THE MEDICAL CENTER OF AURORA - SOUTH
CATH LAB 1 & 2
MODIFICATION TO EXISTING FIRE ALARM SYSTEM

Johnson Controls

DRAWING INDEX

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LEGENDS

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
		INITIATING DEVICES				
8N		ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
9N (3N BASE)		ADDRESSABLE STANDARD HEAT SENSOR W/ STANDARD BASE	SIMPLEX	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
		**NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 25 VOLTS ** **				
2N	#	CONVENTIONAL MULTI-CANDELA SPEAKER/STROBE, WALL MOUNT, WHITE, CLEAR LENS, FIRE	SIMPLEX	4906-9153	4" SQ, 1-1/2" D W/ 1-1/2" EXT RING	S V
1N	#	CONVENTIONAL MULTI-CANDELA STROBE, WALL MOUNT, WHITE, CLEAR LENS, FIRE	SIMPLEX	4906-9103	SINGLE GANG 1-1/2" D	V
		MISCELLANEOUS DEVICES				
1 RL	10K	END-OF-LINE RESISTOR 10kΩ, 1/2W (EOL)	SIMPLEX	4081-9008		

GENERAL NOTES:

1. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
2. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING TO REMAIN.

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR *	C.I.
M	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X				
S	AUDIO - SPEAKER	UTP SOLID	18 AWG	30pf/ft. MAX CAPACITANCE RECOMMENDED	X	X				
V	VISUAL	2 COND. SOLID	14 AWG		X	X				

CONDUIT SIZE	MAX CONDUCTOR AREA	CONDUIT SIZE	MAX CONDUCTOR AREA
1/2"	0.122 SQ. INCH*	1-1/4"	0.598 SQ INCH*
3/4"	0.213 SQ INCH*	1-1/2"	0.814 SQ INCH*
1"	0.346 SQ INCH*	2"	1.342 SQ INCH*

* 40% CONDUIT FILL PER N.E.C.

UTP = UNSHIELDED TWISTED PAIR

ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.

City of Aurora Building Division
Project: *MEDICAL CENTER OF AURORA*
Address: *1501 S POTOMAC ST*
Occupancy Group: *IBC I2*
Construction Type: *UBC TYPE I F.R.*
RSN: *1744391*
Permit: *2023-2378909-LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *M. Apodaca*
Date: *Sep 12, 2023*
2015 INTERNATIONAL CODES & 2020 NEC

COA Adopted Codes for this project:
ICC-2015 - NEC-2020
NFPA 13-2013 - NFPA 72-2013
COA Amendments 22 & 66

Provide a full size set of legible approved construction documents **PRINTED IN COLOR** for review by the Field Inspector.

Code violations that are found during inspection are required to be corrected. Permit issuance does not grant approval of a code violation.

BUILDING/FIRE DEPT PLAN REVIEW #:

AURORA BUILDING CODES DIVISION
15151 EAST ALAMEDA PARKWAY, 2ND FLOOR PERMIT CENTER
AURORA, COLORADO 80012
(303) 739-7420

GENERAL NOTES

1. THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS IS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
2. SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT JOHNSON CONTROLS IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
3. CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
4. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
5. THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
6. UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO JOHNSON CONTROLS NO LATER THAN 7 DAYS AFTER FINAL TEST.
7. THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMANLIKE MANNER.
8. DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED JOHNSON CONTROLS TECHNICAL REPRESENTATIVE.
9. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
10. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.
11. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND APPLICABLE ELECTRICAL CODES. REFER TO APPLICABLE CODES & STANDARDS FOR SPECIFIC CODE REFERENCES.
12. ALL WIRING SHALL BE INSTALLED ACCORDING TO APPLICABLE ELECTRICAL CODES.
13. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODES. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH APPLICABLE ELECTRICAL CODE SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE.
14. FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
15. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATING MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHAFTS SHALL BE TYPE FPLR.
16. FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
17. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOORS SHALL BE INSTALLED IN ACCORDANCE APPLICABLE ELECTRICAL CODES, WHERE APPLICABLE.
18. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
19. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
20. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
21. 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
22. MAINTAIN MAXIMUM CONDUIT FILL RATIO AS PER APPLICABLE ELECTRICAL CODES REQUIREMENTS.
23. EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY; HOWEVER, ANY EXISTING CONDUIT WILL BE USED ONLY IF CONDUITS MEET CURRENT STANDARDS AND CODES. JOHNSON CONTROLS MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

BUILDING/FIRE DEPT GENERAL NOTES

- FIRE ALARM SYSTEMS CANNOT BE COMBINED WITH BURGLAR ALARM SYSTEMS.
- THE INSTALLER IS REQUIRED TO COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE INSTALLATION OF SMOKE DETECTORS OR SENSORS (i.e., NOT CLOSER THAN 3 FEET FROM ANY SUPPLY/RETURN DIFFUSER AND THAT ADDITIONAL DETECTION MAY BE REQUIRED DUE TO THE RELOCATION OR SPACING ADJUSTMENT OF DETECTORS, AS A RESULT).
- FIRE ALARM DEVICES MUST BE PLACED IN PROTECTED AREAS WITH AMBIENT TEMPERATURE RANGING FROM 32 DEGREES TO 120 DEGREES F.
- DO NOT PLACE SMOKE DETECTORS WITHIN 3 FEET OF AIR SUPPLY REGISTERS AND DIFFUSERS.
- FIRE ALARM SYSTEM SHALL BE MONITORED BY A CLASS 1 CENTRAL STATION.
- FIRE ALARM CONTROL PANEL WILL BE PLACED IN THE LOCATION SPECIFIED WITHIN THE PLAN SUBMITTAL UNLESS APPROVED BY THE LIFE SAFETY FIELD INSPECTOR.
- CITY OF AURORA BUILDING CODES DIVISION DOES NOT GRANT APPROVAL FOR ANY VIOLATIONS OF ADOPTED FIRE CODE. CODE VIOLATIONS UNCOVERED DURING FIELD INSPECTIONS MUST BE CORRECTED.
- PER THE IFC AND THE NEC THE INSTALLER MUST REQUEST A ROUGH WIRING INSPECTION IN THE FIRE ALARM SYSTEM PRIOR TO REQUESTING A FIRE ALARM FINAL INSPECTION.
- THE CONTRACTOR SHALL CONDUCT A "PRE-TEST" OF THE PROJECT AREA PRIOR TO SCHEDULING AN ACCEPTANCE TEST WITH THE BUILDING CODES DIVISION.
- REMOTE ALARM INDICATORS SHALL BE PROVIDED FOR ANY AUTOMATIC FIRE ALARM DETECTOR LOCATED IN A CONCEALED LOCATION WITH A NORMALLY LOCKED DOOR.
- AT THE TIME OF FINAL FIRE ALARM INSPECTION, THE SYSTEM MUST BE SUPERVISED/MONITORED BY A CLASS 1 CENTRAL MONITORING AGENCY.
- THE INSTALLING CONTRACTOR (OR DESIGNEE) MUST PROVIDE ALL NECESSARY TESTING EQUIPMENT AND PERFORM ALL TESTING REQUIRED BY THE LIFE SAFETY FIELD INSPECTOR.
- IN-DUCT SMOKE DETECTORS INSTALLED IN CONCEALED LOCATIONS OR, WHERE THE DETECTOR'S ALARM INDICATOR IS NOT READILY VISIBLE TO RESPONDING PERSONNEL SHALL BE PROVIDED WITH A REMOTE INDICATOR(S), REMOTE TEST STATION AND PLACARDING.
- ALL NEW OR EXISTING FIRE ALARM SYSTEMS MUST BE CONNECTED ANY EXTERIOR HORN AND STROBE APPLIANCE. IF THE BUILDING IS FIRE SPRINKLED, A GENERAL ALARM ACTIVATION AT THE FIRE ALARM CONTROL PANEL WILL ACTIVATE THE EXTERIOR HORN AND STROBE. SILENCING THE PANEL MUST ALLOW THE VISUAL DEVICE TO CONTINUE UNTIL THE PANEL IS RESET.
- FIRE ALARM SYSTEMS SHALL INCLUDE BOTH AUDIBLE AND VISUAL ALARMS. VISUAL ALARMS WILL BE REQUIRED IN ALL ACCESSIBLE PUBLIC AND COMMON-USE AREAS PER THE IFC AND THE ANSI A117.1 STANDARD.
- PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE IFC, SECTION 907 AND THE NFPA 72.
- FIELD INSPECTION CONSULTATION IS AVAILABLE UPON REQUEST. CALL 303-739-7420 TO REQUEST CONSULTATION.
- THE FIRE ALARM CONTRACTOR MUST COMPLETE THE NFPA 72 "RECORD OF COMPLETION" PRIOR TO SCHEDULING THE AHJ ACCEPTANCE TEST.
- AUDIBLE ALARM SIGNALING DEVICES SHALL EXCEED THE PREVAILING SOUND LEVEL IN A ROOM OR SPACE BY 15 DBA. SOUND LEVELS FOR ALARM SIGNALS SHALL BE 120 DBA MAXIMUM. IFC SECTION 907.

APPLICABLE CODES & STANDARDS

JURISDICTIONS WITHIN THE STATE MAY HAVE AMENDMENTS TO THE STATE ADOPTED CODE. CHECK WITH THE LOCAL JURISDICTION AUTHORITY FOR MORE DETAILS

- International Building Code (IBC), ~~2021~~ Edition
- International Fire Code (IFC), ~~2021~~ Edition
- National Electric Code (NFPA 70), ~~2020~~ Edition
- National Fire Alarm and Signaling Code (NFPA 72), ~~2022~~ Edition
- Life Safety Code (NFPA 101), 2012 (State) Edition
- ICC A117.1 Accessible and Usable Buildings and Facilities, 2017 Edition
- ADA Standards for Accessible Design, 2023 Edition
- Colorado Department of Health and Environment - Hospital Licensing Rules, 2021 Edition

OCCUPANCY TYPE(S):
I-2 INSTITUTIONAL GROUP

SPRINKLER PROTECTION:
BUILDING IS FULLY SPRINKLERED

AREA:
TOTAL: APPROX. 450,396 SQ. FT.
SCOPE: APPROX. 1,850 SQ. FT

STORIES:
TOTAL: 6 STORIES + BASEMENT
SCOPE: PARTIAL FIRST FLOOR

CONSTRUCTION:
EXISTING: TYPE 1A
NEW: TYPE 1A

SCOPE OF WORK

MODIFY EXISTING FIRE ALARM SYSTEM: PROVIDE NEW DEVICES AND DEMO EXISTING DEVICES AS SHOWN ON DRAWINGS.

AREA TO RECEIVE WORK INCLUDES APPROXIMATELY 1,850 SQUARE FEET ENCOMPASSING THE FIRST FLOOR OF CENTRAL A-TOWER AT THE MEDICAL CENTER OF AURORA - SOUTH, AT 1501 SOUTH POTOMAC STREET, AURORA, COLORADO 80012.

FOR INTERIM - EXISTING AREA TO RECEIVE PARTIAL DEMOLITION TO ALLOW FOR UPDATES TO THE AREA. DURING DEMOLITION, INTERIM HEAT-DETECTORS TO BE INSTALLED IN SCOPE AREA FOR CONSTRUCTION. RE-USE SELECT EXISTING STANDARD INITIATION-BASES WHERE SHOWN.

FOR BUILDOUT - REMOVE INTERIM DEVICES FROM SCOPE AREA. INSTALL NEW INITIATION AND NOTIFICATION DEVICES. NEW DEVICES WILL TIE TO EXISTING NODE-2 FACP IN FIRE COMMAND CENTER 1C-1013A. NEW INITIATION TO TIE TO N2:M1 CIRCUIT. NEW NOTIFICATION TO TIE TO 2:N2:Y1 AND 2:N2:Y3 CIRCUIT.

EXISTING STATIC GRAPHIC MAP AT THE FACP TO BE UPDATED WITH NEW ARCHITECTURE AND INITIATION DEVICES.

NEW DEVICES TO FOLLOW EXISTING SEQUENCE OF OPERATIONS; NO FURTHER CHANGES TO OCCUR.

ALL NEW WIRING TO BE CLASS B.

THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.

AUTOMATIC FIRE ALARM SYSTEM SHALL TRANSMIT THE ALARM, SUPERVISORY AND TROUBLE SIGNALS TO AN APPROVED SUPERVISING STATION. THE SUPERVISING STATION SHALL BE LISTED AS EITHER UUFX OR UUJS UNDERWRITERS LABORATORY OR SHALL MEET THE REQUIREMENTS OF FACTORY MUTUAL RESEARCH APPROVAL STANDARD 3011. SUPERVISION OF SYSTEM AND LEASED TELEPHONE LINES SHALL BE ARRANGED BY THE OWNER.

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
AFF = ABOVE FINISHED FLOOR
AHJ = AUTHORITY HAVING JURISDICTION
ALM = ALARM
ANN = ANNUNCIATOR
BMS = BUILDING MANAGEMENT SYSTEM
C = CEILING MOUNTED
CD = CANDELA RATING
DET = DETECTOR
DGP = DATA GATHERING PANEL
E = EXISTING TO REMAIN
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
ER = ELEVATOR RECALL
FAA = FIRE ALARM ANNUNCIATOR
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBO = FURNISHED BY OTHERS
FCC = FIRE COMMAND CENTER
FSD = FIRE SMOKE DAMPER
FTR = FIRE ALARM TRANSPONDER
H = HIGH HUMIDITY
HT = HEIGHT
HVAC = HEATING VENTILATION & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
N = NEW DEVICE
NAC = NOTIFICATION APPLIANCE CIRCUIT
NDU = NETWORK DISPLAY UNIT
NEC = NATIONAL ELECTRIC CODE
NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
NIC = NOT IN CONTRACT
NPU = NETWORK PROCESSING UNIT
NTS = NOT TO SCALE
PAP = PRE-ACTION PANEL
RC = EXISTING TO REMOVE AND COVER
RD = EXISTING DEVICE TO BE RELOCATED
RL = RELOCATED DEVICE
RR = REMOVE EXISTING & REPLACE WITH NEW
SCC = STATUS COMMAND CENTER
SLC = SIGNALING LINE CIRCUIT
SMK = SMOKE
SUPV = SUPERVISORY
TAC = TRUEALERT ADDRESSABLE CONTROLLER
TOS = TOP OF SHAFT
TRBL = TROUBLE
TS = TAMPER SWITCH
TYP = TYPICAL
UON = UNLESS OTHERWISE NOTED
VCC = VOICE COMMAND CENTER
VT = VALVE TAMPER
W = WATTAGE
W/ = WITH
W/O = WITHOUT
WF = WATERFLOW
WG = WIRE GUARD
WP = WEATHERPROOF
XP = EXPLOSION PROOF

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PROJECT DIRECTORY

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1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012
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Owner
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DENVER, COLORADO 80237
PHONE: 303-946-5511

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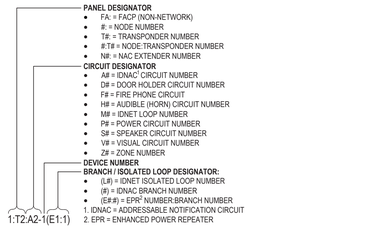
Installer
ODIN ELECTRIC
2120 SOUTH ASH STREET
DENVER, COLORADO 80222
PHONE: 720-791-6346

DESIGN STATEMENT

THIS PROJECT'S DESIGN IS BASED ON THE ENGINEERED PLANS AND SPECIFICATIONS PREPARED BY:
PATH 21 ARCHITECTURE

ARCHITECTURAL PLANS DATED:	DECEMBER 02, 2022
MECHANICAL PLANS DATED:	DECEMBER 02, 2022
ELECTRICAL PLANS DATED:	DECEMBER 02, 2022
SPECIFICATIONS DATED:	
ADDENDUM DATED:	

DEVICE TAG LEGEND



PANEL DESIGNATOR
- FA: = FACP (NON-NETWORK)
- #: = NODE NUMBER
- T#: = TRANSPONDER NUMBER
- #:T# = NODE:TRANSPONDER NUMBER
- N#: = NAC EXTENDER NUMBER

CIRCUIT DESIGNATOR
- A# = IDNAC* CIRCUIT NUMBER
- D# = DOOR HOLDER CIRCUIT NUMBER
- F# = FIRE PHONE CIRCUIT
- H# = AUDIBLE (HORN) CIRCUIT NUMBER
- M# = IDNET LOOP NUMBER
- P# = POWER CIRCUIT NUMBER
- S# = SPEAKER CIRCUIT NUMBER
- V# = VISUAL CIRCUIT NUMBER
- Z# = ZONE NUMBER

DEVICE NUMBER

BRANCH / ISOLATED LOOP DESIGNATOR:
- (L#) = IDNET ISOLATED LOOP NUMBER
- (#) = IDNAC BRANCH NUMBER
- (E#:#) = EPR** NUMBER:BRANCH NUMBER

1. IDNAC = ADDRESSABLE NOTIFICATION CIRCUIT
2. EPR = ENHANCED POWER REPEATER

SYSTEM SEQUENCE OF OPERATIONS

M.C.O.A. SOUTH TOWER

SEQUENCE OF OPERATIONS

SYSTEM INPUTS	SYSTEM OUTPUTS: FACP Annunciation — ACTIVATE COMMON ALARM SIGNAL INDICATOR (A)	ACTIVATE AUDIBLE ALARM SIGNAL (B)	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR (C)	ACTIVATE AUDIBLE SUPERVISORY SIGNAL (D)	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR (E)	ACTIVATE AUDIBLE COMMON TROUBLE SIGNAL (F) — Notification: ACTIVATE EVACUATION SIGNALS (AUDIBLE/VISUAL) (G)	ACTIVATE SPRINKLER BELL (H)	DISPLAY CHANGE OF STATUS AT REMOTE ANNUNCIATOR (I)	TRANSMIT FIRE ALARM SIGNAL TO OFF-SITE REPORTING (J)	TRANSMIT SUPERVISORY SIGNAL TO OFF-SITE REPORTING (K)	TRANSMIT TROUBLE SIGNAL TO OFF-SITE REPORTING (L)	NOTIFY HOSPITAL PBX (M) — Required Controls: FAN SHUT DOWN (N)	DAMPER SHUT DOWN (O)	RELEASE CORRIDOR FIRE DOORS (P)	RELEASE ASSOCIATED ROLL-UP DOOR (Q)	ELEVATOR SHUT DOWN (*) (R)	ELEVATOR RECALL - MAIN FLOOR (S)	ELEVATOR RECALL - ALTERNATE FLOOR (T)	ELEVATOR HAT FLASH (U)	OVERRIDE MUSIC SYSTEM (V)	RELEASE AUDIBLE SIGNAL ONLY, VISUALS TO REMAIN (W)	ACTIVATE OUTDOOR HORN/STROBE ON DEGREE ALARM (X)	RESET PANEL TO NORMAL CONDITION (Y)	
1 SMOKE DETECTOR	X	X					X	X					X	X							X	X			1
2 SMOKE DETECTOR AT 2ND, 4TH & 5TH FLR CLERK DESK	X	X					X		X	X			X			X	X	X			X	X			2
3 SMOKE DETECTOR AT SMOKE PARTITION	X	X					X		X	X			X			X					X	X			3
4 MANUAL PULL STATION	X	X					X		X	X						X					X	X			4
5 HEAT DETECTOR	X	X					X		X		X										X	X			5
6 DUCT DETECTOR			X	X				X		X			X	X											6
7 DUCT DETECTOR AT F/S DAMPER			X	X				X		X				X											7
8 MAIN FLR. ELEV. LOBBY SMOKE DETECTOR	X	X					X		X	X			X	X	X	X		X	X	X		X			8
9 ELEV. LOBBY SMOKE DETECTORS (EXCL. MAIN FLR.)	X	X					X		X	X				X		X		X		X		X			9
10 ELEV. MECH. ROOM SMOKE DETECTOR	X	X					X		X	X			X			X		X		X		X			10
11 ELEV. SHAFT HEAT DETECTOR	X	X					X		X	X							X								11
12 ELEV. MECH. ROOM HEAT DETECTOR	X	X					X		X	X							X								12
13 WATERFLOW SWITCH	X	X					X	X	X	X										X		X			13
14 TAMPER SWITCH			X	X				X		X															14
15 POST INDICATOR VALVE SWITCH			X	X				X		X															15
16 FACP AC POWER FAILURE					X	X						X													16
17 FACP LOW BATTERY					X	X						X													17
18 OPEN CIRCUIT					X	X						X													18
19 GROUND FAULT					X	X						X													19
20 NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X						X													20
21 ALARM SIGNAL SILENCE																					X				21
22 SYSTEM RESET																							X		22
23 CATH LAB BUILDING ALARM	X	X						X				X													23
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	

NOTE: Audible Evacuation Signal shall be Temporal Pattern per NFPA 72.

- *Disconnect power after a time delay equal to the time it takes for the car to travel from the highest to the lowest level plus 10 seconds.*

New devices will be added to the existing sequence of operations. No further changes will occur.

FILE PATH: C:\Users\jrauch\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 1\3B-Cath Lab 1 & 2 - 2023 - 650340\05\FP\en\FA-001.dwg
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NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
08/22/2023

Revisions shown with Δ symbol

ISSUE LOC	DATE	CAD	CHK	DESCRIPTION
MARK		CBR	NSW	
1	08/22/2023			CHANGES PER AURORA FIRE DEPARTMENT DATED 08/04/2023.

THE MEDICAL CENTER OF AURORA - SOUTH
CATH LAB 1 & 2
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/26/23
JOB #:	
PROJECT #:	419:650349055

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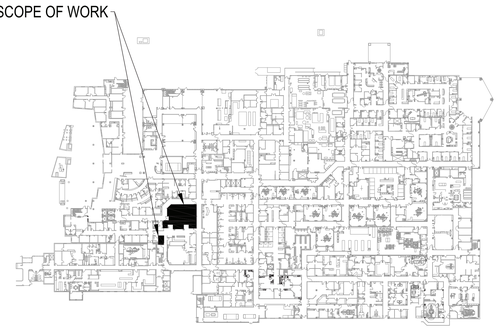
SYSTEM:
FIRE ALARM SYSTEM

SHEET:
COVER SHEET

FA-001

RSN: 1744391
Permit # 2023-2378909-LT
Sheet 2 of 27

SCOPE OF WORK



KEYPLAN
SCALE:N.T.S.

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
		INITIATING DEVICES				
8N		ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
9N (3N BASE)		ADDRESSABLE STANDARD HEAT SENSOR W/ STANDARD BASE	SIMPLEX	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
		NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 25 VOLTS **				
2N	#	CONVENTIONAL MULTI-CANDELA SPEAKER/STROBE, WALL MOUNT, WHITE, CLEAR LENS, FIRE	SIMPLEX	4906-9153	4" SQ. 1-1/2" D W/ 1-1/2" EXT RING	S V
1N	#	CONVENTIONAL MULTI-CANDELA STROBE, WALL MOUNT, WHITE, CLEAR LENS, FIRE	SIMPLEX	4906-9103	SINGLE GANG 1-1/2" D	V
		MISCELLANEOUS DEVICES				
1 R	10K	END-OF-LINE RESISTOR 10kΩ, 1/2W (EOL)	SIMPLEX	4081-9008		

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR **	C.I.
M	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X				
S	AUDIO - SPEAKER	UTP SOLID	18 AWG	30pf/ft. MAX CAPACITANCE RECOMMENDED	X	X				
V	VISUAL	2 COND. SOLID	14 AWG		X	X				

CONDUIT SIZE	MAX CONDUCTOR AREA	CONDUIT SIZE	MAX CONDUCTOR AREA
1/2"	0.122 SQ. INCH*	1-1/4"	0.598 SQ INCH*
3/4"	0.213 SQ INCH*	1-1/2"	0.814 SQ INCH*
1"	0.346 SQ INCH*	2"	1.342 SQ INCH*

* 40% CONDUIT FILL PER N.E.C.

