

**MEETING AGENDA  
MOUNTAIN BROOK CITY COUNCIL**

**CITY COUNCIL CHAMBER (A108)  
56 CHURCH STREET  
MOUNTAIN BROOK, AL 35213**

**JULY 22, 2024, 7 P.M.**

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**As a matter of convenience, members of the public are invited to listen, observe and participate in public meetings by Internet video conference. Presenters and others interested in a particular matter for discussion are encouraged to attend the meeting in-person. The City is not responsible for technical issues that may occur that interfere with the virtual meeting. The City Council, at its sole discretion, may proceed with its in-person business meeting regardless of whether virtual attendees can hear and/or observe the proceedings. The City intends to make the meeting available by way of the Zoom app (re: Meeting ID 831-8618-4803, password 07222024).**

1. Approval of the minutes of the July 8, 2024, regular meeting of the City Council.
2. Consideration: Resolution authorizing payment from the General Fund into the City of Mountain Brook Section 115 (retiree medical insurance) Trust.
3. Consideration: Resolution executing an Intergovernmental Agreement with Jefferson County with respect to the Electronic Collection Event held at the Birmingham Zoo.
4. Consideration: Resolution authorizing the sale or disposal of certain surplus property.
5. Consideration: Resolution ratifying Change Order #1 and approving Change Orders 2-5 with respect to the Mountain Brook Fire Station No. 2 project.
6. Consideration: Resolution executing a License Agreement with Birmingham Levite Jewish Community Center with respect to the City's use of the outdoor recreational field and Gymnasium.
7. Consideration: Ordinance amending Chapter 38 of the City Code regarding public parks.
8. Comments from residents and attendees.
9. Announcement: Public Hearing-Request to rezone a parcel of land in the City of Mountain Brook, Alabama from Local Business District to Planned Unit Development (PUD) district is August 6, 2024 at 5:30 p.m.
10. Announcement: The next regular meeting of the City Council is August 12, 2024 at 7:00 p.m.
11. Adjourn.

**MOUNTAIN BROOK CITY COUNCIL  
PRE-MEETING DISCUSSION  
JULY 8, 2024**

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[As a convenience, members of the public were invited to listen and observe in the public meeting by Internet video conference-4 virtual attendees.]

The City Council of the City of Mountain Brook, Alabama met informally in-person at 6:45 p.m. on the 8<sup>th</sup> day of July, 2024 (others were allowed to listen to the meeting by way of Internet video conference, four virtual attendees). Council President Pro Tempore Pritchard called the pre-meeting to order and the roll was called with the following results:

Present: William S. Pritchard III, Council President Pro Tempore  
Graham L. Smith  
Gerald A. Garner  
Lloyd C. Shelton  
Stewart Welch III, Mayor

Absent: Virginia C. Smith, Council President

Also present were City Attorney Whit Colvin, City Manager Sam Gaston, and City Clerk Heather Richards.

**1. AGENDA**

1. Review matters to be considered at the formal (7:00p.m.) meeting

Billy Pritchard, Council President Pro Tempore

- This will be a first reading of the Ordinance

**2. ADJOURNMENT**

There being no further matters for discussion Council President Pro Tempore Pritchard adjourned the pre-meeting at approximately 6:48 pm.

**3. CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama, certify the above is a true and correct synopsis of the discussion from the regular session of the City Council of the City of Mountain Brook, Alabama held at City Hall, Pre-Council Room (A-106) on July 8, 2024, and that the meeting was duly called and held in all respects in accordance with the laws of the State of Alabama and bylaws of the City and that no formal action or votes were conducted at said work session.

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City Clerk, Approved by  
City Council July 22, 2024

**MINUTES OF THE REGULAR MEETING OF THE  
CITY COUNCIL OF THE CITY OF MOUNTAIN BROOK  
JULY 8, 2024**

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[As a convenience, members of the public were invited to listen and observe in the public meeting by Internet video conference-2 virtual attendees.]

The City Council of the City of Mountain Brook, Alabama met in person at 7:00 p.m. on the 8<sup>th</sup> day of July, 2024 (others were allowed to listen to the meeting by way of Internet video conference, two virtual attendees). Council President Pro Tempore Pritchard called the meeting to order, and the roll was called with the following results:

Present: William S. Pritchard III, Council President Pro Tempore  
Lloyd C. Shelton  
Graham L. Smith  
Gerald A. Garner  
Stewart Welch III, Mayor

Absent: Virginia C. Smith, Council President

Also present were City Attorney Whit Colvin, City Manager Sam Gaston, and City Clerk Heather Richards.

The Council President Pro Tempore stated that a quorum was present and that the meeting was open for the transaction of business

**1. INTRODUCTION OF SPECIAL GUESTS (BOY SCOUTS)**

John Newman Troup 63 out of Canterbury United Methodist Church

- Working on Communication merit badge

Martin McCurey Troup 63 out of Canterbury United Methodist Church

- Working on Communication merit badge

Oliver Wood Troup 63 out of Canterbury United Methodist Church

- Working on Communication merit badge

**2. CONSENT AGENDA**

Council President Virginia Smith announced that the following matters will be considered at one time on the consent agenda provided no one in attendance objects:

Approval of the minutes of the June 24, 2024, regular meeting of the City Council

Thereupon, the foregoing minutes were introduced by Council President Pro Tempore Pritchard and a motion for their immediate adoption made by Council Member Lloyd Shelton. The minutes were then considered by the City Council. Council Member Graham Smith seconded the motion to adopt the foregoing minutes. Then, upon the question being put and the roll called, the vote was recorded as follows:

Ayes: William S. Pritchard III

Graham L. Smith  
Lloyd C. Shelton  
Gerald A. Garner

Nays: None

Abstained: None

Council President Virginia Smith thereupon declared that said minutes were adopted by a vote of 4—0 and as evidence thereof he signed the same.

**3. FIRST READING OF ORDINANCE (NO. 2162) AMENDING CHAPTER 38 OF THE CITY CODE OF MOUNTAIN BROOK**

Billy Pritchard-Council President Pro Tempore

- This ordinance would preclude overnight activity within the parks

Whit Colvin-City Attorney

- This would only prohibit activities at certain times

Billy Pritchard

- This item will be on the next council agenda scheduled for July 22<sup>nd</sup>, 2024

**4. COMMENTS FROM RESIDENCES AND ATTENDEES**

**Katheryn Humber-3809 Halbrook Lane**

- Inquired as to the time line for the speed humps and chicanes

Sam Gaston-City Manager

- The speed humps should be installed around July 18<sup>th</sup> and the chicanes should be installed July 22<sup>nd</sup> or 23<sup>rd</sup>

Katheryn Humber

- Inquired as to the traffic counter that was installed on Halbrook Lane last week
- Wants to know if this was installed by Mountain Brook

Lloyd Shelton-Council Member

- Mountain Brook did not install the traffic counter
- Contacted Skipper Consultants and they did not install the traffic counter
- Unsure of who installed the traffic counter

**Michael Koslin-3456 Brook Mountain Lane**

- Wanted to address the council regarding the No Cut Through Ordinance (for Halbrook)
- Had an issue with how the notification was sent out regarding the ordinance
- Felt putting it on the text messages, putting it on council agenda, and putting it in articles in Village Life magazine were not sufficient notification to the citizens
- Would have liked to have seen signs put up stating it was going to be considered
- Feels it is a safety issue not being able to utilize Halbrook to access the Cahaba Heights area (due to the unprotected left hand turns)

Billy Pritchard-Council President Pro Tempore

- Nothing permanent has been decided at this point

Michael Koslin

- Does not think it is fair for individuals to be pulled over by the police and given warning tickets for driving through Halbroom (since the council is still considering permanent solutions)

Lloyd Shelton-Council Member

- Issues on Halbroom have been discussed since 2022
- There was a special public meeting regarding this issue
- Notification was sent out in the text messaging system and The Reporter

**5. ANNOUNCEMENT**

Council President Pro Tempore Pritchard announced the next regular meeting of the City Council is July 22, 2024, 7:00p.m.

**6. ADJOURNMENT**

There being no further matters for discussion Council President Pro Tempore Pritchard adjourned the formal meeting at approximately 7:16 pm.

**7. CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama, certify the above is a true and correct transcript of the regular meeting of the City Council of the City of Mountain Brook, Alabama held at City Hall, Council Chamber (Room A-108) on July 8, 2024, and that the meeting was duly called and held in all respects in accordance with the laws of the State of Alabama and bylaws of the City and that a quorum was present.

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City Clerk Approved by  
City Council July 22, 2024

**RESOLUTION NO. 2024-101**

**BE IT RESOLVED** by the City Council of the City of Mountain Brook, Alabama, that the City Council hereby authorizes the payment from the General Fund of \$300,000 into the City of Mountain Brook Section 115 (retiree medical insurance) Trust for investment in accordance with the City's investment policy (Resolution No. 2020-053).

**ADOPTED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Council President

**APPROVED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Mayor

**CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama hereby certify the above to be a true and correct copy of a resolution adopted by the City Council of the City of Mountain Brook at its regular meeting held on July 22, 2024, as same appears in the minutes of record of said meeting.

\_\_\_\_\_  
City Clerk

**RESOLUTION NO. 2024-102**

**BE IT RESOLVED** by the City Council of the City of Mountain Brook, Alabama, that the City Council hereby authorizes the execution of an Intergovernmental Agreement between the City and Jefferson County, in the form as attached hereto as Exhibit A, with respect to contingency funding to support the Electronic Collection Event held at the Birmingham Zoo.

**ADOPTED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Council President

**APPROVED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Mayor

**CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama hereby certify the above to be a true and correct copy of a resolution adopted by the City Council of the City of Mountain Brook at its regular meeting held on July 22, 2024, as same appears in the minutes of record of said meeting.

\_\_\_\_\_  
City Clerk

CITY OF MOUNTAIN BROOK



**Tyler Slaten**  
56 Church Street  
Mountain Brook, Alabama 35213  
Telephone: 205.802.3811  
Fax: 205.879.6913  
slatent@mtnbrook.org  
www.mtnbrook.org

DATE: July 22, 2024  
TO: Mayor, City Council & City Manager  
FROM: Tyler Slaten, Senior Planner  
RE: 2025 Jefferson County Recycling Event Agreement

Jefferson County is asking Mountain Brook to contribute to their county wide electronics recycling event at the Birmingham Zoo. The intergovernmental agreement between the Jefferson County Commission and the city of Mountain Brook for contingency funding would be the same as 2023 and 2024, which is for an amount not to exceed \$1,500. The 2024 event collected 6.05 tons of paper and 12.92 tons of electronics. Of the 606 households that participated, 154 were from Mountain Brook. The date for the 2025 event has yet to be formally announced.



## Electronic Collection Event Report Birmingham Zoo – January 27, 2024

The Jefferson County Commission, in partnership with the City of Bessemer, City of Birmingham, City of Leeds, City of Mountain Brook, Jefferson County Department of Health Watershed Protection Program, Jefferson County Cooperative Extension System, Jefferson County Soil and Water Conservation Foundation, Keep Birmingham Beautiful, Nucor Steele, Inc., Protec Recycling, Storm Water Management Authority, Inc. and Village Creek Society, held an Electronic Collection Event on Saturday, January 27, 2024 at the Birmingham Zoo from 9:00 am until 11:30 am. Staff from partnering organizations assisted on the day of the event to manage traffic and unload the vehicles, and members of the Phi Iota Omega Chapter of the Alpha Kappa Alpha Sorority, Inc. assisted with the intake process of collecting data from those that participated. Funds for this event were provided by Nucor Steele, Inc., and the City of Mountain Brook.



- Intake forms were collected from **537 vehicles** representing **606 households** located within **31 local jurisdictions** from **51 unique zip codes**.
- An estimated **102 people** assisted with intake, unloading the vehicles, traffic flow and materials distribution.
- A total of **12.92 tons** of electronics were collected and **6.05 tons** of paper were shredded on site.

2024 Stormwater Calendars were distributed along with information about the *MyJeffCoApp*, schedule of 2024 HHW and Electronic event dates, and the hazards of mercury.

The event was promoted by the partners and shared on the Jefferson County Commission's social media platforms as well as being posted on the *KeepItCleanJeffCo* web pages. Jefferson County's Public Information Office (PIO) purchased three print ads, one full page placed in Birmingham Times, ½ page ad in Trussville Tribune and ½ page in Gardendale Magazine. Jefferson County's PIO highlighted the event on a monthly Talk of Alabama segment and purchased radio ad spots with Summit Media on the following stations: WZZK, WPYA, WBHK, WBPT, and WPYA.



**Jefferson County and City of Mountain Brook Intergovernmental Agreement  
Contingency Funding for Electronic Collection Event, Birmingham Zoo**

This Intergovernmental Agreement (IGA) establishes an agreement between the Jefferson County Commission (County) and the City of Mountain Brook (City) in order for the County to provide contingency funding to support the Electronic Collection Event held at the Birmingham Zoo.

Whereas the County and the City must comply with the public education and involvement requirements of the National Pollutant Discharge Elimination System (NPDES) Permit;

Whereas the NPDES Permit requires that a program to promote, facilitate, and enforce the proper management and disposal of oils, toxics, and household hazardous waste be offered to residents, thereby preventing these materials from being carried by stormwater into the storm drainage system and negatively impacting water quality in rivers, creeks, lakes, and streams; and

Whereas, the County desires to assist the City with its participation in funding a portion of the costs associated with the Electronic Collection Event held at the Birmingham Zoo; and

Whereas, the County has determined it is in the public interest to provide public funds to assist in Electronic Collection Events for Jefferson County residents.

NOW THEREFORE, the County and the City agree as follows to fund the Electronic Collection Event held at the Birmingham Zoo:

1. The City agrees to provide funding in an amount not to exceed \$1,500 toward the total cost of the event, including the cost of resources, staff, and recycling of TVs and CRT monitors charged by the vendor;
2. The County agrees to provide contingency funding in an amount not to exceed \$1,500 toward the cost of providing additional resources, including trucks for transporting collected electronics, trucks to collect increased paper shredding volume, staff, etc. to accommodate increased public participation and capacity at this event.

IN WITNESS WHEREOF, the Parties have hereunto set their hands and seals or caused this agreement to be executed by their duly authorized representatives on the dates reflected below.

**JEFFERSON COUNTY COMMISSION**

\_\_\_\_\_  
James A. Stephens, President

\_\_\_\_\_  
Date

**CITY OF MOUNTAIN BROOK**

\_\_\_\_\_  
Stewart Welch, Mayor

\_\_\_\_\_  
Date

**RESOLUTION NO. 2024-103**

**A RESOLUTION AUTHORIZING THE SALE OR DISPOSAL  
OF CERTAIN SURPLUS PROPERTY**

**WHEREAS**, the City of Mountain Brook, Alabama, has certain items of personal property which are no longer needed for public or municipal purposes; and

**WHEREAS**, Section 11-43-56 of the Alabama Code of 1975 authorizes the municipal governing body to dispose of unneeded personal property.

**NOW, THEREFORE, BE IT RESOLVED** by the City Council of the City of Mountain Brook, as follows:

Section 1. It is hereby established and declared that the following property, as described in the form as attached hereto as Exhibit A, owned by the City of Mountain Brook, Alabama are no longer needed for public or municipal purposes and is hereby declared surplus property; and

Section 2. That the City Manager, or his designated representative, is hereby authorized and directed to sell said property by way of public Internet auction or to dispose of said items not sold.

**ADOPTED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Council President

**APPROVED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Mayor

**CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama, hereby certify the above to be a true and correct copy of a resolution adopted by the City Council of the City of Mountain Brook at its meeting held on July 22, 2024, as same appears in the minutes of record of said meeting.

\_\_\_\_\_  
City Clerk

# Public Works Surplus July 2024

## **2016 Outback Car Hauler Trailer**

Working condition with working winch

Vin: OBCH8220BK100215R

Has been replaced



## **2017 Enclosed trailer by Outback Trailers**

Vin: 5YCBE1220HH038903

Trailer has been replaced



## Shop fans

(2 total) Water pumps may not work



## Old/Outdated shop AC charging machines and vehicle fluid flushing machines

(7 total)



**1998 Ingersoll-Rand Fork Lift**

Machine will run, but has multiple hydraulic leaks

Serial #: IR5103A



**2004 963 Track Loader**

Vin: CAT0963CCBBD00570

Hours: 7000

Machine runs and operates. Has been replaced.



### Old fuel/used oil storage tanks

(Total 3) Tanks are still sealed and functional. Other solutions have been implemented and these are no longer needed.



### Parts pallet

Old or spare wheel hubs (three sets), Ford Explorer headlight assembly, and a large filter  
These are parts to old equipment we no longer need.



Fuel Tank





**RESOLUTION NO. 2024-104**

**BE IT RESOLVED** by the City Council of the City of Mountain Brook, Alabama, that the City Council hereby ratify change order No. 1 with respect to the West Parking lot construction entrance.

**BE IT FURTHER RESOLVED** that the City Council hereby approves change order numbers 2-5 with respect to the Security Subcontract, Allowance #1, Allowance #4, and Allowance #5 regarding the Mountain Brook Fire Station No. 2 project (Resolution No. 2024-059).

**ADOPTED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Council President

**APPROVED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Mayor

**CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama hereby certify the above to be a true and correct copy of a resolution adopted by the City Council of the City of Mountain Brook at its regular meeting held on July 22, 2024, as same appears in the minutes of record of said meeting.

\_\_\_\_\_  
City Clerk



# AIA® Document G701® – 2017

## Change Order

**PROJECT:** *(Name and address)*  
Mountain Brook Fire Station No. 2  
3100 Overton Road  
Mountain Brook, Alabama 35223

**CONTRACT INFORMATION:**  
Contract For: General Construction  
Date: April 9, 2024

**CHANGE ORDER INFORMATION:**  
Change Order Number: 001  
Date: July 15, 2024

**OWNER:** *(Name and address)*  
City of Mountain Brook, Alabama  
56 Church Street  
Mountain Brook, Alabama 35213

**ARCHITECT:** *(Name and address)*  
Barrett Architecture Studio  
2320 Highland Ave. South, Suite 250  
Birmingham, Alabama 35205

**CONTRACTOR:** *(Name and address)*  
Stone Building, LLC  
8011 Liberty Parkway, Suite 201  
Vestavia Hills, Alabama 35242

**THE CONTRACT IS CHANGED AS FOLLOWS:**

*(Insert a detailed description of the change and, if applicable, attach or reference specific exhibits. Also include agreed upon adjustments attributable to executed Construction Change Directives.)*

This Change Order includes the below listed with backup documentation attached:

PCO #	Description	Amount
001	West Parking Lot Construction Entrance	\$166,817.38
002	Security Subcontract	\$156,432.28
003	Allowance #1 - June	\$ 0.00
004	Allowance #4 - Murals	\$ 0.00
005	Allowance #5 - Sauna	\$ 0.00

The original Contract Sum was	\$ 7,690,505.00
The net change by previously authorized Change Orders	\$ 0.00
The Contract Sum prior to this Change Order was	\$ 7,690,505.00
The Contract Sum will be increased by this Change Order in the amount of	\$ 323,249.66
The new Contract Sum including this Change Order will be	\$ 8,013,754.66

The Contract Time will be unchanged by Zero (0) days.  
The new date of Substantial Completion will be unchanged.

**NOTE:** This Change Order does not include adjustments to the Contract Sum or Guaranteed Maximum Price, or the Contract Time, that have been authorized by Construction Change Directive until the cost and time have been agreed upon by both the Owner and Contractor, in which case a Change Order is executed to supersede the Construction Change Directive.

**NOT VALID UNTIL SIGNED BY THE ARCHITECT, CONTRACTOR AND OWNER.**

Barrett Architecture Studio  
**ARCHITECT** *(Firm name)*

Stone Building, LLC  
**CONTRACTOR** *(Firm name)*

City of Mountain Brook, Alabama  
**OWNER** *(Firm name)*

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**SIGNATURE**

\_\_\_\_\_  
**PRINTED NAME AND TITLE**

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**DATE**

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**DATE**

\_\_\_\_\_  
**DATE**



Stone Building, LLC  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242  
Phone: +12053288300

Project: 24-102 - Mountain Brook Fire Department Fire Station No. 2  
3100 Overton Road  
Mountain Brook, Alabama 35223

### Prime Contract Potential Change Order #001: West Parking Lot Construction Entrance

<b>TO:</b>	City of Mountain Brook PO Box 130009 Mountain Brook, Alabama 35213	<b>FROM:</b>	Stone Building, LLC 8011 Liberty Parkway Suite 201 Vestavia Hills, Alabama 35242
<b>PCO NUMBER/REVISION:</b>	001 / 0	<b>CONTRACT:</b>	24-102-00 - Mountain Brook Fire Station
<b>REQUEST RECEIVED FROM:</b>	Steve Boone (City of Mountain Brook)	<b>CREATED BY:</b>	Robert Byrne (Stone Building, LLC)
<b>STATUS:</b>	Pending - Proceeding	<b>CREATED DATE:</b>	6/25/2024
<b>REFERENCE:</b>		<b>PRIME CONTRACT CHANGE ORDER:</b>	#001 - Initial Allowance Reconciliation, West Parking Lot, & Security Subcontract
<b>FIELD CHANGE:</b>	No		
<b>LOCATION:</b>		<b>ACCOUNTING METHOD:</b>	Amount Based
<b>SCHEDULE IMPACT:</b>	0 days	<b>PAID IN FULL:</b>	No
<b>EXECUTED:</b>	No	<b>SIGNED CHANGE ORDER RECEIVED DATE:</b>	
		<b>TOTAL AMOUNT:</b>	\$166,817.38

POTENTIAL CHANGE ORDER TITLE: West Parking Lot Construction Entrance

CHANGE REASON: Existing Condition

POTENTIAL CHANGE ORDER DESCRIPTION: (The Contract Is Changed As Follows)  
Relocation of the Construction Entrance from Crosby Drive to the existing West Parking Lot.

The scope of work includes the following:

- Relocation of construction entrance to the west parking lot, including temporary fence, gate, construction entrance, etc.
- Removal of existing parking lot wearing surface, binder, and base.
- Re-compacting of existing soil sub-grade
- Replace curb at new construction entrance
- Heavy Duty Asphalt Paving, including 8" dense grade base, 3" asphalt binder, and 1.5" of asphalt wearing surface
- Striping, including layout and stripe all parking spaces and traffic markings and legends. (included in Alternate 5)

Excludes the following:

- Any soil remediation or undercut of the existing subgrade with the exception of recompacting.
- Any work associated with the concrete dumpster pad and concrete apron.

ATTACHMENTS:

[Southeastern Sealcoating Quote.pdf](#) , [Meredith Demo Quote.pdf](#) , [Meredith Entrance Quote.pdf](#)

#	Budget Code	Description	Amount
1	2-610.S Southeastern Sealcoating	Heavy Duty Asphalt	\$104,413.00
2	2-610.S Southeastern Sealcoating	Sealcoat Deduct	\$(4,200.00)
3	2-001.S Meredith Environmental	West Parking Lot Demo & Additional Construction Entrance	\$33,589.00
4	1-560.S Temp - Fence.Subcontract	Temp Construction Fence	\$1,495.00
5	2-605.S Woodham Concrete	Curb Repair	\$1,150.00
6	2-269.M Erosion Control Maintenance	Additional Erosion Control	\$750.00
7	1-710.O Job Sign.Other	Additional Jobsite Signage	\$250.00



#	Budget Code	Description	Amount
8	1-560.M Temp - Fence.Material	Additional Wind Screen	\$300.00
9	1-250.O Mobilization.Other	Recompacting Soil Subgrade	\$3,400.00
<b>Subtotal:</b>			<b>\$141,147.00</b>
P&P Bond (1.50% Applies to all line item types.):			\$2,117.21
Insurance (1.00% Applies to all line item types.):			\$1,432.64
Payroll Burden (38.00% Applies to Labor.):			\$0.00
Builder's Risk (0.25% Applies to all line item types.):			\$361.74
Fee (15.00% Applies to all line item types.):			\$21,758.79
<b>Grand Total:</b>			<b>\$166,817.38</b>

**Adam Kent (Barrett Architecture Studio)**  
 2320 Highland Ave S. Suite 250  
 Birmingham, Alabama 35205

**City of Mountain Brook**  
 PO Box 130009  
 Mountain Brook, Alabama 35213

**Stone Building, LLC**  
 8011 Liberty Parkway Suite 201  
 Vestavia Hills, Alabama 35242

\_\_\_\_\_  
 SIGNATURE

\_\_\_\_\_  
 DATE

\_\_\_\_\_  
 SIGNATURE

\_\_\_\_\_  
 DATE

\_\_\_\_\_  
 SIGNATURE

\_\_\_\_\_  
 DATE

*Spencer Boon* 7/16/2024

# Southeastern Sealcoating, Inc.

1330 Adamsville Industrial Parkway

Birmingham, AL 35224

PHONE: (205) 798-9560 FAX: (205) 798-9065

Email: [david@southeasternsealcoating.com](mailto:david@southeasternsealcoating.com)

Alabama General Contractor License Number: 39074

May 21, 2024

Attn: Robert Byrne  
Stone Building  
8011 Liberty Parkway, Ste. 201  
Vestavia Hills, AL 35242

Phone: 205-328-8300  
Cell: 205-907-3394  
Fax: 205-328-3235  
Email: [rbyrne@stonebuilding.com](mailto:rbyrne@stonebuilding.com)

## RE: Mtn. Brook Fire Station Change Order #1

We are pleased to offer to you our quote on the following items of work. Southeastern Sealcoating, Inc. will furnish all labor, material and equipment to complete the following.

### OPTIONAL PARKING LOT HEAVY DUTY:

Approximately 1,935/sy @ \$53.96/sy \$104,412.60

### OPTIONAL PARKING LOT LIGHT DUTY:

Approximately 1,935/sy @ \$53.32/sy \$103,174.20

### Qualifications and Exclusions:

- 1) No testing, engineering, bonds or permits.
- 2) No Traffic Control. Provided by other.
- 3) Subgrade to be at plan grade (blue-topped), compacted per specifications (including proof roll) and ready to receive dense grade base prior to the start of Southeastern's base operations. Fine grading can be furnished upon request. This applies if Southeastern Sealcoating Inc. not performing grading.
- 4) No prime coat.
- 5) Job includes one mobilization(s). If additional mobilizations are required add \$6,500.00/ea.
- 6) Quote is valid for thirty (30) days from the date of quotation and covers only work described herein.
- 7) No staking or layout.
- 8) No heavy cleaning of binder prior to placing wearing surface due to construction.
- 9) All work is quoted on a 40-hour work week Monday thru Friday.
- 10) No structural excavation or backfill.
- 11) Not responsible for removal of any other contractor's spoil material.
- 12) Not responsible for utilities not clearly marked by owner or 811 locate services.
- 13) Not responsible for reflective cracking.
- 14) **Asphalt prices good for 30 days due to oil prices we cannot guarantee any asphalt prices beyond this time frame.**

- 15) Above prices are based on today's material prices.
- 16) Asphalt prices are good for 30 days, to go beyond 30 days must tie the asphalt to the ALDOT Asphalt Index in the month the project bids.
- 17) This does not include any stone increases that may occur between now and time work is performed.

Thank you for your consideration of our proposal. Please let us know if you have any questions or if we can be of any further assistance.

Sincerely,

David Henderson  
Southeastern Sealcoating, Inc.

**ACCEPTANCE OF PROPOSAL**-The above prices, specifications and conditions are satisfactory and are hereby accepted. You are authorized to do the work as specified. Owner to be responsible for any costs incurred for collection of this contract.

Date of Acceptance: \_\_\_\_\_ Signature: \_\_\_\_\_



**MEREDITH ENVIRONMENTAL, INC.**

3296 Cahaba Heights Road  
Vestavia, Alabama 35243

## Change Order Cost Form

Date: 6/24/2024

Architect Name: \_\_\_\_\_

Contractor Name: Stone Building

Subcontractor Name: Meredith Environmental Inc.

Project Name: Mountain Brook Fire Station

Owner Name: Mountain Brook Fire Station

Meredith Job #: AL24-084

Reference Change Proposal Request Number: 3- REVISED #2

**Brief Description of Proposed Change:**

*Meredith was asked to price the removal of the west parking lot down 9" below FFE. Curbs to remain.*

Item/Description	Quantity	Unit	Unit Cost	Amount		
				Material	Labor	Equip/Trucking
<i>Project Manager</i>	3	Hrs	\$ 90.00	\$ -	\$ 270.00	\$ -
<i>Labor- Supervisor/ foreman</i>	60	Hrs	\$ 60.00	\$ -	\$ 3,600.00	\$ -
<i>Labor- Operator</i>	60	Hrs	\$ 32.00	\$ -	\$ 1,920.00	\$ -
<i>Labor- General</i>	60	Hrs	\$ 28.00	\$ -	\$ 1,680.00	\$ -
<i>210 ex</i>	1	LS	\$ 7,925.00	\$ -	\$ -	\$ 7,925.00
<i>Skidsteer</i>	1	LS	\$ 2,825.00	\$ -	\$ -	\$ 2,825.00
<i>Hauling</i>	52	Ea	\$ 110.00	\$ -	\$ -	\$ 5,720.00
<b>Sub Totals:</b>				<b>\$ -</b>	<b>\$ 7,470.00</b>	<b>\$ 16,470.00</b>

Material: \$ -

Labor: \$ 7,470.00

Burden: \$ 3,137.40    42%    Labor only

Equipment \$ 16,470.00

**Subtotal:** \$ 27,077.40 (Direct Cost)

Overhead & Profit: \$ 4,061.61    15%

Sales/Use Tax: \$ -    0%    Materials only

**Total Cost Change** \$ **31,139.01**     Add  
 Deduct



**MEREDITH ENVIRONMENTAL, INC.**

3296 Cahaba Heights Road  
Vestavia, Alabama 35243

## Change Order Cost Form

Date: 6/20/2024

Architect Name: \_\_\_\_\_

Contractor Name: Stone Building

Subcontractor Name: Meredith Environmental Inc.

Project Name: Mountain Brook Fire Station

Owner Name: Mountain Brook Fire Station

Meredith Job #: AL24-084

Reference Change Proposal Request Number: 6

**Brief Description of Proposed Change:**

*Meredith was asked to provide a 2nd construction exist.*

Item/Description	Quantity	Unit	Unit Cost	Amount		
				Material	Labor	Equip/Trucking
<i>Project Manager</i>	2	Hrs	\$ 90.00	\$ -	\$ 180.00	\$ -
<i>Labor- Supervisor/ foreman</i>	3	Hrs	\$ 60.00	\$ -	\$ 180.00	\$ -
<i>Labor- General</i>	3	Hrs	\$ 28.00	\$ -	\$ 84.00	\$ -
<i>Skid Steer</i>	3	LS	\$ 150.00	\$ -	\$ -	\$ 450.00
<i>Materials- #2 stone</i>	1	LS	\$ 1,050.00	\$ 1,050.00	\$ -	\$ -
<b>Sub Totals:</b>				<b>\$ 1,050.00</b>	<b>\$ 444.00</b>	<b>\$ 450.00</b>

Material: \$ 1,050.00

Labor: \$ 444.00

Burden: \$ 186.48 42% Labor only

Equipment \$ 450.00

**Subtotal:** \$ 2,130.48 (Direct Cost)

Overhead & Profit: \$ 319.57 15%

Sales/Use Tax: \$ - 0% Materials only

**Total Cost Change** \$ **2,450.05**

Add

Deduct





Stone Building, LLC  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242  
Phone: +12053288300

Project: 24-102 - Mountain Brook Fire Department Fire Station No. 2  
3100 Overton Road  
Mountain Brook, Alabama 35223

### Prime Contract Potential Change Order #002: Security Subcontract

<b>TO:</b>	City of Mountain Brook PO Box 130009 Mountain Brook, Alabama 35213	<b>FROM:</b>	Stone Building, LLC 8011 Liberty Parkway Suite 201 Vestavia Hills, Alabama 35242
<b>PCO NUMBER/REVISION:</b>	002 / 0	<b>CONTRACT:</b>	24-102-00 - Mountain Brook Fire Station
<b>REQUEST RECEIVED FROM:</b>		<b>CREATED BY:</b>	Robert Byrne (Stone Building, LLC)
<b>STATUS:</b>	Pending - Proceeding	<b>CREATED DATE:</b>	6/20/2024
<b>REFERENCE:</b>	Alsacan Proposal, Drawings, and Product Data	<b>PRIME CONTRACT CHANGE ORDER:</b>	#001 - Initial Allowance Reconciliation, West Parking Lot, & Security Subcontract
<b>FIELD CHANGE:</b>	No	<b>ACCOUNTING METHOD:</b>	Amount Based
<b>LOCATION:</b>		<b>PAID IN FULL:</b>	No
<b>SCHEDULE IMPACT:</b>	0 days	<b>SIGNED CHANGE ORDER RECEIVED DATE:</b>	
<b>EXECUTED:</b>	No	<b>TOTAL AMOUNT:</b>	\$156,432.28

POTENTIAL CHANGE ORDER TITLE: Security Subcontract

CHANGE REASON: Client Request

**POTENTIAL CHANGE ORDER DESCRIPTION:** *(The Contract Is Changed As Follows)*

This change order is to include the Security Subcontract into Stone Building's Scope of Work. Reference Attached Proposal, Shop Drawings, and Product Data coordinated by owner.

**ATTACHMENTS:**

[03a\\_Alsacan\\_Proposal\\_REV\\_2024.06.27.pdf](#) , [03b\\_Alsacan\\_drawing\\_and\\_details\\_REV\\_2024.06.27.pdf](#) , [Video\\_Surveillance\\_submittal\\_data\\_sheets.pdf](#) , [Access\\_control\\_submittal\\_data\\_sheets.pdf](#)

#	Budget Code	Description	Amount
1	16-700.S Access Control.Subcontract	Access Control and Security	\$132,360.00
<b>Subtotal:</b>			<b>\$132,360.00</b>
P&P Bond (1.50% Applies to all line item types.):			\$1,985.40
Insurance (1.00% Applies to all line item types.):			\$1,343.45
Payroll Burden (38.00% Applies to Labor.):			\$0.00
Builder's Rosk (0.25% Applies to all line item types.):			\$339.22
Fee (15.00% Applies to all line item types.):			\$20,404.21
<b>Grand Total:</b>			<b>\$156,432.28</b>

Adam Kent (Barrett Architecture Studio)  
2320 Highland Ave S. Suite 250  
Birmingham, Alabama 35205

City of Mountain Brook  
PO Box 130009  
Mountain Brook, Alabama 35213

Stone Building, LLC  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242

SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_ SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_



Our Business is Minding Yours™

237 OXMOOR CIRCLE SUITE 101  
Birmingham, Al 35209-6454  
205-945-0003 FAX 205-945-0390

**\*\* Proposal \*\***

6/27/2024

**Project Number: 6766BM**

Daniel Tourtellotte, Salesman  
Mobile: 205-586-5003  
Email: dtourtellotte@alscaninc.c

Cameras and Access control

Mountain Brook Fire Department  
Fire Station No. 2  
Mountain Brook, AL 35223

Mountain Brook Fire Department  
Fire Station No. 2  
Mountain Brook, AL 35223

Tel: .

**Qty Description**

**Video Surveillance System**

- 1 HD Video Appliance 3X Pro 24-port 18TB, NA, Windows 10 IoT
- 8 ACC 7 ENTERPRISE EDITION CAMERA LICENSE
- 4 3X8MP, WDR, 270 degree max field of view, Lightcatcher, 3.3-5.7M
- 3 8MP H6A Outdoor IR Dome Camera with 4.4-9.3mm Lens
- 1 4MP H6A Indoor Dome Camera with 4.4-9.3mm Lens
- 4 OUTDOOR PENDANT MNT ADAPTER. FOR USE W/ H5A MULTISENSOR
- 4 DOME BUBBLE & COVER, OUTDOOR SRFC MNT / PNDNT MNT, SMOKED, H5A M
- 4 Wall Mount for large pendant camera
- 4 CORNER MNT FOR LRGE PENDT WLMT-1001
- 1 UPS 1500VA LCD
- 5 2" J-hooks (25 pack)
- 1 Misc. hardware and consumables
- 3 Cat-6 plenum rated cable
- 1 Drawings, submittals, As-built's  
Installation labor, system programming and customer training
- 1 Shipping and handling

**Access control system**

- 1 iSTAR Ultra G2 GCM board
- 2 iSTAR ULTRA G2 ACM BOARD, 8 READERS, INCL USB CABLE
- 1 FOR 16 RDR ULTRA- PSX 150/250W PWR SUPPLY/ BATT CHRGR
- 1 Upgrade Series N System License to Series P
- 13 SIGNO 40 WALL MNT RDR, 13.56mhz & 125khz OSDP/WIEG, TERM, MOBILE
- 14 CONTACT - STEEL DR WIDE GAP GREY
- 13 Request to exit PIR sensor
- 4 UltraTech IM-1272F1 12V, 7Ah SLA Battery, F1 Terminal

Qty	Description
1	1000VA/ 600W/ 9 OUT/ LCD/ AVR UPS
100	Proximity key fobs
15	2" J-hooks (box of 25)
1	Misc. hardware and consumables required
5	Access control composite cable (Plenum rated)
1	Drawings, submittals, As-builts
	Installation labor, system programming and customer training
1	Estimated shipping and handling

**Scope of work**

**Video Surveillance:**

The following proposal is to install an IP video surveillance system with (7) cameras to cover the exterior of the building. The system will be integrated with the video surveillance system at the Police department and City Hall.

**Access control:**

Proposal to install access control on the (13) doors shown on the plans. System is designed to integrate with City Hall and the Police Departments existing system so it can be remotely managed.

**Terms and conditions**

High Speed External Internet Connection provided by customer for Alscan remote support  
 Any devices requiring remote connection on phones, tablets or clients will be setup by the customer unless specified.  
 Alscan is not responsible for ISP Router configurations or ports forwarded through the customer #s Firewall  
 Static IP addresses provided by customer  
 Alscan, Inc. does NOT provide conduit, electrical service, or trenching unless specified  
 Payment Terms = Due upon completion  
 A finance charge of 1.5% per month (18% per year) will be charged on all past due accounts over 30 days  
 Customer agrees to pay all costs of collection including reasonable attorneys fees  
 All material is guaranteed to be as specified. All work to be completed in a workmanlike manner according to standard practices.  
 Any alteration or deviation from above specifications involving extra costs will be executed only upon written orders, and will become an extra charge over and above the estimate.  
 All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance. Alscan, Inc. workers are fully covered by Workman's Compensation Insurance.

**Finance Charge**

Effective April 1, 2021 any payment not received from the Customer by the due date shall accrue at the lower of 1.5% or the maximum rate permitted by law of the outstanding balance per month from the date such payment is due until the date paid.

**Credit Cards**

Effective April 1, 2021 a 3% Service Fee for any Payment by Credit Card.

This \*\* Proposal \*\* is Valid for 60 Days.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Project Total:                       
                     \$132,360.28

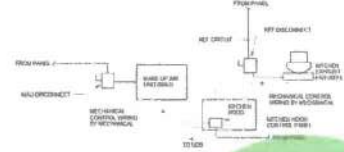
Access Control	
● Card Reader	12
Video Surveillance	
● Fixed Camera	4
● Multi-Lens Camera	4

**POWER & AUXILIARY PLAN - DETAILS**

- 1) INDUSTRIAL, AUTOMATICALLY RETRACTING, HEAVY DUTY CORD REELS, 100' STROKE, OF CORDS MUST BE A MINIMUM OF 20' OFF FLOOR IN RECEPTACLE COORDINATE PREVIOUS LOCATIONS WITH CORDS PRIOR TO INSTALLATION. MAINTAIN REQUIRED CLEARANCE FROM HEAVY TRAFFIC.
- 2) DISCONNECT SHALL BE NEAR OR POWER PROVIDING FOR OVERHEAD DOOR COORDINATE EXACT POWER RELOCATIONS WITH OPERATOR REIRS PROVIDED. CONTRACTOR SHALL PROVIDE ADDITIONAL ALL CONNECTIONS TO THE OPERATOR, ACCESSORIES, AND SAFETY DEVICES.
- 3) 120VAC RECEPTACLE FOR RANGE IN ACCORDANCE WITH IEC 422 (200)
- 4) POWER PROVIDING FOR VENT HOOD COORDINATE EXACT LOCATION AND CONNECTION REQUIREMENTS PRIOR TO RANGE BY PROVIDER AND INSTALL WALL SWITCH ON CONTROL, IF REQUIRED.
- 5) POWER FOR INDOOR HEAT PUMP UNITS IS DERIVED FROM OUTDOOR HEAT PUMP & C SHALL PROVIDE AND INSTALL SAFE, VERDOL, 3/4" BETWEEN EACH INDOOR AND OUTDOOR UNIT. E.C. SHALL CONNECT 3/4" SWIRE DISCONNECT SWITCH PROVIDED BY MECHANICAL FOR EACH LINE.
- 6) COORDINATE DEVICE HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.
- 7) EMERGENCY POWER OFF (EPO) BUTTON, FC FROM EPO TO GENERATOR.
- 8) POWER PROVIDING FOR BLACK HEATER DESIGN IS BASED ON A 200W, 2000 BLOCK HEATER. VERIFY ELECTRICAL REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO BID. PROVIDE THE WIRING PANEL, BREAKERS, WIRING, AND RECEIVERS FOR THE BLACK HEATER BEING PROVIDED.
- 9) POWER PROVIDING FOR BATTERY CHARGER.
- 10) GENERATOR SET CONTROLS 120V, 1PH.
- 11) ALL ELECTRICAL DEVICES (WIRE IN THE FIELD) SHALL TURN OFF UPON ACTIVATION OF THE FIRE SUPPRESSION SYSTEM AND/OR ACTIVATION OF THE FIRE ALARM SYSTEM THROUGH THE SHUNT TRIP OF THE CIRCU BREAKER. UPON ACTIVATION OF THE FIRE SUPPRESS SYSTEM AND/OR ACTIVATION OF THE FIRE ALARM, THE EQUIPMENT FAN FOR THE ROOM SHALL CONTINUE TO RUN UNTIL THE SHUNT TRIP OF AN UNIT SHALL BE SHUT OFF THROUGH THE FIRE ALARM CONTROL MODULE.

**AUXILIARY - GENERAL NOTES**

- A. LOW VOLTAGE WIRING SHALL NOT BE PERMITTED TO RUN IN WALLS WITHOUT A SECONDARY, A BY MEANS OF CONTACT SHALL BE PROVIDED TO STAY UP TO THE NEAREST ACCESSIBLE CORNER.
- B. LOW VOLTAGE CABLES SHALL BE SUPPORTED ALONG ACCESSIBLE CEILING THROUGH FLOOR PROVIDE JOISTS TO ALL AUXILIARY OUTLETS TO BE NO CABLES IN UNDERPOINTS MORE THAN 5'-0".
- C. PROVIDE WIRING ON ALL ENTRY CONDUITS, PROVIDE FLEXIBLES ON ALL ENTRY CONDUITS.
- D. CONTRACTOR SHALL PROVIDE A COMPLETE SECURITY SYSTEM INCLUDING CARD READERS, CAMERAS, AND ALL REQUIRED HARD END EQUIPMENT.



