THE MEDICAL CENTER OF AURORA - SOUTH
3RD FLOOR - ICU BUILD-OUT
MODIFICATION TO EXISTING FIRE ALARM SYSTEM

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 for any code violation.

COA Adopted Codes for this project:
ICC-2021 - NEC 2023
NFPA 13-2019 - NFPA 72-2019
COA Amendments 22 & 66

City of Aurora Building Division
Project: *TMCA Interim and Build-Out Fire Alarm*
Address: *1501 S Potomac St., 3rd Floor*
Occupancy Group: *IBC I-2*
Construction Type: *IBC Type 1-A SPK*
RSN: *1762127*
Permit: *2023 2396543 LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Rich Tenorio*
Date: *Nov 08, 2023*
2021 INTERNATIONAL CODES & 2023 NEC

Johnson Controls
DISTRICT - 419
14200 E. EXPOSITION AVE
AURORA, CO 80012
SERVICE: 303-355-0500
PHONE: 303-355-0500
FAX: 303-355-0615

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
August 16, 2023

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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.

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LEGENDS

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
		PANELS				
	NAC#	EXISTING 4009 IDNET NAC EXTENDER PANEL, 120 VAC, BEIGE	SIMPLEX	4009-9201	SIMPLEX CABINET	N/A
		INITIATING DEVICES				
25N	S	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
12N	H	ADDRESSABLE STANDARD HEAT SENSOR W/ STANDARD BASE	SIMPLEX	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	P	EXISTING ADDRESSABLE SINGLE ACTION MANUAL PULL STATION	SIMPLEX	4099-9004	4" SQ, 2-1/8" D W/ 3/4" SINGLE GANG COVER EXTENSION	M
		MODULES AND RELAYS				
1N	KOV	RELAY IAM	SIMPLEX	4090-9002	4" SQ, 2-1/8" D W/ DBL. GANG COVER	M
		TRIM PLATE FOR SURFACE MOUNTING	SIMPLEX	4090-9802		R
	AIO 2	EXISTING RELAY IDNET 2 IAM W/T SENSE	SIMPLEX	4090-9118	4" SQ. 2-1/8" D W/ DBL. GANG COVER	M R, Z
		**NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 25 VOLTS **				
8N	24	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
4N	S C	CONVENTIONAL SPEAKER, CEILING/WALL MOUNT, WHITE, FIRE	SIMPLEX	4902-9721	4" SQ. 1-1/2" D W/ 1-1/2" EXT RING	S
4N		CONVENTIONAL MULTI-CANDELA STROBE, CEILING MOUNT, WHITE, CLEAR LENS, FIRE	SIMPLEX	4906-9104	SINGLE GANG 2-1/2" D	V
		EXISTING CONVENTIONAL MULTI-CANDELA STROBE, WALL MOUNT, WHITE, CLEAR LENS, FIRE	SIMPLEX	4906-9103	SINGLE GANG 1-1/2" D	V
		MISCELLANEOUS DEVICES				
1N 2RL	10K	END-OF-LINE RESISTOR 10kΩ, 1/2W (EOL)	SIMPLEX	4081-9008		
	DH	DOOR HOLDER	BY OTHERS	BY OTHERS		D
	JB	JUNCTION BOX	BY OTHERS	BY OTHERS		
	FATC	EXISTING FIRE ALARM TERMINAL CABINET	EXISTING	EXISTING		
		EXISTING REMOTE TEST STATION	SIMPLEX	2098-9806	SINGLE GANG 2"D	K
		EXISTING FIRE/SMOKE DAMPER	BY OTHERS	BY OTHERS		
	MAP	EXISTING STATIC GRAPHIC MAP	BY OTHERS	BY OTHERS		

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-L
D	DOOR HOLDER	2 COND. SOLID	14 AWG		X	X	X	X		
K	REMOTE TEST SWITCH/LED	(2) 2 COND. SOLID	14 AWG		X	X				
M	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X				
R	RELAY	2 COND. SOLID	14 AWG		X	X	X	X		
S	AUDIO - SPEAKER	UTP SOLID	18 AWG	30pf/ft. MAX CAPACITANCE RECOMMENDED	X	X				
Sc	AUDIO - SPEAKER - CI	UTP SOLID - CI	18 AWG	30pf/ft. MAX CAPACITANCE RECOMMENDED	X	X				X
V	VISUAL	2 COND. SOLID	14 AWG		X	X				
Vc	VISUAL - CI	2 COND. SOLID - CI	14 AWG		X	X				X
Z	ZONE CIRCUIT	2 COND. SOLID	14 AWG		X	X	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.

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), 2015 Edition

International Fire Code (IFC), 2015 Edition

National Electric Code (NFPA 70), 2020 Edition

National Fire Alarm and Signaling Code (NFPA 72), 2013 Edition

Life Safety Code (NFPA 101), 2012 Edition

ICC A117.1 Accessible and Usable Buildings and Facilities, 2009 Edition

ADA Standards for Accessible Design, 2010 Edition

Colorado Department of Health and Environment - Hospital Licensing Rules, 2012 Edition

OCCUPANCY TYPE(S):
I-2 INSTITUTIONAL GROUP

SPRINKLER PROTECTION:
BUILDING IS FULLY SPRINKLERED

AREA:
TOTAL: APPROX. 450,396 SQ. FT.
SCOPE: APPROX. 6,500 SQ. FT

STORIES:
TOTAL: 6 STORIES + BASEMENT
SCOPE: PARTIAL THIRD 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 6,500 SQUARE FEET ENCOMPASSING THE THIRD 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, SPEAKER STROBE TO BE RELOCATED AND 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 AND NAC 4 PANEL. NEW INITIATION TO TIE TO 2.M2 CIRCUIT. NEW NOTIFICATION TO TIE TO V1, V3, AND NEW V6 CIRCUIT.

EXISTING STATIC GRAPHIC MAPS SHOWN ACROSS THIRD FLOOR ARE CUSTOMER MADE AND ARE TO BE UPDATED TO REFLECT NEW ARCHITECTURE AND INITIATING 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 UUUS 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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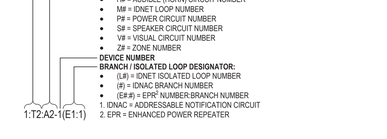
Installer
E LIGHT ELECTRIC SERVICES, INC.
361 INVERNES DRIVE, SUITE B
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PHONE: 303-754-0001

DESIGN STATEMENT

THIS PROJECTS DESIGN IS BASED ON THE ENGINEERED PLANS AND SPECIFICATIONS PREPARED BY:
GRESHAM SMITH

ARCHITECTURAL PLANS DATED:	FEBRUARY 17, 2023
MECHANICAL PLANS DATED:	FEBRUARY 17, 2023
ELECTRICAL PLANS DATED:	FEBRUARY 17, 2023
SPECIFICATIONS DATED:	FEBRUARY 15, 2023
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[1] 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[2] NUMBER:BRANCH NUMBER

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

SYSTEM SEQUENCE OF OPERATIONS

M.C.O.A. SOUTH TOWER	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 SIGNAL & AUDIBLE EVACUATION (G)	ACTIVATE SPRINKLER BELL (H)	SOUND ATCHANGE 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 (*)	ELEVATOR RECALL - MAIN FLOOR (R)	ELEVATOR RECALL - ALTERNATE FLOOR (S)	ELEVATOR HAT FLASH (T)	EMERGENCY MESS SYSTEM (U)	Supplementary: SOUND AUDIBLE & SIGNAL EXPOLLOWS EXTENSION (V)	ACTIVATE EXTERIOR HORN/STROBE (ON GENERAL ALARM) (W)	RESET PANEL TO NORMAL CONDITION (X)	
SYSTEM INPUTS	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	
1 SMOKE DETECTOR	X	X					X		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	X		3
4 MANUAL PULL STATION	X	X					X		X	X						X						X	X	X		4
5 HEAT DETECTOR	X	X					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	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	X	X		9
10 ELEV. MECH. ROOM SMOKE DETECTOR	X	X					X		X	X				X		X				X	X	X	X	X		10
11 ELEV. SHAFT HEAT DETECTOR	X	X					X		X	X																11
12 ELEV. MECH. ROOM HEAT DETECTOR	X	X					X		X	X																12
13 WATERFLOW SWITCH	X	X					X	X	X	X												X		X		13
14 TAMPER SWITCH									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.

ISSUE LOG: MARK	DATE	CAD	CHK	DESCRIPTION

Revisions shown with Δ symbol

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/27/23
JOB #:	
PROJECT #:	419:6503788

JOHNSON CONTROLS © 2023

SYSTEM: **FIRE ALARM SYSTEM**

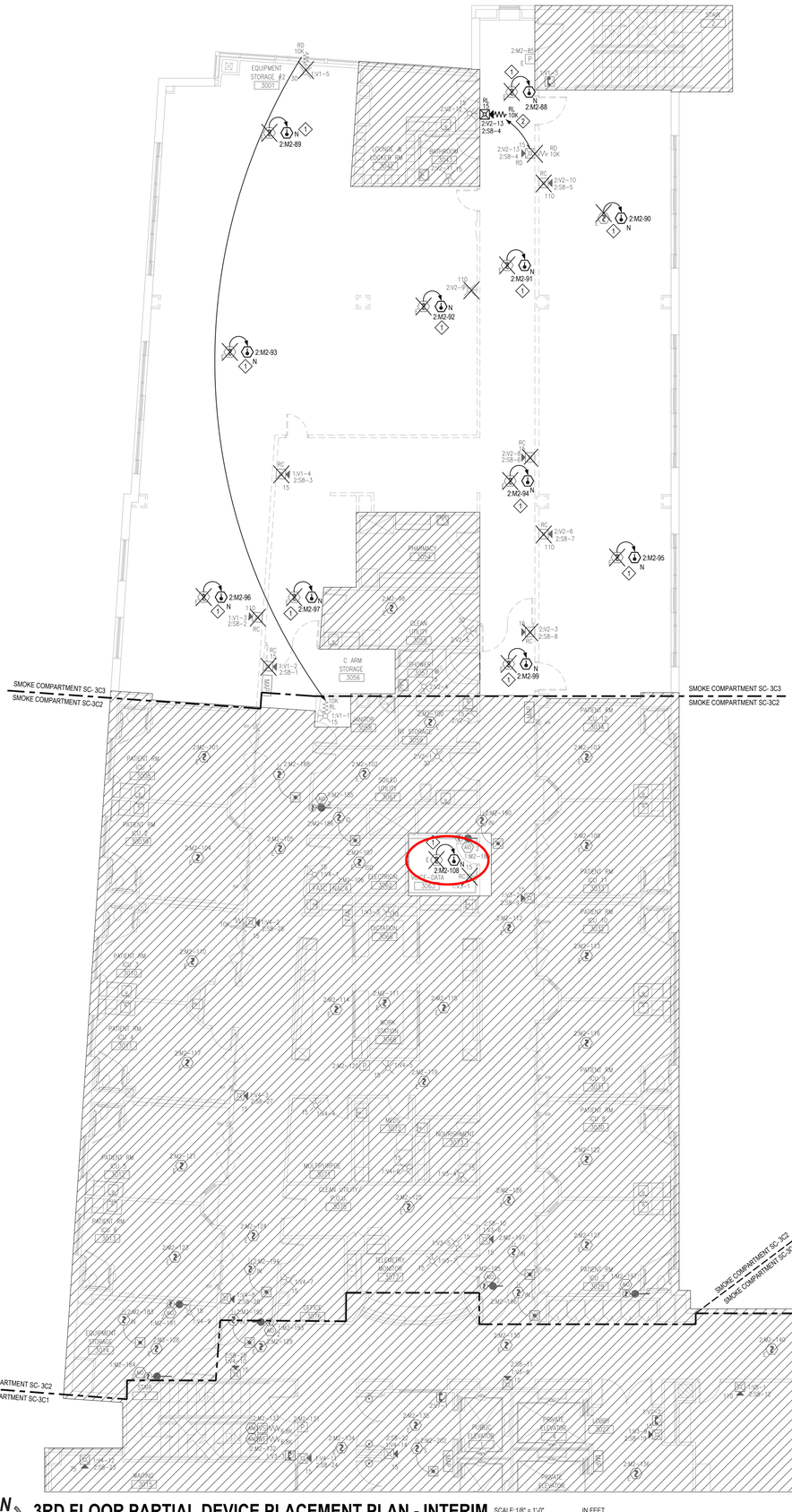
SHEET: **COVER SHEET**

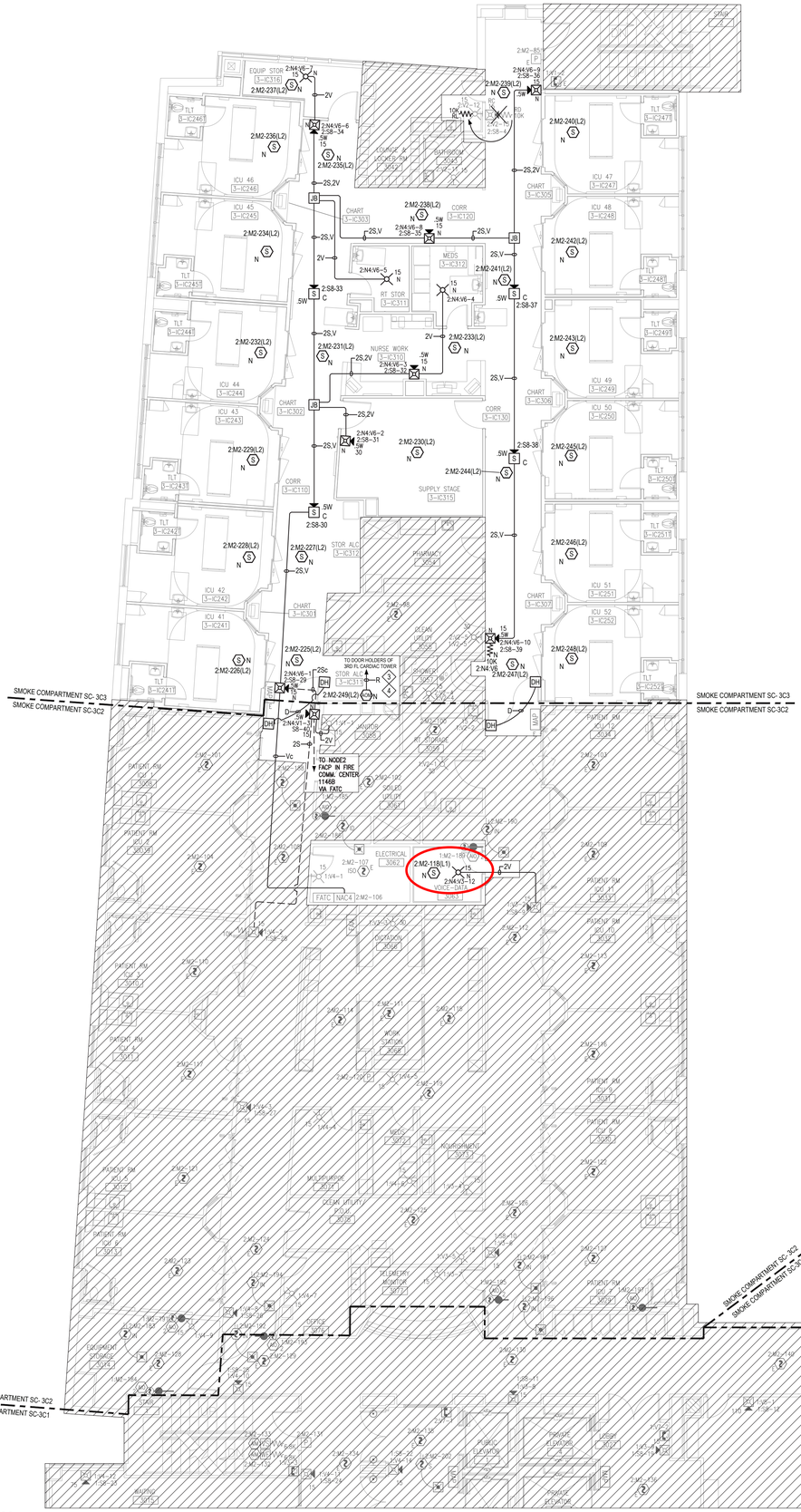
FA-001

THE MEDICAL CENTER OF AURORA - SOUTH
3RD FLOOR - ICU BUILD-OUT
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

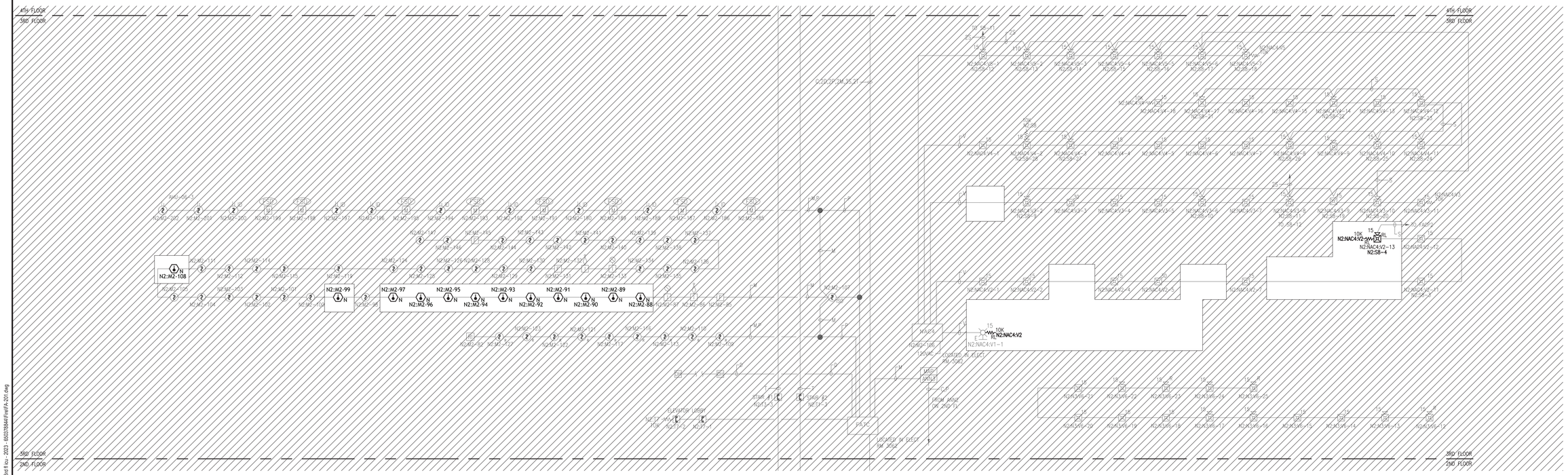
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FILE PATH: C:\Users\jdixon\Jcinotfive - johnson controls\medical center of aurora\1501 s potomac - aurora south\south tower - node 1\3r.fl 1\cc - 2023 - 6503788441\Fire\FA-001.dwg
LAST SAVED BY: JDIXON24
LAST PRINTED: 8/16/2023 4:05:49 PM
36" x 42" Arch E1 Size


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LOUNGE & LOCKER RM 3002
BATHROOM 3003
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SMOKE COMPARTMENT SC- 3C3
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SMOKE COMPARTMENT SC-3C1
TO NODE2 FACP IN FIRE COMM. CENTER 1146B VIA FATC
TO DOOR HOLDERS OF 3RD FL CARDIAC TOWER
EQUIP STOR 3-IC316
CHART 3-IC303
MEDS 3-IC312
RT STOR 3-IC313
NURSE WORK 3-IC310
CHART 3-IC302
CORR 3-IC110
STOR ALC 3-IC312
PHARMACY 3058
SUPPLY STAGE 3-IC315
CHART 3-IC301
SOILED UTILITY 3062
ELECTRICAL 3062
ISOLATION 3059
DECONTAMINATION 3059
SOILED UTILITY 3058
MEDS 3071
ISOLATION 3058
DECONTAMINATION 3058
MULTI-PURPOSE 3012
CLEAN UTILITY 3058
CLEAN UTILITY 3057
KITCHEN 3057
DIETICS 3057
OFFICE 3057
DECONTAMINATION 3057
ISOLATION 3057
PUBLIC ELEVATOR 4
PRIVATE ELEVATOR 4
LOBBY 3027
CHART 3-IC305
CHART 3-IC306
CHART 3-IC307
CORR 3-IC130
SUPPLY STAGE 3-IC314
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RSN: 1762127
Permit: 2023 2396543 LT
Sheet: 4 of 40



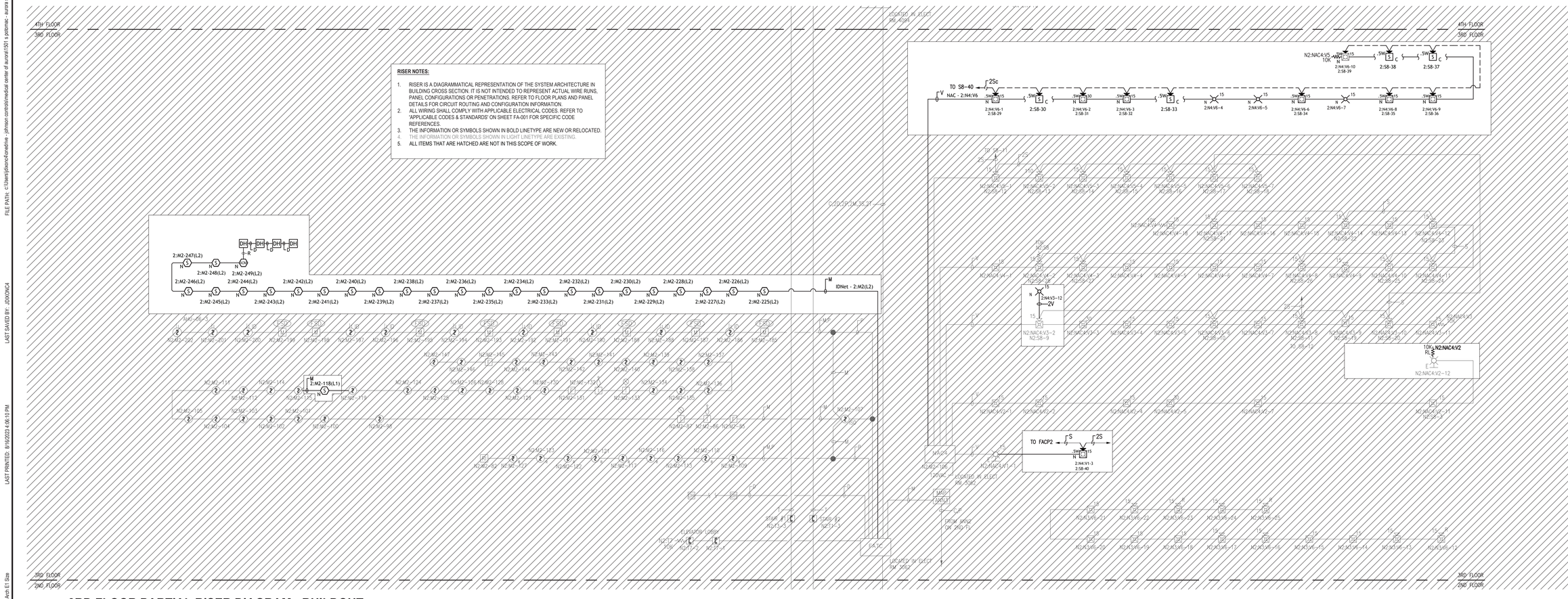
3RD FLOOR PARTIAL RISER DIAGRAM - INTERIM

SCALE:N.T.S.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Rich Tenorio*
Date: *Nov 08, 2023*
2021 INTERNATIONAL CODES & 2023 NEC

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.
3. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
4. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING.
5. ALL ITEMS THAT ARE HATCHED ARE NOT IN THIS SCOPE OF WORK.



