THE MEDICAL CENTER OF AURORA - SOUTH
MRI REPLACEMENT
MODIFICATION TO EXISTING FIRE ALARM SYSTEM

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
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/21/2024

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

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

Field Inspection consultation is available upon request; call (303) 739-7420 to schedule a consultation.

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

Note to FLS Inspector:
Plans are organized as three different areas of work under one submittal to maintain continuity with how the TI was submitted. Any questions, call Steve Kirchner or Carl Horst.

City of Aurora Building Division
Project: *AURORA MEDICAL CENTER FIRE AL*
Address: *1501 S POTOMAC ST*
Occupancy Group: *IBC I-2*
Construction Type: *IBC IA-SPK*
RSN: *1871673*
Permit: *2025 2503873-LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

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 BROUGHT TO 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(S)
1N	EPR#	4009 TRUEALERT ADDRESSABLE IDNAC REPEATER, 120/240 VAC, PLATINUM	4009-9601	SIMPLEX CABINET	
		SET OF (2) 7.0 AH BATTERIES	2081-9286		
	FAA	EXISTING FIRE ALARM ANNUNCIATOR	EXISTING	MOUNTS TO WALL	
		INITIATING DEVICES			
3N	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
3N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ EXISTING STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
		EXISTING SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ EXISTING STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
2N	S_C	CONVENTIONAL SMOKE PHOTO 4W 12/24VDC	4W-B	4" OCT, 1-1/2" D	Z
		EXISTING HEAT SENSORS	EXISTING	EXISTING	
1N	F	DOUBLE ACTION MANUAL PUSH/PULL STATION, ADDRESSABLE	4099-9006	4" SQ, 2-1/8" D W/ 3/4" SINGLE GANG COVER EXTENSION	M
	F	EXISTING MAPNET SINGLE ACTION PULL STATION	2099-9795		
		MODULES AND RELAYS			
1N	M_P	MONITOR ZAM, CLASS B, ADDRESSABLE	4090-9101	4-11/16" SQ, 1-1/2" D W/1-1/2" EXT RING	M,P
		TRIM PLATE FOR SEMI-FLUSH MOUNTING	4090-9801		
	M_P	EXISTING MONITOR ZAM	2190-9155	4" SQ, 2-1/8" D W/ 1-1/2" EXT RING	M
		NOTIFICATION APPLIANCES			
2N	#	MULTI-TONE HORN/STROBE, ADDRESSABLE, WALL MOUNT, RED, FIRE LETTERING	49MTV-WRF	SINGLE GANG 1-1/2" D	A
1N	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		
1N	#	STROBE, ADDRESSABLE, WALL MOUNT, CLEAR LENS, RED, FIRE LETTERING	49VO-WRF	SINGLE GANG 1-1/2" D	A
		MISCELLANEOUS DEVICES			
1N	$3.3K$	END-OF-LINE RESISTOR 3.3kΩ, 1W (EOL)	4081-9002		
	$100K$	EXISTING END-OF-LINE RESISTOR 100K	EXISTING	EXISTING	

GENERAL NOTES:
1. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR MODIFIED.
2. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING TO REMAIN.

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR *	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
Mi	MAPNET/IDNET	STP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X				
Mm	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X				
P	POWER	2 COND. SOLID	14 AWG		X	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.
STP = SHIELDED TWISTED PAIR
UTP = UNSHIELDED TWISTED PAIR
SUBSCRIPT "J" = UNSHIELDED CABLES MIXED WITH SHIELDED CABLES OF SAME CIRCUIT DESIGNATION
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), 2021 EDITION
INTERNATIONAL FIRE CODE (IFC), 2021 EDITION
NATIONAL ELECTRIC CODE (NFPA 70), 2023 EDITION
NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72), 2022 EDITION 2019
LIFE SAFETY CODE (NFPA 101), 2012 (STATE) EDITION
ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, 2017 EDITION
ADA STANDARDS FOR ACCESSIBLE DESIGN, 2023 EDITION
COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT - HOSPITAL LICENSING RULES, 2021 EDITION