**Dawberry**  
 PROJECT NO. 24-001  
 DATE: 06/27/24

**NOT FOR CONSTRUCTION**

**BARRETT**  
 ARCHITECTURE  
 515-200-1000

PROJECT NO. 24-001  
 DATE: 06/27/24

MOUNTAIN BROOK FIRE DEPARTMENT  
 FIRE STATION No. 2  
 MOUNTAIN BROOK, ALABAMA

Added Access CX  
 per Keying Meeting  
 06/27/24

Revision Number  
 06/27/24

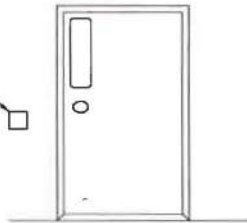
DATE: 06/16/2023  
 TIME: 11:22:01  
 POWER & AUXILIARY - FIRST FLOOR PLAN  
 E3.1

POWER & AUXILIARY - FIRST FLOOR PLAN  
 3/16" = 1'-0"

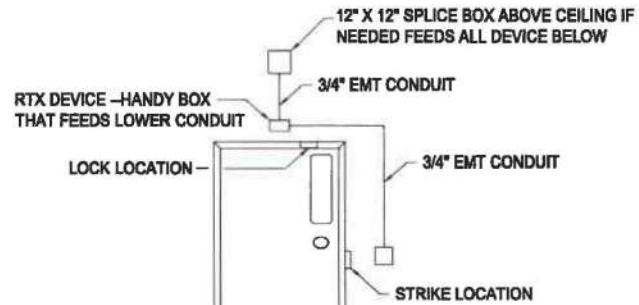
DD REVIEW

**ALSCAN**  
 THIS IS A BASIC CONDUIT LAYOUT FOR A MAG LOCK STRIKE  
 MOUNTED HARDWARE. SOME DOORS MAY VARY.

READER BOX 48" FROM GRADE 1 SINGLE  
 GANG SEAL TIGHT BOX



OUTSIDE VIEW

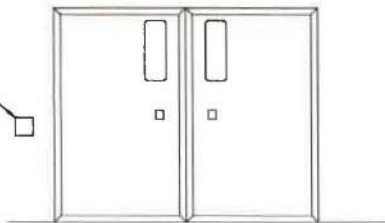


INSIDE VIEW

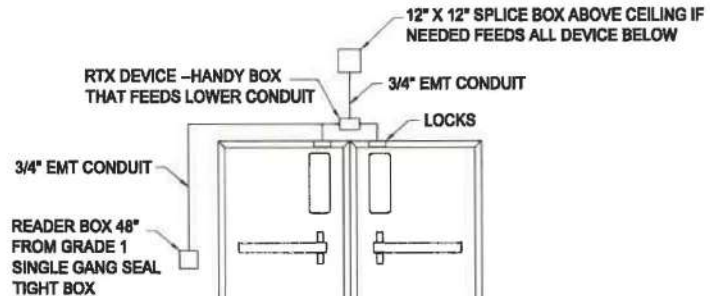
SINGLE DOOR DETAILS

**ALSCAN**  
 THIS IS A BASIC CONDUIT LAYOUT FOR A MORTISE OR  
 ELECTRIC CRASH BAR HARDWARE. SOME DOORS MAY VARY.

READER BOX 48" FROM GRADE 1 SINGLE  
 GANG SEAL TIGHT BOX



OUTSIDE VIEW



INSIDE VIEW

DOUBLE DOOR DETAILS

GENERAL NOTES

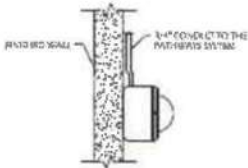
D	Issue For Construction	Date
No.	Revision/Issue	Date

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DOOR DETAILS

DESIGN NUMBER	DD-001
Product	REVISION
Date	0
Scale	NTS

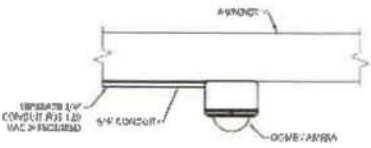
GENERAL NOTES



GENERAL NOTES: 1. REFER TO THE DOME CAMERA INSTALLATION MANUAL FOR CAMERA LOCATION SURFACE LOCATIONS TO BE MADE BY OWNER AND APPROVE BEFORE.

2. INCLUDE TO WALL WITH ANCHOR BOLTS UP TO CODES/LOCALS.

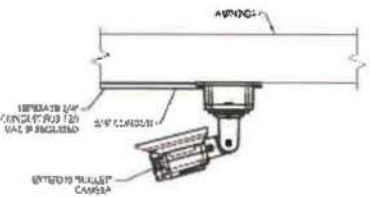
1. INTERIOR RIGID WALL MOUNTED ON CONCRETE OR CMU WALL SURFACE DOME CAMERA ENCLOSURE



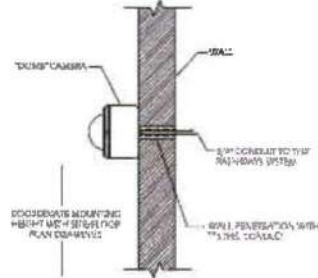
GENERAL NOTES: 1. REFER TO THE DOME CAMERA INSTALLATION MANUAL FOR CAMERA LOCATION SURFACE LOCATIONS TO BE MADE BY OWNER AND APPROVE BEFORE.

2. INCLUDE TO WALL WITH ANCHOR BOLTS UP TO CODES/LOCALS.

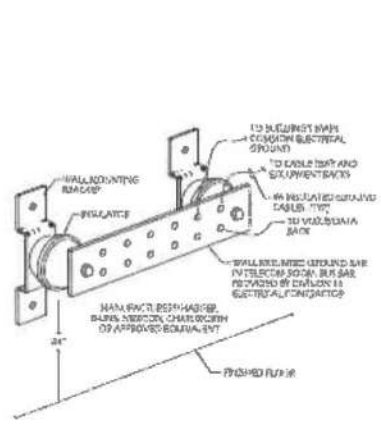
2. INTERIOR RIGID CEILING MOUNT DOME CAMERA SURFACE DOME CAMERA ENCLOSURE



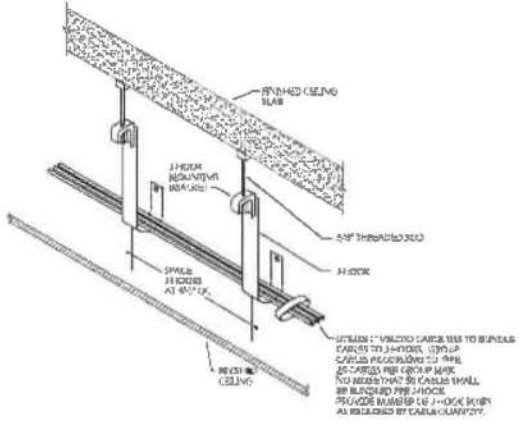
3. INTERIOR RIGID CEILING MOUNT BULLET CAMERA SURFACE CAMERA ENCLOSURE



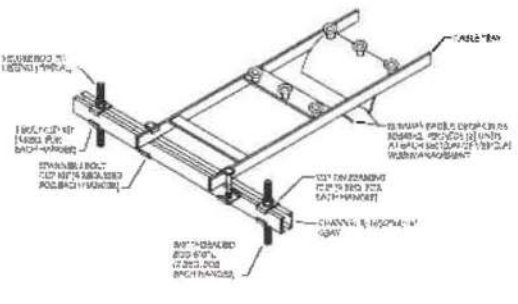
4. EXTERIOR / INTERIOR RIGID WALL MOUNT DOME CAMERA ENCLOSURE



5. RACK MOUNTING DETAIL



6. ACCESSIBLE CABLE TRAY INSTALLATION DETAIL



7. TRUSS / BRACKET CABLE TRAY INSTALLATION DETAIL

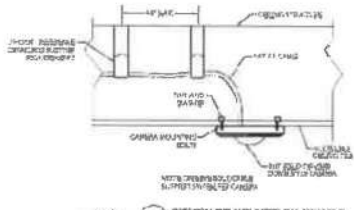
No.	Revision/Issue	Date

**ALSCAN**

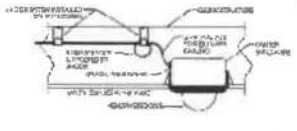
Camera mounting details

<b>DRAWING NUMBER</b>	
Project	Sheet
Date	
Drawn	

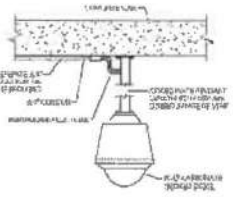
GENERAL NOTES



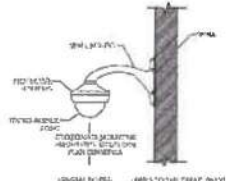
1 DETAIL 1. DOME CAMERA MOUNTED IN WALL  
REPLACING EXISTING CAMERA ENCLOSURE



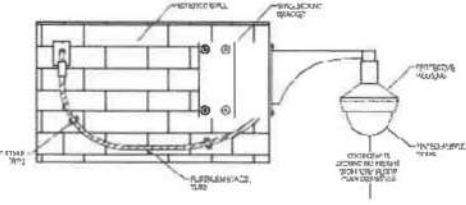
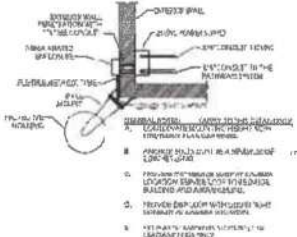
2 DETAIL 2. WALL MOUNTING OF DOME CAMERA  
REPLACING EXISTING CAMERA ENCLOSURE



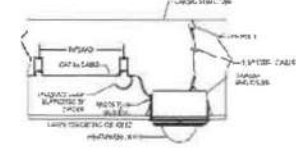
3 DETAIL 3. PENDANT CAMERA MOUNTED IN WALL  
REPLACING EXISTING CAMERA ENCLOSURE



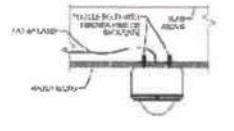
4 DETAIL 4. INTERIOR EXTERIOR HARD WALL MOUNT  
REPLACING EXISTING CAMERA ENCLOSURE



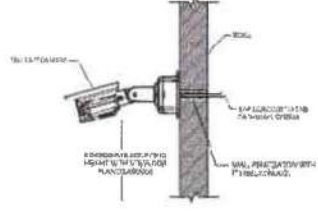
5 DETAIL 5. CORNER MOUNTED MULTI-SERVICE  
EXTERIOR DOME CAMERA



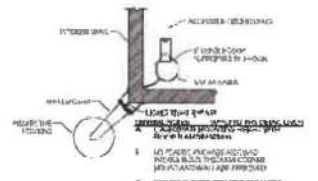
6 DETAIL 6. MULTI-SERVICE CAMERA  
MOUNTED IN WALL REPLACING  
EXISTING EXTERIOR CAMERA ENCLOSURE



7 DETAIL 7. INTERIOR EXTERIOR HARD CORNER MOUNT  
REPLACING EXISTING CAMERA ENCLOSURE



8 DETAIL 8. EXTERIOR EXTERIOR HARD  
WALL MOUNT BULLET CAMERA  
REPLACING EXISTING CAMERA ENCLOSURE



9 DETAIL 9. INTERIOR CORNER MOUNTED  
DOME CAMERA  
REPLACING EXISTING CAMERA ENCLOSURE

No.	Revision/Issue	Date

**ALSCAN**

Camera mounting details

DRAWING NUMBER	
Project	Sheet
Date	
Scale	

**tyco** | Software House

# iSTAR Ultra G2

## Cyber-hardened Access Controller for up to 32 Readers



### Key features

- Powerful cyber-hardened network door controller for up to 32 readers
- Trusted Execution Environment (TEE) provides advanced hardware-based cybersecurity protection
- Hardened Linux embedded OS for improved security and scalability
- Power over Ethernet (PoE) module features PoE+ to power the GCM
- Up to 1M cardholders in local memory
- Dual GigE network ports with IPv6, DHCP and 802.1X support
- Embedded lock power management lowers installation costs
- Advanced controller-to-controller communications for cluster-based antipassback and I/O logic
- Onboard 256-bit AES network encryption
- Supports OSDP Secure Channel for encrypted reader communications
- Supports Embedded High Assurance FICAM operation without third-party hardware

iSTAR Ultra G2 is a powerful, cyber-hardened and network door controller that supports up to 32 readers. Built using a Trusted Execution Environment (TEE) with advanced network security features, iSTAR Ultra G2 answers the most demanding access control requirements of enterprise and government applications. Rack mount and wall-mount options provide installation flexibility, while iSTAR Ultra G2's unique lock power management eliminates the need for separate lock power interface boards. iSTAR Ultra G2 features a hardened Linux kernel for its operating system, improving the security and scalability of the system.

### Supports up to 32 Readers

iSTAR Ultra G2 uniquely combines support for traditional hard-wired access control doors with support for wireless lock sets, all in the same controller. Up to 32 readers are supported by the iSTAR Ultra G2, which can be comprised of readers from Access Control Modules (ACMs), IP-ACM Ethernet door modules, and/or wireless locksets. iSTAR Ultra G2 is ideal for areas that require many readers in close proximity to the panel. For more distributed installations, iSTAR Ultra G2 includes up to 32 RS-485 ports, allowing the installer to run longer distances to each door. iSTAR Ultra G2 uses a General Controller Module (GCM) which includes standard 2GB RAM and 16GB memory and has two onboard gigabit network ports for reliable network communications. The GCM controls up to four ACMs, with each ACM supporting up to eight Wiegand, RM or OSDP readers, 24 supervised inputs, and 16 outputs which can be individually wet- or dry-configured.

The power behind **your mission**



iSTAR Ultra G2 also includes an alphanumeric LCD to provide status and troubleshooting information. Database backups and all buffered transactions are stored to non-volatile memory. A rechargeable clock battery keeps the clock powered during a power failure.

### Advanced Cybersecurity using TEE

iSTAR Ultra G2 utilizes a hardware-based Trusted Execution Environment (TEE), a secure, isolated environment within its CPU that runs in parallel to the main Linux operating system. TEE guarantees confidentiality and integrity of code and data loaded by using hardware and software as protection mechanisms. TEE provides reliable storage of keys and other cryptographic materials and manages a secure boot process to guarantee authenticated sources for hardware and software.

### Advanced Network Security

iSTAR Ultra G2 features dual GigE Ethernet LAN ports, providing primary and secondary communications to C-CURE 9000. iSTAR Ultra G2 supports static and dynamic IP addresses and IPv4 and IPv6 protocols, supporting DHCP, DNS, SNMP, and 802-1X port authentication protocol, for added security and to simplify network installation. Potential network threats are further reduced with embedded denial-of service protection, 256-bit FIPS 197 AES network encryption, and unique controller-based TLS 1.3 certificates for network authentication.

In addition, an embedded web page features unique password management and TLS 1.3 authentication reducing startup time by allowing you to view online controllers, change configuration parameters, and download new firmware from a single interface. The web page feature is managed centrally by C-CURE 9000 and can be disabled if desired.

## Features

### Embedded Lock Power Management

The iSTAR Ultra G2's ACM offers a unique, straightforward approach to managing the complete lock power needs of an installation. The ACM is designed to distribute power directly to each lock circuit without needing a separate fused distribution board (and the associated interconnect wiring). Each ACM has two separate lock power feeds in addition to controller power. These feeds can be used for different voltages (12 V and 24 V for example) or for battery-backed and non-battery-backed

power sources to comply with certain local life safety codes. Each lock output can then be selected to use either a dry contact, lock power 1, or lock power 2, providing tremendous flexibility. In addition, each lock circuit is protected with a PTC resettable fuse and over-voltage surge protection through the extensive use of transzorb and includes a socketed relay for quick field replacement. Each lock circuit can be individually selected to unlock, or lock based on the dedicated fire alarm input setting, meeting life safety requirements.

### Ensure Reliable Communication with Clusters

iSTAR Ultra G2 supports peer-to-peer communications across clusters, meaning that the controllers communicate with one another with limited host intervention. Clusters are user-defined groups of up to 16 controllers and can be created to enhance scalability for C-CURE 9000 and security by separating a widely dispersed facility into different controlled areas. For example, events linking inputs on one controller to outputs on another controller will still be active without the host, as will any anti-passback rules that are set up within the cluster.

### Local and Global Anti-Passback Provides Effective System-Wide Security

Anti-passback prevents cardholders from passing their credentials back to others in order to gain access to secured areas. Global anti-passback is critical for ensuring uncompromised security on a large scale. Building upon cluster based anti-passback as described above, the controllers are able to send an anti-passback violation notice to the C-CURE server. Tailgating, or following another cardholder into a secured area without presenting a separate badge, can easily be flagged within the C-CURE monitoring station.

### Rack-Mount Flexibility

iSTAR Ultra G2 is available in a modular rack-mount configuration, reducing the space requirements and costs associated with installing a panel on the wall. Separate GCM and ACM modules can be arranged in the rack to optimize your server room installation. For example, the GCM can be mounted in the front of a four-post rack, while the ACM and field wiring can be located in the rear of the rack. Field wiring on the ACM is easily routed through the top and/or bottom of the enclosure, with the ACM board mounted front and center for convenient servicing.

### Keypad Commands Provide the Ultimate in Control

iSTAR Ultra G2 supports custom keypad commands which provide a powerful way to easily activate events in C•CURE 9000. These commands include anything from triggering a duress call and sounding an alarm, to locking and unlocking doors directly from a keypad reader or dedicated touchscreen keypad. Commands can be configured to require a card presentation and/or a card and PIN to validate the command. Keypad commands can also be used to arm and disarm intrusion zones.

### Improves Life Safety

A dedicated input for a fire alarm tie-in automatically locks or unlocks selected door lock outputs in the event of a fire condition. The fire input may be unsupervised or supervised, and the release circuit does not require software programming for operation. In addition, a second input for a manual keyswitch is provided, such that the door lock outputs will not re-lock unless authorized safety personnel confirm the safety of the building via the keyswitch. The keyswitch functionality is enabled via an onboard DIP switch.

### Extended Card Formats Enhance Security

iSTAR Ultra G2 supports extended card formats of up to 256 bits, providing the utmost in flexibility when configuring custom card formats. iSTAR Ultra G2 supports the full 200-bit FASC-N format for compliance with the U.S. Government's FIPS 201 initiative, as well as the 128-bit GUID format for PIV-I credentials. These extended cardholder formats are stored locally in iSTAR allowing the controller to make the access decision even when it is offline from the host. Each format supports multiple data fields such as card number, facility code, agency code, system code, plus up to four custom card integer fields. Longer card numbers and formats offer greater protection against card duplication and are especially valuable to customers who require card numbers that exceed 10 digits.

### Cardholder Flexibility

Used with C•CURE 9000, iSTAR Ultra G2 allows administrators to assign up to five active cards per cardholder record rather than having to create a separate record for each card. This simplifies the management and maintenance of personnel records. For additional flexibility, iSTAR Ultra G2 can support up to 128 card formats system-wide and ten card formats per reader, including smart cards. This expanded ability to use multiple card types (such as 26-bit, 37-bit, or Corporate 1000) at a single reader frees customers from having to consolidate or re-issue new cards.

### Built-in Diagnostics to Easily Test and Troubleshoot

iSTAR Ultra G2 includes both built-in web diagnostics pages and a local LCD to test and troubleshoot inputs, outputs, reader ports, and last card read. In addition, via the network, you can retrieve real-time status and diagnostics of:

- controller diagnostics
- controller time/boot time
- total/available memory
- connection status
- firmware and OS versions
- hardware (MAC) and IP addresses
- downloaded clearances and cardholders

### Fully Integrated and Managed Lock Solution

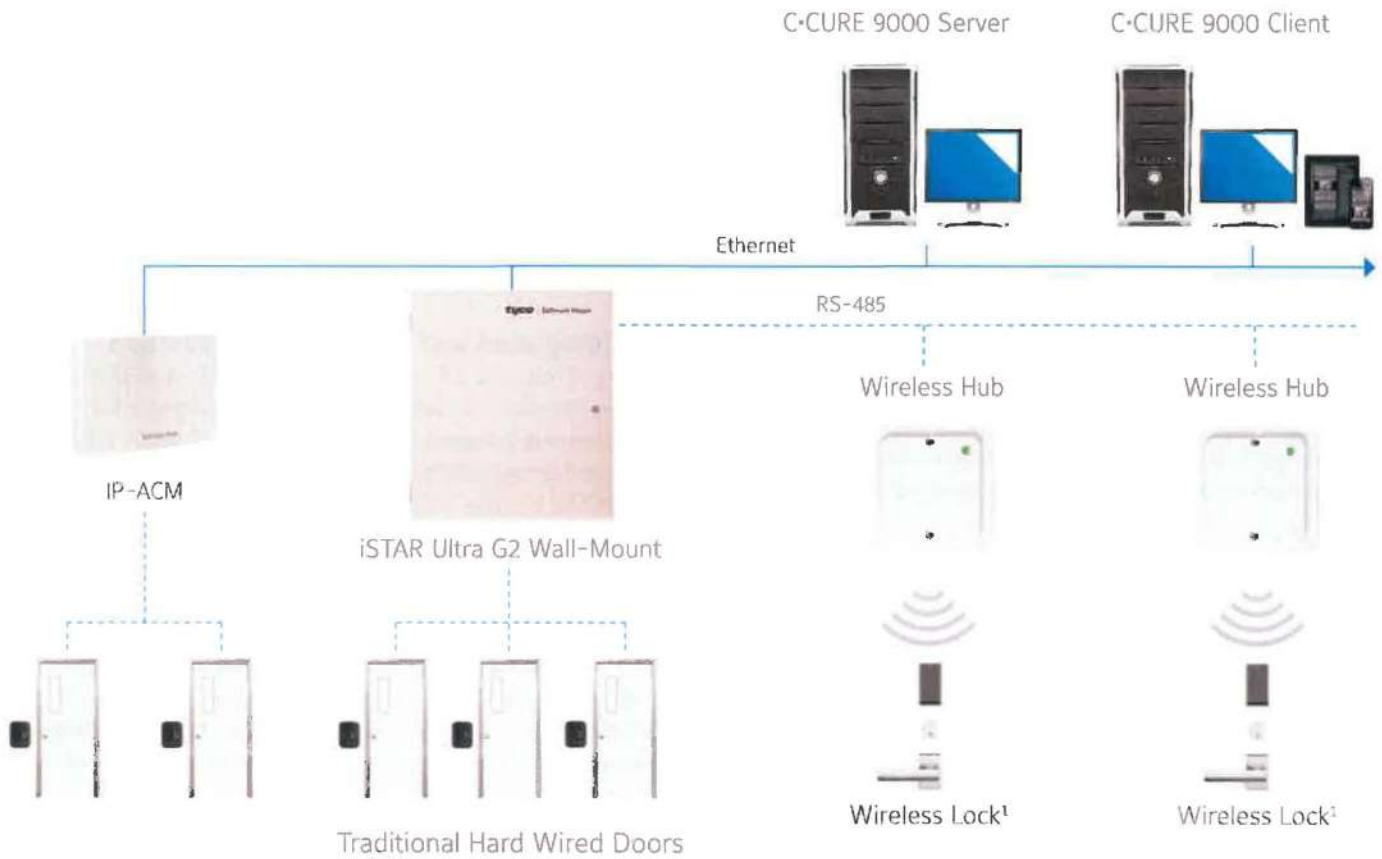
Utilizing iSTAR Ultra G2, wireless locks from ASSA ABLOY or Schlage communicate with C•CURE 9000, providing a fully integrated and managed lock solution. Up to 32 ASSA ABLOY Aperio or Schlage AD300, AD400, NDE and LE locksets can be managed by a single iSTAR Ultra G2. In addition to traditional locksets, the ASSA ABLOY Aperio line also includes cabinet and data center locks, allowing you to extend the breadth of your access control system to non-traditional openings. Each lockset communicates using AES 128-bit encrypted wireless technology to the wireless hub, which is then connected to the iSTAR Ultra G2 with a simple RS-485 communications bus. Each hub can accommodate up to eight Aperio wireless locks or 16 Schlage wireless locks. All activity and alarms from each wireless device are sent to the iSTAR Ultra G2 and then up to the C•CURE 9000 in real time, guaranteeing a high level of control and visibility of door actions. Besides standard card access transactions, each device also communicates low battery, tamper, and communications status to the system.

### Embedded Support for FICAM High Assurance

Used with the Innometriks suite of High Assurance ID Management software, iSTAR Ultra G2 supports PKI-based authentication at the door, including CAK and PAK, card plus PIN, and biometric match in panel. Unique cardholder PKI information and biometric templates are stored and authenticated directly in the iSTAR Ultra G2, on the secure side of the door, for reliable stand-alone operation. High Assurance PKI-based authentication is required to comply with the U.S. Government's FICAM standards and is ideal for commercial and non-government customers as well.

# System diagram

## iSTAR Ultra G2 and Wireless Lock System Layout



<sup>1</sup>ASSA ABLOY Aferio or Schlage AD300/AD400/NDE/LE but not both, Schlage locks are sold in North America only. Up to 32 wireless locks max per iSTAR Ultra G2; 16 max on each of two RS485 ports.

## Specifications

C-CURE 9000 Software Compatibility	
C-CURE 9000 v2.90 SP2 and above (full feature set)	
C-CURE 9000 v2.70 and v2.80 (reduced feature set)	
Physical	
Dimensions (H x W x D)	
Wall-Mount (supports a GCM and up to two ACMs)	635 x 560 x 127 mm (25.0 x 22.0 x 5.0 in)
Rack Mount GCM	86 x 445 x 269 mm (3.4 x 17.5 x 10.6 in) (2U rack height)
Rack-Mount ACM	175 x 445 x 125 mm (6.9 x 17.5 x 4.9 in) (4U rack height)
GCM Board	155 x 266 x 27 mm (6.1 x 10.5 x 1.06 in)
ACM Board	114 x 427 x 36 mm (4.5 x 16.8 x 1.4 in)
Weight	
Wall-Mount	12.3 kg (27 lbs)
Rack Mount GCM	4.3 kg (9.5 lbs)
Rack-Mount ACM	4.1 kg (9.0 lbs)
Enclosure Material	Wall Mount: 18-gauge galvanized steel, with tamper switch Rack Mounts: GCM: 16-gauge galvanized steel, with tamper switch ACM: 18-gauge galvanized steel, with tamper switch
Environmental	
Operating Temperature	0-50°C (32-122°F)
Operating Relative Humidity	5-95% RH non-condensing
Storage Temperature	-20-60°C (-4-140°F)
Electrical	
Power Requirements, GCM	12/24 VDC +/- 20%, 0.5 A plus up to 1.5 A per RS-485 port
Power Requirements, Each ACM	12V +/- 20%, 12A max or 24V +/- 20%, 3.5A If powering VREADER with 24V, the budget for 12V that powers readers and auxiliary devices is 5A max.
Heat Dissipation	GCM: 61 BTU/hr, each ACM: 20.5 BTU/hr

Electrical (Continued)	
Memory and RTC Backup	Rechargeable lithium battery provides RTC backup; database and buffered transactions stored in non-volatile memory
Electrical - Optional PoE+ and PoE++ Modules	
Standards Supported	PoE (802.3af), 12.95 W max; PoE+ (802.3at), 25.5 W max. PoE++ (802.3bt), 62 W max. <sup>3</sup>
Power Available for Attached Devices	PoE: 24V @ 540mA PoE+: 24V @ 1.06A PoE++: 24V @ 2.58A <sup>3</sup>
Network Port for PoE	Port 1
System and Network	
CPU	NXP i.MX7 1.2 GHz dual core ARM Cortex-A7+, Cortex-M4
Operating System	Hardened Linux kernel, Yocto project
System Memory	2 GB RAM
Non-volatile Storage	16 GB multi mode eMMC
Network	Dual GigE LAN ports
Network Encryption	AES 256-bit
Network Authentication	TLS 1.3 using AES256 symmetric encryption, unique certificates
Port Authentication	802.1X port authentication protocol
Indicators and Switches	LCD for diagnostics, LEDs for power, LAN activity, serial port activity, output status, encryption-enable switch
Memory Capacity <sup>2</sup>	
Five clearances, one card/person, 20-digit card	1,000,000 cardholders
Inputs/Outputs, GCM	
Dedicated Inputs	Cabinet tamper, AC fail, low battery
Distance, GCM to ACM	Up to 1.83 m (6 ft)
Number of ACMs supported per GCM	4 (C-CURE 9000 v2.90 SP2 and higher)

<sup>2</sup> Memory allocation is dynamic and shared between cardholders, event storage, and configuration information.

<sup>3</sup> PoE++ coming soon. Contact your local Area Sales Manager for details.

## Specifications per ACM Board<sup>4</sup>

Readers	
Number of Readers Supported, per ACM Board	8
Types of Readers Supported	OSDP v2 encrypted (RS-485), Wiegand and RM (RS-485), TST-100 in Smart Mode
Reader Technologies Supported	Multi-Technology, Proximity, Smart Card (incl. PIV II & TWIC), Wiegand, and Magnetic Stripe (RM only)
Maximum Distance to Door	RM and OSDP: 1,219 m (4,000 ft) Wiegand: 150 m (500 ft)
Reader Power Available (dependent on power supply)	12 VDC, 1.5 A max per reader (including aux power and RM port power)
Reader Power Status Indication	On/off indication per port, through C-CURE 9000
OSDP and RM Bus Communications	Eight RS-485 ports, four full duplex and four half duplex
OSDP Support	Secure Channel encryption, AES128
Maximum Readers per RS-485 Port	8, either OSDP or RM. (You cannot mix OSDP and RM on the same port.)
Maximum Readers per RS-485 Port, in High Assurance Mode	2
Inputs	
Number of General Purpose Inputs per ACM	24, configurable supervision per input
Additional Dedicated Inputs	Cabinet tamper, fire alarm interlock, fire alarm keyswitch override (supervision supported)
Input Expansion	Up to 128 additional inputs using I8 modules on RM bus

<sup>4</sup> iSTAR Ultra G2 supports up to 4 ACMs and up to 32 readers. Reader total is the combined count from ACMs, IP-ACMs and wireless locksets.

Outputs	
Number of Relay Outputs per ACM	16 (eight for locking devices, eight for local annunciation)
Output Power Feeds	Two per ACM (L1 and L2), 12V -20% to 24V +20%, 12A max. Voltage value of each feed displayed through C-CURE 9000
Output Power Selection	Individually configurable via jumper as power sourcing (wet, L1 or L2), or dry contact relay
Output Power (Wet)	Up to 0.75 A per lock. Voltage follows selection of power feed (L1 or L2)
Primary Lock Relay Rating, Dry Contact	30 VAC/DC, 5 A max
Secondary Lock Relay Rating, Dry Contact	30 VAC/DC, 1 A max
Output Protection	Individual PTC resettable fuse, snubber, transorb, reverse polarity protection (primary lock outputs use socketed relays)
Output Expansion	Up to 128 additional relay outputs using R8 modules on RM bus
Regulatory	
Access Control	UL 294, CSA C22.2 No. 205 (Canada)
Burglar Alarm	UL 1076, ULc 1076 (Canada)
CE	EN 55022 (EMI), EN 55024 (EMC), EN 62368 (Safety)
Safety	IEC 62368
EMI	FCC Part 15 Class A, EN 55022, ICES-003 (Canada), VCCI Class A ITE (Japan), C-Tick (AS/NZS CISPR 22 - Australia/New Zealand)
EMC	EN 55024, EN 50130-4, IEC 62599-2, EN 61000-6-1
Encryption	AES256
Seismic Certification	OSHPD Certification File # OSP-0425-10

## Wireless Lockset Support<sup>5</sup>

Wireless Lockset	
Technologies Supported	ASSA ABLOY Aperio, Schlage AD300 and AD400, WA Series, Schlage NDE/LE <sup>6</sup>
GCM RS485 Ports Available to Connect Wireless Hubs	2
Max # of Locksets per RS485 Port	16
Max # of Locksets per Wireless Hub	8 (Aperio), 16 (Schlage)
Max # of Wireless Hubs per RS485 Port	15 (Aperio), 16 (Schlage)

<sup>5</sup> iSTAR Ultra supports 32 readers (ACM and/or wireless); ASS ABLOY Aperio and Schlage locksets cannot be mixed on the same iSTAR Ultra G2 controller.

<sup>6</sup> Up to four ACM boards per iSTAR Ultra. Note that ACMs are not required if only using wireless locks and/or IP-ACMs

## Ordering information

Model number	Description
GSTAR008	iSTAR Ultra G2, 8 readers with enclosure, no PSU
GSTAR016	iSTAR Ultra G2, 16 readers with enclosure, no PSU
GSTAR-GCM-2U	iSTAR Ultra G2 GCM in 2U rack enclosure
GSTAR-ACM-4U	iSTAR Ultra G2 ACM in 4U rack enclosure
<b>GSTAR-GCM</b>	<b>iSTAR Ultra G2 GCM board</b>
<b>GSTAR-ACM</b>	<b>iSTAR Ultra G2 ACM board, 8 readers</b>

### About Johnson Controls

Johnson Controls is a global diversified technology and multi-industrial leader serving a wide range of customers in more than 150 countries. Our 120,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities. Our commitment to sustainability dates back to our roots in 1885, with the invention of the first electric room thermostat.

For additional information, please visit [www.swhouse.com](http://www.swhouse.com) or follow Software House on LinkedIn, Twitter, and Facebook.

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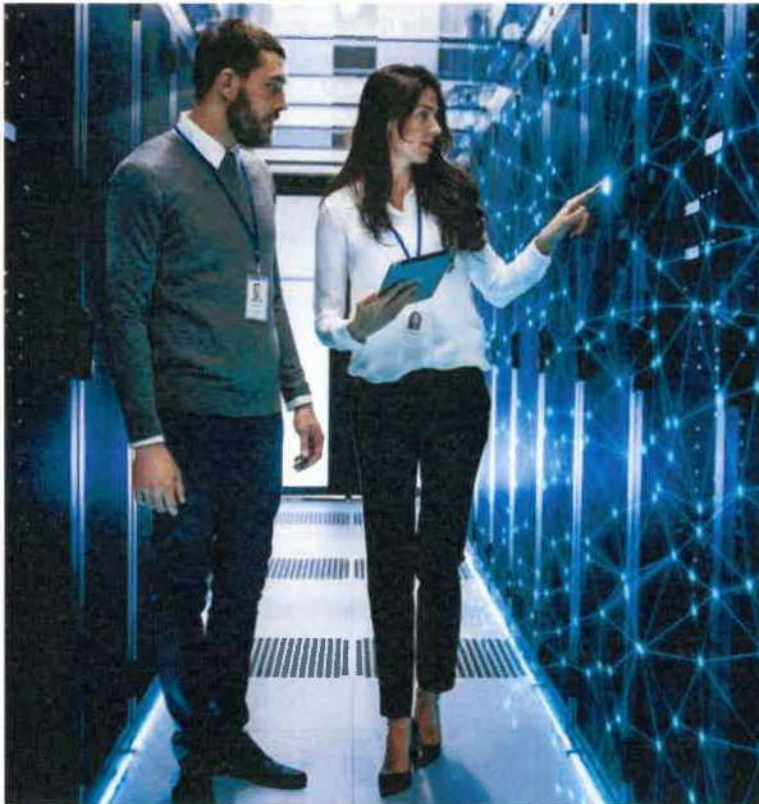
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SH1322-DS-202109-R01-HS-EN



## Software House PSX Power Solutions Pre-Wired Systems



PSX-WISU16-E8S

### Key Benefits

- Provides uniform installations across an enterprise
- One enclosure, one AC drop, network-ready
- Standard or network managed option – capable of integrating with C-CURE 9000
- Enables operational efficiencies and global standards
- Tie wrap or panduit wire duct cable management option
- UL & CE certified
- Customized design and high reliability operation
- Available for 120V AC or 230V AC

### Standardized, Uniform Installations

Software House PSX Power Solutions pre-wired systems provide three-to-one integration, saving space and cost while enabling operational efficiencies and global standards across the enterprise. These systems offer a faster installation, and easier maintenance and troubleshooting. The pre-wired all-in-one systems include wire harnesses for panel power, lock control, fault and tamper switches with preinstalled connectors for iSTAR boards, resulting in a complete and ready to install system.

The pre-wired systems come with ready to mount GCM and ACM boards and are available in 120V or 230V AC versions with tie wrap and panduit cable management options. The network managed systems monitor input and output power, faults, batteries and individual lock outputs while providing auto-testing and reporting of battery standby. Managed systems are also able to integrate into C-CURE 9000 for seamless monitoring and control of the power system.

# Specifications

<b>Physical</b>	
Dimensions (H x W x D)	PSX-E4S: 61 x 50 x 12 cm (24 x 20 x 4.5 in) PSX-E8S: 91 x 76 x 12 cm (36 x 30 x 4.5 in)
Weight	PSX-E4S: 13.6kg (30 lbs) PSX-E8S: 31.8kg (70 lbs)
<b>Power Supplies</b>	
PSX-75	75W Power Supply Board 6A/12V or 3A/24V
PSX-150	150W Power Supply Board 12A/12V or 6A/24V
PSX-250	250W Power Supply Board 20A/12V or 10A/24V
<b>Battery Charging</b>	
Charger	Independent built-in charger for sealed lead-acid or gel type batteries Microprocessor dual rate charging of 12V or 24V battery sets
Standby	Auto switchover to battery when AC fails Zero voltage drop (when switched over to battery backup)
<b>Supervision</b>	
AC Fault	Form "C" contacts
SYS Fault	Form "C" contacts (low or no battery, short to earth ground, power supply fail)
<b>Distribution Modules</b>	
PSX-D8P	8 auxiliary outputs, Class II power limited at 2.5A per output
PSX-C8	8 relay lock control outputs, fused at 3A per output
PSX-M8	8 relay managed outputs, fused at 3A per output
<b>Network Management</b>	
PSX-NL4	Four-port module; Monitors and reports power supply status; Tests and reports battery health status
PSX-M8	Monitors 8 individual outputs; Remote reset each output; Set window thresholds for voltage & current (Requires PSX-NL4)
<b>Regulatory Compliance</b>	
UL/cUL	UL294, UL/cUL1076, ULC S319
CSA/FCC	CSA C22.2 #107.1   FCC Part 15, CSFM

## Ordering Information

PSX Wired Systems - Dual Wall-Mounted Models, Pre-Wired 8-Reader iSTAR Ultra SE Boards  
FAI, Low Battery Disconnect, Smart Battery Charger

Model Number	Description
PSX-WISU08-E4S	75/150W, Wired for 8 reader iStar Ultra, 8 Aux Outputs, <b>120VAC</b>
PSX-WISU08-E4SN	75/150W, Wired for 8 reader iStar Ultra, Network Connected, 8 Aux Outputs, <b>120VAC</b>
PSX-WSE08-E4S	75/150W, Wired for 8 reader iStar Ultra SE, 8 Lock Outputs, 8 Aux Outputs, <b>120VAC</b>
PSX-WSE08-E4SN	75/150W, Wired for 8 reader iStar Ultra SE, 8 Network Managed Outputs, 8 Aux Outputs, <b>120VAC</b>
PSX-WISU08-E4SE	75/150W, Wired for 8 reader iStar Ultra SE, 8 Aux Outputs, <b>230VAC</b>
PSX-WISU08-E4SNE	75/150W, Wired for 8 reader iStar Ultra SE, Network Connected, 8 Aux Outputs, <b>230VAC</b>
PSX-WSE08-E4SE	75/150W, Wired for 8 reader iStar Ultra SE, 8 Lock Outputs, 8 Aux Outputs, <b>230VAC</b>
PSX-WSE08-E4SNE	75/150W, Wired for 8 reader iStar Ultra SE, 8 Network Managed Outputs, 8 Aux Outputs, <b>230VAC</b>



## PSX Wired 16 Reader Systems – Dual Power Supply/Battery Charger, Wall Mounted Models, Pre-wired for iStarUltra/SE Boards

FAI, Low Battery Disconnect, Smart Battery Charger

Model Number	Description
PSX-WISU16-E8S	150/250W, Wired for 16 reader iStar Ultra, Tie Wrap, 16 Aux Outputs, <b>120VAC</b>
PSX-WISU16-E8SN	150/250W, Wired for 16 reader iStar Ultra, Tie Wrap, Network Connected, 16 Aux Outputs, <b>120VAC</b>
PSX-WSE16-E8S	150/250W, Wired for 16 reader iStar Ultra SE, Tie Wrap, 16 Lock Outputs, 16 Aux Outputs, <b>120VAC</b>
PSX-WSE16-E8SN	150/250W, Wired for 16 reader iStar Ultra SE, Tie Wrap, 16 Network Managed Outputs, 16 Aux Outputs, <b>120VAC</b>
PSX-WISU16-E8SE	150/250W, Wired for 16 reader iStar Ultra SE, Tie Wrap, 16 Aux Outputs, <b>230VAC</b>
PSX-WISU16-E8SNE	150/250W, Wired for 16 reader iStar Ultra SE, Tie Wrap, Network Connected, 16 Aux Outputs, <b>230VAC</b>
PSX-WSE16-E8SE	150/250W, Wired for 16 reader iStar Ultra SE, Tie Wrap, 16 Lock Outputs, 16 Aux Outputs, <b>230VAC</b>
PSX-WSE16-E8SNE	150/250W, Wired for 16 reader iStar Ultra SE, Tie Wrap, 16 Network Managed Outputs, 16 Aux Outputs, <b>230VAC</b>
PSX-WPISU16E8S	150/250W, Wired for 16 reader iStar Ultra, Panduit, 16 Aux Outputs, <b>120VAC</b>
PSX-WPISU16E8SN	150/250W, Wired for 16 reader iStar Ultra, Panduit, Network Connected, 16 Aux Outputs, <b>120VAC</b>
PSX-WPSE16E8S	150/250W, Wired for 16 reader iStar Ultra SE, Panduit, 16 Lock Outputs, 16 Aux Outputs, <b>120VAC</b>
PSX-WPSE16E8SN	150/250W, Wired for 16 reader iStar Ultra SE, Panduit, 16 Network Managed Outputs, 16 Aux Outputs, <b>120VAC</b>

### About Johnson Controls

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For additional information, please visit [www.swhouse.com](http://www.swhouse.com) or follow Software House on LinkedIn, Twitter, and Facebook.

# C•CURE 9000 v3.0

## Security and event management system



### Key features

- OSDP support for reader to panel communications on iSTAR Ultra Series controllers
- Supports up to 5,000 readers per single server and 60 satellite application server scalability for Enterprise systems
- Enterprise system remains operational throughout upgrade process with multi-version software support
- Access to C•CURE 9000 from any internet browser with C•CURE Web-based Client
- Administer and monitor C•CURE 9000 from your mobile device with C•CURE Go
- Software House Connected Partner Program for standards-based integrations
- Part of the Cyber Protection Program to reduce the risk of vulnerabilities

\*See back page for new features

### Powerful and flexible security management

The Software House C•CURE 9000 is one of the industry's most powerful and flexible security management systems. Monitor events, manage personnel, create reports, display dynamic views, monitor system activity, view video, and manage visitors anywhere in the world directly from your PC using the full C•CURE client, the Web-based client or on the move with C•CURE Go mobile app.