3RD FLOOR PARTIAL RISER DIAGRAM - BUILDOUT

SCALE:N.T.S.

Johnson Controls
DISTRICT: I-45
MAIL: 6 E. COSTON AVE
AURORA, CO 80012
SERVICE: 303-355-6000
PHONE: 303-355-5000
FAX:

NICET CERTIFICATION INFORMATION

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

Nancy S Wiltsie

August 16, 2023

THE MEDICAL CENTER OF AURORA - SOUTH
3RD FLOOR - ICU BUILD-OUT

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

Revisions shown with ⚠ symbol

ISSUE LOG			
MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/27/23
JOB #:	
PROJECT #:	419-650378844

JOHNSON CONTROLS © 2023

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
3RD FLOOR PARTIAL RISER DIAGRAM - INTERIM & BUILDOUT

FA-201

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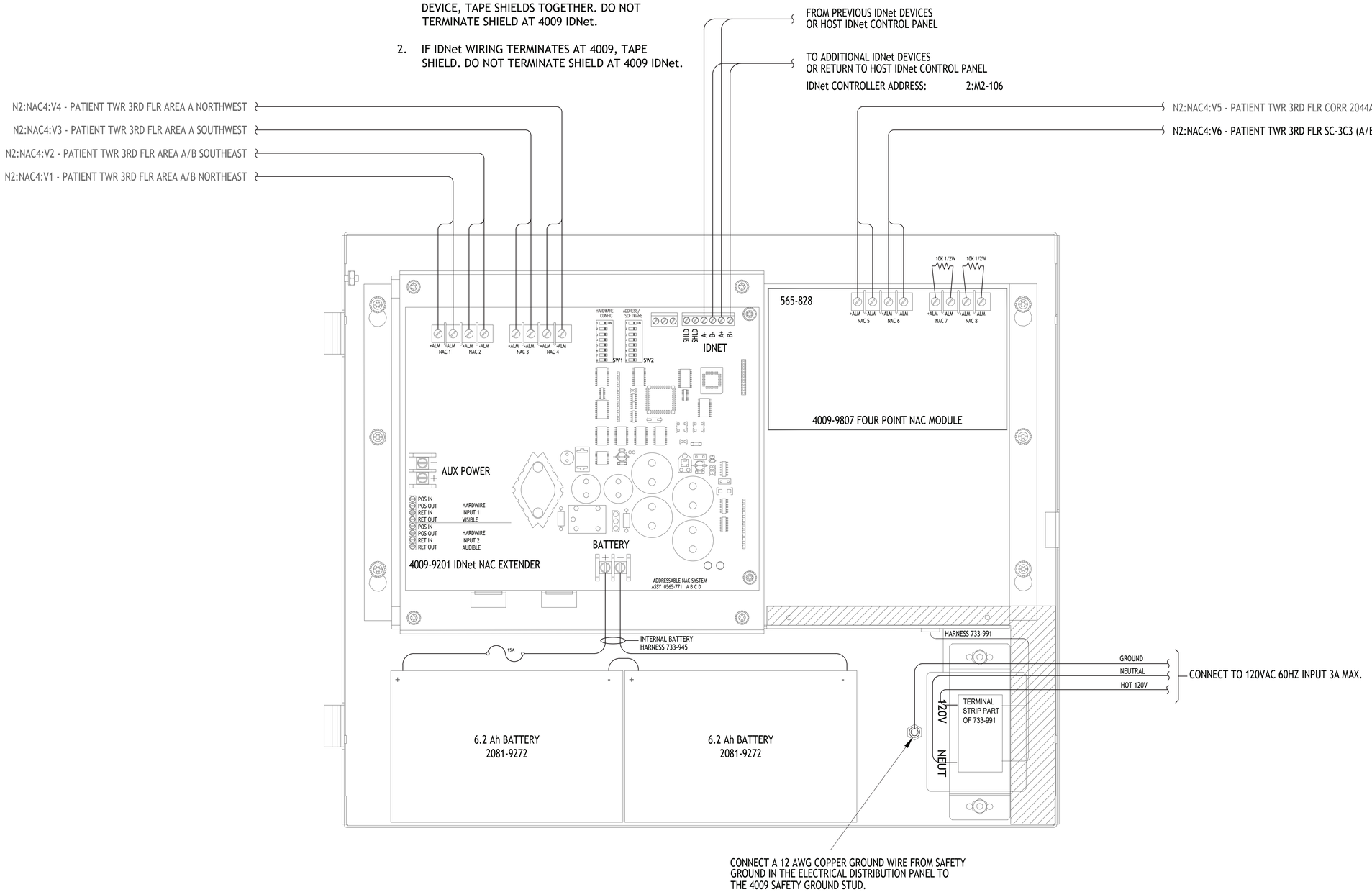
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36" x 42" - Arch E1 Size

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.

IF OPTIONAL SHIELDS ARE USED FOR IDNet WIRING.
FOLLOW THESE PRECAUTIONS.

1. IF IDNet WIRING CONTINUES ON TO ANOTHER DEVICE, TAPE SHIELDS TOGETHER. DO NOT TERMINATE SHIELD AT 4009 IDNet.
2. IF IDNet WIRING TERMINATES AT 4009, TAPE SHIELD. DO NOT TERMINATE SHIELD AT 4009 IDNet.



NAC4

LOCATED IN 1ST FLOOR - ELECTRICAL 3062

SCALE: NTS

Johnson Controls
DISTRICT 1-418
14000 E. EXPOSITION AVE
AURORA, CO 80012
SERVICE: 303-3565000
PHONE: 303-326-0500
FAX: 303-365-9815

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
August 16, 2023

THE MEDICAL CENTER OF AURORA - SOUTH
3RD FLOOR - ICU BUILD-OUT
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

Revisions shown with △ symbol

ISSUE LOG				
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DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/27/23
JOB #:	
PROJECT #:	419:6503788 44

JOHNSON CONTROLS © 2023

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
NAC 4 PANEL DETAIL

FA-501

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30" x 42" - Arch E1 Size

RSN: 1762127
Permit: 2023 2396543 LT
Sheet 6 of 40

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/O 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, 16RED/YEL 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		0.0000	0.0800	0.0200	0.0800
4009-9601	4	IDNAC REPEATER 120V PLATINUM UL/ULC		0.0700	0.2800	0.0950	0.3840
		Panel Totals			**2.1760**		**12.5380**
IDNet Addressable Devices (SLC)							
4099-9004	30	ADDRESSABLE SINGLE ACTION MANUAL STATION	*				
4090-9001	37	IDNET SUPERVISED IAM	*				
4090-9002	24	IDNET RELAY IAM	*				
4090-9006	1	SUP RELEASE PERIPH & ENCLOSURE	*				
4090-9118	45	RELAY IDNET 2 IAM W/T SENSE	*				
1 **4098-9714**	**265**	**TRUEALARM PHOTO SMOKE SENSOR**					
4098-9717	3	TRUEALARM ION SMOKE SENSOR					
2 **4098-9733**	**17**	**TRUEALARM HEAT SENSOR**					
4098-9755	47	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT	*				
4098-9756	20	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	*				
4098-9792	225	TRUEALARM SENSOR BASE	*				
4098-9780	60	TRUEALARM 2 WIRE RELAY SENSOR BASE	*				
Miscellaneous Peripheral Devices That Require (Additional) System Power							
4098-9843	20	ENCAPSULATED RELAY PAM-32I		0.0000	0.0000	0.0150	0.3000
4098-9756	20	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT		0.0030	0.0600	0.0150	0.3000
4098-9850	60	2-WIRE RELAY FOR USE WITH 4098-9780 SENSOR BASE		0.0000	0.0000	0.0000	0.0000
4603-9101	1	SERIAL LCD ANNUNICATOR		0.0650	0.0650	0.1400	0.1400
		Peripheral Totals			**0.1250**		**0.7400**
		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	**489 Addresses**		**0.3912**		**0.4890**
		System Totals*:		**Standby**	**2.6957**	**Alarm**	**13.7705**