UTP = UNSHIELDED TWISTED PAIR

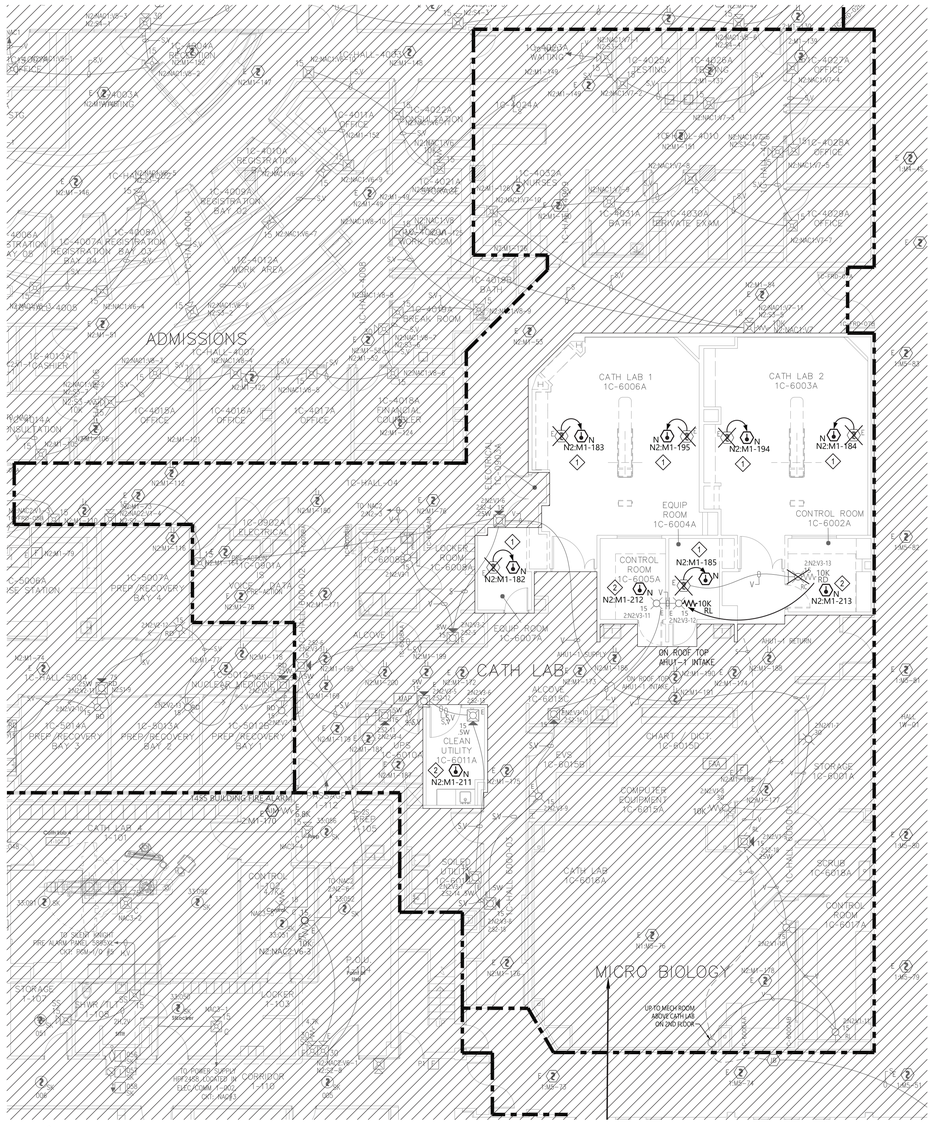
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.

GENERAL NOTES:

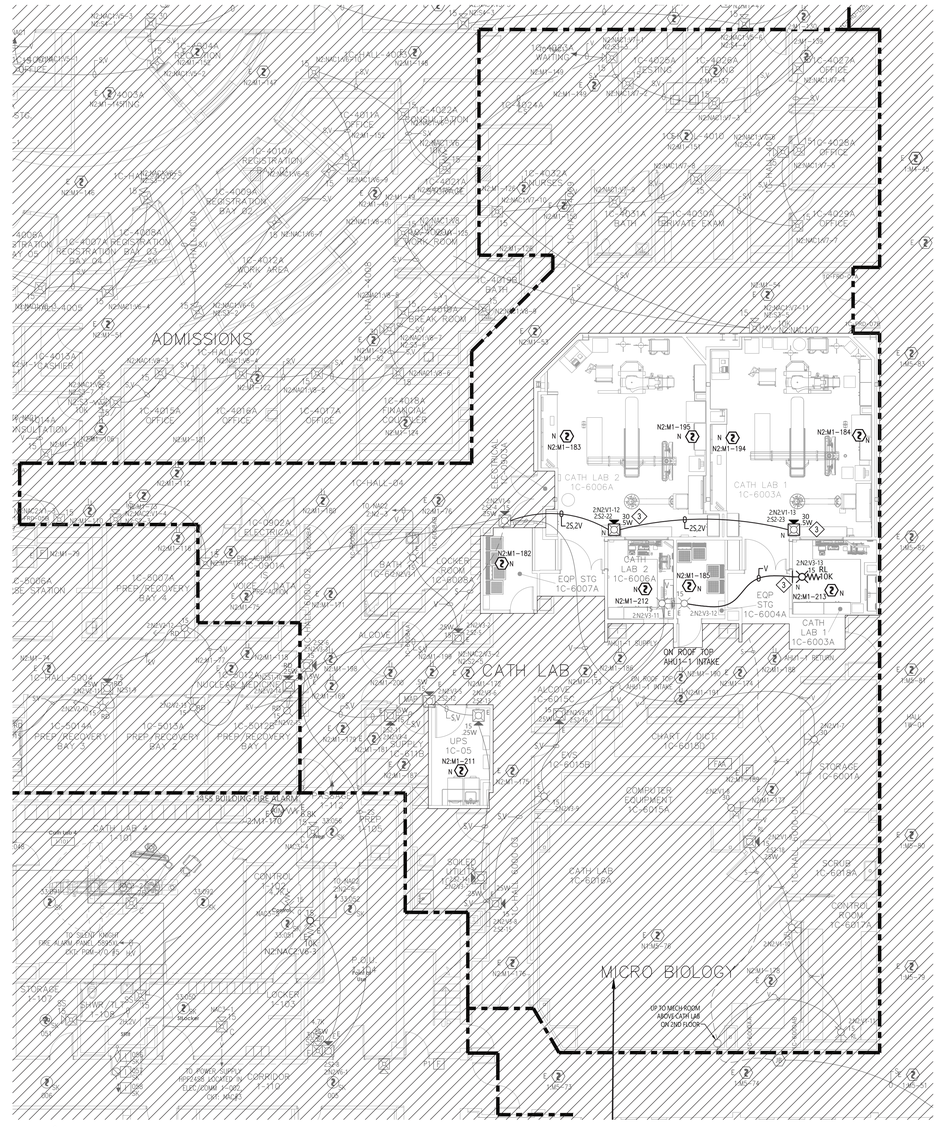
1. ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
2. TAP ALL SPEAKERS AT 0.5W UNLESS NOTED OTHERWISE.
3. SET ALL SPEAKER VOLTAGE JUMPERS TO THE 25V SETTING.
4. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.
5. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
6. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING.
7. ALL ITEMS THAT ARE HATCHED ARE NOT IN THIS SCOPE OF WORK.

KEYNOTES:

1. NEW HEAT SENSOR TO REPLACE EXISTING SMOKE SENSOR HEAD ONLY AS INTERIM FOR CONSTRUCTION. REUSE EXISTING BASE, EXISTING ADDRESS, AND EXISTING WIRING.
2. NEW HEAT SENSOR TO BE INSTALLED AS INTERIM FOR CONSTRUCTION. TO BE REMOVED AFTER CONSTRUCTION.
3. GENERAL CONTRACTOR TO COORDINATE LOCATION OF SPEAKER AND STROBE WITHIN THE ROOM WITH OTHER EQUIPMENT THAT IS BEING INSTALLED WITHIN THE ROOM.



FIRST FLOOR PARTIAL DEVICE PLACEMENT PLAN - INTERIM
SCALE:1/8" = 1'-0"
SCALE:1/8" = 1'-0" IN FEET 0 4' 8' 16'



FIRST FLOOR PARTIAL DEVICE PLACEMENT PLAN - BUILDOUT
SCALE:1/8" = 1'-0"
SCALE:1/8" = 1'-0" IN FEET 0 4' 8' 16'

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *M. Apodaca*
Date: *Sep 12, 2023*
2015 INTERNATIONAL CODES & 2020 NEC

Johnson Controls
DISTRICT 1-415
1001 E. 62ND AVENUE
DENVER, CO 80216
PHONE: 303-355-5900
FAX: 303-355-5915

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
Nancy S. Wiltsie
08/22/2023

THE MEDICAL CENTER OF AURORA - SOUTH CATH LAB 1 & 2

THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

ISSUE LOC	DATE	CAD	CHK	DESCRIPTION
MARK				
1	08/22/2023	CBR	NSW	CHANGES PER AURORA FIRE DEPARTMENT DATED 08/04/2023

Revisions shown with Δ symbol

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ISSUE DATE:	7/26/23
JOB #:	
PROJECT #:	419-6503495S5

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SYSTEM:
FIRE ALARM SYSTEM

SHEET:
FIRST FLOOR PARTIAL DEVICE PLACEMENT PLAN - INTERIM & BUILDOUT

FA-101

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FILE PATH: C:\Users\jrauch\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 138-Cath Lab 1-2 - 2023 - 6503495SF\Fire\FA-101.dwg
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LAST PRINTED: 8/22/2023 11:09:47 AM
30" x 42" - Arch E1 Size

RSN: 1744391
Permit # 2023-2378909-LT
Sheet 3 of 27

RISER NOTES:

1. RISER IS A DIAGRAMMATICAL REPRESENTATION OF THE SYSTEM ARCHITECTURE IN BUILDING CROSS SECTION. IT IS NOT INTENDED TO REPRESENT ACTUAL WIRE RUNS, PANEL CONFIGURATIONS OR PENETRATIONS. REFER TO FLOOR PLANS AND PANEL DETAILS FOR CIRCUIT ROUTING AND CONFIGURATION INFORMATION.
2. ALL WIRING SHALL COMPLY WITH APPLICABLE ELECTRICAL CODES. REFER TO 'APPLICABLE CODES & STANDARDS' ON SHEET FA-001 FOR SPECIFIC CODE REFERENCES.
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KEYED NOTES:

1. 120VAC PRIMARY POWER SOURCE SHALL BE A MECHANICALLY PROTECTED BRANCH CIRCUIT. THE CIRCUIT DISCONNECTING MEANS SHALL HAVE A RED MARKING, AND BE IDENTIFIED AS "FIRE ALARM CIRCUIT"

1ST FLOOR

AREA D AND ENGINEERING

MEDICAL OFFICE BUILDING SOUTH FIRE ALARM PANEL AND DEVICES

1455 BUILDING FIRE ALARM

AREA D AND ENGINEERING

1ST FLOOR

FIRST FLOOR PARTIAL RISER DIAGRAM - INTERIM

SCALE:N.T.S.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *M. Apodaca*
Date: *Sep 12, 2023*
2015 INTERNATIONAL CODES & 2020 NEC

Johnson Controls
DISTRICT 1-418
10065 E EXPOSITION AVE
AURORA, CO 80017
SERVICE: 303-355-5000
PHONE: 303-355-9500
FAX: 303-355-9515

NICET CERTIFICATION INFORMATION

NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24

08/22/2023

THE MEDICAL CENTER OF AURORA - SOUTH CATH LAB 1 & 2

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1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

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MARK				
1	08/22/2023	CBR	NSW	CHANGES TO FD1 AURORA FIRE DEPARTMENT COMMENTS

Revisions shown with △ symbol

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PROJECT #:	419:650349055

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SYSTEM:
FIRE ALARM SYSTEM

SHEET:
FIRST FLOOR PARTIAL RISER DIAGRAM - INTERIM

FA-201

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LAST PRINTED: 8/22/2023 11:09:58 AM
30" x 42" Arch E1 Size

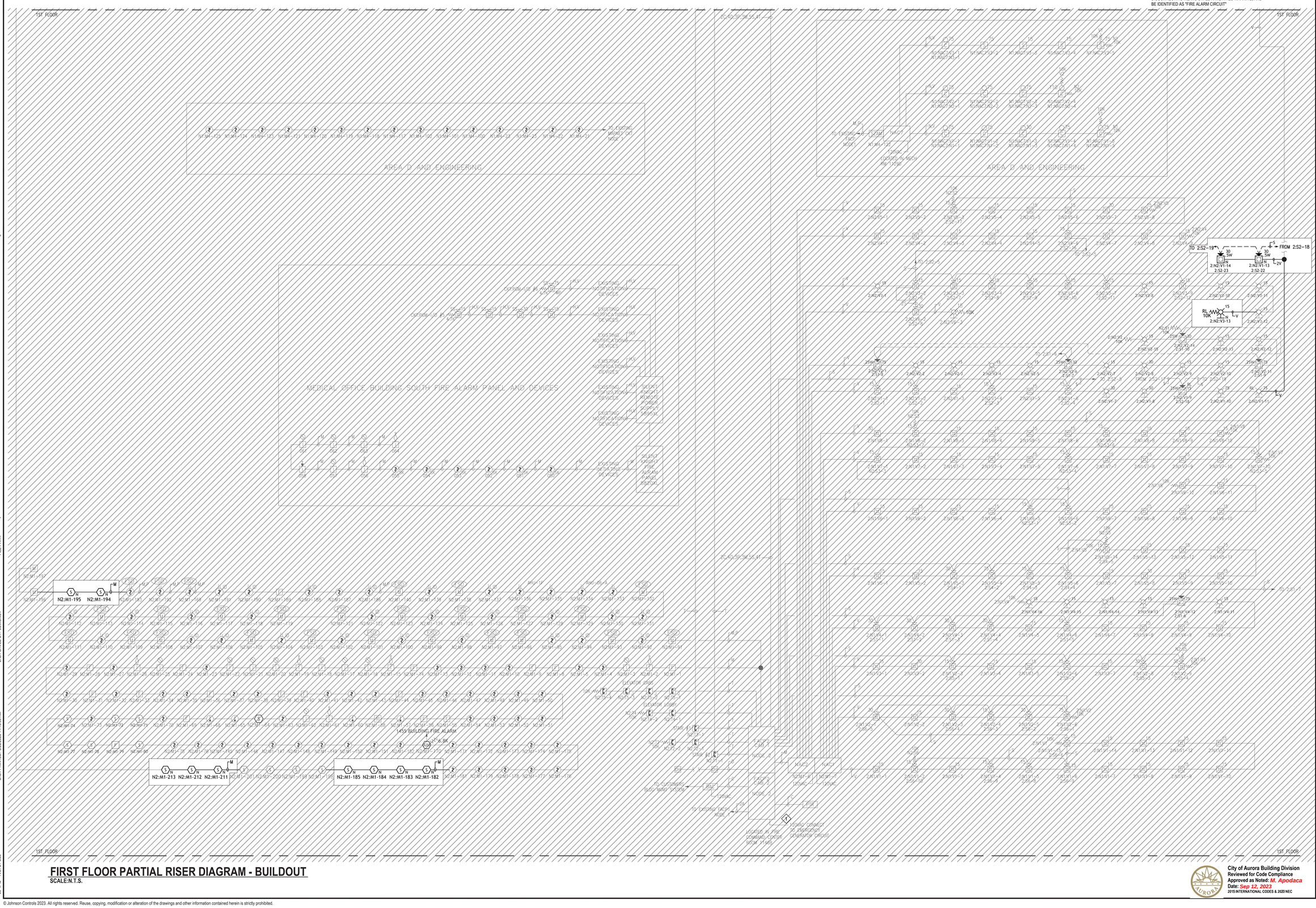
RSN: 1744391
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Sheet 4 of 27

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FIRST FLOOR PARTIAL RISER DIAGRAM - BUILDOUT

SCALE:N.T.S.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *M. Apodaca*
Date: *Sep 12, 2023*
2015 INTERNATIONAL CODES & 2020 NEC

Johnson Controls
DISTRICT: 1455
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FAX:

NICET CERTIFICATION INFORMATION
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NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
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1	08/22/2023	CBR	NSW	CHANGES TO FD1 AURORA FIRE DEPARTMENT DATED 08/04/2023

Revisions shown with △ symbol

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PROJECT #:	419:650349055

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SYSTEM: FIRE ALARM SYSTEM

SHEET: FIRST FLOOR PARTIAL RISER DIAGRAM - BUILDOUT

FA-202

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LAST PRINTED: 8/22/2023 11:10:09 AM
30" x 42" - Arch E1 Size

TMCA NODE 2 4100es FACP

Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment							
4100-9111	1	4100 CONFIG, DOMESTIC 120V	*	0.3730	0.3730	0.4700	0.4700
4100-5101	4	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ		0.0500	0.2000	0.0500	0.2000
4100-9621	1	BASIC AUDIO WITH MICROPHONE - DIGITAL		0.0750	0.0750	0.0820	0.0820
4100-1326	4	DIGITAL FLEX 50W AMP W/3 NACS - 25V		0.0850	0.3400	2.2700	9.0800
4100-1240	1	AUXILIARY AUDIO INPUT BOARD		0.0100	0.0100	0.0100	0.0100
4100-1242	1	MESSAGE EXPANSION BOARD - 32 MINUTES		0.0020	0.0020	0.0170	0.0170
4100-1270	1	MASTER TELEPHONE, PHONE CONTROL		0.0800	0.0800	0.1400	0.1400
4100-1272	3	EXPANSION PHONE CONTROLLER		0.0800	0.2400	0.1400	0.4200
4100-3101	3	IDNET MODULE, UP TO 250 POINTS	*	0.0750	0.2250	0.1150	0.3450
4100-6014	1	NETWORK IF CARD, WIRED		0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED		0.0550	0.1100	0.0550	0.1100
4100-3206	1	8 RELAYS - 3 AMP		0.0150	0.0150	0.1900	0.1900
4100-1254	1	2 CHANNEL AUDIO OPERATOR INTERFACE		0.0000	0.0000	0.0240	0.0240
4100-1282	4	8 SW. 16REDYEL LED MODULE		0.0000	0.0000	0.0240	0.0960
4100-1284	31	8 SW. 16 RED/GREEN LED MODULE		0.0000	0.0000	0.0240	0.7440
4100-1288	5	64/64 LED/SWITCH CONTROLLER		0.0200	0.1000	0.0200	0.1000
4100-1289	4	EXPANSION 64/64 LED/SW MODULE		0.0200	0.0800	0.0200	0.0800
4009-9601	4	IDNAC REPEATER 120V PLATINUM UL/ULC		0.0700	0.2800	0.0960	0.3840
		Panel Totals			**2.1760**		**12.5380**
IDNet Addressable Devices (SLC)							
4099-9004	16	ADDRESSABLE SINGLE ACTION MANUAL STATION	*				
4090-9001	31	IDNET SUPERVISED IAM	*				
4090-9002	17	IDNET RELAY IAM	*				
4090-9006	1	SUP RELEASE PERIPH & ENCLOSURE	*				
4090-9118	11	RELAY IDNET 2 IAM W/T SENSE	*				
1 4098-9714	65	**TRUEALARM PHOTO SMOKE SENSOR**					
4098-9717	3	TRUEALARM ION SMOKE SENSOR					
2 4098-9733	13	**TRUEALARM HEAT SENSOR**					
4098-9755	20	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT	*				
4098-9756	8	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	*				
4098-9792	81	**TRUEALARM SENSOR BASE**	*				

Constant current draw of .8mA standby and 1mA alarm per address used. Devices requiring additional current are accounted for in the section labeled "Miscellaneous Peripheral Devices Requiring Additional System Power".

Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	8	ENCAPSULATED RELAY PAM-SD	0.0000	0.0000	0.0150	0.1200
4098-9756	8	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0030	0.0240	0.0150	0.1200
4603-9101	1	SERIAL LCD ANNUNCIATOR	0.0650	0.0650	0.1400	0.1400
		Peripheral Totals		**0.0890**		**0.3800**
		Added Current for EPS Conversion of 24 to 29 Volt IDNac Devices		**0.0000**		**0.0000**
		Rui Totals 1		**0.0035**		**0.0035**
		Address Totals 185 Addresses		**0.1480**		**0.1850**
		System Totals*:	**Standby**	**2.4165**	**Alarm**	**13.1065**

* Device Address current draw included below (See Additional Current Draws):

2. Backup Amplifier assumes Main Amplifier alarm current on failure.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
SPS-1				1.4450		2.3900
				Sub Total **1.4450**		**2.3900**
Additional Current Draws:						
RUI Connected Peripheral Devices	1	x 0.0035		= 0.0035	x 0.0035	= 0.0035
MAPNET/IDNet Device Address Communication Current	185	x 0.000800		= 0.1480	x 0.0010000	= 0.1850
				Sub Total **1.5965**		**2.5785**
Spare addressable point capacity	**0%**	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
				Total **1.5965**		**2.5785**
Standby Time = 24 Hrs		x 1.5965		= 38.3160	Standby Ah	
Alarm Time = 5 Min		0.08333 x 2.5785		= 0.2149	Alarm Ah	
				38.5309		
Additional Spare Battery Capacity = 0%			+	0.0000		
				38.5309		
Battery Discharge Factor = 20%			+	7.7062		
Minimum Battery Required 2081-9296 50AH (2x)				**46.2371**		
Battery Supplied 2081-9296 50AH (2x)						

* System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.