### Information and event management at its best

Describing C•CURE 9000 as an access control system is an enormous understatement. The way you are able to manage credentials and privileges is what sets C•CURE 9000 apart.

- Area Control and Occupancy Management allow you to enforce global anti-passback, define occupancy restrictions, and lock down procedures in sensitive or classified areas
- Intrusion Zones and Keypad Commands provide additional verification requirements and duress triggers
- Dynamic Views and Editable Maps serve up critical information in a customizable way, all while allowing you to find, manage, and acknowledge significant incidents on user-defined floor plans
- Visitor Management portal gives you control of creating and managing visitor appointments

- Access Management offers a 24/7 solution for managing cardholder access requests without requiring direct involvement from the security team
- Intuitive Badging and Smart Card Enrolment
- Unified Access Control and Video Experience

As an option, you can take a holistic video approach of managing access control, video, and intrusion with a deeply embedded victor unifying client. This flexibility, coupled with the system's powerful distributed architecture, makes C•CURE 9000 the leader in providing solutions to some of the most complex security challenges in mid to large enterprise applications.

### **Mastering scalability**

C•CURE 9000 provides the ultimate in scalability from a single server supporting up to 5,000 readers and 500,000 credentials to an advanced distributed enterprise architecture that supports a master and up to 60 satellite application servers. Whether your organization consists of one facility with a few doors or many that span the globe, this solution scales as your company grows.

### **Industry's most robust integrations**

C•CURE 9000 brings you a myriad of integrated solutions including video, intrusion, intercom, fire alarm management, PSIM, and more. The integrations are thoroughly tested and delivered to you through the intuitive C•CURE 9000 interface.

### **Enterprise architecture**

The C•CURE 9000 Enterprise architecture supports one master application server (MAS) and up to 60 satellite application servers (SAS) for enterprise scalability up to 200,000 readers and 500,000 credentials operated under one system for management, monitoring, and reporting.

Corporate security personnel and IT managers receive central control over the entire system, while each local facility maintains control of its individual operation. Each SAS may be positioned close to its relevant field hardware – this reduces traffic to the MAS and optimizes performance. Each facility maintains a local SQL database which is synchronized with the MAS for global control and reporting. The MAS distributes these changes globally from each independent SAS, which ensures all servers are equipped and operating with up-to-date information.

By connecting an SAS to the LAN with local access control hardware, alarm monitoring, and badging workstations, local performance is optimized versus the latency you may experience from the WAN. Local performance is further optimized since the MAS performs all global reporting across all SASs, thus allowing each SAS to allocate its resources solely to important access control functions.

### **Independent control**

Each SAS communicates directly with the MAS but is not dependent on the MAS for access control. Each satellite system administrator has total control over all access control field hardware and system information related to their respective location. This gives regional system administrators autonomous control over their individual regions independent of the MAS and corporate WAN.

### **Central alarm monitoring and management**

C•CURE 9000 Enterprise allows you to simultaneously monitor alarms from multiple locations at one convenient workstation. Viewing all data across all SASs gives you a full view of your entire operation. Monitoring of alarms from multiple sites means operators may rotate the responsibility whether from different buildings at a campus to different locations across the globe.

### **Global reporting**

With C•CURE 9000 Enterprise's global reporting functionality, you can retrieve personnel, configuration, hardware, journal, audit, and more data from all facilities within the organization. This saves valuable time searching for data and compiling critical reports since all global information is replicated on the MAS.

### **Open integration platform to 30+ video partner technologies**

Real-time monitoring capability is a response to the growing importance of video in access control systems. C•CURE 9000 integrates with a robust portfolio of more than 30 third-party video management systems including Johnson Controls' very own Exacq video management systems and American Dynamics DVRs/NVRs (VideoEdge, HDVR, Intellex). The integration with these video platforms provides real-time video monitoring and video playback as well as powerful video analytics such as motion detection, abandoned/removed, object detection, crowd formation, dwell, linger, direction, enter/exit area, color, and more.

All Johnson Controls video platform integrations are, by default, available with C•CURE 9000. Supported third-party video integrations with C•CURE 9000 may require additional optional licenses.



# C•CURE 9000 standalone and Enterprise system capacities

C•CURE 9000 MAS values (Default/Maximum) <sup>1</sup>							
	MAS1	MAS2	MAS3	MAS4	MAS5	MAS6	MAS7
Enabled Global Personnel Records <sup>2</sup>	1k	10k	25k	100k	250k	500k	1000k
Simultaneous Clients <sup>3</sup>	5/100	5/100	5/100	10/100	10/100	10/100	15/100
Badging Clients	1/100	1/100	1/100	2/100	2/100	2/100	3/100

C•CURE 9000 Standalone and SAS values (Default/Maximum) <sup>1</sup>										
	L <sup>5</sup>	M <sup>5</sup>	N <sup>5</sup>	P <sup>5</sup>	Q <sup>6</sup>	R <sup>6</sup>	R Plus <sup>6</sup>	S <sup>6</sup>	S Plus <sup>6</sup>	T <sup>6</sup>
Online Readers	16	32	64	128	256	512	1,000	2,500	3,500	5,000
C•CURE Go Reader (Mobile)	0/10	0/10	0/10	0/100	0/100	0/100	0/100	0/100	0/100	0/100
Online Inputs	1k	1k	1k	5k/10k	5k/10k	5k/10k	7.5k/10k	10k	15k	20k
Online Outputs	1k	1k	1k	5k/10k	5k/10k	5k/10k	7.5k/10k	10k	15k	20k
Enabled Local Personnel Records	7k	12k	40k	45k	250k	250k	500k	750k	750k	1000k
Concurrent Clients <sup>3</sup>	10/30	10/30	10/30	20/256	30/256	40/256	80/256	100/256	100/256	100/256
Concurrent Badging Clients	1/30	1/30	1/30	2/256	2/256	3/256	5/256	10/256	10/256	10/256

<sup>1</sup>Default is the value included with each license model. Maximum is the value that can be purchased and added to a system license up to that amount.

<sup>2</sup>Global personnel records at the MAS are synchronized to each SAS in an Enterprise system, but do not count against a SAS's local personnel record count.

<sup>3</sup>Simultaneous client or Concurrent client connections are tabulated by C•CURE 9000 Administration, Alarm Monitoring and Web-based Client connections. C•CURE 9000 is designed to be flexible and allow for expansion. The 256 is a design capability while the tested limit is 100. System performance will vary depending upon specific hardware configuration including number of communication lines/ports, download/upload frequency, etc.

<sup>5</sup>The baseline capabilities of the system are within the envelope of operation for utilization of SQL Express.

<sup>6</sup>(SQL and SQL Express): An SQL Express license is shipped with every system software DVD package. Series Q through T require a full SQL Server Standard or Enterprise (64-bit) license which may be purchased separately.

## Specifications

C•CURE 9000 Client Workstation	
Recommended hardware and software	
Processor	Intel Core i5 Current Generation (3.2 GHz or greater)
Hard Disk Drive	500 GB or greater. SSD is recommended.
Drive Speed	7,200 RPM or greater
Memory	8GB or greater
Network Adapter Card	Integrated Gigabit Network Port
DVD Drive	Recommended
Client Video Card	2GB NVIDIA Quadro K620
Operating System Support	Windows 10 Professional & Enterprise (version 1809 or higher) (64-bit) Windows 11 Professional & Enterprise (minimum version 21H2) Windows Server 2016 SP1 and higher (64-bit) Windows Server 2019 (64-bit) Windows Server 2022 (minimum version 21H2)

## C•CURE 9000 Standalone server series L, M, N, P

### Recommended hardware and software

Processor	Intel Core i7 Current Generation (3.4 GHz or greater)
Hard Disk Drives	Dual drives: primary drive = 1TB or greater (9000 Runtime); secondary drive = 1TB or greater (data backups). SSD is recommended.
Drive Speed	7,200 RPM or greater
Memory	16GB or greater
Network Adapter Card	Integrated Gigabit Network Port
DVD Drive	Recommended
Video Card	Integrated Video Subsystem (dedicated video accelerator recommended when used as a client workstation)
Database Support (English Only)	SQL Server 2014 (SP3 or later) Express (64-bit) SQL Server 2016 Express/Standard/Enterprise SP1 and higher (64-bit) SQL Server 2017 Express (64-bit) SQL Server 2019 Express/Standard/Enterprise (64-bit)
Operating System Support	Windows 10 Professional & Enterprise (version 1809 or higher) (64-bit) Windows 11 Professional & Enterprise (minimum version 21H2) Windows Server 2016 SP1 and higher (64-bit) Windows Server 2019 (64-bit) Windows Server 2022 (minimum version 21H2)
Web Server	IIS v8.0 or higher for C•CURE Web, C•CURE Go and victor Web Service

Note: IIS v8.0 is required to install C•CURE Web on the same machine as C•CURE Go or victor Web Service.

## C•CURE 9000 Standalone server series Q, R, R+, S, S+, T SAS server series L, M, N, P

### Recommended hardware and software

Processor	Intel Xeon Quad-core E3 Current Generation (3.5 GHz or greater)
Hard Disk Drives	Dual drives: primary drive = 1TB or greater (9000 Runtime); secondary drive = 1TB or greater (data backups). SSD is recommended.
Drive Speed	15,000 RPM or greater
Memory	32GB or greater
Network Adapter Card	Intel Gigabit ET Quad Port Adapter, Gigabit Ethernet NIC, PCIe x4
DVD Drive	Recommended
Video Card	Integrated video subsystem (dedicated video accelerator recommended when used as a client workstation)
Database Support (English Only)	SQL Server 2016 Standard & Enterprise SP1 and higher (64-bit) SQL Server 2019 Standard & Enterprise (64-bit)
Operating System Support	Windows 10 Professional & Enterprise (version 1809 or higher) (64-bit) Windows 11 Professional & Enterprise (minimum version 21H2) Windows Server 2016 SP1 and higher (64-bit) Windows Server 2019 (64-bit) Windows Server 2022 (minimum version 21H2)
Web Server	IIS v8.0 or higher for C•CURE Web, C•CURE Go and victor Web Service

Note: IIS v8.0 is required to install C•CURE Web on the same machine as C•CURE Go or victor Web Service.

## C•CURE 9000 SAS server series Q, R, R+, S, S+, T MAS server

### Recommended hardware and software

Processor	Intel Xeon Gold Current Generation, 8 core (3.0 GHz or greater)
Hard Disk Drives	Dual drives: primary drive = 1TB or greater (9000 Runtime); secondary drive = 1TB or greater (data backups). SSD is recommended.
Drive Speed	15,000 RPM or greater
Memory	32GB Minimum
Network Adapter Card	Intel Gigabit ET Quad Port Adapter, Gigabit Ethernet NIC, PCIe x4
DVD Drive	Recommended
Video Card	Integrated Video Subsystem <sup>7</sup>
Database Support (English Only)	SQL Server 2016 Standard/Enterprise SP1 and higher (64-bit) SQL Server 2019 Standard & Enterprise (64-bit)
Operating System Support	Windows Server 2016 SP1 and higher (64-bit) Windows Server 2019 (64-bit) Windows Server 2022 (minimum version 21H2)
Web Server	IIS v8.0 or higher for C•CURE Web, C•CURE Go and victor Web Service
Maximum Concurrent SAS per MAS	60
Authentication	Basic authentication with windows logon or enhanced authentication options OAuth2/SAML
Supported Languages <sup>8</sup>	Arabic, Brazilian Portuguese, Czech, Danish, Dutch, English, French, German, Greek, Hungarian, Italian, Japanese, Korean, Polish, Russian, Simplified Chinese, Spanish, Swedish, Traditional Chinese, and Turkish
Regulatory	UL 1076, cUL 1076, UL 2610, cUL 2610, IEC 60839-11-1 Grade 4

<sup>7</sup>For multiple screen display or other display applications, additional video cards required.

<sup>8</sup>Languages supported with English OS with language pack, not native OS.

Note: C•CURE 9000 has limited performance and support on 32-bit OS platforms (with 4GB memory limitation) with a minimum requirement of 4GB memory. For latest supported Service Pack for OS/DB, please consult the C•CURE 9000 version specific release notes. SQL Server 2019 Express will be the default install for C•CURE 9000 v3.0. All SQL Server compatibility needs to be verified with TDE (Transparent Data Encryption) mode.

## New features in C•CURE 9000 v3.0

Support for iSTAR Ultra G2 and iSTAR Ultra G2 SE door controllers with advanced embedded cybersecurity
C•CURE Web-based Client - Dynamic Access and Video Monitoring Views and Layouts, Swipe & Show, Health Dashboard, etc. (Phase III)
C•CURE ID HID SEOS and MIFARE DESFire EV1/EV2 support, for card encoding of multiple applications simultaneously (up to 5)
C•CURE Portal moved to the latest Angular web framework, meeting latest in cyber security
Email template customization for C•CURE Visitor Management and Access Management Workflow
As an option, C•CURE 9000 version 3.0 and later supports SQL database hosted by Amazon Relational Database Services (RDS) <sup>TM</sup> powered by Amazon Web Services (AWS) <sup>TM</sup>
<b>CCURE 9000 v3.00.1</b>
C•CURE IQ web enhancements including: Video Smart Streaming and Bandwidth Management, Video Scrub Bar, Advanced Video Analytic Search, Clip Export, Activity Viewer, Recorder Management and Video Tour Editor
OAuth2/SAML v2.0 to enable single-sign-on (SSO) and two-factor authentication (2FA)

## About Johnson Controls

At Johnson Controls (NYSE:JCI) we transform the environments where people live, work, learn and play. As the global leader in smart, healthy and sustainable buildings, our mission is to reimagine the performance of buildings to serve people, places and the planet. With a history of more than 135 years of innovation, Johnson Controls delivers the blueprint of the future for industries such as healthcare, schools, data centers, airports, stadiums, manufacturing and beyond through its comprehensive digital offering OpenBlue. With a global team of 100,000 experts in more than 150 countries, Johnson Controls offers the world's largest portfolio of building technology, software as well as service solutions with some of the most trusted names in the industry.

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SH0241-DS-202301-R02-HS-EN

Software House



# HID® Signo™ Readers

## Models: 20, 40, 20K, 40K, 40T

The signature line of readers from HID

HID Signo™ is the signature line of physical access control readers from HID. The versatility, performance and connected capabilities of HID Signo readers set a new industry benchmark for the most highly adaptable, interoperable and secure approach to electronic access control.

Offering an unparalleled breadth of functionality, HID Signo affords security system installers and administrators a simple and effective approach to secure access control for almost any scenario.

With support for the widest array of credential technologies — past, present and future — HID Signo is the perfect choice for those looking to make the transition to a secure authentication technology.

HID Signo readers transcend the traditional approach to security by being designed to be connected and managed remotely without needing to physically touch each device. This functionality empowers access control systems to dynamically respond as new needs, configurations or threats arise.

### POWERFULLY SECURE

- Multi-Layered security to ensure data authenticity and privacy
- EAL5+ Certified Secure Element Hardware
- Native OSDP secure channel capability
- Trusted secure authentication using the SIO data model
- Supports iCLASS Elite™ and Corporate1000 Programs

### MEET EVERY NEED, ADAPT TO ANY SITUATION

- Go mobile with native Bluetooth and NFC support
- Integrated 125 kHz credential read support for easy migration
- Supports over 15 common credential technologies
- Flush mount terminal block and pigtail wiring options
- Robust outdoor performance with an IP65 rating

### MANAGE, UPGRADE AND CONFIGURE

- Easily and securely managed using HID Reader Manager®
- Configure via a mobile device or OSDP
- Update firmware in response to threats
- Personalize by configuring audio visual or keypad settings
- Deactivate legacy credential technology to conclude secure migration



### KEY BENEFITS:

- **Highly Versatile** — Support for the widest range of credential technologies, including HID Mobile Access™ via native Bluetooth and Near Field Communication (NFC).
- **Enhanced Performance** - Storage of cryptographic keys on certified secure element hardware, plus a new surface detection feature that enables the reader to automatically recalibrate and optimize read range performance.
- **Connected to the Future** — All readers include out-of-the-box support for Open Supervised Device Protocol (OSDP) for secure bidirectional communication.

### READY FOR THE FUTURE NOW

- Mobile-ready by default, including Apple's Enhanced Contactless Polling (ECP) to support credentials in Apple Wallet
- Sleek, innovative design to suit modern architecture
- Integrated OSDP for secure authentication and configuration post installation
- Built on a hardware platform designed to be adaptable to support future technology
- Designed to seamlessly integrate into the HID Origo® ecosystem



HID Signo Reader Model	20	20K	40	40K	40T
<b>2.4 GHz (Bluetooth) Credential Compatibility</b>	Mobile Credentials powered by Seos® (HID Mobile Access)				
<b>13.56 MHz (NFC) Credential Compatibility</b>	Seos®, iCLASS SE®, iCLASS SR®, iCLASS®, MIFARE Classic, MIFARE DESFire EV1/EV2/EV3, FeliCa™ & Contactless e-Purse Application Specification (CEPAS), Mobile Credentials powered by Seos (HID Mobile Access)				
<b>125 kHz Credential Compatibility</b>	HID Proximity®, Indala® Proximity, AWID Proximity, and EM Proximity				
<b>Typical Read Range¹</b>	Seos, iCLASS® SE™, iCLASS® SR, iCLASS, MIFARE Classic, MIFARE DESFire EV1/EV2/EV3 & ISO14443A Single Technology Cards – 1.6 to 4 in (4 to 10 cm); HID / AWID Proximity®, Indala Proximity®, EM Proximity & 125 kHz Single Technology Cards – 2.4 to 4 in (6 to 10 cm)				
<b>Mounting</b>	Suited for mullion-mount door installations or any flat surface mounting		Suited to mount and cover single gang switch boxes with a slotted mounting plate for alternate back-box spacing		
<b>Color</b>	Black bezel with silver trim baseplate ²				
<b>Keypad</b>	No	Yes (2 x 6 layout)	No	Yes (3 x 4 layout)	
<b>Dimensions (width x length x depth)</b>	1.77 in x 4.78 in x 0.77 in (45 mm x 121.5 mm x 19.5 mm)	1.78 in x 4.79 in x 0.85 in (45 mm x 121.5 mm x 21.5 mm)	3.15 in x 4.78 in x 0.77 in (80 mm x 121.5 mm x 19.5 mm)	3.16 in x 4.79 in x 0.85 in (80 mm x 121.5 mm x 21.5 mm)	3.16 in x 4.82 in x 0.89 in (80mm x 122.5mm x 22.5mm)
<b>Product Weight</b>	Pigtail: 3.35 oz (95 g) Terminal: 2.65 oz (75 g)	Pigtail: 3.88 oz (110 g) Terminal: 3.17 oz (90 g)	Pigtail: 4.94 oz (140 g) Terminal: 4.23 oz (120 g)	Pigtail: 5.64 oz (160 g) Terminal: 4.94 oz (140 g)	5.82 oz (165g) Terminal Only
<b>Operating Voltage³</b>	12V DC				
<b>Current Draw⁴</b>	NSC⁵: 60 mA Peak⁶: 250 mA Max. Avg: 70 mA IPM⁷: 45 mA	NSC⁵: 65 mA Peak⁶: 250 mA Max. Avg: 75 mA IPM⁷: 48 mA	NSC⁵: 65 mA Peak⁶: 250 mA Max. Avg: 75 mA IPM⁷: 45 mA	NSC⁵: 70 mA Peak⁶: 250 mA Max. Avg: 80 mA IPM⁷: 55 mA	NSC⁵: 90mA Peak⁶: 250mA Max Avg: 120mA IPM⁷: 75mA
<b>Device Input and Output</b>	Input: Tri-color LED, Buzzer, Hold @ Active Low Output: Tamper Relay 0-60V DC @ 100mA Max (Dry Contact)				
<b>Operating Temperature &amp; Humidity</b>	-31° F to +150° F (-35° C to +66° C) 0% to 95% non-condensing				
<b>Storage Temperature</b>	-40° F to +185° F (-40° C to +85° C)				
<b>Environmental Rating</b>	UL294 Outdoor and Indoor rated, IP65				
<b>Transmit Frequency</b>	125 kHz, 13.56 MHz, and 2.4 GHz				
<b>Communications &amp; Panel Connection</b>	Wiegand, Clock-and-Data and RS-485 Half Duplex (OSDP) via Pigtail (18 in / 0.5 m) or Terminal Strip⁸				
<b>Device Management</b>	HID Reader Manager / OSDP configuration				
<b>Certifications</b>	UL294/cUL (US), FCC (US), IC (Canada), CE (EU), RCM (Australia, New Zealand), SRRC (China), MIC/Giteki (Japan) WPC/BIS (India), KCC (Korea), NCC (Taiwan), iDA (Singapore), MIC (Japan), RoHS, GreenCircle, Bluetooth SIG, and additional regions. <a href="http://www.hidglobal.com/certifications">www.hidglobal.com/certifications</a>				
<b>Security Ratings</b>	EAL 5+ Certified Secure Element Hardware				
<b>Patents</b>	<a href="http://www.hidglobal.com/patents">www.hidglobal.com/patents</a>				
<b>Housing Materials</b>	Polycarbonate – UL94 V0				
<b>UL Reference Number</b>	20	20K	40	40K	40T
<b>Warranty</b>	Limited Lifetime				

- Read range listed is statistical mean rounded to nearest centimeter; increment for ID-1 or clamshell credentials. HID Global testing occurs in open air. Form factor, technology and environmental conditions, including metallic mounting surface, can degrade read range performance; plastic spacers are recommended to improve performance on metallic mounting surfaces.
- Black spacers available as an additional accessory at an additional cost.
- Measured in accordance with UL294 standards at +10% and -15% of rated voltage input.
- Measured in accordance with UL294 standards; see Installation Guide for details.
- NSC — Normal Standby Current; see Installation Guide for details.
- Peak measures in default condition.
- Intelligent Power Management (IPM) — Reduces reader current consumption up to 43%, based on model, compared to standard operating mode.
- 40T orderable only at Terminal Strip connection type.



hidglobal.com

North America: +1 512 776 9000 | Toll Free: 1 800 237 7769

Europe, Middle East, Africa: +353 91 506 900

Asia Pacific: +852 3160 9800 | Latin America: +52 55 9171 1108

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20240127-125 kHz reader specifications - HID Global

Page 11 of 30 (31 April 2024)

# ProxKey III

125 kHz Proximity

Proximity Key Fob • 1346



**ACCESS** reliability.

## Application

The RF-programmable ProxKey® III proximity key fob incorporates proximity technology into a convenient device approximately the size of an automotive key.

## Features

- ▶ Improved key fob design provides additional durability and more opportunity for customization.
- ▶ Offers universal compatibility with all HID proximity readers.
- ▶ Provides an external number for easy identification and control.
- ▶ Can be placed on a key ring for convenient entry.
- ▶ Supports formats up to 85 bits, with over 137 billion codes.
- ▶ Using HID's ProxProgrammer™, card vendors can ship proximity key fobs, custom programmed to their customers' requirements, from their own inventory. Enables smaller order quantities and overnight delivery. (Check with vendor for availability.)

# Features

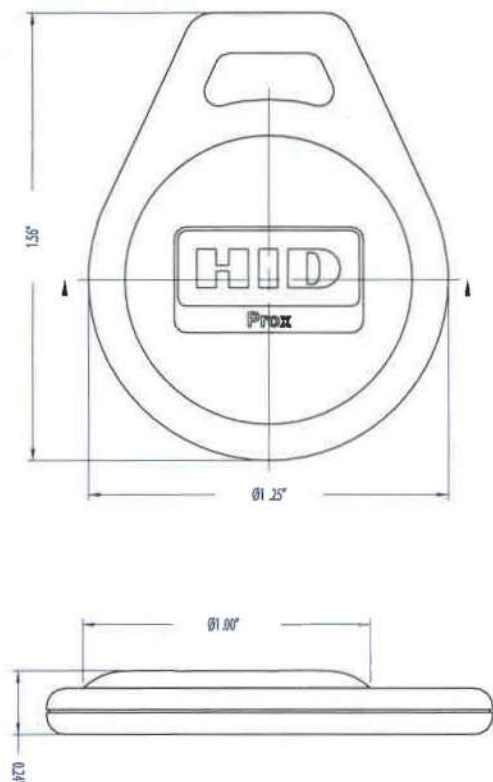
**Proven, Reliable Technology** Offers extremely consistent read range. Unaffected by body shielding or variable environmental conditions, even when close to keys and coins.

**Small and Convenient** Can be carried with keys in pocket or handbag.

**Cross-reference** A cross-reference list correlating the external card number and the programmed ID number is provided for easy system administration.

**Security** Offers over 137 billion unique codes.

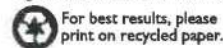
**Long Life** Passive, no-battery design allows for an infinite number of reads.



<b>Base Part Number</b>	1346
<b>Description</b>	RF-programmable, 125 kHz, black with grey insert, customer-specified ID Numbers
<b>*Typical Maximum Read Range</b>	ProxPoint® Plus reader up to 1.5" (3.7 cm) MiniProx™ reader up to 2" (5 cm) ThinLine® II reader up to 2" (5 cm) ProxPro® reader up to 3" (7.5 cm) ProxPro® II reader up to 4" (10.2 cm) Prox80™ up to 2" (5.1 cm) MaxdProx® reader up to 12" (28 cm)
<b>Dimensions</b>	1.555 x 1.25 x 0.235 inches max (3.95 x 3.18 x 0.60 cm)
<b>Key Fob Construction</b>	Ultrasonically welded ABS Shell with TPE Insert
<b>Operating Temperature</b>	-50° to 160° F (-45° to 70° C)
<b>Weight</b>	0.14 oz (4.0g)
<b>Memory Size/ Application Areas</b>	N/A
<b>HID Proximity 125 kHz</b>	Yes
<b>Contact Smart Chip Module Embeddable</b>	No
<b>Wiegand Stripe</b>	No
<b>Magnetic Stripe</b>	No
<b>Printable</b>	No
<b>Standard HID Artwork</b>	Yes
<b>Slot Punch</b>	Key Ring Hole
<b>Visual Security Options</b>	N/A
<b>Additional Security Options</b>	Corporate 1000
<b>Warranty</b>	Lifetime
<b>Options</b>	Key Ring sold separately (Part Number: 57-0001-02) External card numbering (Inkjet or laser engraving)

\*Dependent on local installation conditions.

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MKT-PROXKEYIL\_DS\_EN



**ACCESS** experience.

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**HID Global Offices:**

**Corporate North America**  
15370 Barranca Parkway  
Irvine, CA 92618-2215  
U.S.A.  
Phone: (800) 237-7769  
Phone: (949) 732-2000  
Fax: (949) 732-2360

**Asia Pacific**  
19/F 625 King's Road  
North Point  
Island East  
Hong Kong  
Phone: +852 3160-9800  
Fax: +852 3160-4809

**Latin America**  
Vasco de Quiroga No. 1900-202  
Centro Ciudad Santa Fe  
Delegación Alvaro Obregón  
01210 México, D.F.  
Phone: +52 55 5081 1650  
Fax: +52 55 5081 1670

**Europe, Middle East & Africa**  
Homefield Road  
Haverhill, Suffolk  
CB9 8QP  
England  
Phone: +44 (0) 1440 714 850  
Fax: +44 (0) 1440 714 840

# 1006 Electric Strike

*Works with all cylindrical and mortise locksets with or without a deadbolt*



Also available in a Complete One Box Solution

## The strongest, most versatile electric strike available.

The 1006 Series Electric Strike is the strongest and most versatile electric strike available. The dual interlocking plunger design and heavy duty stainless steel construction enables it to exceed every standard developed for electric strikes. With multiple faceplate options, the 1006 will fully accommodate every lock designed to work within an ANSI 4-7/8" strike plate. Tested to exceed 3,000 lbs of static strength, 350 ft-lbs of dynamic strength and factory tested to exceed 1 million cycles of operation, the 1006 is in a class of its own.

## Features

### Standard Features

- Stainless steel construction
- Tamper resistant
- Static strength 2,500 lbs
- Dynamic strength 350 ft-lbs (fail secure)
- Endurance 1 million cycles
- Fail secure (standard)
- Non-handed
- Accommodates up to 1" [25.4mm] deadbolt
- Plug-in connector
- Full keeper shims for horizontal adjustment
- Trim enhancer
- Strike body depth 1-11/16" [43mm]
- SecuriCare five-year, no-fault, no questions asked warranty (Addition of SMART Pac® III extends the warranty to 10 years)

### Optional Features

- LBM Latchbolt monitor
- LBSM Latchbolt strike monitor
- Fail safe
- Interchangeable faceplates
- Monitor switch may not work with all faceplate options

### Accessories

- HES CUT-MTK Metal template kit
- 2005M3 SMART Pac® III
- 1000-102 Rain guard
- 1006-103 Full keeper shims
- 1000-104 Lip extension trim adapter
- 1006-105 Trim enhancer BLK (goof plate)
- 1006-109 Trim adapter
- 1000-110 Replacement strike plate
- 1000-130 KD filler plate
- 150 Strike latch guard



Grade 1	SecuriCare Warranty	Mortise Locks with Deadbolt	Mortise Locks without Deadbolt	Cylindrical Locksets	Specialty Locksets	Dual Voltage 12/24	Fire Rated	Windstorm Resistant	Outdoor Rated	Burglary Rated

## Specifications

### Certifications

- ANSI/BHMA A156.31, Grade 1
- UL 1034 burglary-resistant listed and suitable for outdoor use
- UL 294 listed
- RoHS compliant
- UL 10C fire rated, 3-hour single door (fail secure only)
- UL 10C fire rated, 1-1/2 hour double door (fail secure only)
- CAN/ULC-S104 fire door conformant
- NFPA-252 fire door compliant
- ASTM-E152 fire door compliant
- ANSI/SDI A250.13 windstorm resistant
- Florida Building Code approved TAS 201, 202, 203
- ANSI-ASTM E330
- Sustainability documentation

### Frame Application

- Metal
- Wood

### Electrical (DC Continuous Duty)

- Dual Voltage 12/24 VDC
- 450 mA at 12 VDC / 250 mA at 24 VDC

## Dimensions

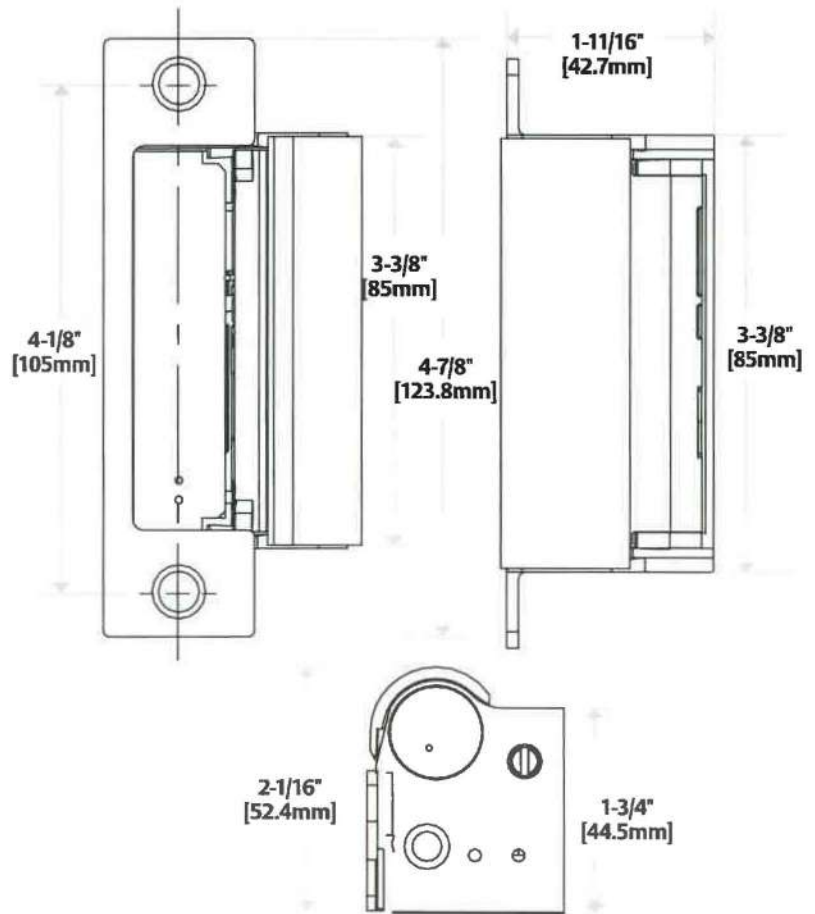


Diagram shown with DB faceplate

NOTE: DC must be well filtered with ripple less than 1 volt 12 ms.

## How to Order

SERIES	MODEL	FAIL SECURE / SAFE	FINISH*	OPTION (S)
<b>1006</b>	—	<b>- F</b>	<b>- 630</b>	<b>- LBM</b>
1006 Universal Electric Strike	(blank) Electric strike body only, faceplates ordered separately	(blank) Fail Secure (standard)	605 Bright Brass	(blank) No Monitor
	CS* Complete Electric Strike; includes the SMART Pac III and J, KD, KM, HM, ND faceplates and brackets	F Fail Safe	606 Satin Brass	LBM Latchbolt Monitor**
	CLB* Complete Electric Strike for latchbolt locks; includes J, K, KD and KM faceplates		612 Satin Bronze	LBSM Latchbolt Strike Monitor**
	CDB* Complete Electric Strike for Deadbolt Locks; includes the ND and HM faceplates		613 Bronze Toned	
	CAS* Complete Electric Strike for Deadbolt Locks; includes the N, ND and NM faceplates		629 Bright Stainless Steel	
			630 Satin Stainless Steel	
			BLK Black	

\*Complete Pacs are only available in the 630 finish. \*\* Not available with CS, CDB, or CAS

NOTE: Electric strike compatibility is determined at time of electric strike product release. ASSA ABLOY is not responsible for incompatibility of products that have changed in design or craftsmanship by their respective manufacturers. When compatibility is a concern, contact Customer Support for application assistance.

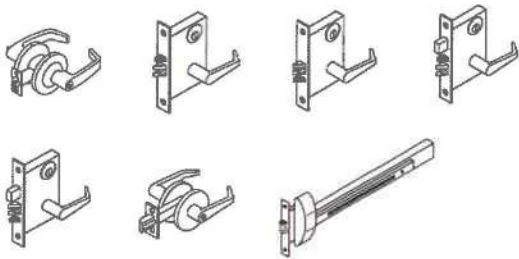
## 1006CS Smart Strike™

*The Complete One Box Solution for all cylindrical and mortise locksets, with or without a 1" deadbolt*

The 1006CS Smart Strike includes a 1006 electric strike body and SMART Pac® III plus faceplates and brackets that can provide the same function as any of the following options:

- |           |           |            |
|-----------|-----------|------------|
| J Option  | H Option  | HTD Option |
| K Option  | HD Option | N Option   |
| KD Option | HM Option | ND Option  |
| KM Option | HT Option | NM Option  |

### Compatible Locksets



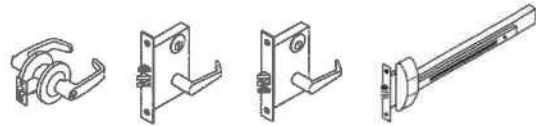
## 1006CLB Complete for Latchbolt Locks

*The Complete One Box Solution for all cylindrical and mortise locksets*

The 1006CLB includes the 1006 electric strike body plus faceplates and brackets that provide the same function as any of the following options:

- |          |           |
|----------|-----------|
| J Option | KD Option |
| K Option | KM Option |

### Compatible Locksets



## 1006CAS Complete for Recapture

*The Complete One Box Solution for deadbolt recapture*

The 1006CAS Smart Strike includes a 1006 electric strike body plus faceplates and brackets that can provide the same function as any of the following options:

- |           |           |           |
|-----------|-----------|-----------|
| A Option  | N Option  | T Option  |
| AD Option | ND Option | TD Option |
| AM Option | NM Option |           |

### Compatible Locksets



## 1006CDB Complete for Deadbolt Locks

*The Complete One Box Solution for all locksets with a 1" deadbolt*

The 1006CDB includes the 1006 electric strike body plus faceplates and brackets that provide the same function as any of the following options:

- |           |            |           |
|-----------|------------|-----------|
| H Option  | HT Option  | ND Option |
| HD Option | HTD Option | NM Option |
| HM Option | N Option   |           |

### Compatible Locksets



# 1006 Series Faceplate Options

## OPERATION



Mortise Locks with Deadbolt

Latchbolt and deadbolt are released by a single keeper. The keeper is held open to recapture the latchbolt and deadbolt when the door is closed.



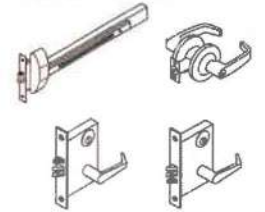
4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### LB Option

**The Latchbolt Solution:** Includes all hardware to accommodate every cylindrical and mortise lock up to a 3/4" [19mm] latchbolt

*Replaces function of the J, K, KM and KD Options.*

ANSI/BHMA Numbers: E09321, E09322, E09323



## OPERATION



Mortise Locks with Deadbolt

This deadbolt solution offers two modes of functionality; night latch and lockout. (Functional operation modes described below.)



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### DB Option

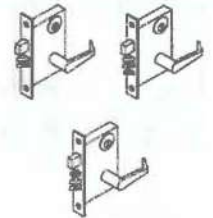
**The Deadbolt Solution:** Includes all hardware to retain and release all mortise and cylindrical locks with up to a 1" deadbolt

*Mode 1: Night latch function. The deadbolt is retracted during traffic hours. The latchbolt is released by the keeper and keeper returns to the locked position.*

*Mode 2: Lockout function. The electric strike will not release if the deadbolt is extended.*

*Replaces function of the N, ND, NM, H, HD, HM, HT, and HTD options*

ANSI/BHMA Numbers: E09391, E09392, E09393, E09331, E09332, E09333



## OPERATION



Mortise Locks with Deadbolt

This deadbolt solution offers two modes of functionality; night latch and lockout. (functional operation modes described below.)



9" x 1-3/8"  
[123.8mm x 34.9mm]

### DB-2 Option

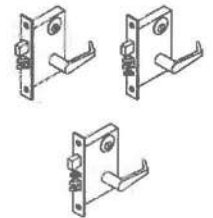
**The Deadbolt Solution:** Includes all hardware to retain and release all mortise and cylindrical locks with up to a 1" deadbolt. Wood applications.

*Mode 1: Night latch function. The deadbolt is retracted during traffic hours. The latchbolt is released by the keeper and keeper returns to the locked position.*

*Mode 2: Lockout function. The electric strike will not release if the deadbolt is extended.*

*Replaces the N-2 and H-2 options*

ANSI/BHMA Numbers: E09391, E09392, E09393, E09331, E09332, E09333

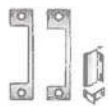


## OPERATION



Mortise Locks with Deadbolt

Latchbolt and deadbolt are released by a single keeper. The keeper is held open to recapture the latchbolt and deadbolt when the door is closed.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

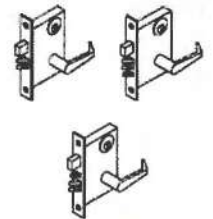
### CAS Option

**The Continuous Deadbolt Recapture Solution:** Includes all hardware to retain, release and recapture all mortise locks and tubular E Option locks with up to a 1" deadbolt.

*Mode: Normally extended deadbolt. Latchbolt and deadbolt are released by a single keeper. The keeper is held open to recapture the latchbolt and deadbolt when the door is closed.*

*Replaces the N, ND, NM, A, AM, AD, T and TD options*

ANSI/BHMA Numbers: E09391, E09392, E09393, E09331, E09332, E09333



9" x 1-3/8"  
[123.8mm x 34.9mm]

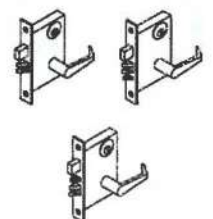
### CAS-2 Option

**The Deadbolt Solution:** Includes all hardware to retain, release and recapture all mortise locks and tubular locks with up to a 1" deadbolt. Wood applications.

*Mode: Normally extended deadbolt. Latchbolt and deadbolt are released by a single keeper. The keeper is held open to recapture the latchbolt and deadbolt when the door is closed.*

*Replaces the N-2, A-2 and T-2 options*

ANSI/BHMA Numbers: E09391, E09392, E09393, E09331, E09332, E09333



# 1006 Series Faceplate Options

## OPERATION



After releasing the latchbolt or deadbolt, the keeper returns to the locked position.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### E Option

For use with: Corbin Russwin Security Bolt, Weiserbolt and normally extended 1" tubular deadbolts

ANSI/BHMA Numbers: E09391, E09392, E09393



## OPERATION



The hookbolt is released by a single keeper. The keeper is held open to recapture the latchbolt and hookbolt when the door is closed.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### R Option

For use with: Adams Rite style hookbolt up to 1" throw

ANSI/BHMA Numbers: E09391, E09392, E09393, E09332, E09333



## OPERATION



After releasing the latchbolt, the keeper returns to the locked position.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### Z Option

For use with: Unit and Mono locks

ANSI/BHMA Numbers: E09321, E09322, E09323



## OPERATION



After releasing the latchbolt, the keeper returns to the locked position.



9" x 1-3/8"  
[123.8mm x 34.9mm]

### J-2 Option

For use with: All cylindrical locks up to a 3/4" [19mm] latchbolt. Wood applications.

ANSI/BHMA Numbers: E09321, E09322, E09323



## OPERATION



After releasing the latchbolt, the keeper returns to the locked position.

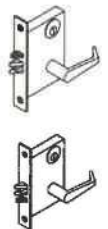


9" x 1-3/8"  
[123.8mm x 34.9mm]

### KM-2 Option

For use with: Mortise locksets up to a 3/4" [19mm] latchbolt. Wood applications.

ANSI/BHMA Numbers: E09321, E09322, E09323



"For use with" information is offered as a recommendation only. Reference should be made to the lockset manufacturer for proper installation instructions necessary to meet compatibility requirements.



# 1006 Series Faceplate Options

## OPERATION



Cylindrical Locksets

After releasing the latchbolt, the keeper returns to the locked position.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### J Option

**For use with:** Cylindrical locksets up to 3/4" [19mm] throw and all locksets with center-lined bolts.

**Compatible locksets:** All brands of cylindrical latchbolts

**ANSI/BHMA Numbers:** E09321, E09322, E09323



## OPERATION



Mortise Locks with Deadbolt

After releasing the latchbolt, the keeper returns to the locked position.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### KD Option

**For use with:** Mortise locksets up to 3/4" [19mm] throw latchbolt.

**Compatible locksets:** Dorma 9500, Jackson, Sargent (7700 & 8100), Schlage, Yale (8700)

**ANSI/BHMA Numbers:** E09321, E09322, E09323



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### KM Option

**For use with:** Mortise locksets up to 3/4" [19mm] throw latchbolt.

**Compatible locksets:** Accurate, Arrow, Baldwin, Best, Corbin Russwin, Falcon, Marks, PDQ, Sargent (7800, 8200 & 9200), Yale (8800)

**ANSI/BHMA Numbers:** E09321, E09322, E09323



## OPERATION



Mortise Locks with Deadbolt

Lockout function. The electric strike will not release if the deadbolt is extended. The deadbolt is retracted during traffic hours. The latchbolt is released by the keeper. The keeper returns to the locked position.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### HM Option

**For use with:** Mortise locksets with a 1" deadbolt. Strike will not release when deadbolt is extended.

**Compatible locksets:** Accurate, Arrow, Baldwin, Best, Corbin Russwin, Falcon (45H, 47H, 34H & 37H), Marks, Omnia, PDQ, Sargent (7800, 8200 & 9200), Yale (8800)

**ANSI/BHMA Numbers:** 09391, E09392, E09393, E09331, E09332, E09333



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### HTD Option

**For use with:** Mortise locksets with a 1" deadbolt and no deadlatch or a center positioned deadlatch. Strike will not release when deadbolt is extended.