Constant current draw of .9mA 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					1.4810		2.7500
			Sub Total		**1.4810**		**2.7500**
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 0.001000	= 0.1850
			Sub Total		**1.6325**		**2.9385**
Spare addressable point capacity	**0%**	0	x 0.0008		= 0.0000	x 0.001	= 0.0000
			Total		**1.6325**		**2.9385**
Standby Time =	24 Hrs		x 1.6325		= 39.1800	Standby Ah	
Alarm Time =	5 Min		0.08333 x 2.9385		= 0.2449	Alarm Ah	
					39.4249		
Additional Spare Battery Capacity =	**0%**				+ 0.0000		
					39.4249		
Battery Discharge Factor =	**20%**				+ 7.8850		
Minimum Battery Required	**2081-9296 50AH (2x)**				**47.3099**		
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	208	x 0.000800			= 0.1664	x 0.001000	= 0.2080
			Sub Total		**0.3014**		**2.6480**
Spare addressable point capacity	**0%**	0	x 0.0008		= 0.0000	x 0.001	= 0.0000
			Total		**0.3014**		**2.6480**
Standby Time =	24 Hrs		x 0.3014		= 7.2336	Standby Ah	
Alarm Time =	5 Min		0.08333 x 2.648		= 0.2207	Alarm Ah	
					7.4543		
Additional Spare Battery Capacity =	**0%**				+ 0.0000		
					7.4543		
Battery Discharge Factor =	**20%**				+ 1.4909		
Minimum Battery Required	**2081-9274 10AH (2x)**				**8.9451**		
Battery Supplied	**2081-9274 10AH (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**
Additional Current Draws:							
MAPNET/IDNet Device Address Communication Current	96	x 0.000800			= 0.0768	x 0.001000	= 0.0960
			Sub Total		**0.2118**		**3.1600**
Spare addressable point capacity	**0%**	0	x 0.0008		= 0.0000	x 0.001	= 0.0000
			Total		**0.2118**		**3.1600**
Standby Time =	24 Hrs		x 0.2118		= 5.0832	Standby Ah	
Alarm Time =	5 Min		0.08333 x 3.16		= 0.2633	Alarm Ah	
					5.3465		
Additional Spare Battery Capacity =	**0%**				+ 0.0000		
					5.3465		
Battery Discharge Factor =	**20%**				+ 1.0693		
Minimum Battery Required	**2081-9274 10AH (2x)**				**6.4158**		
Battery Supplied	**2081-9274 10AH (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 0.2118		= 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 0.2118		= 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 M2			#N/A	SWITCH SETTINGS									
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8		9
M2-1(L1)	ADRPUL	PULL	2:M2-1 FLR 2 CARDIAC TWR HALL BY LOUNGE	X								ON	
M2-2			SPARE		X							ON	
M2-3			SPARE		X							ON	
M2-4(L1)	PHOTO	SMOKE	2:M2-4 FLR 2 CARDIAC TWR BY RM 245			X						ON	
M2-5(L1)	RPHOTO	SMOKE	2:M2-5 FLR 2 CARDIAC TWR RM 244			X						ON	
M2-6(L1)	PHOTO	SMOKE	2:M2-6 FLR 2 CARDIAC TWR BY RM 244			X	X					ON	
M2-7(L1)	RPHOTO	SMOKE	2:M2-7 FLR 2 CARDIAC TWR RM 245			X	X					ON	
M2-8(L1)	RPHOTO	SMOKE	2:M2-8 FLR 2 CARDIAC TWR RM 243					X				ON	
M2-9(L1)	PHOTO	SMOKE	2:M2-9 FLR 2 CARDIAC TWR POINT OF USE					X				ON	
M2-10(L1)	PHOTO	SMOKE	2:M2-10 FLR 2 CARDIAC TWR BY RM 247			X		X				ON	
M2-11(L1)	RPHOTO	SMOKE	2:M2-11 FLR 2 CARDIAC TWR RM 246			X		X				ON	
M2-12(L1)	RPHOTO	SMOKE	2:M2-12 FLR 2 CARDIAC TWR RM 242				X	X				ON	
M2-13(L1)	PHOTO	SMOKE	2:M2-13 FLR 2 CARDIAC TWR BY RM 242				X	X				ON	
M2-14(L1)	PHOTO	SMOKE	2:M2-14 FLR 2 CARDIAC TWR NRSG STATION			X	X	X				ON	
M2-15(L1)	RPHOTO	SMOKE	2:M2-15 FLR 2 CARDIAC TWR RM 247			X	X	X				ON	
M2-16(L1)	RPHOTO	SMOKE	2:M2-16 FLR 2 CARDIAC TWR RM 241						X			ON	
M2-17(L1)	ADRPUL	PULL	2:M2-17 FLR 2 CARDIAC TWR NRSG STATION						X			ON	
M2-18(L1)	PHOTO	SMOKE	2:M2-18 FLR 2 CARDIAC TWR NRSG STATION			X			X			ON	
M2-19(L1)	PHOTO	SMOKE	2:M2-19 FLR 2 CARDIAC TWR BY RM 248			X			X			ON	
M2-20(L1)	RPHOTO	SMOKE	2:M2-20 FLR 2 CARDIAC TWR RM 248				X		X			ON	
M2-21(L1)	RPHOTO	SMOKE	2:M2-21 FLR 2 CARDIAC TWR RM 240				X		X			ON	
M2-22(L1)	PHOTO	SMOKE	2:M2-22 FLR 2 CARDIAC TWR BY RM 240			X	X		X			ON	
M2-23(L1)	PHOTO	SMOKE	2:M2-23 FLR 2 CARDIAC TWR NRSG STATION			X	X		X			ON	
M2-24(L1)	RPHOTO	SMOKE	2:M2-24 FLR 2 CARDIAC TWR RM 249					X	X			ON	
M2-25(L1)	RPHOTO	SMOKE	2:M2-25 FLR 2 CARDIAC TWR RM 239					X	X			ON	
M2-26(L1)	PHOTO	SMOKE	2:M2-26 FLR 2 CARDIAC TWR CLEAN UTILITY			X		X	X			ON	
M2-27(L1)	PHOTO	SMOKE	2:M2-27 FLR 2 CARDIAC TWR CLEAN UTILITY			X		X	X			ON	
M2-28(L1)	RPHOTO	SMOKE	2:M2-28 FLR 2 CARDIAC TWR BY RM 250				X	X	X			ON	
M2-29(L1)	RPHOTO	SMOKE	2:M2-29 FLR 2 CARDIAC TWR RM 238				X	X	X			ON	
M2-30(L1)	PHOTO	SMOKE	2:M2-30 FLR 2 CARDIAC TWR SOILED UTILITY				X	X	X			ON	
M2-31(L1)	PHOTO	SMOKE	2:M2-31 FLR 2 CARDIAC TWR STORAGE RM			X	X	X	X			ON	
M2-32(L1)	RPHOTO	SMOKE	2:M2-32 FLR 2 CARDIAC TWR RM 251							X		ON	
M2-33(L1)	RPHOTO	SMOKE	2:M2-33 FLR 2 CARDIAC TWR RM 237							X		ON	
M2-34(L1)	PHOTO	SMOKE	2:M2-34 FLR 2 CARDIAC TWR BY RM 237			X				X		ON	
M2-35(L1)	ADRPUL	PULL	2:M2-35 FL AREA A ELECT RM 2004 (NAC)	X	X					X		ON	
M2-36(L1)	PHOTO	SMOKE	2:M2-36 FLR 2 CARDIAC TWR ELECTRICAL RM				X			X		ON	
M2-37(L1)	PHOTO	SMOKE	2:M2-37 FLR 2 CARDIAC TWR VOICE-DATA RM		X		X			X		ON	
M2-38(L1)	RPHOTO	SMOKE	2:M2-38 FLR 2 CARDIAC TWR RM 252		X		X			X		ON	
M2-39(L1)	RPHOTO	SMOKE	2:M2-39 FLR 2 CARDIAC TWR RM 236		X	X	X			X		ON	
M2-40(L1)	PHOTO	SMOKE	2:M2-40 FLR 2 CARDIAC TWR POINT OF USE					X		X		ON	
M2-41(L1)	PHOTO	SMOKE	2:M2-41 FLR 2 CARDIAC TWR BY RM 253		X			X		X		ON	
M2-42(L1)	RPHOTO	SMOKE	2:M2-42 FLR 2 CARDIAC TWR RM 253			X		X		X		ON	
M2-43(L1)	RPHOTO	SMOKE	2:M2-43 FLR 2 CARDIAC TWR RM 235		X	X		X		X		ON	
M2-44(L1)	PHOTO	SMOKE	2:M2-44 FLR 2 CARDIAC TWR NRSG STATION			X		X		X		ON	
M2-45(L1)	RPHOTO	SMOKE	2:M2-45 FLR 2 CARDIAC TWR RM 254		X			X		X		ON	
M2-46(L1)	RPHOTO	SMOKE	2:M2-46 FLR 2 CARDIAC TWR RM 234			X	X	X		X		ON	
M2-47(L1)	PHOTO	SMOKE	2:M2-47 FLR 2 CARDIAC TWR NRSG STATION		X	X	X	X		X		ON	
M2-48(L1)	ADRPUL	PULL	2:M2-48 FLR 2 CARDIAC TWR NRSG STATION						X	X		ON	
M2-49(L1)	RPHOTO	SMOKE	2:M2-49 FLR 2 CARDIAC TWR RM 255		X				X	X		ON	
M2-50(L1)	PHOTO	SMOKE	2:M2-50 FLR 2 CARDIAC TWR RM 233			X			X	X		ON	
M2-51(L1)	PHOTO	SMOKE	2:M2-51 FLR 2 CARDIAC TWR BY RM 234		X	X			X	X		ON	
M2-52(L1)	PHOTO	SMOKE	2:M2-52 FLR 2 CARDIAC TWR NRSG STATION				X		X	X		ON	
M2-53(L1)	PHOTO	SMOKE	2:M2-53 FLR 2 CARDIAC TWR NRSG STATION		X		X		X	X		ON	
M2-54(L1)	PHOTO	SMOKE	2:M2-54 FLR 2 CARDIAC TWR NRSG STATION			X	X		X	X		ON	
M2-55(L1)	PHOTO	SMOKE	2:M2-55 FLR 2 CARDIAC TWR BY RM 254		X	X	X		X	X		ON	
M2-56(L1)	PHOTO	SMOKE	2:M2-56 FLR 2 CARDIAC TWR BY RM 256				X	X	X	X		ON	
M2-57(L1)	RPHOTO	SMOKE	2:M2-57 FLR 2 CARDIAC TWR RM 256		X			X	X	X		ON	
M2-58(L1)	PHOTO	SMOKE	2:M2-58 FLR 2 CARDIAC TWR EQUIP STORAGE			X	X	X	X	X		ON	
M2-59(L1)	PHOTO	SMOKE	2:M2-59 FLR 2 CARDIAC TWR BY RM 233		X		X	X	X	X		ON	
M2-60(L1)	RPHOTO	SMOKE	2:M2-60 FLR 2 CARDIAC TWR HALL BY ELEV.1			X	X	X	X	X		ON	
M2-61(L1)	PHOTO	SMOKE	2:M2-61 FLR 2 CARDIAC TWR HALL BY ELEV.1		X		X	X	X	X		ON	
M2-62(L1)	PHOTO	SMOKE	2:M2-62 FLR 2 CARDIAC TWR CROSSWALK			X	X	X	X	X		ON	
M2-63(L1)	PHOTO	SMOKE	2:M2-63 FLR 2 CARDIAC TWR MECH. RM 2		X	X	X	X	X	X		ON	
M2-64(L1)	PHOTO	SMOKE	2:M2-64 FLR 2 CARDIAC TWR MECH. RM 2								X	ON	
M2-65(L1)	PHOTO	SMOKE	2:M2-65 FLR 2 CARDIAC TWR CROSSWALK		X						X	ON	
M2-66(L1)	PHOTO	SMOKE	2:M2-66 FLR 2 CARDIAC TWR CROSSWALK			X					X	ON	
M2-67(L1)	PHOTO	SMOKE	2:M2-67 FLR 2 CARDIAC TWR CROSSWALK		X	X					X	ON	
M2-68(L1)	ADRPUL	PULL	2:M2-68 FLR 2 CARDIAC TWR CROSSWALK				X				X	ON	
M2-69(L1)	PHOTO	SMOKE	2:M2-69 FLR 2 CARDIAC TWR CROSSWALK		X		X				X	ON	
M2-70(L1)	PHOTO	SMOKE	2:M2-70 FLR 2 CARDIAC TWR CROSSWALK		X	X					X	ON	
M2-71(L1)	IAM	SO	2:M2-71 FL 2 CARDIAC TWR FRONT STAIRWELL		X	X	X				X	ON	
M2-72(L1)	IAM	WATER	2:M2-72 FL 2 CARDIAC TWR FRONT STAIRWELL				X				X	ON	
M2-73(L1)	ADRPUL	PULL	2:M2-73 FLR 2 CARDIAC - BY WAITING RM		X			X			X	ON	
M2-74(L1)	PHOTO	SMOKE	2:M2-74 FLR 2 CARDIAC - BY WAITING RM			X		X			X	ON	
M2-75(L1)	PHOTO	SMOKE	2:M2-75 FLR 2 CARDIAC TWR ELEV.1 LOBBY		X	X		X			X	ON	
M2-76(L1)	PHOTO	SMOKE	2:M2-76 FLR 2 CARDIAC TWR ELEV.3 LOBBY				X	X			X	ON	
M2-77(L1)	PHOTO	SMOKE	2:M2-77 FLR 2 CARDIAC - RESTROOM HALL		X		X	X			X	ON	
M2-78(L1)	PHOTO	SMOKE	2:M2-78 FLR 2 CARDIAC TWR MECHANIC RM 1		X	X	X	X			X	ON	
M2-79(L1)	PHOTO	SMOKE	2:M2-79 FLR 2 CARDIAC TWR MECH. RM 1		X	X	X	X			X	ON	
M2-80(L1)	RIAM	RELAY	2:M2-80 2ND FL AREA A COIL DOOR 2044						X		X	ON	
M2-81(L1)	PHOTO	SMOKE	2:M2-81 FLR 2 CARDIAC TWR HALL BY ELEV.1		X				X		X	ON	
M2-82			SPARE			X			X		X	ON	
M2-83(L1)	TRIAM	UTILITY	2:M2-83 2ND FL MECH ROOM 2042A		X	X			X		X	ON	
M2-84(L1)	TRIAM	UTILITY	2:M2-84 2ND FL MECH ROOM 2042A				X		X		X	ON	
M2-85(L1)	ADRPUL	PULL	2:M2-85 FLR 2 CARDIAC TWR BY BACK STAIRS		X		X		X		X	ON	
M2-86			SPARE			X	X		X		X	ON	
M2-87			SPARE		X	X			X		X	ON	
M2-88(L1)	**HEAT**	**HEAT**	**2:M2-88 FLR 3 CARDIAC TWR INTERIM**				X	X			X	ON	
M2-89(L1)	**HEAT**	**HEAT**	**2:M2-89 FLR 3 CARDIAC TWR INTERIM**		X		X	X			X	ON	
M2-90(L1)	**HEAT**	**HEAT**	**2:M2-90 FLR 3 CARDIAC TWR INTERIM**			X	X	X			X	ON	
M2-91(L1)	**HEAT**	**HEAT**	**2:M2-91 FLR 3 CARDIAC TWR INTERIM**		X	X	X	X			X	ON	
2 **M2-92(L1)**	**HEAT**	**HEAT**	**2:M2-92 FLR 3 CARDIAC TWR INTERIM**				X	X			X	ON	
M2-93(L1)	**HEAT**	**HEAT**	**2:M2-93 FLR 3 CARDIAC TWR INTERIM**		X		X	X			X	ON	
M2-94(L1)	**HEAT**	**HEAT**	**2:M2-94 FLR 3 CARDIAC TWR INTERIM**			X	X	X			X	ON	
M2-95(L1)	**HEAT**	**HEAT**	**2:M2-95 FLR 3 CARDIAC TWR INTERIM**		X	X	X	X			X	ON	
M2-96(L1)	**HEAT**	**HEAT**	**2:M2-96 FLR 3 CARDIAC TWR INTERIM**					X			X	ON	
M2-97(L1)	**HEAT**	**HEAT**	**2:M2-97 FLR 3 CARDIAC TWR INTERIM**		X			X			X	ON	
M2-98(L1)	PHOTO	SMOKE	2:M2-98 FLR 3 CARDIAC TWR CLEAN UTILITY			X		X			X	ON	
2 **M2-99(L1)**	**HEAT**	**HEAT**	**2:M2-99 FLR 3 CARDIAC TWR INTERIM**		X			X			X	ON	
M2-100(L1)	PHOTO	SMOKE	2:M2-100 FLR 3 CARDIAC TWR STORAGE RM			X		X			X	ON	
M2-101(L1)	RPHOTO	SMOKE	2:M2-101 FLR 3 CARDIAC TWR ICU RM 40		X			X			X	ON	
M2-102(L1)	PHOTO	SMOKE	2:M2-102 FL 3 CARDIAC TWR SOILED UTILITY			X	X				X	ON	
M2-103(L1)	RPHOTO	SMOKE	2:M2-103 FLR 3 CARDIAC TWR ICU RM 53		X	X					X	ON	
M2-104(L1)	RPHOTO	SMOKE	2:M2-104 FLR 3 CARDIAC TWR ICU RM 39				X	X			X	ON	
M2-105(L1)	PHOTO	SMOKE	2:M2-105 FLR 3 CARDIAC TWR BY RM 39		X		X	X			X	ON	
M2-106(L1)	4009AM	SIGNAL	2:M2-106 FLR 3 CARDIAC TWR ELECTRICAL RM			X	X	X			X	ON	
M2-107(L1)	PHOTO	SMOKE	2:M2-107 FLR 3 CARDIAC TWR ELECTRICAL RM		X	X		X			X	ON	
2 **M2-108(L1)**	**HEAT**	**HEAT**	**2:M2-108 FLR 3 CARDIAC TWR INTERIM**				X	X			X	ON	
M2-109(L1)	RPHOTO	SMOKE	2:M2-109 FLR 3 CARDIAC TWR ICU RM 54		X		X	X			X	ON	
M2-110(L1)	RPHOTO	SMOKE	2:M2-110 FLR 3 CARDIAC TWR ICU RM 38			X	X	X			X	ON	
M2-111(L1)	PHOTO	SMOKE	2:M2-111 FLR 3 CARDIAC TWR DICTATION RM		X	X	X	X			X	ON	
M2-112(L1)	PHOTO	SMOKE	2:M2-112 FLR 3 CARDIAC TWR BY RM 55					X	X		X	ON	
M2-113(L1)	RPHOTO	SMOKE	2:M2-113 FLR 3 CARDIAC TWR RM 55		X			X	X		X	ON	
M2-114(L1)	PHOTO	SMOKE	2:M2-114 FLR 3 CARDIAC TWR NRSG STATION			X		X	X		X	ON	
M2-115(L1)	PHOTO	SMOKE	2:M2-115 FLR 3 CARDIAC TWR NRSG STATION		X			X	X		X	ON	
M2-116(L1)	RPHOTO	SMOKE	2:M2-116 FLR 3 CARDIAC TWR ICU RM 56			X		X	X		X	ON	
M2-117(L1)	RPHOTO	SMOKE	2:M2-117 FLR 3 CARDIAC TWR ICU RM 37		X			X	X		X	ON	
M2-118			SPARE		X	X		X	X		X	ON	
M2-119(L1)	PHOTO	SMOKE	2:M2-119 FLR 3 CARDIAC TWR BY RM 56		X	X		X	X		X	ON	
M2-120(L1)	ADRPUL	PULL	2:M2-120 FLR 3 CARDIAC TWR NRSG STATION				X	X	X		X	ON	
M2-121(L1)	RPHOTO	SMOKE	2:M2-121 FLR 3 CARDIAC TWR ICU RM 36		X		X	X	X		X	ON	
M2-122(L1)	RPHOTO	SMOKE	2:M2-122 FLR 3 CARDIAC TWR ICU RM 57			X	X	X	X		X	ON	
M2-123(L1)	RPHOTO	SMOKE	2:M2-123 FLR 3 CARDIAC TWR ICU RM 35		X	X	X	X	X		X	ON	
M2-124(L1)	PHOTO	SMOKE	2:M2-124 FLR 3 CARDIAC TWR BY RM 35			X	X	X	X		X	ON	
M2-125(L1)	PHOTO	SMOKE	2:M2-125 FLR 3 CARDIAC TWR POINT OF USE		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 M2			#N/A	SWITCH SETTINGS									
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8		9
M2-126(L1)	PHOTO	SMOKE	2:M2-126 FLR 3 CARDIAC TWR BY RM 57		X	X	X	X	X		X	ON	
M2-127(L1)	RPHOTO	SMOKE	2:M2-127 FLR 3 CARDIAC TWR ICU RM 58	X	X	X	X	X	X		X	ON	
M2-128(L1)	PHOTO	SMOKE	2:M2-128 FLR 3 CARDIAC TWR EQUIP STORAGE								X	ON	
M2-129(L1)	PHOTO	SMOKE	2:M2-129 FLR 3 CARDIAC TWR BY WAITING RM	X							X	ON	
M2-130(L1)	PHOTO	SMOKE	2:M2-130 FLR 3 CARDIAC TWR BY CROSSWALK		X						X	ON	
M2-131(L1)	ADRPUL	PULL	2:M2-131 FLR 3 CARDIAC TWR BY WAITING	X	X						X	ON	
M2-132(L1)	IAM	WATER	2:M2-132 FLR 3 CARDIAC TWR STAIRWELL 1			X					X	ON	
M2-133(L1)	IAM	SO	2:M2-133 FLR 3 CARDIAC TWR STAIRWELL 1	X		X					X	ON	
M2-134(L1)	PHOTO	SMOKE	2:M2-134 FLR 3 CARDIAC TWR BY WAITING		X	X					X	ON	
M2-135(L1)	PHOTO	SMOKE	2:M2-135 FLR 3 CARDIAC TWR ELEV. LOBBY	X	X	X					X	ON	
M2-136(L1)	PHOTO	SMOKE	2:M2-136 FLR 3 CARDIAC TWR ELEV. 3 LOBBY				X				X	ON	
M2-137(L1)	PHOTO	SMOKE	2:M2-137 FLR 3 CARDIAC TWR RESTROOM HALL	X			X				X	ON	
M2-138(L1)	PHOTO	SMOKE	2:M2-138 FLR 3 CARDIAC TWR MECHANICAL RM		X		X				X	ON	
M2-139(L1)	PHOTO	SMOKE	2:M2-139 FLR 3 CARDIAC TWR MECHANICAL RM	X	X		X				X	ON	
M2-140(L1)	PHOTO	SMOKE	2:M2-140 FLR 3 CARDIAC TWR CROSSWALK			X	X				X	ON	
M2-141(L1)	PHOTO	SMOKE	2:M2-141 FLR 3 CARDIAC ICU DR SLEEP RM	X		X	X				X	ON	
M2-142(L1)	PHOTO	SMOKE	2:M2-142 FLR 3 CARDIAC TWR CROSSWALK		X	X	X				X	ON	
M2-143(L1)	PHOTO	SMOKE	2:M2-143 FLR 3 CARDIAC TWR CROSSWALK	X	X	X	X				X	ON	
M2-144(L1)	PHOTO	SMOKE	2:M2-144 FLR 3 CARDIAC TWR CROSSWALK					X			X	ON	
M2-145(L1)	ADRPUL	PULL	2:M2-145 FLR 3 CARDIAC TWR CROSSWALK	X				X			X	ON	
M2-146(L1)	PHOTO	SMOKE	2:M2-146 FLR 3 CARDIAC TWR CROSSWALK		X			X			X	ON	
M2-147(L1)	PHOTO	SMOKE	2:M2-147 FLR 3 CARDIAC TWR CROSSWALK	X	X			X			X	ON	
M2-148(L1)	RIAM	R

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

NAC4 - 3RD FLOOR ELECTRICAL RM 3062

	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**
Multi-Candella Strobes								
	4906-9103	**18**	**V/O M-C NON-ADDRESS, WHT, WALL**	**15cd**	**0.000**	**0.000**	**0.055000**	**0.990**
1	**4906-9103**	**3**	**V/O M-C NON-ADDRESS, WHT, WALL**	**30cd**	**0.000**	**0.000**	**0.085000**	**0.255**
	4906-9103	**0**	**V/O M-C NON-ADDRESS, WHT, WALL**	**110cd**	**0.000**	**0.000**	**0.226000**	**0.000**
	4906-9153	**18**	**S/V M-C NON-ADDRESS, WHT, WALL**	**15cd**	**0.000**	**0.000**	**0.056000**	**1.008**
	4906-9153	*2*	*S/V M-C NON-ADDRESS, WHT, WALL*	*75cd*	*0.000*	*0.000*	*0.172000*	*0.344*
1	**4906-9153**	**1**	**S/V M-C NON-ADDRESS, WHT, WALL**	**110cd**	**0.000**	**0.000**	**0.229000**	**0.229**
				Total Periph Stby	**0.000**		**Total Periph Alarm**	**2.826**
				Total Standby Amps	**0.125**		**Total Alarm Amps**	**3.051**

Battery Calculations		**Standby Current**		**Alarm Current**
Control Panel Card Power		0.125		0.225
Power For External Peripheral Devices		0.000		2.826
		0.125	<-- Totals -->	3.051
Additional Battery Capacity Required	**95%**	0.119		2.898
Standby Time =	**4** Hrs.	0.975	Standby Ah	
Alarm Time =	**15** Mins.	1.487	Alarm Ah	
Standby + Alarm =		2.462		
Battery Required	**2081-9272 6.2**	**4.615**	**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.

NAC4 - 3RD FLOOR ELECTRICAL RM 3062

APPLIANCE / QUANTITIES / CURRENT DRAW @ 18 VOLTS

NAC SCHEDULE / VOLTAGE DROP CALCULATION		V/O 4906-9103	V/O 4906-9103	V/O 4906-9103	S/V 4906-9153	S/V 4906-9153	S/V 4906-9153	VOLTAGE DROP TOTALS						
17 % MAXIMUM VOLTAGE DROP FROM A WORSE CASE		15cd	30cd	110cd	15cd	75cd	110cd	TOTAL CKT. LOAD	WIRE GAUGE	ESTIMATED CIRCUIT LENGTH	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	MAXIMUM ALLOWABLE CKT. LENGTH
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)	**CIRCUIT**	0.055000	0.085000	0.226000	0.056000	0.172000	0.229000							
CIRCUIT	**DESCRIPTION**	**TYPE**												
N2:NAC4:V1	**PATIENT TWR 3RD FLR AREA A/B NORTHEAST**	**S/V**	*1*	**0**	*0*	**0**	*0*	**0**	**0.055**	**14**	**35 ft.**	**0.05%**	**0.011**	**0.2 Ohms**	**11275 ft.**
N2:NAC4:V2	**PATIENT TWR 3RD FLR AREA A/B SOUTHEAST**	**S/V**	*4*	*2*	**0**	**1**	*0*	**0**	**0.446**	**14**	**173 ft.**	**2.13%**	**0.435**	**1.0 Ohms**	**1390 ft.**
N2:NAC4:V3	**PATIENT TWR 3RD FLR AREA A SOUTHWEST**	**S/V**	**3**	*1*	*0*	*4*	*1*	*0*	**0.646**	**14**	**250 ft.**	**4.47%**	**0.912**	**1.4 Ohms**	**960 ft.**
N2:NAC4:V4	*PATIENT TWR 3RD FLR AREA A NORTH WEST*	*S/V*	*10*	*0*	*0*	*7*	*1*	*0*	*1.114*	*14*	*490 ft.*	*12.02%*	*2.452*	*2.2 Ohms*	*557 ft.*
N2:NAC4:V5	*PATIENT TWR 3RD FLR CORR 2044A/B*	*S/V*	*0*	*0*	*0*	*6*	*0*	*1*	*0.565*	*14*	*415 ft.*	*6.49%*	*1.323*	*2.3 Ohms*	*1098 ft.*
N2:NAC4:V6	*SPARE*	*CKT ?*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*	*14*	*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
N2:NAC4:V7	*SPARE*	*CKT ?*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*	*14*	*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
N2:NAC4:V8	*SPARE*	*CKT ?*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*	*14*	*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
			Appliance Summary						**Total Load (AMPS)**						
			18	**3**	**0**	**18**	*2*	**1**	**2.826**						

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

Wire Resistance At
50 Degrees Celsius
122 Degrees Fahrenheit
Ohms / ft
10GA = 0.001112
12GA = 0.001774
14GA = 0.002822
16GA = 0.004495
18GA = 0.007143

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.

INTERIM

NAC4 - 3RD FLOOR ELECTRICAL RM 3062

	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**
Multi-Candella Strobes								
	4906-9103	*18*	*V/O M-C NON-ADDRESS, WHT, WALL*	*15cd*	*0.000*	*0.000*	*0.055000*	*0.990*
	4906-9103	*3*	*V/O M-C NON-ADDRESS, WHT, WALL*	*30cd*	*0.000*	*0.000*	*0.085000*	*0.255*
	4906-9104	**4**	**V/O M-C NON-ADDRESS, WHT, CEIL**	**15cd**	**0.000**	**0.000**	**0.064000**	**0.256**
	4906-9153	**24**	**S/V M-C NON-ADDRESS, WHT, WALL**	**15cd**	**0.000**	**0.000**	**0.056000**	**1.344**
	4906-9153	**1**	**S/V M-C NON-ADDRESS, WHT, WALL**	**30cd**	**0.000**	**0.000**	**0.087000**	**0.087**
	4906-9153	*2*	*S/V M-C NON-ADDRESS, WHT, WALL*	*75cd*	*0.000*	*0.000*	*0.172000*	*0.344*
	4906-9153	*1*	*S/V M-C NON-ADDRESS, WHT, WALL*	*110cd*	*0.000*	*0.000*	*0.229000*	*0.229*
				Total Periph Stby	**0.000**		**Total Periph Alarm**	**3.505**
				Total Standby Amps	**0.125**		**Total Alarm Amps**	**3.730**

Battery Calculations		**Standby Current**		**Alarm Current**
Control Panel Card Power		0.125		0.225
Power For External Peripheral Devices		0.000		3.505
		0.125	<-- Totals -->	3.730
Additional Battery Capacity Required	**95%**	0.119		3.544
Standby Time =	**4** Hrs.	0.975	Standby Ah	
Alarm Time =	**15** Mins.	1.818	Alarm Ah	
Standby + Alarm =		2.793		
Battery Required	**2081-9272 6.2**	**5.632**	**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.

