

Std. Ctn. Qty.	10
Std. Ctn. Volume (cf)	0.7660

Resources

Specification Sheets	Mini-Com Ultimate ID Modular Patch Panels: OTSP30--WW-ENG	US English	PDF 318.36KB (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/meMiniComModPatPan-W.pdf)  (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/D-OTSMiniComModPatPan-W.pdf) 
Part Drawings	Part Drawing, UICMPP48BLY.dwg	US English	DWG 380.90KB (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/meENG.dwg)  (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/C-COL 
Part Drawings	Part Drawing, UICMPP48BLY.dxf	US English	DXF 1.38MB (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/meENG.dxf)  (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/C-COL 
Part Drawings	Mini-Com Ultimate ID 48 Port Modular Patch Panel with 1 Label Pocket Per Faceplate COUICMPP48BLY-ENG	US English	PDF 276.13KB (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/meENG.pdf)  (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/C-COL 
Installation Documents	Mini-Com Ultimate ID Modular Patch Panels PN287G	US English	PDF 877.90KB (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/me (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/PN287 
Catalog Cut Sheets	UICMPPA24BLY Product Page	US English	PDF 275.97KB (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/UICMPPA24B  (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/UICMPPA24B 
Selection Guides	Modular Patch Panels Selection Guide	US English	PDF 2.29MB (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/mePatchPanelSelectGuide-WEB.pdf)  (/content/dam/panduit/en/products/assets/u/ui/uic/uicm/uicmpp48bly/media/D-COSPatchPanelSelectGuide-WEB.pdf) 

Related Products



CP24BLY

Mini Com 24-port modular all metal shielded patch panel in black, (1 RU).

</en/products/copper-systems/patch-panels-accessories/modular-patch-panels/cp24bly.html>



CPPLA24WBLY

Mini Com 24-port modular angled patch panel with faceplates in black, with label and label covers, (1RU).

</en/products/copper-systems/patch-panels-accessories/modular-patch-panels/cppla24wbly.html>



CP24WSBLY

Mini Com 24-port modular all metal shielded patch panel with built-in strain relief bar in black, (1 RU).

</en/products/copper-systems/patch-panels-accessories/modular-patch-panels/cp24wsbly.html>



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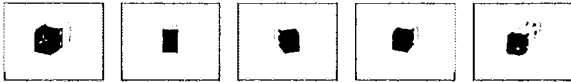
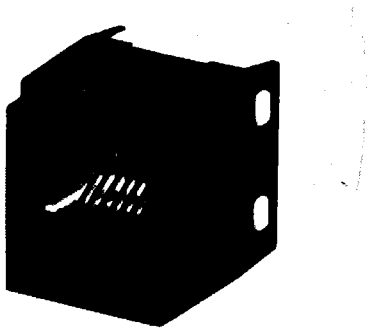
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BEST SELLER



J688TGGR RJ45 Jack Module

Category 6, RJ45, 8-position, 8-wire universal module. Green.



Specifications

Performance Level	Category 6
Connector Type	Jack Module
Termination Style	TG Style
Body Material	ABS
Contact Material	Copper
Module Type	Mini-Com
Wiring Scheme	T568A/T568B
Shield Type	Unshielded (UTP)
Connector 1 Type	RJ45
Connector 2 Type	RJ45
Maximum Operating Temperature (°C)	65
Maximum Operating Temperature (°F)	149











Minimum Operating Temperature (°C)	-10
Minimum Operating Temperature (°F)	14
Maximum Storage Temperature (°C)	70
Maximum Storage Temperature (°F)	158
Minimum Storage Temperature (°C)	-40
Minimum Storage Temperature (°F)	-40
Resistance Properties	Heat-Resistant
Color	Green
Material	ABS/Polycarbonate
RoHS Compliancy Status	Compliant
Min. Order Qty.	1