**Compatible locksets:** Sargent (7700 & 8100), Schlage, Yale (8700)

**ANSI/BHMA Numbers:** E09391, E09392, E09393, E09331, E09332, E09333



"For use with" information is offered as a recommendation only. Reference should be made to the lockset manufacturer for proper installation instructions necessary to meet compatibility requirements.

# 1006 Series Faceplate Options

## OPERATION



Night latch function. The deadbolt is retracted during traffic hours. The latchbolt is released by the keeper and keeper returns to the locked position.



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### ND Option

For use with: Mortise locksets with a deadbolt used for night latch function only.

Compatible locksets: Sargent (7700 & 8100), Schlage, Yale (8700)

ANSI/BHMA Numbers: E09391, E09392, E09393, E09331, E09332, E09333



4-7/8" x 1-1/4"  
[123.8mm x 31.75mm]

### NM Option

For use with: Mortise locksets with a deadbolt used for night latch function only.

Compatible locksets: Accurate, Arrow, Baldwin, Best, Corbin Russwin, Falcon (45H, 47H, 34H & 37H), Marks, Omnia, PDQ, Sargent (7800, 8200 & 9200), Yale (8800)

ANSI/BHMA Numbers: E09391, E09392, E09393, E09331, E09332, E09333



The following legacy faceplate options remain available for order. Suggestions are provided below for more versatile options.

H Option replaced by **HM Option**

HD Option replaced by **HTD Option**

HT Option replaced by **HTD Option**

K Option replaced by **KM Option**

K-2 Option combined into **KM-2 Option**

A-2 Option replaced by **CAS-2 Option**

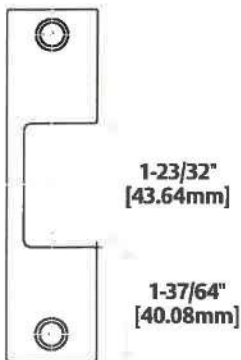
H-2 Option replaced by **DB-2 Option**

N-2 Option replaced by **DB-2 Option**

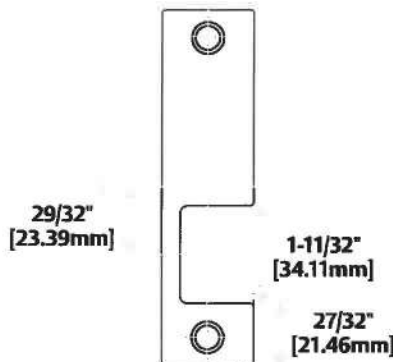
T-2 Option replaced by **CAS-2 Option**

## 1006 Series Faceplate Option Dimensions

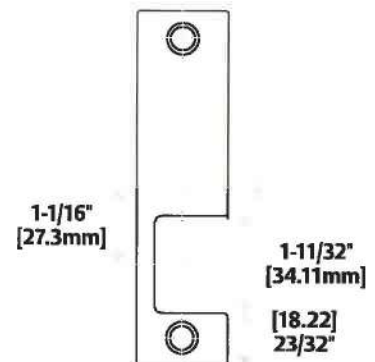
J, E



K



KD

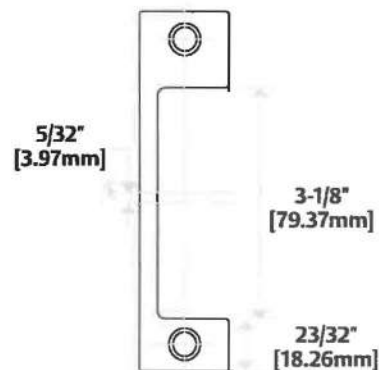
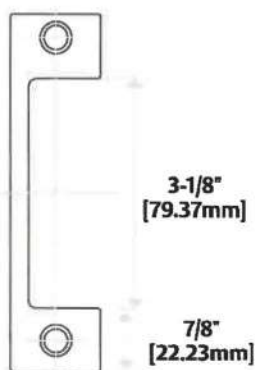
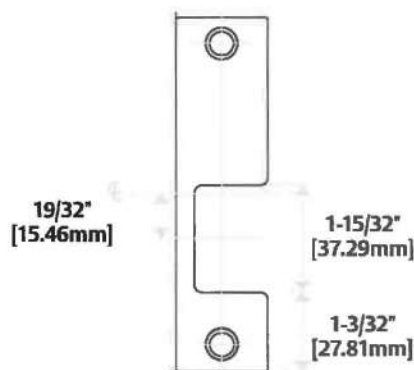


"For use with" information is offered as a recommendation only. Reference should be made to the lockset manufacturer for proper installation instructions necessary to meet compatibility requirements.

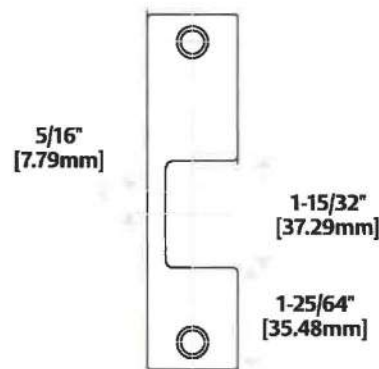
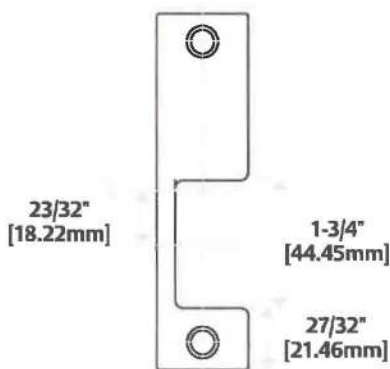
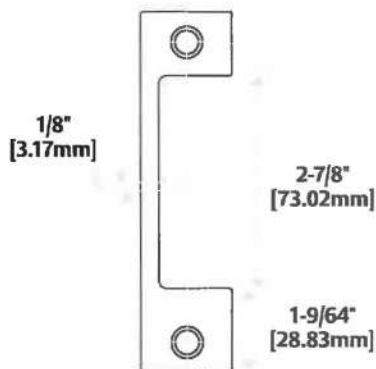


# 1006 Series Faceplate Option Dimensions

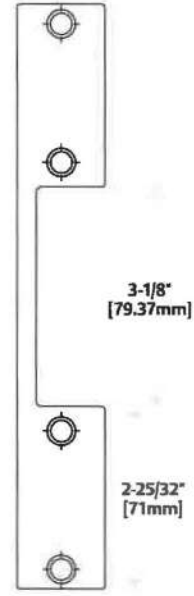
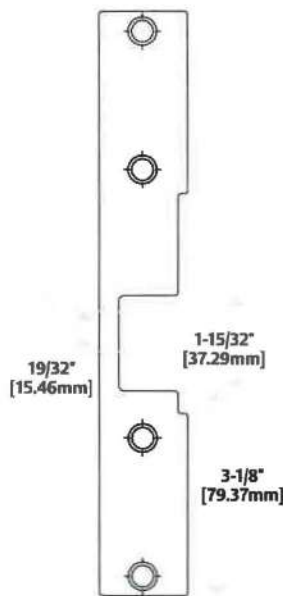
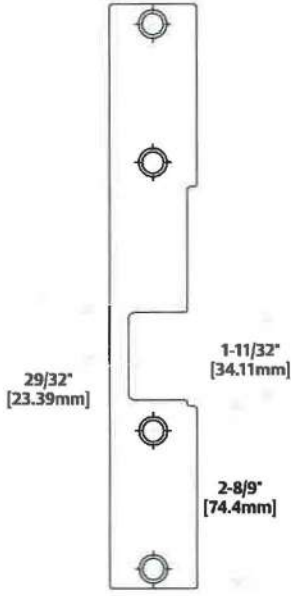
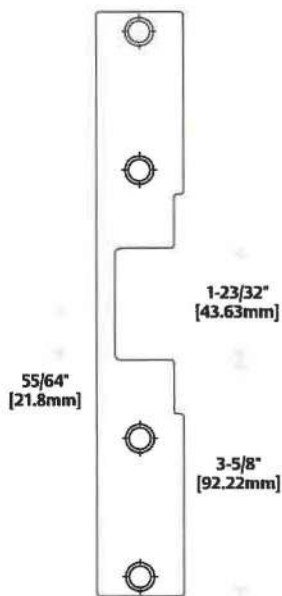
## KM H, HT, N HD, ND



## HM, NM R Z



## J-2 K-2 KM-2 N-2, H-2



For use with\* information is offered as a recommendation only. Reference should be made to the lockset manufacturer for proper installation instructions necessary to meet compatibility requirements.

# 1200S, 1200L, 1200LB

## Single Magnetic Lock



Bracket mounted magnetic lock with 1200 lbs of holding force that can be easily installed without special tools and used with any access control system. Ideal for high-use areas for traffic control in interior or exterior applications. Available with LED, bond sensor and door status signalling options.

### Features

#### Standard Features

- **1200S** Standard magnetic lock
- **1200L** Magnetic lock with red indicating LED
- **1200LB** Magnetic lock with indicating LED, bond sensor and door status sensor
- Built-in arc suppression
- Instant release, no hysteresis
- Self-drilling TEC screws
- Non-aluminum parts are plated to resist corrosion
- E-Z mount header bracket and template provided for easy installation, no special tools required
- Can be used with any access control system
- Clear anodized (US28) finish standard
- Limited lifetime warranty

### Options

- **DURO** Duranodic finish (US 40) available, add DURO to end of standard part number when ordering.
- Dress covers in polished chrome and brass available. See "Magnetic Lock Accessories" for options.

### Electrical

- 12 or 24 VDC, field selectable
- Current draw: 505 mA at 12 VDC, 260 mA at 24 VDC
- 1200LB bond sensor has SPDT 3A relay contacts

### Operating Temperature

- +14 to +131F [-10 to +55C]

### Specifications

#### Certifications & Listings

- UL 294 listed
- UL 10C fire rated
- CAN/ULC-S104 fire door conformant
- ULC-S527 listed
- UL 864 listed

#### Holding Force

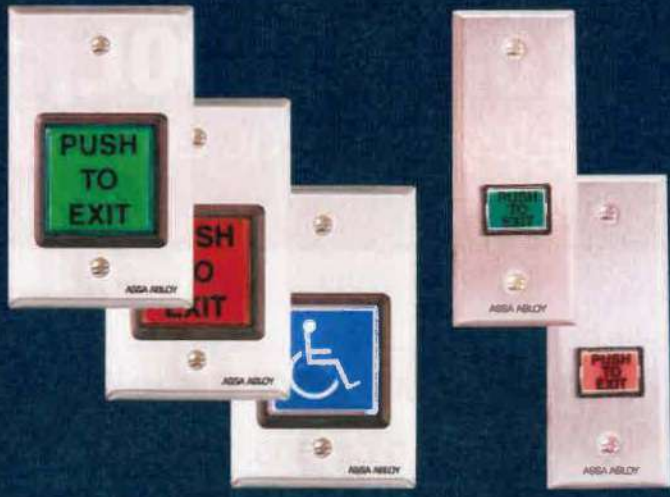
- 1200 lbs

#### Dimensions

- Magnet size: 10-1/2" L x 2-7/8" H x 1-1/2" W
- Armature size: 7-1/4" L x 2-3/8" H x 5/8" W

# EEB Emergency Exit Button

Redundant backup ensures safe egress



Install the EEB Emergency Exit Button next to the door to provide additional safety and redundancy as required by code when using a motion detector for a request to exit device.

**NOTE:** Securitron's UL294 certification indicates that when the EEB is used with the XMS Motion Sensor, it meets the NFPA Life Safety Code 101 requirements for exit of access-controlled egress doors.

## Features

### Standard Features

- Backup device in case of exit sensor failure per BOCA, NFPA, IBC, and VBC code
- Momentarily pressing the button releases the door for 30-seconds
- Re-triggerable for added 30-second release
- Interchangeable green and red lenses included standard
- MagnaCare® lifetime replacement, no-fault, no questions asked warranty

### Optional Features

- Single gang
- Narrow stile
- EEB2 includes standard lenses plus blue ADA lens
- Illumination kits

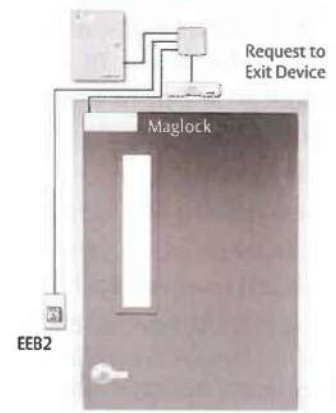
## Specifications

### Certifications (EEB2, EEB3N only)

- CSA-C22.2 No.205 Listed
- CSFM—California State Fire Marshal

### Electrical

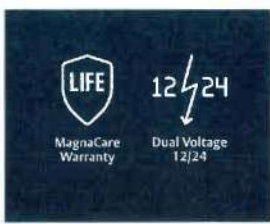
- 28 mA at 12 VDC
- 26 mA at 24 VDC
- 3A SPDT N/C Relay



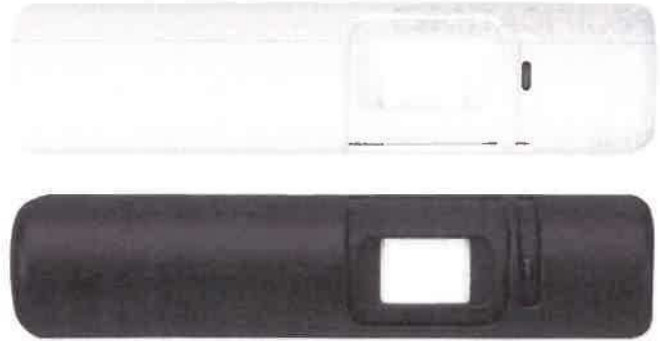
## How to Order

MODEL SERIES	LED LENS COLOR	MOUNTING METHOD
EEB	3	N
EEB Push Buttons	2 Green/Red/ Handicap	(blank) Single Gang
	3 Green/Red	N Narrow Stile

**NOTE:** Not every combination above is possible. Please contact the factory if you need a combination of features not listed on this page



## IS310/IS320 REQUEST-TO-EXIT PIR



Honeywell's Request-to-Exit (RTE) sensors offer basic and full-featured models to suit every access control application. The quick-install sensors are extremely flexible, provide a generous amount of wiring room and contain built-in internal "tamper proof" shutters to enable precise target area detection.

## FEATURES

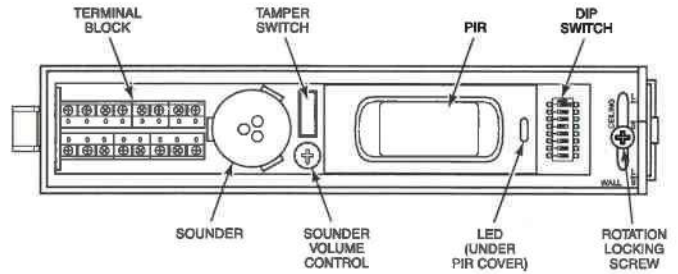
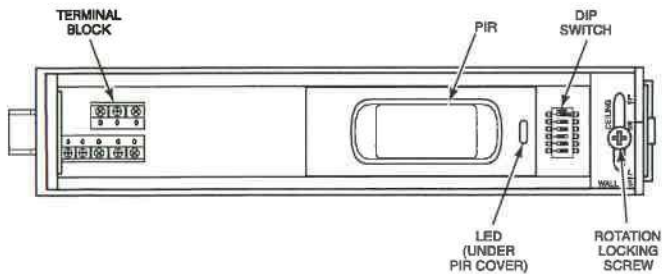
### IS310:

- Adjustable relay time (0.5 - 64 seconds)
- Micro-based signal processing
- Adjustable "tamper proof" shutters— to enable precise target area detection
- Two "Form C" outputs
- Swivel optics – allow for offset mounting
- Patented black bug guard
- Available in white or black

### IS320:

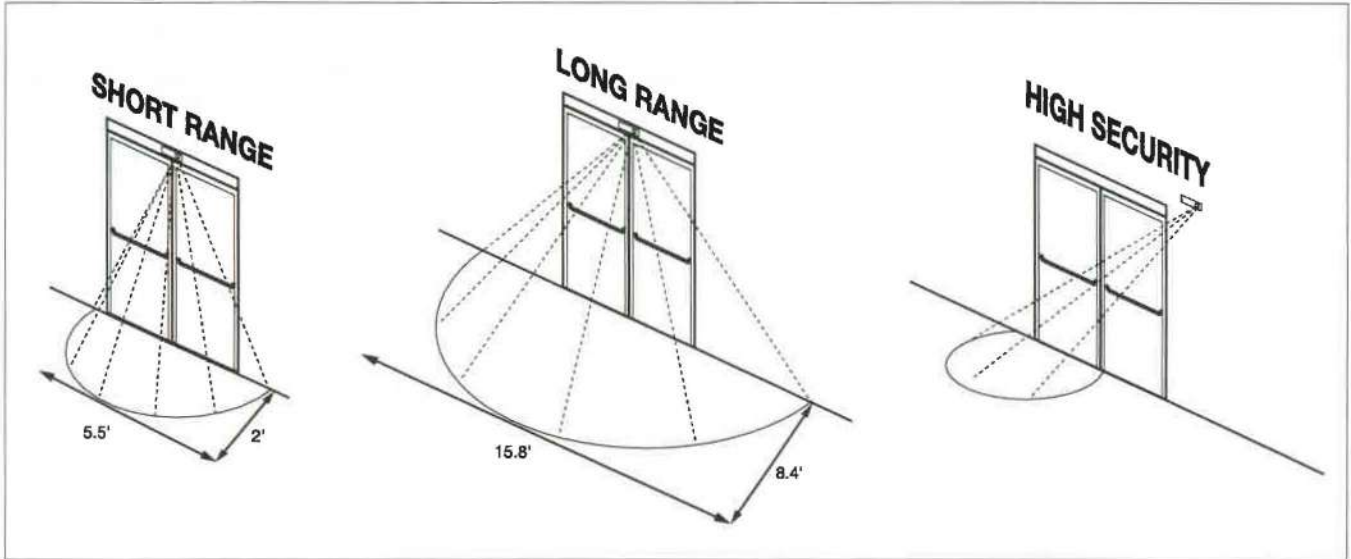
IS320 includes the same features as IS310, plus:

- Piezo Sounder with volume control
- Door contact input
- Reader/keypad/keyswitch input
- Remote arming and sounder inputs
- Cover tamper



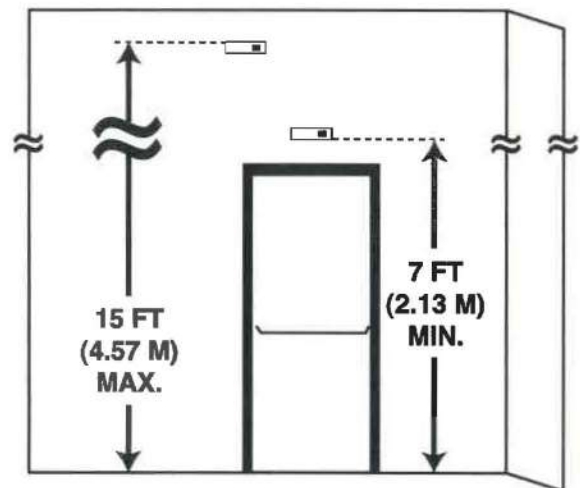
**SPECIFICATIONS**

**RANGE**



- **Range:** From 5.5' x 2' ( 1.67m x 0.6m) up to 15.8' x 8.4' (4.8 x 2.5m) depending on mounting height
- **Mounting Height:** 7' to 15' (2.13m x4.51m)
- **Detectable Walk Rate:** 0.5'-10'/sec
- **Signal Processing:** RTE and Security modes
- **Temperature Compensation:** Advanced dual-slope
- **Alarm Relay:** Two "Form C" outputs
- **Input Voltage:** 12-24 volts AC or DC
- **Standby Current:** 35mA
- **Indicators:** Green (ready) LED
- **Operating Temperature:** 14" F to 122" F (-10" C to 50" C)
- **Dimensions:** 7" L x 2" H x 2" D (17.7cm x 5cm x 5cm)
- **Sounder:** Adjustable to 60 dB@10' (3.05m)\*
- **Cover Tamper Switch:** contact rating 100mA 30VDC\*

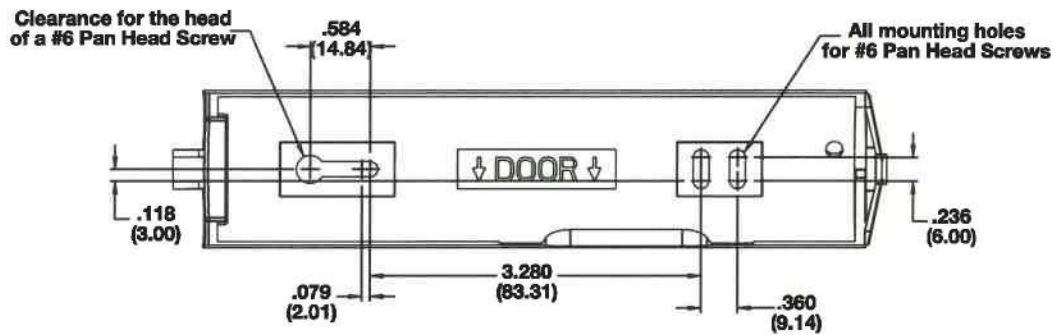
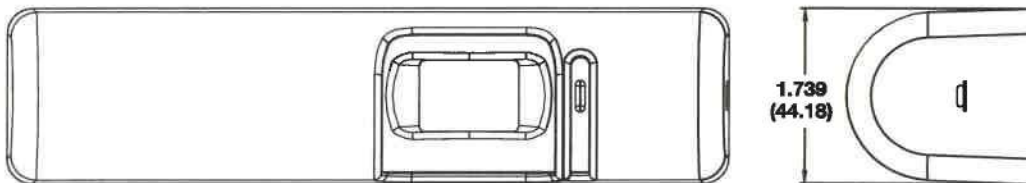
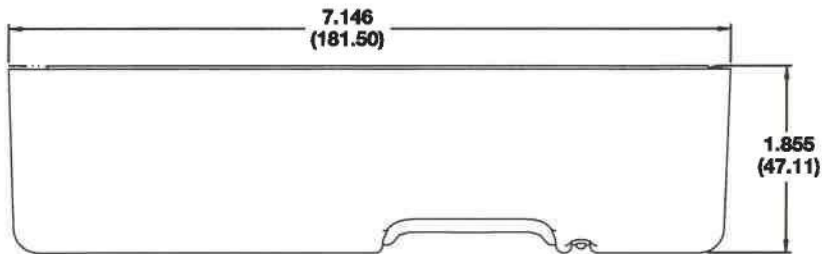
**MOUNTING HEIGHT**



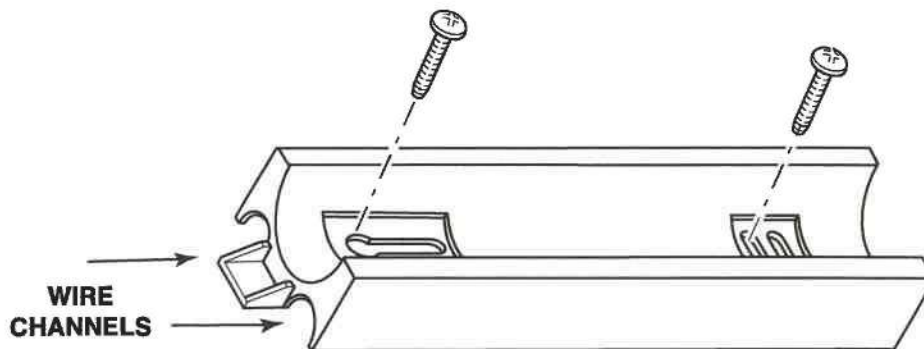
\*IS320 model only

**SPECIFICATIONS**

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View showing sensor mounting plate with front cover and PCB removed





# IS310/IS320

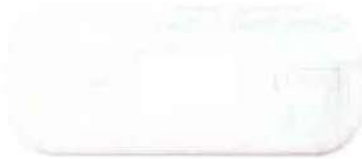
REQUEST-TO-EXIT PIR

## ORDERING

<b>IS310WH (0-000-361-01)</b>	Entry Level RTE - White
<b>IS310BL (0-000-361-02)</b>	Entry Level RTE - Black
<b>IS320WH (0-000-361-03)</b>	Fully Featured RTE - White
<b>IS320BL (0-000-361-04)</b>	Fully Featured RTE - Black
<b>RTE6PKWH</b>	Six pack of IS310WH - White
<b>RTE6PKBK</b>	Six pack of IS310BL - Black

## ACCESSORIES

<b>IS310WHTP (5-531-395-01)</b>	Trim Plate for IS310 and IS320 - White
<b>IS310BLTP (5-531-395-02)</b>	Trim Plate for IS310 and IS320 - Black



IS310WHTP



IS310BLTP


# 3/4" & 1" Steel Door Recessed Switch Set

WWW.GRISK.COM







## 180 / 184 / 8080-T Series



- ◆ Recessed magnetic contact
- ◆ 12" #22AWG leads or screw terminals
- ◆ Longer leads, zip cord or jacketed cable upon request
- ◆ Built in E.O.L. Resistors and Diodes upon request
  - ◆ Supervisory Loops upon request
  - ◆ Colors white, brown, gray, black
  - ◆  Indicates U.L. 10C Fire Rated



### Part Numbers

		<u>Closed Loop</u>	<u>Open Loop</u>	<u>SPDT</u>	<u>DPDT</u>
Standard Gap up to 1/2" on steel*	3/4" Dia.	180-12 	185-12	190-12	195-12
	1" Dia.	CE {184-12} 	189-12	194-12	CE {199-12}
	3/4" Dia.	8080-T	8585-T		
	1" Dia.	8484-T	8989-T		
Wide Gap 3/4"+ on steel*	3/4" Dia.	180-12WG 	185-12WG	190-12WG	195-12WG
	1" Dia.	184-12WG 	189-12WG	194-12WG	199-12WG
	3/4" Dia.	8080-TWG	8585-TWG		
	1" Dia.	8484-TWG	8989-TWG		

7/8" Diameter also available. P/N 81-12 & 81-12WG, white or black only. Call the factory for more information.

## INSTALLATION APPLICATIONS

The GRI 180-12 is the industry standard 3/4" diameter recessed steel door switch set with 12" leads. The innovative GRI 8080-T series is a 3/4" diameter recessed switch set designed for residential, commercial and industrial doors and frames. The shorter length terminals makes the installation of the set quick and simple.

**WARRANTY:** Lifetime warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145

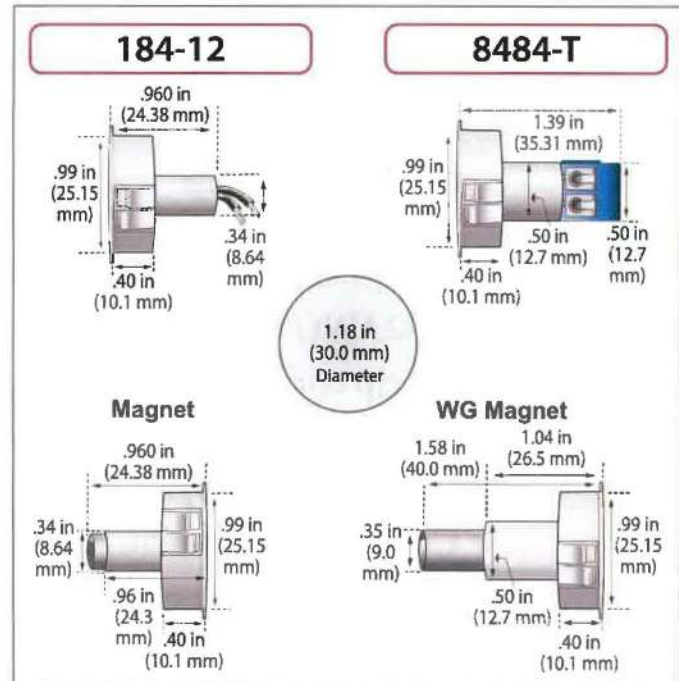
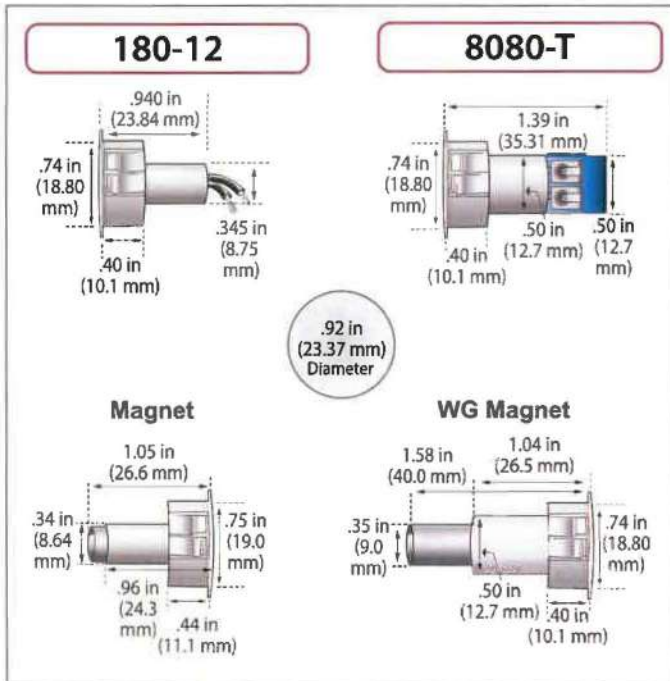
WWW.GRISK.COM



1-800-445-5218  
1-800-523-1227  
(308) 235-4645  
FAX (308) 235-3561  
E-MAIL: sales@grisk.com

# 3/4" & 1" Steel Door Recessed Switch Set

WWW.GRISK.COM



**GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:**

Part Number	Loop Type	Electrical Configuration	Reed Form	Maximum Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
180-12	Closed	N/O	A	.150	10	200	.400
180-12WG	Closed	N/O	A	.150	10	200	.400
184-12	Closed	N/O	A	.150	10	200	.400
184-12WG	Closed	N/O	A	.150	10	200	.400
8080-T	Closed	N/O	A	.150	10	160	.400
8080-TWG	Closed	N/O	A	.150	10	160	.400
8484-T	Closed	N/O	A	.150	10	160	.400
8484-TWG	Closed	N/O	A	.150	10	160	.400
185-12	Open	N/C	B	.140	5	175	.250
185-12WG	Open	N/C	B	.140	5	175	.250
189-12	Open	N/C	B	.140	5	175	.250
189-12WG	Open	N/C	B	.140	5	175	.250
8585-T	Open	N/C	B	.140	5	175	.250
8585-TWG	Open	N/C	B	.140	5	175	.250
8989-T	Open	N/C	B	.140	5	175	.250
8989-TWG	Open	N/C	B	.140	5	175	.250
190-12	Open/Closed	SPDT	C	.140	5	175	.250
190-12WG	Open/Closed	SPDT	C	.140	5	175	.250
194-12	Open/Closed	SPDT	C	.140	5	175	.250
194-12WG	Open/Closed	SPDT	C	.140	5	175	.250
195-12		DPDT	Cx2	.140	5	175	.250
195-12WG		DPDT	Cx2	.140	5	175	.250
199-12		DPDT	Cx2	.140	5	175	.250
199-12WG		DPDT	Cx2	.140	5	175	.250

**WARRANTY:** Lifetime warranty against workmanship, material and factory defects.

**GEORGE RISK INDUSTRIES, INC.**

**G.R.I. PLAZA  
KIMBALL, NE 69145**

**WWW.GRISK.COM**



**1-800-445-5218**

**1-800-523-1227**

**(308) 235-4645**

**FAX (308) 235-3561**

**E-MAIL: sales@grisk.com**

# 1000VA Battery Backup

## Line-Interactive Mini-Tower UPS

0E-1000V9RD

**UltraTech**  
POWER PRODUCTS

### PRODUCT DESCRIPTION

A mini-tower UPS with line interactive topology, the UltraTech 0E-1000V9RD provides battery backup and surge protection for desktop computers, workstations, network devices and home entertainment systems. The 0E-1000V9RD uses Automatic Voltage Regulation (AVR) to correct minor power fluctuations without switching to battery power, which extends battery life and is essential in areas where power fluctuations occur frequently.

### FEATURES

- 9 Grounded Outlets, 5 with Battery Backup
- Automatic Voltage Regulation (AVR)
- HID Compliant USB Connectivity Port
- EMI and RFI Filtration
- Simulated Sine Wave Output
- LCD Display
- PowerPanel® Personal Software for Remote Monitoring and Management



### SPECIFICATIONS

<b>PART #</b>	0E-1000V9RD
<b>UPC</b>	840049300613
<b>CAPACITY</b>	1000VA / 600W
<b>OUTPUT</b>	120 VAC +/- 5%
<b>CORD LENGTH</b>	6 ft. (1.8m)
<b>OUTLET TYPES</b>	9 x NEMA 5-15R
<b>RUNTIME (HALF/FULL)</b>	9 minutes / 2 minutes
<b>DIMENSIONS</b>	3.9 x 9 x 10.2 in. (99 x 229 x 259mm)
<b>WEIGHT</b>	15 lbs. (6.8kg)
<b>WARRANTY</b>	3-year
<b>CONNECTED EQUIPMENT GUARANTEE</b>	\$350,000

### TYPICAL APPLICATIONS

- Desktop Computers
- Workstations
- Home Theater Equipment
- Personal Electronics
- Home Networking
- Routers & Modems
- VoIP Phone Systems

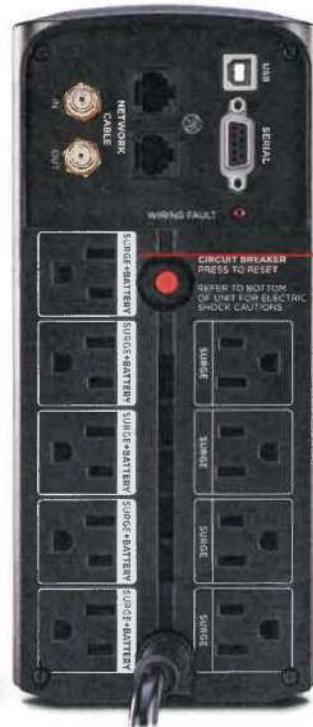


# 1000VA Battery Backup

Line-Interactive Mini-Tower UPS

**UltraTech**  
POWER PRODUCTS

Multifunction LCD



USB & Serial Connectivity Ports  
Broadband Network / Modem / DSL Protection  
COAX / Cable / DSS Surge Protection

5 Battery + Surge Protected Outlets

4 Surge Protected Outlets

## ADDITIONAL SPECIFICATIONS

INPUT	Circuit Breaker	15A
	Cord Length	6 ft. (1.8m)
	Input Frequency Range	57 Hz-63 Hz
	Nominal Input Voltage	120 VAC
OUTPUT	On Battery Frequency	60 Hz +/- 1%
	On Battery Voltage	120 VAC +/- 5%
	On Battery Waveform	Simulated Sine Wave
	UPS Topology	Line Interactive
	Overload Protection	Internal Circuitry Limiting, Circuit Breaker Protected
	Typical Transfer Time	4 ms
	BATTERY	Battery Quantity
Battery Size		12V / 9Ah
Battery Type		Sealed Lead-Acid
Typical Recharge Time		8 hours

# 1000VA Battery Backup

Line-Interactive Mini-Tower UPS

**UltraTech**  
POWER PRODUCTS

## ADDITIONAL SPECIFICATIONS (CONT.)

<b>SURGE PROTECTION AND FILTERING</b>	Coax Protection RG6	1-in / 1-out
	EMI / RFI Filtration	Yes
	Network Protection RJ45	1-in / 1-Out (10/100/1000)
	Surge Suppression	1080 J
<b>MANAGEMENT AND COMMUNICATIONS</b>	Audible Alarms	Battery Mode / Low Battery Overload / Fault
	HID Compliant USB Port	Yes
	LCD	Multifunction LCD
	LED Indicators	Power On / Wiring Fault
	Management Cable	USB Cable
	Software (Free Download)	PowerPanel® Personal
<b>PHYSICAL SPECIFICATIONS</b>	Form Factor	Mini-Tower
	Material of Construction	Plastic
<b>WEIGHTS AND DIMENSIONS</b>	Width/Height/Depth (in) Width/Height/Depth (cm) Width/Height/Depth (mm)	3.9 x 9 x 10.2 in. 9.91 x 22.86 x 25.91cm 99 x 229 x 259mm
	Weight (lb) Weight (kg)	15 lbs. 6.8kg
<b>ENVIRONMENTAL</b>	Operating Relative Humidity	0 - 90% (non-condensing)
	Operating Temperature	32-104°F (0-40°C)
	Storage Temperature	5-113°F (-15-45°C)
<b>CERTIFICATIONS</b>	Environmental	RoHS Compliant
	Safety	UL1778 cUL 107 5th FCC DOC Class B
<b>WARRANTY</b>	CEG Amount	\$350,000
	Product Warranty	3-Year Limited



# Product Data Sheet

## IM Series: IM-1272F1 (UT-1272F1)

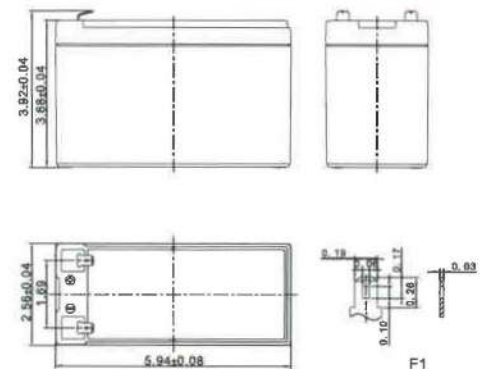
### 12 Volt, 7.0 Amp. Hour

#### Specifications

Rated Voltage		12V
Nominal Capacity	7.0Ah	(C <sub>20</sub> 1.75V/cell, 20hrs)
Dimensions	Length	5.95 inches ( 151 mm)
	Width	2.56 inches ( 65 mm)
	Container Height	3.68 inches (93.5 mm)
	Total Height	3.92 inches (99.5 mm)
Approx Weight		4.34 lbs (1.97 Kg)
Terminal		F1
Container Material		ABS
Rated Capacity (25°C)	7.00 Ah	(20hr, 0.350A, 1.75V/cell)
	6.53 Ah	(10hr, 0.653A, 1.75V/cell)
	5.85 Ah	(5hr, 1.19A, 1.75V/cell)
	5.30 Ah	(3hr, 1.77A, 1.75V/cell)
	4.27 Ah	(1hr, 4.27A, 1.60V/cell)
Max. Discharge Current		105A (5s)
Internal Resistance (25°C)		Approx 33mΩ
Operating Temp. Range	Discharge	5 - 122°F (-15 - 50°C)
	Charge	-4 - 104°F (-20 - 40°C)
	Storage	5 - 104°F (-15 - 40°C)
Nominal Operating Temp. Range		77±5°F (25±3°C)
Standby/Float Use	Initial Charging Current less than 2.1A. Voltage 13.5V-13.8V at 77°F(25°C)Temp. Coefficient -10mV/°F	
Temperature Effect on Capacity	104°F (40°C)	103%
	77°F (25°C)	100%
	32°F (0°C)	86%
Self Discharge	IM series batteries may be stored for up to 6 months at 77°F(25°C) and then a freshening charge is required. For higher temperatures - time interval will be shorter.	