NAC4 - 3RD FLOOR ELECTRICAL RM 3062

APPLIANCE / QUANTITIES / CURRENT DRAW @ 18 VOLTS

NAC SCHEDULE / VOLTAGE DROP CALCULATION		V/O 4906-9103	V/O 4906-9103	CEIL V/O 4906-9104	S/V 4906-9153	S/V 4906-9153	S/V 4906-9153	S/V 4906-9153	VOLTAGE DROP TOTALS						
17 % MAXIMUM VOLTAGE DROP FROM A WORSE CASE		15cd	30cd	15cd	15cd	30cd	75cd	110cd	TOTAL CKT. LOAD	WIRE GAUGE	ESTIMATED CIRCUIT LENGTH	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	MAXIMUM ALLOWABLE CKT. LENGTH
CIRCUIT OUTPUT VOLTAGE = 19.5 (FOR CALCULATIONS)	**CIRCUIT**	0.055000	0.085000	0.064000	0.056000	0.087000	0.172000	0.229000							
CIRCUIT	**DESCRIPTION**	**TYPE**													
N2:NAC4:V1	**PATIENT TWR 3RD FLR AREA A/B NORTHEAST**	**S/V**	*1*	*0*	*0*	**1**	*0*	*0*	*0*	**0.111**	**14**	**35 ft.**	**0.11%**	**0.022**	**0.2 Ohms**	**5587 ft.**
N2:NAC4:V2	**PATIENT TWR 3RD FLR AREA A/B SOUTHEAST**	**S/V**	*4*	*2*	*0*	**0**	*0*	*0*	*0*	**0.390**	**14**	**173 ft.**	**1.87%**	**0.381**	**1.0 Ohms**	**1590 ft.**
N2:NAC4:V3	**PATIENT TWR 3RD FLR AREA A SOUTHWEST**	**S/V**	*3*	*1*	**1**	*4*	*0*	*1*	*0*	**0.710**	**14**	**250 ft.**	**4.91%**	**1.002**	**1.4 Ohms**	**873 ft.**
N2:NAC4:V4	*PATIENT TWR 3RD FLR AREA A NORTH WEST*	*S/V*	*10*	*0*	*0*	*7*	*0*	*1*	*0*	*1.114*	*14*	*390 ft.*	*12.02%*	*2.452*	*2.2 Ohms*	*557 ft.*
N2:NAC4:V5	*PATIENT TWR 3RD FLR CORR 2044A/B*	*S/V*	*0*	*0*	*0*	*6*	*0*	*0*	*1*	*0.565*	*14*	*415 ft.*	*6.49%*	*1.323*	*2.3 Ohms*	*1098 ft.*
N2:NAC4:V6	**PATIENT TWR 3RD FLR SC-3C3 (A/B NE & SE)**	**S/V**	*0*	*0*	**3**	**6**	**1**	*0*	*0*	**0.615**	**14**	**ft.**	**0.00%**	**0.000**	**0.0 Ohms**	**1008 ft.**
N2:NAC4:V7	*SPARE*	*CKT ?*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*	*14*	*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
N2:NAC4:V8	*SPARE*	*CKT ?*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0.000*	*14*	*ft.*	*0.00%*	*0.000*	*0.0 Ohms*	*0 ft.*
			Appliance Summary							**Total Load (AMPS)**						
			18	*3*	**4**	**24**	**1**	*2*	*1*	**3.505**						

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

Wire Resistance At
50 Degrees Celsius
122 Degrees Fahrenheit
Ohms / ft
10GA = 0.001112
12GA = 0.001774
14GA = 0.002822
16GA = 0.004495
18GA = 0.007143

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

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BUILDOUT

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Rich Tenorio*
Date: *Nov 08, 2023*
2021 INTERNATIONAL CODES & 2023 NEC

Johnson Controls
DISTRICT: 1-418
15065 E. HOSTON AVE
AURORA, CO 80013
SERVICE: 303-355-6000
PHONE: 303-326-9500
FAX: 303-355-9015

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
August 16, 2023

THE MEDICAL CENTER OF AURORA - SOUTH
3RD FLOOR - ICU BUILD-OUT
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

Revisions shown with ⚠ symbol

ISSUE LOG: MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/27/23
JOB #:	
PROJECT #:	419-650378844

JOHNSON CONTROLS © 2023

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
NAC 4 CALCULATIONS AND SCHEDULES - INTERIM & BUILDOUT

FA-602

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LAST SAVED BY: JDSVCNC4
LAST PRINTED: 8/16/2023 4:06:17 PM
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, 16RED/YEL 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		0.0000	0.0800	0.0000	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	30	ADDRESSABLE SINGLE ACTION MANUAL STATION	*				
4090-9001	37	IDNET SUPERVISED IAM	*				
4090-9002	**25**	**IDNET RELAY IAM**	*				
4090-9006	1	SUP RELEASE PERIPH & ENCLOSURE	*				
4090-9118	45	RELAY IDNET 2 IAM W/T SENSE	*				
4090-9714	**290**	**TRUEALARM PHOTO SMOKE SENSOR**					
4098-9717	3	TRUEALARM ION SMOKE SENSOR					
3 **4098-9733**	**5**	**TRUEALARM HEAT SENSOR**					
4098-9755	47	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT	*				
4098-9756	20	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	*				
4098-9792	**238**	**TRUEALARM SENSOR BASE**	*				
4098-9798	64	ISOLATOR MINI 2 WIRE ISOLAT SENSOR BASE	*				
Miscellaneous Peripheral Devices That Require (Additional) System Power							
4098-9843	20	EXCAPSULATED RELAY PAM-SD		0.0000	0.0000	0.0150	0.3000
4098-9756	20	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT		0.0030	0.0600	0.0150	0.3000
4098-9850	60	2-WIRE RELAY FOR USE WITH 4098-9780 SENSOR BASE		0.0000	0.0000	0.0000	0.0000
4603-9101	1	SERIAL LCD ANNUNCIATOR		0.0650	0.0650	0.1400	0.1400
		Peripheral Totals			**0.1250**		**0.7400**
		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	**503 Addresses**		**0.4024**		**0.5030**
		System Totals*:		**Standby**	**2.7069**	**Alarm**	**13.7845**

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

Constant current draw of .9mA 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".

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					1.4810		2.7500
			Sub Total		**1.4810**		**2.7500**
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 0.001000	= 0.1850
			Sub Total		**1.6325**		**2.9385**
Spare addressable point capacity	0%	0	x 0.0008		= 0.0000	x 0.001	= 0.0000
			Total		**1.6325**		**2.9385**
Standby Time = 24 Hrs			x 1.6325		= 39.1800	Standby Ah	
Alarm Time = 5 Min			0.08333 x 2.9385		= 0.2449	Alarm Ah	
					39.4249		
Additional Spare Battery Capacity = 0%				=	0.0000		
					39.4249		
Battery Discharge Factor = 20%				=	7.8850		
Minimum Battery Required 2081-9296 50AH (2x)					**47.3099**		
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	222	x 0.000800			= 0.1776	x 0.001000	= 0.2220
			Sub Total		**0.3126**		**2.6620**
Spare addressable point capacity	0%	0	x 0.0008		= 0.0000	x 0.001	= 0.0000
			Total		**0.3126**		**2.6620**
Standby Time = 24 Hrs			x 0.3126		= 7.5024	Standby Ah	
Alarm Time = 5 Min			0.08333 x 2.662		= 0.2218	Alarm Ah	
					7.7242		
Additional Spare Battery Capacity = 0%				=	0.0000		
					7.7242		
Battery Discharge Factor = 20%				=	1.5448		
Minimum Battery Required 2081-9274 10AH (2x)					**9.2691**		
Battery Supplied 2081-9274 10AH (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**
Additional Current Draws:							
MAPNET/IDNet Device Address Communication Current	96	x 0.000800			= 0.0768	x 0.001000	= 0.0960
			Sub Total		**0.2118**		**3.1600**
Spare addressable point capacity	0%	0	x 0.0008		= 0.0000	x 0.001	= 0.0000
			Total		**0.2118**		**3.1600**
Standby Time = 24 Hrs			x 0.2118		= 5.0832	Standby Ah	
Alarm Time = 5 Min			0.08333 x 3.16		= 0.2633	Alarm Ah	
					5.3465		
Additional Spare Battery Capacity = 0%				=	0.0000		
					5.3465		
Battery Discharge Factor = 20%				=	1.0693		
Minimum Battery Required 2081-9274 10AH (2x)					**6.4158**		
Battery Supplied 2081-9274 10AH (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 0.2118		= 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 0.2118		= 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)							

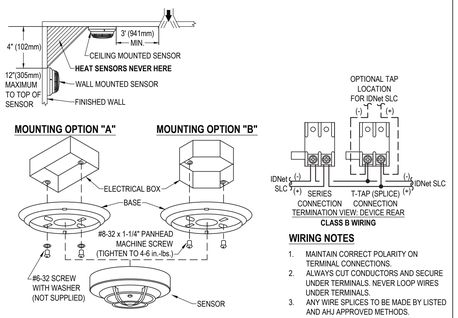
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8	9	
M2-1(L1)	ADRPUL	PULL	2-M2-1 FLR 2 CARDIAC TWR HALL BY LOUNGE	X							X		ON
M2-2			SPARE			X					X		ON
M2-3			SPARE			X					X		ON
M2-4(L1)	PHOTO	SMOKE	2-M2-4 FLR 2 CARDIAC TWR BY RM 245				X				X		ON
M2-5(L1)	RPHOTO	SMOKE	2-M2-5 FLR 2 CARDIAC TWR RM 244				X				X		ON
M2-6(L1)	PHOTO	SMOKE	2-M2-6 FLR 2 CARDIAC TWR BY RM 244				X	X			X		ON
M2-7(L1)	RPHOTO	SMOKE	2-M2-7 FLR 2 CARDIAC TWR RM 245				X	X			X		ON
M2-8(L1)	RPHOTO	SMOKE	2-M2-8 FLR 2 CARDIAC TWR RM 243						X		X		ON
M2-9(L1)	PHOTO	SMOKE	2-M2-9 FLR 2 CARDIAC TWR POINT OF USE						X		X		ON
M2-10(L1)	PHOTO	SMOKE	2-M2-10 FLR 2 CARDIAC TWR BY RM 247			X			X		X		ON
M2-11(L1)	RPHOTO	SMOKE	2-M2-11 FLR 2 CARDIAC TWR RM 246			X			X		X		ON
M2-12(L1)	RPHOTO	SMOKE	2-M2-12 FLR 2 CARDIAC TWR RM 242				X	X			X		ON
M2-13(L1)	PHOTO	SMOKE	2-M2-13 FLR 2 CARDIAC TWR BY RM 242				X	X			X		ON
M2-14(L1)	PHOTO	SMOKE	2-M2-14 FLR 2 CARDIAC TWR NRSG STATION			X	X	X			X		ON
M2-15(L1)	RPHOTO	SMOKE	2-M2-15 FLR 2 CARDIAC TWR RM 247			X	X	X			X		ON
M2-16(L1)	PHOTO	SMOKE	2-M2-16 FLR 2 CARDIAC TWR RM 241						X		X		ON
M2-17(L1)	ADRPUL	PULL	2-M2-17 FLR 2 CARDIAC TWR NRSG STATION						X		X		ON
M2-18(L1)	PHOTO	SMOKE	2-M2-18 FLR 2 CARDIAC TWR NRSG STATION			X			X		X		ON
M2-19(L1)	PHOTO	SMOKE	2-M2-19 FLR 2 CARDIAC TWR BY RM 248			X			X		X		ON
M2-20(L1)	RPHOTO	SMOKE	2-M2-20 FLR 2 CARDIAC TWR RM 248				X		X		X		ON
M2-21(L1)	RPHOTO	SMOKE	2-M2-21 FLR 2 CARDIAC TWR RM 240				X		X		X		ON
M2-22(L1)	PHOTO	SMOKE	2-M2-22 FLR 2 CARDIAC TWR BY RM 240			X	X		X		X		ON
M2-23(L1)	PHOTO	SMOKE	2-M2-23 FLR 2 CARDIAC TWR NRSG STATION			X	X		X		X		ON
M2-24(L1)	RPHOTO	SMOKE	2-M2-24 FLR 2 CARDIAC TWR RM 249					X	X		X		ON
M2-25(L1)	RPHOTO	SMOKE	2-M2-25 FLR 2 CARDIAC TWR RM 239					X	X		X		ON
M2-26(L1)	PHOTO	SMOKE	2-M2-26 FLR 2 CARDIAC TWR CLEAN UTILITY			X		X	X		X		ON
M2-27(L1)	PHOTO	SMOKE	2-M2-27 FLR 2 CARDIAC TWR CLEAN UTILITY			X		X	X		X		ON
M2-28(L1)	RPHOTO	SMOKE	2-M2-28 FLR 2 CARDIAC TWR BY RM 250				X	X	X		X		ON
M2-29(L1)	RPHOTO	SMOKE	2-M2-29 FLR 2 CARDIAC TWR RM 238				X	X	X		X		ON
M2-30(L1)	PHOTO	SMOKE	2-M2-30 FLR 2 CARDIAC TWR SOILED UTILITY			X	X	X	X		X		ON
M2-31(L1)	PHOTO	SMOKE	2-M2-31 FLR 2 CARDIAC TWR STORAGE RM			X	X	X	X		X		ON
M2-32(L1)	RPHOTO	SMOKE	2-M2-32 FLR 2 CARDIAC TWR RM 251							X	X		ON
M2-33(L1)	RPHOTO	SMOKE	2-M2-33 FLR 2 CARDIAC TWR RM 237							X	X		ON
M2-34(L1)	PHOTO	SMOKE	2-M2-34 FLR 2 CARDIAC TWR BY RM 237			X				X	X		ON
M2-35(L1)	4009A8	SIGNAL	2-M2-35 2ND FL AREA A ELECT RM 2004 NAC3	X	X					X	X		ON
M2-36(L1)	RPHOTO	SMOKE	2-M2-36 FLR 2 CARDIAC TWR ELECTRICAL RM			X			X		X		ON
M2-37(L1)	PHOTO	SMOKE	2-M2-37 FLR 2 CARDIAC TWR VOICE-DATA RM	X		X			X		X		ON
M2-38(L1)	RPHOTO	SMOKE	2-M2-38 FLR 2 CARDIAC TWR RM 252			X	X		X		X		ON
M2-39(L1)	RPHOTO	SMOKE	2-M2-39 FLR 2 CARDIAC TWR RM 236	X	X	X			X		X		ON
M2-40(L1)	PHOTO	SMOKE	2-M2-40 FLR 2 CARDIAC TWR POINT OF USE				X		X		X		ON
M2-41(L1)	PHOTO	SMOKE	2-M2-41 FLR 2 CARDIAC TWR BY RM 253				X		X		X		ON
M2-42(L1)	RPHOTO	SMOKE	2-M2-42 FLR 2 CARDIAC TWR RM 253			X	X		X		X		ON
M2-43(L1)	RPHOTO	SMOKE	2-M2-43 FLR 2 CARDIAC TWR RM 235	X	X		X		X		X		ON
M2-44(L1)	PHOTO	SMOKE	2-M2-44 FLR 2 CARDIAC TWR NRSG STATION				X	X	X		X		ON
M2-45(L1)	RPHOTO	SMOKE	2-M2-45 FLR 2 CARDIAC TWR RM 254	X		X	X		X		X		ON
M2-46(L1)	RPHOTO	SMOKE	2-M2-46 FLR 2 CARDIAC TWR RM 234			X	X	X	X		X		ON
M2-47(L1)	PHOTO	SMOKE	2-M2-47 FLR 2 CARDIAC TWR NRSG STATION	X	X	X	X		X		X		ON
M2-48(L1)	ADRPUL	PULL	2-M2-48 FLR 2 CARDIAC TWR NRSG STATION					X	X		X		ON
M2-49(L1)	RPHOTO	SMOKE	2-M2-49 FLR 2 CARDIAC TWR RM 255	X				X	X		X		ON
M2-50(L1)	RPHOTO	SMOKE	2-M2-50 FLR 2 CARDIAC TWR RM 233		X			X	X		X		ON
M2-51(L1)	PHOTO	SMOKE	2-M2-51 FLR 2 CARDIAC TWR BY RM 234		X	X		X	X		X		ON
M2-52(L1)	PHOTO	SMOKE	2-M2-52 FLR 2 CARDIAC TWR NRSG STATION			X		X	X		X		ON
M2-53(L1)	PHOTO	SMOKE	2-M2-53 FLR 2 CARDIAC TWR NRSG STATION	X		X		X	X		X		ON
M2-54(L1)	PHOTO	SMOKE	2-M2-54 FLR 2 CARDIAC TWR NRSG STATION		X		X	X	X		X		ON
M2-55(L1)	PHOTO	SMOKE	2-M2-55 FLR 2 CARDIAC TWR BY RM 254	X	X	X		X	X		X		ON
M2-56(L1)	PHOTO	SMOKE	2-M2-56 FLR 2 CARDIAC TWR BY RM 256				X	X	X		X		ON
M2-57(L1)	RPHOTO	SMOKE	2-M2-57 FLR 2 CARDIAC TWR RM 256	X			X	X	X		X		ON
M2-58(L1)	PHOTO	SMOKE	2-M2-58 FLR 2 CARDIAC TWR EQUIP STORAGE		X		X	X	X		X		ON
M2-59(L1)	PHOTO	SMOKE	2-M2-59 FLR 2 CARDIAC TWR BY RM 233	X	X		X	X	X		X		ON
M2-60(L1)	PHOTO	SMOKE	2-M2-60 FLR 2 CARDIAC TWR HALL BY ELEV.1			X	X	X	X		X		ON
M2-61(L1)	RPHOTO	SMOKE	2-M2-61 FLR 2 CARDIAC TWR HALL BY ELEV.1			X	X	X	X		X		ON
M2-62(L1)	PHOTO	SMOKE	2-M2-62 FLR 2 CARDIAC TWR CROSSWALK			X	X	X	X		X		ON
M2-63(L1)	PHOTO	SMOKE	2-M2-63 FLR 2 CARDIAC TWR MECH. RM 2	X	X	X	X	X	X		X		ON
M2-64(L1)	PHOTO	SMOKE	2-M2-64 FLR 2 CARDIAC TWR MECH. RM 2							X	X		ON
M2-65(L1)	PHOTO	SMOKE	2-M2-65 FLR 2 CARDIAC TWR CROSSWALK	X						X	X		ON
M2-66(L1)	PHOTO	SMOKE	2-M2-66 FLR 2 CARDIAC TWR CROSSWALK		X					X	X		ON
M2-67(L1)	PHOTO	SMOKE	2-M2-67 FLR 2 CARDIAC TWR CROSSWALK	X	X					X	X		ON
M2-68(L1)	ADRPUL	PULL	2-M2-68 FLR 2 CARDIAC TWR CROSSWALK			X				X	X		ON
M2-69(L1)	PHOTO	SMOKE	2-M2-69 FLR 2 CARDIAC TWR CROSSWALK	X	X					X	X		ON
M2-70(L1)	PHOTO	SMOKE	2-M2-70 FLR 2 CARDIAC TWR CROSSWALK	X	X	X				X	X		ON
M2-71(L1)	IAM	SO	2-M2-71 FL 2 CARDIAC TWR FRONT STAIRWELL	X	X	X				X	X		ON
M2-72(L1)	IAM	WATER	2-M2-72 FL 2 CARDIAC TWR FRONT STAIRWELL				X			X	X		ON
M2-73(L1)	ADRPUL	PULL	2-M2-73 FLR 2 CARDIAC - BY WAITING RM	X			X			X	X		ON
M2-74(L1)	PHOTO	SMOKE	2-M2-74 FLR 2 CARDIAC - BY WAITING RM		X		X			X	X		ON
M2-75(L1)	PHOTO	SMOKE	2-M2-75 FLR 2 CARDIAC TWR ELEV.1 LOBBY	X	X		X			X	X		ON
M2-76(L1)	PHOTO	SMOKE	2-M2-76 FLR 2 CARDIAC TWR ELEV.1 LOBBY		X		X			X	X		ON
M2-77(L1)	PHOTO	SMOKE	2-M2-77 FLR 2 CARDIAC - RESTROOM HALL	X			X	X		X	X		ON
M2-78(L1)	PHOTO	SMOKE	2-M2-78 FLR 2 CARDIAC TWR MECHANIC RM 1		X	X	X			X	X		ON
M2-79(L1)	PHOTO	SMOKE	2-M2-79 FLR 2 CARDIAC TWR MECH. RM 1	X	X	X	X			X	X		ON
M2-80(L1)	RIAM	RELAY	2-M2-80 2ND FL AREA A COIL DOOR 3044					X	X	X	X		ON
M2-81(L1)	PHOTO	SMOKE	2-M2-81 FLR 2 CARDIAC TWR HALL BY ELEV.1	X					X	X	X		ON
M2-82			SPARE		X				X	X	X		ON
M2-83(L1)	TRIAM	UTILITY	2-M2-83 2ND FL MECH ROOM 2042A	X	X				X	X	X		ON
M2-84(L1)	TRIAM	UTILITY	2-M2-84 2ND FL MECH ROOM 2042A				X		X	X	X		ON
M2-85(L1)	ADRPUL	PULL	2-M2-85 FLR 3 CARDIAC TWR BY BACK STAIRS	X		X			X	X	X		ON
M2-86			SPARE	X	X		X		X	X	X		ON
M2-87			SPARE	X	X	X	X		X	X	X		ON
M2-88			**SPARE**			X	X		X	X	X		ON
M2-89			**SPARE**	X			X		X	X	X		ON
M2-90			**SPARE**		X		X		X	X	X		ON
M2-91			**SPARE**	X	X		X		X	X	X		ON
3 **M2-92**			**SPARE**		X	X	X		X	X	X		ON
M2-93			**SPARE**	X		X	X		X	X	X		ON
M2-94			**SPARE**		X	X	X		X	X	X		ON
M2-95			**SPARE**	X	X	X	X		X	X	X		ON
M2-96			**SPARE**						X	X	X		ON
M2-97			**SPARE**	X					X	X	X		ON
M2-98(L1)	PHOTO	SMOKE	2-M2-98 FLR 3 CARDIAC TWR CLEAN UTILITY		X				X	X	X		ON
3 **M2-99**			**SPARE**	X	X				X	X	X		ON
M2-100(L1)	PHOTO	SMOKE	2-M2-100 FLR 3 CARDIAC TWR STORAGE RM			X			X	X	X		ON
M2-101(L1)	RPHOTO	SMOKE	2-M2-101 FLR 3 CARDIAC TWR ICU RM 40	X		X			X	X	X		ON
M2-102(L1)	PHOTO	SMOKE	2-M2-102 FL 3 CARDIAC TWR SOILED UTILITY	X		X			X	X	X		ON
M2-103(L1)	RPHOTO	SMOKE	2-M2-103 FLR 3 CARDIAC TWR ICU RM 53	X	X	X			X	X	X		ON
M2-104(L1)	RPHOTO	SMOKE	2-M2-104 FLR 3 CARDIAC TWR ICU RM 39				X		X	X	X		ON
M2-105(L1)	PHOTO	SMOKE	2-M2-105 FLR 3 CARDIAC TWR BY RM 39	X			X		X	X	X		ON
M2-106(L1)	4009A8	SIGNAL	2-M2-106 FLR 3 CARDIAC TWR ELECTRICAL RM		X		X		X	X	X		ON
M2-107(L1)	PHOTO	SMOKE	2-M2-107 FLR 3 CARDIAC TWR ELECTRICAL RM	X	X		X		X	X	X		ON
M2-108(L1)			SPARE			X	X		X	X	X		ON
M2-109(L1)	RPHOTO	SMOKE	2-M2-109 FLR 3 CARDIAC TWR ICU RM 54	X		X	X		X	X	X		ON
M2-110(L1)	RPHOTO	SMOKE	2-M2-110 FLR 3 CARDIAC TWR ICU RM 38		X	X	X		X	X	X		ON
M2-111(L1)	PHOTO	SMOKE	2-M2-111 FLR 3 CARDIAC TWR DICTATION RM	X	X	X	X		X	X	X		ON
M2-112(L1)	PHOTO	SMOKE	2-M2-112 FLR 3 CARDIAC TWR BY RM 55				X		X	X	X		ON
M2-113(L1)	RPHOTO	SMOKE	2-M2-113 FLR 3 CARDIAC TWR ICU RM 55	X			X		X	X	X		ON
M2-114(L1)	PHOTO	SMOKE	2-M2-114 FLR 3 CARDIAC TWR NRSG STATION		X		X		X	X	X		ON
M2-115(L1)	PHOTO	SMOKE	2-M2-115 FLR 3 CARDIAC TWR NRSG STATION	X	X		X		X	X	X		ON
M2-116(L1)	RPHOTO	SMOKE	2-M2-116 FLR 3 CARDIAC TWR ICU RM 56		X		X		X	X	X		ON
M2-117(L1)	RPHOTO	SMOKE	2-M2-117 FLR 3 CARDIAC TWR ICU RM 37	X		X			X	X	X		ON
M2-118(L1)	**PHOTO**	**VSMOKE**	**2-M2-118 FL 3 CARDIAC TWR DATA 3063**		X	X		X	X	X	X		ON
M2-119(L1)	PHOTO	SMOKE	2-M2-119 FLR 3 CARDIAC TWR BY RM 56	X	X	X		X	X	X	X		ON
M2-120(L1)	ADRPUL	PULL	2-M2-120 FLR 3 CARDIAC TWR NRSG STATION				X	X	X	X	X		ON
M2-121(L1)	RPHOTO	SMOKE	2-M2-121 FLR 3 CARDIAC TWR ICU RM 36	X			X	X	X	X	X		ON
M2-122(L1)	RPHOTO	SMOKE	2-M2-122 FLR 3 CARDIAC TWR ICU RM 57		X		X	X	X	X	X		ON
M2-123(L1)	RPHOTO	SMOKE	2-M2-123 FLR 3 CARDIAC TWR ICU RM 35	X	X		X	X	X	X	X		ON
M2-124(L1)	PHOTO	SMOKE	2-M2-124 FLR 3 CARDIAC TWR BY RM 35			X	X	X	X	X	X		ON
M2-125(L1)	PHOTO	SMOKE	2-M2-125 FLR 3 CARDIAC TWR POINT OF USE	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 M2		#N/A		SWITCH SETTINGS								
Address			Location Description	1	2	3	4	5	6	7	8	9
M2-126(L1)	PHOTO	SMOKE	2-M2-126 FLR 3 CARDIAC TWR BY RM 57		X	X	X	X	X	X		ON
M2-127(L1)	RPHOTO	SMOKE	2-M2-127 FLR 3 CARDIAC TWR ICU RM 58	X	X	X	X	X	X	X		ON
M2-128(L1)	PHOTO	SMOKE	2-M2-128 FLR 3 CARDIAC TWR EQUIP STORAGE							X		ON
M2-129(L1)	PHOTO	SMOKE	2-M2-129 FLR 3 CARDIAC TWR BY WAITING RM	X						X		ON
M2-130(L1)	PHOTO	SMOKE	2-M2-130 FLR 3 CARDIAC TWR BY CROSSWALK		X					X		ON
M2-131(L1)	ADRPUL	PULL	2-M2-131 FLR 3 CARDIAC TWR BY WAITING		X					X		ON
M2-132(L1)	IAM	WATER	2-M2-132 FLR 3 CARDIAC TWR STAIRWELL 1			X				X		ON
M2-133(L1)	IAM	SO	2-M2-133 FLR 3 CARDIAC TWR STAIRWELL 1	X		X				X		ON
M2-134(L1)	PHOTO	SMOKE	2-M2-134 FLR 3 CARDIAC TWR BY WAITING		X	X				X		ON
M2-135(L1)	PHOTO	SMOKE	2-M2-135 FLR 3 CARDIAC TWR ELEV. LOBBY	X	X	X				X		ON
M2-136(L1)	PHOTO	SMOKE	2-M2-136 FLR 3 CARDIAC TWR ELEV. 3 LOBBY				X			X		ON
M2-137(L1)	PHOTO	SMOKE	2-M2-137 FLR 3 CARDIAC TWR RESTROOM HALL	X			X			X		ON
M2-138(L1)	PHOTO	SMOKE	2-M2-138 FLR 3 CARDIAC TWR MECHANICAL RM		X		X			X		ON
M2-139(L1)	PHOTO	SMOKE	2-M2-139 FLR 3 CARDIAC TWR MECHANICAL RM	X	X		X			X		ON
M2-140(L1)	PHOTO	SMOKE	2-M2-140 FLR 3 CARDIAC TWR CROSSWALK			X	X			X		ON
M2-141(L1)	PHOTO	SMOKE	2-M2-141 FLR 3 CARDIAC ICU DR SLEEP RM	X		X	X			X		ON
M2-142(L1)	PHOTO	SMOKE	2-M2-142 FLR 3 CARDIAC TWR CROSSWALK		X	X	X			X		ON
M2-143(L1)	PHOTO	SMOKE	2-M2-143 FLR 3 CARDIAC TWR CROSSWALK	X	X	X	X			X		ON
M2-144(L1)	PHOTO	SMOKE	2-M2-144 FLR 3 CARDIAC TWR CROSSWALK					X		X		ON
M2-145(L1)	ADRPUL	PULL	2-M2-145 FLR 3 CARDIAC TWR CROSSWALK	X				X		X		ON
M2-146(L1)	PHOTO	SMOKE	2-M2-146 FLR 3 CARDIAC TWR CROSSWALK		X			X		X		ON
M2-147(L1)	PHOTO	SMOKE	2-M2-147 FLR 3 CARDIAC TWR CROSSWALK	X	X			X		X		ON
M2-148(L1)	RIAM	RELAY	2-M2-148 3RD FL AREA A ROOM 3077			X		X		X		ON
M2-149(L1)	RIAM	RELAY	2-M2-149 3RD FL AREA A ROOM 3077	X		X		X		X		ON
M2-150(L1)	RIAM	RELAY	2-M2-150 3RD FL AREA A ROOM 3077		X	X		X		X		ON
M2-151(L1)	TRIAM	UTILITY	2-M2-151 3RD FLR SHELL	X	X	X		X		X		ON
M2-152(L1)	PHOTO	SDUCT	2-M2-152 FLR 2 CARDIAC TWR RM 244				X	X		X		ON
M2-153(L1)	TRIAM	UTILITY	2-M2-153 2ND FL AREA B MEDS 2076	X			X	X		X		ON
M2-154(L1)	PHOTO	SDUCT	2-M2-154 FLR 2 CARDIAC TWR MED. RM		X		X	X		X		ON
M2