Packaging Details









UPC	07498339548
Std. Pkg. Qty.	1
Std. Pkg. Volume (cf)	0.0032

Std. Ctn. Qty.	50
Std. Ctn. Volume (cf)	0.1605

Resources

<p>Specification Sheets</p>	<p>Mini-Com® TX6™ PLUS UTP Jack Modules</p>	<p>US English</p>	<p>PDF 239.47KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COSP317--WW-ENG-MiniComTX6PLUSUTPJackModW.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COSP317--WW-ENG-MiniComTX6PLUSUTPJackModW.pdf) </p>
<p>System Warranty</p>	<p>Category 6 UTP Guaranteed Headroom Platform North America</p>	<p>US English</p>	<p>PDF 903.80KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COFL18--WW-ENG-CAT6UTP-HeadrmWarnty-W.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COFL18--WW-ENG-CAT6UTP-HeadrmWarnty-W.pdf) </p>
<p>System Warranty</p>	<p>Category 6 (TX6500) UTP Guaranteed Headroom Platform (North America): COFL19--WW-ENG</p>	<p>US English</p>	<p>PDF 772.08KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COFL19--WW-ENG-TX6500-HeadrmWarnty-W.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COFL19--WW-ENG-TX6500-HeadrmWarnty-W.pdf) </p>
<p>Part Drawings</p>	<p>Mini-Com TX6 PLUS UTP Jack Module: 02043-10</p>	<p>US English</p>	<p>DXF 424.65KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/CJ688TG...dxf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/CJ688TG...dxf) </p>
<p>Part Drawings</p>	<p>Mini-Com TX6 PLUS UTP Jack Module: 02043-10</p>	<p>US English</p>	<p>DWG 70.57KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/CJ688TG...dwg)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/CJ688TG...dwg) </p>

Product Bulletins	TG Termination Tool: COCB23--WW	US English	PDF 458.98KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COCB23--WW-ENG-TGTerminationTool-W.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COCB23WW-ENG-TGTerminationTool-W.pdf) 
Specification Sheets	45° Angled Wire Caps for TX6A, TX6 PLUS TX5e Mini-Com® UTP Jack Modules: COSP406	US English	PDF 795.37KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COSP406--SA-ENG-45DegreeWireCap-W.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COSP40SA-ENG-45DegreeWireCap-W.pdf) 
Certifications	RJ45 Jack Modules: Category 5e and Category 6 by Panduit Corporation	US English	PDF 91.84KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-CORP200--WW-ENG-HPDCat65eJackModules.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-CORP20WW-ENG-HPDCat65eJackModules.pdf) 
Installation Documents	TX6 PLUS and TX5e UTP Jack Modules	US English	PDF 1.33MB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/N-COPN403--RevN--ENG.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/N-COPN403--RevN--ENG.pdf) 
Certifications	Environmental Product Declaration Panduit RJ45 Jack Modules	US English	PDF 723.30KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-CORP140--WW-ENG-EPD-RJ45-ISO14025.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-CORP140--WW-ENG-EPD-RJ45-ISO14025.pdf) 
Application Guides	Plenum Network Infrastructure for In-Ceiling Applications: COAG01	US English	PDF 1.06MB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COAG01--SA-ENG-PlenumNetInfralnCeilingAppW.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COAG01--SA-ENG-PlenumNetInfralnCeilingAppW.pdf) 

Videos	TG Style Jack Module Termination	US English	MP4 36.80MB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/M-COTGterminat-169-ENG.mp4)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/M-COTGterminat-169-ENG.mp4) 
Part Drawings	Mini-Com Category 6 Jack Module with Straight Wire Cap Assembly	US English	PDF 186.93KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/C-COCJ688TG--ENG.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/C-COCJ688TG--ENG.pdf) 
Selection Guides	Mini-Com Jack Module Selection Guide - "TG Style" Termination: COSG09	US English	PDF 473.91KB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COSG09--WW-ENG-JackModSelectionGuide.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-COSG09- WW-ENG-JackModSelectionGuide.pdf) 
Catalogs	Network Infrastructure for the Enterprise Preferred Parts - South Asia	US English	PDF 2.41MB (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-NCCB80--SA-ENG-EnterPrefPartsCatSouthAsia.pdf)  (/content/dam/panduit/en/products/assets/c/cj/cj6/cj68/cj688tggr/media/D-NCCB80- SA-ENG-EnterPrefPartsCatSouthAsia.pdf) 

Related Products



CJ688TGBU

The Category 6, RJ45, 8-position, 8-wire, UTP Mini-Com® universal jack module has TG-style termination and is blue.