#### Layout



#### Constant Current Discharge (Amperes) at 77°F(25 °C)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	17.0	12.5	9.90	8.10	6.12	4.64	3.91	2.90	2.38	1.72	1.36	1.16	0.99	0.780	0.637	0.343
1.80V/cell	18.5	13.2	10.3	8.35	6.28	4.73	3.99	2.95	2.41	1.74	1.38	1.18	1.01	0.790	0.644	0.347
1.75V/cell	19.9	13.8	10.7	8.60	6.43	4.83	4.06	3.00	2.45	1.77	1.40	1.19	1.02	0.800	0.653	0.350
1.70V/cell	21.4	14.4	11.1	8.86	6.57	4.92	4.13	3.05	2.49	1.79	1.42	1.21	1.03	0.809	0.660	0.354
1.67V/cell	22.3	14.8	11.3	9.01	6.67	4.98	4.17	3.08	2.51	1.81	1.43	1.22	1.04	0.816	0.665	0.356
1.60V/cell	24.3	15.7	11.8	9.40	6.87	5.11	4.27	3.14	2.56	1.84	1.46	1.24	1.06	0.829	0.675	0.361

C.O.V - Cutoff Voltage/cell. The battery is fully charged & being discharged to COV

#### Constant Power Discharge (Watts/cell) at 77°F(25 °C)

F.V/Time	5min	10min	15min	20min	30min	45min	1h	1.5h	2h	3h	4h	5h	6h	8h	10h	20h
1.85V/cell	32.3	23.9	19.1	15.6	11.8	9.01	7.61	5.67	4.65	3.37	2.69	2.29	1.96	1.55	1.27	0.686
1.80V/cell	34.8	25.0	19.7	16.0	12.1	9.15	7.73	5.74	4.71	3.42	2.72	2.32	1.99	1.57	1.28	0.693
1.75V/cell	37.4	26.1	20.3	16.4	12.3	9.30	7.84	5.82	4.77	3.46	2.76	2.35	2.01	1.58	1.29	0.700
1.70V/cell	39.9	27.2	20.9	16.8	12.5	9.40	7.95	5.90	4.84	3.50	2.79	2.37	2.03	1.60	1.31	0.707
1.67V/cell	41.4	27.8	21.3	17.1	12.7	9.50	8.02	5.95	4.87	3.53	2.81	2.39	2.05	1.61	1.32	0.712
1.60V/cell	44.7	29.2	22.1	17.6	13.0	9.70	8.17	6.05	4.95	3.59	2.85	2.43	2.08	1.64	1.34	0.722

C.O.V - Cutoff Voltage/cell. The battery is fully charged & being discharged to COV





# Product Data Sheet

## IM Series: IM-1272F1 (UT-1272F1)

### 12 Volt, 7.0 Amp. Hour

#### Applications

- All purpose
- Uninterruptable Power Supply (UPS)
- Electric Power System (EPS)
- Emergency backup power supply
- Alarm and security system
- Communication power supply
- DC power supply
- Auto control system

#### General Features

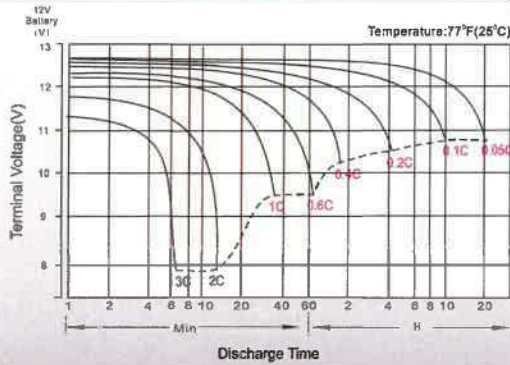
- 5 years design life(77°F)
- Special exhaust structure and sealing technology, safe and reliable, flexible installation, convenient maintenance
- High purity PbCaSn raw material alloy is used for plate grids, assuring less gassing & low self-discharge rate
- High quality AGM separator: extend cycle life and prevent micro short circuit

#### Standards

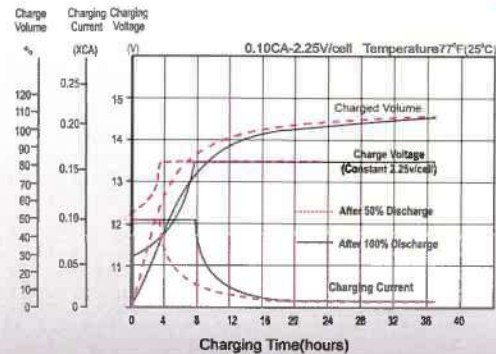
- Compliance with IEC 60896 standards, EU Battery Directive
- UL, CE Certified
- Manufactured in IATF16949,ISO45001, ISO 9001 and ISO 14001 certified production facilities



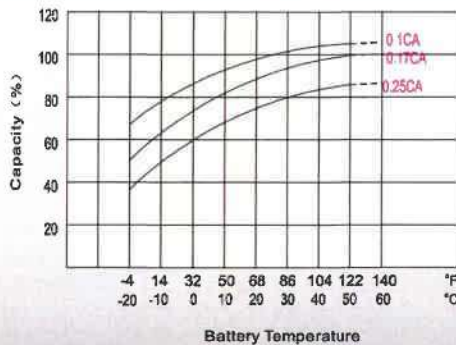
#### Discharge Characteristics



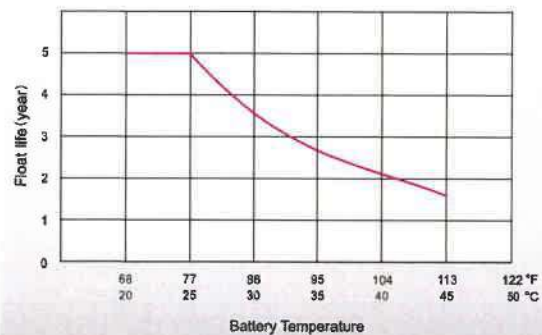
#### Standby/Float Charging Characteristics



#### Temperature Effects on Battery Capacity



#### Temperature Effects on Long Term Float Life



#### Sales Offices

Sales: 1.800.233.6261

Website: [www.adiglobaldistribution.us](http://www.adiglobaldistribution.us)  
[www.adiglobaldistribution.ca](http://www.adiglobaldistribution.ca)



# HD VIDEO APPLIANCE 3X

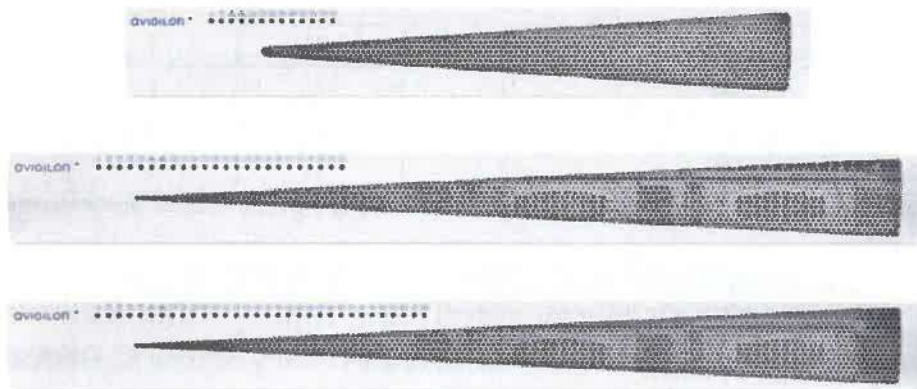
2017.11.16

8 PORT

PRO 16 PORT

PRO 24 PORT

The new generation of Avigilon HD Video Appliances (HDVA3X) provides an all-in-one security solution with wall or 1U rack mounting options that help reduce your installation time and the overall complexity of your security portfolio. The Video Appliance line integrates Motorola Solutions' Avigilon Control Center™ (ACC) with a high-powered PoE switch and a client workstation to provide a recording and video management solution that is capable of supporting multi-megapixel IP cameras, supporting up to Avigilon's 10K (61 MP) H5 Pro camera line. The new HDVA3X product line features improved performance with pre-installed updated Windows 10 IoT Enterprise (v21H2 LTSC) and offers enterprise infrastructure management with the new upgrade kits for Windows Server 2019 LTSC and out-of-band management module. Furthermore, the HDVA3X Pro 16-port and 24-port models feature RAID protection, up to 24 TB of storage, increased throughput, and advanced analytics support<sup>1</sup>.



## FEATURES



### AI-POWERED ANALYTICS SUPPORT

Security teams can respond faster to critical events with the HD Video Appliance 3X Pro's seamless support for Avigilon Appearance Search<sup>1</sup>, Facial Recognition<sup>1</sup> and license plate recognition (LPR) technologies.



### OPTIMAL WAN USAGE

Reduce playback bandwidth using HDSM when viewing video feeds and only transmit what you need and when you need it. Bring the recording closer to the camera, thereby reducing video feed latency and stability of camera stream networking.



### ALL-IN-ONE SUPPORT

In addition to lifetime 24/7 Avigilon telephone technical support for the Avigilon end-to-end solution, a three-year hardware warranty<sup>2</sup> is also included.



### LOWER TOTAL COST OF OWNERSHIP

The HD Video Appliance 3X is pre-configured with ACC™ software for secure network video recording and management of Avigilon cameras, with up to 61 MP resolution.



### IMPROVE SCALE, SPEED AND SECURITY

Hybrid architecture enables appliances and devices to run multiple analytics services concurrently and on-demand, share resources within the site using on-premise hardware or cloud-connect ACC to Avigilon Cloud Services. Enhanced cybersecurity with Windows 10 IoT Enterprise V21H2 or Windows Server 2019 LTSC (optional AS3X-S19-UPG kit).



### REMOTE OUT-OF-BAND MANAGEMENT

Monitor, control, recover and restart your appliances remotely over a dedicated out-of-band network using the IPMI module. Keep up-to-date with the remote health and status check of your HDVA3X with the optional IPMI module accessory.

<sup>1</sup> Requires the analytics kit (VMA-AS3-ANK).

<sup>2</sup> Please refer to [avigilon.com/support/warranty/avigilon](https://www.avigilon.com/support/warranty/avigilon) for more information.

# ANALYTICS

## AVIGILON APPEARANCE SEARCH™ (AS)



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

ACC Enterprise required



## FACE RECOGNITION (FR)

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

ACC7-FACE license required



## LICENSE PLATE RECOGNITION

Works with ACC software for accurate license plate capture at a range of distances and speeds.

ACC7-LPR license required



## NO FACE MASK DETECTION

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

ACC Enterprise required



## OCCUPANCY COUNTING

With cameras at entrances and exits, a running total of occupancy can be monitored in real time.

ACS Required

MODEL	ANALYTICS KIT	MAXIMUM SUPPORTED CAMERAS BY FEATURE <sup>1</sup>		NUMBER OF LPR LANES <sup>2</sup>			
		APPEARANCE SEARCH ONLY <sup>3</sup>	FACE RECOGNITION + APPEARANCE SEARCH <sup>3</sup>	5 FPS (<16 KM/H)	10 FPS (<48 KM/H)	20 FPS (<100 KM/H)	30 FPS (<150 KM/H)
HDVA3X 8-Port	—	—	—	—	—	—	—
HDVA3X Pro 16-Port	—	—	—	2	2	1	—
	VMA-AS3-ANK	50	12	2	2	1	—
HDVA3X Pro 24-Port	—	—	—	2	2	1	—
	VMA-AS3-ANK	50	12	2	2	1	—

<sup>1</sup> These performance figures are based on validation testing by Avigilon. Assumes appliance-wide average per camera rates of classified objects leaving field of view:  
 - H5A Cameras - One every second;  
 - H4A Cameras - One every two seconds.

Additional licenses may be required. For more information, contact Avigilon Sales.

<sup>2</sup> Assumes a 3 MP camera with 1 MP license plate scan area and Frames Per Second (FPS) to recognize license plates up to vehicle speeds in Kilometers Per Hour (KM/H) . Results may vary according to camera mounting parameters. ACC 7.14.10 or later is required.

<sup>3</sup> Requires H5A or H4A cameras. The Avigilon Appearance Search camera support limit does not affect any appliance throughputs for simultaneous recording, playback and live streaming.

# SPECIFICATIONS

SYSTEM		HD VIDEO APPLIANCE 3X 8-PORT	HD VIDEO APPLIANCE 3X PRO 16-PORT	HD VIDEO APPLIANCE 3X PRO 24-PORT
Capacity		2 TB 4 TB 8 TB	6 TB 9 TB 12 TB	12 TB 18 TB 24 TB
Avigilon Control Center™ Edition		Core, Standard, and Enterprise* compatible (ACC licenses are sold separately)		
Network Connection		1GbE Networking		
Network Video Streaming Performance	Recording Rate	Up to 100 Mbps	Up to 300 Mbps	
	Playback Rate	Up to 100 Mbps	Up to 100 Mbps	
	Recording Image Rate	Up to 30 images per second per channel		
Operating System		Microsoft Windows 10 IoT Enterprise v21H2 LTSC. Optional Microsoft Windows Server 2019 LTSC Upgrade Kit (AS3X-S19-UPG) available.		
Hard Disk Drive Configuration	Video Data	1 × 3.5" SATA	RAID 5 — Up to 4 × 3.5" SATA	RAID 5 — Up to 4 × 3.5" SATA
	Operating System	128 GB M.2 SATA SSD		
Recording Storage Capacity		Up to 8 TB	Up to 12 TB	Up to 24 TB
Memory		8 GB DDR4	8 GB DDR4	
Local Viewing		Yes, 2 × HDMI ports		
Out-of-band Management		Optional IPMI Module (VMA-AS3X-IPMI) available		
PoE+ Ports		8 × 10/100 Mbps (IEEE 802.3at)	16 × 10/100 Mbps (IEEE 802.3at)	24 × 10/100 Mbps (IEEE 802.3at)
PoE Output		Up to 30W/Port (120W Total)	Up to 30W/Port (240W Total)	Up to 30W/Port (360W Total)
Camera Network Uplink		10/100/1000 Mbps		
Corporate Network Uplink		10/100/1000 Mbps		
External I/O Terminals		4 × Digital Inputs (Wet contact: 5-30 VDC, or Dry contact) and 4 × Relay Outputs (24 VDC/1A max)		
Switch Control		Managed Switch with Web-based UI		
USB		2 × USB 3.0		

\* Avigilon Appearance Search and facial recognition requires Enterprise version of the ACC software.

MECHANICAL	8-PORT	16-PORT	24-PORT
Form Factor	Small form factor	1U	1U
Mounting	Wall mount (included), optional Rack mount kit available (RMS1U-B-AS3-8P)	Rack mount rails (included)	
Dimensions	313 mm × 335 mm × 44 mm; 12.3" × 13.2" × 1.73"	654.8 mm × 438.4 mm × 44 mm; 17.25" × 25.78" × 1.73"	
Weight	3 kg; 6.4 lb	10 kg; 22 lb	

ELECTRICAL	8-PORT	16-PORT	24-PORT
Power Input	100 to 240 VAC, 50/60 Hz		
Power Supply	Single non-redundant		
Power Consumption	80 W min; 200 W max	200 W min; 420 W max	

ENVIRONMENTAL	
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-40°C to 65°C (-40°F to 149°F)
Humidity	10 - 90% Relative humidity (non-condensing)

CERTIFICATIONS	8-PORT	16-PORT	24-PORT
Certifications/Approvals	UL, cUL, CE, RoHS, RCM, UKCA		
Safety Standards	UL 62368-1, CSA 62368-1, IEC/EN 62368-1		
Electromagnetic Emissions	FCC Part 15 Subpart B (Class B), ICES-003 (Class B), EN 55032 (Class B), EN 55011 (Group 1, Class B), EN 61000-6-3, EN 61000-3-2, EN 61000-3-3	FCC Part 15 Subpart B (Class A), ICES-003 (Class A), EN 55032 (Class A), EN 55011 (Group 1, Class A), EN 61000-6-4, EN 61000-3-2, EN 61000-3-3	
Electromagnetic Immunity	EN 55035, EN 61000-6-1	EN 55035, EN 61000-6-2	

SUPPORTED 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 moves into the region of interest and then stays for an extended amount of time.
Objects Crossing Beam	The event is triggered when the specified number of objects have crossed the directional beam that is configured over the camera's field of view. The beam can be unidirectional or bidirectional.
Object Appears or Enters Area	The event is triggered by each object that enters the region of interest. 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 moves into a region of interest and then stops moving for the specified threshold time.
Direction Violated	The event is triggered when an object moves in the prohibited direction of travel.
Tamper Detection	The event is triggered when the scene unexpectedly changes.

# OUTLINE DIMENSIONS

## 8-PORT VIDEO APPLIANCE

### FORM FACTOR

1U small form factor

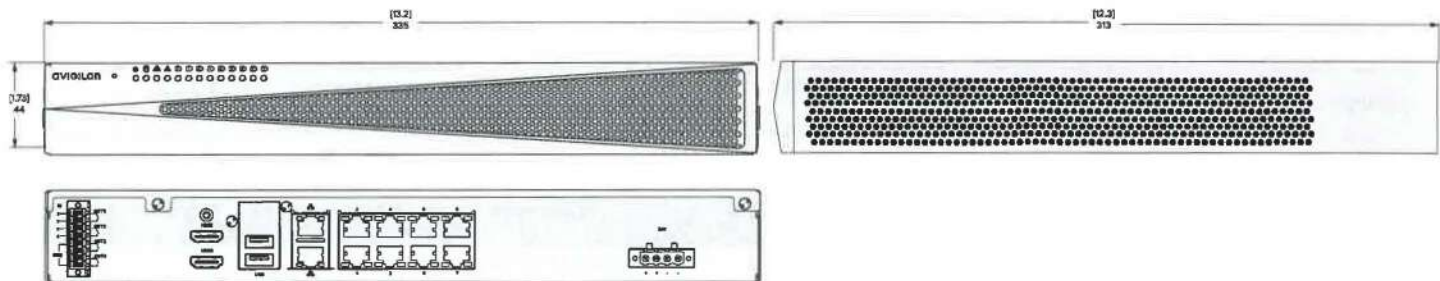
### DIMENSIONS (L x W x H)

313 mm x 335 mm x 44 mm

[12.3" x 13.2" x 1.73"]

### WEIGHT

3.0 kg [6.4 lbs]



[X.X]	INCHES
X	MM

## 16-PORT PRO VIDEO APPLIANCE

### FORM FACTOR

1U chassis

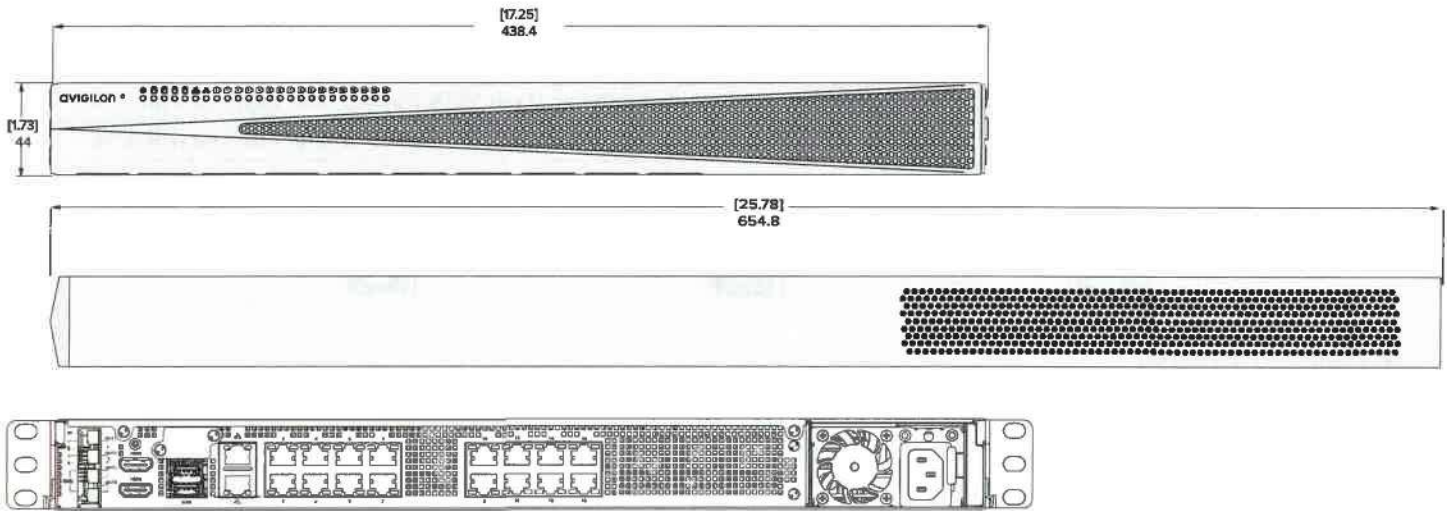
### DIMENSIONS (L x W x H)

654.8 mm x 438.4 mm x 44 mm

[25.78" x 17.25" x 1.73"]

### WEIGHT

10.0 kg [22.0 lbs]



[X.X]	INCHES
X	MM

## 24-PORT PRO VIDEO APPLIANCE

### FORM FACTOR

1U chassis

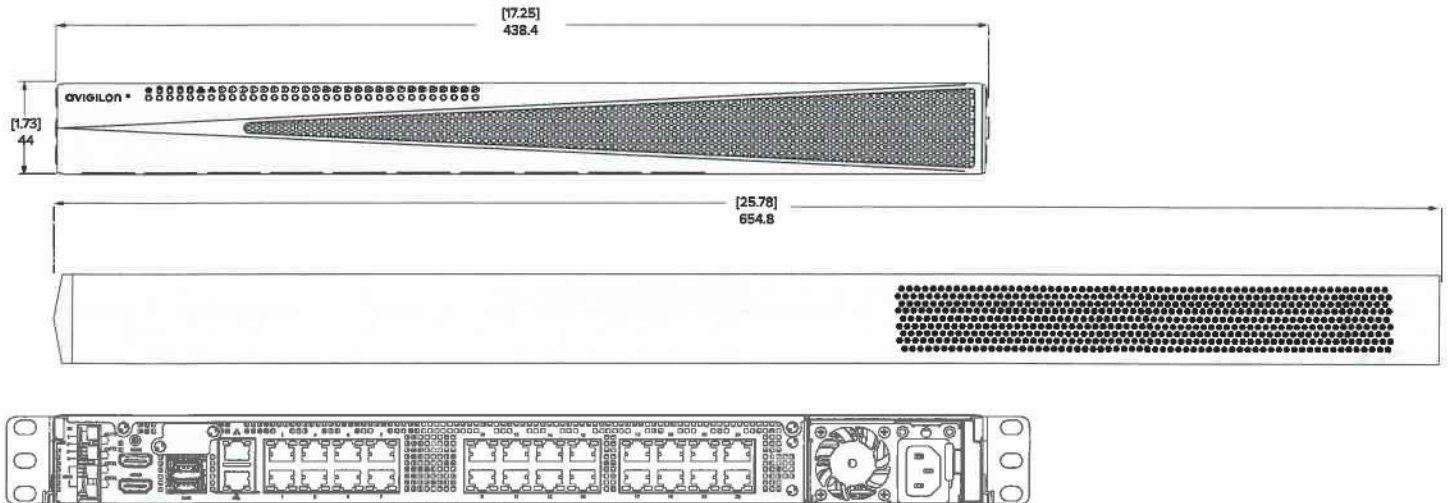
### DIMENSIONS (L x W x H)

654.8 mm x 438.4 mm x 44 mm

[25.78" x 17.25" x 1.73"]

### WEIGHT

10.0 kg [22.0 lbs]



# ORDERING INFORMATION

## VIDEO APPLIANCE

VMA-AS3X-8P2	HD Video Appliance 3X with Avigilon Control Center, 8 port, 2 TB, Windows 10 IoT Enterprise v21H2 LTSC
VMA-AS3X-8P4	HD Video Appliance 3X with Avigilon Control Center, 8 port, 4 TB, Windows 10 IoT Enterprise v21H2 LTSC
VMA-AS3X-8P8	HD Video Appliance 3X with Avigilon Control Center, 8 port, 8 TB, Windows 10 IoT Enterprise v21H2 LTSC
VMA-AS3X-16P06	HD Video Appliance 3X Pro with Avigilon Control Center, 16 port, 6 TB, Windows 10 IoT Enterprise v21H2 LTSC
VMA-AS3X-16P09	HD Video Appliance 3X Pro with Avigilon Control Center, 16 port, 9 TB, Windows 10 IoT Enterprise v21H2 LTSC
VMA-AS3X-16P12	HD Video Appliance 3X Pro with Avigilon Control Center, 16 port, 12 TB, Windows 10 IoT Enterprise v21H2 LTSC
VMA-AS3X-24P12	HD Video Appliance 3X Pro with Avigilon Control Center, 24 port, 12 TB, Windows 10 IoT Enterprise v21H2 LTSC
<b>VMA-AS3X-24P18</b>	HD Video Appliance 3X Pro with Avigilon Control Center, 24 port, 18 TB, Windows 10 IoT Enterprise v21H2 LTSC
VMA-AS3X-24P24	HD Video Appliance 3X Pro with Avigilon Control Center, 24 port, 24 TB, Windows 10 IoT Enterprise v21H2 LTSC

Avigilon Control Center licenses must be purchased separately.

Avigilon Appearance Search and facial recognition requires Enterprise version of the ACC software.

VMA-AS3X-xxPnn-NA



VMA-AS3X-xxPnn-UK



VMA-AS3X-xxPnn-EU



VMA-AS3X-xxPnn-AU



## SOFTWARE LICENSES

ACC7-ENT	ACC 7 Enterprise Edition license
ACC7-STD	ACC 7 Standard Edition license
ACC7-COR	ACC 7 Core Edition license
ACC7-VAC	ACC 7 Video Analytics feature channel license — Required for Classified Object Detection
ACC7-FACE	ACC 7 Face feature channel license
ACC7-FACE-10C	ACC 7 Face feature 10 channel license
ACC7-LPR	ACC 7 LPR lane license

## OPTIONAL ACCESSORIES

VMA-AS3X-IPMI	HDVA3X IPMI module for out of band management
AS3X-S19-UPG	Windows Server 2019 Upgrade Kit for HDVA3X
VMA-AS3-ANK	HDVA3/3X 16/24-port Analytics Kit for Appearance Search and Face Recognition
RMS1U-B-AS3-8P	1U Rack mountable shelf for HDVA3/3X 8-port
RAILS-B-AS3-16/24P	1U Rack rail mount installation kit for HDVA3/3X 16/24-port
PS-270W-AS3-8P	HDVA3/3X 8-port Power Supply, no power cord
PS-920W-AS3-16/24P	HDVA3/3X 16/24-port Power Supply, no power cord
VMA-AS3-HDD02	HDVA3/3X 2 TB Hard Drive, compatible with 8-port and 16-port
VMA-AS3-HDD03	HDVA3/3X 3 TB Hard Drive, compatible with 16-port
VMA-AS3-HDD04	HDVA3/3X 4 TB Hard Drive, compatible with 8-port, 16-port, and 24-port
VMA-AS3-HDD06	HDVA3/3X 6 TB Hard Drive, compatible with 24-port
VMA-AS3-HDD08	HDVA3/3X 8 TB Hard Drive, compatible with 8-port and 24-port

## SUPPORT

Learn more and find additional documentation at [avigilon.com](https://www.avigilon.com) or email [sales@avigilon.com](mailto:sales@avigilon.com) for specific product support.



Jun 2023 | Rev 2

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[sales@avigilon.com](mailto:sales@avigilon.com) | [avigilon.com](https://www.avigilon.com)

# Avigilon Control Center™ 7 Software

Avigilon Control Center (ACC) software is an easy-to-use video management software that is designed to optimize the way security professionals manage and interact with high-definition video. It efficiently captures and stores HD video, while intelligently managing bandwidth and storage using our patented High Definition Stream Management (HDSM) technology. Version 7 of the software introduces an entirely new way to monitor live video through its Focus of Attention interface, enabling operators to see at a glance what is happening across the entire site and more effectively triage and respond to the most important events.



### Focus of Attention Interface

Redefining live video monitoring, Focus of Attention helps increase operator effectiveness by providing an overview of events across all cameras in the site, including Avigilon analytic events, face and license plate watch list matches, Unusual Activity Detection (UAD) events, Unusual Motion Detection (UMD) events, motion events, and alarms. Operators can triage the most important events, reviewing associated video to determine if a response is required.



### Facial Recognition Technology

Accelerate response times using AI-powered facial recognition technology to detect people of interest based on secure watch lists managed by authorized users at the organization. Populate watch lists by uploading an image or finding a face from recorded video. Robust controls govern the accessibility and retention of watch list data. Start an Avigilon Appearance Search™ query for watch list entries, or receive alerts for potential watch list matches through the Focus of Attention interface. For added security, create alarms that trigger when any individual on the watch list is detected.



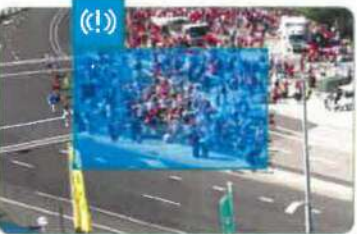
### Avigilon Appearance Search Technology

A sophisticated AI search engine that enables investigators to sort through hours of recorded video with ease and quickly locate a person or vehicle of interest across an entire site. Search for a person or vehicle of interest by entering a physical description, by uploading a photo, or by finding an example in recorded video.



### Next-Generation Analytics and Self-Learning Video Analytics

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



### Unusual Activity and Unusual Motion Detection (UAD & UMD)

Advanced AI technology highlights the unanticipated by automatically flagging unusual activity and motion. Without any configuration, UMD detects atypical movement while UAD is object-aware and detects anomalous behavior (speed and location) of people and vehicles.

- UAD: H5A
- UMD: H5SL, H5M, H4A, H4SL, H4 MINI DOME

### Preinstalled on Avigilon Recorders and Appliances

ACC software is pre-installed and configured on Avigilon HD Video Appliances, Network Video Recorders (NVRs), NVR Workstations, ACC ES Recorders, ACC ES Analytics Appliances, ACC ES 8-Port Appliances and the H4ES camera line. You can also install the stand-alone ACC software to meet the needs of a wide variety of projects. Our NVRs come pre-installed with the NVR Analytics Kit to enable our patented Avigilon Appearance Search technology.



# Avigilon Control Center Advanced Features



## **HDSM™ Technology**

Intelligently manages HD image communications to optimize network bandwidth and workstation performance for even the highest resolution Avigilon cameras.



## **HDSM SmartCodec™ Technology Support**

Automatically adjusts compression levels for regions in a scene, to optimize bandwidth while still maintaining image quality.



## **Avigilon Appearance Search Technology**

Quickly search recorded video to find instances of a person or vehicle across all sites using cameras with Avigilon self-learning analytics. Search for a person by physical description, including clothing color, hair color, gender and age group. Search for a vehicle by physical description, including color and category - car, truck, bus, bicycle, and motorcycle. Search for a person or vehicle by uploading a photo.

## **Facial Recognition Technology**

AI-powered facial recognition algorithms notify operators when a person of interest returns to a facility. Add a person to a face watch list by uploading a photo or from recorded video. Create watch list alarms, monitor the Focus of Attention interface to detect matches, or start an Appearance Search for a person on a watch list.



## **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.



## **License Plate Recognition (LPR) Analytics**

Second generation LPR analytics engine with easy configuration and improved accuracy for faster security response. Multiple license watch lists can trigger unique ACC rules when detecting a match.



## **ACM-ACC Interoperability**

The Access Control Manager (ACM) system 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. Identity Verification enables users to see ACM system credentials dynamically displayed with ACC camera views. Identity Search enables users to visually verify access events, and initiate an Avigilon Appearance Search across the entire site for the same person.

## **Avigilon Cloud Services Web Client**

Securely stream live and recorded video from firewall-protected ACC sites using a Chrome or Safari web browser. With no client installation required, this solution leverages Avigilon Cloud Services to support secure peer-to-peer connections to ACC servers.



## **ACC Mobile Software**

Push alarm notifications, live and recorded video, two-way audio, self-learning video analytics overlays, digital output triggers, and PTZ control for Android™ and iOS mobile devices. Using Avigilon Cloud Services, log in to connected ACC sites without any complicated firewall configuration.



## **Video Archive**

Retain and manage large amounts of video for on-demand retrieval and review. Extend your storage beyond NVRs using the Avigilon Video Archive for reliable and scalable storage.



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

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



## **Point-of-Sale Transaction Engine**

Link HD security recorded video (viewed instantly) with transaction data to address compliance requirements and help reduce shrinkage and theft.



## **Scalable Integration with External Systems**

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



## **ONVIF® Profile S, T and G Compliant VMS**

Ensures interoperability between IP based ONVIF conformant security devices regardless of manufacturer. Allows video and audio recovery from SD cards installed in Profile G cameras in case of network failure.



## **Unusual Activity Detection**

UAD technology enables object-level detection of atypical activity. This edge-based intelligence uses advanced AI technology and is designed to be object-aware, enabling operators to know when a person or vehicle is in an unusual location in the scene or moving at an unusual speed.



## **Unusual Motion Detection**

UMD technology 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 recorded video needing further investigation.



## **Federal Government Compliance with FIPS 140-2 Certified Encryption**

To comply with policies, Federal Government and other customers can enable FIPS 140-2 certified cryptography on ACC software and on supported Avigilon cameras. Required camera cryptography licenses are centrally managed in ACC. Within ACC, optionally turn on licensed FIPS cryptography on Avigilon cameras. ACC inventories the number of FIPS camera licenses being used and determines whether customers have the required number of licenses within a facility.

## Specialty Devices



### **Avigilon Presence Detector Support**

The Avigilon Presence Detector™ 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.

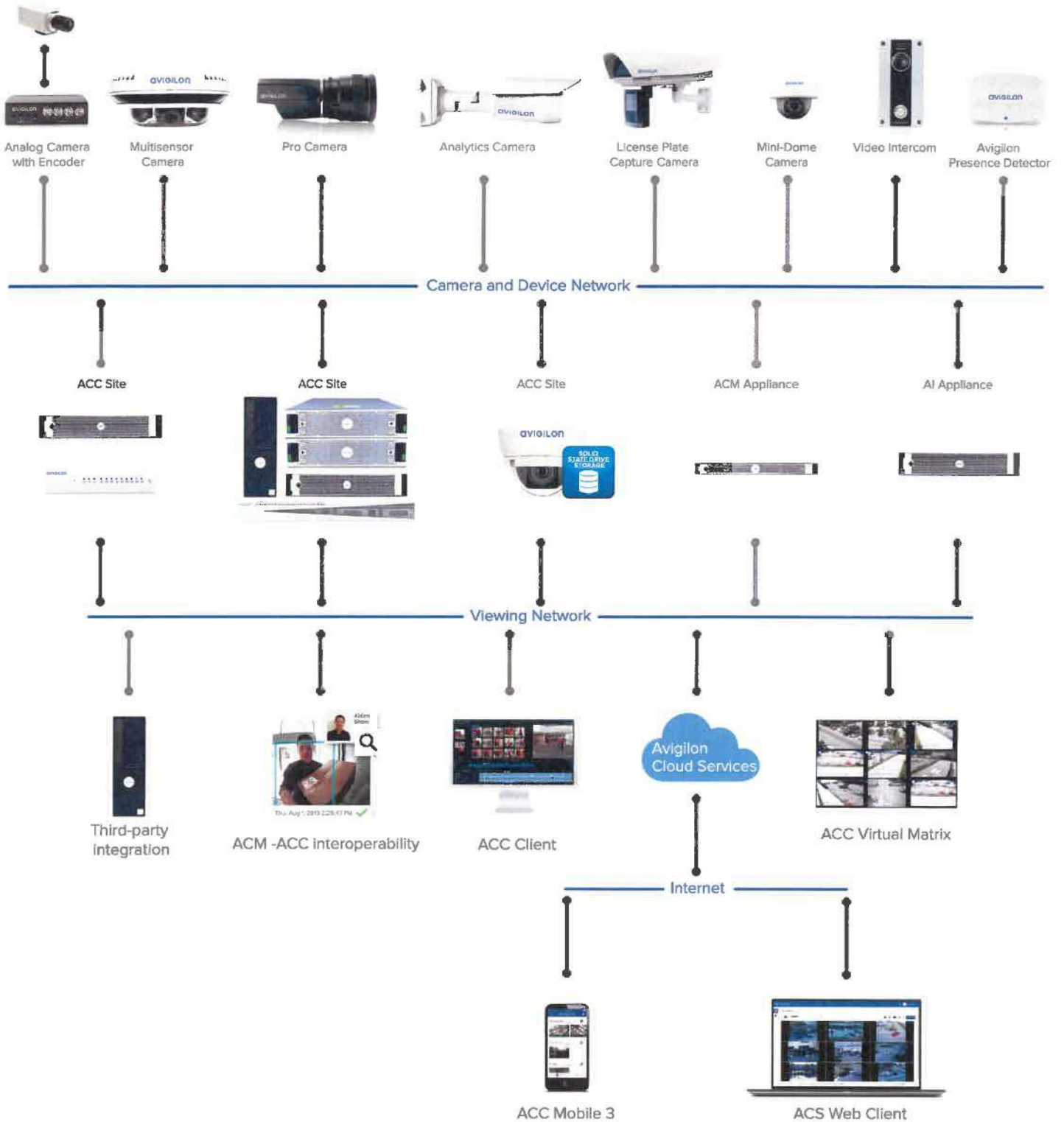


### **H4 Video Intercom Support**

Video Intercom support provides operators with visual and audio verification of visitors. The H4 Video Intercom integration uses wide dynamic range and echo canceling technologies for clear viewing and two-way communication with visitors.



# System Architecture



# Software Editions

The Avigilon Control Center software is offered in three editions: Core, Standard and Enterprise. The Core edition is an entry-level version of our award-winning software that delivers advanced high definition video security capabilities, ease of use, and superior image quality to smaller implementations. The Standard edition is a cost-effective security solution that meets the vital and focused needs of mid-size operations. The Enterprise edition includes all of the Core and Standard features, plus advanced features to make it a powerful, open platform for large-scale video security needs.

SYSTEM	CORE	STANDARD	ENTERPRISE
Cameras per server	24	75	300+*
Cameras per site	24	75	10 000+*
Servers per site	1	1	100+*
Client licenses per server	2	10	Unlimited
Maximum bookmarks	10 000	10 000	10 000
Rule triggers	0	51	Unlimited
HDSM technology support	Yes	Yes	Yes
HDSM SmartCodec technology support	Yes	Yes	Yes
Dual Streaming for ONVIF compliant cameras	Yes	Yes	Yes
H.265, H.264, MPEG4, MJPEG, JPEG2000 video compression	Yes	Yes	Yes

\* Actual limits will depend on the hardware environment. Please review Avigilon server and appliance datasheets for applicable limits.

DEVICE SUPPORT	CORE	STANDARD	ENTERPRISE
Automatic device discovery	Yes	Yes	Yes
Third-party IP cameras and encoders	Yes	Yes	Yes
ONVIF compliant cameras and encoders	Yes	Yes	Yes
H5A cameras with Next-Generation Video Analytics	Yes	Yes	Yes
H4A cameras with Self-Learning Video Analytics	Yes	Yes	Yes
H5SL, H5M, H4SL, H4 Multisensor, H4 PTZ, H4 IR PTZ, H4 Fisheye, H4 Mini Dome, H4ES, and H4 Thermal cameras	Yes	Yes	Yes
H4 Thermal Elevated Temperature Detection (ETD) cameras	Yes	Yes	Yes
Avigilon H3, HD and earlier cameras	Yes	Yes	Yes
Fisheye dewarping	Yes	Yes	Yes
Avigilon analog video encoder	Yes	Yes	Yes
Avigilon Presence Detector (APD) sensor	No	Yes	Yes
H4 Video Intercom	No	Yes	Yes
H5 Pro and H4 Pro cameras	No	No	Yes
Avigilon AI Appliance	No	No	Yes

CLIENT	CORE	STANDARD	ENTERPRISE
Video Analytics overlays <i>(Next-Generation Video Analytics, Self-Learning Video Analytics, UAD and UMD)</i>	Yes	Yes	Yes
Joystick support	Yes	Yes	Yes
ACC Mobile 3 app / Web Endpoint including mobile alarm notifications	Yes	Yes	Yes
Avigilon Cloud Services Web Client	Yes	Yes	Yes
FIPS 140-2 Encryption	Yes	Yes	Yes
Certificate management between ACC Client and Server	Yes	Yes	Yes
Emergency privilege override	Yes	Yes	Yes
Two-factor authentication	Yes	Yes	Yes
Password strength meter	Yes	Yes	Yes
Light and dark interface themes	Yes	Yes	Yes
Editable Site View	Yes	Yes	Yes
Multi-camera export with optional password protection	Yes	Yes	Yes
Hourly configurable recording schedule	Yes	Yes	Yes
Saved views	No	Yes	Yes
Maps with configurable icons and camera thumbnail previews	No	Yes	Yes
Integrated web page bookmarking and display	No	Yes	Yes
Focus of Attention interface	No	No	Yes
Active Directory integration	No	No	Yes
Intelligent Virtual Matrix	No	No	Yes
Collaborative investigations	No	No	Yes
Multi-camera privacy blurred export from Avigilon Appearance Search results	No	No	Yes

SEARCH	CORE	STANDARD	ENTERPRISE
UAD and UMD timeline filtering with Skip Play	Yes	Yes	Yes
Intelligent motion search	Yes	Yes	Yes
Thumbnail search	Yes	Yes	Yes
Event search	Yes	Yes	Yes
Point-of-sale (POS) transaction search	No	Yes	Yes
Avigilon Appearance Search technology	No	No	Yes
Alarm search	No	No	Yes
License plate event search	No	No	Yes

ACC INTEROPERABILITY WITH ACM SYSTEMS	CORE	STANDARD	ENTERPRISE
Door and panel input event triggers	No	Yes	Yes
Door access grants	No	Yes	Yes
Shared operator access	No	Yes	Yes
ACM Identity Verification	No	Yes	Yes
ACM Identity Search	No	Yes	Yes

ADD-ON MODULES AND INTEGRATIONS	CORE	STANDARD	ENTERPRISE
POS transaction engine	No	Yes	Yes
Avigilon developed and supported integrations	No	Yes*	Yes
Third party system integrations	No	Yes	Yes
License Plate Recognition with multiple match lists	No	No	Yes
Face Recognition with multiple watch lists	No	No	Yes

\*CommScope® iPatch®, RS2 Access It®, DDS Amadeus 5 and DSX only

ADDITIONAL FEATURES	CORE	STANDARD	ENTERPRISE
System and motion event e-mail notifications	Yes	Yes	Yes
Two person authenticated recorded video viewing	Yes	Yes	Yes
Camera replacement	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 and output	No	Yes	Yes
APD™ event trigger	No	Yes	Yes
Next-Generation Video Analytics and Self-Learning Video Analytics event configuration	No	Yes	Yes
Camera standby / privacy mode	No	Yes	Yes
Avigilon AI Appliance analytics configuration	No	No	Yes
Redundant recording	No	No	Yes
Failover connections	No	No	Yes
ACC Client alarm notifications and escalation	No	No	Yes
One-time Video Archive	No	Yes	Yes
Tiered Storage Management with Continuous Archive	No	No	Yes

For the latest list of integrations and add-ons supported by Avigilon Control Center software, visit [avigilon.com](http://avigilon.com).

# System Requirements

## Note:

- Run Windows Update before launching Avigilon Control Center (ACC) software.
- 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 best-in-class performance, choose an **Avigilon Certified Solution**.

## ACC Client Software

### AVIGILON CERTIFIED SOLUTIONS

	DISPLAY MODEL NUMBER	KEY FEATURES
2 Monitor Professional High Performance Remote Monitoring Workstation	RM6-WKS-2MN	<ul style="list-style-type: none"> <li>• Preloaded with ACC Client software.</li> <li>• Supports high resolution monitors.</li> </ul>
4 Monitor Professional High Performance Remote Monitoring Workstation	RM6-WKS-4MN	<ul style="list-style-type: none"> <li>• Includes the adapters and accessories for quick deployment.</li> <li>• Avigilon warranty and support included.</li> </ul>

SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	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® dual-core CPU (2.0 GHz) Streaming SIMD Extensions 2 (SSE2)	8th Generation Intel Celeron® CPU or higher
System RAM	4 GB DDR3	8 GB DDR4
Video Card	PCI Express, DirectX 10.0 compliant with 256 MB RAM	NVIDIA® Quadro P620
Network Interface	1 Gbps	1 Gbps
Hard Disk Space	500 GB	500 GB

## ACC Server Software

### AVIGILON CERTIFIED SOLUTIONS

	DISPLAY MODEL NUMBER	KEY FEATURES
NVR Premium	NVR4X-PRM-64TB / 96TB / 128TB / 157TB / 192TB / 217TB	<ul style="list-style-type: none"> <li>• Optimized for video security applications in a 24/7/365 environment</li> <li>• ACC Server software is preinstalled, configured and enhanced for optimal system compatibility</li> <li>• Certified for the Avigilon video security environment - ACC software, LPR, Web Endpoint, Analytics, HDSM and 1-30MP cameras</li> <li>• High throughputs of up to 1800 Mbps</li> <li>• Documented network architecture for a wide variety of applications</li> <li>• Avigilon warranty and support included</li> <li>• Access to Avigilon System Design Tool (SDT) to calculate storage requirements</li> </ul>
NVR Standard	NVR4X-STD-16TB-S16 / 16TB / 24TB-S16 / 24TB / 32TB-S16 / 32TB / 48TB-S16 / 48TB	
NVR Value	NVR4-VAL-6TB / 12TB / 18TB / 24TB	
AI NVR	AINVR-PRM-PLUS-64TB / 96 TB / 128 TB / 160 TB AINVR-PRM-64TB / 96 TB / 128 TB / 160 TB AINVR-STD-24TB / 32 TB / 48TB AINVR-VAL-6TB / 12TB	

SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows Server 2012 R2, Windows 8.1 (64-bit) or Windows 10 (64-bit), Windows Server 2016, Windows Server 2019	Windows Server 2016 or Windows 10
Processor	x86 64 bit dual-core (1.9 GHz) SSE2	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

## ACC Server Workstation

### AVIGILON CERTIFIED SOLUTIONS

	DISPLAY MODEL NUMBER	KEY FEATURES
HD Video Appliance	VMA-AS3-8P2 / VMA-AS3-8P4 / VMA-AS3-8P8 / VMA-AS3-16P06 VMA-AS3-16P09 / VMA-AS3-16P12 / VMA-AS3-24P12 VMA-AS3-24P18 / VMA-AS3-24P24	<ul style="list-style-type: none"> <li>• Preloaded and configured with ACC software</li> <li>• High-performance recording capacity</li> <li>• Throughputs of up to 400 Mbps</li> <li>• Avigilon warranty and support included</li> <li>• Access to Avigilon System Design Tool (SDT) to calculate storage requirements</li> </ul>
ACC ES HD Recorder	VMA-RPO-4P2 / VMA-RPO-4P4	
ACC ES Analytics Appliance	VMA-RPA-4P2 / VMA-RPA-4P4	
ACC ES 8-Port Appliance	VMA-ENVR1-8P4 / VMA-ENVR1-8P8	
NVR4X Workstation	NVR4X-WKS-4TB / NVR4X-WKS-8TB	

SYSTEM REQUIREMENTS	MINIMUM	RECOMMENDED
Operating System	Windows 8.1 (64-bit) or Windows 10 (64-bit)	Windows 10 (64-bit)
Processor	Intel Quad-core CPU (2.0 GHz) SSE2	8th Generation Intel Celeron CPU or higher
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 P620
Hard Drives	SATA-II 7200 RPM Hard Drives	SATA-III 7200 RPM Hard Drives

## Avigilon Appearance Search Technology and Face Recognition

Avigilon Appearance Search technology and Face Recognition require 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
AI NVR	AINVR-PRM-PLUS-64TB / 96TB / 128TB / 160 TB AINVR-PRM-64TB / 96TB / 128TB / 160TB AINVR-STD-24TB / 32 TB / 48TB AINVR-VAL-6TB / 12TB	Security-hardened NVR that provides server-side analytics for connected third-party and non-analytic cameras.
Analytics Kit for Avigilon Appearance Search Software	HD-NVR-ANK2-1	Tested and verified to provide enough processing power to run Avigilon Appearance Search feature.