STANDARD SENSOR BASE

SIMPLEX 4098-9792



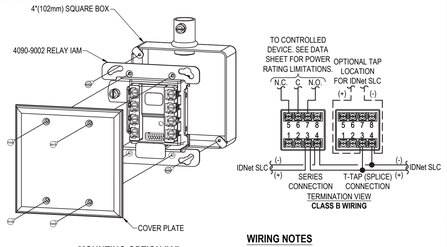
MOUNTING OPTIONS

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

ADDRESSABLE RELAY MODULE

SIMPLEX 4090-9002



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.

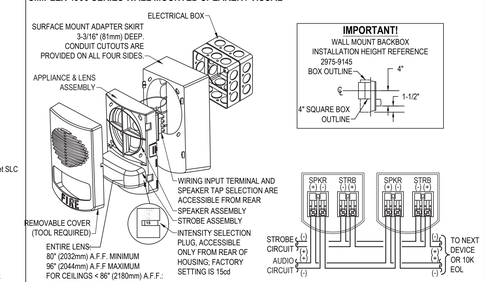
MOUNTING OPTIONS

OPTION[1]	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH DOUBLE GANG COVER PLATE	BY OTHERS
B	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9801 TRIM PLATE FOR SEMI-FLUSH MOUNTED BOX	BOX BY OTHERS, PLATES ORDERED SEPARATELY
C	4" (102mm) SQUARE BOX, 2-1/8" MINIMUM DEPTH WITH SIMPLEX 4090-9802 TRIM PLATE FOR SURFACE MOUNTED BOX	BOX BY OTHERS, PLATES ORDERED SEPARATELY

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4090-0002 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert 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

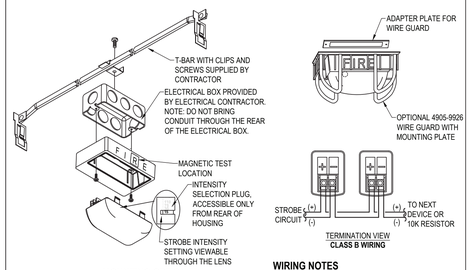
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4906-0003 FROM HTTP://WWW.SIMPLEX-FIRE.COM

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.

TrueAlert CONVENTIONAL APPLIANCES

SIMPLEX 4906 SERIES CEILING MOUNTED VISUAL



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.

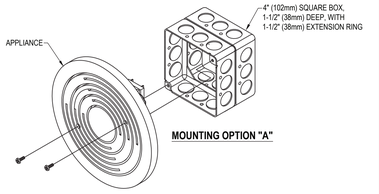
MOUNTING OPTIONS

OPTION[1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/4" (57mm) DEEP (MINIMUM)	BY OTHERS
B	HANDY BOX, 1-1/2" (38mm) DEEP, OR SINGLE GANG BOX 2-1/2" (64mm) DEEP	4905-9910 ADAPTER PLATE REQUIRED FOR SURFACE MOUNT WITH HANDY BOX UNLESS USING 4905-9926 WIRE GUARD

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4906-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert CONVENTIONAL APPLIANCES

SIMPLEX 4902-9721 WALL/CEILING MOUNTED SPEAKER



WIRING NOTES

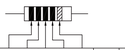
1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

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

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4902-0003 FROM HTTP://WWW.SIMPLEX-FIRE.COM

END OF LINE RESISTOR CODES



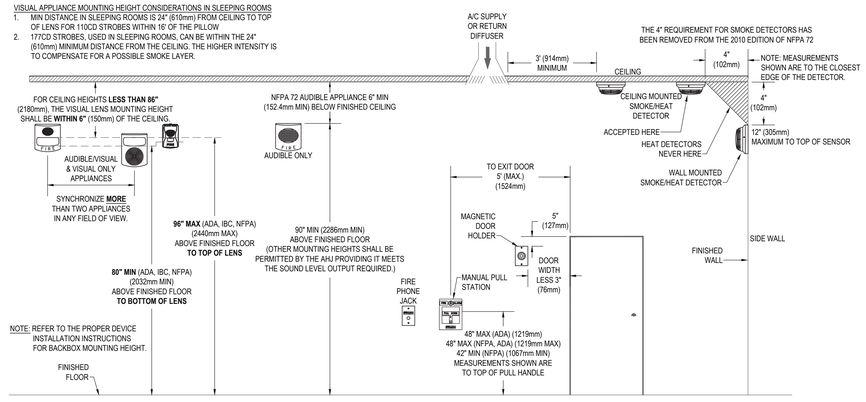
NOTE: REFER TO PANEL/MODULE AND DEVICE INSTALLATION INSTRUCTIONS FOR PROPER TERMINATIONS.

MODEL	REF. NUMBER	Ω	BAND NUMBER 3	2	3	4	5	WATTS	CIRCUIT TYPE	FIRE ALARM PANEL/MODULE
4081-9001	733-892	2.2K	RED	RED	RED	GLD	N/A	1/2	ANNUNCIATOR (4300)	4004, 4010 (TROUBLE)
4081-9002	733-893	3.3K	ORG	ORG	RED	GLD	N/A	1	N.O. INITIATING PULL, SMOKE, HEAT, WATERFLOW, TAMPER, ETC., 24 PT. I/O SWITCH SUPV.	4004*, 4004R, 4005*, 4006, 4100, 4120, 4100U, ZAMs 4605-7401, 4100 SERIES
4081-9003	733-896	4.7K	YEL	VT	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INIT., NOTIFICATION (DACT)	4090 IDNET IAM (EOLR) 2080-9024
4081-9004	733-886	6.8K	BLU	GRY	RED	GLD	N/A	1/2	N/O INITIATING PULL, SMOKE, HEAT, W.FLOW, TAMPER, ETC	4004, 4005, 4090-9001 IDNET IAM, 2190-9173 MAPNET II 2-PT I/O 4-20MA ZAM (TROUBLE)
4081-9005	733-984	1.8K	BRN	GRY	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INITIATING (INLINE)	4090-9001 IDNET IAM
4081-9006	733-890	560	GRN	BLU	BRN	GLD	N/A	1	N.C. INITIATING (EOLR)	4005*, 4090-9001 IDNET IAM 4100, 4100U
4081-9007	733-891	1.2K	BRN	RED	RED	GLD	N/A	1	N.C. INITIATING (EOLR)	4005
4081-9008	733-894	10K	BRN	BLK	ORG	GLD	N/A	1/2	NOTIFICATION	4004, 4005, 4006, 4008, 4009, 4010, 4100, 4100U
4081-9009	733-912	20	RED	BLK	BLK	GLD	N/A	1	TO MR-101 RELAY COIL	4005 8 POINT I/O
4081-9010	733-973	1K	BRN	BLK	RED	GLD	N/A	1	N.C. INIT. (ACROSS CONTACTS)	4005*, 4090-9001 IDNET IAM
									24 PT. I/O (ACROSS CONTACTS	4605-7401, 4100 SERIES
									CURRENT LIMITED N.O. INIT. (IN SERIES WITH CONTACT)	4090-9001 IDNET IAM
4081-9011	733-974	100	BRN	BLK	BRN	GLD	N/A	1/2	ANNUNCIATOR (N2)	4006, 4008, 4010
4081-9012	733-985	22K	RED	RED	ORG	GLD	N/A	1/2	SPEAKER CIRCUIT	4003
4081-9013	734-086	4.99K	YEL	WHT	WHT	BRN	BRN	1/2		
4081-9014	734-092	2.4K	RED	YEL	RED	GLD	N/A	1/2	N.C. INITIATING (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9015	734-093	1.5K	BRN	GRN	RED	GLD	N/A	1/2	CURRENT LIMITED N.O. INIT. (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9016	734-149	150K	BRN	GRN	YEL	GLD	N/A	1/2		
4081-9017	734-171	3.9K	ORG	WHT	RED	GLD	N/A	1		
4081-9018	734-168	10K	BRN	BLK	ORG	GLD	N/A	1	70VRMS CONSTANT SUPV. NAC	4100-1260
	378-090	8.2K	GRY	RED	RED	GLD	N/A	1/2	SECURITY MONITORING (EOLR)	4100, 4100U
	378-046	5.6K	GRN	BLU	RED	GLD	N/A	1/2	N.O. SECURITY MON. (SERIES)	4100, 4100U
	378-069	12K	BRN	RED	ORG	GLD	N/A	1/2	N.C. SECURITY MON. (SHUNT)	4100, 4100U

* USE WITH RETROFIT OR HIGH CURRENT MODULE

DEVICE MOUNTING HEIGHT REFERENCE

PER NFPA 72



Johnson Controls
DISTRICT 1-418
10405 E. 45TH AVENUE
AURORA, CO 80017
SERVICE: 303-355-0000
PHONE: 303-350-9500
FAX: 303-355-9415

NICET CERTIFICATION INFORMATION

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

August 16, 2023

THE MEDICAL CENTER OF AURORA - SOUTH 3RD FLOOR - ICU BUILD-OUT

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

Revisions shown with ⚠ symbol

ISSUE LOG: MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/27/23
JOB #:	
PROJECT #:	419-650378844

JOHNSON CONTROLS © 2023

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
TYPICAL DEVICE WIRING

FA-701

FILE PATH: c:\Users\jdixon\Desktop\redline - johnson controls\medical center of aurora\1501 s potomac - aurora southfourth floor - node 1139_fa1 fc\ - 2023 - 650378844\Fire\FA-701.dwg
LAST SAVED BY: JDIXONC4
LAST PRINTED: 8/16/2023 4:06:22 PM
36" x 42" Arch E1 Size
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RSN: 1762127
Permit: 2023 2396543 LT
Sheet: 10 of 40

GRAPHIC MAP NOTES:

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

AS OF: 08/16/2023

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



3RD FLOOR

LEGEND:

FATC	FIRE ALARM TERMINAL CABINET
ANN	GRAPHIC ANNUNCIATOR
NAC	NAC PANEL
	SMOKE DETECTOR
	HEAT DETECTOR
	MANUAL PULL STATION
	SPRINKLER WATERFLOW VALVE
	SPRINKLER TAMPER SWITCH
	DUCT DETECTOR

Johnson Controls
AURORA (303) 355-0500

The Medical Center of Aurora
Health ONE

Johnson Controls
DISTRICT - 1 415
14000 E MISSISSIPPI AVE
AURORA, CO 80012
SERVICE: 303-355-0500
PHONE: 303-355-0500
FAX: 303-355-0515

NICET CERTIFICATION INFORMATION

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

August 16, 2023

Revisions shown with ⚠ symbol

ISSUE, COG MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	CCD
CHECKED BY:	CBR
ISSUE DATE:	7/27/23
JOB #:	
PROJECT #:	419-650378844

JOHNSON CONTROLS © 2023

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
3RD FLOOR GRAPHIC MAP

FA-801

FILE PATH: c:\Users\jdavoc\Favorites - johnson controls\medical center of aurora\1501 s potomac - aurora south\south tower - node 1138-3x4 fc\ - 2023 - 650378844\Fire\FA-801.dwg
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LAST PRINTED: 8/16/2023 4:06:27 PM
30" x 42" - Arch E1 Size
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E LIGHT
Excellence in Electrical

361 Inverness Dr S., Ste B
Englewood, Co 80111
303-754-0001
Fax 303-754-0011

Submittal 10 for Approval

Project:	**TMCA ICU Build-Out 1501 South Potomac Street Aurora, CO 80012**
E Light Job #:	**E23031**
Project Manager:	
Phone #:	**(XXX) XXX-XXXX**
General Contractor:	**Nabholz Construction Corporation 6640 Carother Parkway, Suite 150 Franklin, TN 37067**
Contact:	**0**
Architect:	**Gresham Smith 222 2nd Avenue South, Suite 1400 Nashville, TN 37201-2308**
Engineer:	**WSP USA 5613 DTC Parkway, Suite 500 Greenwood Village, CO 80111**
Contents:	**Fire Alarm**
Vendor:	**Johnson Controls**
Spec Section:	**28-31-00**
Date Submitted:	**August 17, 2023**
Requested Return Date:	**August 31, 2023**

- ○ No Exceptions Noted
- ◉ Exceptions Noted No Resubmission Required
- ○ Exceptions Noted Resubmit For Record
- ○ Revise And Resubmit
- ○ Reviewed For Information
- ○ Not Reviewed

WSP

SUBMITTAL REVIEW

REVIEW IS SOLELY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT. THIS REVIEW DOES NOT RELIEVE THE CONTRACTOR FROM TOTAL RESPONSIBILITY FOR QUANTITIES, ERRORS, OMISSIONS OR COMPLIANCE WITH THE INTENT OF THE CONTRACT DOCUMENTS. REVIEW AND APPROVAL BY CONTRACTOR IS REQUIRED BEFORE FABRICATION, SHIPMENT OR INSTALLATION.

ANY ACTION SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR: DIMENSIONS WHICH SHALL BE CONFIRMED AND CORRELATED AT THE JOB SITE. ALL REVISED SUBMITTALS MUST BE RETURNED BY CONTRACTOR WITHIN 15 DAYS FROM RECEIPT OF THE ORIGINAL SUBMITTAL REVIEW.

BY: Chris Longstreet DATE: 9/5/2023

- Coordinate device color with existing conditions prior to purchase.