</en/products/copper-systems/connectors/jack-modules/cj688tgbu.html>



CJ688TGBL

The Category 6, RJ45, 8-position, 8-wire, UTP Mini-Com® universal jack module has TG-style termination and is black.

</en/products/copper-systems/connectors/jack-modules/cj688tgb.html>



CJS6X88TGY

Category 6A, RJ45, 10 Gb/s, 8-position, 8-wire universal shielded black module with integral shield.

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Solicitation # : 100791
Solicitation Title: HRL SECURITY CAMERAS

BID FORM

To: University of Rhode Island, Purchasing Department
10 Tootell Road, Kingston, RI 02881

Project: Housing and Residential Life Security Cameras Upgrade
URI Project # KC.R.MISC.2019.001

(ALTERNATE OPTION WITH AVIGILON SERVERS**)**

Bidder:

SHANIX, INC. dba: SHANIX TECHNOLOGY, INC.

Legal name of entity

40 WORTHINGTON ROAD CRANSTON, RI 02920

Address

MUSTAPHA GHARAEEmustapha@shanix.com

Contact name

Contact email

(401)941-4222 x 714 (401)941-4333

Contact telephone

Contact fax

1. ALTERNATE BID PRICE

The Bidder submits this bid proposal to perform all of the work (including labor and materials) as Alternate Base Bid Price, (including the costs for all Allowances, Bond, and Addenda):

\$1,499,962.00 Includes, permit cost, performance Bond,
as well as required allowances

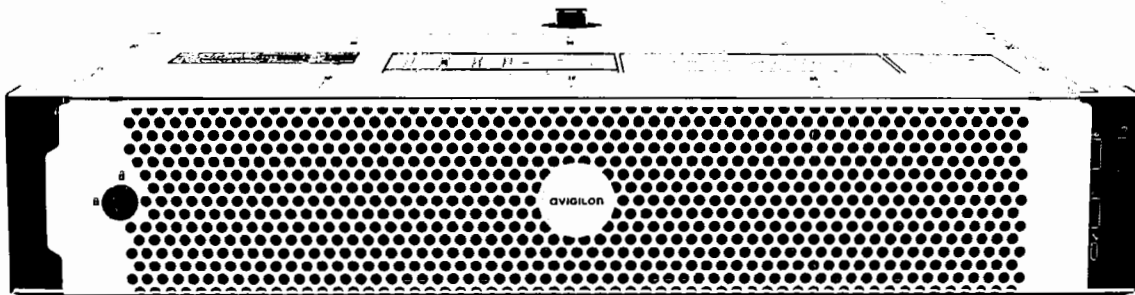
(Alternate Bid Price *in figures* printed electronically, typed, or handwritten legibly in ink)

One Million, Four Hundred Ninety Nine, Nine Hundred Sixty Two dollars
Includes, permit cost, performance Bond, as well as required allowances

(Alternate Bid Price *in words* electronically, typed, or handwritten legibly in ink)

HD NVR4 Premium

Avigilon fourth generation HD Network Video Recorder Premium (NVR4) is our next generation of NVRs with the highest capacity, retention and throughput. It provides secure, reliable and scalable platforms for high performance end-to-end security solutions. Our network security recorders have Avigilon Control Center (ACC) and Avigilon Appearance Search™ technology preloaded and configured for plug-and-play network video recording and management of multi-megapixel IP cameras, up to our industry-leading 7K (30 megapixel) HD Pro.



The Avigilon HD NVR4 Premium is a 2U rack mountable recorder specifically manufactured for the Avigilon ecosystem with the flexibility to expand your surveillance system. It leverages the full power of Avigilon Control Center (ACC) and Appearance Search technology to deliver the highest available throughput, retention, and availability in the NVR4 line. The NVR4 Premium can be used individually or as a cluster of NVRs designed for IP video and video analytics metadata storage. It's backed by the Avigilon three-year warranty, extendable up to five years, which provides businesses with support and onsite parts replacement for continuous recording and retention of video while minimizing disruptions to security operations.