Battery Set #2 (Cabinet/Charger #2)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-2				0.1350		2.4400
				Sub Total **0.1350**		**2.4400**
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **				0.0000		0.0000
MAPNET/IDNet Device Address Communication Current	0	x 0.000800		= 0.0000	x 0.001000	= 0.0000
				Sub Total **0.1350**		**2.4400**
Spare addressable point capacity	**0%**	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
				Total **0.1350**		**2.4400**
Standby Time = 24 Hrs		x 0.1350		= 3.2400	Standby Ah	
Alarm Time = 5 Min		0.08333 x 2.44		= 0.2033	Alarm Ah	
				3.4433		
Additional Spare Battery Capacity = 0%			+	0.0000		
				3.4433		
Battery Discharge Factor = 20%			+	0.6887		
Minimum Battery Required 2081-9272 6.2AH (2x)				**4.1320**		
Battery Supplied 2081-9272 6.2AH (2x)						

Battery Set #3 (Cabinet/Charger #3)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-3				0.1350		3.0640
				Sub Total **0.1350**		**3.0640**
				Total **0.1350**		**3.0640**
Standby Time = 24 Hrs		x 0.1350		= 3.2400	Standby Ah	
Alarm Time = 5 Min		0.08333 x 3.064		= 0.2553	Alarm Ah	
				3.4953		
Additional Spare Battery Capacity = 0%			+	0.0000		
				3.4953		
Battery Discharge Factor = 20%			+	0.6991		
Minimum Battery Required 2081-9272 6.2AH (2x)				**4.1944**		
Battery Supplied 2081-9272 6.2AH (2x)						

Battery Set #4 (Cabinet/Charger #4)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-4				0.1350		2.3200
				Sub Total **0.1350**		**2.3200**
				Total **0.1350**		**2.3200**
Standby Time = 24 Hrs		x 0.1350		= 3.2400	Standby Ah	
Alarm Time = 5 Min		0.08333 x 2.32		= 0.1933	Alarm Ah	
				3.4333		
Additional Spare Battery Capacity = 0%			+	0.0000		
				3.4333		
Battery Discharge Factor = 20%			+	0.6867		
Minimum Battery Required 2081-9272 6.2AH (2x)				**4.1200**		
Battery Supplied 2081-9272 6.2AH (2x)						

Battery Set #5 (Cabinet/Charger #5)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-5				0.1350		2.3200
				Sub Total **0.1350**		**2.3200**
				Total **0.1350**		**2.3200**
Standby Time = 24 Hrs		x 0.1350		= 3.2400	Standby Ah	
Alarm Time = 5 Min		0.08333 x 2.32		= 0.1933	Alarm Ah	
				3.4333		
Additional Spare Battery Capacity = 0%			+	0.0000		
				3.4333		
Battery Discharge Factor = 20%			+	0.6867		
Minimum Battery Required 2081-9272 6.2AH (2x)				**4.1200**		
Battery Supplied 2081-9272 6.2AH (2x)						

IDNET CHANNEL N2:M1			#N/A	SWITCH SETTINGS								
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8	9
N2:M1-1	ADRPUL	PULL	2:M1-1 1ST FLR AREA A STAIR 1130A	X								ON
N2:M1-2			SPARE		X							ON
N2:M1-3	IAM	SO	2:M1-3 1ST FLR AREA A STAIR 1130A TAMP	X	X							ON
N2:M1-4	PHOTO	SMOKE	2:M1-4 1ST FLR AREA A ELECT RM 1133			X						ON
N2:M1-5	ION	SMOKE	2:M1-5 1ST FL AREA A ELECT RM 1133 PRE	X		X						ON
N2:M1-6	4009AB	SIGNAL	2:M1-6 1ST FLR AREA ELECT RM 1133 NAC1	X	X	X						ON
N2:M1-7	4009AB	SIGNAL	2:M1-7 1ST FLR AREA ELECT RM 1133 NAC2	X	X	X						ON
N2:M1-8	ADRPUL	PULL	2:M1-8 1ST FLR AREA ELECT RM 1133				X				X	ON
N2:M1-9	ADRPUL	PULL	2:M1-9 1ST FLR AREA A CORR 1140	X			X				X	ON
N2:M1-10	PHOTO	SMOKE	2:M1-10 1ST FLR AREA A CORR 1140		X		X				X	ON
N2:M1-11	PHOTO	SMOKE	2:M1-11 1ST FLR AREA A CORR 1140	X	X		X				X	ON
N2:M1-12	PHOTO	SMOKE	2:M1-12 1ST FLR AREA A ELECT RM 1134			X	X				X	ON
N2:M1-13	ION	SMOKE	2:M1-13 1ST FLR AREA A ELECT RM 1134	X		X	X				X	ON
N2:M1-14	ADRPUL	PULL	2:M1-14 1ST FLR AREA A ELECT RM 1134		X	X	X				X	ON
N2:M1-15	IAM	WATER	2:M1-15 1STFLAREA A PUMP 1133B MAIN FLW	X	X	X	X				X	ON
N2:M1-16	IAM	SO	2:M1-16 1STFLAREA A PUMP 1133B TMP MAIN					X			X	ON
N2:M1-17	IAM	SO	2:M1-17 1STFLAREA A PUMP 1133B TMP MAIN	X				X			X	ON
N2:M1-18	IAM	SO	2:M1-18 1STFLAREA A PUMP 1133B TMP MAIN		X			X			X	ON
N2:M1-19	IAM	WATER	2:M1-19 1STFLAREA A PUMP1133B WAT FLW	X	X			X			X	ON
N2:M1-20	IAM	SO	2:M1-20 1STFLAREA A PUMP 1133B TMP MAIN			X		X			X	ON
N2:M1-21	IAM	SO	2:M1-21 1STFLAREA A PUMP 1133B TMP MAIN	X	X	X		X			X	ON
N2:M1-22	IAM	SO	2:M1-22 1STFLAREA A PUMP 1133B TMP MAIN		X	X		X			X	ON
N2:M1-23	PHOTO	SMOKE	2:M1-23 1ST FLR AREA A PUMP RM 1133B	X	X	X		X			X	ON
N2:M1-24	ADRPUL	PULL	2:M1-24 1ST FLR AREA A PUMP RM 1133B				X	X			X	ON
N2:M1-25	IAM	SO	2:M1-25 1STFL PUMP RM 1133B TEST HEADER	X			X	X			X	ON
N2:M1-26	IAM	WATER	2:M1-26 1ST FL AREA A PUMP1133B PREACT		X		X	X			X	ON
N2:M1-27	PHOTO	SMOKE	2:M1-27 1ST FL AREA A CORR 1146	X	X		X	X			X	ON
N2:M1-28	ADRPUL	PULL	2:M1-28 1ST FL AREA A MECH RM 1133A			X	X	X			X	ON
N2:M1-29	PHOTO	SMOKE	2:M1-29 1ST FL AREA A MECH RM 1133A	X		X	X	X			X	ON
N2:M1-30	PHOTO	SMOKE	2:M1-30 1ST FL AREA A CORR 1146		X	X	X	X			X	ON
N2:M1-31			SPARE	X	X	X	X	X			X	ON
N2:M1-32	PHOTO	SMOKE	2:M1-32 1ST FL AREA A CORR 1146						X		X	ON
N2:M1-33	ADRPUL	PULL	2:M1-33 1ST FL AREA A CORR 1146	X					X		X	ON
N2:M1-34	PHOTO	SMOKE	2:M1-34 1ST FL AREA A CORR 1146		X				X		X	ON
N2:M1-35	PHOTO	SMOKE	2:M1-35 1ST FL AREA A RECEPTION 1135	X	X				X		X	ON
N2:M1-36	ADRPUL	PULL	2:M1-36 1ST FL AREA A LOBBY 1001		X				X		X	ON
N2:M1-37	PHOTO	SMOKE	2:M1-37 1ST FL AREA A CORR 1007	X		X			X		X	ON
N2:M1-38	PHOTO	SMOKE	2:M1-38 1ST FL AREA A CORR 1007		X	X			X		X	ON
N2:M1-39	ADRPUL	PULL	2:M1-39 1ST FL AREA A DINING 1010	X	X	X			X		X	ON
N2:M1-40	ADRPUL	PULL	2:M1-40 1ST FL AREA A LOBBY 1001				X		X		X	ON
N2:M1-41	PHOTO	SMOKE	2:M1-41 1ST FL AREA A LOBBY 1001	X			X		X		X	ON
N2:M1-42	PHOTO	SMOKE	2:M1-42 1ST FL AREA A LOBBY 1001		X		X		X		X	ON
N2:M1-43	PHOTO	SMOKE	2:M1-43 1ST FL AREA A LOBBY 1001	X	X		X		X		X	ON
N2:M1-44	ADRPUL	PULL	2:M1-44 1ST FL AREA A LOBBY 1001			X	X		X		X	ON
N2:M1-45	PHOTO	SMOKE	2:M1-45 1ST FL AREA A LOBBY 1001	X		X	X		X		X	ON
N2:M1-46	PHOTO	SMOKE	2:M1-46 1ST FL AREA A CORR 1058		X	X	X		X		X	ON
N2:M1-47	PHOTO	SMOKE	2:M1-47 1ST FL AREA A CORR 1058	X	X	X	X		X		X	ON
N2:M1-48	PHOTO	SMOKE	2:M1-48 1ST FL AREA A LOBBY 1001					X	X		X	ON
N2:M1-49	PHOTO	SMOKE	2:M1-49 1ST FL AREA A WORK AREA 1035	X				X	X		X	ON
N2:M1-50	PHOTO	SMOKE	2:M1-50 1ST FL AREA C WAITING AREA 1029		X			X	X		X	ON
N2:M1-51	PHOTO	SMOKE	2:M1-51 1ST FL AREA B WORK AREA 1035	X	X			X	X		X	ON
N2:M1-52	PHOTO	SMOKE	2:M1-52 1ST FL AREA B BY CONSULT 1042			X		X	X		X	ON
N2:M1-53	PHOTO	SMOKE	2:M1-53 1ST FL AREA B CORR 1062	X		X		X	X		X	ON
N2:M1-54	PHOTO	SMOKE	2:M1-54 1ST FL AREA A CORR 1062		X	X		X	X		X	ON
N2:M1-55	ADRPUL	PULL	2:M1-55 1ST FL AREA C STAIR 1068A	X	X	X		X	X		X	ON
N2:M1-56	ADRPUL	PULL	2:M1-56 1ST FL AREA C ELEV LOBBY 1004				X	X	X		X	ON
N2:M1-57	HEAT	HEAT	2:M1-57 BTM OF SHAFT PUB ELEV 1004A	X			X	X	X		X	ON
N2:M1-58	RIAM	RRELAY	2:M1-58 1ST FL AREA C PUB ELEV DR CNTL		X		X	X	X		X	ON
N2:M1-59			SPARE	X	X		X	X	X		X	ON
N2:M1-60	HEAT	HEAT	2:M1-60 BTM OF SHAFT SERV ELEV 1061B			X	X	X	X		X	ON
N2:M1-61			SPARE	X		X	X	X	X		X	ON
N2:M1-62	IAM	SO	2:M1-62 1ST FL AREA C STAIR 106BA TAMP		X	X	X	X	X		X	ON
N2:M1-63	PHOTO	SMOKE	2:M1-63 1ST FL PUBLIC ELEV LOBBY 1004	X	X	X	X	X	X		X	ON
N2:M1-64	PHOTO	SMOKE	2:M1-64 1ST FL AREA C WAITING 1C-0005A						X		X	ON
N2:M1-65	HEAT	HEAT	2:M1-65 BTM OF SHAFT PUB ELEV 1004B	X					X		X	ON
N2:M1-66			SPARE		X				X		X	ON
N2:M1-67			SPARE	X	X				X		X	ON
N2:M1-68	HEAT	HEAT	2:M1-68 BTM OF SHAFT SERV ELEV 1061A		X				X		X	ON
N2:M1-69	ADRPUL	PULL	2:M1-69 1ST FL AREA C ELEV LOBBY 1061	X		X			X		X	ON
N2:M1-70	PHOTO	SMOKE	2:M1-70 1ST FL SERV ELEV LOBBY 1061		X	X			X		X	ON
N2:M1-71	PHOTO	SMOKE	2:M1-71 1ST FL HALL 1C-5000	X	X	X			X		X	ON
N2:M1-72	PHOTO	SMOKE	2:M1-72 1ST FL HALL 1C-5002				X		X		X	ON
N2:M1-73	PHOTO	SMOKE	2:M1-73 1ST FL AREA C CORR 1062	X			X		X		X	ON
N2:M1-74	PHOTO	SMOKE	2:M1-74 1ST FL HALL 1C-5004		X		X		X		X	ON
N2:M1-75	PHOTO	SMOKE	2:M1-75 1ST FL AREA C IS RM 1090	X	X		X		X		X	ON
N2:M1-76	PHOTO	SMOKE	2:M1-76 1ST FL AREA B CORR 1062			X	X		X		X	ON
N2:M1-77	PHOTO	SMOKE	2:M1-77 1ST FL HALL 1C-5000	X		X	X		X		X	ON
N2:M1-78	PHOTO	SMOKE	2:M1-78 1ST FL ALCOVE 1C-5005		X	X	X		X		X	ON
N2:M1-79	ADRPUL	PULL	2:M1-79 1ST FL NURSE STA 1C-5006A	X	X	X	X		X		X	ON
N2:M1-80	PHOTO	SMOKE	2:M1-80 1ST FL HALL 1C-5004					X	X		X	ON
N2:M1-81			SPARE	X				X	X		X	ON
N2:M1-82			SPARE		X			X	X		X	ON
N2:M1-83	IAM	SUPERV	2:M1-83 1ST FL AREA A RM 1133B PUMP RUN	X	X			X	X		X	ON
N2:M1-84	IAM	SUPERV	2:M1-84 1ST FL AREA A RM 1133B PHA REV			X		X	X		X	ON
N2:M1-85	IAM	SUPERV	2:M1-85 1ST FL AREA A RM 1133B PWR LOSS	X		X		X	X		X	ON
N2:M1-86	IAM	TROUBLE	2:M1-86 1ST FL AREA A RM 1133B PUMP TBL		X	X		X	X		X	ON
N2:M1-87			SPARE	X	X	X		X	X		X	ON
N2:M1-88			SPARE				X	X	X		X	ON
N2:M1-89			SPARE	X			X	X	X		X	ON
N2:M1-90			SPARE		X		X	X	X		X	ON
N2:M1-91	RIAM	RELAY	2:M1-91 1ST FLR AREA A ELEC RM 1133	X	X		X	X	X		X	ON
N2:M1-92			SPARE			X	X	X	X		X	ON
N2:M1-93	TRIAM	UTILITY	N2:M1-93 1ST FLR AREA A PUMP RM 1133B	X		X	X	X	X		X	ON
N2:M1-94	PHOTO	SDUCT	2:M1-94 1ST FLR AREA A PUMP RM 1133B		X	X	X	X	X		X	ON
N2:M1-95	PHOTO	SDUCT	2:M1-95 1ST FLR AREA A MECH RM 1133A	X	X	X	X	X	X		X	ON
N2:M1-96	TRIAM	UTILITY	2:M1-96 1ST FLR AREA A MECH RM 1133A						X	X	X	ON
N2:M1-97	TRIAM	UTILITY	2:M1-97 1ST FLR AREA RECEPTION 1135	X					X	X	X	ON
N2:M1-98			SPARE		X				X	X	X	ON
N2:M1-99	RIAM	RELAY	2:M1-99 1ST FLR AREA A DINING 1010	X	X				X	X	X	ON
N2:M1-100	PHOTO	SDUCT	2:M1-100 1ST FLR AREA A DINING 1010			X			X	X	X	ON
N2:M1-101	RIAM	RELAY	2:M1-101 1ST FL AREA A STRG 1006	X		X			X	X	X	ON
N2:M1-102			SPARE		X	X			X	X	X	ON
N2:M1-103	RIAM	RELAY	2:M1-103 1ST FLR AREA A STRG 1006	X	X	X			X	X	X	ON
N2:M1-104	PHOTO	SMOKE	2:M1-104 1ST FLR AREA A FIRE CMD CNTR				X		X	X	X	ON
N2:M1-105			SPARE	X			X		X	X	X	ON
N2:M1-106	PHOTO	SDUCT	2:M1-106 1ST FLR AREA B CONSULT 1046		X		X		X	X	X	ON
N2:M1-107	PHOTO	SDUCT	2:M1-107 1ST FLR AREA B ELEV LOBBY 1061	X	X		X		X	X	X	ON
N2:M1-108	RIAM	RELAY	2:M1-108 1ST FLR AREA B ELEV LOBBY 1061			X	X		X	X	X	ON
N2:M1-109	RIAM	RELAY	2:M1-109 1ST FLR AREA B CORR 1062	X		X	X		X	X	X	ON
N2:M1-110	PHOTO	SDUCT	2:M1-110 1ST FLR AREA B CORR 1062		X	X	X		X	X	X	ON
N2:M1-111	TRIAM	UTILITY	2:M1-111 1ST FLR AREA B STRSS TEST 1091	X	X	X	X		X	X	X	ON
N2:M1-112	PHOTO	SDUCT	2:M1-112 1ST FLR AREA B STRSS TEST 1091					X	X	X	X	ON
N2:M1-113			SPARE	X				X	X	X	X	ON
N2:M1-114			SPARE		X		X	X	X	X	X	ON
N2:M1-115	RIAM	RELAY	2:M1-115 1ST FLR AREA STRSS TEST 1091	X	X			X	X	X	X	ON
N2:M1-116	PHOTO	SDUCT	2:M1-116 1ST FLR AREA STRSS TEST 1091		X			X	X	X	X	ON
N2:M1-117	RIAM	RELAY	2:M1-117 1ST FLR AREA B I.S. RM 1090	X				X	X	X	X	ON
N2:M1-118	PHOTO	SDUCT	2:M1-118 1ST FLR AREA B I.S. RM 1090		X	X		X	X	X	X	ON
N2:M1-119	RIAM	RELAY	2:M1-119 1ST FLR AREA B LAB 1097	X	X	X		X	X	X	X	ON
N2:M1-120			SPARE				X	X	X	X	X	ON
N2:M1-121	TRIAM	UTILITY	2:M1-121 1ST FLR AREA B SUPR 1044	X			X	X	X	X	X	ON
N2:M1-122	PHOTO	SDUCT	2:M1-122 1ST FLR AREA B SUPR 1044		X		X	X	X	X	X	ON
N2:M1-123	TRIAM	UTILITY	2:M1-123 1ST FL AREA C CONSULT1042	X	X		X	X	X	X	X	ON
N2:M1-124	PHOTO	SDUCT	2:M1-124 1ST FL AREA C CONSULT1042			X	X	X	X	X	X	ON
N2:M1-125	RIAM	RELAY	2:M1-125 1ST FL AREA C PBC RM 1039	X		X	X	X	X	X	X	ON

NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES.
THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS.
ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING.
POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

IDNET CHANNEL N2:M1			#N/A	SWITCH SETTINGS								
Address			Location Description	1	2	3	4	5	6	7	8	9
N2:M1-126	PHOTO	SDUCT	2:M1-126 1ST FL AREA C PBC RM 1039			X	X	X	X	X	X	ON
N2:M1-127	RIAM	RELAY	2:M1-127 1ST FL AREA C PBC 1022A			X	X	X	X	X	X	ON
N2:M1-128	PHOTO	SDUCT	2:M1-128 1ST FL AREA C PBX 1022A								X	ON
N2:M1-129	RIAM	RELAY	2:M1-129 1ST FL AREAC FAM WAITING1020		X						X	ON
N2:M1-130	PHOTO	SDUCT	2:M1-130 1ST FL AREAC FAM WAITING1020			X					X	ON
N2:M1-131			SPARE		X	X					X	ON
N2:M1-132			SPARE			X					X	ON
N2:M1-133			SPARE		X						X	ON
N2:M1-134			SPARE			X	X				X	ON
N2:M1-135	RPHOTO	SDUCT	2:M1-135 1FL AREA A AHU-06-A SUP1133A		X	X	X				X	ON
N2:M1-136	RPHOTO	SDUCT	2:M1-136 1FL AREA A AHU-06-A RET1133A				X				X	ON
N2:M1-137	PHOTO	SDUCT	2:M1-137 1ST FL AREA A CORR 1005		X		X				X	ON
N2:M1-138	RIAM	RELAY	2:M1-138 1ST FL AREA A CORR 1005			X	X				X	ON
N2:M1-139	PHOTO	SDUCT	2:M1-139 1ST FL AREA A CORR 1005		X	X	X				X	ON
N2:M1-140	RIAM	RELAY	2:M1-140 1ST FL AREA A CORR 1005				X	X			X	ON
N2:M1-141	RIAM	RELAY	2:M1-141 1ST FLR AREA A CORR 1007		X	X	X				X	ON
N2:M1-142	IAM	SO	2:M1-142 1ST FLR AREA A EAST. CORR 1140			X	X	X			X	ON
N2:M1-143	IAM	SO	2:M1-143 1ST FLR AREA A WEST CORR 1140		X	X	X	X			X	ON
N2:M1-144			SPARE									ON
N2:M1-145	PHOTO	SMOKE	2:M1-145 1ST FL AREA A WAITING 1026		X			X			X	ON
N2:M1-146	PHOTO	SMOKE	2:M1-146 1ST FL AREA A WAITING 1026			X		X			X	ON
N2:M1-147	PHOTO	SMOKE	2:M1-147 1ST FL AREA A RECEPTION 1025		X	X		X			X	ON
N2:M1-148	PHOTO	SMOKE	2:M1-148 1ST FL AREA A BY CONSULT 1037				X	X			X	ON
N2:M1-149	PHOTO	SMOKE	2:M1-149 1ST FL AREA A WAITING 1048		X		X	X			X	ON
N2:M1-150	PHOTO	SMOKE	2:M1-150 1ST FL AREA A CORR 1057			X	X	X			X	ON
N2:M1-151	PHOTO	SMOKE	2:M1-151 1ST FL AREA A CORR 1057		X	X	X	X			X	ON
N2:M1-152	PHOTO	SMOKE	2:M1-152 1ST FL AREA A RECEPTION 1025				X	X			X	ON
N2:M1-153	IAM	SUPERV	2:M1-153 1STFLAREA A PUMP1133B TMP PRE		X		X	X			X	ON
N2:M1-154	IAM	SUPERV	2:M1-154 1STFLAREA A PUMP 1133B LOWAIR			X	X	X			X	ON
N2:M1-155	IAM	SUPERV	2:M1-155 1STFLAREA A PUMP1133B TMP WET		X	X	X	X			X	ON
N2:M1-156	IAM	SUPERV	2:M1-156 1FL AREA A PUMP 1133B TMP MAIN				X	X			X	ON
N2:M1-157	IAM	SUPERV	2:M1-157 1STFLAREA A PUMP1133B LA DRY		X		X	X			X	ON
N2:M1-158	IAM	WATER	2:M1-158 1STFLAREA A PUMP1133B FLW DRY			X	X	X			X	ON
N2:M1-159	IAM	SUPERV	2:M1-159 1STFLAREA A PUMP 1133B TMP DRY		X	X	X	X			X	ON
N2:M1-160	IAM	SUPERV	2:M1-160 1FL AREA A PUMP 1133B TMP PUMP						X		X	ON
N2:M1-161	IAM	SUPERV	2:M1-161 1FL AREA A PUMP 1133B TMP PUMP		X				X		X	ON
N2:M1-162	RELEASE	SUPRELS	2:M1-162 1ST FL PUMP RM PRE ACTION RLSE			X			X		X	ON
N2:M1-163	IAM	SO	2:M1-163 1ST FLR AREA B WTNG AREA 1029		X	X			X		X	ON
N2:M1-164	ION	SMOKE	2:M1-164 1ST FL AREA C IS RM 1090				X		X		X	ON
N2:M1-165	TRIAM	UTILITY	2:M1-165 1ST FL AREA C IS RM 1090		X			X	X		X	ON
N2:M1-166	TRIAM	UTILITY	2:M1-166 1ST FLR SVC ELEV LOBBY			X	X		X		X	ON
N2:M1-167	TRIAM	UTILITY	2:M1-167 1ST FLR CORR 1062		X	X	X		X		X	ON
N2:M1-168	RIAM	RRELAY	2:M1-168 1ST LFR AREA B CORR 1105				X	X	X		X	ON
N2:M1-169	RPHOTO	SDUCT	2:M1-169 1ST FL AREA B CORR 1105		X		X	X	X		X	ON
N2:M1-170	IAM	GENPRI2	2:M1-170 1ST FL 1455 BLDG FIRE ALARM			X	X	X	X		X	ON
N2:M1-171	PHOTO	SMOKE	2:M1-171 1ST FL AREA B CORR 1105		X	X	X	X	X		X	ON
N2:M1-172	PHOTO	SMOKE	2:M1-172 1ST FL AREA B CORR 1105				X	X	X		X	ON
N2:M1-173	PHOTO

INTERIM

NODE 2 - 4009 NAC 2

	Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment								
	4009-9201	*1*	*4009 IDNET NAC EXTENDER, 120 VAC*		*0.085*	*0.085*	*0.185*	*0.185*
	4009-9807	*1*	*NAC CARD, 4PT, IDNET*		*0.040*	*0.040*	*0.040*	*0.040*
				Total Panel Stby		**0.125**	**Total Panel Alarm**	**0.225**
Mult-Candella Strobes								
1	**4906-9103**	**33**	**V/O M-C NON-ADDRESS, WHT, WALL**	**15cd**	**0.000**	**0.000**	**0.055000**	**1.815**
	4906-9103	*4*	*V/O M-C NON-ADDRESS, WHT, WALL*	*30cd*	*0.000*	*0.000*	*0.085000*	*0.340*
	4906-9103	*1*	*V/O M-C NON-ADDRESS, WHT, WALL*	*75cd*	*0.000*	*0.000*	*0.169000*	*0.169*
	4906-9103	*2*	*V/O M-C NON-ADDRESS, WHT, WALL*	*110cd*	*0.000*	*0.000*	*0.226000*	*0.452*
	4906-9153	*20*	*S/V M-C NON-ADDRESS, WHT, WALL*	*15cd*	*0.000*	*0.000*	*0.056000*	*1.120*
	4906-9153	*3*	*S/V M-C NON-ADDRESS, WHT, WALL*	*30cd*	*0.000*	*0.000*	*0.087000*	*0.261*
	4906-9153	*3*	*S/V M-C NON-ADDRESS, WHT, WALL*	*75cd*	*0.000*	*0.000*	*0.172000*	*0.516*
				Total Periph Stby		**0.000**	**Total Periph Alarm**	**4.673**
				Total Standby Amps		**0.125**	**Total Alarm Amps**	**4.898**

Battery Calculations			Standby Current		Alarm Current
	Control Panel Card Power		0.125		0.225
	Power For External Peripheral Devices		0.000		4.673
			0.125	<-- Totals -->	4.898
	Additional Battery Capacity Required	**20%**	0.025		0.980
	Standby Time =	**4** Hrs	0.600	Standby Ah	
	Alarm Time =	**15** Mins.	1.469	Alarm Ah	
	Standby + Alarm =		2.069		
	Battery Required	**2081-9272 6.2**	**4.306**	**Total Ah Required (see note below)**	

Note: The total Ah required takes into account any physical and chemical properties of battery discharge rates, high alarm current draw of a battery after a long (standby) low current draw, and reflects the manufacturers discharge rates per their recommendations and UL standards.