NABHOLZ
Nabholz Construction
3301 N 2nd Street
Rogers, AR 72756
Ph: 479.659.7800

SUBMITTAL REVIEW

283100 001- Fire Detection and Alarm-Product Data

- ☒ REVIEWED
- ☐ REVIEWED - EXCEPTIONS NOTED
- ☐ REVISE & RESUBMIT

Reviewed for general compliance with the Design Documents. Subcontractor or vendor is fully responsible for all material, accessories, coordination with Contract Documents and other trades, detailing, and field measurements, and related construction criteria necessary to produce a complete, properly functioning and coordinated product, prepared for installation in full compliance with the Contract Documents, Authorities having jurisdiction, and Nabholz Construction Corporation Subcontract or Purchase Order.

carter.young
08/22/2023

RSN: 1762127
Permit: 2023 2396543 LT
Sheet 12 of 40

Johnson Controls
14200 E. Exposition Avenue
Aurora, Colorado 80012

www.simplexgrinnell.com

Tele: (303) 355-0500
Fax: (303) 355-0615

Fire Alarm
Product Data Submittal for:

THE MEDICAL CENTER OF AURORA - SOUTH
3RD FLOOR - ICU BUILD-OUT
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

NICET CERTIFICATION
INFORMATION

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

Nancy S Wiltsie

August 16, 2023

Prepared for:

E LIGHT ELECTRIC SERVICES, INC.
361 INVERNES DRIVE, SUITE B
ENGLEWOOD, COLORADO 80112

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *Rich Tenorio*
Date: *Nov 08, 2023*
2021 INTERNATIONAL CODES & 2023 NEC

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
3RD FLOOR - ICU BUILD-OUT

PREPARED FOR: E LIGHT ELECTRIC SERVICES, INC.

TYPE:	***DESCRIPTION:***
4098-9714	TRUEALARM PHOTO SMOKE SENSOR
4098-9733	TRUEALARM HEAT SENSOR
4098-9792	TRUEALARM SENSOR BASE
4090-9002	IDNET RELAY IAM
4090-9802	COVER-ADDRESS MODULE SURFACE
4906-9153	S/V M-C NON-ADDRESS, WHT, WALL
4902-9721	SPEAKER 25V/70VRMS WHITE CEILING
4906-9104	V/O MC NON-ADDRESS, WHT, CEILING
4081-9008	EOL, 10K 1/2W

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.

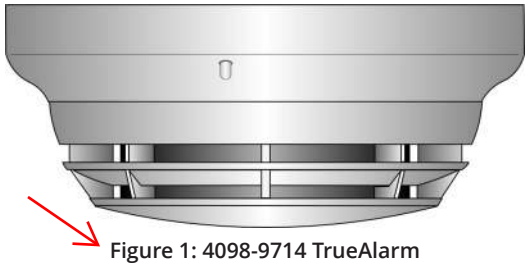


Figure 1: 4098-9714 TrueAlarm photoelectric sensor mounted in base

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.

RSN: 1762127
Permit: 2023 2396543 LT
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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

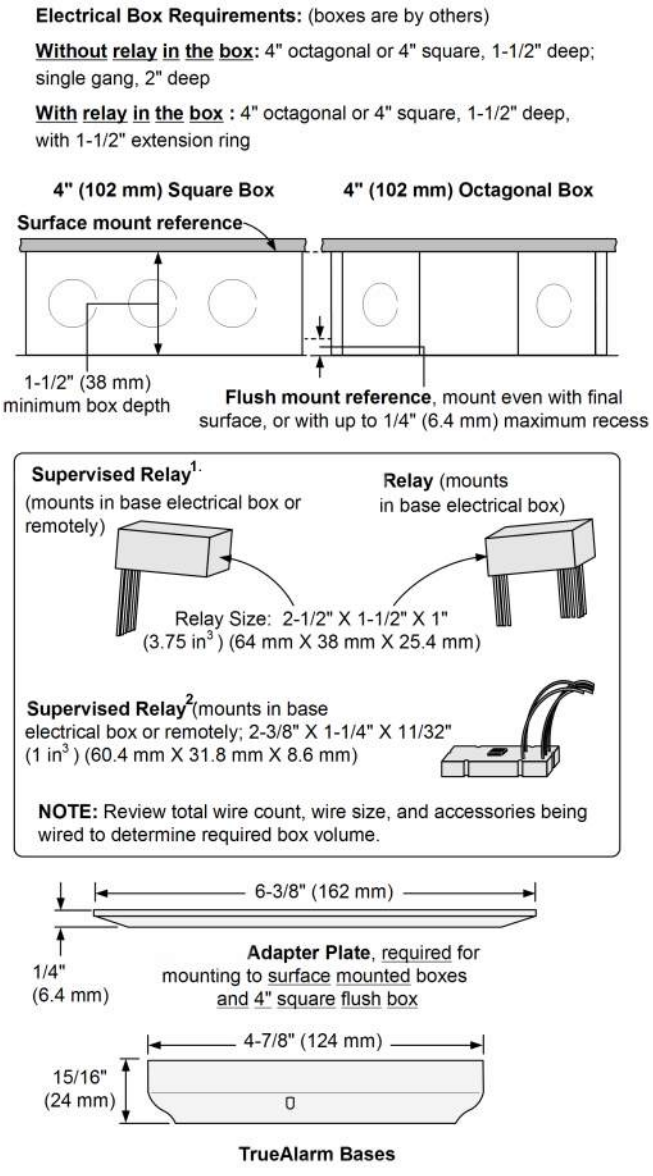


Figure 3: Mounting reference

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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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.

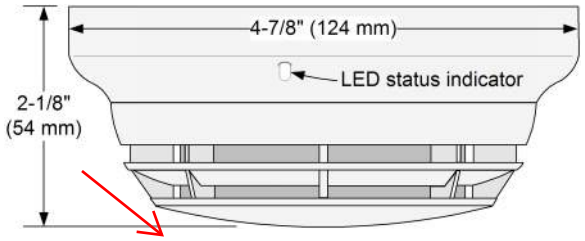


Figure 4: 4098-9714 photoelectric sensor with base

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.

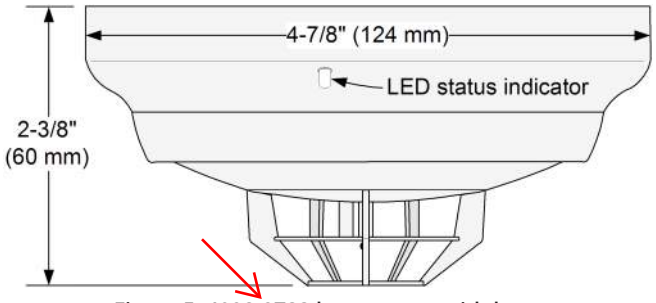


Figure 5: 4098-9733 heat sensor with base

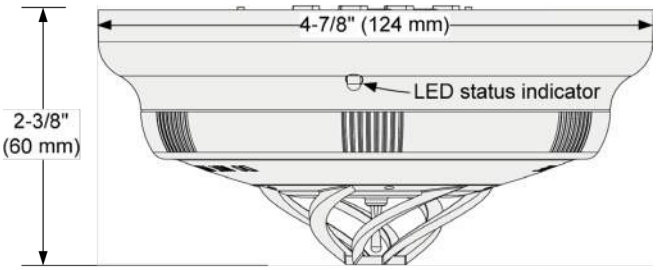


Figure 6: 4098-9734 high temperature heat sensor with base

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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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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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.	

Simplex®

Multi-Application Peripherals

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

IDNet Communicating Devices
Model 4090-9002 Relay IAM

Features

Individual Addressable Relay Module (Relay IAM):

- IDNet addressable control for use with Simplex® fire alarm control panel models 4007ES, 4008, 4010, 4010ES, 4100ES, and 4100U
- A single addressable point provides control and status tracking of a Form "C" contact
- Low power latching relay design allows IDNet communications to supply both data and module power
- Relay is set to OFF on initial power up and upon loss of IDNet communications

Compact, sealed construction:

- Enclosed design minimizes dust infiltration
- Mounts in standard 4" (102 mm) square electrical box, optional adapter bracket is available to mount in a 4 $^{11}/_{16}$" (119 mm) square electrical box
- Screw terminals for wiring connections
- Visible LED flashes to indicate communications
- Optional covers are available to allow LED to be viewed after installation

UL listed to Standard 864

Description

IDNet Relay IAMs allow fire alarm control panels to control a remotely located Form "C" contact using IDNet addressable communications for both data and module power. Typical applications would be for switching local power for control functions such as elevator capture, or control of HVAC components, pressurization fans, dampers, etc. Relay status is also communicated requiring only one device address.

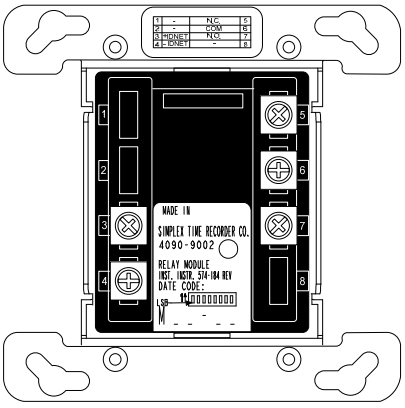
Product Selection

Model	Description
4090-9002	Relay IAM

Optional Adapter and Trim Plates

Model	Description	
4090-9813	Adapter plate to fit 4 $^{11}/_{16}$" (119 mm) square electrical box	
4090-9801	For semi-flush mounted box	Trim Plate, galvanized steel, with LED viewing window; includes mounting screws
4090-9802	For surface mounted box	

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7300-0026:223 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. 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.

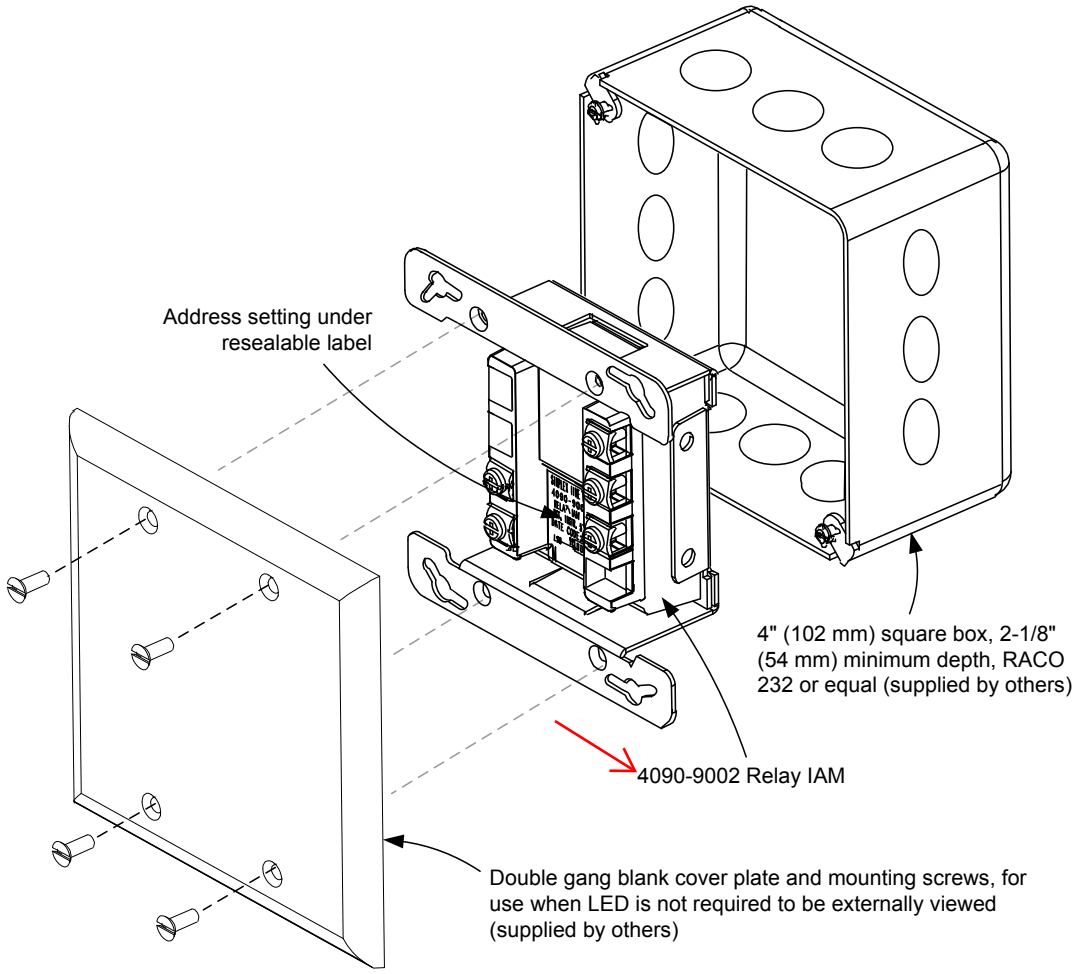


4090-9002 IDNet Relay IAM Package
(shown approximately 1/2 size)

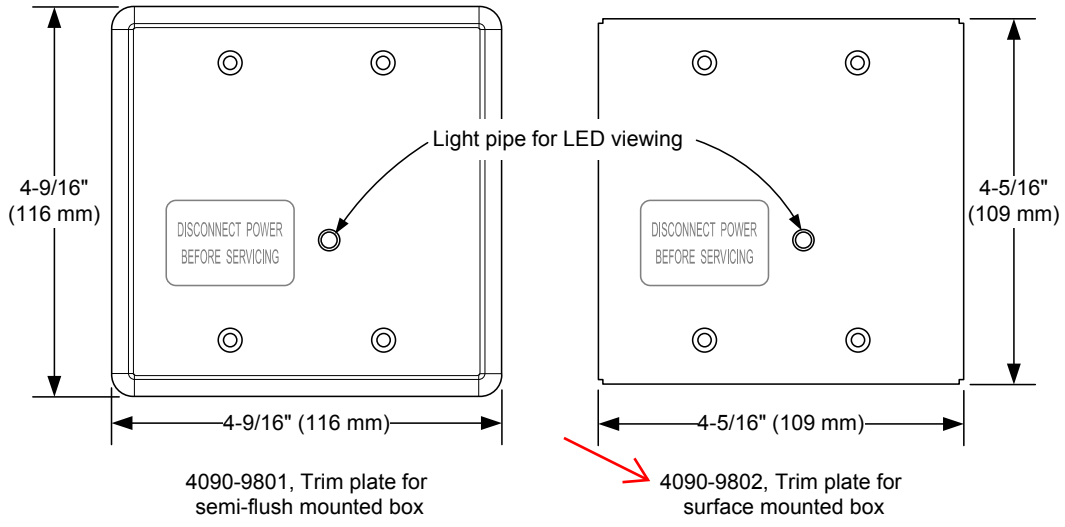
Specifications

Communications	IDNet communications, 1 address per device	
Relay IAM Power	Supplied by IDNet communications	
Contact Ratings* (not rated for incandescent switching)		
Type	Form C, SPDT	
Power-Limited	2 A @ 24 VDC, resistive	from listed fire alarm supply
	1 A @ 24 VDC, inductive	
Nonpower-Limited	0.5 A @ 120 VAC, resistive	
* Provide circuit fusing and transient suppression as required per application. DC inductive loads can typically be diode suppressed; 120 VAC loads may require RC networks or varistors, depending on device type. Refer to the installation instructions for additional information.		
Wire Connections	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 to 2.08 mm^2)	
IDNet Communications Wiring Reference	Up to 2500 ft (762 m) from control panel	
	Up to 10,000 ft (3048 m) total wiring distance (including T-Taps)	
	Compatible with Simplex 2081-9044 Overvoltage Protectors	
Dimensions	4 ⅛" H x 4 ⅛" W x 1 ⅜" D (105 mm x 105 mm x 35 mm)	
Housing Material	Black thermoplastic	
Mounting Plate	Sheet metal, galvanized	
Temperature Range	32° to 120° F (0° to 49° C), intended for indoor operation	
Humidity Range	Up to 93% RH at 100° F (38° C)	
Installation Instructions	574-184	

Relay IAM Mounting Information



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

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Simplex

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

TrueAlert Multi-Candela Notification Appliances

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

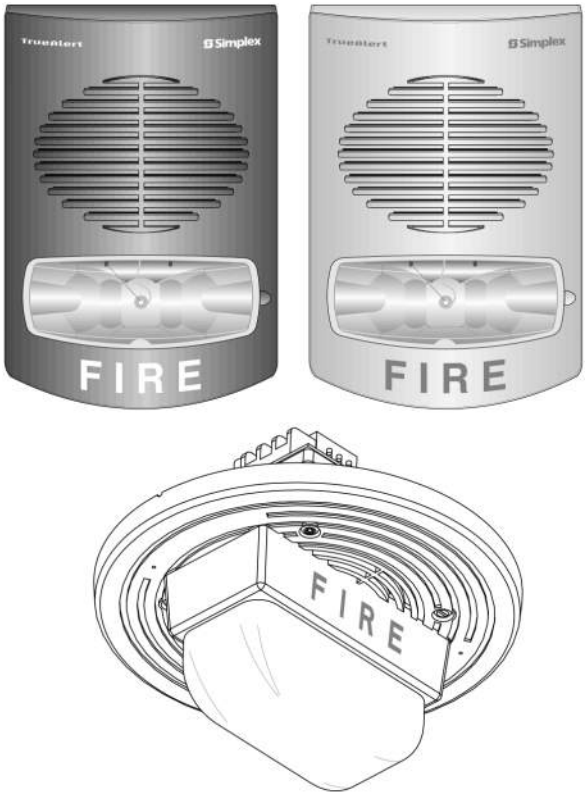


Figure 1: Wall and ceiling mount S/Vs

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

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.

Speaker directional characteristics reference

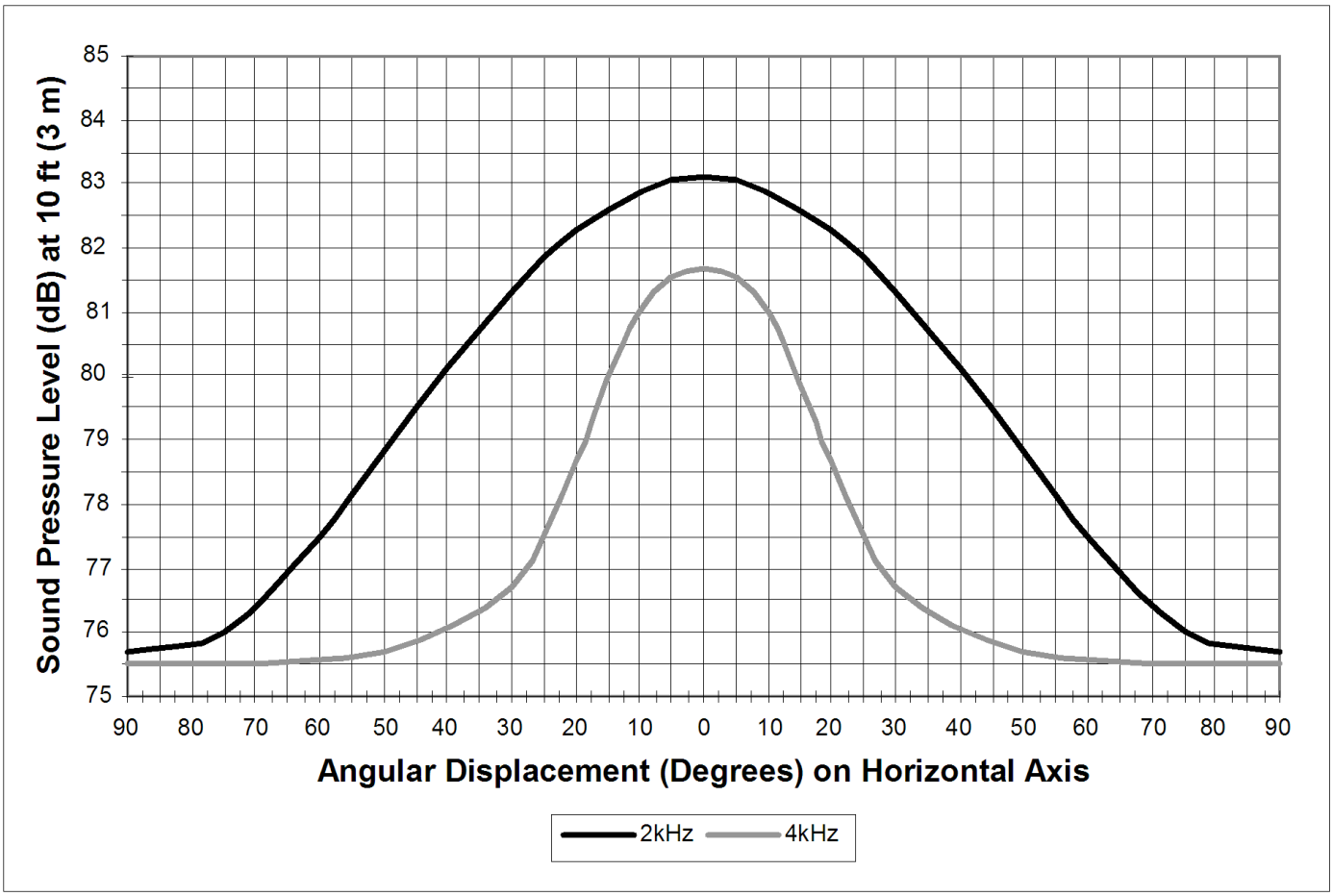


Figure 2: Speaker directional characteristics reference

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.