The HD NVR4 Premium is an out-of-the-box, ready to deploy video recording platform designed for single site surveillance or to be distributed across multiple remote sites.

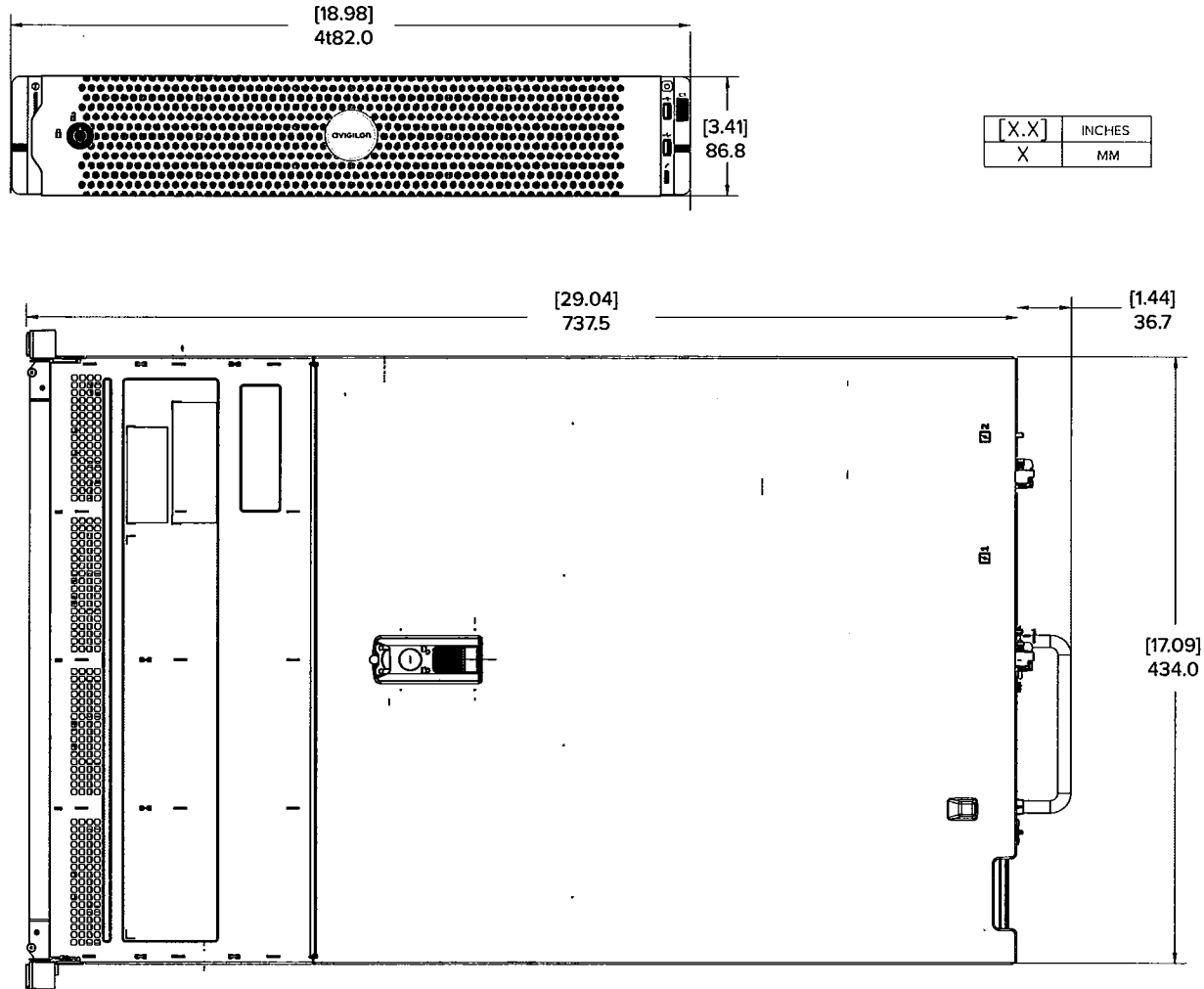
KEY FEATURES

- Configured for and preloaded with ACC™ video management software
- Natively support Avigilon Appearance Search technology
- Up to 1800 Mbps of total throughput – simultaneous recording, playback and live streaming
- Highly scalable and flexible capacity options — from 64TB to 157TB of recording for long-term video retention or high camera counts
- Hot-swappable components maintain video recording and playback operations even in the event of multiple simultaneous component failures
- Separate of operating system and video storage volumes to enable independent, non-disruptive maintenance
- An easy to access and maintain 2U rack mount chassis — includes a sliding rail kit and cable management system
- A three-year warranty with on-site parts replacement service

Specifications

SYSTEM	Video Management Software		Avigilon Control Center™ – compatible with Enterprise, Standard and Core editions	
	Network Video Streaming Performance*	Network Connection	10 GbE - with multiple network connections	1 GbE - with multiple network connections
		Recording Data Rate	Up to 1450 Mbps	Up to 600 Mbps
		Playback and Live Streaming	Up to 350 Mbps (while simultaneously recording video)	
		Recording Storage Capacity	Up to 180 TB raw, 157 TB effective (RAID 6)	
		Avigilon Appearance Search Capacity	Up to 100 cameras**	
		Hard Disk Drive Configuration	Video data — up to 18 x large form factor near-line SAS hard disk drives, hot-swappable, RAID 6 Operating system — 2 x M.2 SSD drives, RAID 1	
		Network Interface	2 x 10 GbE SFP+ ports (transceivers not included) 2 x 1 GbE RJ-45 ports (1000Base-T)	
		Memory	32GB DDR4	
		Operating System	Microsoft Windows Server 2016	
		Processor	Intel® Xeon®	
		Video Outputs	VGA	
		Local Viewing	No	
		Out-of-band management	iDRAC9 Express	
	* These performance figures are based on validation testing by Avigilon, using Avigilon Control Center software. For more information, contact Avigilon Sales.			