SOFTWARE SYSTEM REQUIREMENTS	APPEARANCE SEARCH ONLY	APPEARANCE SEARCH AND FACE RECOGNITION
NVIDIA GPU Requirements	<ul style="list-style-type: none"> <li>• 4 GB RAM</li> <li>• NVIDIA Turing™, NVIDIA Pascal™ or NVIDIA Maxwell™ architecture</li> <li>• CUDA compute capability 7.5, 6.1 or 5.2</li> <li>• Windows x86_64 Driver Version 451.48 or above (462.31 if Turing)</li> </ul>	<ul style="list-style-type: none"> <li>• 4 GB RAM</li> <li>• NVIDIA Turing™ architecture, NVIDIA T1000 video card, NVIDIA Pascal™ architecture or NVIDIA Quadro P1000 video card</li> <li>• CUDA compute capability 7.5 or 6.1</li> <li>• Windows x86_64 Driver Version 451.48 or above (462.31 if Turing)</li> </ul>

## ACC Mobile 3 Software

ACC Mobile version 3 is available for the listed device platforms and requires the ACC Web Endpoint service. The ACC Web Endpoint service comes pre-installed on the AI NVR, ACC ES HD Recorder, ACC ES Analytics Appliance and ACC ES 8-Port Appliance. For NVR systems and HD Video Appliances, it should be installed on the same server as the ACC Server software.

	ANDROID	IOS
Platforms	Android version 6.0 or later	iPad with iOS 11 or later iPhone with iOS 11 or later iPod touch with iOS 11 or later
Processor	n/a	64-bit (Apple A7 or later)

Some images of the product interface have been simulated for illustrative purposes.

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Jan 2022 — Rev 10

# H5A MULTISENSOR CAMERA

9 MP

12 MP

15 MP

20 MP

24 MP

32 MP

The Avigilon H5A Multisensor camera helps ensure your site is covered from all angles by combining Next-Generation Video Analytics and three or four adjustable sensors into one powerful solution. Monitor virtually any area in all lighting conditions with up to 360-degree views from a single camera. This makes the H5A Multisensor perfect for securing wide areas, including outdoor building corners, parking lots, crossroads, as well as indoor areas with high ceilings, long corridors and hallway intersections.



## FEATURES



### NEXT-GENERATION VIDEO ANALYTICS

Detects more objects with expanded object classifications and greater accuracy for faster responses, even in crowded scenes.



### IMPACT, WATER, DUST & CORROSION PROTECTION

Protects against impact, water, windblown dust and a degree of corrosion with IK10, IP66/67, NEMA Type 4X and TS2 ratings.



### ONVIF® COMPLIANT

ONVIF Profile S and T compliance enables easy integration with existing ONVIF infrastructures. Profile G compliance supports search, playback and retrieval of recordings on the edge, while Profile M allows for cross-functionality with third-party analytic solutions.



### VARIFOCAL LENSES

Enables you to customize the field of view to optimally protect your site, while lens distortion correction provides a seamless viewing experience.



### FIPS 140-2 COMPLIANT WITH INTEGRATED TPM

Meets the high data security standards required by federal government agencies and heavily regulated enterprises with FIPS-compliant cryptography support, integrated TPM and Secure Boot.



### HIGH-QUALITY IMAGES IN ALL LIGHTING

Sees clearly in the most challenging lighting conditions with faster frame rates, improved Wide Dynamic Range and optional IR illumination.

ONVIF is a trademark of Onvif, Inc.

# SPECIFICATIONS

IMAGE PERFORMANCE		3.0 MP	5.0 MP	4K (8.0 MP)
Image Sensor		1/2.8" CMOS		1/2.8" CMOS
Active Pixels		1920 (H) x 1080 (V) (16:9) 2048 (H) x 1536 (V) (4:3)	2560 x 1440 (16:9) 2592 x 1944 (4:3)	3840 x 2160 (16:9) 2880 x 2160 (4:3)
3 x Image Sensor, Max Resolution (per image sensor)		5760 (H) x 1080 (V) (16:9) 6144 (H) x 1536 (V) (4:3)	7680 x 1440 (16:9) 7776 x 1944 (4:3)	11520 x 2160 (16:9) 8640 x 2160 (4:3)
4 x Image Sensor, Max Resolution (per image sensor)		7680 (H) x 1080 (V) (16:9) 8192 (H) x 1536 (V) (4:3)	10240 x 1440 (16:9) 10368 x 1944 (4:3)	15360 x 2160 (16:9) 11520 x 2160 (4:3)
Sensor Aspect Ratio		4:3	4:3	16:9
IR Illumination - Optional (high power 850 nm LEDs) <sup>1</sup>		30 m (98 ft) maximum distance at 0 lux when camera is mounted at 4 m (13 ft) off the ground, full tele TBD m, full wide TBD m		
Minimum Illumination		0.020 lux (F1.5) in color mode 0.018 lux (F1.5) in mono mode 0 lux with optional IR illuminator		0.020 lux (F1.5) in color mode 0.016 lux (F1.5) in mono mode 0 lux with optional IR illuminator
Dynamic Range	WDR On	120 dB, true WDR, dual exposure		
	WDR Off	80 dB		
3D Noise Reduction Filter		Yes		
Image Rate-Analytics Enabled on All Sensors <sup>2</sup> :				
3 x Image Sensor (60 Hz, 50 Hz)		30 / 25 fps	30 / 25 fps	24 / 20 fps
4 x Image Sensor (60 Hz, 50 Hz)		30 / 25 fps	24 / 25 fps	17 / 16 fps
Image Rate-High Framerate Mode <sup>3</sup> :				
3 x Image Sensor (60 Hz, 50 Hz)		60 / 50 fps	40 / 33 fps	30 / 25 fps
4 x Image Sensor (60 Hz, 50 Hz)		40 / 33 fps	24 / 25 fps	20 / 20 fps

<sup>1</sup> The IR intensity is based on supplied PoE power.

<sup>2</sup> Full Feature Mode: Analytics, WDR, and Lens Distortion Correction enabled with H.265. Image Rotation at Edge will result in lower frame rates.

<sup>3</sup> High Frame Rate Mode: Analytics and WDR disabled with H.265.

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 (1/7.5 to 1/8000 sec)
Iris Control	Fixed
Day/Night Control	Automatic, Manual
Flicker Control	60 Hz, 50 Hz
White Balance	Automatic, Manual
Backlight Compensation	Adjustable
Privacy Zones	Up to 64 zones
Removable Privacy Zones	Up to 64 zones
Lens Distortion Correction	Fixed
Camera Image Rotation	Each head independent

LENS (PER IMAGE SENSOR)	3.0 MP	5.0 MP	4K (8.0 MP)
Lens and Horizontal Field of View Based on Aspect Ratio	53° - 97° (16:9) 53° - 99° (4:3)		43° - 109° (16:9) 58° - 76° (4:3)

LENS (PER IMAGE SENSOR)	3.0 MP	5.0 MP	4K (8.0 MP)
Lens and Vertical Field of View Based on Aspect Ratio	29° - 50° (16:9) 39° - 69° (4:3)		32° - 55° (16:9) 32° - 55° (4:3)
Aperture Range	F1.5 - F1.9		
Control	Fixed Iris, Remote Focus and Zoom		

NETWORK	
Network	Gigabit Ethernet, 100BASE-TX, 1000BASE-TX
Cabling Type	CAT5E
Connector	RJ-45
API	ONVIF® compliance Profile S, T, M, and G (www.onvif.org)
Security	Signed and encrypted firmware, password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication, TLS1.3, FIPS140-2 Level 3 via onboard TPM
Secure Boot	Yes
Protocol	IPv4, IPv6, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTP, TCP, UDP, IGMPv2, ICMP, DHCP, Zeroconf, ARP, HSTS
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	Dual MicroSD/microSDHC/microSDXC slot - video speed class card required. Class V10 or better recommended. The dual SD cards will work as one contiguous region of storage.

AUXILIARY I/O	
Audio Compression Method	G.711 PCM 8 kHz, Opus
Audio Input/Output	Line level input and output
External I/O Terminal	Alarm In, Alarm Out

ELECTRICAL	IN-CEILING	SURFACE MOUNT	PENDANT MOUNT
Power Consumption	26 W with 24 VDC 37 VA with 24 VAC 25.5 W with IEE 802.3at Type 2 (PoE+)	With IR: 52 W with 24 VDC 74 VA with 24 VAC 51 W with high power PoE (PoE++)  Without IR: 26 W with 24 VDC 37 VA with 24 VAC 25.5 W with IEEE 802.3at Type 2 (PoE+)	With IR: 52 W with 24 VDC 74 VA with 24 VAC 51 W with high power PoE (PoE++)  Without IR: 26 W with 24 VDC 37 VA with 24 VAC 25.5 W with IEEE 802.3at Type 2 (PoE+)
External Power	24 VDC ± 10 %; 24 VAC rms ± 10 %, 50 or 60 Hz		
PoE*	30 W IEEE 802.3at Type 2 (PoE+)	With IR: 60 W (PoE++): IEEE 802.3bt Type 3, Cisco® UPoE or legacy high-power PoE* Up to 35% IR Power or without IR: 30 W IEEE 802.3at Type 2 (PoE+)	
Redundant Power	Seamless failover between PoE and Aux and back without interruption in camera operation		

\* Supported high power PoE products are listed in the **Optional Injectors and Switches** Section and may require adjusting the PoE mode switch. Contact sales or technical support for more information.

MECHANICAL	IN-CEILING	SURFACE MOUNT	PENDANT MOUNT
Dimension	Overall: 298 mm x 161 mm (11.75" x 6.33")  Below mounting surface: 298 mm x 64 mm (11.75" x 2.52")	304 mm x 114 mm (11.95" x 4.48")	With wall arm: 385 mm x 262 mm x 299 mm (15.15" x 10.30" x 11.77")  With NPT adapter: 299 mm x 248 mm (11.77" x 9.76")
Weight	Mount: 1100 g (2.4 lbs)	Mount: 950 g (2.1 lbs)	Wall Mount: 1190 g (2.6 lbs)



MECHANICAL	IN-CEILING	SURFACE MOUNT	PENDANT MOUNT
	Bezel: 490 g (1.1 lbs) Camera Module (4 lenses): 1590 g (3.5 lbs)	Bezel: 1250 g (2.8 lbs) Camera Module (4 lenses): 1590 g (3.5 lbs) Optional IR Illuminator Ring: 670 g (1.5 lbs)	NPT Adapter Mount: 470 g (1.04 lbs) Pendant: 1680 g (3.7 lbs) Bezel: 1250 g (2.8 lbs) Camera Module (4 lenses): 1590 g (3.5 lbs) Optional IR Illuminator Ring: 670 g (1.5 lbs)
Body	Aluminum, Plastic dome trim	Aluminum	Aluminum
Finish	Plastic, Injection Molded, Pantone 427C	Cast, Anodized and Powder Coated, Pantone 427C	Cast, Anodized and Powder Coated, Pantone 427C
Optional IR Illuminator Ring	Not available	Optional accessory, 30 m (98 ft) IR range	

ENVIRONMENTAL	IN-CEILING	SURFACE MOUNT	PENDANT MOUNT
Operating Temperature	-10 °C to +50 °C (14 °F to 122 °F)	-40 °C to +60 °C (-40 °F to 140 °F)	
Storage Temperature	-30 °C to +70 °C (-22 °F to 158 °F)		
Humidity	0 - 95% non-condensing		
IR Illumination Behavior	Not available	<p>The IR illuminator will operate at 100% power from -40 °C to 44 °C (-40 °F to 111 °F). The IR power will reduce to 60% from 44 °C to 53 °C (111 °F to 127 °F). The IR illuminator will turn off when the temperature is greater than 53 °C (127 °F). Hysteresis: 6 °C (10.8 °F).</p> <p>For 25.5 W PoE+, the IR illuminator will operate at only 35% power and will turn off if the temperature is below -26 °C (-15 °F).</p>	

PER SENSOR	
Tilt	+7° to 96° from horizon
Pan	+/-120° (depending on position of image sensors)
Azimuth	+/-180°

CERTIFICATIONS	IN-CEILING	SURFACE MOUNT	PENDANT MOUNT
Certifications/Approvals	UL, cUL, CE, ROHS, RCM, UKCA		
Safety Standards	UL 62368-1, CSA 62368-1, IEC/EN 62368-1		
	UL 2043 (Plenum)	IEC/EN 62471	
Environmental Standards/Ratings	IEC 60529 IP5X rating (dust only)	IEC 60529 IP66, IP67 rating IEC/EN 62262 Impact (IK 10) IEC/EN 60068-2-6 Product Vibration IEC/EN 60068-2-27 Product Shock Type 4X	
Electromagnetic Emissions Standards	FCC Part 15 Subpart B (Class A) ICES-003 (Class A) EN 55032 (Class A) EN 61000-3-2 EN 61000-3-3		
Electromagnetic Immunity Standards	EN 55035 EN 61000-6-1 EN 50121-4 EN 50130-4		
NEMA TS2	Not applicable	NEMA TS2 paragraph 2.2.7 - 2.2.9	

SUPPORTED 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.

## SUPPORTED ANALYTICS EVENTS

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.
Object Too Close	The event is triggered when an object moves to within a certain threshold distance of another object.
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.

## SUPPORTED CLASSIFIED OBJECT TYPES

Object Types in Outdoor Mode	Person and Vehicle, sub-types: Car, Truck, Bicycle, Motorcycle, Bus
Object Types in Indoor Mode	Person

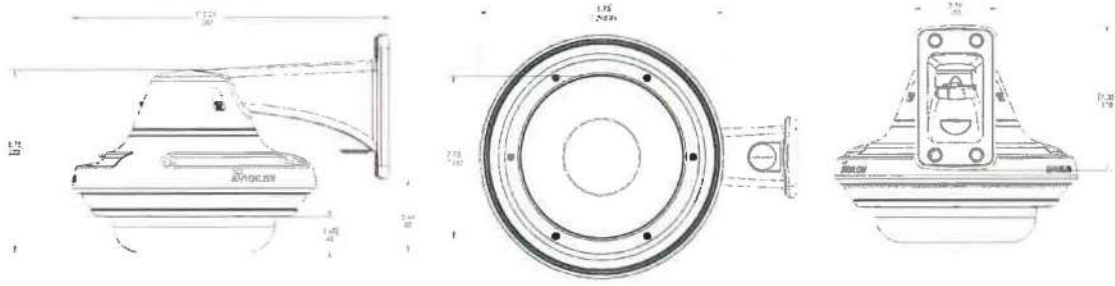
## TEACH BY EXAMPLE

Object Types Teach By Example in Outdoor Mode	Yes, when used with Avigilon Control Center™.
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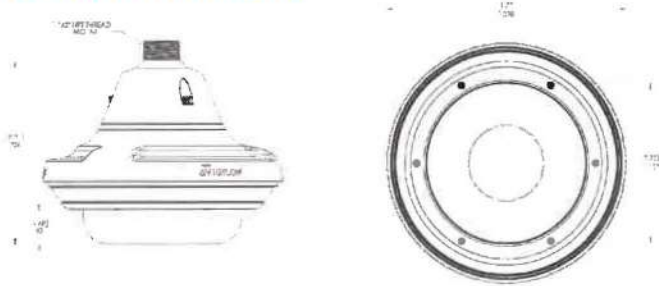
# OUTLINE DIMENSIONS

[X.X]	INCHES
X	MM

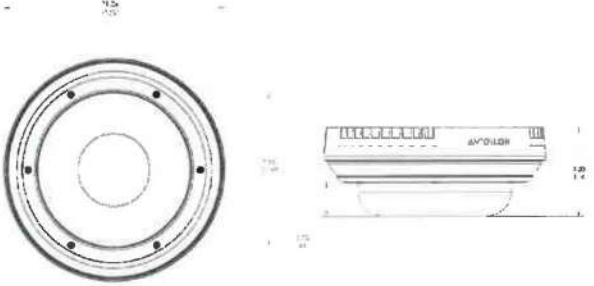
### PENDANT WALL MOUNT



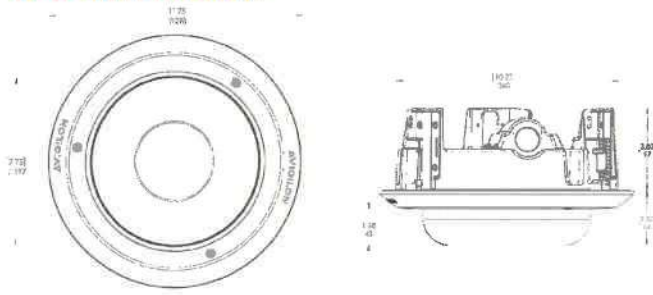
### PENDANT NTP MOUNT



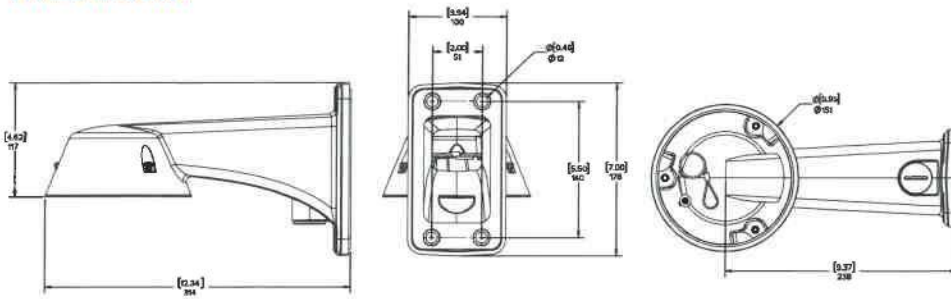
### SURFACE MOUNT



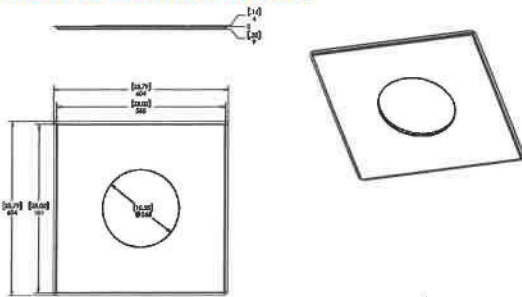
## IN-CEILING MOUNT



## WALL MOUNT



## METAL CEILING PANEL



# ORDERING INFORMATION

The variety of mounting options for the H5A Multisensor provides maximum flexibility. All the available camera modules can be used in any of the mounting options.

MOUNTING SCENARIO		ORDERING INFORMATION
<b>PENDANT WALL MOUNT</b>		Order one of: <ul style="list-style-type: none"> <li>• Camera module</li> <li>• H5AMH-AD-PEND1</li> <li>• H5AMH-DO-COVR1 or H5AMH-DO-COVR1-SMOKE</li> <li>• WLMT-1001</li> <li>• Optional, H4AMH-AD-IRIL1</li> </ul>
<b>PENDANT NPT MOUNT</b>		Order one of: <ul style="list-style-type: none"> <li>• Camera module</li> <li>• H5AMH-AD-PEND1</li> <li>• H5AMH-DO-COVR1 or H5AMH-DO-COVR1-SMOKE</li> <li>• NPTA-1001</li> <li>• Optional, H4AMH-AD-IRIL1</li> </ul>
<b>SURFACE MOUNT</b>		Order one of: <ul style="list-style-type: none"> <li>• Camera module</li> <li>• H5AMH-AD-DOME1</li> <li>• H5AMH-DO-COVR1 or H5AMH-DO-COVR1-SMOKE</li> <li>• Optional, H4AMH-AD-IRIL1</li> </ul>
<b>IN-CEILING MOUNT</b>		Order one of: <ul style="list-style-type: none"> <li>• Camera module</li> <li>• H4AMH-AD-CEIL1</li> <li>• H5AMH-DC-COVR1 or H5AMH-DC-COVR1-SMOKE</li> <li>• Optional, CLPNL-1001 if ceiling panel is needed</li> </ul>

## CAMERA MODULES

With the modular design of the H5A 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-H5A-3MH	3X3MP, WDR, 270 degree max field of view, Lightcatcher, 3.3-5.7MM, Camera Only
12C-H5A-4MH	4X3MP, WDR, 360 degree max field of view, Lightcatcher, 3.3-5.7MM, Camera Only
15C-H5A-3MH	3X5MP, WDR, 270 degree max field of view, Lightcatcher, 3.3-5.7MM, Camera Only
20C-H5A-4MH	4X5MP, WDR, 360 degree max field of view, Lightcatcher, 3.3-5.7MM, Camera Only
24C-H5A-3MH	3X8MP, WDR, 270 degree max field of view, Lightcatcher, 3.3-5.7MM, Camera Only
32C-H5A-4MH	4X8MP, WDR, 360 degree max field of view, Lightcatcher, 3.3-5.7MM, Camera Only

## MOUNTING ADAPTERS AND DOME COVERS

The H5A Multisensor modular design provides pendant, surface, or in-ceiling mounting adapters and a choice of two dome covers compatible with all the H5A Multisensor camera modules.

DISPLAY PART NUMBER	DESCRIPTION
H5AMH-AD-DOME1	Outdoor surface mount adapter, must order either a H5AMH-DO-COVR1 or H5AMH-DO-COVR1-SMOKE.
H5AMH-AD-PEND1	Outdoor pendant mount adapter, must order one of WLMT-1001 or NPTA-1001 and one of H5AMH-DO-COVR1 or H5AMH-DO-COVR1-SMOKE.
WLMT-1001	Pendant wall arm adapter, for use with H5AMH-AD-PEND1.
NPTA-1001	Pendant NPT adapter for use with H5AMH-AD-PEND1.
PLMT-1001	Aluminum pole mounting bracket, compatible with WLMT-1001.
CRNMT-1001	Aluminum corner mounting bracket, compatible with WLMT-1001.
H4AMH-AD-CEIL1	In-ceiling adapter, must order either a H5AMH-DC-COVR1 or H5AMH-DC-COVR1-SMOKE.
H5AMH-DO-COVR1	Dome bubble and cover, for outdoor surface mount or pendant mount, clear.
H5AMH-DO-COVR1-SMOKE	Dome bubble and cover, for outdoor surface mount or pendant mount, smoked. Not recommended for low light.
H5AMH-DC-COVR1	Dome bubble and cover, for in-ceiling mount, clear.
H5AMH-DC-COVR1-SMOKE	Dome bubble and cover, for in-ceiling mount, smoked. Not recommended for lowlight applications.
CPNL-1001	Metal ceiling panel.

## OPTIONAL IR ILLUMINATOR

The optional IR Illuminator is available for the H5A Multisensor when mounted in a pendant or surface mount adapter.

DISPLAY PART NUMBER	DESCRIPTION
H4AMH-AD-IRIL1	Optional IR illuminator ring, for use with H5AMH-DO-COVR1.

## OPTIONAL INJECTORS

DISPLAY PART NUMBER	DESCRIPTION
POE60U-1BTE	Gigabit 802.3bt 60 W PoE Injector, single port.
POE-INJ2-PLUS	Indoor single port POE+ injector. Injector operational temperature range -20 °C to +40 °C (-4 °F to 104 °F).

## OPTIONAL ACCESSORIES

DISPLAY PART NUMBER	DESCRIPTION
USB-AC56-NA-MSI / USB-AC56-EU-MSI	USB Wi-Fi adapter.
CBLKT-1001	Cable kit replacement for Multi Head cameras.
CAM-FIPS	Camera license to enable FIPS cryptographic mode on the H5A Multisensor or any H5A camera.

# SUPPORT

Learn more and find additional documentation at [avigilon.com](https://avigilon.com) or email [sales@avigilon.com](mailto:sales@avigilon.com) for specific product support.



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# H5A Dual Head Camera

2 x 3 MP

2 x 5 MP

This cost-effective and low profile dual-sensor camera brings enhanced security to any site by increasing coverage and minimizing blind spots for those hard to secure areas. Built with small spaces in mind, the H5A Dual Head provides areas such as hallways, stairwells, and corner intersections, or any application that requires the coverage of two cameras installed in close proximity with high imaging quality, even with its small footprint. The H5A Dual Head camera's advanced analytic capabilities further improve situational awareness by enabling security teams to respond swiftly to potentially critical events.



## Features



### Next-Generation Video Analytics

Detects more objects with expanded object classification and greater accuracy for faster responses, even in crowded scenes.



### COVID-19 response technology

Features Avigilon video analytics for Occupancy Counting and No Face Mask Detection, supporting facilities' health and safety efforts to curb the spread of COVID-19.



### ONVIF® Compliant

Native ONVIF Profile S, T, G, and M compliance allows easy integration with existing ONVIF infrastructures.

ONVIF is a trademark of Onvif, Inc.



### Improved Coverage, Minimal Blind Spots

Provides increased area coverage, while minimizing blind spots for enhanced security with a single camera installation, for long hallways, L-shaped hallway intersections, or stairwells to monitor both up and down staircases.



### Cost-Effective

As a dual-head sensor, sites can lower their overall deployment costs by reducing camera count, network infrastructure, power and cabling, installation labor, and VMS licensing costs.



### FIPS 140-2 Compliant

Brings increased data security with FIPS-compliant cryptography enabled on cameras<sup>2</sup>.

<sup>2</sup> Optional purchase of FIPS Level 1 camera license.

# Specifications

Image Performance		2 × 3.0 MP	2 × 5.0 MP
Image Sensor		1/2.7" progressive scan CMOS	
Max Resolution (H x V) and Aspect Ratio		(4:3) 2048 x 1536	(4:3) 2592 x 1944
2x Image Sensor, Max Resolution		4096 x 1536	5184 x 1944
Dynamic Range	WDR Off:	Up to 82 dB	
	WDR On:	Up to 120 dB	
Max Image Rate (60 Hz/50 Hz)	Analytics <sup>1</sup>	24 / 25 fps	15 / 12.5 fps
	High Framerate mode	30 / 25 fps	24 / 20 fps
Bandwidth Management		HDSM SmartCodec technology; Idle scene mode	
3D Noise Reduction Filter		Yes	

<sup>1</sup> Maximum image rate with analytics enabled on all sensors.

Lens and IR Illumination	
Lens	3.35 - 7.0 mm, F/1.93 remote focus and zoom, fixed iris
IR Illumination Max Distance <sup>2</sup> (high power 850 nm LEDs)	Wide: 15 m (49 ft) Tele: 30 m (98 ft)
Minimum Illumination	0.1 lux in color mode, 0.05 lux in monochrome mode, 0 lux with IR on
Horizontal Angle of View	43° - 91°
Vertical Angle of View	32° - 67°

<sup>2</sup> IR illumination power may be reduced at higher operating temperatures.

Image Control	
Image Compression Method	H.264 HDSM SmartCodec, H.265 HDSM SmartCodec, Motion JPEG
Streaming	Multi-stream H.264, Multi-stream H.265, Motion JPEG
Motion Detection	Pixel motion: Selectable sensitivity and threshold. Classified object detection
Camera Tamper Detection	Yes, when analytics are enabled
Electronic Shutter Control	Automatic, Manual (1/7.5 to 1/8000 sec)
Iris Control	N/A
Day/Night Control	Automatic, Manual
Flicker Control	50 Hz, 60 Hz
White Balance	Automatic, Manual
Backlight Compensation	Adjustable
Privacy Zones	Up to 64 zones

Network	
Network	100BASE-TX, RJ45 Connector, CAT5e Cabling
ONVIF	ONVIF compliance version Profile S, Profile T, Profile G, and Profile M ( <a href="http://www.onvif.org">www.onvif.org</a> )
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication, FIPS 140-2 L1 (with optional camera license), Signed and encrypted firmware
Protocols	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMPv2, ICMP, DHCP, Zeroconf, HSTS, QoS, DSCP
Streaming Protocols	RTP/UDP, RTP/UDP multicast, RTP/RTSP/TCP, RTP/RTSP/HTTP/TCP, RTP/RTSP/HTTPS/TCP, HTTP
Device Management Protocols	SNMP v2c, SNMP v3



Peripherals	
USB Port	USB 2.0
Onboard Storage	2 x microSD/microSDHC/microSDXC slots - video speed class card required. Class V10 or better recommended.

Auxiliary I/O	
Audio Compression Method	Opus, G.711 PCM 8 kHz
Audio Input/Output	Line level input and output
External I/O Terminals	Alarm In, Alarm Out

Mechanical	Direct Surface Mount	Surface Mount with Junction Box	Pendant Mount with NPT Adapter	Pendant Mount with NPT+ Wall Mount
Dimensions (LxWxH)	218 mm x 118 mm x 82 mm; 8.6" x 4.6" x 3.2"	237 mm x 136 mm x 120 mm; 9.3" x 5.4" x 4.7"	230 mm x 129 mm x 146 mm; 9.0" x 5.0" x 5.8"	230 mm x 235mm x 227 mm; 9.0" x 9.2" x 8.9"
Weight	1.25 kg (2.75 lbs)	2.33 kg (5.13 lbs)	1.67 kg (3.67 lbs)	3.07 kg (6.75 lbs)
Body	Aluminum			
Finish	Cast, powder coated, close to RAL9002			
Adjustment Range	Pan: 180°, Azimuth: 360°, Tilt: 30° - 95° tilt (recommended), 10° - 95° tilt (maximum)			

Electrical	
Power Consumption	13 W max
Power Source	PoE: IEEE802.3af Class 3 compliant
RTC Backup Battery	3V manganese lithium
Memory	2 GB RAM, 512 MB Flash

Environmental	
Operating Temperature	-30 °C to +60 °C (-22 °F to 140 °F), in enclosed space -30 °C to +65 °C (-22 °F to 149 °F), with ambient convection Cold start delay of up to 10 min at -30 °C (-22 °F). Camera may restart during startup delay
IR Illuminator Behavior	IR illuminator will turn off if the temperature is 55 °C (131 °F) or higher. The illuminator will operate at 50% power if the temperature is between 45 °C (113 °F) and 54 °C (129 °F). The illuminator will operate at 50% power if the temperature is below -25 °C (-13 °F), with ambient convection.
Storage Temperature	-10 °C to +70 °C (14 °F to 158 °F)
Humidity	0 - 95% non-condensing

Certifications	
Certifications/Directives	UL, cUL, CE, UKCA, ROHS, REACH, RCM, KC, EAC, BIS, NOM
Safety	UL 62368-1, CSA 62368-1, IEC/EN 62368-1, IEC 62471
Environmental	UL/CSA/IEC 60950-22, IEC 62262 IK10 Impact Rating IEC 60529 IP66 and IP67 Weather Rating (H5DH-DO1-IR models only)
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 50121-4
Electromagnetic Immunity	EN 55035, EN 61000-6-1, EN 50130-4, EN 50121-4

# Analytics Specifications

## Supported 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 moves into the region of interest and then stays for an extended amount of time.
Objects Crossing Beam	The event is triggered when the specified number of objects have crossed the directional beam that is configured over the camera's field of view. The beam can be unidirectional or bidirectional.
Object Appears or Enters Area	The event is triggered by each object that enters the region of interest. 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 moves into a region of interest and then stops moving for the specified threshold time.
Direction Violated	The event is triggered when an object moves in the prohibited direction of travel.
Tamper Detection	The event is triggered when the scene unexpectedly changes.

## Supported Classified Object Types

Object Types in Outdoor Mode	Vehicle, sub-types: Car, Truck, Bicycle, Motorcycle, Bus Person
Object Types in Indoor Mode	Person

## Teach by Example

Teach By Example	Yes, when used with Avigilon Control Center™ or Avigilon Unity Video
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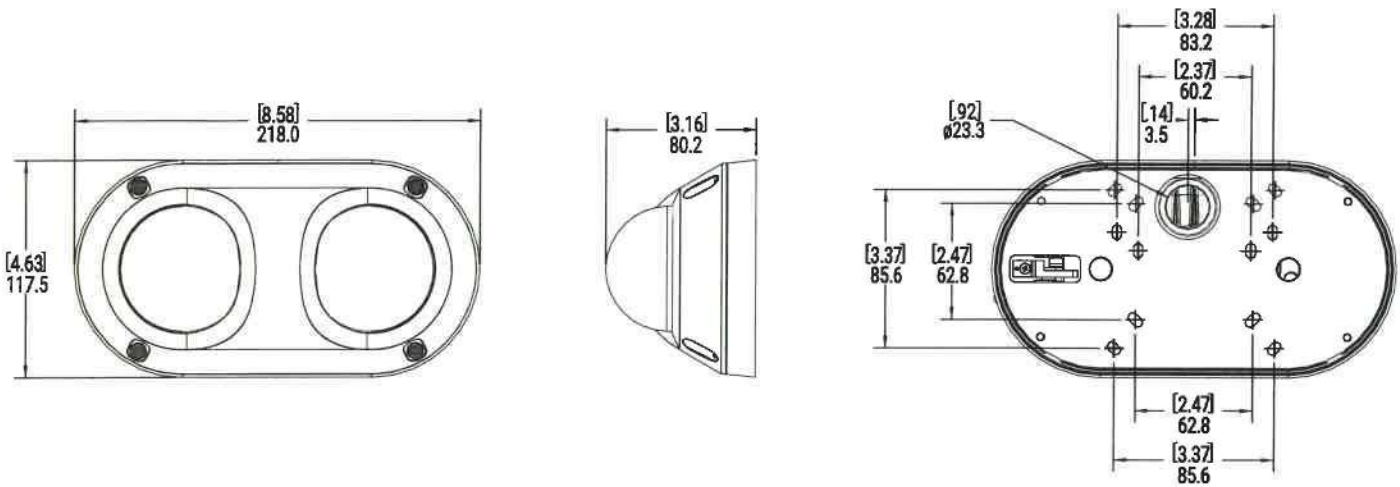
## Avigilon Control Center (ACC) Versions Supported Features

ACC Version 6.14.12 or higher	All supported analytic events with two types of classified objects: person or vehicle. Appearance search when paired with appropriate server hardware. H.265 supported.
ACC Version 7.2 or higher	All supported analytic events with people and vehicles and all vehicle sub-types as classified objects. Appearance search when paired with appropriate server hardware. H.265 supported.

# Outline Dimensions

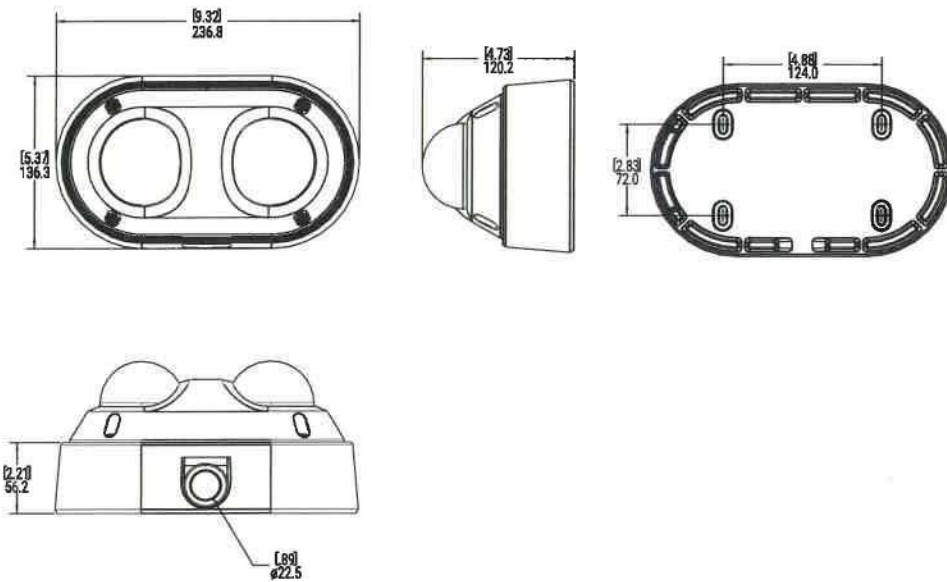
## Dual Head Surface Mount Camera (H5DH-D1-IR/H5DH-DO1-IR)

[X.X]	INCHES
X	MM



## Dual Head Junction Box Mount Camera (H5DH-D1-IR/H5DH-DO1-IR with H5DH-DO-JBOX1 junction box)

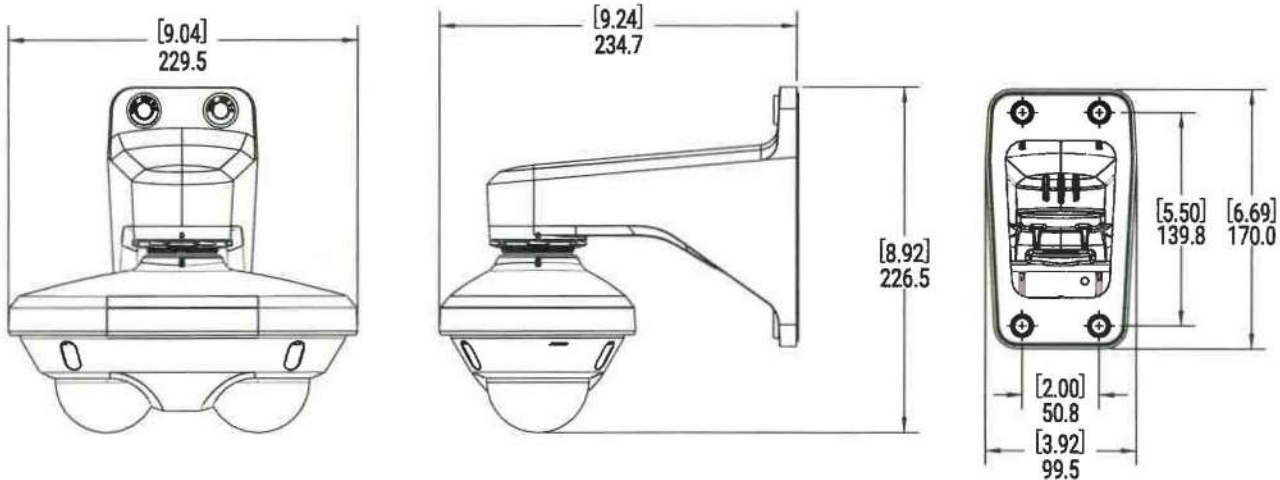
[X.X]	INCHES
X	MM



## Dual Head Pendant Mount Camera

(H5DH-D1-IR/H5DH-DO1-IR with H5DH-MT-NPTA1 adapter and WLMT-1021 wall arm)

[X.X]	INCHES
X	MM



# Ordering Information

	MP	WDR	Analytics	Lens	IP66/IP67	IR LEDs
6.0C-H5DH-D1-IR (Discontinued)	2 × 3.0	✓	✓	3.35 - 7.0 mm		✓
6.0C-H5DH-DO1-IR	2 × 3.0	✓	✓	3.35 - 7.0 mm	✓	✓
10.0C-H5DH-D1-IR (Discontinued)	2 × 5.0	✓	✓	3.35 - 7.0 mm		✓
10.0C-H5DH-DO1-IR	2 × 5.0	✓	✓	3.35 - 7.0 mm	✓	✓

H5DH-DO-CLER1	Replacement outdoor dome cover
H5DH-DI-CLER1	Replacement indoor dome cover
H5DH-DO-JBOX1	Optional junction box mounting adapter
H5DH-MT-NPTA1	Optional pendant NPT mounting adapter
WLMT-1021	Pendant wall mount arm
PLMT-1001	Aluminum pole mounting bracket for pendant dome cameras, compatible with WLMT-1021
CRNMT-1001	Aluminum corner mounting bracket for pendant dome cameras, compatible with WLMT-1021

## Optional Camera Licenses and accessories

CAM-FIPS	Camera license to enable FIPS Level 1 cryptographic mode on any H5A camera
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† Excludes H5A Explosion-Protected camera line.

## Support

Learn more and find additional documentation at [avigilon.com](https://www.avigilon.com) or email [sales@avigilon.com](mailto:sales@avigilon.com) for specific product support.



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# H6A and H6X Dome Cameras

2 MP

4 MP

6 MP

8 MP

The Avigilon H6A camera line elevates your situational awareness to new heights by combining onboard video analytics with audio analytics. It comes with a built-in mic to alert you of auditory disturbances, allowing you to not only see, but also hear what's happening. If you need to meet certain privacy and/or cybersecurity requirements, the AI-powered H6X camera line has been designed with no built-in mic nor wireless technology for easy compliance. Take on any environment with the flexible dome form factor that's available on both camera lines. Its modular design and multiple mounting options offer maximum installation flexibility.



## Features



### AdaptAI Video Analytics

Be a step ahead of incidents with the camera's ability to flag unusual crowds or a person crawling under a fence. Classify more objects such as a commercial van, pick-up truck or box truck with analytics event support.



### Audio Analytics & Recording

Expand your awareness with alerts for gunshots<sup>1</sup>, breaking glass, screaming and more. Review video from the triggering camera to investigate the sound. Have the option to record audio when you need it.



### Dynamic Privacy Masking

Easily meet privacy requirements with the ability to track and blur people and vehicles appearing in video, but have the flexibility for authorized personnel to lift it during investigations.



### Outdoor-Ready Design

Safeguard the outdoors with the exceptionally tough outdoor dome that is rated IK10/11, IP66/67 and NEMA Type 4X<sup>2</sup> to withstand impact, water, corrosion and more.



### Low-Light Clarity

Never miss a moment in low-light conditions with IR models available. The split IR dome is designed for 24/7 visibility, even when dust collects on the camera, reducing the number of maintenance visits.



### Secure & Compliant

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

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

<sup>2</sup> Environmental ratings will vary by models.