NODE 2 - 4009 NAC 2 — **APPLIANCE / QUANTITIES / CURRENT DRAW @ 18 VOLTS**

NAC SCHEDULE / VOLTAGE DROP CALCULATION			V/O	V/O	V/O	V/O	S/V	S/V	S/V	S/V	VOLTAGE DROP TOTALS						
17 % MAXIMUM VOLTAGE DROP FROM A WORSE CASE			**4906-9103**	*4906-9103*	*4906-9103*	*4906-9103*	*4906-9153*	***4906-9153***	*4906-9153*	*4906-9153*							
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)			**15cd**	*30cd*	*75cd*	*110cd*	*15cd*	***30cd***	*75cd*	*110cd*	**TOTAL CKT. LOAD (AMPS)**	**WIRE GAUGE (18, 16, 14, 12)**	**ESTIMATED CIRCUIT LENGTH**	**ACTUAL VOLTAGE DROP %**	**ACTUAL VOLTAGE DROP (VOLTS)**	**TOTAL CIRCUIT RESISTANCE**	**MAXIMUM ALLOWABLE CKT. LENGTH**
CIRCUIT	**DESCRIPTION**	**CIRCUIT TYPE**	**0.055000**	*0.085000*	*0.169000*	*0.220*	*0.056000*	***0.087000***	*0.172000*	*0.229000*							
2:N2:V1	*1ST FLR AREA B/C*	*STRB*	*3*	*2*	*1*	*0*	*5*	***2***	*1*	*0*	**1.130**	**14**	**525 ft.**	**17.86%**	**3.643**	**3.2 Ohms**	**504 ft.**
2:N2:V2	*1ST FLR AREA B*	*STRB*	*11*	*1*	*0*	*0*	*4*	*0*	*2*	*0*	*1.258*	*14*	*375 ft.*	*14.20%*	*2.897*	*2.3 Ohms*	*453 ft.*
2:N2:V3	**1ST FLR AREA C**	**STRB**	**5**	*0*	*0*	*0*	*9*	*0*	*0*	*0*	*0.779*	*14*	*600 ft.*	*14.07%*	*2.870*	*3.7 Ohms*	*710 ft.*
2:N2:V4	*1ST FLR AREA C WEST*	*STRB*	*10*	*0*	*0*	*2*	*1*	*2*	*0*	*0*	*1.220*	*14*	*490 ft.*	*17.99%*	*3.670*	*3.0 Ohms*	*467 ft.*
2:N2:V5	*1ST FLR AREA C WEST*	*STRB*	*4*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0.361*	*14*	*610 ft.*	*6.63%*	*1.352*	*3.7 Ohms*	*1579 ft.*
2:N2:V6	*1ST FLR AREA B/C*	*STRB*	*1*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0.142*	*14*	*400 ft.*	*1.71%*	*0.349*	*2.5 Ohms*	*4014 ft.*
2:N2:V7	*SPARE*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*		*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
2:N2:V8	*SPARE*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*		*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
			Appliance Summary								**Total Load (AMPS)**						
			33	*4*	*1*	*2*	*20*	**3**	*3*	*0*	**4.661**						

METHOD USED TO CALCULATE VOLTAGE DROP:
[(CIRCUIT LENGTH IN FEET X 2) (AMPS) (OHMS / FT)]

Wire Resistance At
75 Degrees Celsius
167 Degrees Fahrenheit
Ohms / ft
10GA = 0.001210
12GA = 0.001930
14GA = 0.003070
16GA = 0.004890
18GA = 0.007770

WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)

NOTE:
LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE CIRCUIT LENGTH, CONTACT YOUR LOCAL SIMPLEXGRINNELL DISTRICT OFFICE.

BUILDOUT

NODE 2 - 4009 NAC 2

	Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment								
	4009-9201	*1*	*4009 IDNET NAC EXTENDER, 120 VAC*		*0.085*	*0.085*	*0.185*	*0.185*
	4009-9807	*1*	*NAC CARD, 4PT, IDNET*		*0.040*	*0.040*	*0.040*	*0.040*
				Total Panel Stby		**0.125**	**Total Panel Alarm**	**0.225**
Mult-Candella Strobes								
	4906-9103	**33**	**V/O M-C NON-ADDRESS, WHT, WALL**	**15cd**	**0.000**	**0.000**	**0.055000**	**1.815**
	4906-9103	*4*	*V/O M-C NON-ADDRESS, WHT, WALL*	*30cd*	*0.000*	*0.000*	*0.085000*	*0.340*
	4906-9103	*1*	*V/O M-C NON-ADDRESS, WHT, WALL*	*75cd*	*0.000*	*0.000*	*0.169000*	*0.169*
	4906-9103	*2*	*V/O M-C NON-ADDRESS, WHT, WALL*	*110cd*	*0.000*	*0.000*	*0.226000*	*0.452*
	4906-9153	*20*	*S/V M-C NON-ADDRESS, WHT, WALL*	*15cd*	*0.000*	*0.000*	*0.056000*	*1.120*
	4906-9153	**3**	**S/V M-C NON-ADDRESS, WHT, WALL**	**30cd**	**0.000**	**0.000**	**0.087000**	**0.261**
	4906-9153	*3*	*S/V M-C NON-ADDRESS, WHT, WALL*	*75cd*	*0.000*	*0.000*	*0.172000*	*0.516*
				Total Periph Stby		**0.000**	**Total Periph Alarm**	**4.673**
				Total Standby Amps		**0.125**	**Total Alarm Amps**	**4.898**

Battery Calculations			Standby Current		Alarm Current
	Control Panel Card Power		0.125		0.225
	Power For External Peripheral Devices		0.000		4.673
			0.125	<-- Totals -->	4.898
	Additional Battery Capacity Required	**20%**	0.025		0.980
	Standby Time =	**4** Hrs	0.600	Standby Ah	
	Alarm Time =	**15** Mins.	1.469	Alarm Ah	
	Standby + Alarm =		2.069		
	Battery Required	**2081-9272 6.2**	**4.306**	**Total Ah Required (see note below)**	

Note: The total Ah required takes into account any physical and chemical properties of battery discharge rates, high alarm current draw of a battery after a long (standby) low current draw, and reflects the manufacturers discharge rates per their recommendations and UL standards.

NODE 2 - 4009 NAC 2 — **APPLIANCE / QUANTITIES / CURRENT DRAW @ 18 VOLTS**

NAC SCHEDULE / VOLTAGE DROP CALCULATION			V/O	V/O	V/O	V/O	S/V	S/V	S/V	S/V	VOLTAGE DROP TOTALS						
17 % MAXIMUM VOLTAGE DROP FROM A WORSE CASE			*4906-9103*	*4906-9103*	*4906-9103*	*4906-9103*	*4906-9153*	**4906-9153**	*4906-9153*	*4906-9153*							
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)			*15cd*	*30cd*	*75cd*	*110cd*	*15cd*	**30cd**	*75cd*	*110cd*	**TOTAL CKT. LOAD (AMPS)**	**WIRE GAUGE (18, 16, 14, 12)**	**ESTIMATED CIRCUIT LENGTH**	**ACTUAL VOLTAGE DROP %**	**ACTUAL VOLTAGE DROP (VOLTS)**	**TOTAL CIRCUIT RESISTANCE**	**MAXIMUM ALLOWABLE CKT. LENGTH**
CIRCUIT	**DESCRIPTION**	**CIRCUIT TYPE**	*0.055000*	*0.085000*	*0.169000*	*0.220*	*0.056000*	***0.087000***	*0.172000*	*0.229000*							
2:N2:V1	*1ST FLR AREA B/C*	*STRB*	*3*	*2*	*1*	*0*	*5*	**2**	*1*	*0*	**1.130**	**14**	**525 ft.**	**17.86%**	**3.643**	**3.2 Ohms**	**504 ft.**
2:N2:V2	*1ST FLR AREA B*	*STRB*	*11*	*1*	*0*	*0*	*4*	*0*	*2*	*0*	*1.258*	*14*	*375 ft.*	*14.20%*	*2.897*	*2.3 Ohms*	*453 ft.*
2:N2:V3	**1ST FLR AREA C**	**STRB**	**5**	*0*	*0*	*0*	*9*	*0*	*0*	*0*	*0.779*	*14*	*600 ft.*	*14.07%*	*2.870*	*3.7 Ohms*	*710 ft.*
2:N2:V4	*1ST FLR AREA C WEST*	*STRB*	*10*	*0*	*0*	*2*	*1*	*2*	*0*	*0*	*1.220*	*14*	*490 ft.*	*17.99%*	*3.670*	*3.0 Ohms*	*467 ft.*
2:N2:V5	*1ST FLR AREA C WEST*	*STRB*	*4*	*1*	*0*	*0*	*1*	*0*	*0*	*0*	*0.361*	*14*	*610 ft.*	*6.63%*	*1.352*	*3.7 Ohms*	*1579 ft.*
2:N2:V6	*1ST FLR AREA B/C*	*STRB*	*1*	*0*	*0*	*0*	*0*	*1*	*0*	*0*	*0.142*	*14*	*400 ft.*	*1.71%*	*0.349*	*2.5 Ohms*	*4014 ft.*
2:N2:V7	*SPARE*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*		*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
2:N2:V8	*SPARE*		*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*		*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
			Appliance Summary								**Total Load (AMPS)**						
			34	*4*	*1*	*2*	*20*	**5**	*3*	*0*	**4.890**						

METHOD USED TO CALCULATE VOLTAGE DROP:
[(CIRCUIT LENGTH IN FEET X 2) (AMPS) (OHMS / FT)]

Wire Resistance At
75 Degrees Celsius
167 Degrees Fahrenheit
Ohms / ft
10GA = 0.001210
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PANEL CALCULATIONS NOTES:

1. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
2. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING TO REMAIN.

KEYNOTES:

1. DEVICES(S) / EQUIPMENT REMOVED PER NEW CONSTRUCTION. DEVICE COUNT CHANGED.
2. INTERIM DEVICE. TO BE REMOVED AND REPLAED WITH NEW INITIATION IN THE AREA AFTER CONSTRUCTION.
3. DEVICE WAS INTERIM FOR CONSTRUCTION AND IS NOW REMOVED. DEVICE COUNT CHANGED.

Johnson Controls
DISTRICT: 1-418
5600 E. HOUSTON AVE
AURORA, CO 80017
SERVICE: 303-355-0000
PHONE: 303-355-9500
FAX: 303-355-9515

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
Nancy S. Wiltsie
08/22/2023

THE MEDICAL CENTER OF AURORA - SOUTH CATH LAB 1 & 2

THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

Revisions shown with ⚠symbol

ISSUE LOG: MARK	DATE	CAD	CHK	DESCRIPTION
1	08/04/2023	SMH	NSW	CHANGES PER AURORA FIRE DEPARTMENT DATES 08/04/2023

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/26/23
JOB #:	
PROJECT #:	419-6503349055

JOHNSON CONTROLS © 2023

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
NODE 2 4009 NAC CALCULATIONS AND SCHEDULES INTERIM & BUILDOUT

FA-602

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *M. Apodaca*
Date: *Sep 12, 2023*
2018 INTERNATIONAL CODES & 2020 NEC

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FILE PATH: C:\Users\jsuchc\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 138-Cath Lab 1-2_2023_6503400SFFireFA-601.dwg
LAST SAVED BY: JDXONC4
LAST PRINTED: 8/22/2023 11:10:09 AM
36" x 42" - Arch E1 Size

TMCA NODE 2 4100es FACP

Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment							
4100-9111	1	4100 CONFIG, DOMESTIC 120V	*	0.3730	0.3730	0.4700	0.4700
4100-5101	4	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ		0.0500	0.2000	0.0500	0.2000
4100-9621	1	BASIC AUDIO WITH MICROPHONE - DIGITAL		0.0750	0.0750	0.0820	0.0820
4100-1326	4	DIGITAL FLEX 50W AMP W/3 NACS - 25V		0.0850	0.3400	2.2700	9.0800
4100-1240	1	AUXILIARY AUDIO INPUT BOARD		0.0100	0.0100	0.0100	0.0100
4100-1242	1	MESSAGE EXPANSION BOARD - 32 MINUTES		0.0020	0.0020	0.0170	0.0170
4100-1270	1	MASTER TELEPHONE, PHONE CONTROL		0.0800	0.0800	0.1400	0.1400
4100-1272	3	EXPANSION PHONE CONTROLLER		0.0800	0.2400	0.1400	0.4200
4100-3101	3	IDNET MODULE, UP TO 250 POINTS	*	0.0750	0.2250	0.1150	0.3450
4100-6014	1	NETWORK IF CARD, WIRED		0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED		0.0550	0.1100	0.0550	0.1100
4100-3206	1	8 RELAYS - 3 AMP		0.0150	0.0150	0.1900	0.1900
4100-1254	1	2 CHANNEL AUDIO OPERATOR INTERFACE		0.0000	0.0000	0.0240	0.0240
4100-1282	4	8 SW. 1RED/1YEL LED MODULE		0.0000	0.0000	0.0240	0.0960
4100-1284	31	8 SW. 16 RED/GREEN LED MODULE		0.0000	0.0000	0.0240	0.7440
4100-1288	5	64/64 LED/SWITCH CONTROLLER		0.0200	0.1000	0.0200	0.1000
4100-1289	4	EXPANSION 64/64 LED/SW MODULE		0.0200	0.0800	0.0200	0.0800
4009-9601	4	IDNAC REPEATER 120V PLATINUM UL/ULC		0.0700	0.2800	0.0660	0.3840
		Panel Totals			**2.1760**		**12.5380**
IDNet Addressable Devices (SLC)							
4099-9004	16	ADDRESSABLE SINGLE ACTION MANUAL STATION	*				
4090-9001	31	IDNET SUPERVISED IAM	*				
4090-9002	17	IDNET RELAY IAM	*				
4090-9006	1	SUP RELEASE PERIPH & ENCLOSURE	*				
4090-9118	11	RELAY IDNET 2 IAM W/T SENSE	*				
4098-9714	**74**	**TRUEALARM PHOTO SMOKE SENSOR**					
4098-9717	3	TRUEALARM ION SMOKE SENSOR					
③ **4098-9733**	**4**	**TRUEALARM HEAT SENSOR**					
4098-9755	20	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT	*				
4098-9756	8	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	*				
4098-9792	**81**	**TRUEALARM SENSOR BASE**	*				
Miscellaneous Peripheral Devices That Require (Additional) System Power							
4098-9843	8	ENCAPSULATED RELAY PAM-SD		0.0000	0.0000	0.0150	0.1200
4098-9756	8	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT		0.0030	0.0240	0.0150	0.1200
4603-9101	1	SERIAL LCD ANNUNCATOR		0.0650	0.0650	0.1400	0.1400
		Peripheral Totals			**0.0890**		**0.3300**
		Added Current for EPS Conversion of 24 to 29 Volt IDNac Devices			**0.0000**		**0.0000**
		Rui Totals	**1**		**0.0035**		**0.0035**
		Address Totals	**185 Addresses**		**0.1480**		**0.1850**
			System Totals*:	**Standby**	**2.4165**	**Alarm**	**13.1065**

Constant current draw of .8mA standby and 1mA alarm per address used. Devices requiring additional current are accounted for in the section labeled "Miscellaneous Peripheral Devices Requiring Additional System Power".

* Device Address current draw included below (See Additional Current Draws):

2. Backup Amplifier assumes Main Amplifier alarm current on failure.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
SPS-1				1.4450		2.3900
		Sub Total		**1.4450**		**2.3900**
Additional Current Draws:						
RUI Connected Peripheral Devices	1	x 0.0035		= 0.0035	x 0.0035	= 0.0035
MAPNET/IDNet Device Address Communication Current	185	x 0.000800		= 0.1480	x 0.0010000	= 0.1850
		Sub Total		**1.5965**		**2.5785**
Spare addressable point capacity	**0%**	0 x 0.0008		= 0.0000	x 0.001	= 0.0000
		Total		**1.5965**		**2.5785**
Standby Time =	**24** Hrs	x 1.5965		= 38.3160	Standby Ah	
Alarm Time =	**5** Min	0.08333 x 2.5785		= 0.2149	Alarm Ah	
				38.5309		
Additional Spare Battery Capacity =	**0%**		+	0.0000		
				38.5309		
Battery Discharge Factor =	**20%**		+	7.7062		
Minimum Battery Required	**2081-9296 50AH (2x)**			**46.2371**		
Battery Supplied	**2081-9296 50AH (2x)**					

* System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.

Battery Set #2 (Cabinet/Charger #2)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-2				0.1350		2.4400
		Sub Total		**0.1350**		**2.4400**
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **				0.0000		0.0000
MAPNET/IDNet Device Address Communication Current	0	x 0.000800		= 0.0000	x 0.001000	= 0.0000
		Sub Total		**0.1350**		**2.4400**
Spare addressable point capacity	**0%**	0 x 0.0008		= 0.0000	x 0.001	= 0.0000
		Total		**0.1350**		**2.4400**
Standby Time =	**24** Hrs	x 0.1350		= 3.2400	Standby Ah	
Alarm Time =	**5** Min	0.08333 x 2.44		= 0.2033	Alarm Ah	
				3.4433		
Additional Spare Battery Capacity =	**0%**		+	0.0000		
				3.4433		
Battery Discharge Factor =	**20%**		+	0.6887		
Minimum Battery Required	**2081-9272 6.2AH (2x)**			**4.1320**		
Battery Supplied	**2081-9272 6.2AH (2x)**					

Battery Set #3 (Cabinet/Charger #3)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-3				0.1350		3.0640
		Sub Total		**0.1350**		**3.0640**
		Total		**0.1350**		**3.0640**
Standby Time =	**24** Hrs	x 0.1350		= 3.2400	Standby Ah	
Alarm Time =	**5** Min	0.08333 x 3.064		= 0.2553	Alarm Ah	
				3.4953		
Additional Spare Battery Capacity =	**0%**		+	0.0000		
				3.4953		
Battery Discharge Factor =	**20%**		+	0.6991		
Minimum Battery Required	**2081-9272 6.2AH (2x)**			**4.1944**		
Battery Supplied	**2081-9272 6.2AH (2x)**					

Battery Set #4 (Cabinet/Charger #4)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-4				0.1350		2.3200
		Sub Total		**0.1350**		**2.3200**
		Total		**0.1350**		**2.3200**
Standby Time =	**24** Hrs	x 0.1350		= 3.2400	Standby Ah	
Alarm Time =	**5** Min	0.08333 x 2.32		= 0.1933	Alarm Ah	
				3.4333		
Additional Spare Battery Capacity =	**0%**		+	0.0000		
				3.4333		
Battery Discharge Factor =	**20%**		+	0.6867		
Minimum Battery Required	**2081-9272 6.2AH (2x)**			**4.1200**		
Battery Supplied	**2081-9272 6.2AH (2x)**					

Battery Set #5 (Cabinet/Charger #5)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
XPS-5				0.1350		2.3200
		Sub Total		**0.1350**		**2.3200**
		Total		**0.1350**		**2.3200**
Standby Time =	**24** Hrs	x 0.1350		= 3.2400	Standby Ah	
Alarm Time =	**5** Min	0.08333 x 2.32		= 0.1933	Alarm Ah	
				3.4333		
Additional Spare Battery Capacity =	**0%**		+	0.0000		
				3.4333		
Battery Discharge Factor =	**20%**		+	0.6867		
Minimum Battery Required	**2081-9272 6.2AH (2x)**			**4.1200**		
Battery Supplied	**2081-9272 6.2AH (2x)**					