	** Requires ACC enterprise license and Avigilon H4A analytic enabled cameras. The Appearance Search camera support limit does not affect any NVR throughput for simultaneous recording, playback and live streaming.			
MECHANICAL	Form Factor	2U rack mount chassis		
	Dimensions (LxWxH)	with bezel	751.3 mm x 482 mm x 86.8 mm; 29.58" x 18.98" x 3.41"	
		without bezel	737.5 mm x 482 mm x 86.8 mm; 29.04" x 18.98" x 3.41"	
	Weight	46.3 kg (102 lbs) when fully populated with hard drives		
ELECTRICAL	Power Input	100 to 240 VAC, 50/60 Hz, auto-switching		
	Power Supply	80 Plus rating redundant, hot-swappable		
	Power Consumption	Average: 429 W (1+1) (1463.8 BTU/h), Maximum: 750 W (2559.1 BTU/h)		
ENVIRONMENTAL	Operating Temperature	10° C to 35° C (50° F to 95° F)		
	Storage Temperature	-40° C to 65° C (-40° F to 149° F)		
	Humidity	10% to 80% relative humidity with 29°C (84.2°F) maximum dew point		
	Operating Vibration	0.26 Grms at 5 Hz to 350 Hz		
	Storage Vibration	1.88 Grms at 10 Hz to 500 Hz for 15 min		
	Operating Shock	Six consecutively executed shock pulses in the positive and negative x, y, and z axes of 6 G for up to 11ms		
	Storage Shock	Six consecutively executed shock pulses in the positive and negative x, y, and z axes (one pulse on each side of the system) of 71 G for up to 2 ms		
	Max. Operating Altitude	3,048 m (10,000 ft)		
Storage Altitude	12,000 m (39,370 ft)			
SUPPLIED ACCESSORIES	Rack Rail System	Sliding rail system with cable management arm. Supports: <ul style="list-style-type: none"> • Tool-less mounting in 19"-wide EIA-310-E compliant square hole and unthreaded round-hole 4-post racks • Tooled mounting in threaded hole 4-post racks 		
	Bezel	1, front		
	Power Cords	2		
CERTIFICATIONS	Certifications	UL, cUL, CE, BIS, BSMI, CCC, EAC, KC, NOM, NRCS, VCCI, RCM		
	Safety	EN 60950-1:2006 / A1:2009 / A1:2010 / A12:2011 / A2:2013; UL/CSA/IEC 60950-1, 2 Ed + Am 1: 2009 + Am 2: 2013		
	Electromagnetic Emissions	US CFR Title 47, FCC Part 2, 15; Canadian ICES-003(A) Issue 6; EN 55032:2012/ EN 55032:2015/ CISPR 32:2012/ CISPR 32:2015 (Class A); EN 61000-3-2:2014/ IEC 61000-3-2:2014 (Class D); EN 61000-3-3:2013/ IEC 61000-3-3:2013		
	Electromagnetic Immunity	EN 55024:2010+A1:2015/CISPR 24:2010 + A1:2015		
	Energy	Commission Regulation (EU) No. 617/2013		
ROHS	EN 50581:2012			