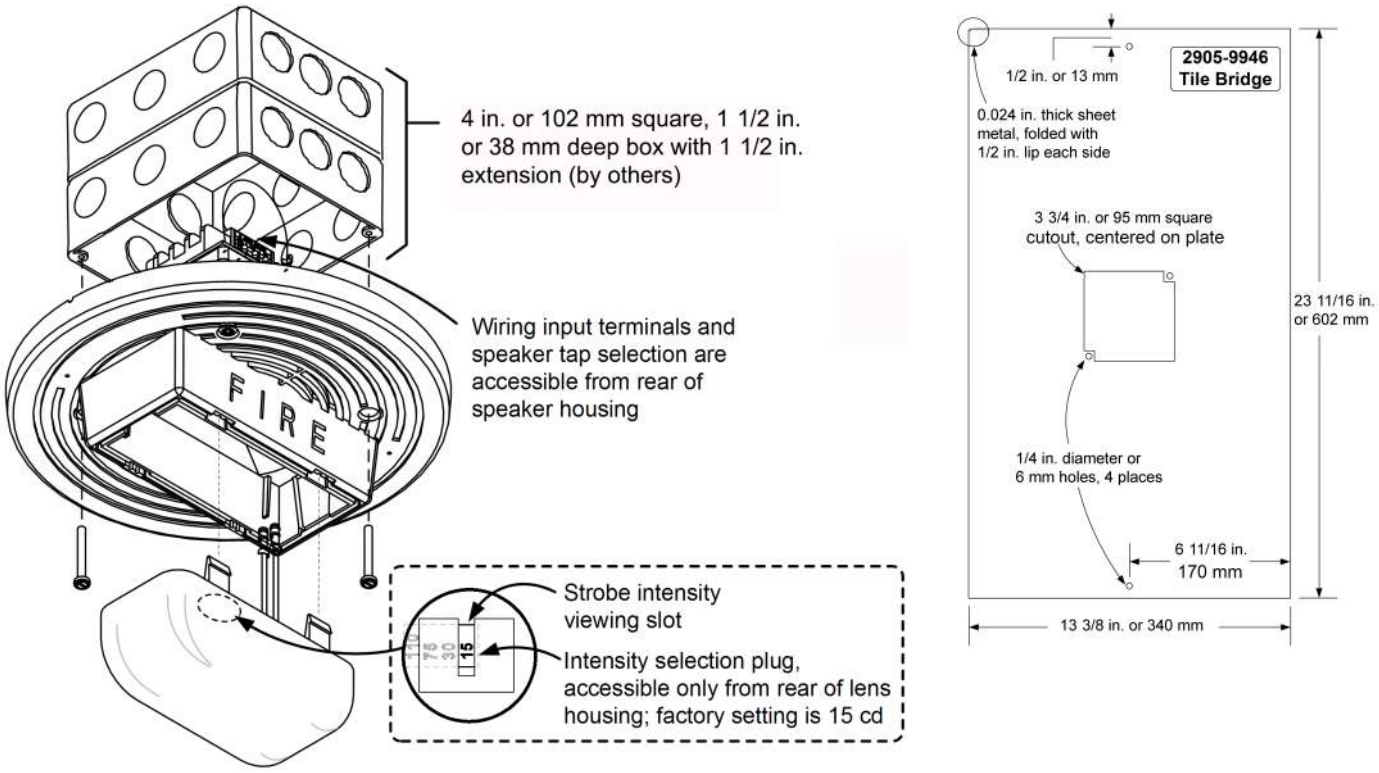
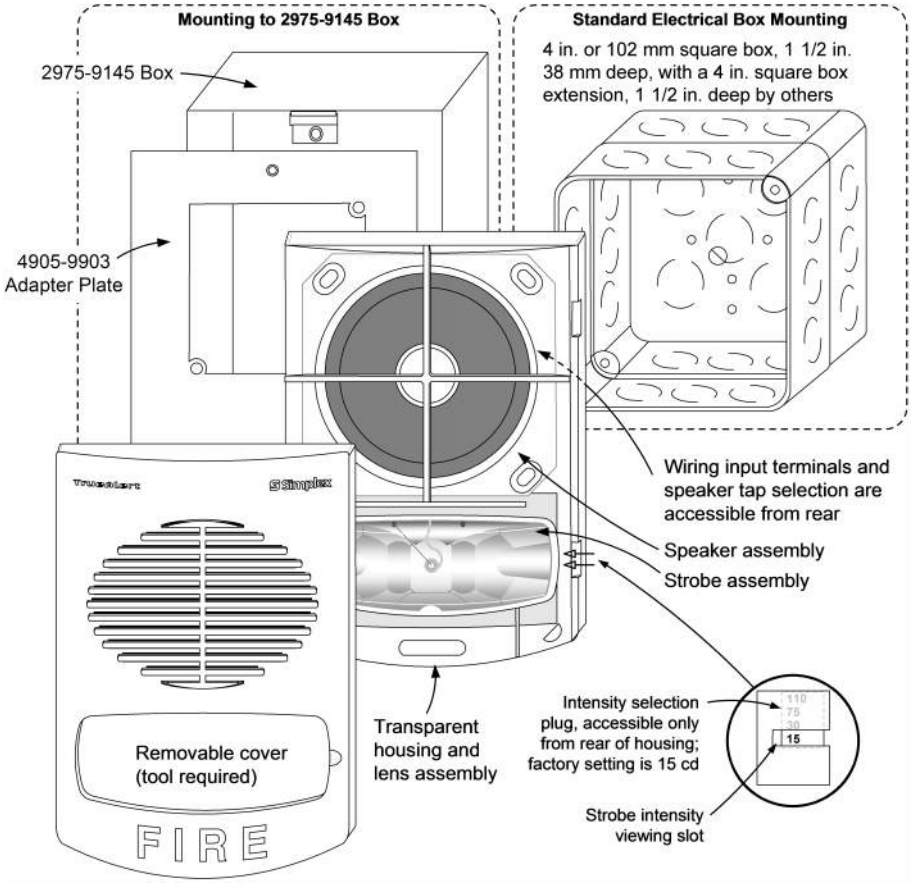
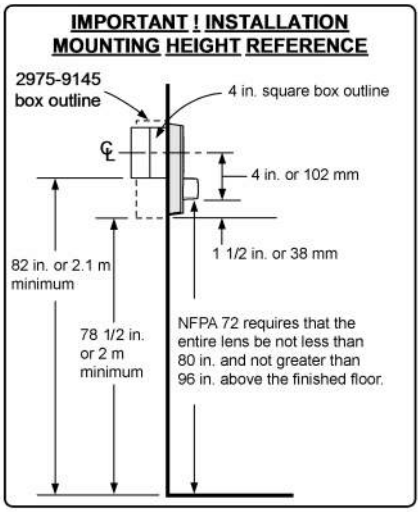


Figure 3: Ceiling mount S/V installation reference and tile bridge dimensions

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

Wall mount installation reference





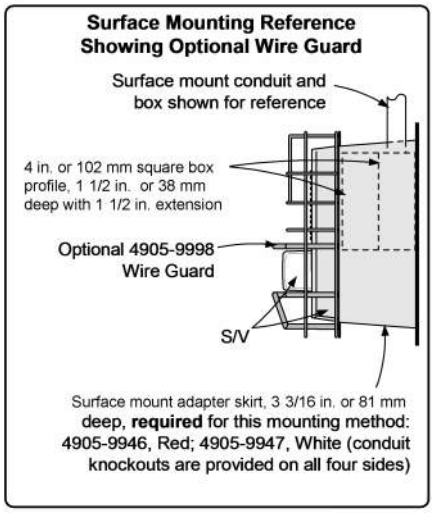


Figure 4: Wall mount installation reference

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Features

Fire alarm speakers with models for ceiling or wall mount:

- 4 in. cone or 102 mm provides high quality tone and voice reproduction
- Multi-tapped design provides output power of 1/4 W, 1/2 W, 1 W, or 2 W with either 25 VRMS or 70.7 VRMS input
- In/out wiring terminals for 18 AWG to 12 AWG
- Mounts to 4 in. square outlet box, 1 1/2 in. deep with 1 1/2 in. deep box extension
- Capacitor input for connection to supervised notification appliance circuits
- Rugged, high impact, flame retardant thermoplastic housings
- UL listed to Standard 1480
- Compliant with NFPA 72, 520 Hz Low Frequency Signal Requirements for Sleeping Areas
- NEMA 1 rated. See Product selection for more information.

Rectangular housing models feature:

- Appearance that complements TrueAlert strobes and speaker/strobes
- Red or white housings with **FIRE** lettering for surface or semi-flush wall mount
- Optional matching adapter skirts for covering surface mounted electrical boxes
- Optional red wire guard

Round housing models feature:

- Off-white color with no lettering for flush mount on ceiling or wall
- Compatible with optional tile bridge 2905-9946



Figure 1: Rectangular wall mount speakers are available as red with white FIRE lettering and white with red FIRE lettering

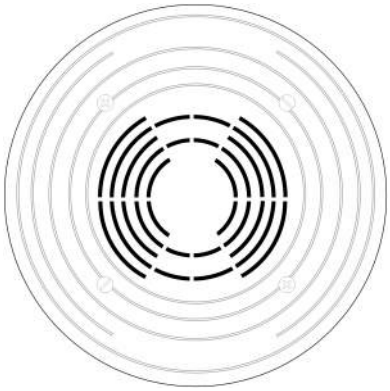


Figure 2: Round speakers are available in off-white (no lettering)

Introduction

Simplex 4902 Series speakers provide high quality sound for emergency fire alarm use as well as for background music. The moisture-repellent speaker is designed for smooth frequency response with minimal distortion.

The multi-tapped speaker transformer accommodates either 25 VRMS or 70.7 VRMS and provides an output of from 1/4 W to 2 W to provide flexibility for satisfying the requirements of the installed conditions.

Rectangular housing models are for surface or semi-flush wall mount applications. Round housing models are typically for ceiling applications but can be wall mounted if desired. The rectangular housing speakers are designed to compliment the TrueAlert family of strobes and speaker/strobes, providing conventional, non-addressable speaker operation.

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7320-0026:242 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local product supplier for the latest status. Listings and approvals under Time Recorder Co. are the property of Tyco Fire Protection Products.

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Specifications

Table 1: Dimensions, rectangular wall mount housings

Specification	Dimensions
Housing dimensions	5 1/8 in. H x 5 in. W x 1 1/2 in. D or 130 mm x 127 mm x 38 mm
Depth into box	2 3/4 in. or 70 mm

Table 2: Dimensions, round housings

Specification	Dimensions
Housing dimensions	7 1/2 in. diameter, 1/2 in. D or 191 mm x 13 mm
Depth into box	2 3/4 in. or 70 mm

Table 3: General specifications

Specification		Rating
Input voltage		25 VRMS or 70.7 VRMS
Power taps		1/4 W, 1/2 W, 1 W, and 2 W
Input terminal ratings		18 AWG to 12 AWG or 0.82 mm^2 to 3.31 mm^2
Frequency response	Fire alarm	400 Hz to 4000 Hz
	General signaling	125 kHz to 12 kHz
Sound output		See Speaker sound output specifications
Temperature range		32°F to 100°F or 0°C to 38°C
Humidity range		10% to 95% RH from 32°F to 122°F or 0°C to 50°C

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Product selection

Table 4: Speaker product selection

Model	Description		Dimensions
4902-9716 * 4902-9716CA *	Rectangular housing, wall mount speaker	Red with white **FIRE** lettering	5 1/8 in. H x 5 in. W x 1 1/2 in. D or 130 mm x 127 mm x 38 mm
4902-9717 * 4902-9717CA *		White with red **FIRE** lettering	
4902-9721 * 4902-9721CA *	Round housing speaker, ceiling or wall mount	Off-white with no lettering	7 1/2 in. Diameter x 1/2 in. D or 191 mm x 13 mm
4902-9722 *		Red with no lettering	

* NEMA 1 rated when used with 4905-9941 adaptor skirt and mounted on a suitable 4 in. or 102 mm square back box.

Note: ULC listed model are designated with a CA suffix (4902-9716CA). Refer to ***4902 TrueAlert® Ceiling-Mount and Wall-Mount Speaker Installation Instructions 574-765*** for non-suffix model numbers and to ***4009-9808 NAC Class A Adapter Option Card Installation Instructions 579-324*** for CA suffix model numbers.

Table 5: Mounting adapters

Model	Description				Dimensions
4905-9941 **		Red	Surface mount adapter skirt	Use to cover surface mounted 1 1/2 in. deep box with 1 1/2 in. deep extension external to wall, see Wall mount speakers, installation reference	5 3/8 in. H x 5 1/4 in. W x 3 3/16 in. D or 136 mm x 133 mm x 81 mm Total surface depth with speaker = 4 5/8 in. or 117 mm
4905-9942 **		White			
2905-9946	Tile bridge for 4902-9721 Speaker				See Wall mount speakers, installation reference
4905-9931 **	Adapter plate, red, for mounting to 2975-9145 box. Typically for retrofit, may be mounted vertically or horizontally.				8 5/16 in. x 5 3/4 in. x 0.060 in. Thick or 211 mm x 146 mm x 1.5 mm
2975-9145 **	Red mounting box, requires Adapter plate 4905-9931				7 7/8 in. x 5 1/8 in. x 2 3/4 in. D or 200 mm x 130 mm x 70 mm

** NEMA 1 rated.

Table 6: Covers and guard

Model	Description		Dimensions
4905-9988 ***	Red speaker cover with white **FIRE** lettering	Interchangeable with TrueAlert horns	5 1/8 in. H x 5 in. W x 1 1/2 in. D or 130 mm x 127 mm x 38 mm
4905-9989 ***	White speaker cover with red **FIRE** lettering		
4905-9999	Red wire guard with mounting plate; compatible with semi-flush or surface mounted boxes; for use with 4 in. square electrical box mounting hole patterns only, UL listed by Space Age Electronics Inc.		6 1/16 in. H x 6 1/16 in. W x 3 1/8 in. D or 154 mm x 154 mm x 79 mm

*** NEMA 1 rated.

Wall mount speakers, installation reference

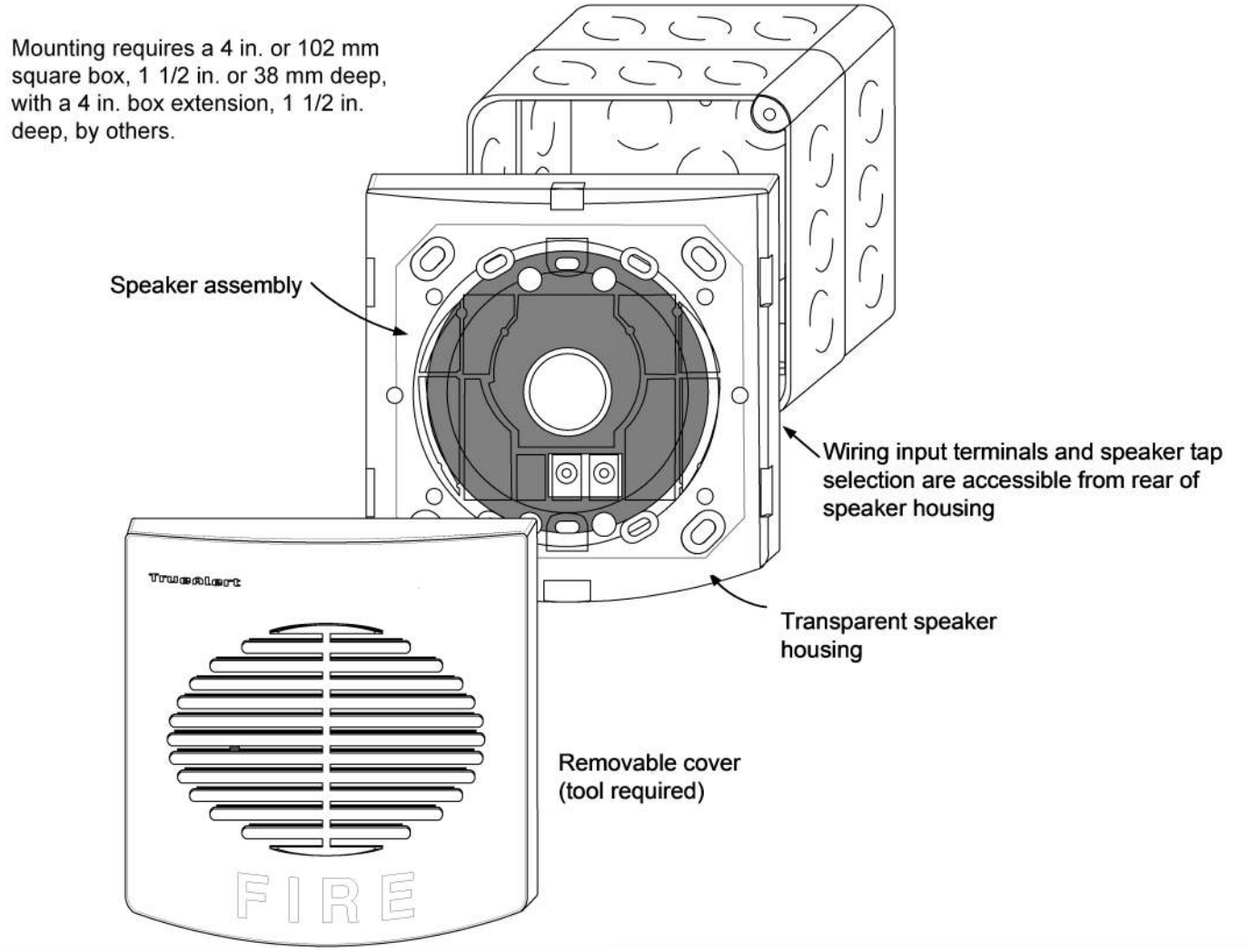


Figure 3: Wall mount speakers, installation reference

Round speaker installation reference (typically ceiling mount, wall mount is optional)

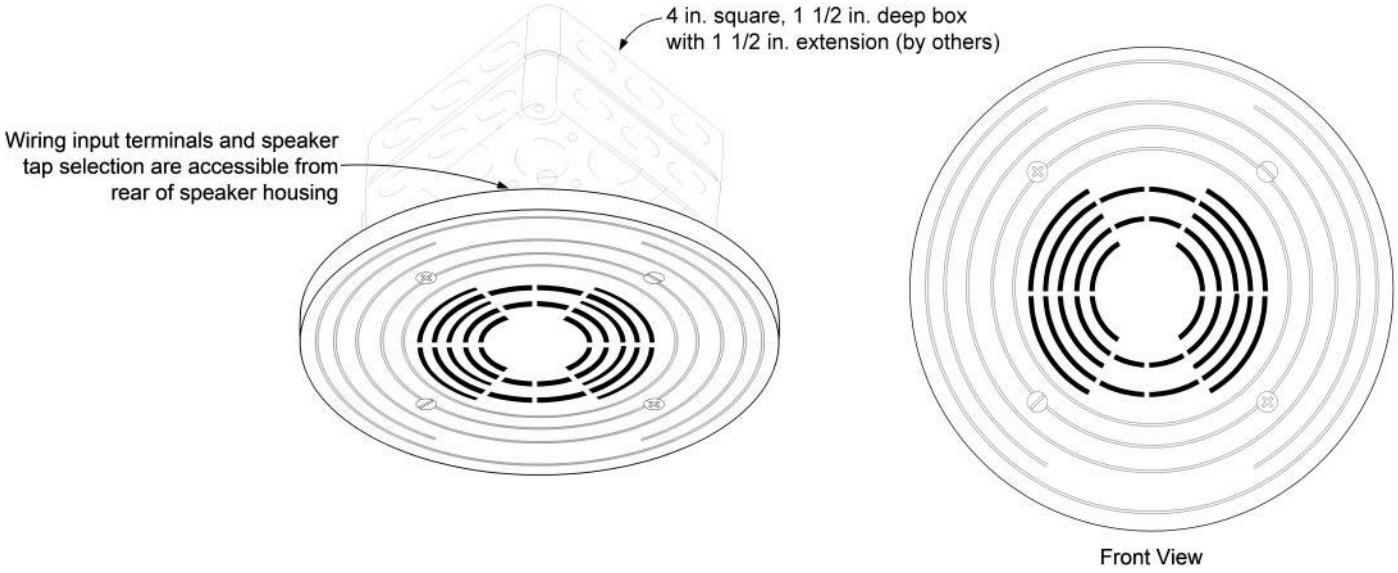


Figure 4: Round speaker installation reference

2905-9946 Tile bridge dimensions

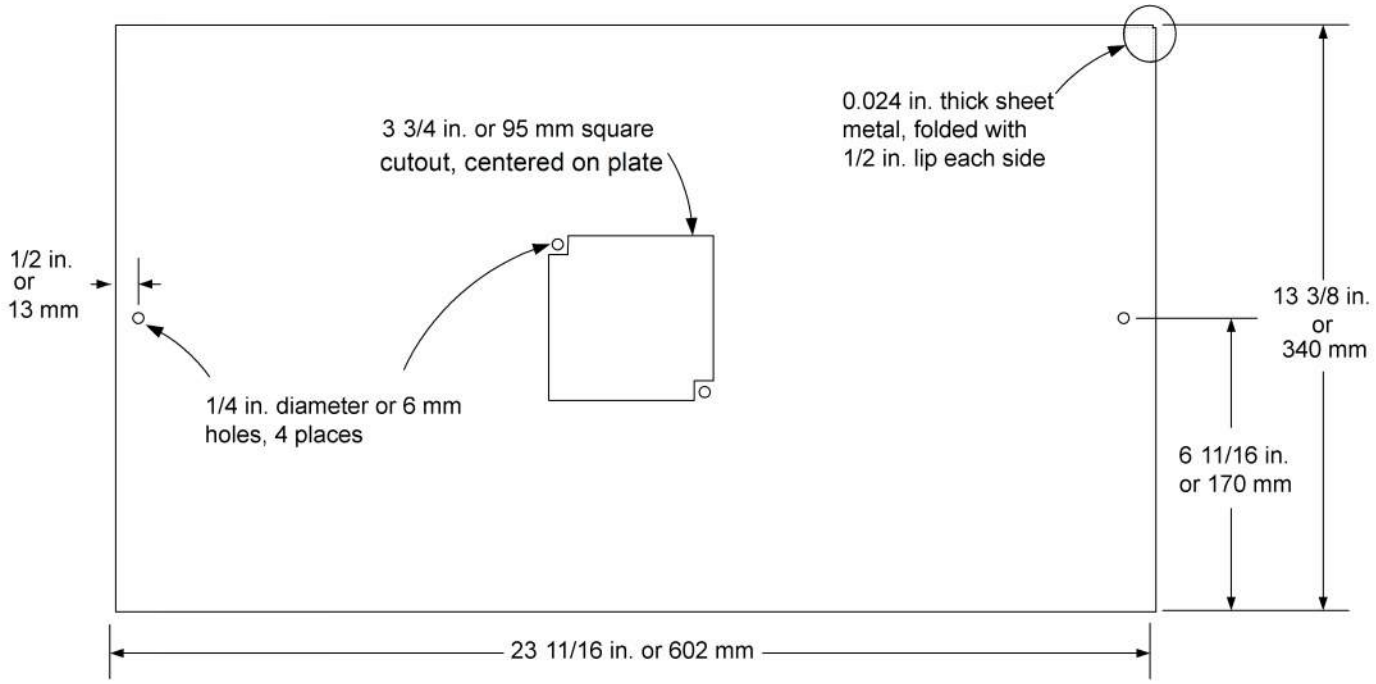


Figure 5: Tile bridge dimensions reference

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Surface mounted speaker reference