IDNET CHANNEL N2:M1

Address	Device Type	Point Type	#/N/A Location Description	SWITCH SETTINGS 1	2	3	4	5	6	7	8	9
N2:M1-1	ADRPUL	PULL	2:M1-1 1ST FLR AREA A STAIR 1133A	X								ON
N2:M1-2			SPARE		X							ON
N2:M1-3	IAM	SO	2:M1-3 1ST FLR AREA A STAIR 1133A TAMP	X	X							ON
N2:M1-4	PHOTO	SMOKE	2:M1-4 1ST FLR AREA A ELECT RM 1133			X						ON
N2:M1-5	ION	SMOKE	2:M1-5 1ST FL AREA A ELECT RM 1133 PRE	X		X						ON
N2:M1-6	4009AB	SIGNAL	2:M1-6 1ST FLR AREA ELECT RM 1133 NAC1	X	X	X						ON
N2:M1-7	4009AB	SIGNAL	2:M1-7 1ST FLR AREA ELECT RM 1133 NAC2	X	X	X						ON
N2:M1-8	ADRPUL	PULL	2:M1-8 1ST FLR AREA ELECT RM 1133				X					ON
N2:M1-9	ADRPUL	PULL	2:M1-9 1ST FLR AREA A CORR 1140	X			X					ON
N2:M1-10	PHOTO	SMOKE	2:M1-10 1ST FLR AREA A CORR 1140		X		X					ON
N2:M1-11	PHOTO	SMOKE	2:M1-11 1ST FLR AREA A CORR 1140	X	X		X					ON
N2:M1-12	PHOTO	SMOKE	2:M1-12 1ST FLR AREA A ELECT RM 1134			X	X					ON
N2:M1-13	ION	SMOKE	2:M1-13 1ST FLR AREA A ELECT RM 1134	X		X	X					ON
N2:M1-14	ADRPUL	PULL	2:M1-14 1ST FLR AREA A ELECT RM 1134		X	X	X					ON
N2:M1-15	IAM	WATER	2:M1-15 1STFLAREA A PUMP 1133B MAIN FLW	X	X	X	X					ON
N2:M1-16	IAM	SO	2:M1-16 1STFLAREA A PUMP 1133B TMP MAIN					X				ON
N2:M1-17	IAM	SO	2:M1-17 1STFLAREA A PUMP 1133B TMP MAIN	X					X			ON
N2:M1-18	IAM	SO	2:M1-18 1STFLAREA A PUMP 1133B TMP MAIN		X				X			ON
N2:M1-19	IAM	WATER	2:M1-19 1STFLAREA A PUMP1133B WAT FLW	X	X				X			ON
N2:M1-20	IAM	SO	2:M1-20 1STFLAREA A PUMP 1133B TMP MAIN			X			X			ON
N2:M1-21	IAM	SO	2:M1-21 1STFLAREA A PUMP 1133B TMP MAIN	X		X			X			ON
N2:M1-22	IAM	SO	2:M1-22 1STFLAREA A PUMP 1133B TMP MAIN		X	X			X			ON
N2:M1-23	PHOTO	SMOKE	2:M1-23 1ST FL AREA A PUMP RM 1133B	X	X	X			X			ON
N2:M1-24	ADRPUL	PULL	2:M1-24 1ST FL AREA A PUMP RM 1133B				X		X			ON
N2:M1-25	IAM	SO	2:M1-25 1STFL PUMP RM 1133B TMST HEADER	X			X		X			ON
N2:M1-26	IAM	WATER	2:M1-26 1ST FL AREA A PUMP1133B PREACT		X		X		X			ON
N2:M1-27	PHOTO	SMOKE	2:M1-27 1ST FL AREA A CORR 1146	X	X		X		X			ON
N2:M1-28	ADRPUL	PULL	2:M1-28 1ST FL AREA A MECH RM 1133A			X	X		X			ON
N2:M1-29	PHOTO	SMOKE	2:M1-29 1ST FL AREA A MECH RM 1133A	X		X	X		X			ON
N2:M1-30	PHOTO	SMOKE	2:M1-30 1ST FL AREA A CORR 1146		X	X	X		X			ON
N2:M1-31			SPARE	X	X	X	X		X			ON
N2:M1-32	PHOTO	SMOKE	2:M1-32 1ST FL AREA A CORR 1146					X				ON
N2:M1-33	ADRPUL	PULL	2:M1-33 1ST FL AREA A CORR 1146	X				X				ON
N2:M1-34	PHOTO	SMOKE	2:M1-34 1ST FL AREA A CORR 1146		X			X				ON
N2:M1-35	PHOTO	SMOKE	2:M1-35 1ST FL AREA A RECEPTION 1135	X	X			X				ON
N2:M1-36	ADRPUL	PULL	2:M1-36 1ST FL AREA A LOBBY 1001		X			X				ON
N2:M1-37	PHOTO	SMOKE	2:M1-37 1ST FL AREA A CORR 1007	X		X		X				ON
N2:M1-38	PHOTO	SMOKE	2:M1-38 1ST FL AREA A CORR 1007		X	X		X				ON
N2:M1-39	ADRPUL	PULL	2:M1-39 1ST FL AREA A DINING 1010	X	X	X		X				ON
N2:M1-40	ADRPUL	PULL	2:M1-40 1ST FL AREA A LOBBY 1001				X	X				ON
N2:M1-41	PHOTO	SMOKE	2:M1-41 1ST FL AREA A LOBBY 1001	X			X	X				ON
N2:M1-42	PHOTO	SMOKE	2:M1-42 1ST FL AREA A LOBBY 1001		X		X	X				ON
N2:M1-43	PHOTO	SMOKE	2:M1-43 1ST FL AREA A LOBBY 1001	X	X		X	X				ON
N2:M1-44	ADRPUL	PULL	2:M1-44 1ST FL AREA A LOBBY 1001			X	X	X				ON
N2:M1-45	PHOTO	SMOKE	2:M1-45 1ST FL AREA A LOBBY 1001	X		X	X	X				ON
N2:M1-46	PHOTO	SMOKE	2:M1-46 1ST FL AREA A CORR 1058		X	X	X	X				ON
N2:M1-47	PHOTO	SMOKE	2:M1-47 1ST FL AREA A CORR 1058	X	X	X	X	X				ON
N2:M1-48	PHOTO	SMOKE	2:M1-48 1ST FL AREA A LOBBY 1001				X	X				ON
N2:M1-49	PHOTO	SMOKE	2:M1-49 1ST FL AREA A WORK AREA 1035	X			X	X				ON
N2:M1-50	PHOTO	SMOKE	2:M1-50 1ST FL AREA C WAITING AREA 1029		X		X	X				ON
N2:M1-51	PHOTO	SMOKE	2:M1-51 1ST FL AREA B WORK AREA 1035	X	X		X	X				ON
N2:M1-52	PHOTO	SMOKE	2:M1-52 1ST FL AREA B BY CONSULT 1042			X	X	X				ON
N2:M1-53	PHOTO	SMOKE	2:M1-53 1ST FL AREA B CORR 1062	X		X	X	X				ON
N2:M1-54	PHOTO	SMOKE	2:M1-54 1ST FL AREA A CORR 1062		X	X	X	X				ON
N2:M1-55	ADRPUL	PULL	2:M1-55 1ST FL AREA C STAIR 1068A	X	X	X	X	X				ON
N2:M1-56	ADRPUL	PULL	2:M1-56 1ST FL AREA C ELEV LOBBY 1004				X	X				ON
N2:M1-57	HEAT	HEAT	2:M1-57 BTM OF SHAFT PUB ELEV 1004A	X			X	X				ON
N2:M1-58	RIAM	RRELAY	2:M1-58 1ST FL AREA C PUB ELEV DR CNTL		X		X	X				ON
N2:M1-59			SPARE	X	X		X	X				ON
N2:M1-60	HEAT	HEAT	2:M1-60 BTM OF SHAFT SERV ELEV 1061B			X	X	X				ON
N2:M1-61			SPARE	X		X	X	X				ON
N2:M1-62	IAM	SO	2:M1-62 1ST FL AREA C STAIR 1068A TAMP		X	X	X	X				ON
N2:M1-63	PHOTO	SMOKE	2:M1-63 1ST FL PUBLIC ELEV LOBBY 1004	X	X	X	X	X				ON
N2:M1-64	PHOTO	SMOKE	2:M1-64 1ST FL AREA C WAITING 1C-0005A						X			ON
N2:M1-65	HEAT	HEAT	2:M1-65 BTM OF SHAFT PUB ELEV 1004B	X					X			ON
N2:M1-66			SPARE		X				X			ON
N2:M1-67			SPARE	X	X				X			ON
N2:M1-68	HEAT	HEAT	2:M1-68 BTM OF SHAFT SERV ELEV 1061A			X			X			ON
N2:M1-69	ADRPUL	PULL	2:M1-69 1ST FL AREA C ELEV LOBBY 1061	X		X			X			ON
N2:M1-70	PHOTO	SMOKE	2:M1-70 1ST FL SERV ELEV LOBBY 1061		X	X			X			ON
N2:M1-71	PHOTO	SMOKE	2:M1-71 1ST FL HALL 1C-5000	X	X	X			X			ON
N2:M1-72	PHOTO	SMOKE	2:M1-72 1ST FL HALL 1C-5002				X		X			ON
N2:M1-73	PHOTO	SMOKE	2:M1-73 1ST FL AREA C CORR 1062	X			X		X			ON
N2:M1-74	PHOTO	SMOKE	2:M1-74 1ST FL HALL 1C-5004		X		X		X			ON
N2:M1-75	PHOTO	SMOKE	2:M1-75 1ST FL AREA C IS RM 1090	X	X		X		X			ON
N2:M1-76	PHOTO	SMOKE	2:M1-76 1ST FL AREA B CORR 1062			X	X		X			ON
N2:M1-77	PHOTO	SMOKE	2:M1-77 1ST FL HALL 1C-5000	X		X	X		X			ON
N2:M1-78	PHOTO	SMOKE	2:M1-78 1ST FL ALCOVE 1C-5005		X	X	X		X			ON
N2:M1-79	ADRPUL	PULL	2:M1-79 1ST FL NURSE STA 1C-5006A	X	X	X	X		X			ON
N2:M1-80	PHOTO	SMOKE	2:M1-80 1ST FL HALL 1C-5004					X	X			ON
N2:M1-81			SPARE	X				X	X			ON
N2:M1-82			SPARE		X			X	X			ON
N2:M1-83	IAM	SUPERV	2:M1-83 1ST FL AREA A RM 1133B PUMP RUN	X	X			X	X			ON
N2:M1-84	IAM	SUPERV	2:M1-84 1ST FL AREA A RM 1133B PHA REV			X		X	X			ON
N2:M1-85	IAM	SUPERV	2:M1-85 1ST FL AREA A RM 1133B PWR LOSS	X		X		X	X			ON
N2:M1-86	IAM	TROUBLE	2:M1-86 1ST FL AREA A RM 1133B PUMP TBL		X	X		X	X			ON
N2:M1-87			SPARE	X	X	X		X	X			ON
N2:M1-88			SPARE				X	X	X			ON
N2:M1-89			SPARE	X			X	X	X			ON
N2:M1-90			SPARE		X		X	X	X			ON
N2:M1-91	RIAM	RELAY	2:M1-91 1ST FLR AREA A ELEC RM 1133	X	X		X	X	X			ON
N2:M1-92			SPARE			X	X	X	X			ON
N2:M1-93	TRIAM	UTILITY	2:M1-93 1ST FLR AREA A PUMP RM 1133B	X		X	X	X	X			ON
N2:M1-94	PHOTO	SDUCT	2:M1-94 1ST FLR AREA A PUMP RM 1133B	X	X	X	X	X	X			ON
N2:M1-95	PHOTO	SDUCT	2:M1-95 1ST FLR AREA A MECH RM 1133A	X	X	X	X	X	X			ON
N2:M1-96	TRIAM	UTILITY	2:M1-96 1ST FLR AREA A MECH RM 1133A					X	X			ON
N2:M1-97	TRIAM	UTILITY	2:M1-97 1ST FLR AREA RECEPTION 1135	X				X	X			ON
N2:M1-98					X			X	X			ON
N2:M1-99	RIAM	RELAY	2:M1-99 1ST FLR AREA A DINING 1010	X	X			X	X			ON
N2:M1-100	PHOTO	SDUCT	2:M1-100 1ST FLR AREA A DINING 1010		X			X	X			ON
N2:M1-101	RIAM	RELAY	2:M1-101 1ST FL AREA A STRG 1006	X		X		X	X			ON
N2:M1-102			SPARE		X	X		X	X			ON
N2:M1-103	RIAM	RELAY	2:M1-103 1ST FLR AREA A STRG 1006	X	X	X		X	X			ON
N2:M1-104	PHOTO	SMOKE	2:M1-104 1ST FLR AREA A FIRE CMD CNTR				X	X	X			ON
N2:M1-105			SPARE	X			X	X	X			ON
N2:M1-106	PHOTO	SDUCT	2:M1-106 1ST FLR AREA B CONSULT 1046		X		X	X	X			ON
N2:M1-107	PHOTO	SDUCT	2:M1-107 1ST FLR AREA B ELEV LOBBY 1061	X	X		X	X	X			ON
N2:M1-108	RIAM	RELAY	2:M1-108 1ST FLR AREA B ELEV LOBBY 1061			X	X	X	X			ON
N2:M1-109	RIAM	RELAY	2:M1-109 1ST FLR AREA B CORR 1062	X		X	X	X	X			ON
N2:M1-110	PHOTO	SDUCT	2:M1-110 1ST FLR AREA B CORR 1062		X	X	X	X	X			ON
N2:M1-111	TRIAM	UTILITY	2:M1-111 1ST FLR AREA B STRSS TEST 1091	X	X	X	X	X	X			ON
N2:M1-112	PHOTO	SDUCT	2:M1-112 1ST FLR AREA B STRSS TEST 1091				X	X	X			ON
N2:M1-113			SPARE	X			X	X	X			ON
N2:M1-114			SPARE		X		X	X	X			ON
N2:M1-115	RIAM	RELAY	2:M1-115 1ST FLR AREA STRSS TEST 1091	X	X		X	X	X			ON
N2:M1-116	PHOTO	SDUCT	2:M1-116 1ST FLR AREA STRSS TEST 1091			X	X	X	X			ON
N2:M1-117	RIAM	RELAY	2:M1-117 1ST FLR AREA B I.S. RM 1090	X		X	X	X	X			ON
N2:M1-118	PHOTO	SDUCT	2:M1-118 1ST FLR AREA B I.S. RM 1090		X	X		X	X			ON
N2:M1-119	RIAM	RELAY	2:M1-119 1ST FLR AREA B LAB 1097	X	X	X		X	X			ON
N2:M1-120			SPARE				X	X	X			ON
N2:M1-121	TRIAM	UTILITY	2:M1-121 1ST FLR AREA B SUPR 1044	X			X	X	X			ON
N2:M1-122	PHOTO	SDUCT	2:M1-122 1ST FLR AREA B SUPR 1044		X	X	X	X	X			ON
N2:M1-123	TRIAM	UTILITY	2:M1-123 1ST FL AREA C CONSULT1042	X	X		X	X	X			ON
N2:M1-124	PHOTO	SDUCT	2:M1-124 1ST FL AREA C CONSULT1042			X	X	X	X			ON
N2:M1-125	RIAM	RELAY	2:M1-125 1ST FL AREA C PBC RM 1039	X		X	X	X	X			ON

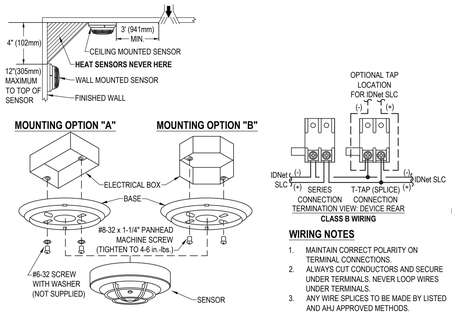
NOTE: THE LABELS SHOWN ABOVE WILL BE USED FOR PROGRAMMING PURPOSES.
THE LABELS ARE BASED UPON INFORMATION SHOWN ON THE ARCHITECTURAL DRAWINGS.
ANY CHANGES TO THESE LABELS MUST BE NOTED ON THE SUBMITTAL REVIEW, PRIOR TO PROGRAMMING.
POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

IDNET CHANNEL N2:M1

Address		Point Type	#/N/A Location Description	SWITCH SETTINGS 1	2	3	4	5	6	7	8	9
N2:M1-126	PHOTO	SDUCT	2:M1-126 1ST FL AREA C PBC RM 1029		X	X	X	X	X			ON
N2:M1-127	RIAM	RELAY	2:M1-127 1ST FL AREA C PBX 1022A	X	X	X	X	X	X			ON
N2:M1-128	PHOTO	SDUCT	2:M1-128 1ST FL AREA C PBX 1022A							X		ON
N2:M1-129	RIAM	RELAY	2:M1-129 1ST FL AREAC FAM WAITING1020	X						X		ON
N2:M1-130	PHOTO	SDUCT	2:M1-130 1ST FL AREAC FAM WAITING1020		X					X		ON
N2:M1-131			SPARE	X	X					X		ON
N2:M1-132			SPARE		X					X		ON
N2:M1-133			SPARE	X		X				X		ON
N2:M1-134			SPARE		X	X				X		ON
N2:M1-135	RPHOTO	SDUCT	2:M1-135 1FL AREA A AHU-06-A SUP1133A	X	X	X				X		ON
N2:M1-136	RPHOTO	SDUCT	2:M1-136 1FL AREA A AHU-06-A RET1133A				X			X		ON
N2:M1-137	PHOTO	SDUCT	2:M1-137 1ST FL AREA A CORR 1005	X			X			X		ON
N2:M1-138	RIAM	RELAY	2:M1-138 1ST FL AREA A CORR 1005		X		X			X		ON
N2:M1-139	PHOTO	SDUCT	2:M1-139 1ST FL AREA A CORR 1005	X	X		X			X		ON
N2:M1-140	RIAM	RELAY	2:M1-140 1ST FL AREA A CORR 1005			X	X			X		ON
N2:M1-141	RIAM	RELAY	2:M1-141 1ST FLR AREA A CORR 1007	X		X	X			X		ON
N2:M1-142	IAM	SO	2:M1-142 1ST FLR AREA A EAST. CORR 1140		X	X	X			X		ON
N2:M1-143	IAM	SO	2:M1-143 1ST FLR AREA A WEST CORR 1140	X	X	X	X			X		ON
N2:M1-144			SPARE				X			X		ON
N2:M1-145	PHOTO	SMOKE	2:M1-145 1ST FL AREA A WAITING 1026	X			X			X		ON
N2:M1-146	PHOTO	SMOKE	2:M1-146 1ST FL AREA A WAITING 1026		X		X			X		ON
N2:M1-147	PHOTO	SMOKE	2:M1-147 1ST FL AREA A RECEPTION 1025	X	X		X			X		ON
N2:M1-148	PHOTO	SMOKE	2:M1-148 1ST FL AREA A BY CONSULT 1037		X		X			X		ON
N2:M1-149	PHOTO	SMOKE	2:M1-149 1ST FL AREA A WAITING 1046	X		X	X			X		ON
N2:M1-150	PHOTO	SMOKE	2:M1-150 1ST FL AREA A CORR 1057		X	X	X			X		ON
N2:M1-151	PHOTO	SMOKE	2:M1-151 1ST FL AREA A CORR 1057	X	X	X				X		ON
N2:M1-152	PHOTO	SMOKE	2:M1-152 1ST FL AREA A RECEPTION 1025				X	X		X		ON
N2:M1-153	IAM	SUPERV	2:M1-153 1STFLAREA A PUMP1133B TMP PRE	X			X	X		X		ON
N2:M1-154	IAM	SUPERV	2:M1-154 1STFLAREA A PUMP 1133B LOWAIR		X		X	X		X		ON
N2:M1-155	IAM	SUPERV	2:M1-155 1STFLAREA A PUMP1133B TMP WET	X	X		X	X		X		ON
N2:M1-156	IAM	SUPERV	2:M1-156 1FL AREA A PUMP 1133B TMP MAIN			X	X	X		X		ON
N2:M1-157	IAM	SUPERV	2:M1-157 1STFLAREA A PUMP1133B LA DRY	X		X	X	X		X		ON
N2:M1-158	IAM	WATER	2:M1-158 1STFLAREA A PUMP1133B FLW DRY		X	X	X	X		X		ON
N2:M1-159	IAM	SUPERV	2:M1-159 1STFLAREA A PUMP 1133B TMP DRY	X	X	X	X	X		X		ON
N2:M1-160	IAM	SUPERV	2:M1-160 1FL AREA A PUMP 1133B TMP PUMP					X		X		ON
N2:M1-161	IAM	SUPERV	2:M1-161 1FL AREA A PUMP 1133B TMP PUMP	X				X		X		ON
N2:M1-162	RELEASE	SUPRELS	2:M1-162 1ST FL PUMP RM PRE ACTION RLSE		X			X		X		ON
N2:M1-163	IAM	SO	2:M1-163 1ST FLR AREA B WTING AREA 1029	X	X			X		X		ON
N2:M1-164	ION	SMOKE	2:M1-164 1ST FL AREA C IS RM 1090			X		X		X		ON
N2:M1-165	TRIAM	UTILITY	2:M1-165 1ST FL AREA C IS RM 1090	X	X			X		X		ON
N2:M1-166	TRIAM	UTILITY	2:M1-166 1ST FLR SVC ELEV LOBBY		X	X				X		ON
N2:M1-167	TRIAM	UTILITY	2:M1-167 1ST FLR CORR 1062	X	X	X				X		ON
N2:M1-168	RIAM	RRELAY	2:M1-168 1ST LFR AREA B CORR 1105				X	X		X		ON
N2:M1-169	RPHOTO	SDUCT	2:M1-169 1ST FL AREA B CORR 1105	X			X	X		X		ON
N2:M1-170	IAM	GENPRI2	2:M1-170 1ST FL 1455 BLDG FIRE ALARM		X		X	X		X		ON
N2:M1-171	PHOTO	SMOKE	2:M1-171 1ST FL AREA B CORR 1105	X	X		X	X		X		ON
N2:M1-172	PHOTO	SMOKE	2:M1-172 1ST FL AREA B CORR 1105			X	X	X		X		ON
N2:M1-173	PHOTO	SMOKE	2:M1-173 1ST FL AREA B CORR 1105	X		X	X	X		X		ON
N2:M1-174	PHOTO	SMOKE	2:M1-174 1ST FL AREA B HALL 1C-6000		X	X	X	X		X		ON
N2:M1-175	PHOTO	SMOKE	2:M1-175 1ST F

STANDARD SENSOR BASE

SIMPLEX 4098-9792



MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/8" (54mm) DEEP - FLUSH MOUNT	BY OTHERS
B	4" (102mm) OCTAGONAL BOX, 1-1/2" (38mm) DEEP, MINIMUM - FLUSH MOUNT	BY OTHERS
C	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SIMPLEX 4098-9832 ADAPTER KIT	BOX BY OTHERS, 4098-9832 ORDERED SEPARATELY
D	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS

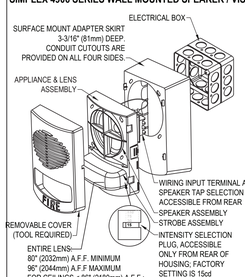
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4098-0019 FROM HTTP://WWW.SIMPLEX-FIRE.COM

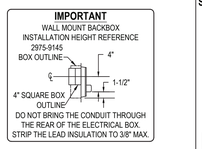
WIRING NOTES

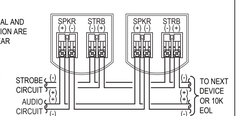
1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

True*Alert* CONVENTIONAL APPLIANCES

SIMPLEX 4906 SERIES WALL MOUNTED SPEAKER / VISUAL







MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 1-1/2" (38mm) DEEP, WITH 1-1/2" (38mm) EXTENSION RING - FLUSH MOUNTING	BY OTHERS
B	SIMPLEX 2975-9145 SURFACE MOUNT BOX WITH SIMPLEX 4905-9903 ADAPTER PLATE	ORDERED SEPARATELY
C	4" (102mm) SQUARE BOX, 1-1/2" (38mm) DEEP, WITH 1-1/2" (38mm) EXTENSION RING - SURFACE MOUNTING	SIMPLEX ADAPTER SKIRT REQUIRED

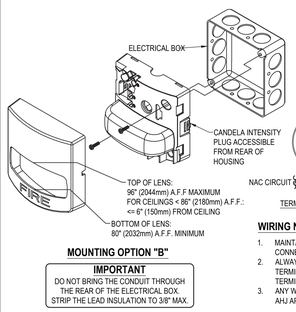
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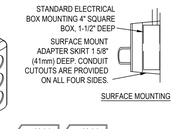
WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

True*Alert* CONVENTIONAL APPLIANCES

SIMPLEX 4906 SERIES WALL MOUNTED VISUAL





IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 3/8" MAX.

MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 1-1/2" (64mm) DEEP	BY OTHERS. WHEN SURFACE MOUNTING USE 4905-9937 (RED) OR 4906-9940 (WHITE) SKIRT
B	4" (102mm) SQUARE BOX, 1-1/2" (38mm) DEEP, MINIMUM	
C	2 GANG BOX, 1-1/2" (38mm) DEEP	
D	SIMPLEX 2975-9145, 7-7/8"H x 5-1/8"W x 2-3/4"D (127mm x 98mm x 56mm) REQUIRES 4905-9931 PLATE	ORDERED SEPARATELY

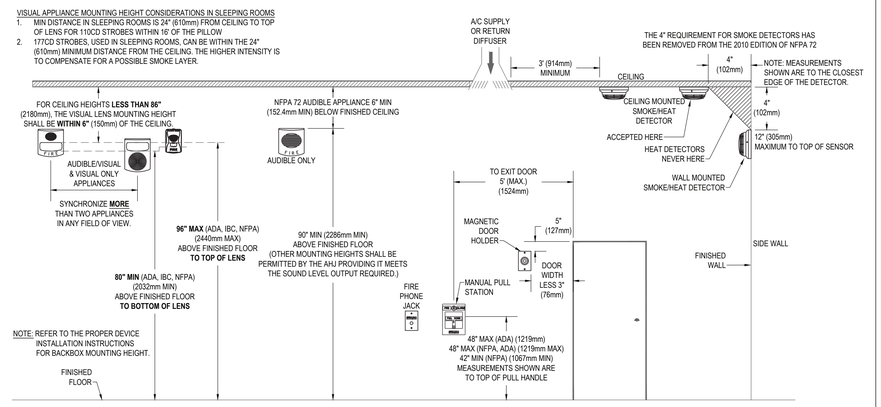
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4906-0002 FROM HTTP://WWW.SIMPLEX-FIRE.COM

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

DEVICE MOUNTING HEIGHT REFERENCE

PER NFPA 72



This sheet of drawings has not been reviewed for code compliance.

Johnson Controls
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10685 E. HAMPDEN AVE
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PHONE: 303-355-9500
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NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
08/22/2023

THE MEDICAL CENTER OF AURORA - SOUTH
CATH LAB 1 & 2

THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

Revisions shown with ⚠ symbol

ISSUE LOG: MARK	DATE:	CAD	CHK	DESCRIPTION
1	08/22/2023	CBR	NSW	CHANGES PER AURORA FIRE DEPARTMENT DATED 08/04/2023.

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/26/23
JOB #:	
PROJECT #:	419:6503490S5

JOHNSON CONTROLS © 2023

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **TYPICAL DEVICE WIRING**

FA-701

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36" x 42" Arch E1 Size
LAST PRINTED: 8/22/2023 11:10:18 AM
LAST SAVED BY: JDIXON4
FILE PATH: C:\Users\jdixon4\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 138-Cath Lab 1-2 - 2023 - 6503490S5F\Rel\FA-701.dwg

GRAPHIC MAP NOTES:

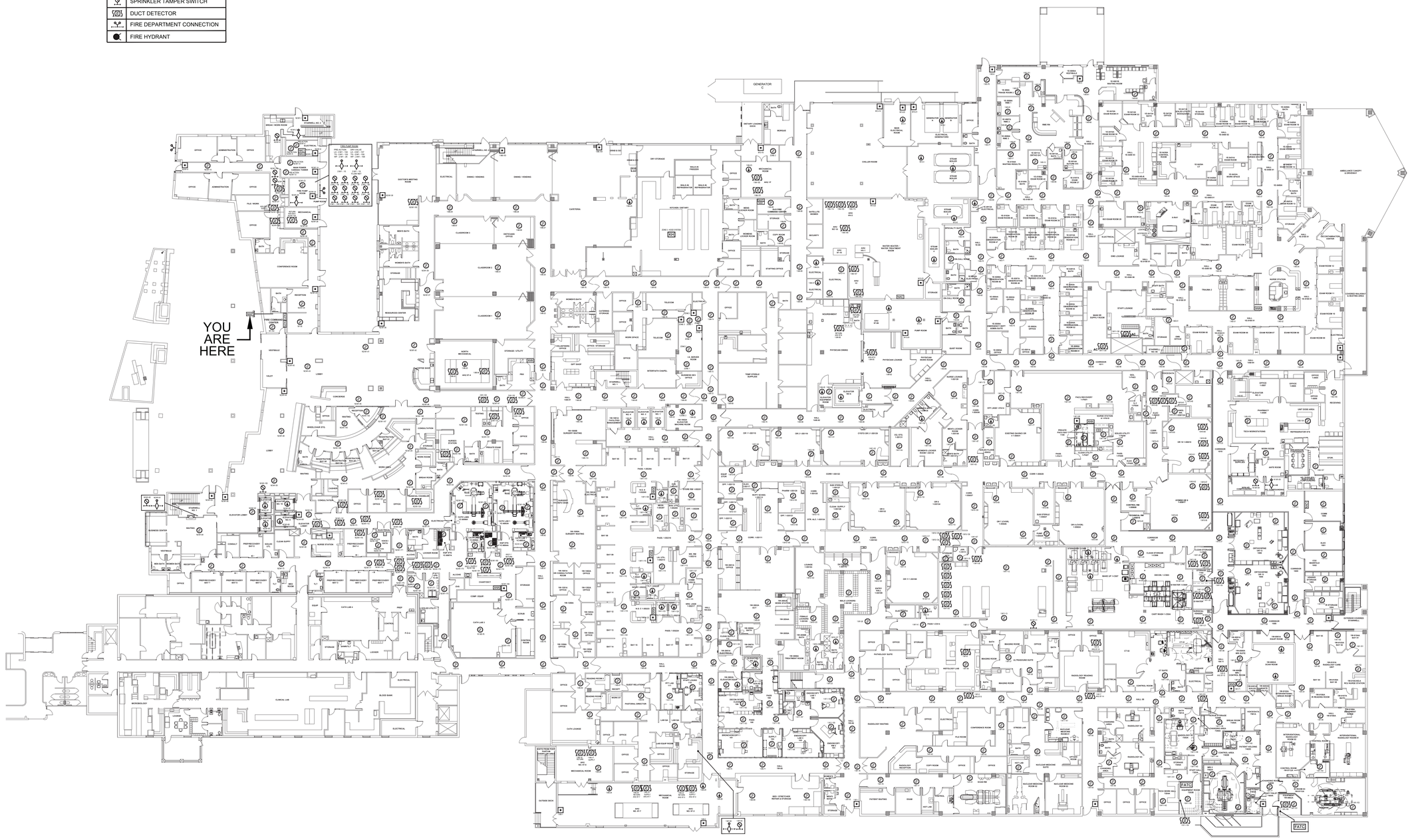
1. THIS 36"X48" GRAPHIC MAP IS NOT SHOWN TO SCALE.

AS OF: 07/26/2023

THE MEDICAL CENTER OF AURORA
1501 S. POTOMAC ST
AURORA, COLORADO 80012

LEGEND:

FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
ANN	GRAPHIC ANNUNCIATOR
MAP	GRAPHIC ZONE MAP
S	SMOKE DETECTOR
H	HEAT DETECTOR
	MANUAL PULL STATION
KH	KITCHEN HOOD SYSTEM
	SPRINKLER WATERFLOW VALVE
	SPRINKLER TAMPER SWITCH
DUCT	DUCT DETECTOR
	FIRE DEPARTMENT CONNECTION
	FIRE HYDRANT



This sheet of drawings has not been reviewed for code compliance.

Johnson Controls
AURORA (303) 355-0500

The Medical Center of Aurora
Health ONE

Johnson Controls
DISTRICT 1-415
14000 E. EXPOSITION AVE
AURORA, CO 80017
SERVICE: 303-355-0500
PHONE: 303-355-0500
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NICET CERTIFICATION INFORMATION

NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24

Nancy S. Wiltsie

08/22/2023

THE MEDICAL CENTER OF AURORA - SOUTH
CATH LAB 1 & 2

THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

Revisions shown with ▲symbol

ISSUE LOG MARK	DATE	CAD	CHK	DESCRIPTION
1	08/22/2023	GR	NW	CHANGES PER AURORA FIRE DEPARTMENT DATED 08/04/2023

FOR PERMIT

DRAWN BY:	CD
CHECKED BY:	CB
ISSUE DATE:	7/26/23
JOB #:	
PROJECT #:	419:6503495S5

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SYSTEM:
FIRE ALARM SYSTEM

SHEET:
STATIC GRAPHIC MAP AT FIRE COMMAND CENTER 1C-1013A

FA-801

FILE PATH: C:\Users\jrusch\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 138-Cath Lab 1-2 - 2023 - 6503495SF\Fire\FA-801.dwg
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36" x 42" Arch E1 Size

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Fire Alarm
Product Data Submittal for:

The Medical Center of Aurora - South
1st Floor - Cath Lab 1 & 2 Reno
1501 S Potomac Street
Aurora, Colorado 80012

Prepared for:

Odin Electric
2120 South Ash Street
Denver, Colorado 80222

Johnson Controls
14200 E. Exposition Avenue
Aurora, Colorado 80012
Sales: (303) 355-0500
Service: (303) 355-0500
Fax: (303) 355-0615

PROJECT:	The Medical Center of Aurora - South 1st Floor - Cath Lab 1 & 2 Reno
PREPARED FOR:	Odin Electric

TYPE:	***DESCRIPTION:***
4098-9714	TRUEALARM PHOTO SMOKE SENSOR
4098-9733	TRUEALARM HEAT SENSOR
4098-9792	TRUEALARM SENSOR BASE
4906-9153	S/V M-C NON-ADDRESS, WHT, WALL
4906-9103	V/O MC NON-ADDRESS, WHT, WALL

Features

TrueAlarm analog sensing provides the following features

- Digital transmission of analog sensor values using IDNet or MAPNET II two-wire communications

For use with the following Simplex products

- 4007ES, 4010, 4010ES, 4100ES, and 4100U Series control units ; and 4008 Series control units with reduced feature set (refer to data sheet *S4008-0001* for details)
- 4020, 4100, and 4120 Series control units, Universal Transponders, and 2120 TrueAlarm CDTs equipped for MAPNET II operation

Fire alarm control unit provides the folloing features

- Peak value logging with accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring meets NFPA 72 sensitivity testing requirements; automatic individual sensor calibration check verifies sensor integrity
- Automatic environmental compensation, multi-stage alarm operation, and display of sensitivity directly in percent for each foot
- Display and print detailed sensor information in plain English language

Photoelectric smoke sensors provide the following features

- Sensitivity levels from 0.2% to 3.1%. See TrueAlarm sensors for more information.

Heat sensors have these features

- Three fixed temperature sensing thresholds: 135°F, 155°F and 190°F
- Rate-of-rise temperature sensing
- Utility temperature sensing
- Listed to UL 521 and ULC-S530

General features

- Ceiling or wall mounting
- Listed to UL 268 7th Edition and ULC-S529
- NEMA 1 rated. See TrueAlarm analog sensing product selection chart for more information.
- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- Designed for EMI compatibility
- Magnetic testing
- Different bases support a supervised or unsupervised output relay, or a remote LED alarm indicator

Additional base reference

- For isolator bases, refer to data sheet *S4098-0025*
- For sounder bases, refer to data sheet *S4098-0028*
- For photo/heat sensors, refer to data sheet *S4098-0024* , single address and *S4098-0033* , dual address

Description

Digital communication of analog sensing

TrueAlarm analog sensors provide an analog measurement digitally communicated to the host control panel using Simplex addressable communications. The control unit analyses the data, determines an average value and stores it. Comparing the sensor's present value against its average value and time, determines an alarm or other abnormal condition.

Intelligent data evaluation

Monitoring each sensor's average value provides a continuously shifting reference point. A software filtering process compensates for environmental factors, such as dust and dirt, and component aging, to provide an accurate reference for evaluating new activity. This filtering reduces the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

Control unit selection

The control unit stores peak activity for each sensor to assist in evaluating specific locations. The host control unit determines the alarm set point for each TrueAlarm sensor, selectable as more or less sensitive as the individual application requires.

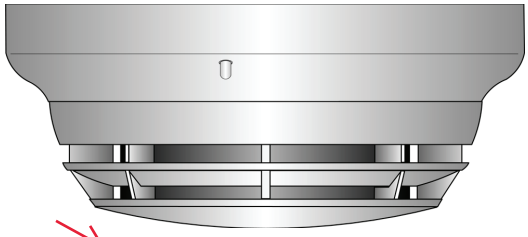


Figure 1: 4098-9714 TrueAlarm photoelectric sensor mounted in base

Timed/multi-stage selection

You can program the sensor alarm set points for timed automatic sensitivity selection, such as more sensitive at night, less sensitive during day. You can program the control unit to provide multi-stage operation for each sensor.

Sensor alarm and trouble LED indication

Each sensor base's LED pulses to indicate communications with the unit. If the control unit determines a sensor is in alarm, is dirty, or has some other type of trouble, the details are annunciated at the control unit and the sensor's base LED will turn on steadily. During a system alarm, the control unit will control the LEDs such that an LED indicating a trouble will return to pulsing to help identify the alarmed sensors.

TrueAlarm sensor bases and accessories

Sensor base features

Base mounted address selection

- Address remains with its programmed location
- Accessible from front, DIP switch under sensor

General features

- Automatic identification provides default sensitivity when substituting sensor types
- Integral red LED for power-on, pulsing, or alarm or trouble, steady on
- Locking anti-tamper design mounts on standard outlet box
- Magnetically-operated functional test

* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7272-0026:218, 7271-0026:231, 7270-0026:216, and 7300-0026:217 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

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Permit # 2023-3538-NY
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Sensor bases

4098-9792, standard sensor base

4098-9789, sensor base with wired connections

- 2098-9808 remote LED alarm indicator or 4098-9822 relay (relay is unsupervised and requires separate 24 VDC)

Supervised relay bases not compatible with 2120 CDT:

- **4098-9791, 4-wire sensor base,** use with remote or locally mounted 2098-9737 relay, requires separate 24 VDC
- **4098-9780, 2-wire sensor base,** use with remote or locally mounted 4098-9860 relay, no separate power required
- Supervised relay operation is programmable and can be manually operated from control unit
- Includes wired connections for remote LED alarm indicator **or** 4098-9822 relay, relay is unsupervised and requires separate 24 VDC

Sensor base options

2098-9737, remote or local mount supervised relay

- DPDT contacts for resistive/suppressed loads
- power limited rating of 3 A at 28 VDC
- non-power limited rating of 3 A at 120 VAC, requires external 24 VDC coil power

4098-9860, remote or local mount supervised relay

- SPDT dry contacts, power limited rating of 2 A at 30 VDC, resistive; non-power limited rating of 0.5 A at 125 VAC, resistive

4098-9822, LED annunciation relay

- Activates when base LED is on steady, indicating local alarm or trouble
- DPDT contacts for resistive/suppressed loads, power limited rating of 2 A at 28 VDC; non-power limited rating of 1/2 A at 120 VAC, (requires external 24 VDC coil power)

4098-9832, adapter plate

- Required for surface or semi-flush mounting to 4 in. square electrical box and for surface mounting to 4 in. octagonal box
- Can be used for cosmetic retrofitting to existing 6 3/8 in. diameter base product

2098-9808, remote red LED alarm indicator

- Mounts on single gang box

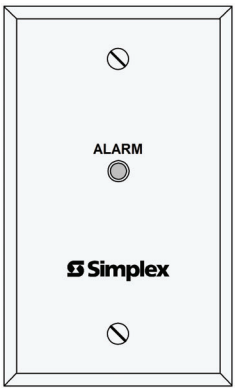


Figure 2: Remote red LED alarm indicator

Description

TrueAlarm sensor bases contain integral addressable electronics that constantly monitor the status of the detachable photoelectric or heat sensors. Each sensor's output is digitized and transmitted to the system fire alarm control unit every four seconds.

You can easily interchange different TrueAlarm sensor types to meet specific location requirements. This feature allows intentional sensor substitution during building construction. When conditions are temporarily dusty, you can install heat sensors without reprogramming the control unit, as covering smoke sensors causes them to be disabled. Although the control unit will indicate an incorrect sensor type, the heat sensor will operate at a default sensitivity providing heat detection for building protection at that location.

Mounting reference

Electrical Box Requirements: (boxes are by others)

Without relay in the box: 4" octagonal or 4" square, 1-1/2" deep; single gang, 2" deep

With relay in the box : 4" octagonal or 4" square, 1-1/2" deep, with 1-1/2" extension ring

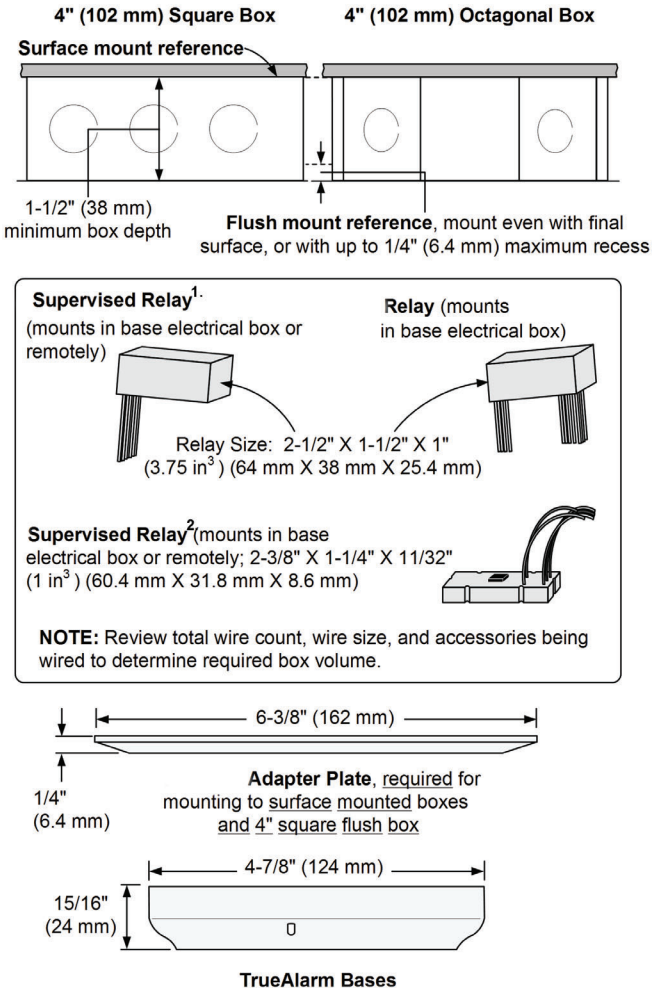


Figure 3: Mounting reference

Table 1: Product mounting - SKU reference

Product	SKU
Relay	4098-9822
Supervised relay	Example 1 2098-9739 Example 2 4098-9860
Adapter plate	4098-9832
TrueAlarm bases	4098-9780, 4098-9789, 4098-9791, 4098-9792

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Permit # 2023-3380-1
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TrueAlarm sensors

Features

- Sealed against rear air flow entry
- Interchangeable mounting
- EMI/RFI shielded electronics
- Heat sensors:
  - Selectable rate compensated, fixed temperature sensing with or without rate-of-rise operation
  - Rated spacing distance between sensors:

Fixed Temp. Setting	UL and ULC Spacing	FM Spacing, Either Fixed Temperature Setting
135°F (57.2°C) 190°F (88°C)	60 ft x 60 ft (18.3 m)	20 ft x 20 ft (6.1 m) for fixed temperature only; RTI = Quick
155°F (68°C)	40 ft x 40 ft (12.2 m)	50 ft x 50 ft (15.2 m) for fixed temperature with either rate-of-rise selection; RTI = Ultra Fast

Note: 190°F (88°C) ratings apply only to the 4098-9734 sensor.

Smoke sensors

- Photoelectric technology sensing
- 360° smoke entry for optimum response
- Built-in insect screens

4098-9714 photoelectric sensor

TrueAlarm photoelectric sensors use a stable, pulsed LED light source and a silicon photodiode receiver to deliver consistent and accurate low power smoke sensing. There are three user-selectable sensitivities for special applications for each individual sensor: 0.2%, 0.5%, and 1% for each foot. Standard sensitivity is 1.25% to 3.1% for each foot. The fire alarm control unit runs an algorithm that can vary the sensitivity for normal applications between 1.25% and 3.1% for each foot.

Note: Fixed sensitivity settings higher than 1.0% for each foot are not UL268 7th Edition compliant.

The sensor head design provides 360° smoke entry for optimum response to smoke from any direction. Due to its photoelectric operation, air velocity is not normally a factor, except for impact on area smoke flow.

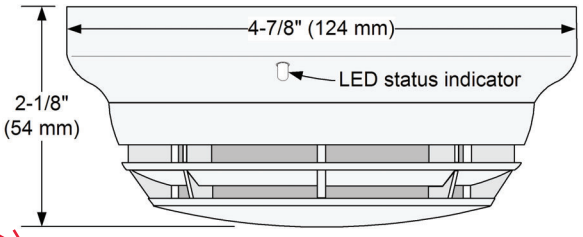


Figure 4: 4098-9714 photoelectric sensor with base

4098-9733 and 4098-9734 heat sensors

TrueAlarm heat sensors are self-restoring and provide rate-compensated, fixed temperature sensing, you can select with or without rate-of-rise temperature sensing. Due to its small thermal mass, the sensor accurately and quickly measures the local temperature for analysis at the fire alarm control unit.

You can select rate-of-rise temperature detection at the control unit for either 15°F or 20°F, (8.3°C or 11.1°C) for each minute. Fixed temperature sensing is independent of rate-of-rise sensing and you can program it to operate at 135°F or 155°F (57.2°C or 68°C). The 4098-9734 sensor provides an additional 190°F (88°C) set point.

In a slowly developing fire, the temperature may not increase rapidly enough to operate the rate-of-rise feature. However, an alarm will be initiated when the temperature reaches its rated fixed temperature setting.

You can program TrueAlarm heat sensors as a utility device to monitor for temperature extremes in the range of 32°F to 155°F (0°C to 68°C). This feature can provide freeze warnings, or alert you to HVAC system problems. Refer to panel specifications for availability.

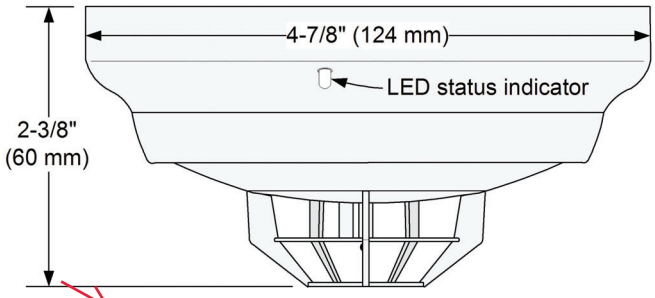


Figure 5: 4098-9733 heat sensor with base

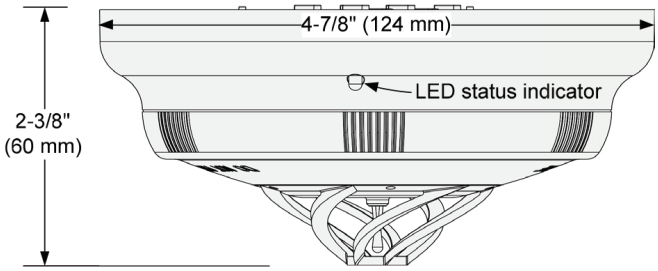


Figure 6: 4098-9734 high temperature heat sensor with base

WARNING: In most fires, hazardous levels of smoke and toxic gas can build up before a heat detection device would initiate an alarm. In cases where Life Safety is a factor, the use of smoke detection is highly recommended.

Application reference

Sensor locations should be determined only after careful consideration of the physical layout and contents of the area to be protected. Refer to NFPA 72, ***the National Fire Alarm and Signaling Code***. On smooth ceilings, a smoke sensor spacing of 30 ft (9.1 m) can be used as a guide.