Outline Dimensions



Ordering Information

- HD-NVR4-PRM-64TB 64 TB HD NVR4 Premium with Microsoft Windows Server 2016 Avigilon Control Center
 - HD-NVR4-PRM-96TB 96 TB HD NVR4 Premium with Microsoft Windows Server 2016 Avigilon Control Center
 - HD-NVR4-PRM-128TB 128 TB HD NVR4 Premium with Microsoft Windows Server 2016 Avigilon Control Center
 - HD-NVR4-PRM-157TB 157 TB HD NVR4 Premium with Microsoft Windows Server 2016 Avigilon Control Center
- Avigilon Control Center licenses must be purchased separately. Avigilon Appearance Search Capacity Up to 100 cameras requires enterprise edition ACC

- HD-NVR4-PRM-2NDPS-AU Redundant, hot-swappable power supply, for AU
- HD-NVR4-PRM-2NDPS-EU Redundant, hot-swappable power supply, for EU
- HD-NVR4-PRM-2NDPS-NA Redundant, hot-swappable power supply, for NA
- HD-NVR4-PRM-2NDPS-UK Redundant, hot-swappable power supply, for UK
- HD-NVR4-SFPPLUS-DA SFP+ 10GbE Twlnax Direct Attach Cable 3m
- HD-NVR4-SFPPLUS-SR SFP+ 10GBASE-Short Range Transceiver



Design Comments

HD NVRs

NAME	MODEL	EXPANSIONS	STORAGE	TOTAL DATA	STORAGE TIME	STATUS
NVR 1	HD-NVR4-PRM-192TB-NA	n/a	182.4 TB	764.01 Mbps	36 days 19 hours	Valid
NVR 2	HD-NVR4-PRM-192TB-NA	n/a	182.4 TB	768.71 Mbps	36 days 12 hours	Valid
NVR 3	HD-NVR4-PRM-157TB-NA	n/a	149.15 TB	701.47 Mbps	36 days 5 hours	Valid
NVR 4	HD-NVR4-PRM-157TB-NA	n/a	149.15 TB	894.06 Mbps	36 days 6 hours	Valid
NVR 5	HD-NVR4-PRM-128TB-NA	n/a	121.6 TB	587.15 Mbps	36 days 9 hours	Valid