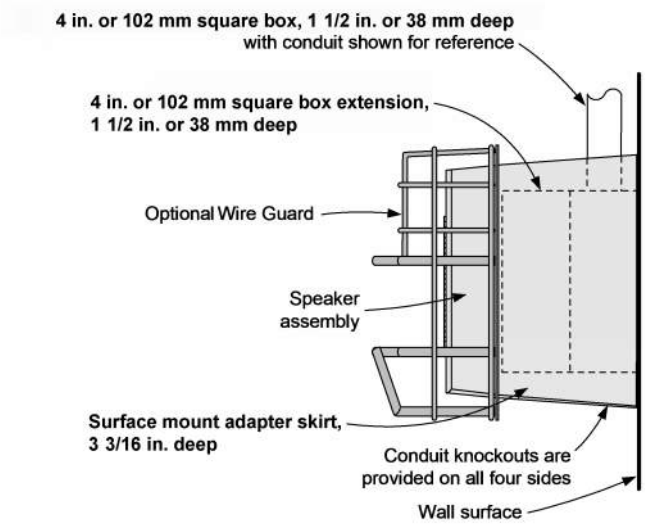


Figure 6: Surface mounted speaker reference

Note: Figure 6 shows surface mount adapter skirt available in red (4905-9941), and white (4905-9942). Optional 4905-9999 Wire Guard also shown.

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Speaker sound output specifications

Table 7: Sound output ratings at 10 ft (~3 m) per UL 1480 Reverberant Chamber Testing

Model	Type	Input voltage	Selected tap			
			1/4 W	1/2 W	1 W	2 W
4902-9716 4902-9717	Rectangular housing	25 VRMS	80 dBA	83 dBA	85 dBA	88 dBA
		70.7 VRMS	79 dBA	82 dBA	85 dBA	88 dBA
4902-9721 4902-9722	Round housing	25 VRMS or 70.7 VRMS	79 dBA	82 dBA	85 dBA	88 dBA

Table 8: Sound output ratings at 3 m (~10 ft) per ULC S541 Anechoic Chamber Testing

Model	Type	Input voltage	Selected tap			
			1/4 W	1/2 W	1 W	2 W
4902-9716CACA 4902-9717CA	Rectangular housing	25 VRMS or 70.7 VRMS	77 dBA	80 dBA	83 dBA	86 dBA
4902-9721CA	Round housing	25 VRMS or 70.7 VRMS	79 dBA	82 dBA	85 dBA	89 dBA

Table 9: Speaker polar dispersion reference (per ULC S541 Anechoic Chamber Testing)

Attenuation	Angle
-3 dB	30° off-axis
-6 dB	55° off-axis

4905-9931 Adapter plate installation reference

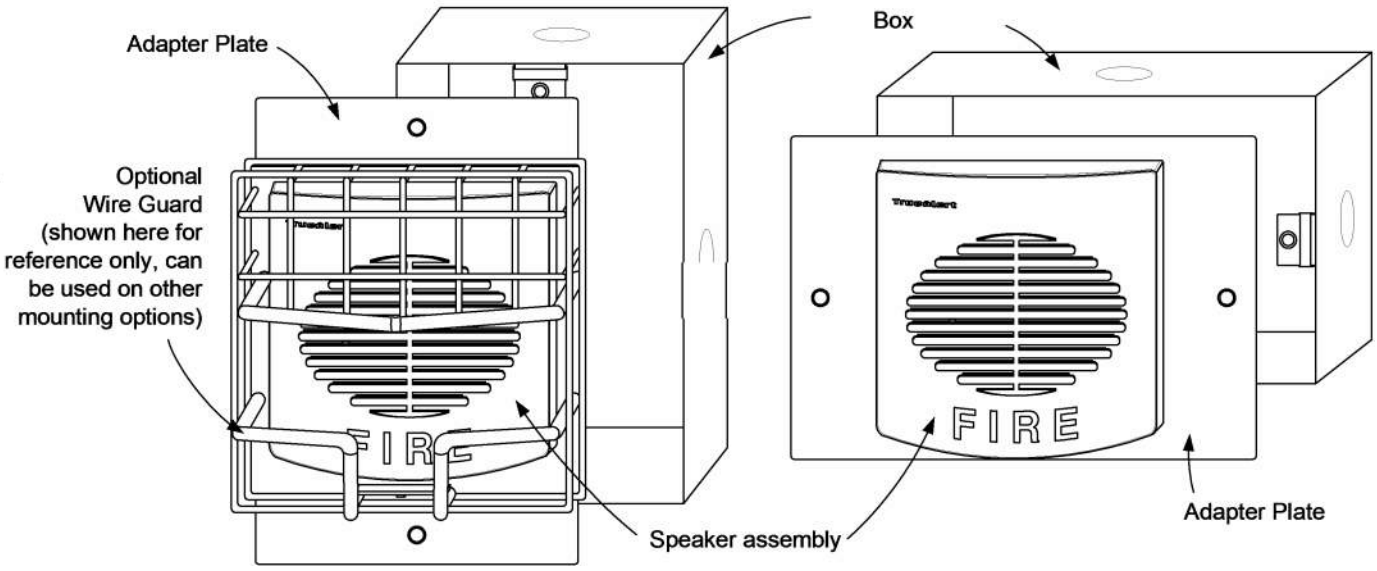


Figure 7: 4905-9931 Adapter plate installation reference

Note: Figure 7 shows:

- 4905-9931 adapter plate
- 2975-9145 back box
- 4905-9999 Optional wire guard

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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.			

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Strobe Specifications

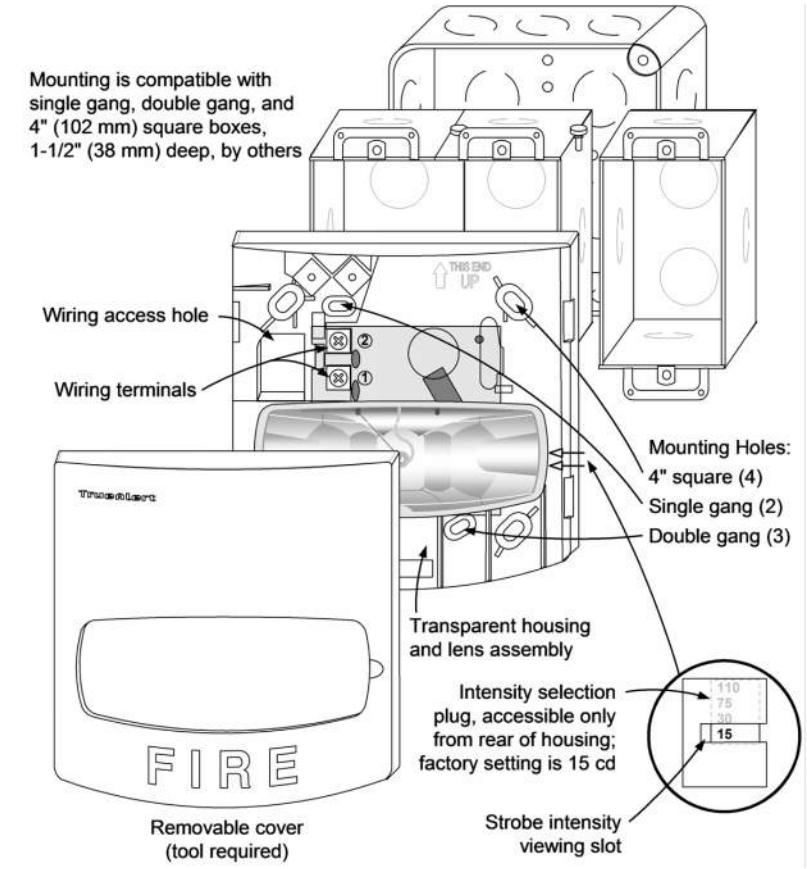
Table 6: Wall Mount or Ceiling Mount, Common Specifications

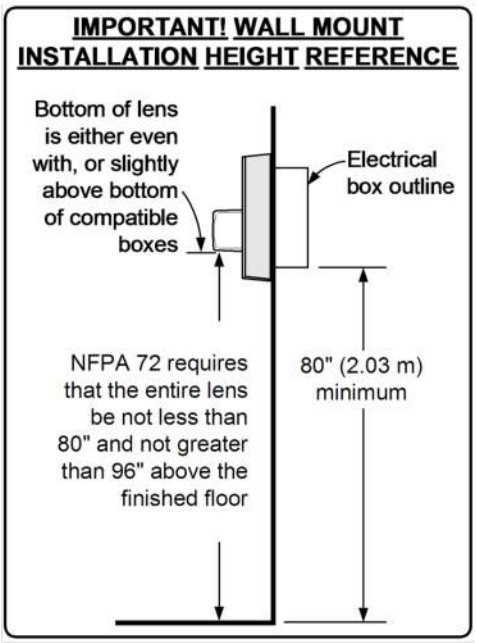
Specification			Rating			
Rated Voltage Range			Regulated 24 VDC; see Note 1 below			
Flash Rate			1 Hz			
Synchronized NAC Loading			Up to 35 synchronized strobes maximum per NAC			
Temperature Range			32° to 122° F (0° to 50° C)			
Humidity Range			10% to 93%, non-condensing at 100° F (38° C)			
Connections			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.)

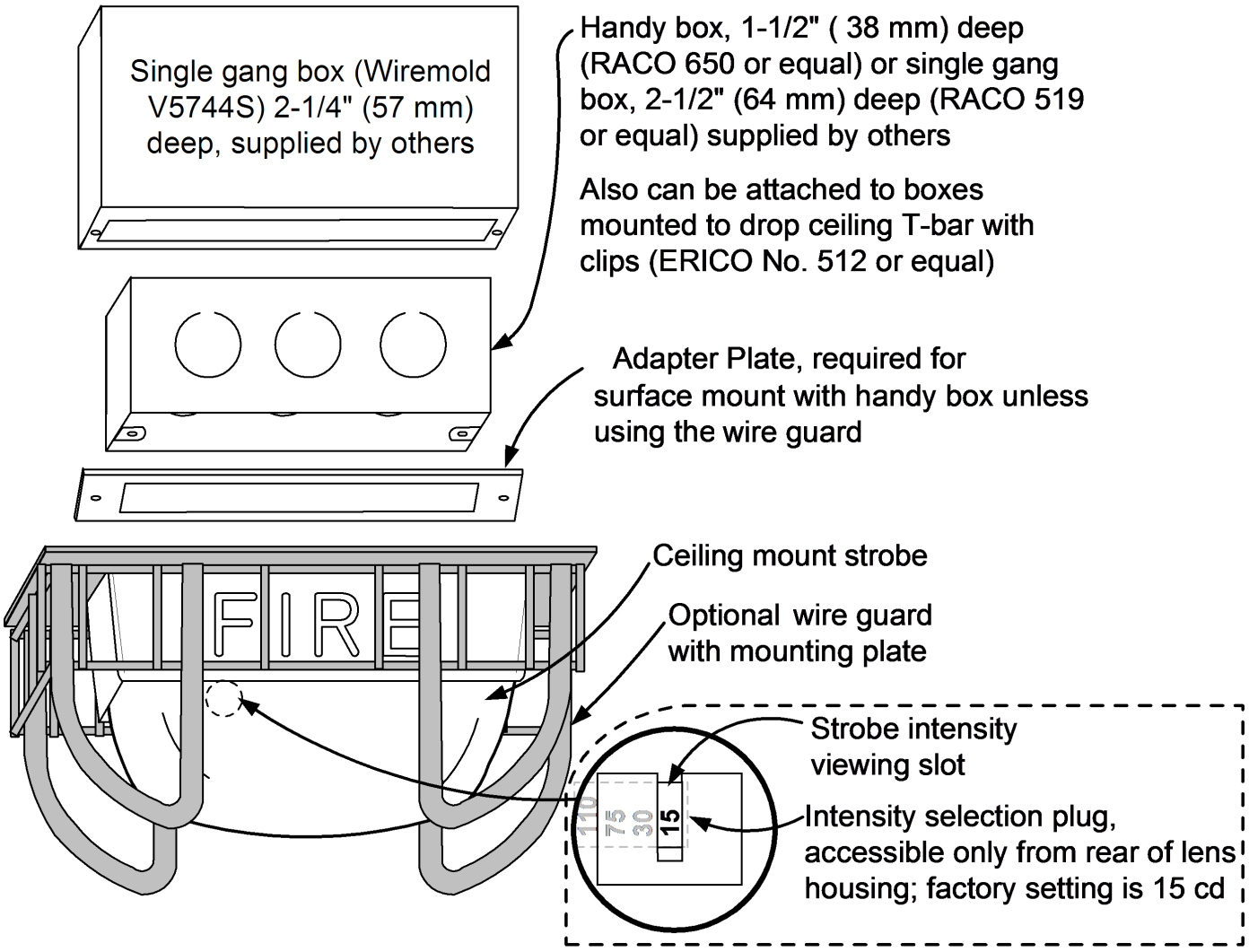
Installation Reference, Surface or Semi-Flush Wall Mounting





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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

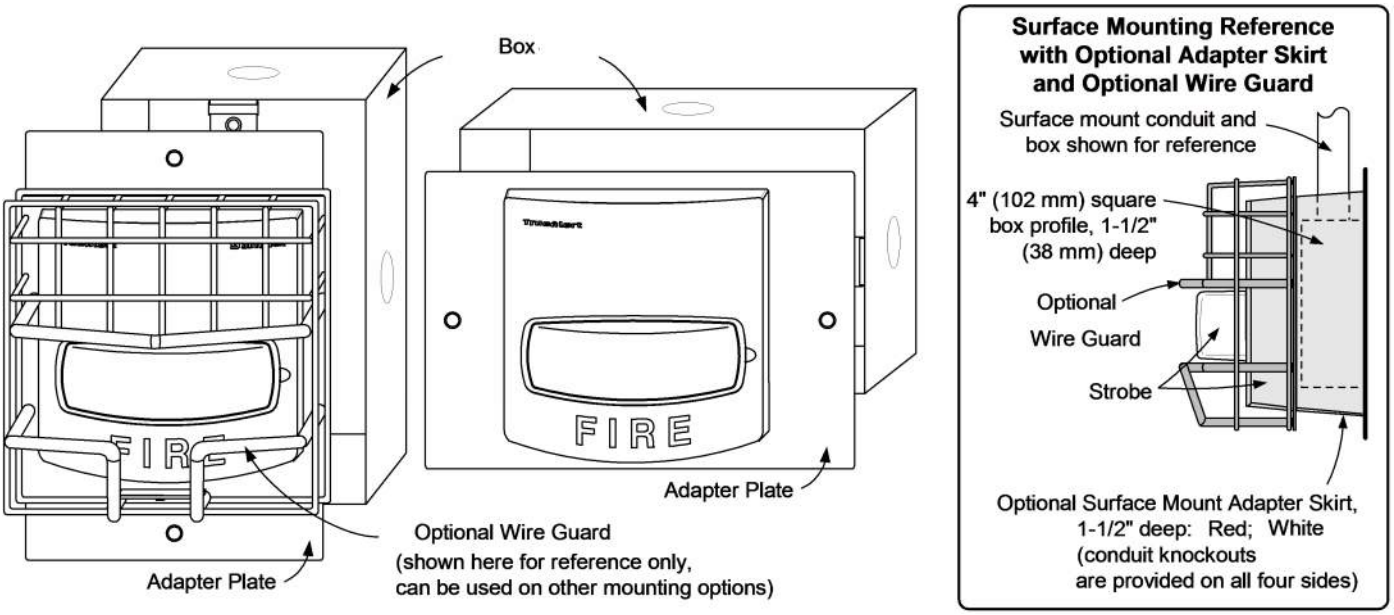


Figure 3: Wall Mount Installation Reference; Adapter Plate, Guard, and Adapter Skirt

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

Features

For use as Class B end-of-line resistor:

- Connect these resistor harnesses where end-of-line resistors are required at remote locations to monitor wiring continuity
- Refer to specific circuit specifications for end-of-line resistor requirements

UL Listed to Standard 864

Product Selection

Table 1: Product Selection

SKU	Reference Number	Description
4081-9001	733-892	2.2 kΩ, 1/2 W, ± 5%
4081-9002	733-893	3.3 kΩ, 1 W, ± 5%
4081-9003	733-896	4.7 kΩ, 1/2 W, ± 5%
4081-9004	733-886	6.8 kΩ, 1/2 W, ± 5%
4081-9005	733-984	1.8 kΩ, 1/2 W, ± 5%
4081-9006	733-890	560 Ω, 1 W, ± 5%
4081-9007	733-891	1.2 kΩ, 1 W, ± 5%
4081-9008	733-894	10 kΩ, 1/2 W, ± 5%
4081-9009	733-912	20 Ω, 1 W, ± 5%
4081-9010	733-973	1 kΩ, 1 W, ± 5%
4081-9011	733-974	100 Ω, 1/2 W, ± 5%
4081-9012	733-985	22 kΩ, 1/2 W, ± 5%
4081-9013	734-086	4.99 kΩ, 1/2 W, ± 1%
4081-9014	734-092	2.4 kΩ, 1/2 W, ± 5%
4081-9015	734-093	1.5 kΩ, 1/2 W, ± 5%
4081-9016	734-149	150 kΩ, 1/2 W, ± 5%
4081-9017	734-171	3.9 kΩ, 1 W, ± 5%
4081-9018	734-168	10 kΩ, 1 W, ± 5%
4081-9026	A163819W6P	51.1K Ω ,1/2 W, ± 1%

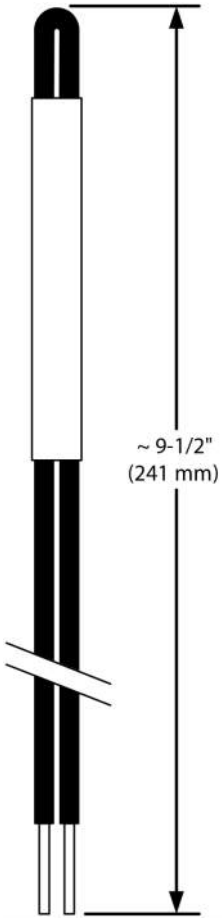


Figure 1: Typical 4081 Series Resistor Harness Assembly (full size except for lead length)

* This product was not approved by ULC, FM, MEA (NYC), or CSFM as of document revision date. Additional listings may be applicable, contact your local Simplex® supplier for the latest status.

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Specifications

Table 2: Specifications

Specification	Rating
Overall Length	Approximately 9-1/2" (241 mm)
Wire Length	7" (178 mm) ± 1" (25 mm)
Wire Size	18 AWG (0.82 mm2)
Insulation	600 V, black
Leads	Stripped 0.5" (13 mm); tinned
Resistor Attachment	Resistor leads are crimped to wires and covered with heat shrink tubing

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