OCCUPANCY TYPE(S): I-2 INSTITUTIONAL GROUP
SPRINKLER PROTECTION: BUILDING IS FULLY SPRINKLERED
AREA: TOTAL: APPROX. 450,396 SQ. FT. SQ. FT. SCOPE: APPROX. 1,140 SQ. FT.
STORIES TOTAL:6 STORIES + BASEMENT SCOPE: PARTIAL 1ST FLOOR
CONSTRUCTION: TYPE 1-A

SCOPE OF WORK

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

SCOPE OF WORK INCLUDES APPROXIMATELY 1140 SQUARE FEET ENCOMPASSING THE FIRST FLOOR OF THE MEDICAL CENTER OF AURORA - SOUTH, LOCATED AT 1501 SOUTH POTOMAC STREET, AURORA, COLORADO 80012. FIRE ALARM IS AFFECTED.

FOR INTERIM: EXISTING AREA TO RECEIVE PARTIAL DEMOLITION TO ALLOW FOR UPDATES TO THE AREA. DURING DEMOLITION, NEW INTERIM HEAT-DETECTORS TO BE INSTALLED IN SCOPE AREA FOR CONSTRUCTION. RE-USE SELECT EXISTING ADDRESSABLE STANDARD INITIATION BASES WHERE SHOWN. NEW INTERIM HEAT-DETECTORS TO REMAIN ON THE EXISTING 1:M1 CIRCUIT OF THE EXISTING NODE-1 4100U FIRE ALARM CONTROL PANEL (FACP) LOCATED IN FIRE COMMAND CENTER 1E-2902A.

FOR BUILDOUT: REMOVE INTERIM DEVICES FROM SCOPE AREA. NEW ADDRESSABLE INITIATION AND NOTIFICATION DEVICES TO BE INSTALLED. NEW DEVICES WILL TIE TO EXISTING NODE-1 TRANSPONDER 4. NEW INITIATION TO TIE TO N1:M11 CIRCUIT. NEW ADDRESSABLE NOTIFICATION TO TIE TO NEW ENHANCED POWER REPEATER (EPR) ON CIRCUIT N1:T4:A2:1(E3:1).

EXISTING STATIC GRAPHIC MAP AT THE FACP IN FIRE COMMAND CENTER 1E-2902A TO BE UPDATED WITH NEW ARCHITECTURE AND INITIATION DEVICES.

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

ALL NEW WIRING TO BE CLASS B.

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

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

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
AFF = ABOVE FINISHED FLOOR
AHJ = AUTHORITY HAVING JURISDICTION
ALM = ALARM
ANN = ANNUNCIATOR
BMS = BUILDING MANAGEMENT SYSTEM
C = CEILING MOUNTED
CD = CANDELA RATING
DET = DETECTOR
DGP = DATA GATHERING PANEL
E = EXISTING TO REMAIN
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
ER = ELEVATOR RECALL
FAA = FIRE ALARM ANNUNCIATOR
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBO = FURNISHED BY OTHERS
FCC = FIRE COMMAND CENTER
FSD = FIRE SMOKE DAMPER
FTR = FIRE ALARM TRANSPONDER
H = HIGH HUMIDITY
HT = HEIGHT
HVAC = HEATING VENTILATION & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
N = NEW
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
N.T.S. = 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

JOHNSON CONTROLS CONTACTS

Sales Representative
RYAN SCHISSEL
RYAN.SCHISSEL@JCI.COM
PHONE:720-633-5751

Project Manager
JASON ROMERO
JASON.ROMERO@JCI.COM
PHONE:303-349-9483

Drawings Prepared By
JOSUE R. ROJAS L.
JOSUEORODRIGO.ROJAS.LOZANO@JCI.COM
PHONE:913-660-9415

Drawings Checked By
NANCY WILTSIE
NANCY.WILTSIE@JCI.COM
NICET III #93727, EXP. 03/01/2027

Drawings Reviewed By
CALE RAUCH
CALE.RAUCH@JCI.COM
NICET III #151588, EXP. 12/01/2025