# Specifications

Image Performance		2.0 MP	4.0 MP	6.0 MP	8.0 MP (4K Ultra HD)
Image Sensor		1/2.8" progressive scan CMOS	1/1.8" progressive scan CMOS		
Max Resolution (H x V) and Aspect Ratio	Primary	(16:9) 1920 x 1080	(16:9) 2688 x 1520, 2560 x 1440, 1920 x 1080 (4:3) 1984 x 1488	(16:9) 3328 x 1872, 3200 x 1800, 2688 x 1520, 2560 x 1440, 1920 x 1080 (4:3) 2880 x 2160, 2304 x 1728, 2048 x 1536	(16:9) 3840 x 2160, 3328 x 1872, 3200 x 1800, 3072 x 1728 (4:3) 2880 x 2160, 2560 x 1920
	Secondary	(16:9) 1920 x 1080*, 1280 x 720, 768 x 432, 640 x 360, 512 x 288	(16:9) 2688 x 1520*, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288 (4:3) 1984 x 1488*, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384, 384 x 288;	(16:9) 3328 x 1872*, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288 (4:3) 2880 x 2160*, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384, 384 x 288	(16:9) 3840 x 2160*, 2560 x 1440, 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288 (4:3) 2880 x 2160*, 2560 x 1920, 2304 x 1728, 1920 x 1440, 1600 x 1200, 1280 x 960, 768 x 576, 640 x 480, 512 x 384
	Tertiary	(16:9) 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216	(16:9) 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216 (4:3) 1280 x 960, 800 x 600, 640 x 480, 512 x 384, 368 x 264	(16:9) 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216 (4:3) 1280 x 960, 768 x 576, 640 x 480, 512 x 384, 384 x 288, 368 x 264	(16:9) 1920 x 1080, 1280 x 720, 768 x 432, 640 x 360, 512 x 288, 384 x 216 (4:3) 1920 x 1440, 1600 x 1200, 1280 x 960, 800 x 600, 640 x 480, 512 x 384, 384 x 288, 368 x 264
Dynamic Range	WDR Off	Up to 83 dB			
	WDR On (IEC 62676)	Up to 126 dB (dual exposure, 30 fps) Up to 144 dB (triple exposure, 20 fps or less)	Up to 106dB (dual exposure, 30 fps) Up to 136dB (triple exposure, 20 fps or less)	Up to 130dB (dual exposure, 30 fps)	
	WDR On	Up to 130 dB (dual exposure, 30 fps) Up to 150 dB (triple exposure, 20 fps or less)	Up to 120dB (dual exposure, 30 fps) Up to 144dB (triple exposure, 20 fps or less)	Up to 144 dB (dual exposure, 20 fps or less)	
Max Image Rate	(50 Hz/60 Hz): 50 fps/60 fps in High Frame Rate Mode <sup>1</sup> , otherwise 25 fps/30 fps			(50 Hz/60 Hz): 25 fps/30 fps	
Bandwidth Management	HDSM SmartCodec technology; Idle scene mode				

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

<sup>1</sup> Max Frame Rate of 60 fps is only achievable with High Frame Rate mode enabled. High Frame Rate mode will disable analytics.

Lens and IR Illumination		2.8 - 12 mm	4.4 - 9.3 mm	10.9 - 29 mm
IR Illumination Max Distance <sup>2</sup> (high power 850 nm LEDs)		50 m (164 ft) full tele 25 m (82 ft) full wide	50 m (164 ft) full tele 25 m (82 ft) full wide	70 m (230 ft) full tele 40 m (131 ft) full wide
Minimum Illumination	2 MP	With IR: 0 lux in monochrome mode Without IR: 0.003 lux in monochrome mode; 0.01 lux in color mode	N/A	With IR: 0 lux in monochrome mode Without IR: 0.004 lux in monochrome mode; 0.01 lux in color mode
	4 MP	N/A	With IR: 0 lux in monochrome mode Without IR: 0.003 lux in monochrome mode; 0.008 lux in color mode	With IR: 0 lux in monochrome mode Without IR: 0.004 lux in monochrome mode; 0.01 lux in color mode
	6 MP & 8 MP	N/A	With IR: 0 lux in monochrome mode Without IR: 0.006 lux in monochrome mode; 0.02 lux in color mode	With IR: 0 lux in monochrome mode Without IR: 0.008 lux in monochrome mode; 0.03 lux in color mode

Lens and IR Illumination		2.8 - 12 mm	4.4 - 9.3 mm	10.9 - 29 mm
Horizontal Angle of View Based on Aspect Ratio	2 MP	(16:9) 27° - 119°	N/A	(16:9) 11° - 30°
	4 MP	N/A	(16:9) 47° - 111° (4:3) 35° - 78°	(16:9) 15° - 42° (4:3) 11° - 31°
	6 MP & 8MP	N/A	(16:9) 47° - 109° (4:3) 35° - 78°	(16:9) 15° - 42° (4:3) 11° - 31°
Vertical Angle of View Based on Aspect Ratio	2 MP	(16:9) 15° - 64°	N/A	(16:9) 6° - 16.5°
	4 MP & 6 MP & 8 MP	N/A	(16:9) 26° - 57° (4:3) 26° - 57°	(16:9) 9° - 23° (4:3) 9° - 23°
Max Aperture		F1.4	F1.3	F1.7
Control		Remote Zoom and Focus, Autofocus, IR Cut Filter		

<sup>2</sup> IR illumination power may be reduced at higher operating temperatures.

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

Network	
Network	100BASE-TX for H6A, 1000BASE-T for H6X
Cabling	CAT5e
Connector	RJ-45
ONVIF	ONVIF® compliance Profile S, Profile T, Profile M and Profile G ( <a href="http://www.onvif.org">www.onvif.org</a> )
Security	Password protection, HTTPS encryption, digest authentication, WS authentication, user access log, 802.1x port based authentication, FIPS 140-2 L1 (with optional camera license), onboard FIPS 140-2 L3 certified TPM, Secure Boot
Protocols	IPv6, IPv4, HTTP, HTTPS, SOAP, DNS, NTP, RTSP, RTCP, RTP, TCP, UDP, IGMPv3, ICMP, DHCP, Zeroconf, ARP, HSTS, QoS, DSCP
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 <sup>3</sup>	Two microSD/microSDHC/microSDXC slots - video speed class card required. Class V10 or better recommended.

<sup>3</sup> Tested maximum capacity is 1TB.



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

Mechanical		Surface Mount	In-Ceiling mount	Pendant Mount
Dimensions (DxH)		182 mm x 132 mm; 7.16" x 5.19"	219 mm x 198 mm; 8.62" x 7.79"	182 mm x 190 mm; 7.16" x 7.48"
Accessory Only Dimensions (DxH)		N/A	219 mm x 115 mm; 8.62" x 4.52"	155 mm x 65 mm; 6.1" x 2.55"
Weight	Indoor Dome	1.21 kg; 2.66 lbs	1.83 kg; 4.03 lbs	1.63 kg; 3.59 lbs
	Outdoor Dome	1.59 kg; 3.5 lbs	1.99 kg; 4.38 lbs	2.01 kg; 4.43 lbs
Dome Bubble		Polycarbonate	Polycarbonate	Polycarbonate
Body		Polycarbonate and aluminum	Polycarbonate and aluminum	Polycarbonate and aluminum
Housing		Surface mount	Recessed mount	Pendant mount
Finish	Indoor Dome	Plastic injection mold grey (Pantone 427C)	Plastic injection mold grey (Pantone 427C) & Powdercoat black	Powdercoat grey & plastic injection mold grey (Pantone 427C)
	Outdoor Dome	Powdercoat grey (Pantone 427C)	Plastic injection mold grey (Pantone 427C) & Powdercoat black	Powdercoat grey (Pantone 427C)
Adjustment Range		Pan 360°, Azimuth 349°, Tilt 92°		

Electrical		
Power Consumption		25W (18W with no IR or IR disabled)
Power Source	PoE	IEEE 802.3af Class 3
	PoE+	IEEE 802.3at Class 4
IR Illumination Behavior	PoE	IR illuminator will turn off if the temperature is 65°C (149°F) or higher. The illuminator will operate at 50% power and 25% power if below -25°C (-13°F)
	PoE+	IR illuminator will turn off if the temperature is 65°C (149°F) or higher. The illuminator will operate at 50% power if the temperature is between 55°C (131°F) and 65°C (149°F) and 50% power if below -25°C (-13°F)
External Power		12-24 VDC +/-10%
RTC Backup Battery		3V manganese lithium
Memory		4GB RAM, 4GB Flash
Redundant Power		Seamless failover between PoE and Aux and back without interrupt in camera operation (for H6X only)

Environmental		Indoor Dome	Outdoor Dome
Operating Temperature	PoE	-10°C to +55°C (-14°F to 131°F)	-30°C to +65°C (-22°F to 149°F) with IEEE 802.3af Class 3 (13W PoE)
	With External Power or PoE+	-10°C to +55°C (-14°F to 131°F)	-50°C to +65°C (-58°F to 149°F) with external power or IEEE 802.3at Class 4 (25.5W PoE+)
Startup Temperature	PoE	-10°C to +55°C (-14°F to 131°F)	-30°C to +65°C (-22°F to 149°F) with IEEE 802.3af Class 3 (13W PoE)
	With External Power or PoE+	-10°C to +55°C (-14°F to 131°F)	-40°C to +65°C (-40°F to 149°F) with external power or IEEE 802.3at Class 4 (25.5W PoE+)
Absolute Maximum Temperature		74 °C (165 °F) per NEMA TS2 (Temp.) para 2.2.7.2 - 2.2.7.7	
Storage Temperature		-10°C to +70°C (14°F to 158°F)	
Humidity		0 - 95% non-condensing	

Certifications		
Certifications/Approvals	UL, cUL, CE, ROHS, RCM, UKCA, NOM, KC, BIS	
Safety Standards	UL 62368-1, CSA 62368-1, IEC/EN 62368-1, IEC 62471, UL 2043 Plenum (in-ceiling only)	
Environmental Standards/Ratings	Indoor Dome	IEC 60529 IP54, IEC/EN 62262 IK11 (IK10 Surface Mount w/IR)
	Outdoor Dome	IEC 60529 IP66, IP67, IP68 (2m depth for 2 hours), IPX9K, NEMA 4X, IEC 60068-2 Shock & Vibration, NEMA TS2 Sec 2.2.7-2.2.9, IK11
Electromagnetic Emissions Standards	FCC Part 15 Subpart B Class B, ICES-003 Class B, EN 55032 Class B, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 50121-4, EN 50130-4	
Electromagnetic Immunity Standards	EN 55035, EN 61000-6-1, EN 50121-4, EN 50130-4	
Warranty	Limited 5 Year Warranty ( <a href="http://avigilon.com/warranty">avigilon.com/warranty</a> )	

## Analytics Specifications

Supported 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 moves into the region of interest and then stays for an extended amount of time.
Objects Crossing Beam	The event is triggered when the specified number of objects have crossed the directional beam that is configured over the camera's field of view. The beam can be unidirectional or bidirectional.
Object Appears or Enters Area	The event is triggered by each object that enters the region of interest. 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 moves into a region of interest and then stops moving for the specified threshold time.
Direction Violated	The event is triggered when an object moves in the prohibited direction of travel.
Smart Motion Rule	Events are sent for person (including crawling) and vehicle present, against default unchangeable parameters
Tamper Detection	The event is triggered when the scene unexpectedly changes.
Crowd Size	This event is triggered when the number of people is exceeded over a configurable duration.
Unusual Crowd Growth	This event is triggered when a crowd size grows unexpectedly.
Unusual Crowd Size	This event is triggered when an unusual crowd size is detected.

Analytics capabilities, including detection range, may vary by camera line. Please consult the [Avigilon Self-Learning Video Analytics Design Guide](#) for details

Supported Classified Object Types	
Object Types in Outdoor Mode	Vehicle, sub-types: Car, Truck, Bicycle, Motorcycle, Bus Person
Object Types in Indoor Mode	Person

Teach by Example	
Teach By Example	Yes, when used with Avigilon Control Center™ or Avigilon Unity Video

## Supported Audio Analytics Events

Gunshot <sup>1</sup>	Up to 100 meters
Scream	Up to 15 meters
Glass Break	Up to 15 meters
Car Alarm	Up to 30 meters
Smoke Alarm	Up to 15 meters
Dog Bark	Up to 15 meters
Loud Noise	Up to 40 meters
Ultrasonic Panic Alarm <sup>2</sup>	Up to 40 meters

<sup>1</sup> Optional add-on license required.

<sup>2</sup> The detection range is influenced by the quality and power of the device used to create the panic alarm.

## Avigilon Software Supported Features

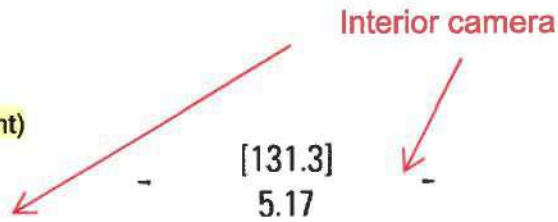
Avigilon Unity Video 8.0 or higher	All supported analytic events with people and vehicles and all vehicle sub-types as classified objects. Appearance search when paired with appropriate server hardware. Unusual Activity Detection. H.265 supported. Audio analytics. Crowd analytics. Classified object privacy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

# Outline Dimensions

## Dome Camera with Surface Mount

(H6A Dome camera + provided surface mount)

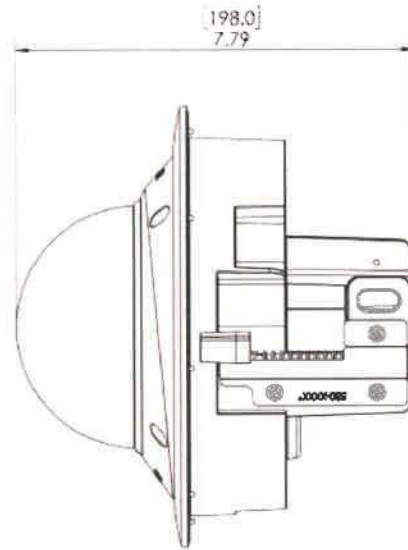
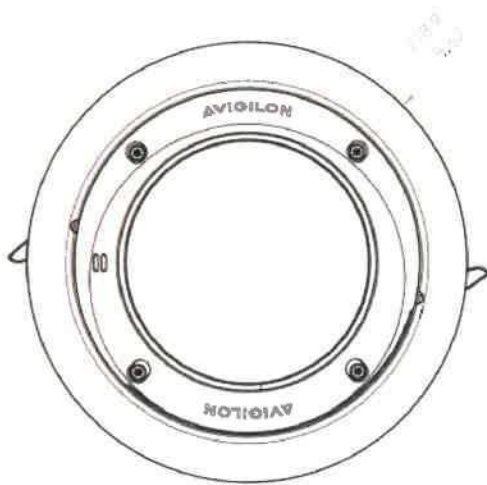
[Ø181.8]  
Ø7.16



[X.X]	INCHES
X	MM

## Dome Camera with In-Ceiling Mount

(H6A Dome camera + CLADP-1001)





# Ordering Information

Mounting Scenario	Ordering information	
<p><b>PENDANT WALL MOUNT</b></p> <p>Exterior camera </p> 		<p>Order one of:</p> <ul style="list-style-type: none"> <li>Indoor or outdoor surface mount camera</li> <li>H6A-MT-NPTA1</li> <li>WLMT-1021</li> </ul> <p>Optional:</p> <ul style="list-style-type: none"> <li>PLMT-1001 (Pole mount adapter)</li> <li>CRNMT-1001 (Corner mount adapter)</li> </ul>
<p><b>PENDANT NPT MOUNT</b></p> 		<p>Order one of:</p> <ul style="list-style-type: none"> <li>Indoor or outdoor surface mount camera</li> <li>H6A-MT-NPTA1</li> </ul>
<p><b>SURFACE MOUNT</b></p> <p>Interior camera </p> 		<p>Order one of:</p> <ul style="list-style-type: none"> <li>Indoor or outdoor surface mount camera</li> </ul> <p>Optional:</p> <ul style="list-style-type: none"> <li>DMSLD-1001 (weathershield)</li> </ul>
<p><b>IN-CEILING MOUNT</b></p> 		<p>Order one of:</p> <ul style="list-style-type: none"> <li>Indoor or outdoor in-ceiling mount camera</li> <li>CLADP-1001</li> </ul> <p>Optional:</p> <ul style="list-style-type: none"> <li>CLPNL-1011 (metal ceiling panel)</li> </ul>

## Outdoor Dome Camera

(H6A-DO)

	MP	WDR	Lightcatcher Technology	Lens	IR	Analytics	HDSM SmartCodec	Microphone	Seamless Failover
2.0C-H6A-DO1	2.0	✓	✓	2.8 - 12 mm		✓	✓	✓	
2.0C-H6A-DO2	2.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
2.0C-H6A-DO1-IR	2.0	✓	✓	2.8 - 12 mm	✓	✓	✓	✓	
2.0C-H6A-DO2-IR	2.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	
4.0C-H6A-DO1	4.0	✓	✓	4.4 - 9.3 mm		✓	✓	✓	
4.0C-H6A-DO2	4.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
4.0C-H6A-DO1-IR	4.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓	✓	
4.0C-H6A-DO2-IR	4.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	
6.0C-H6A-DO1	6.0	✓	✓	4.4 - 9.3 mm		✓	✓	✓	
6.0C-H6A-DO2	6.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
6.0C-H6A-DO1-IR	6.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓	✓	
6.0C-H6A-DO2-IR	6.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	
8.0C-H6A-DO1	8.0	✓	✓	4.4 - 9.3 mm		✓	✓	✓	
8.0C-H6A-DO2	8.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
8.0C-H6A-DO1-IR	8.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓	✓	
8.0C-H6A-DO2-IR	8.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	

(H6X-DO)

Exterior camera

	MP	WDR	Lightcatcher Technology	Lens	IR	Analytics	HDSM SmartCodec	Microphone	Seamless Failover
4.0C-H6X-DO1-IR	4.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓		✓
4.0C-H6X-DO2-IR	4.0	✓	✓	10.9 - 29 mm	✓	✓	✓		✓
8.0C-H6X-DO1-IR	8.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓		✓
8.0C-H6X-DO2-IR	8.0	✓	✓	10.9 - 29 mm	✓	✓	✓		✓

Indoor Dome Camera  
(H6A-D)

Interior camera

	MP	WDR	Lightcatcher Technology	Lens	IR	Analytics	HDSM SmartCodec	Microphone	Seamless Failover
2.0C-H6A-D1	2.0	✓	✓	2.8 - 12 mm		✓	✓	✓	
2.0C-H6A-D2	2.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
2.0C-H6A-D1-IR	2.0	✓	✓	2.8 - 12 mm	✓	✓	✓	✓	
2.0C-H6A-D2-IR	2.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	
4.0C-H6A-D1	4.0	✓	✓	4.4 - 9.3 mm		✓	✓	✓	
4.0C-H6A-D2	4.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
4.0C-H6A-D1-IR	4.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓	✓	
4.0C-H6A-D2-IR	4.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	
6.0C-H6A-D1	6.0	✓	✓	4.4 - 9.3 mm		✓	✓	✓	
6.0C-H6A-D2	6.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
6.0C-H6A-D1-IR	6.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓	✓	
6.0C-H6A-D2-IR	6.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	
8.0C-H6A-D1	8.0	✓	✓	4.4 - 9.3 mm		✓	✓	✓	
8.0C-H6A-D2	8.0	✓	✓	10.9 - 29 mm		✓	✓	✓	
8.0C-H6A-D1-IR	8.0	✓	✓	4.4 - 9.3 mm	✓	✓	✓	✓	
8.0C-H6A-D2-IR	8.0	✓	✓	10.9 - 29 mm	✓	✓	✓	✓	

Dome Camera Accessories

H6A-MT-NPTA1	Pendant NPT adapter
WLMT-1021	Pendant wall arm, 1.5" NPT female, 20 cm (7.8") long
CLADP-1001	In-Ceiling adapter
CLPNL-1011	Metal ceiling panel for suspended ceiling installations
DMSLD-1001	Weathershield for dome cameras
DMBBL-1001	Replacement clear dome bubble
DMBBL-1011	Replacement IR dome bubble
DMSBL-1001	Optional smoked dome bubble, not compatible with the IR cameras
CBLKIT-1011	USB adapter cable, for use with USB-AC56 Wifi install kit
USB-AC56-NA-MSI	USB Wifi adapter install kit (North America)
USB-AC56-EU-MSI	USB Wifi adapter install kit (Europe)
GROM-1001	Camera sealing grommet, pack of 10
GROM-1011	Pipe sealing grommet, pack of 10
PLMT-1001	Pole mount adapter
CRNMT-1001	Corner mount adapter
CAM-AA-GUNSHOT	Avigilon Camera Gunshot Audio Analytics Channel, one per camera
CAM-AA-GUNSHOT-180D	Avigilon Camera Gunshot Audio Analytics Channel, 180 day demo license. Please contact Avigilon Technical Support.
CAM-FIPS	Camera license to enable FIPS cryptographic module.



# Support

Learn more and find additional documentation at [avigilon.com](https://avigilon.com) or email [sales@avigilon.com](mailto:sales@avigilon.com) for specific product support.



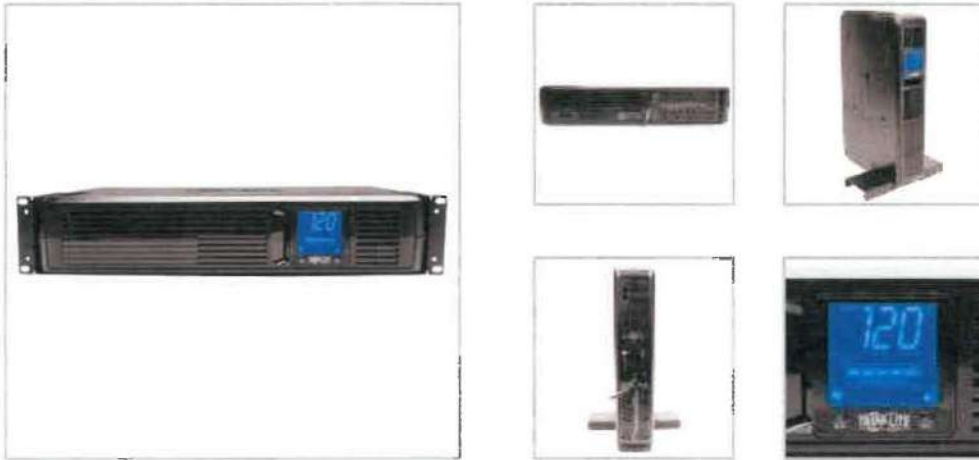
Jan 2024 | Rev 3

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## Smart LCD 1500VA 900W 120V Line-Interactive UPS - 8 Outlets, USB, DB9, 2U Rack/Tower

MODEL NUMBER: SMART1500LCD



Provides reliable 1500VA/900W power protection for your desktop computer, network workstation, homelab, audio/video components or media center. Protects against surges, line noise, blackouts and brownouts.

### Features

#### 1500VA/900W/120V Battery Backup for PC Networks, Security Systems or Digital Signage

This SmartPro® line-interactive UPS system provides reliable battery backup and AC power protection against blackouts, brownouts, overvoltages, surges and line noise that can damage valuable electronics or destroy data. The SMART1500LCD is ideal protection for small business networks, VoIP systems, point-of-sale applications, desktop workstations, home offices and home theater systems.

#### Reliable Battery Backup Keeps You Operational Through Power Outages

The field-replaceable, hot-swappable VRLA battery modules allow you to work through short power failures and give you enough time to safely save files and shut down your system in case of a prolonged blackout. Switchover from line to battery power happens within milliseconds to maintain continuous operation of connected equipment without interruption or rebooting.

#### NEMA 5-15R Outlets Protect Your Connected Components

Eight 5-15R outlets provide connected equipment with PWM sine wave AC output. Power provided by these outlets is filtered to protect connected equipment against damaging surges and line noise.

#### Automatic Voltage Regulation (AVR) Corrects Low- and High-Voltage Conditions

AVR protects your equipment from incremental hardware damage, data loss and performance problems caused by brownouts. The SMART1500LCD can correct brownouts as low as 75V and overvoltages as high as 147V back to nominal 120V power continuously, all while keeping the battery fully charged and ready to take over in case of power failure.

#### Premium Protection from EM/RFI Line Noise Helps Your Equipment Perform Better

This UPS system filters out disruptive electromagnetic and radio frequency interference that can inflict hardware damage or data loss. This EMI/RFI filtering also helps your connected components perform better and last longer.

#### ENERGY STAR-Certified to Help You Save Money and Protect the Environment

By meeting strict U.S. Department of Energy and U.S. Environmental Protection Agency requirements, this ENERGY STAR UPS system provides high operational efficiency to signal a reduction in BTU emissions, save on utility and cooling costs and help protect the environment.

### Highlights

- Protects equipment against blackouts, brownouts, overvoltages, surges and line noise
- Keeps AC power running during blackouts to allow time for file saves and safe shutdown
- Maintains continuous 120V nominal output during brownouts and overvoltages
- ENERGY STAR-certified to save electricity, lower costs and protect the environment
- Front-panel LCD reports detailed voltage, runtime, load and battery information

### Package Includes

- 1500VA 900W 120V Line-Interactive UPS
- USB cable
- DB9 cable
- Telephone cable
- Rack-mounting hardware
- Owner's manual



Powering Business Worldwide



**Intuitive Front-Panel Interface for Convenient UPS Operation and Monitoring**

The large LCD indicates a variety of UPS operational conditions, including voltage, runtime, load, battery and operating mode. The control panel rotates to accommodate both rack-mount and tower configurations. An audible alarm indicates loss of utility power or low battery.

**Advanced Communications Ports Allow for Automatic Saves and Shutdowns**

RS-232 and HID-compliant USB ports connect to a computer running free downloadable PowerAlert® software to enable safe unattended system shutdown in case of a prolonged power failure. Cables are included.

**Versatile Installation Options**

You can mount the SMART1500LCD in just 2U of space in an EIA-standard 19-inch rack using the included hardware. You can also adapt it for tower installation using the included brackets. The six-foot power cord with NEMA 5-15P plug connects to a compatible AC outlet.

## Specifications

<b>OVERVIEW</b>	
UPC Code	037332126146
UPS Type	Line-Interactive
<b>INPUT</b>	
Input Phase	Single-Phase
Rated input current (Maximum Load)	8.6A
Nominal Input Voltage(s) Supported	120V AC
UPS Input Connection Type	5-15P; Right-Angled
Input Circuit Breakers	10A
UPS Input Cord Length (ft.)	6
UPS Input Cord Length (m)	1.8
Recommended Electrical Service	15A 120V
<b>OUTPUT</b>	
Output Capacity (VA)	1500
Output Capacity (kVA)	1.5
Output Capacity (Watts)	900
Output Capacity (kW)	0.9
Power Factor	0.6
Nominal Voltage Details	115v nominal output in battery mode
Frequency Compatibility	60 Hz
Output Voltage Regulation (Line Mode)	-18%, +8%
Output Voltage Regulation (Battery Mode)	115V (+/- 5%)

Output AC Waveform (AC Mode)	Sine wave
Output AC Waveform (Battery Mode)	PWM sine wave
Nominal Output Voltage(s) Supported	110V; 115V; 120V
Output Receptacles	(8) 5-15R
Individually Controllable Load Banks	No
<b>BATTERY</b>	
Battery Type	Valve Regulated Lead Acid (VRLA)
Runtime Full Load (min.)	4.4 min. (900W)
Runtime Half Load (min.)	11.8 min. (450W)
Expandable Runtime	No
DC System Voltage (VDC)	24
Battery Recharge Rate (Included Batteries)	Less than 4.5 hours from 10% to 90%
Battery Access	Battery Access Door
Internal UPS Replacement Battery Cartridge	&nbsp;<a class="productLink" href="//tripplite.eaton.com/ups-battery-replacement-for-smart1200lcd-smart1500lcd-smart1500lcdxl-smx1500lcd~RBC1500">RBC1500</a>&nbsp;
Battery Replacement Description	IMPORTANT BATTERY REPLACEMENT INFORMATION > If your SMART1500LCD UPS has no battery replacement door, please contact a local electronics repair technician to source and install a matching replacement battery; If your SMART1500LCD UPS is equipped with a battery access door, please order Tripp Lite RBC1500 (quantity 1) replacement battery cartridge
<b>VOLTAGE REGULATION</b>	
Voltage Regulation Description	Automatic voltage regulation (AVR) maintains line power operation with an input voltage range of 75 to 147
Overvoltage Correction	Input voltages between 128 and 147 are reduced by 12%
Undervoltage Correction	Input voltages between 93 and 107 are boosted by 14%
Severe Undervoltage Correction	Input voltages between 75 and 92 are boosted by 30%
<b>USER INTERFACE, ALERTS &amp; CONTROLS</b>	
Front Panel LCD Display	Backlighted LCD screen offers detailed UPS status information, configuration options and Error message reporting; STATUS INFORMATION includes Input Voltage, Output Voltage, Estimated Runtime (minutes), Output Load Percentage, Output Load Wattage, Battery Charge Percentage, Graphical 5-Bar Battery Charge Level and UPS Operating Mode Display / CONFIGURATION OPTIONS include Power Sensitivity, LCD Status Information Scrolling, Alarm Disable, LCD Brightness and Self Test / REPORTED ERROR MESSAGES include Replace-Battery and Overload conditions; LCD Screen rotates for vertical or horizontal UPS placement
Switches	ON/OFF/MODE button provides UPS on/off power control (long-press) and advances the LCD screen display (short tap); MUTE/ENTER button provides temporary alarm cancel, plus selection and confirmation of on-screen configuration options
Alarm Cancel Operation	Press the MUTE/ENTER button during a power failure to silence the alarm; Once silenced, alarm will re-sound to indicate low-battery status
Audible Alarm	Audible alarm indicates power-failure and low-battery status; Alarm can be disabled entirely via front panel LCD interface (see manual)
LED Indicators	Front panel LCD display



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<b>SURGE / NOISE SUPPRESSION</b>	
UPS AC Suppression Joule Rating	870
UPS AC Suppression Response Time	Instantaneous
UPS Dateline Suppression	1 line TEL/DSL (1 in / 1 out); 10/100Base T Ethernet
UPS Dateline Suppression Details	168 joules; Compatible with POE applications
EMI / RFI AC Noise Suppression	Yes
<b>PHYSICAL</b>	
Primary Form Factor	Rackmount
Rack Height	2U
Cooling Method	Fan
Included Mounting Accessory Description	Included mounting brackets enable installation in 2 and 4 post racks, plus upright tower configurations; Set of 4 rubber-feet enable no-slip horizontal desktop placement
Installation Form Factors Supported with Included Accessories	2 post 19 inch rackmount; 2 post front mount; 4 post 19 inch rackmount; Tower
Minimum Required Rack Depth (cm)	35.56
Minimum Required Rack Depth (inches)	14
Primary UPS Depth (mm)	267
Primary UPS Height (mm)	89
Primary UPS Width (mm)	438
Shipping Dimensions (hwd / in.)	7.10 x 14.90 x 21.30
Shipping Dimensions (hwd / cm)	18.03 x 37.85 x 54.10
Shipping Weight (lbs.)	31.90
Shipping Weight (kg)	14.47
UPS Housing Material	ABS
UPS Power Module Dimensions (hwd, cm)	8.89 x 43.82 x 26.67
UPS Power Module Dimensions (hwd, in.)	3.5 x 17.25 x 10.5
UPS Power Module Weight (kg)	13.61
UPS Power Module Weight (lbs.)	30
Unit Dimensions (hwd / in.)	3.500 x 17.250 x 10.500
Unit Weight (lbs.)	30.0000
Unit Weight (kg)	13.61
<b>ENVIRONMENTAL</b>	
Operating Temperature Range	32° to 104°F (0° to 40°C)

Storage Temperature Range	5° to 122°F (-15° to 50°C)
Relative Humidity	Up to 95%, non-condensing
AC Mode BTU / Hr. (Full Load)	78
AC Mode Efficiency Rating (100% Load)	98%
Operating Elevation	0-6562 ft. (0-2000 m)
<b>COMMUNICATIONS</b>	
Network Monitoring Port Description	Supports detailed monitoring of UPS and site power conditions; DB9 provides contact-closure notification of AC Present (pins 1,9 connected) and AC Fail (pins 1,8 connected)
PowerAlert Software	For local monitoring via the UPS's built-in communication ports, download PowerAlert software at <a href="https://tripplite.eaton.com/products/power-alert">https://tripplite.eaton.com/products/power-alert</a>
Communications Cable	USB and DB9 Serial cabling included
WatchDog Compatibility	Supports Watchdog application, OS and hard-reboot restart options for remote applications
Network Management Card Description	Network management not supported
Communications Interface	Contact closure; DB9 Serial; USB (HID enabled)
<b>LINE / BATTERY TRANSFER</b>	
Transfer Time	4 milliseconds (AC to battery mode); 1 millisecond (Battery to AC mode)
Low Voltage Transfer to Battery Power (Setpoint)	75
High Voltage Transfer to Battery Power (Setpoint)	147
<b>FEATURES &amp; SPECIFICATIONS</b>	
Cold Start (Startup in Battery Mode During a Power Failure)	Cold-start operation supported
High Availability UPS Features	Automatic Voltage Regulation (AVR); Hot swappable batteries; Surge/noise protection
Green Energy-Saving Features	Greater than 95% efficiency - GREEN UPS
<b>APPLICATIONS</b>	
UPS Applications	Home/Office Desktop; Audio/Video; High-End Desktop/Small Network; Retail/Point of Sale; Hospitality
<b>STANDARDS &amp; COMPLIANCE</b>	
Product Certifications	CSA (Canada); NOM (Mexico); UL 1778
Product Compliance	RoHS; FCC Part 15 Class B (USA)
<b>WARRANTY &amp; SUPPORT</b>	
Product Warranty Period (U.S. & Canada)	3-year limited warranty
Product Warranty Period (Latin America)	3-year limited warranty



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Product Warranty Period (International)	2-year limited warranty
Product Warranty Period (Mexico)	3-year limited warranty
Connected Equipment Insurance (U.S., Canada & Puerto Rico)	\$250,000 <a href="https://tripplite.eaton.com/support/insurance-policy">Ultimate Lifetime Insurance</a>

1000 Eaton Boulevard  
 Cleveland, OH 44122  
 United States  
<https://tripplite.eaton.com>

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Stone Building, LLC  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242  
Phone: +12053288300

Project: 24-102 - Mountain Brook Fire Department Fire Station No. 2  
3100 Overton Road  
Mountain Brook, Alabama 35223

**Prime Contract Potential Change Order #003: Allowance #1 - June**

<b>TO:</b>	City of Mountain Brook PO Box 130009 Mountain Brook, Alabama 35213	<b>FROM:</b>	Stone Building, LLC 8011 Liberty Parkway Suite 201 Vestavia Hills, Alabama 35242
<b>PCO NUMBER/REVISION:</b>	003 / 0	<b>CONTRACT:</b>	24-102-00 - Mountain Brook Fire Station
<b>REQUEST RECEIVED FROM:</b>		<b>CREATED BY:</b>	Robert Byrne (Stone Building, LLC)
<b>STATUS:</b>	Pending - Proceeding	<b>CREATED DATE:</b>	6/24/2024
<b>REFERENCE:</b>	Attached Filed Report	<b>PRIME CONTRACT CHANGE ORDER:</b>	#001 - Initial Allowance Reconciliation, West Parking Lot, & Security Subcontract
<b>FIELD CHANGE:</b>	Yes	<b>ACCOUNTING METHOD:</b>	Amount Based
<b>LOCATION:</b>		<b>PAID IN FULL:</b>	No
<b>SCHEDULE IMPACT:</b>	0 days	<b>SIGNED CHANGE ORDER RECEIVED DATE:</b>	
<b>EXECUTED:</b>	No	<b>TOTAL AMOUNT:</b>	\$0.00

POTENTIAL CHANGE ORDER TITLE: Allowance #1 - June

CHANGE REASON: Allowance

**POTENTIAL CHANGE ORDER DESCRIPTION:** *(The Contract Is Changed As Follows)*

This change order is to reconcile Allowance #1: Soil, Quantity Allowance from 5/31/24 to 6/11/24.

Date	Cubic Yards	Report Number	Structure
6/5/24	118 CY	1308	Slab-on-Grade / Concrete Pavement Support
6/10/24	26 CY	1255	Foundations
6/11/24	30 CY	1256	Foundations

Reference the attached 3rd Party Field Reports for quantities, locations, and dates.  
Lean Concrete furnished and placed at a unit rate of \$230.95 per cubic yard per Construction Change Directive 01

**ATTACHMENTS:**

[2024.06.04\\_Field\\_Report\\_Undercut.pdf](#) , [2024.06.10\\_Field\\_Report\\_Foundation\\_Subgrade\\_&\\_Lean\\_Concrete.pdf](#) , [2024.06.11\\_Field\\_Report\\_Foundation\\_Subgrade\\_&\\_Lean\\_Concrete.pdf](#) , [2024.06.05\\_Field\\_Report\\_Undercut\\_Evaluation.pdf](#) , [2024.05.31\\_Field\\_Report\\_Proof\\_Roll\\_&\\_Undercut\\_Evaluation.pdf](#)

#	Budget Code	Description	Amount
1	2-001.S Meredith Environmental	Removal of Unsuitable Material - 174 cy at \$16.00 per cy	\$2,784.00
2	2-001.S Meredith Environmental	Replacement with Engineered Fill - 118 cy at \$20.00 per cy	\$2,360.00
3	3-310.S Cheyanne, Inc.	Replacement with Lean Concrete - 56 cy at \$230.95 per cy	\$12,933.20





**Daily Report of Testing and Inspection**

<b>Report #:</b>	1069	<b>Page:</b>	1 of 6
<b>Report Date:</b>	May 31, 2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Results of Inspection:** Deficiencies Included in this report

**Summary of Field Activities**

A representative reported to the above referenced site to perform the following tests and/or inspections as requested by the authorized project representative.

<b>Job Tasks:</b>	Proof Roll / Subgrade Evaluation
-------------------	----------------------------------

<b>Weather Conditions:</b>	91°F Cloudy
----------------------------	-------------

As requested by Mr. Robert Byrne with Stone, I arrived on-site to evaluate the near surface soil in the location of the new building slab and rigid pavement areas at the Mountain Brook Fire Station. About 1/2 of the building area had been prepared and was evaluated. Two areas exhibited rutting and pumping of the upper soil during proof rolling with a loaded dump truck. The areas measured 31 feet by 35 feet and 17 feet by 11 feet respectively. Both areas were beneath the footprint of the previous library. At my request, Mr. Byrne excavated a few test pits to get an understanding of why the two areas were pumping under the dump truck wheel loads.

Three test pits were excavated and each of them revealed very soft, very moist upper soil conditions to a depth of three to four feet below the ground surface. The low consistency soil was interpreted to be fill that in its current condition was judged to be unsuitable for support of the planned building. Directly underneath the fill soil was natural, high consistency clayey sand. One of the test pits exhibited a perched water condition associated with a remnant pipe trench. The soft soil was too thick to scarify and dry in-place. It could not be determined whether the low consistency soil was in place during construction of the library, whether it became soft (perhaps due to leaking pipes) during the service life of the library, or whether the soil was disturbed and softened during the demolition process.

Mr. Byrne was informed of the locations requiring improvement. Mr. Byrne elected to undercut the low consistency soils identified by the proof roll and replace it with structural fill. Undercut of the low consistency soils was tentatively scheduled for June 4, 2024. A follow up evaluation will be needed because the entire building area could not be proof rolled at the time of my visit.

- Distribution:
- Adam Kent (Barrett Architecture Studio)
  - Andrea Thomas (Bhate Geosciences Corporation)
  - Arthur Harding (Bhate Geosciences Corporation)
  - Bobby Vines (Stone Building Company, Inc.)
  - Christopher Mullins (Mountain Brook Fire Station)
  - Robert Byrne (Stone Building Company, Inc.)
  - Sam Gaston (City of Mountain Brook)
  - Steve Boone (City of Mountain Brook)
  - Steven Mauldin (Bhate Geosciences Corporation)
  - Tanner Barnett (Stone Building Company, Inc.)

Timely scheduling of testing/observation services is the responsibility of the designated representative of the owner or contractor. As required by Chapter 17 of the IBC code, the field representative's observations including any nonconformities were reported to the contractor. Our services on this project are provided on a periodic basis with a limited amount of observation. The presence of Bhate personnel on the site does not relieve the contractor of contract document compliance. Bhate personnel do not assume any responsibility for overall project safety of the project site.



<b>Submitted By:</b>		<b>Reviewed By:</b>	
<b>Printed Name:</b>	Rebekah McCray	<b>Printed Name:</b>	Joshua Curtis

Image / Photo			
<b>Report #:</b>	1069	<b>Page:</b>	2 of 6
<b>Report Date:</b>	05/31/2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Description**

Figure 2: Test Pit Exhibiting Perched Water Condition



Image / Photo

<b>Report #:</b>	1069	<b>Page:</b>	3 of 6
<b>Report Date:</b>	05/31/2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223



Figure 3: Test Pit Exhibiting Soft Soil Condition

Image / Photo

<b>Report #:</b>	1069	<b>Page:</b>	4 of 6
<b>Report Date:</b>	05/31/2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223



Figure 4: Test Pit Revealing Soft Soil Conditions

**Proof Roll Observation Report**

<b>Report #:</b>	1069	<b>Page:</b>	5 of 6
<b>Report Date:</b>	05/31/2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Field Data**

<b>Equipment Used:</b>	a loaded semi dump truck
<b>Observation Location:</b>	Half of the building pad and the rigid concrete pavement area
<b>Subgrade Material:</b>	Brown Sandy Clay with Gravel

**Observation Results**

Based on the observations, the exposed materials for the locations proofrolled appeared to be soft and unstable at the following locations.

**Location and size of failed areas**

<b>Area #1</b>	31 by 35 foot area underneath the rigid pavement section and part of the building pad
<b>Area #2</b>	17 by 11 foot area underneath the building corner

**Recommendations**

Remediation of the unstable areas was discussed and will be performed at a later date as follows.  
 - Undercut the unstable areas approximately 48" and backfill with structural fill.

Proof rolling is performed to evaluate the immediate support capacity of near surface subgrade soils and is not an indication of shallow or deep, subsoil conditions. The exposed soils should be adequately protected to prevent loss of strength prior to slab/pavement construction. The proof rolling evaluation should be considered valid only at the locations observed and on the date(s) indicated. Long term pavement performance is dependent on a number of factors; thus, successful proof rolling alone does not necessarily guarantee a long slab or pavement service life.

Timely scheduling of testing/observation services is the responsibility of the designated representative of the owner or contractor. As required by Chapter 17 of the IBC code, the field representative's observations including any nonconformities were reported to the superintendent. Our services on this project are provided on a periodic basis with a limited amount of observation. The presence of Bhate personnel on the site does not relieve the contractor of contract document compliance. Bhate personnel do not assume any responsibility for overall project safety of the project site.