For detailed application information including sensitivity selection, refer to *Installation Instructions 574-709*.

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Permit # 2023-3380-SIMP
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TrueAlarm analog sensing product selection chart

Table 2: TrueAlarm sensor bases (for use with sensors 4098-9714 and 4098-9733)

SKU	Color	Description	Compatibility	Mounting requirements
4098-9792 GSA4098-9792	White	Standard sensor base	No options	4 in. octagonal or 4 in. square box, 1 1/2 in. min. depth; or single gang box, 2 in. min. depth
4098-9776	Black			
4098-9789 4098-9789IND GSA4098-9789	White	Sensor base with connections for remote LED alarm indicator **or** unsupervised relay	2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	4 in. octagonal or 4 in. square box **Note:** Box depth requirements depend on total wire count and wire size, see Table 4 for reference.
4098-9775	Black			
4098-9791 **Note:** NOT compatible with the 2120 CDT	White	4-wire sensor supervised relay base with connections for LED indicator or unsupervised relay	2098-9737 supervised remote relay	
			2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	
4098-9780 GSA4098-9780 **Note:** NOT compatible with the 2120 CDT	White	2-wire sensor supervised relay base with connections for LED indicator or unsupervised relay	4098-9860 supervised remote relay	
			2098-9808 remote alarm indicator or 4098-9822 unsupervised relay	

Note: SKU numbers ending in IND are assembled in India. SKU numbers with GSA prefix are assembled in the USA.

Refer to *Application Manual 574-709* and *Installation Instructions 574-707* for additional information.

Table 3: TrueAlarm sensors

SKU	Color	Description	Compatibility	Mounting requirements
4098-9714 4098-9714-IND GSA4098-9714	White	Photoelectric smoke sensor	Bases 4098-9775, 4098-9776, 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Refer to base requirements
4098-9774	Black			
4098-9733 GSA4098-9733	White	Heat sensor		
4098-9778	Black			
4098-9734 GSA4098-9734	White	High temperature heat sensor		

Note:

- All of these SKUs are NEMA 1 rated.
- The 4098-9734 Heat Sensor is compatible with IDNet on the 4100ES, 4010ES, and 4007ES only.
- SKU numbers with GSA prefix are assembled in the USA.

Table 4: TrueAlarm sensor/base accessories

SKU	Description	Compatibility	Mounting requirements
2098-9737	Supervised relay, mounts remote or in base electrical box	For use with 4098-9791 base	Remote mounting requires 4 in. octagonal or 4 in. square box, 1 1/2 in. minimum depth Base mounting requires 4 in. octagonal box, 2 1/8 in. deep with 1 1/2 in. extension ring
4098-9860	Supervised relay, mounts remote or in base electrical box	For use with 4098-9780 base	
2098-9808	Remote red LED alarm indicator on single gang stainless steel plate	Bases 4098-9789, 4098-9791, and 4098-9780	Single gang box, 1 1/2 in. minimum depth
4098-9822	Unsupervised relay, tracks base led status. **Note:** Mounts only in base electrical box.	Bases 4098-9789, 4098-9791, and 4098-9780	4 in. octagonal box, 2 1/8 in. deep with 1 1/2 in. extension ring
4098-9832	Adapter plate	Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Required for surface or semi-flush mounted 4 in. square box and for surface mounted 4 in. octagonal box

Note: 2098-9808 is NEMA 1 rated.

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Permit # 2023-3538-SIMP
Sheet 16 of 27

Specifications

Table 5: General operating specifications

Specification		Rating
Communications and sensor supervisory power		IDNet or MAPNET II communications, auto-selected, one address for each base
Communications connections		Screw terminals for in/out wiring, 18 to 14 AWG, 0.82 mm^2 to 2.08 mm^2
Remote LED alarm indicator current		1 mA typical, no impact to alarm current
Remote LED alarm indicator and relay connections		Color coded wire leads, 18 AWG, 0.82 mm^2
UL listed operating temperature range		32°F to 100°F, 0°C to 38°C
Operating temperature range	with 4098-9733 Heat Sensor	32°F to 122°F, 0°C to 50°C
	with 4098-9714 Smoke Sensor	15°F to 122°F, -9°C to 50°C
	with 4098-9734 Heat Sensor	32°F to 150°F, 0°C to 66°C
Storage temperature range		0°F to 140°F, -18°C to 60°C
Humidity range		10% to 95% RH
4098-9714 smoke sensor air velocity rating		0 to 4000 ft/min, 0 to 1220 m/min
Housing color		Frost white or black

Table 6: 4098-9791 Base with supervised remote relay 2098-9737

Specification	Rating
Externally supplied relay coil voltage	18 VDC to 32 VDC, nominal 24 VDC
Supervisory current	270 µA, from 24 VDC supply
Alarm current with 2098-9737 relay	28 mA, from 24 VDC supply
Note: See Sensor base options for contact ratings.	

Table 7: 4098-9780 Base with supervised remote relay 4098-9860

Specification	Rating
Power	Supplied from communications

Table 8: 4098-9822 Unsupervised relay, requirements for bases 4098-9789, 4098-9791, and 4098-9780

Specification	Rating
Externally supplied relay coil voltage	18 VDC to 32 VDC, nominal 24 VDC
Supervisory current	Supplied from communications
Alarm current	13 mA from separate 24 VDC supply
Note: See Sensor base options for contact ratings.	

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Simplex

TrueAlert Multi-Candela Notification Appliances

*UL, ULC, CSFM Listed; FM Approved; MEA (NYC) Acceptance**

Visible Notification Appliances with Speaker and Multi-Candela Strobe; Non-Addressable

Features

Speaker/visible (S/V) notification appliances with multi-tapped speaker and multi-tapped high intensity xenon strobe with synchronized flash:

- Rugged, high impact, flame retardant thermoplastic housings are available for wall or ceiling mount
- Operation is compatible with ADA requirements (see Wall mount installation reference)

Wall mount S/V features:

- Housings are available in red or white with clear lens with contrasting white or red **FIRE** lettering
- Covers are available separately to convert housing color

Ceiling mount S/V features:

- Housing is white with clear lens
- Red **FIRE** lettering is printed on two sides

Audible notification appliance (speaker):

- High quality voice and tone reproduction with taps for 1/4 W, 1/2 W , 1 W, or 2 W, at 25 VRMS or 70.7 VRMS
- Capacitor input for connection to supervised notification appliance circuits
- Speakers are wired separately from strobe wiring
- UL listed to Standard 1480 and ULC-S541*
- Compliant with NFPA 72, 520 Hz Low Frequency Signal Requirements for Sleeping Areas

Visible notification appliance (strobe):

- 24 VDC xenon strobe; intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- Strobes are activated from NACs selected to provide Simplex strobe synchronization signals or from separate strobe Synchronization Modules that are available for Class B or Class A operation
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- UL listed to Standard 1971 and ULC-S526*

Options for wall mounted S/Vs:

- Red or white adapters to cover surface mounted electrical boxes
- Red adapter for mounting to 2975-9145 boxes
- Red wire guard

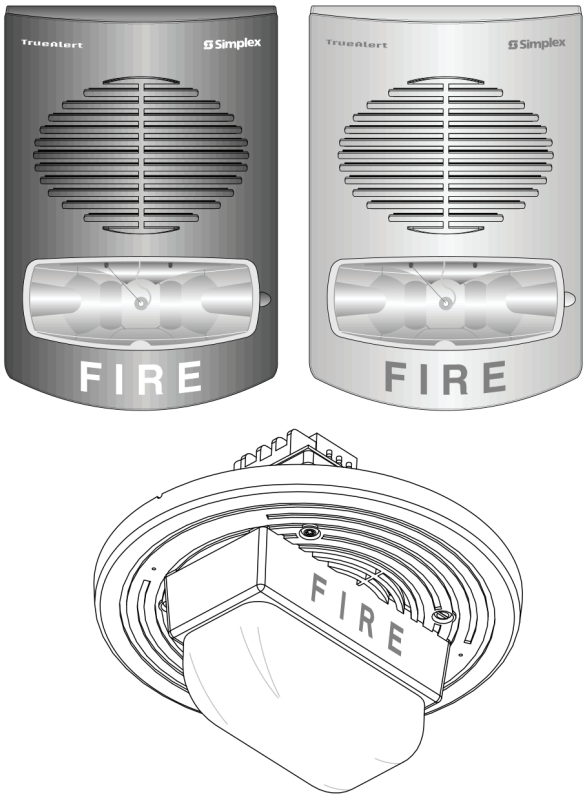


Figure 1: Wall and ceiling mount S/Vs

Description

Multi-Candela TrueAlert S/Vs with speaker and synchronized strobe

Provide convenient installation to standard electrical boxes with extensions. The enclosure designs are both impact and vandal resistant and provide a convenient strobe intensity selection. You can select each model for strobe intensity output. This minimizes on-site model inventory and easily accommodates changes encountered during construction.

Wall mount

S/V housings are a one-piece assembly, including lens, that mounts to a 4 in. square electrical box with extension, see Wall mount installation reference. You can quickly remove the cover with a tool and covers are available separately for color conversion.

Ceiling mount

S/Vs also install using 4 in. electrical boxes with an extension. See Ceiling mount S/V installation reference and 2905-9946 tile bridge dimensions.

Strobe intensity selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a highly visible yellow background allows the selected intensity to be seen at the side of the strobe lens.

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Synchronized strobes

Multiple strobes

When multiple strobes and their reflections can be seen from one location, synchronized flashes reduce the probability of photo-sensitive reactions as well as the annoyance and possible distraction of random flashing. The multi-candela strobes of these S/Vs are activated by NACs that provide the Simplex synchronization format. For additional information, refer to data sheet *S4905-0003*.

Strobe application selection

Proper selection of visible notification is dependent on occupancy, location, local codes, and proper applications of: the ***National Fire Alarm and Signaling Code*** (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA).

Product selection

Table 1: Wall mount multi-candela S/Vs

Model	Housing Color	FIRE Lettering	Listings	Description	Housing dimensions with lens
4906-9151	Red	White	UL and ULC	Multi-tapped Speaker with Multi-Candela Synchronized Strobe; strobe intensity selectable as: 15 cd, 30 cd, 75 cd, or 110 cd	7 1/4 in. H x 5 in. W x 2 5/8 in. D or 184 mm x 127 mm x 67 mm
4906-9153	White	Red			

Table 2: Ceiling mount multi-candela S/V

Model	Housing color	Lettering	Listings	Description	Dimensions
4906-9154	White	Red (FIRE)	UL	Multi-tapped Speaker with Multi-Candela Synchronized Strobe; strobe intensity selectable as: 15 cd, 30 cd, 75 cd, or 110 cd	Housing = 7 1/2 in. or 191 mm diameter, 1/2 in. or 13 mm deep Strobe lens protrusion = 2 5/8 in. or 67 mm above speaker housing Depth into box = 2 3/4 in. or 70 mm
4906-9157	White	Red (FIRE)	ULC		
4906-9158	White	Red (ALERT)	UL		
4906-9159	White	Blank	UL		
4906-9160	Red	White (FIRE)	UL		

Table 3: Wall mount S/V adapters

Model	Description		Dimensions
4905-9946	Surface mount red adapter skirt	Required when mounting to surface mounted electrical box, 4 in. square, 1 1/2 in. deep with 1 1/2 in. deep extension	7 3/4 in. H x 5 3/8 in. W x 3 3/16 in. D or 197 mm x 137 mm x 81 mm depth with S/V = 5 7/8 in. or 149 mm
4905-9947	Surface mount white adapter skirt		
4905-9903	Adapter Plate, red, required to mount S/V on 2975-9145		8 5/16 in. H x 5 3/4 in. W x 0.060 in. Thick or 211 mm x 146 mm x 1.5 mm
2975-9145	Mounting box, red, for surface or flush mount, requires adapter plate 4905-9903 (this box may be available for retrofit applications)		7 7/8 in. H x 5 1/8 in. W x 2 3/4 in. D or 200 mm x 130 mm x 70 mm

Table 4: Wall mount S/V replacement covers

Model	Descriptions	Dimensions
4905-9996	Red S/V cover with white **FIRE** lettering	7 1/4 in. H x 5 in. W x 1 3/8 in. D or 184 mm x 127 mm x 35 mm
4905-9997	White S/V cover with red **FIRE** lettering	

Table 5: Synchronized flash control modules

Model	Description		Dimensions
4905-9914*	Synchronized Flash Module, Class B operation	Epoxy encapsulated with in/out 18 AWG or 0.82 mm^2 wire leads, rated for 2 A NAC, requires 5 mA for power	1 3/8 in. W x 2 7/16 in. L x 13/16 in. H or 35 mm x 62 mm x 20 mm
4905-9922*	Synchronized Flash Module, Class A operation		

Table 6: Wall mount S/V wire guard

Model	Description	Dimensions
4905-9998	Wire guard with mounting plate, red, compatible with surface and semi-flush boxes (UL listed by Space Age Electronics Inc.)	8 3/8 in. H x 6 5/16 in. W x 3 1/4 in. D or 213 mm x 154 mm x 79 mm

Table 7: Ceiling mount tile bridge

Model	Description	Dimensions
2905-9946	Tile Bridge	See Ceiling mount S/V installation reference and 2905-9946 tile bridge dimensions

* Refer to data sheet *S4905-0003* for additional flash control module information

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S/V specifications

Table 8: Common specifications

Specification	Rating
Environmental	32°F to 122°F or 0°C to 50°C; 10% to 93%, non-condensing at 100°F or 38°C
Connections	Terminal blocks for 18 AWG to 12 AWG or 0.82 mm^2 to 3.31 mm^2; two wires for each terminal for in/out wiring

Table 9: Speaker specifications

Specification			Rating			
Input voltage			25 VRMS or 70.7 VRMS, see Note 1			
Power taps			1/4 W, 1/2 W, 1 W, and 2 W			
Frequency response		Fire Alarm	400 Hz to 4000 Hz			
		General signaling	125 kHz to 12 kHz			
Speaker output Ratings @ 10 ft or 3 m (see Note 1)	Wattage tap		**1/4 W**	**1/2 W**	**1 W**	**2 W**
	UL Listed Models, Reverberant Chamber Test, per UL 1480		76 dBA	79 dBA	82 dBA	85 dBA
	Wall Mount Models 4906-9151 and 4906-9153 , Anechoic Chamber Test, per ULC-S541		77 dBA	80 dBA	83 dBA	86 dBA
	Ceiling Mount Model 4906-9157 , per ULC-S541	25 VRMS Input	81.6 dBA	84.3 dBA	87.1 dBA	89.7 dBA
		70.7 VRMS Input	80.9 dBA	84.1 dBA	87.3 dBA	90.2 dBA
Polar Dispersion Reference (per ULC-S541 Anechoic Chamber Testing)			**Attenuation**	**Angle**	**Attenuation**	**Angle**
			-3 dB	+/- 30° off-axis	-6 dB	+/- 55° off-axis

Table 10: Strobe specifications

Specification			Rating			
Rated voltage range			Regulated 24 VDC; 16 VDC to 33 VDC, see Note 2			
Flash rate and synchronized NAC loading			1 Hz; with up to 35 synchronized strobes maximum for each NAC			
Wall mount	Housing dimensions (with lens)		7 1/4 in. H x 5 in. W x 2 5/8 in. D or 184 mm x 127 mm x 67 mm			
	Maximum RMS current rating per strobe setting		15 cd	30 cd	75 cd	110 cd
			60 mA	94 mA	186 mA	252 mA
	Reference RMS currents at other voltages	18 VDC	**53 mA**	**84 mA**	**165 mA**	**224 mA**
		24 VDC	**40 mA**	**63 mA**	**124 mA**	**168 mA**
Ceiling mount	Housing dimensions		Speaker housing = 7 1/2 in. or 191 mm diameter, 1/2 in. deep or 13 mm; lens protrusion above speaker housing = 2 5/8 in. or 67 mm; depth into box = 2 3/4 in. or 70 mm			
	Maximum RMS Current rating per strobe setting		**15 cd**	**30 cd**	**75 cd**	**110 cd**
			75 mA	125 mA	233 mA	316 mA
	Reference RMS currents at other voltages	18 VDC	**67 mA**	**111 mA**	**207 mA**	**281 mA**
		24 VDC	**50 mA**	**83 mA**	**155 mA**	**211 mA**

Note:

1. Speakers are for connection to conventional fire alarm audio circuits. Anechoic speaker output ratings are typically more representative of actual installed sound output.
2. The maximum RMS strobe current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. RMS is root mean square and refers to the effective value of a varying current waveform.

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Speaker directional characteristics reference

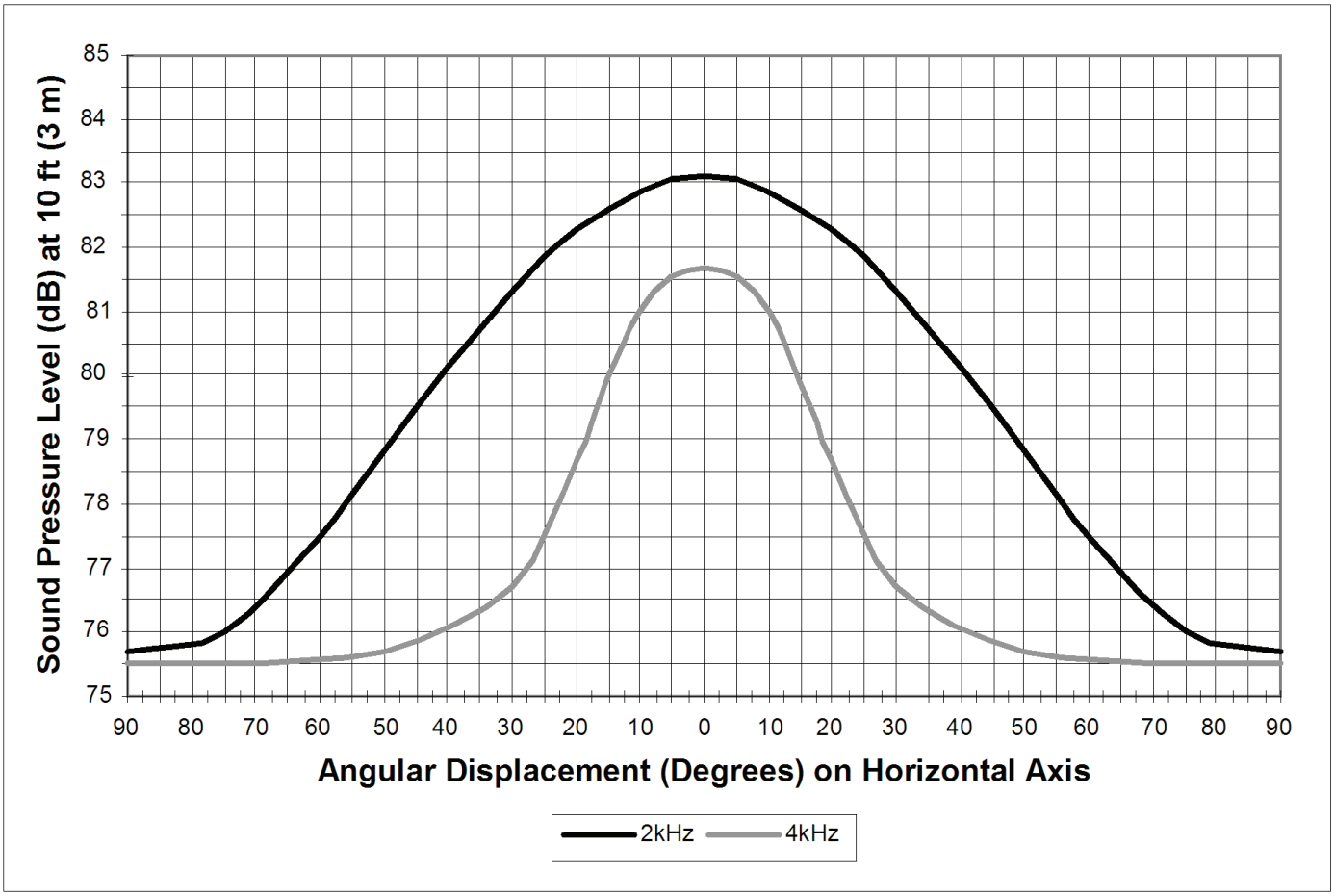


Figure 2: Speaker directional characteristics reference

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Ceiling mount S/V installation reference and 2905-9946 tile bridge dimensions

Figure 3 shows the mounting of a 4905-9903 Adapter plate to the 2975-9145 box.