PROJECT DIRECTORY

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

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

Owner
HEALTH ONE
4900 SOUTH MONACO STREET
DENVER, COLORADO 80237
PHONE: 303-846-5511

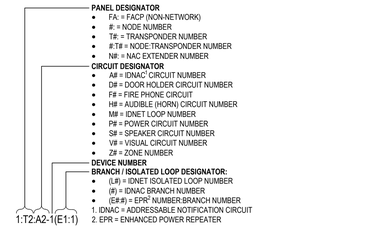
Installer
E-LIGHT ELECTRIC SERVICES, INC.
361 INVERNESS DRIVE SOUTH, SUITE B
ENGLEWOOD, COLORADO 80112
PHONE: 303-754-0001

DESIGN STATEMENT

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

ARCHITECTURAL PLANS DATED:	SEPTEMBER 05, 2023
MECHANICAL PLANS DATED:	SEPTEMBER 05, 2023
ELECTRICAL PLANS DATED:	SEPTEMBER 05, 2023
SPECIFICATIONS DATED:	SEPTEMBER 05, 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° CIRCUIT NUMBER
- D# = DOOR HOLDER CIRCUIT NUMBER
- F# = FIRE PHONE CIRCUIT
- H# = AUDIBLE (HORN) CIRCUIT NUMBER
- M# = IDNET LOOP NUMBER
- P# = POWER CIRCUIT NUMBER
- S# = SPEAKER CIRCUIT NUMBER
- V# = VISUAL CIRCUIT NUMBER
- Z# = ZONE NUMBER

DEVICE NUMBER

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

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

SYSTEM SEQUENCE OF OPERATIONS

M.C.O.A. SOUTH TOWER

SEQUENCE OF OPERATIONS

SYSTEM INPUTS	SYSTEM OUTPUTS: FACP Annunciation: ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE AUDIBLE COMMON TROUBLE SIGNAL	Notification: ACTIVATE EVACUATION SIGNALS (AUDIBLE/VISUAL)	ACTIVATE SPRINKLER BELL	DISPLAY CHANGE OF STATUS AT REMOTE ANNUNCIATOR	TRANSMIT FIRE ALARM SIGNAL TO OFF-SITE REPORTING	TRANSMIT SUPERVISORY SIGNAL TO OFF-SITE REPORTING	TRANSMIT TROUBLE SIGNAL TO OFF-SITE REPORTING	NOTIFY HOSPITAL PBX	Required Controls: TAR SHAFT DOWN	DAMPER SHAFT DOWN	DOOR HOLD (MAG LOCK RELEASE)	RELEASE CAMBER FIRE DOORS	RELEASE ASSOCIATED ROLL-UP DOOR	ELEVATOR SHAFT DOWN (*)	ELEVATOR RECALL - MAIN FLOOR	ELEVATOR RECALL - ALTERNATE FLOOR	ELEVATOR HAT FLASH	OVERRIDE MASS SYSTEM	Supplementary: SILENCE AUDIBLE SIGNAL ONLY (VISUALS TO REMAIN)	ACTIVATE OTHER HORN/STROBE ON GENERAL ALARM	RESET PANEL TO NORMAL CONDITION	
	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	Z	
1 SMOKE DETECTOR							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		2
3 SMOKE DETECTOR AT SMOKE PARTITION							X		X	X				X		X	X						X		X		3
4 MANUAL PULL STATION							X		X	X					X	X							X		X		4
5 HEAT DETECTOR							X		X	X					X	X							X		X		5
6 DUCT DETECTOR									X		X																6
7 DUCT DETECTOR AT F/S DAMPER									X		X																7
8 MAIN FLR. ELEV. LOBBY SMOKE DETECTOR							X		X	X																	8
9 ELEV. LOBBY SMOKE DETECTORS (EXCL. MAIN FLR.)							X		X	X																	9
10 ELEV. MECH. ROOM SMOKE DETECTOR							X		X	X																	10
11 ELEV. SHAFT HEAT DETECTOR							X		X	X																	11
12 ELEV. MECH. ROOM HEAT DETECTOR							X		X																		12
13 WATERFLOW SWITCH							X		X	X																	13
14 TAMPER SWITCH									X		X																14
15 POST INDICATOR VALVE SWITCH									X		X																15
16 FACP AC POWER FAILURE																											16
17 FACP LOW BATTERY																											17
18 OPEN CIRCUIT																											18
19 GROUND FAULT																											19
20 NOTIFICATION APPLIANCE CIRCUIT SHORT																											20
21 ALARM SIGNAL SILENCE																											21
22 SYSTEM RESET																											22
23 CATH LAB BUILDING ALARM																											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	Z	

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 to follow existing Sequence of Operations; no further changes to occur.