<b>Submitted By:</b>		<b>Reviewed By:</b>	
<b>Printed Name:</b>	Rebekah McCray	<b>Printed Name:</b>	Joshua Curtis

Image / Photo			
<b>Report #:</b>	1069	<b>Page:</b>	6 of 6
<b>Report Date:</b>	05/31/2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Description**

Figure 1: Area Exhibiting Pumping



**Daily Report of Testing and Inspection**

<b>Report #:</b>	1068	<b>Page:</b>	1 of 1
<b>Report Date:</b>	Jun 04, 2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Results of Inspection:** No requirements or requirements unknown

**Summary of Field Activities**

A representative reported to the above referenced site to perform the following tests and/or inspections as requested by the authorized project representative.



<b>Job Tasks:</b>	Custom
-------------------	--------

<b>Weather Conditions:</b>	91°F Cloudy
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I arrived at the jobsite to observe the undercutting of the soft soil material that was discovered during a proof roll observation from my previous visit (Report #1069). Mr. Byrne was concerned that potential rains would worsen site conditions and stated that they would resume work tomorrow. The undercut was rescheduled for June 5th at 11AM.

- Distribution:
- Adam Kent (Barrett Architecture Studio)
  - Andrea Thomas (Bhate Geosciences Corporation)
  - Arthur Harding (Bhate Geosciences Corporation)
  - Bobby Vines (Stone Building Company, Inc.)
  - Christopher Mullins (Mountain Brook Fire Station)
  - Robert Byrne (Stone Building Company, Inc.)
  - Sam Gaston (City of Mountain Brook)
  - Steve Boone (City of Mountain Brook)
  - Steven Mauldin (Bhate Geosciences Corporation)
  - Tanner Barnett (Stone Building Company, Inc.)

Timely scheduling of testing/observation services is the responsibility of the designated representative of the owner or contractor. As required by Chapter 17 of the IBC code, the field representative's observations including any nonconformities were reported to the contractor. Our services on this project are provided on a periodic basis with a limited amount of observation. The presence of Bhate personnel on the site does not relieve the contractor of contract document compliance. Bhate personnel do not assume any responsibility for overall project safety of the project site.

<b>Submitted By:</b>		<b>Reviewed By:</b>	
<b>Printed Name:</b>	Rebekah McCray	<b>Printed Name:</b>	Joshua Curtis



**Daily Report of Testing and Inspection**

<b>Report #:</b>	1308	<b>Page:</b>	1 of 2
<b>Report Date:</b>	Jun 05, 2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Results of Inspection:** No deficiencies included in this report

**Summary of Field Activities**

A representative reported to the above referenced site to perform the following tests and/or inspections as requested by the authorized project representative.

**Job Tasks:** Custom

**Weather Conditions:** 85°F Sunny

I arrived at the site as requested by Bobby Vines to observe the soil exposed after undercutting of soft, wet soil under the planned building footprint and heavy-duty pavement area. Two areas were revealed as containing soft soil that exhibited pumping during our previous proof roll observation; However, only one area was undercut today for observation. The second area is scheduled to be undercut at another time (TBD).

Following removal of the soft, wet soil I manually probed the area using a steel rod to evaluate the penetration resistance of the soil. The exposed soil exhibited high penetration resistance and was judged to be suitable for placement of fill to final grade. The undercut area measured approximately 3 1/2 feet deep by 35 feet long by 26 feet wide (approximately 118 CYDS). The thickness of soft soil corresponded to the thickness of "marginal" soil detected during our subsurface exploration and addressed in our geotechnical report.

**Distribution:**

- Adam Kent (Barrett Architecture Studio)
- Andrea Thomas (Bhate Geosciences Corporation)
- Arthur Harding (Bhate Geosciences Corporation)
- Bobby Vines (Stone Building Company, Inc.)
- Christopher Mullins (Mountain Brook Fire Station)
- Robert Byrne (Stone Building Company, Inc.)
- Sam Gaston (City of Mountain Brook)
- Steve Boone (City of Mountain Brook)
- Steven Mauldin (Bhate Geosciences Corporation)
- Tanner Barnett (Stone Building Company, Inc.)

Timely scheduling of testing/observation services is the responsibility of the designated representative of the owner or contractor. As required by Chapter 17 of the IBC code, the field representative's observations including any nonconformities were reported to the contractor. Our services on this project are provided on a periodic basis with a limited amount of observation. The presence of Bhate personnel on the site does not relieve the contractor of contract document compliance. Bhate personnel do not assume any responsibility for overall project safety of the project site.

**Submitted By:** 

**Printed Name:** Rebekah McCray

**Reviewed By:** 

**Printed Name:** Joshua Curtis

Image / Photo			
<b>Report #:</b>	1308	<b>Page:</b>	2 of 2
<b>Report Date:</b>	06/05/2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223



Figure 1: General Undercut Area of Observation Looking East

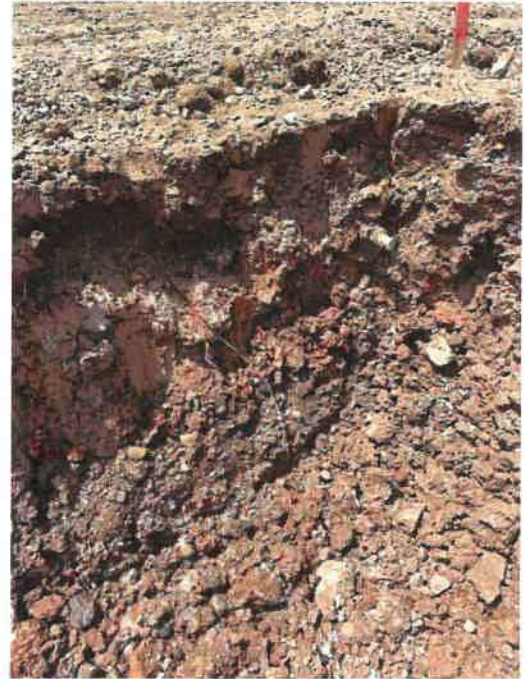


Figure 2: The Sides of the Excavation Revealing the Fill



Figure 3: Overall Undercut Area View

**Daily Report of Testing and Inspection**

<b>Report #:</b>	1255	<b>Page:</b>	1 of 3
<b>Report Date:</b>	Jun 10, 2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Results of Inspection:** No deficiencies included in this report

**Summary of Field Activities**

A representative reported to the above referenced site to perform the following tests and/or inspections as requested by the authorized project representative.

**Job Tasks:** Custom

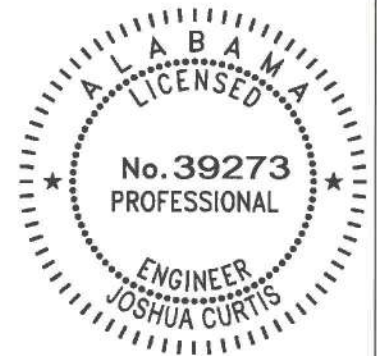
**Weather Conditions:** 85°F Sunny

A site visit was made as requested by Mr. Bobby Vines with Stone Building Company, to observe the foundation bearing surfaces in the west portion of the Fire Station as depicted in Figure 1. During foundation excavation, conditions including old fill, remnant buried utilities, and buried topsoil were observed at the planned foundation bearing elevation. A series of test pits were excavated by the foundation contractor within the footing excavations to determine the thickness of the non-compliance soil conditions.

The test pits encountered firm, residual soils that met the project bearing requirements five (5) feet or less below the planned footing bearing elevation. Based on the test pit findings, I recommended that the foundations where the low consistency soil was present be over excavated until the residual soils were encountered. Once the over excavations were completed, I manually probed the bearing conditions before recommending that the over excavation be backfilled with either lean concrete or flowable fill up to the planned footing bearing elevation(s). Mr. Vines ordered lean concrete and the over excavated footing trenches were backfilled to the planned footing bearing elevation (elevation not checked by Bhate personnel). Approximately 26 CYDS of lean concrete was placed to backfill the over excavated foundation trenches.

**Distribution:**

Adam Kent (Barrett Architecture Studio)  
Andrea Thomas (Bhate Geosciences Corporation)  
Arthur Harding (Bhate Geosciences Corporation)  
Bobby Vines (Stone Building Company, Inc.)  
Christopher Mullins (Mountain Brook Fire Station)  
Robert Byrne (Stone Building Company, Inc.)  
Sam Gaston (City of Mountain Brook)  
Steve Boone (City of Mountain Brook)  
Steven Mauldin (Bhate Geosciences Corporation)  
Tanner Barnett (Stone Building Company, Inc.)



Timely scheduling of testing/observation services is the responsibility of the designated representative of the owner or contractor. As required by Chapter 17 of the IBC code, the field representative's observations including any nonconformities were reported to the contractor. Our services on this project are provided on a periodic basis with a limited amount of observation. The presence of Bhate personnel on the site does not relieve the contractor of contract document compliance. Bhate personnel do not assume any responsibility for overall project safety of the project site.

**Submitted By:**

*Steven C. Mauldin*

**Reviewed By:**

*Joshua Curtis*

**Printed Name:**

Steven Mauldin

**Printed Name:**

Joshua Curtis

Column Footing Location	Plan Dimensions (Width) x (Depth)	Actual Dimensions (Width) x (Depth)	Bearing Material Observations	Notes
E.5 – 0.5	4 feet x 1 feet 2 inch	4 feet x 1 feet 2 inch	Reddish brown clay	A
Continuous Footing Location	Plan Dimensions (Width) x (Depth)	Actual Dimensions (Width) x (Depth)	Bearing Material Observations	Notes
Column Line: 0.4 Row: A to C	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line: 0.5 Row: A to C	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line: 0.6 Row: B.5 to D	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line: 0.4 to 0.5 Row: A	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.4 to 0.6 Row C	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.5 to 0.6 Row C	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.4 to 0.6 Row E.5	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.4 to 0.6 Row I	1 feet x 2 inch	1 feet x 2 inch	Reddish brown clay	A
Column Line 0.4 to 0.6 Row G.5	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.45 to 0.6 Row C	1 feet x 2 feet 6 inch	1 feet x 2 feet 6 inch	Reddish brown clay	A
Column Line 0.45 to 0.6 Row D	1 feet x 2 feet 6 inch	1 feet x 2 feet 6 inch	Reddish brown clay	A
Column Line 0.45 to 0.5 Row E	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A
Column Line 0.6 Row C to E	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.6 Row I to G.5	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A

Required Allowable Bearing Pressure: 2,500 PSF

**Notes Legend**

A = Footing conditions meet project requirements based on visual observation.

OE = Footing conditions meet project requirements after over excavation and removal of unsuitable bearing materials.

Concrete must be placed the same day of observation.

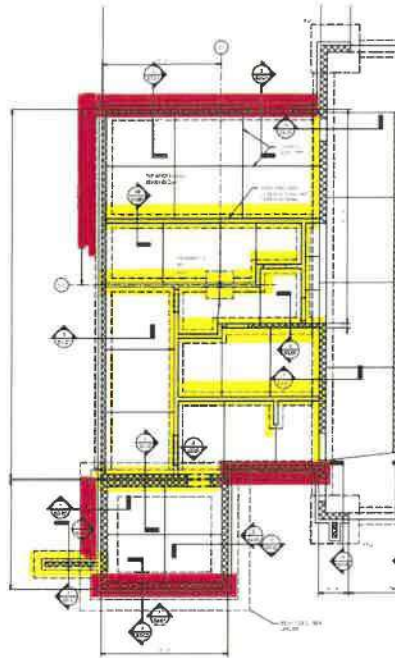


Figure 1: Yellow indicates footings that did not require undercut. Orange indicates footings that required undercut and backfilling with lean concrete.



Picture 1: Indicates lean concrete backfill after undercutting of unsuitable bearing material.



Picture 2: Indicates lean concrete backfill after undercutting of unsuitable bearing material.

**Daily Report of Testing and Inspection**

<b>Report #:</b>	1256	<b>Page:</b>	1 of 4
<b>Report Date:</b>	Jun 11, 2024	<b>Project #:</b>	123174
<b>Client:</b>	City of Mountain Brook 102 Tibbett Street Mountain Brook, AL 35213	<b>Project:</b>	Mountain Brook Fire Station No. 2 Mountain Brook Fire Station No.2 3785 Locksley Dr, Mountain Brook, AL 35223 Mountain Brook, AL 35223

**Results of Inspection:** No deficiencies included in this report

**Summary of Field Activities**

A representative reported to the above referenced site to perform the following tests and/or inspections as requested by the authorized project representative.

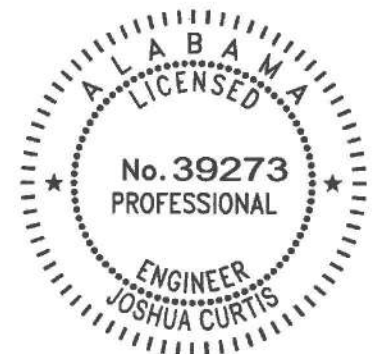
<b>Job Tasks:</b>	Custom
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<b>Weather Conditions:</b>	85°F Sunny
----------------------------	------------

A site visit was made as requested by Mr. Bobby Vines with Stone Building Company, to observe the foundation bearing surfaces in the west portion of the Fire Station as depicted in Figure 1. During foundation excavation, conditions including old fill, remnant buried utilities, and buried topsoil were observed at the planned foundation bearing elevation. A series of test pits were excavated by the foundation contractor within the footing excavations to determine the thickness of the non-compliance soil conditions.

The test pits encountered firm, residual soils that met the project bearing requirements five (5) feet or less below the planned footing bearing elevation. Based on the test pit findings, I recommended that the foundations where the low consistency soil was present be over excavated until the residual soils were encountered. Once the over excavations were completed, I manually probed the bearing conditions before recommending that the over excavation be backfilled with either lean concrete or flowable fill up to the planned footing bearing elevation(s). Mr. Vines ordered lean concrete and the over excavated footing trenches were backfilled to the planned footing bearing elevation (elevation not checked by Bhate personnel). Approximately 30 CYDS of lean concrete was placed to backfill the over excavated foundation trenches.

- Distribution:
- Adam Kent (Barrett Architecture Studio)
  - Andrea Thomas (Bhate Geosciences Corporation)
  - Arthur Harding (Bhate Geosciences Corporation)
  - Bobby Vines (Stone Building Company, Inc.)
  - Christopher Mullins (Mountain Brook Fire Station)
  - Robert Byrne (Stone Building Company, Inc.)
  - Sam Gaston (City of Mountain Brook)
  - Steve Boone (City of Mountain Brook)
  - Steven Mauldin (Bhate Geosciences Corporation)
  - Tanner Barnett (Stone Building Company, Inc.)



Timely scheduling of testing/observation services is the responsibility of the designated representative of the owner or contractor. As required by Chapter 17 of the IBC code, the field representative's observations including any nonconformities were reported to the contractor. Our services on this project are provided on a periodic basis with a limited amount of observation. The presence of Bhate personnel on the site does not relieve the contractor of contract document compliance. Bhate personnel do not assume any responsibility for overall project safety of the project site.

<b>Submitted By:</b>	<i>Steven C. Mauldin</i>	<b>Reviewed By:</b>	<i>Joshua Curtis</i>
<b>Printed Name:</b>	Steven Mauldin	<b>Printed Name:</b>	Joshua Curtis

The following is a summary of my observations and measurements:

Column Footing Location	Plan Dimensions (Width) x (Depth)	Actual Dimensions (Width) x (Depth)	Bearing Material Observations	Notes
B.5 – 0.6	7 feet x 1 feet 6 inch	7 feet x 1 feet 6 inch	Reddish brown clay	OE
B.5 – 0.7	7 feet x 1 feet 6 inch	7 feet x 1 feet 6 inch	Reddish brown clay	OE
B.5 – 0.8	7 feet x 1 feet 6 inch	7 feet x 1 feet 6 inch	Reddish brown clay	OE
J – 0.6	7 feet x 1 feet 6 inch	7 feet x 1 feet 6 inch	Reddish brown clay	OE
J – 0.7	7 feet x 1 feet 6 inch	7 feet x 1 feet 6 inch	Reddish brown clay	OE
J – 0.8	7 feet x 1 feet 6 inch	7 feet x 1 feet 6 inch	Reddish brown clay	OE
C-11	8 feet 6 inch x 1 feet 6 inch	8 feet 6 inch x 1 feet 6 inch	Reddish brown clay	OE
D - 11	8 feet 6 inch x 1 feet 6 inch	8 feet 6 inch x 1 feet 6 inch	Reddish brown clay	OE
B -12	4 feet x 1 feet 2 inch	4 feet x 1 feet 2 inch	Reddish brown clay	OE
Continuous Footing Location	Plan Dimensions (Width) x (Depth)	Actual Dimensions (Width) x (Depth)	Bearing Material Observations	Notes
Column Line: 7 to 9.5 Row: F	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A
Column Line: 8.5 Row: E to F	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A
Column Line: 9 to 9.5 Row: E	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A
Column Line: 9 Row: D to E	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A
Column Line 9 to 11 Row D	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A
Column Line 11 Row C to D	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	A
Column Line 11 to 12 Row C	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 12 Row B to C	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 7 to 12 Row B	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.7 to 0.8 Row B.5	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE OE
Column Line 0.6 to 0.8 Row B.5	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 6 to 7 Row B	4 feet x 1feet 6 inch	4 feet x 1feet 6 inch	Reddish brown clay	A
Column Line 0.6 Row B.5 to C	4 feet x 1feet 6 inch	4 feet x 1feet 6 inch	Reddish brown clay	OE
Column Line 0.6 to 0.7 Row B.5	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE
Column Line 0.7 to 0.8 Row B.5	4 feet x 1 feet 6 inch	4 feet x 1 feet 6 inch	Reddish brown clay	OE

Required Allowable Bearing Pressure: 2,500 PSF

**Notes Legend**

A = Footing conditions meet project requirements based on visual observation.

OE = Footing conditions meet project requirements after over excavation and removal of unsuitable bearing materials.

Concrete must be placed the same day of observation.

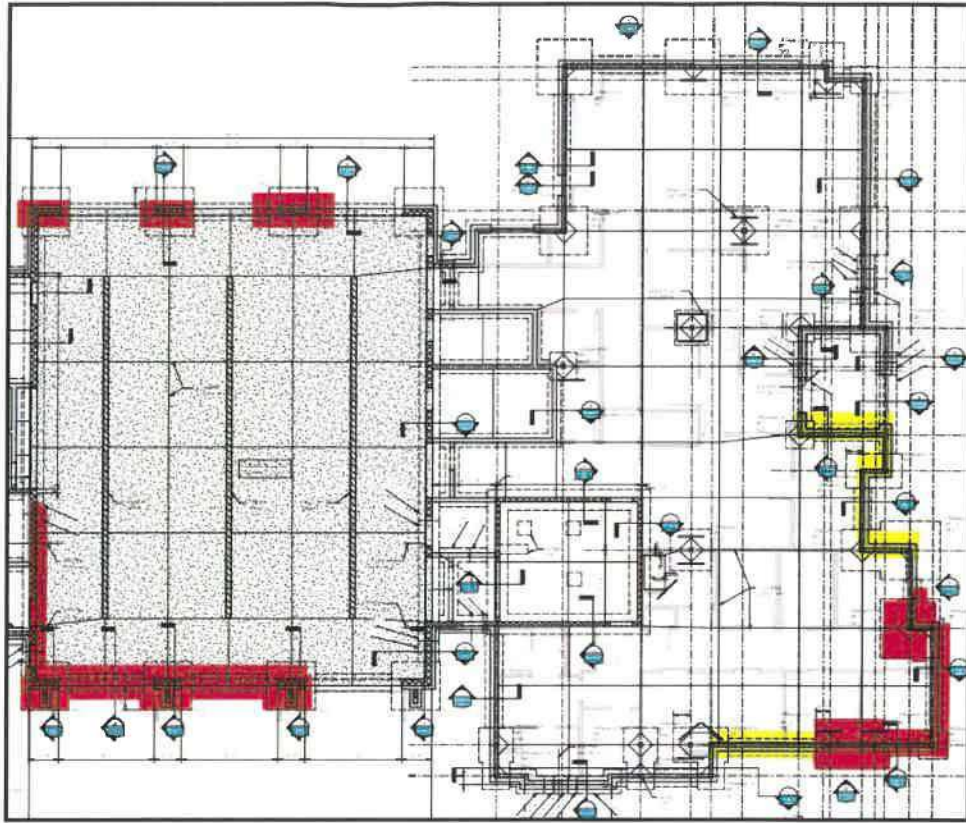


Figure 1: Footing Observation Location on 6/11/24

(Yellow indicates no over excavation required. Orange indicates areas that were over excavated and backfilled with lean concrete.)

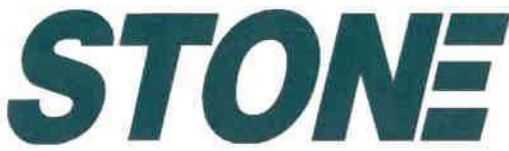




Picture 1: Indicates abandoned utility within footing requiring undercut to suitable soil (column B.5 0.6/0.8)



Picture 2: Indicates footings after removal of abandoned utility and undercutting of unsuitable soil (column B.5 0.6/0.8)



PCO #004

Stone Building, LLC  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242  
Phone: +12053288300

Project: 24-102 - Mountain Brook Fire Department Fire Station No. 2  
3100 Overton Road  
Mountain Brook, Alabama 35223

### Prime Contract Potential Change Order #004: Allowance #4 - Murals

<b>TO:</b>	City of Mountain Brook PO Box 130009 Mountain Brook, Alabama 35213	<b>FROM:</b>	Stone Building, LLC 8011 Liberty Parkway Suite 201 Vestavia Hills, Alabama 35242
<b>PCO NUMBER/REVISION:</b>	004 / 0	<b>CONTRACT:</b>	24-102-00 - Mountain Brook Fire Station
<b>REQUEST RECEIVED FROM:</b>		<b>CREATED BY:</b>	Robert Byrne (Stone Building, LLC)
<b>STATUS:</b>	Pending - Proceeding	<b>CREATED DATE:</b>	7/2/2024
<b>REFERENCE:</b>	Blank Space Bham Proposal	<b>PRIME CONTRACT CHANGE ORDER:</b>	#001 - Initial Allowance Reconciliation, West Parking Lot, & Security Subcontract
<b>FIELD CHANGE:</b>	No	<b>ACCOUNTING METHOD:</b>	Amount Based
<b>LOCATION:</b>		<b>PAID IN FULL:</b>	No
<b>SCHEDULE IMPACT:</b>	0 days	<b>SIGNED CHANGE ORDER RECEIVED DATE:</b>	
<b>EXECUTED:</b>	No	<b>TOTAL AMOUNT:</b>	\$0.00

POTENTIAL CHANGE ORDER TITLE: Allowance #4 - Murals

CHANGE REASON: Allowance

**POTENTIAL CHANGE ORDER DESCRIPTION:** *(The Contract Is Changed As Follows)*

This change order is to reconcile Allowance No. #4 - Murals.

- Blank Space Bham - \$5,000.00

**ATTACHMENTS:**

[Mountain Brook Fire Station Quote.pdf](#)

#	Budget Code	Description	Amount
1	12-100.S Blank Space Murals	Mural Subcontract	\$0.00
2	1-940.O Allowance Reconciliation (Subcontract)	Allowance Reconciliation	\$0.00
<b>Subtotal:</b>			<b>\$0.00</b>
P&P Bond (1.50% Applies to all line item types.):			\$0.00
Insurance (1.00% Applies to all line item types.):			\$0.00
Payroll Burden (38.00% Applies to Labor.):			\$0.00
Builder's Risk (0.25% Applies to all line item types.):			\$0.00
Fee (15.00% Applies to all line item types.):			\$0.00
<b>Grand Total:</b>			<b>\$0.00</b>

**Adam Kent (Barrett Architecture Studio)**  
2320 Highland Ave S. Suite 250  
Birmingham, Alabama 35205

**City of Mountain Brook**  
PO Box 130009  
Mountain Brook, Alabama 35213

**Stone Building, LLC**  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242

SIGNATURE

DATE

SIGNATURE

DATE

SIGNATURE

DATE



**Logo/Sign Painting Quote**  
for Stone Building, LLC  
Mountain Brook Fire Station  
6/3/24

**Prepared For**

Robert Byrne  
Stone Building, LLC  
8011 Liberty Parkway, Suite 201  
Vestavia Hills, AL 35242  
[rbyrne@stonebuilding.com](mailto:rbyrne@stonebuilding.com)

**Prepared By**

Meghan McCollum  
Blank Space Bham, LLC  
678-920-2576  
[meghan@blankspacebham.com](mailto:meghan@blankspacebham.com)

Description	Quantity	Price	Total
Mountain Brook Fire Station Logo	2	\$2,000	\$4,000
Shark Tank Sign	1	\$1,000	\$1,000
		<b>Total</b>	<b>\$5,000</b>

Access hours to the space for installation will determine the estimate for the length of time needed to complete the installation and can be discussed in further detail after the submission of this quote.

Prices listed above are inclusive of all materials and labor. Scheduling of work is on a first come, first served basis at least ~1 month prior to installation unless a 50% deposit is paid in advance to reserve a specific installation time window.

Thank you,  
Meghan McCollum  
Owner & Founder  
Blank Space Bham, LLC



PCO #005

Stone Building, LLC  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242  
Phone: +12053288300

Project: 24-102 - Mountain Brook Fire Department Fire Station No. 2  
3100 Overton Road  
Mountain Brook, Alabama 35223

### Prime Contract Potential Change Order #005: Allowance #5 - Sauna

<b>TO:</b>	City of Mountain Brook PO Box 130009 Mountain Brook, Alabama 35213	<b>FROM:</b>	Stone Building, LLC 8011 Liberty Parkway Suite 201 Vestavia Hills, Alabama 35242
<b>PCO NUMBER/REVISION:</b>	005 / 0	<b>CONTRACT:</b>	24-102-00 - Mountain Brook Fire Station
<b>REQUEST RECEIVED FROM:</b>		<b>CREATED BY:</b>	Robert Byrne (Stone Building, LLC)
<b>STATUS:</b>	Pending - Proceeding	<b>CREATED DATE:</b>	6/25/2024
<b>REFERENCE:</b>		<b>PRIME CONTRACT CHANGE ORDER:</b>	#001 - Initial Allowance Reconciliation, West Parking Lot, & Security Subcontract
<b>FIELD CHANGE:</b>	No	<b>ACCOUNTING METHOD:</b>	Amount Based
<b>LOCATION:</b>		<b>PAID IN FULL:</b>	No
<b>SCHEDULE IMPACT:</b>	0 days	<b>SIGNED CHANGE ORDER RECEIVED DATE:</b>	
<b>EXECUTED:</b>	No	<b>TOTAL AMOUNT:</b>	\$0.00

POTENTIAL CHANGE ORDER TITLE: Allowance #5 - Sauna

CHANGE REASON: Allowance

**POTENTIAL CHANGE ORDER DESCRIPTION:** *(The Contract Is Changed As Follows)*

This change order is to reconcile Allowance No. #5 - Infrared Sauna.

- Sunlighten Infrared Sauna - \$29,393.00
- Additional Blocking at Recessed Slab - \$1,500.00

**ATTACHMENTS:**

[Sunlighten - Custom - Mountainbrook FirestationFINAL.pdf](#)

#	Budget Code	Description	Amount
1	11-480.S Sunlighten Sauna (Install)	Sunlighten Furnish	\$29,393.00
2	6-110.M Sauna Blocking (Material)	Additional Blocking at Recessed Slab	\$1,000.00
3	1-940.O Allowance Reconciliation (Subcontract)	Allowance Reconciliation	\$(30,893.00)
4	6-110.L Sauna Blocking (Install)	Additional Blocking at Recessed Slab	\$500.00
<b>Subtotal:</b>			<b>\$0.00</b>
P&P Bond (1.50% Applies to all line item types.):			\$0.00
Insurance (1.00% Applies to all line item types.):			\$0.00
Payroll Burden (0.00% Applies to Labor.):			\$0.00
Builder's Risk (0.25% Applies to all line item types.):			\$0.00
Fee (15.00% Applies to all line item types.):			\$0.00
<b>Grand Total:</b>			<b>\$0.00</b>



**Adam Kent (Barrett Architecture Studio)**  
2320 Highland Ave S. Suite 250  
Birmingham, Alabama 35205

**City of Mountain Brook**  
PO Box 130009  
Mountain Brook, Alabama 35213

**Stone Building, LLC**  
8011 Liberty Parkway Suite 201  
Vestavia Hills, Alabama 35242

\_\_\_\_\_  
SIGNATURE DATE

\_\_\_\_\_  
SIGNATURE DATE

\_\_\_\_\_  
SIGNATURE DATE



**sunlighten**<sup>TM</sup>  
empowering wellness<sup>TM</sup>

## CUSTOM SAUNA QUOTE

Quote #	Date
2	6/4/24

Sunlighten Saunas  
7373 W 107<sup>th</sup> Street  
Overland Park, KS 66212  
Sarah Jo Wilson, Bus Dev  
(913) 754-2027  
swilson@sunlighten.com

**CUSTOMER:**  
Mountain Brook Fire Station #2

DESCRIPTION	QUANTITY	AMOUNT EACH	TOTAL
<b>Sunlighten Custom Infrared Sauna</b> Charged by Cubic Foot: Design of sauna interior to specs provided, control panel, Far infrared heaters to fit the space, premium Eucalyptus tongue and groove wood for ceiling, walls, benches, and flooring.	1	\$15,744	\$15,744
Full Spectrum Infrared Infrared heaters with Mid and Near Infrared	2	\$500	\$1,000
Sunlighten Glass Door	1	\$750	\$750
Active Removable Bench	1	\$400	\$400
Chromotherapy Lighting	2	\$250	\$500
Shipping Cost		\$999	\$999
		\$10,000	\$10,000
INSTALLATION: Sunlighten contractor			
*Upon signed contract and 50% deposit, Sunlighten will provide CAD design for approval.			
Tax Exempt			
<b>TOTAL</b>			<b>\$29,393.00</b>

**RESOLUTION NO. 2024-105**

**BE IT RESOLVED** by the City Council of the City of Mountain Brook, Alabama, that the City Council hereby authorizes the execution of a License Agreement between the City and Birmingham Levite Jewish Community Center, in the form as attached hereto as Exhibit A, with respect to the City's use of the outdoor recreational field and the Gymnasium and appurtenant areas located at the Center.

**ADOPTED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Council President

**APPROVED:** This 22nd day of July, 2024.

\_\_\_\_\_  
Mayor

**CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama, hereby certify the above to be a true and correct copy of a resolution adopted by the City Council of the City of Mountain Brook at its meeting held on July 22, 2024, as same appears in the minutes of record of said meeting.

\_\_\_\_\_  
City Clerk

## AGREEMENT

**THIS AGREEMENT** (this "Agreement") is effective as of August 1, 2024, by and between the **Birmingham Levite Jewish Community Center**, whose address is 3960 Montclair Road, Birmingham, Alabama 35213 ("Owner"), and the **City of Mountain Brook, Alabama** whose principal place of business is located at 56 Church Street, P.O. Box 130009, Mountain Brook, Alabama 35213 ("Licensee").

## WITNESSETH

**WHEREAS**, Owner is the owner of a community center located at 3960 Montclair Road, Birmingham, Alabama 35213 (the "Center"); and

**WHEREAS**, Owner has agreed to allow Licensee to use the outdoor recreational field, more particularly depicted on Exhibit "A" attached hereto, and the Owner's Gymnasium and appurtenant areas (the "Licensed Space"), located at the Center for specific time periods for the sole and limited purpose of use by the Licensee in conjunction with its youth athletic programs (referred to herein as the "Approved Purposes") pursuant to the License Agreement and Amendment thereto attached as Exhibits "B" and "C"; and

**WHEREAS**, the Owner and Licensee have agreed to extend the term of the use of the Licensed Space and to restate and confirm the terms and conditions of Licensee's use in this Restated Agreement.

**NOW, THEREFORE**, in consideration of the foregoing and the respective covenants and undertakings of the parties contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto, intending to be legally bound, hereby agree as follows:

1. **Limited License; Use of Licensed Space.** Owner does hereby grant a limited, non-exclusive, and non-transferable license unto Licensee for the Approved Purposes to use the Licensed Space during the term hereof from August 1, 2024 — February 28, 2025 as follows:

- (a) Outdoor Recreational Field – August 1, 2024-November 30, 2024
  - a. Tuesdays & Thursdays from 4:00pm-8:00 pm; Saturdays 8:15am-5:00pm
- (b) Gymnasium – November 1, 2024-February 28, 2025
  - a. Tuesdays & Thursdays from 4:45-8:00 PM; and
  - b. Saturday 8:15 AM - 4:30 PM.

Other times may be available if mutually agreed upon by both parties. For clarification purposes, and not in limitation of the foregoing, Licensee acknowledges and agrees, except as otherwise approved by Owner, in its complete and sole discretion, Licensee (a) shall have the right to use the Licensed Space only during the time periods set forth above, (b) shall not have the right to use the Licensed Space for any purposes other than the Approved Purposes, and (c) shall not have the right to use any other facilities at the Center unless approved by the Owner in writing.

2. **Term.** This Agreement shall commence on the effective date listed above and shall end on February 28, 2025.

3. **Usage Fees.** As consideration for the use of the Licensed Space during the Term, Licensee agrees to pay Owner the sum of \$11,000.00, one half of which shall be paid on or before August 1, 2024 and one half of which will be paid on or before November 1, 2024. As additional consideration for the use of the Licensed Space, Licensee agrees to maintain, at Licensee's expense, the Outdoor Recreational Field portion of the Licensed Space which includes, but may not be limited to, applying fertilizer, chemicals, and seeding to grassy areas and regularly cutting the grass within the boundaries of the walking track (the "Field Maintenance") for the entire term of this Agreement.



4. **Additional Terms and Conditions.**

- (a) At all times, Licensee agrees to, and shall cause its employees to, comply with all applicable laws, rules and regulations regarding the use of the Licensed Space.
- (b) Licensee hereby agrees to reimburse Owner for any damage or harm to the Licensed Space caused by use of the Licensed Space by Licensee, including the payment of any reasonable attorneys' fees associated with enforcing this Agreement or fees of any service provider or contractor required to repair or replace any property damaged during any usage of the Licensed Space by Licensee.
- (c) This Agreement is not a lease and nothing in this Agreement grants Licensee a leasehold interest in any part or portion of the Licensed Space or Center.
- (d) Owner assumes no risk of loss or damage to any property left or stored on the Licensed Space or at the Center by Licensee or any of its agents, employees or invitees.
- (e) Owner makes no representations or warranties to Licensee regarding the condition or use of the Licensed Space or Center or the suitability of the Licensed Space for the Approved Purposes, and Licensee hereby agrees that THE LICENSED SPACE AND CENTER ARE BEING PROVIDED ON AN "AS-IS, WHERE-IS" BASIS.
- (f) Licensee may erect temporary signs or provide appropriate signage for the property subject to the written approval of the Owner; however, said approval shall not be unreasonably withheld.
- (g) Licensee shall not make any improvements or material changes to the Licensed Space without prior written approval from the Owner.

5. **Employment.** Notwithstanding anything to the contrary herein, no employee of Owner shall be deemed to be an employee of Licensee as a result of this Agreement, and no employee of Licensee shall be deemed to be an employee of Owner as a result of this Agreement.

6. **Insurance.** During the term of this Agreement, Licensee shall procure and maintain, at its own cost and expense, commercial general liability insurance for bodily injury, death or property damage, in such amounts as reasonably approved by Owner, but in any event no less than \$2,000,000 per occurrence. Owner shall be listed as an additional insured, and, promptly upon the execution of this Agreement, Licensee shall provide Owner with an insurance certificate and a copy of the insurance policy. Additionally, Licensee shall procure and maintain at its own cost and expense, workers' compensation insurance policies for Licensee employees to the extent required by law.

7. **Indemnification.** Licensee, on its own behalf, and on behalf of its trustees, officers, directors, members, invitees, employees and agents (each an "Licensee Party" and, collectively, the "Licensee Parties") hereby agrees to indemnify, defend and hold harmless Owner, and each past, present and future employee, officer, director and member of Owner (each, an "Owner Party" and collectively the "Owner Parties") from and against any and all claims, losses, damages, costs, expenses, liabilities, debts, demands, causes of action, investigations, litigation, suits, orders, obligations, contracts and agreements whatsoever, including the payment of reasonable attorneys' fees, both at law and in equity (collectively, the "Claims") alleged or asserted against or actually suffered or incurred by any Owner Party on account of or arising out of, in whole or in part, directly or indirectly, (i) any damage or destruction to the Center or the Licensed Space as result of the actions or inaction of Licensee or the license granted to Licensee

hereunder; or (ii) the use of the Licensed Space by Licensee, its employees or agents or any activities conducted or sponsored by or on behalf of Licensee in the Licensed Space.

8. **Miscellaneous.**

- (a) Notice. Any notice required to be given hereunder shall be deemed given immediately if hand delivered or on the third (3<sup>rd</sup>) business day following mailing of any such notice, postage paid, to the address set out herein above.
- (b) Waiver. The waiver of the breach of any provision of this Agreement shall not operate or be construed as a waiver of any subsequent breach of the same or other provision hereof.
- (c) Governing Law. This Agreement will be construed and interpreted in accordance with and governed by the laws of the State of Alabama without regard to conflicts of laws principles.
- (d) Necessary Action. Each party shall perform any further acts and execute and deliver any documents which may be reasonably necessary to carry out the provisions of this Agreement.
- (e) Severability. The provisions of this Agreement shall be severable and if any provision shall be invalid or void or unenforceable in whole or in part for any reason, the remaining provisions shall remain in full force and effect, and construed as if this Agreement did not contain the particular part, term or provision held invalid.
- (f) Assignment. Licensee may assign its rights and obligations under this Agreement to its sub-licensees Mountain Brook Athletics, Mountain Brook Lacrosse or other city related youth athletic organizations and Owner agrees to such assignment provided that Licensee shall not be released from performing any of its obligations hereunder and will perform all such obligations in the event that its sub-licensees fail to do so, as determined by Owner in its sole discretion. Owner agrees that payment hereunder may be remitted by sub-licensees and any such payments shall be credited to Licensee's obligation to pay User Fees. Other than as set forth above, neither party shall assign its interest hereunder.
- (g) Interpretation. The terms "herein" or "hereunder" or like terms shall be deemed to refer to this Agreement as a whole and not to a particular section. The words "include," "includes" and "including" shall be deemed to be followed by the phrase "without limitation." The captions or headings in this Agreement are made for convenience and general reference only and shall not be construed to describe, define or limit the scope or intent of the provisions of this Agreement. Whenever the context so permits, the use of the plural shall include the singular, the singular shall include the plural, and any gender shall be deemed to include all genders. All references to sections hereunder shall be deemed to refer to sections of this Agreement, unless otherwise expressly provided, whether or not "hereof," "above," "below" or like words are used.
- (h) Counterparts. This Agreement may be executed by facsimile or electronic transmission and/or in one or more counterparts, each of which shall be an original, all of which when taken together shall constitute one instrument.

- (i) Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes and replaces the License Agreement entered into on January 1, 2023 and any other agreement, representation, communication or understanding, whether oral or written, between the parties hereto and relating to the transactions contemplated herein or the subject matter hereof. This Agreement may not be changed or terminated orally, but may only be changed by an Agreement in writing signed by the parties hereto.

**< Remainder of page intentionally left blank >**

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be effective on the date first above written.

**Owner:**

**Birmingham Levite Jewish Community Center**

**By:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**Licensee:**

**City of Mountain Brook, Alabama**

**By:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Title:** \_\_\_\_\_

**ORDINANCE NO. 2162**

**AN ORDINANCE AMENDING CHAPTER 38 OF THE CITY CODE**

WHEREAS, the City of Mountain Brook, Alabama (the "City") operates certain public parks for recreational use by the public; and

WHEREAS, the Park and Recreation Board of the City of Mountain Brook promulgates rules and regulations for ordinary use of those parks; and

WHEREAS, the City Council of the City of Mountain Brook (the "City Council") has determined that it is in the public interest, and in the interest of the students, athletic participants and community members that use the City's parks that the parks should be closed for nighttime use, except as might be permitted in conjunction with authorized and approved events; and

WHEREAS, the adoption of the City's Park Use ordinance to establish closing and opening times for all parks and to prohibit activities in the parks when closed, except as may be undertaken in conjunction with authorized events will promote the public safety, health and general welfare of its students, athletic participants and coaches, employees, community members and all other persons who use such areas.

NOW, THEREFORE, BE IT ORDAINED by the City Council of the City of Mountain Brook as follows:

**Section 1.** Chapter 38 of the City Code shall be amended as by adding the following section:

**"Sec. 38-2 – Prohibited activities in public parks.**

- (a) All Parks, as defined herein, shall close thirty minutes after sunset, except for events scheduled or authorized by the Recreation Board of the City of Mountain Brook or the Director of Parks and Recreation, and shall open thirty minutes after sunrise, unless a specific opening time is posted on the premises, in which case the posted time shall govern. No camping or overnight use of any Park shall be permitted at any time. It shall be unlawful for any individual to be in or upon the premises of any Park during times the Park is closed, unless the individual is participating in an event authorized as set forth above.
- (b) For the purposes of this Chapter, "Parks" shall be defined as follows: Alabama Veteran's Memorial Park, Cahaba River Walk, Canterbury Park, Crestline Tot Lot, Irondale Furnace, Jemison Park, Mountain Brook Athletic Complex, Mountain Brook Presbyterian Church Trails, Nature Trail (Overbrook Road), Overton Park, Rathmell Sports Park and Watkins Trace Trail, all public property surrounding such parks whether posted or

designated as a Park or not, and any other public place in the City designated as a park by the City Council.

- (c) It shall be unlawful to violate any of the terms and provisions of this section. Any person, firm or corporation violating any of the said terms and provisions of this section shall, upon conviction, be punished in accordance with Code of Ala. 1975, § 11-45-9 for a misdemeanor violation for each such offense. Each day any violation of this section shall continue shall constitute a separate offense.”

**Section 2.** This ordinance is cumulative in nature and is in addition to any power and authority which the City of Mountain Brook may have under any other ordinance or law.

**Section 3.** If any part, section, or subdivision of this ordinance shall be held unconstitutional or invalid for any reason, such holding shall not be construed to invalidate or impair the remainder of this ordinance, which shall continue in full force and effect, notwithstanding such holding.

**Section 4.** All other ordinances or parts of ordinances heretofore adopted by the City Council of the City of Mountain Brook, Alabama which are inconsistent with the provisions of this ordinance are hereby expressly repealed.

**Section 5.** This ordinance shall be effective immediately after adoption and publication as provided by law.

**ADOPTED:** This 22nd day of July, 2024.

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Council President

**ADOPTED:** This 22nd day of July, 2024.

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Mayor

### **CERTIFICATION**

I, Heather Richards, City Clerk of the City of Mountain Brook, Alabama, hereby certify the above to be a true and correct copy of an ordinance adopted by the City Council of the City of Mountain Brook, Alabama, as its meeting held on July 22, 2024, as same appears in the minutes of record of said meeting, and published by posting copies thereof on July 23, 2024, at the following public places, which copies remained posted for five (5) days as required by law.

City Hall, 56 Church Street

Overton Park, 3020 Overton Road

Gilchrist Pharmacy, 2850 Cahaba Road

Cahaba River Walk, 3503 Overton Road

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City Clerk