HDSM Smart Cameras

NAME	MODEL	STORAGE	QTY	LENS	FL. (MM)	IPS	DUTY CYCLE	COMPRESSION	BITRATE	HDSM SMARTCODEC		
										ENABLED	STRENGTH	MIN IPS
Outdoor 360 Camera	20C-H4A- 4MH-360	NVR 1	30	Built-In Lens, 2.8mm, f/1.2					25.47 Mbps			
↳ Head 1					2.8	13	24	Quality 6		✓	Low	1
↳ Head 2					2.8	13	24	Quality 6		✓	Low	1
↳ Head 3					2.8	13	24	Quality 6		✓	Low	1
↳ Head 4					2.8	13	24	Quality 6		✓	Low	1
Outdoor 360 Camera	20C-H4A- 4MH-360	NVR 2	27	Built-In Lens, 2.8mm, f/1.2					25.47 Mbps			
↳ Head 1					2.8	13	24	Quality 6		✓	Low	1
↳ Head 2					2.8	13	24	Quality 6		✓	Low	1
↳ Head 3					2.8	13	24	Quality 6		✓	Low	1
↳ Head 4					2.8	13	24	Quality 6		✓	Low	1
Outdoor 180 Camera	15C-H4A- 3MH-180	NVR 2	4	Built-In Lens, 4mm, f/1.6					20.27 Mbps			
↳ Head 1					4.0	15	24	Quality 6		✓	Low	1
↳ Head 2					4.0	15	24	Quality 6		✓	Low	1
↳ Head 3					4.0	15	24	Quality 6		✓	Low	1
Outdoor 180 Camera	15C-H4A- 3MH-180	NVR 3	11	Built-In Lens, 4mm, f/1.6					20.27 Mbps			
↳ Head 1					4.0	15	24	Quality 6		✓	Low	1

↳ Head 2					4.0	15	24	Quality 6		✓	Low	1
↳ Head 3					4.0	15	24	Quality 6		✓	Low	1
90 Indoor Cameras	3.0C-H4A-DI-B	NVR 3	88	Built-In Lens, 3-9mm, f/1.3, P-Iris, Vari Focal	3.5	20	24	Quality 6	5.44 Mbps	✓	Low	1
90 Outdoor Cameras	3.0C-H4A-DO1-IR-B	NVR 4	10	Built-In Lens, 3-9mm, f/1.3, P-Iris, Vari Focal	3.5	20	24	Quality 6	9.31 Mbps	✓	Low	1
90 Outdoor Cameras	3.0C-H4A-DO1/BO1-IR-B	NVR 4	86	Built-In Lens, 3-9mm, f/1.3, P-Iris, Vari Focal	3.3	20	24	Quality 6	9.31 Mbps	✓	Low	1
90 Indoor Cameras	3.0C-H4A-DO1/BO1-IR-B	NVR 5	96	Built-In Lens, 3-9mm, f/1.3, P-Iris, Vari Focal	3.3	20	24	Quality 6	5.44 Mbps	✓	Low	1
90 Outdoor Cameras	3.0C-H4A-DO1/BO1-IR-B	NVR 5	7	Built-In Lens, 3-9mm, f/1.3, P-Iris, Vari Focal	3.5	20	24	Quality 6	9.31 Mbps	✓	Low	1

Scene Details

NAME	MOUNTING HEIGHT (FT)	TARGET HEIGHT (FT)	TARGET DISTANCE (FT)	SCENE WIDTH (FT)	MOUNTING ANGLE	MAXIMUM DISTANCE (FT)	PX/FT
Outdoor 360 Camera	20						
↳ Head 1		6	40	87.2	35.6	57.1	25.8
↳ Head 2		6	40	87.2	35.6	57.1	25.8
↳ Head 3		6	40	105.4	62.1	57.1	25.8
↳ Head 4		6	40	87.2	35.6	57.1	25.8
Outdoor 360 Camera	20						
↳ Head 1		6	40	87.2	35.6	57.1	25.8
↳ Head 2		6	40	87.2	35.6	57.1	25.8
↳ Head 3		6	40	105.4	62.1	57.1	25.8
↳ Head 4		6	40	87.2	35.6	57.1	25.8
Outdoor 180 Camera	20						
↳ Head 1		6	40	54.1	42.2	57.1	44.6
↳ Head 2		6	40	54.1	42.2	57.1	44.6
↳ Head 3		6	40	54.1	42.2	57.1	44.6
Outdoor 180 Camera	20						
↳ Head 1		6	40	54.1	42.2	57.1	44.6
↳ Head 2		6	40	54.1	42.2	57.1	44.6
↳ Head 3		6	40	54.1	42.2	57.1	44.6
90 Indoor Cameras	20	6	40	65	35.6	57.1	31.5

90 Outdoor Cameras	20	6	40	65	35.6	57.1	31.5
90 Outdoor Cameras 8.5		6	40	64	49.6	136	32
90 Indoor Cameras	8.5	6	40	64	49.6	136	32
90 Outdoor Cameras	20	6	40	65	35.6	57.1	31.5