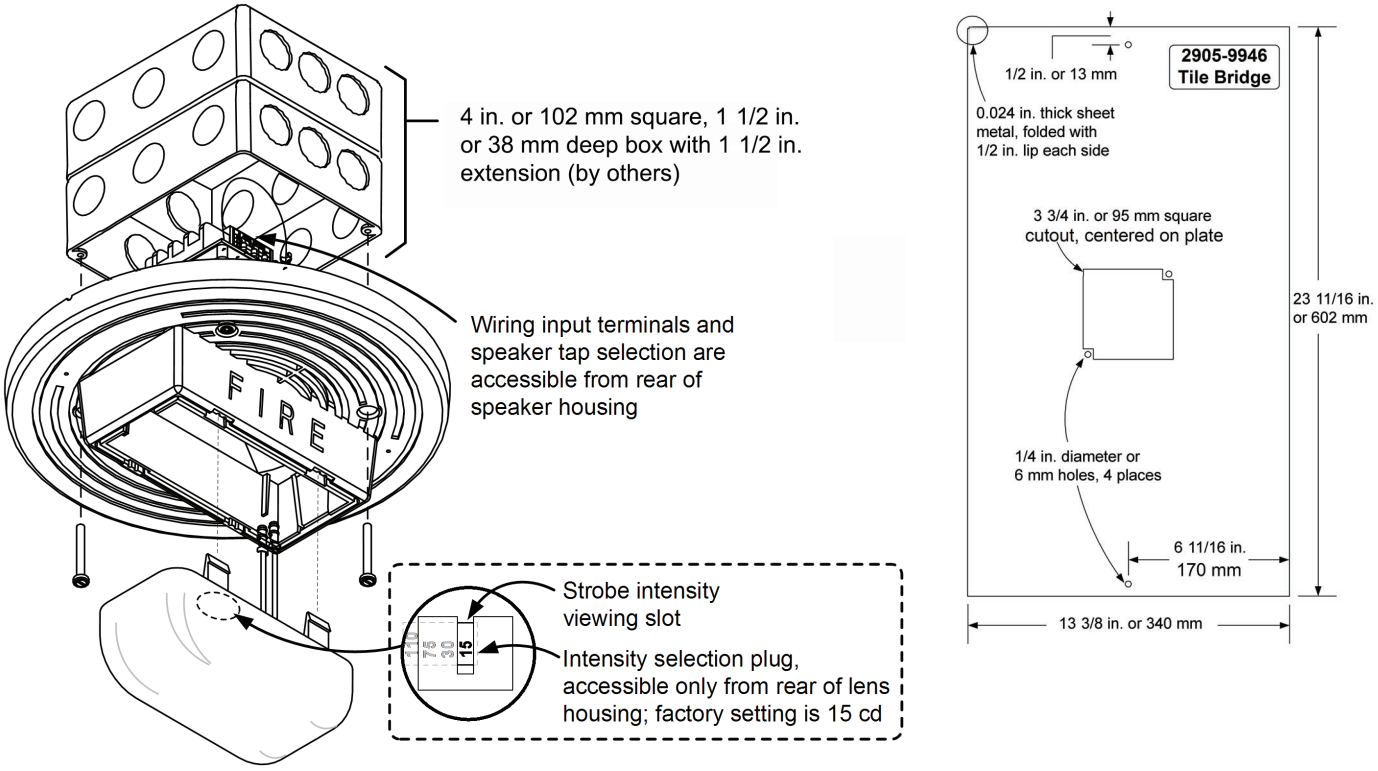
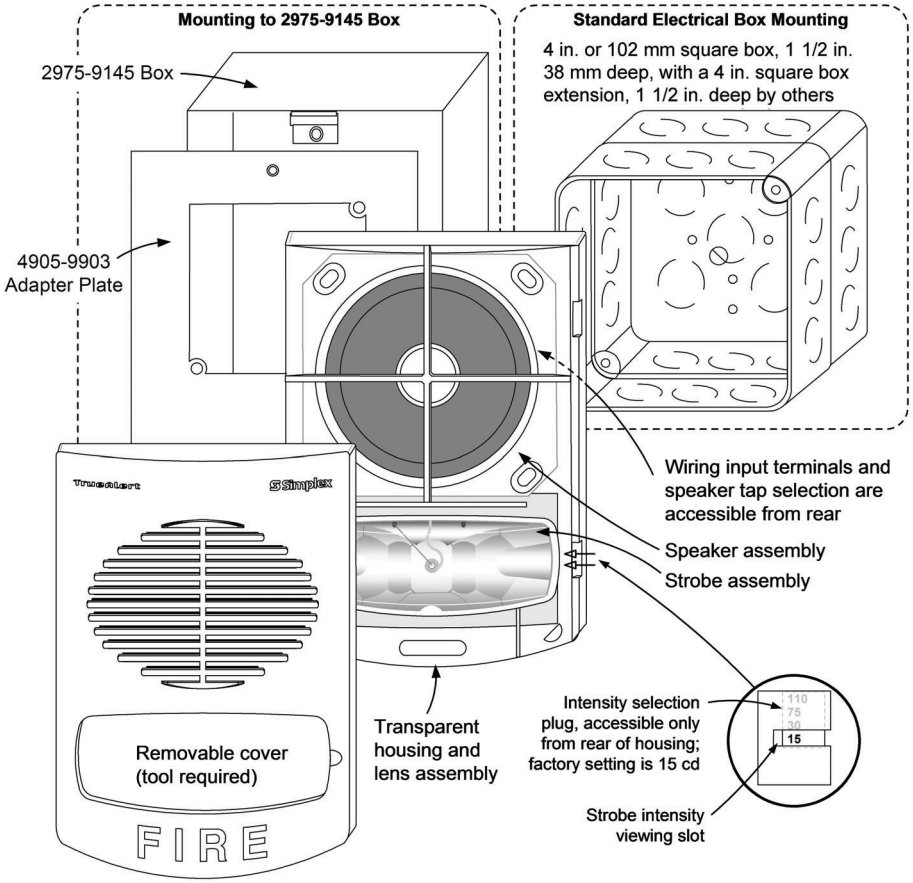
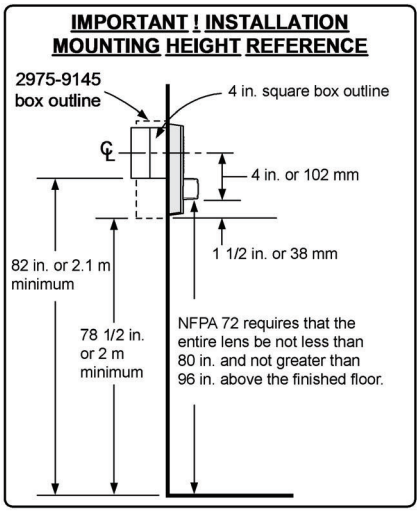


Figure 3: Ceiling mount S/V installation reference and tile bridge dimensions

The surface mount adapter skirts are available in red (4905-9946) or white (4905-9947)

Wall mount installation reference





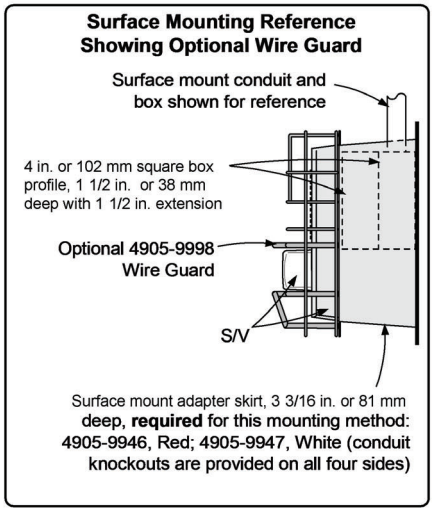


Figure 4: Wall mount installation reference

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Simplex

*UL, ULC, CSFM Listed;FM Approved; MEA (NYC) Acceptance**

TrueAlert Multi-Candela Notification Appliances

Visible Notification Appliances with Synchronized Flash;Non-Addressable, SmartSync Operation Compatible

Features



Figure 1: Wall Mount Strobes



Figure 2: Ceiling Mount Strobes

Visible only (V/O) 24 VDC notification appliances with high output xenon strobe, available for wall or ceiling mount:

- Intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- Operation is compatible with ADA requirements (refer to Installation Reference, Surface or Semi-Flush Wall Mounting)
- Polarized input allows connection to compatible reverse polarity, supervised notification appliance circuit (NAC)
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens
- Listed to UL 1971 and ULC S526
- NEMA 1 rated. See Product Selection for more information

Strobes provide synchronized flash for use with:

- Simplex fire alarm control panels with NACs selected to provide strobe synchronization or SmartSync two-wire control
- 4009 IDNet NAC Extenders
- Separate strobe Synchronization Modules that are available for Class B or Class A operation
- Separate SmartSync Control Modules (SCMs) that provide Class B or Class A output from conventional NAC inputs

Strobe housings provides flexible, easy, and convenient semi-flush or surface wall mounting:

- Rear of housing does not extend into box
- Wall mount strobes easily mount to single gang, double gang, or 4-inch square outlet box
- Ceiling mount strobes mount to single gang boxes

Wall mount strobe features:

- Wiring terminals are accessible from the front of the housing providing easy access for installation, inspection, and testing
- Covers are available separately to convert housing color

Optional adapters and wire guards:

- Wall mount strobe adapters are available to cover surface mounted electrical boxes and to adapt to 2975-9145 boxes
- UL listed red wire guards are available for wall or ceiling mount strobes*

Description

Multi-Candela TrueAlert synchronized strobes provide convenient installation to standard electrical boxes. The enclosure designs are both impact and vandal resistant and provide a convenient strobe intensity selection. Since each model can be selected for intensity output, on-site model inventory is minimized and changes encountered during construction can be easily accommodated.

Wall mount strobe housings are a one-piece assembly (including lens) that mounts to a single or double gang, or 4" square standard electrical box. The cover can be quickly removed (a tool is required) and covers are available separately for color conversion.

Ceiling mount strobes install using standard single gang electrical boxes. Color choice is determined by model number.

Strobe Intensity Selection

During installation, a selection plug at the back of the housing determines the desired strobe intensity. An attached flag with black letters on a highly visible yellow background allows the selected intensity to be seen at the side of the strobe lens.

Strobe Application Reference

Proper selection of visible notification is dependent on occupancy, location, local codes, and proper applications of: the ***National Fire Alarm Code*** (NFPA 72), ANSI A117.1; the appropriate model building code: BOCA, ICBO, or SBCCI; and the application guidelines of the Americans with Disabilities Act (ADA).

Synchronized Strobes

Multiple Strobes. When multiple strobes and their reflections can be seen from one location, synchronized flashes reduce the probability of photo-sensitive reactions as well as the annoyance and possible distraction of random flashing. These multi-candela strobes are synchronized over a two-wire circuit when connected to compatible NACs, to compatible Synchronized Flash Modules, or to SmartSync Control Modules.

SmartSync Two-Wire Control

Some applications desire the audible notification appliances to be capable of being silenced before the alarm condition is reset (on-until-silenced) while the visible notification appliances are kept activated until the alarm condition is reset (on-until-reset). SmartSync operation mode provides this function using a single circuit (two-wire operation).

SmartSync Control Sources

SmartSync two-wire control is available from:

4006, 4007ES Hybrid, 4008, 4010, 4010ES, 4100ES, and 4100U Fire Alarm Control Panels (refer to individual product data sheets for more information)

4009 IDNet NAC Extenders (refer to data sheet *S4009-0002*)

SmartSync Control Module (SCM) Model 4905-9938 (refer to data sheet *S4905-0003*)

Additional SmartSync compatible notification appliances include separate horns and combination horn/strobe notification appliances.

For more information refer to installation instructions, 579-548.

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Product Selection

Table 1: Multi-Candela Visible Notification Appliances (Strobes)

SKU	Mounting	Housing Color	Lettering	Description
4906-9101 *	Wall	Red	FIRE (white)	Multi-candela strobe with intensity selectable as: 15, 30, 75, or 110 candela; synchronized flash rate; SmartSync two-wire control compatible
4906-9103 *		White	FIRE (red)	
4906-9102 *	Ceiling	Red	FIRE (white)	
4906-9104 *		White	FIRE (red)	
4906-9114 *		Red	ALERT (white)	
4906-9115 *		White	ALERT (red)	
4906-9116 *		Red	Blank (white)	
4906-9117 *		White	Blank (red)	

* NEMA 1 rated when used with 4095-9931 adaptor plate and 2975-9145 back box.

Table 2: Wall Mount Strobe Adapters

SKU	Description		Dimensions
4905-9937	Red	Surface Mount Adapter Skirt; use to cover 1-1/2" (38 mm) deep surface mounted boxes	5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm) Total depth with strobe = 4-3/8" (111 mm)
4905-9940	White		
4905-9931 **	Red Adapter Plate for mounting to Simplex 2975-9145 box (typically for retrofit, may be mounted vertical or horizontal)		8-5/16" x 5-3/4" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145 **	Red Mounting Box, requires Adapter Plate 4905-9931		7-7/8" x 5-1/8" x 2-3/4" D (200 mm x 130 mm x 70 mm)

** NEMA 1 rated.

Table 3: Ceiling Mount Strobe Adapter

SKU	Description	Dimensions
4905-9910	Surface Mount Adapter Plate; zinc plated; required for mounting to handy box; not needed when using 4905-9926 guard	4-7/8" x 3-1/8" x 0.060" D (124 mm x 79 mm x 1.5)

Table 4: Synchronization Modules (refer to data sheet *S4905-0003* for additional information)

SKU	Description		Dimensions
4905-9914	Class B	Synchronized Flash Module; epoxy encapsulated with in/out 18 AWG ($0.82\ mm^2$) wire leads, rated for 2 A NAC, requires 5 mA for power	1-3/8" x 2-7/16" x 13/16" (35 mm x 62 mm x 20 mm)
4905-9922	Class A		
4905-9938	SmartSync Control Module with Class B or Class A output; mounts in 4" (102 mm) square box		4" x 4-1/8" x 1-1/4" D (102 mm x 105 mm x 32 mm)

Table 5: Replacement Covers and Guards

SKU	Description		Dimensions
4905-9992	Red cover with white "FIRE" lettering	For Wall mount strobes	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)
4905-9993	White cover with red "FIRE" lettering		
4905-9961*	Wall mount	Red wire guard with mounting plate, compatible with semi-flush or surface mounted boxes	6-1/16" H x 6-1/16" W x 3-1/8" D (154 mm x 154 mm x 79 mm)
4905-9926*	Ceiling mount		6-1/8" x 4-3/8" x 2-7/8" deep (156 mm x 111 mm x 73 mm)
* UL listed by Space Age Electronics Inc.			

Strobe Specifications

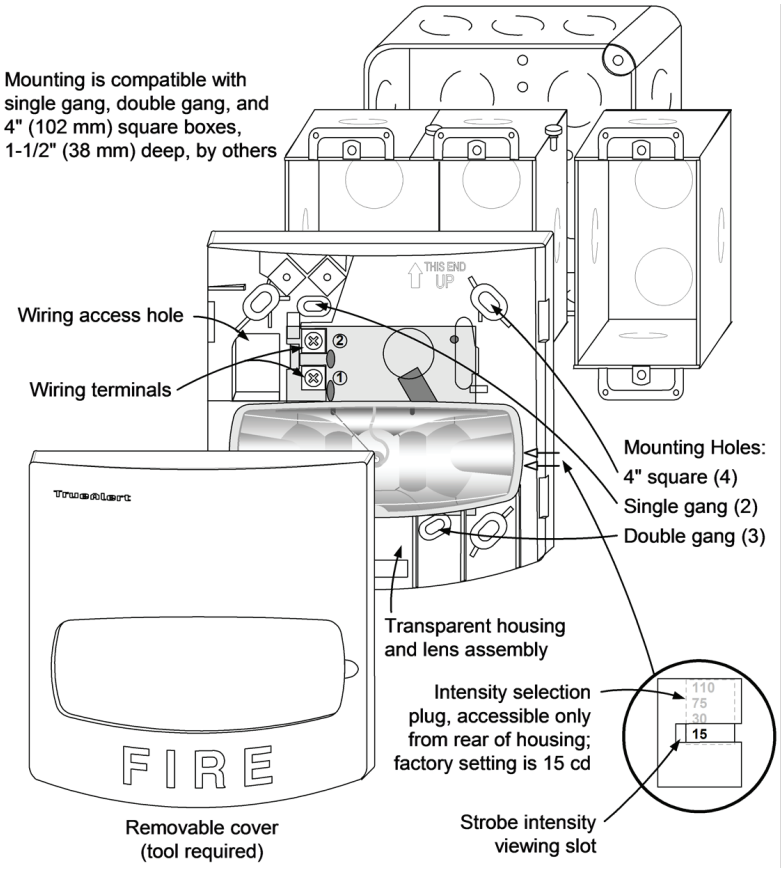
Table 6: Wall Mount or Ceiling Mount, Common Specifications

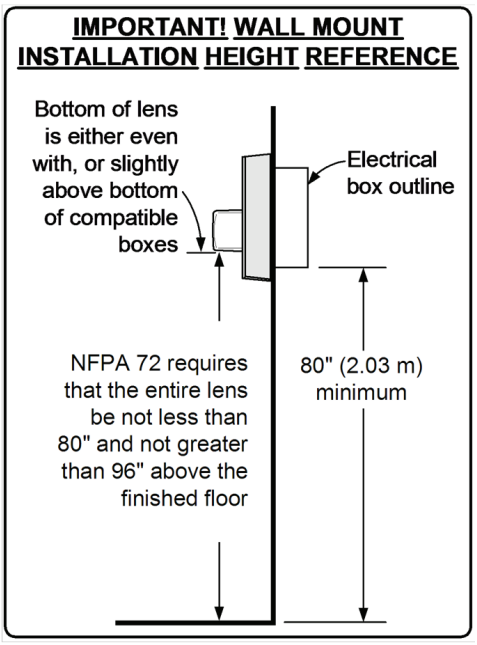
Specification			Rating			
Rated Voltage Range			Regulated 24 VDC; see Note 1 below			
Flash Rate			1 Hz			
Synchronized NAC Loading			Up to 35 synchronized strobes maximum per NAC			
Temperature Range			32° to 122° F (0° to 50° C)			
Humidity Range			10% to 93%, non-condensing at 100° F (38° C)			
Connections			Terminal blocks for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2); two wires per terminal for in/out wiring			
Wall Mount	Housing Dimensions (with lens)		5-1/8" H x 5" W x 2-3/4" D (130 mm x 127 mm x 70 mm)			
	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)		15 cd	30 cd	75 cd	110 cd
			60 mA	94 mA	186 mA	252 mA
	Reference RMS Currents at other voltages	18 VDC	53 mA	84 mA	165 mA	224 mA
		24 VDC	40 mA	63 mA	124 mA	168 mA
Ceiling Mount	Housing Dimensions (with lens)		4-3/4" L x 2-5/16" W x 2-5/8" D (121 mm x 75 mm x 67 mm)			
	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)		15 cd	30 cd	75 cd	110 cd
			75 mA	125 mA	233 mA	316 mA
	Reference RMS Currents at other voltages	18 VDC	67 mA	111 mA	207 mA	281 mA
		24 VDC	50 mA	83 mA	155 mA	211 mA

Note:

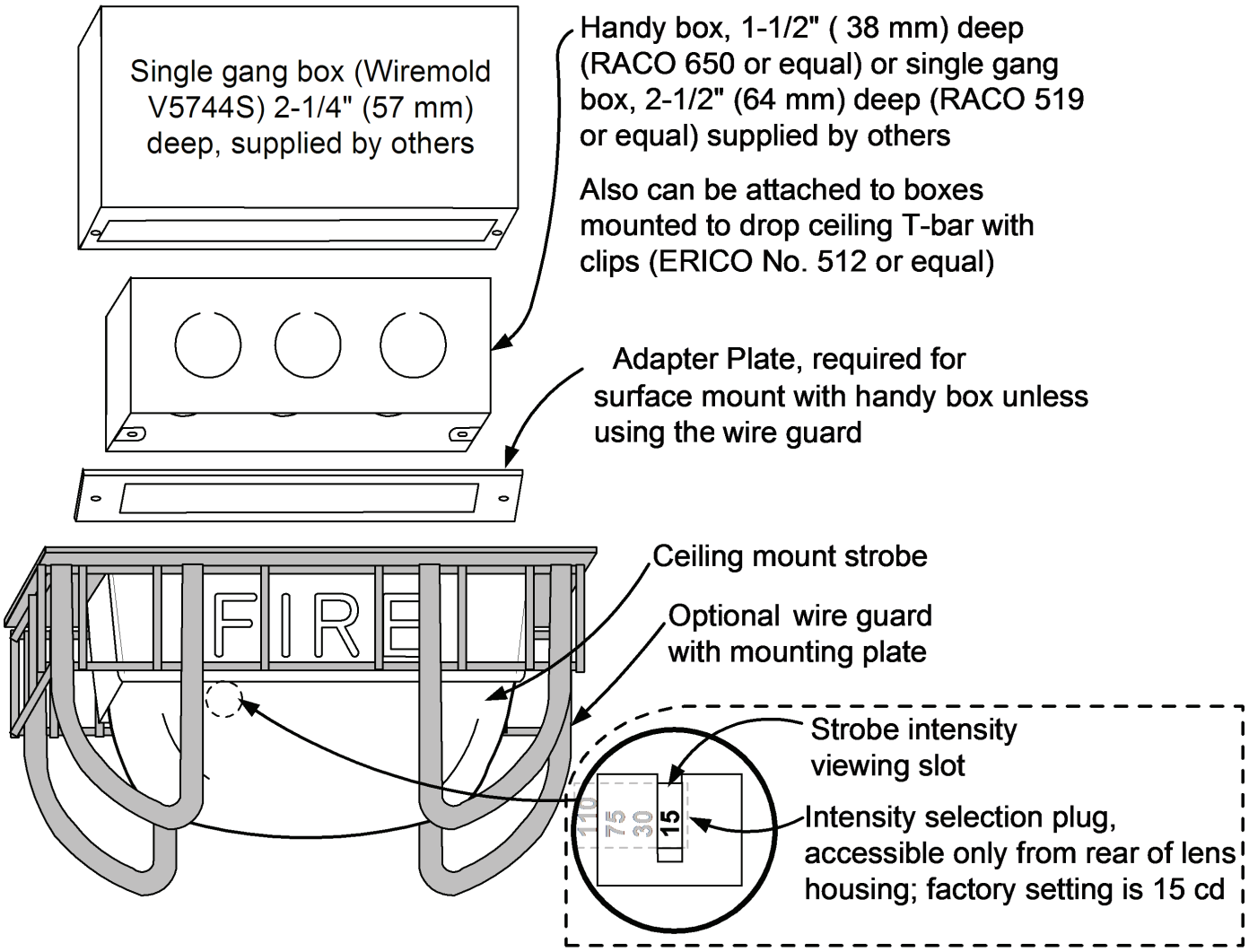
1. "Regulated 24 VDC" refers to the voltage range of 16 to 33 VDC per UL Standard 1971, *Signaling Devices for the Hearing Impaired*. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the strobe. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the NAC under worst case conditions.
2. The maximum RMS current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. (RMS is root mean square and refers to the effective value of a varying current waveform.)

Installation Reference, Surface or Semi-Flush Wall Mounting





Ceiling Mount Strobe Installation Reference



Note:

1. Figure shows 4905-9910 Adaptor Plate.
2. ** 4905-9926 Wire guard shown

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Wall Mount Installation Reference; Adapter Plate, Guard, and Adapter Skirt

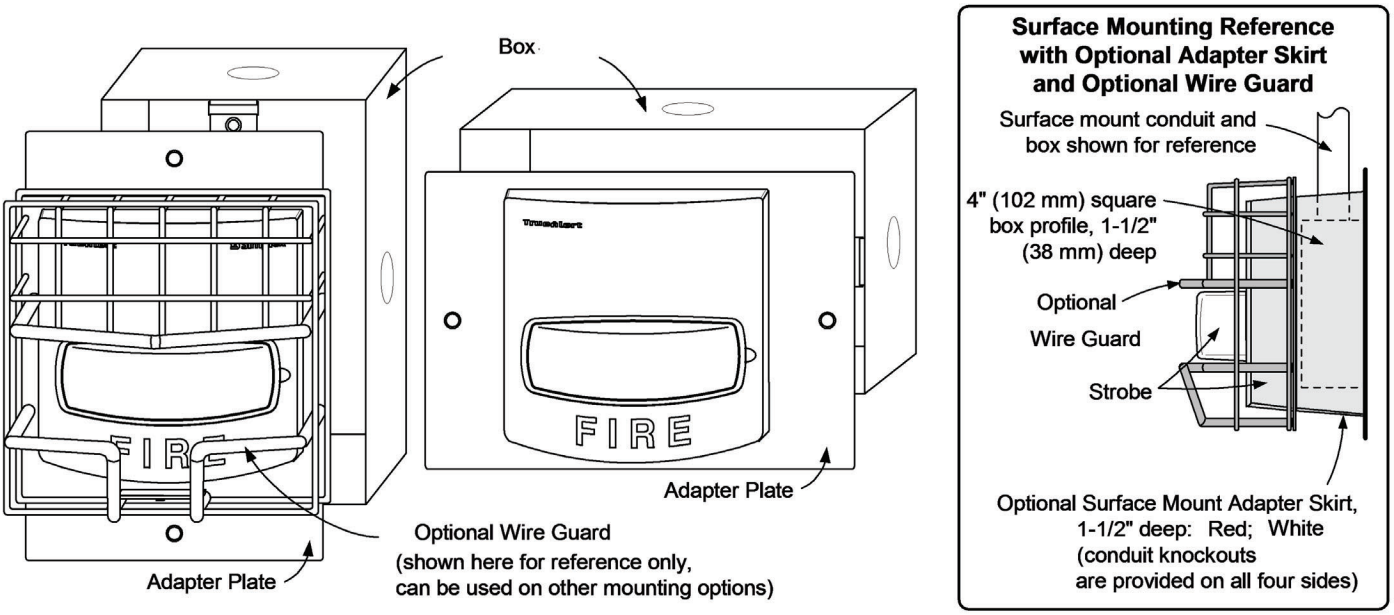


Figure 3: Wall Mount Installation Reference; Adapter Plate, Guard, and Adapter Skirt

Note:

Figure 3 shows:

- 4905-9931 Adapter Plate
- 2975-9145 Box
- 4905-9961 Optional Wire Guard
- Optional Surface Mount Adapter skirt:
  - Red: 4905-9937
  - White: 4905-9940