NVR 1

Model: HD-NVR4-PRM-192TB-NA

Record Times

MODEL	QTY	TOTAL DAYS	FULL DAYS	HALF DAYS	QUARTER DAYS	LOW RES. DAYS
20C-H4A-4MH-360	30	36 days 19 hours	36 days 19 hours			0 days 0 hours

NVR 2

Model: HD-NVR4-PRM-192TB-NA

Record Times

MODEL	QTY	TOTAL DAYS	FULL DAYS	HALF DAYS	QUARTER DAYS	LOW RES. DAYS
20C-H4A-4MH-360	27	36 days 12 hours	36 days 12 hours			0 days 0 hours
15C-H4A-3MH-180	4	36 days 12 hours	36 days 12 hours			0 days 0 hours

NVR 3

Model: HD-NVR4-PRM-157TB-NA

Record Times

MODEL	QTY	TOTAL DAYS	FULL DAYS	HALF DAYS	QUARTER DAYS	LOW RES. DAYS
15C-H4A-3MH-180	11	36 days 5 hours	36 days 5 hours			0 days 0 hours
3.0C-H4A-D1-B	88	36 days 5 hours	36 days 5 hours			0 days 0 hours

NVR 4

Model: HD-NVR4-PRM-157TB-NA

Record Times

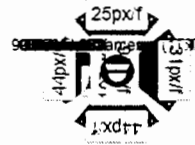
MODEL	QTY	TOTAL DAYS	FULL DAYS	HALF DAYS	QUARTER DAYS	LOW RES. DAYS
3.0C-H4A-DO1/BO1-IR-B	10	36 days 6 hours	36 days 6 hours			0 days 0 hours
3.0C-H4A-DO1/BO1-IR-B	86	36 days 6 hours	36 days 6 hours			0 days 0 hours

NVR 5

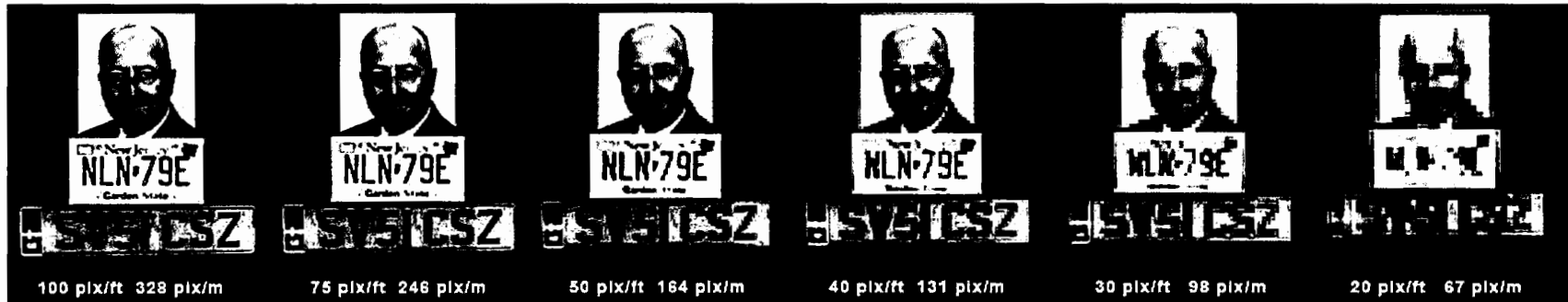
Model: HD-NVR4-PRM-128TB-NA

Record Times

MODEL	QTY	TOTAL DAYS	FULL DAYS	HALF DAYS	QUARTER DAYS	LOW RES. DAYS
3.0C-H4A-D1-B	96	36 days 9 hours	36 days 9 hours			0 days 0 hours
3.0C-H4A-DO1/BO1-IR-B	7	36 days 9 hours	36 days 9 hours			0 days 0 hours



Reference Image



Reference images are captured under ideal conditions. Poor lighting, increased compression, or use of a lower quality lens will affect the quality of the images captured.