ISSUE LOG MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with Δ symbol

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	NWILTSIE
ISSUE DATE:	11/20/24
JOB #:	
PROJECT #:	419-650469413

JOHNSON CONTROLS © 2024

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **COVER SHEET**

FA-001

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

FILE PATH: C:\Users\jrojas0\OneDrive - Johnson Controls\Medical Center of Aurora\1501

14200 East Exposition Avenue
Aurora, Colorado 80012
Office: 303-355-0500
Fax: 303-262 5730

Date: January 17, 2025

Aurora Building Codes Division
15151 East Alameda Parkway, 2nd Floor Permit Center
Aurora, Colorado 80012
303-739-7420

RE: The Medical Center of Aurora - South
1501 South Potomac Street
Aurora, Colorado 80012

Scope of Work:
We have been contracted by The Medical Center of Aurora and E Light Electrical Services Inc. to perform work on the existing 4100 Johnson Controls / SimplexGrinnell Fire Alarm Control Panel (FACP) located in Fire Command Center (FCC) 1E-2902A. Architecture is being modified and built in phases. Fire alarm will be affected. The specific Fire Alarm scope area are the MRI, Imaging, and CT areas of the First Floor. Initiating and Notifying Fire Alarm is Addressable.

Please note: Each phase of this project is going to be divided up between three shop-drawings, but combined and submitted as a single permit. All three shop-drawings are within this document. The first shop-drawing (MRI) starts on page (2) of this document. The second shop-drawing (Imaging) starts on page (12) of this document. The third shop-drawing (CT) starts on page (21) of this document.

The separate Product Data-Submittal will be submitted alongside this document, with MRI starting on page (1), Imaging starting on page (49), and CT Starting on page (63).

Please see the “Scope of Work” section on the each of the aforementioned pages for each phase scope.

Please let us know if we can furnish any other information to aid in your review process.

If you should have any questions, please contact one of the below numbers. Thank you for your consideration of the information presented.

Respectfully,

Cale Rauch
Fire Alarm Designer
14200 East Exposition Avenue
Aurora, Colorado 80012
Phone: 317-760-6620
Email: cale.rauch@jci.com

Jason Romero
Project Manager
14200 East Exposition Avenue
Aurora, Colorado 80012
Phone: 303-349-9483
Email: jason.romero@jci.com

Taylor Boggio
Sales Representative
14200 East Exposition Avenue
Aurora, Colorado 80012
Phone: 720-360-6381
Email: taylor.boggio@jci.com







PERMIT #2025 2503873-LT | RSN: 1871673

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND / MODEL	BACKBOX	WIRE TYPE(S)
1N	EPR#	4009 TRUEALERT ADDRESSABLE IDNAC REPEATER, 120/240 VAC, PLATINUM	4009-9601	SIMPLEX CABINET	
		SET OF (2) 7.0 AH BATTERIES	2081-9286		
	FAA	EXISTING FIRE ALARM ANNUNCIATOR	EXISTING	MOUNTS TO WALL	
	INITIATING DEVICES				
3N	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
3N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ EXISTING STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	2	EXISTING SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ EXISTING STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
2N	S_C	CONVENTIONAL SMOKE PHOTO 4W 12/24VDC	4W-B	4" OCT, 1-1/2" D	Z
	H	EXISTING HEAT SENSORS	EXISTING	EXISTING	
1N	F	DOUBLE ACTION MANUAL PUSH/PULL STATION, ADDRESSABLE	4099-9006	4" SQ, 2-1/8" D W/ 3/4" SINGLE GANG COVER EXTENSION	M
	F	EXISTING MAPNET SINGLE ACTION PULL STATION	2099-9795		
	MODULES AND RELAYS				
1N	AIM A	MONITOR ZAM, CLASS B, ADDRESSABLE	4090-9101	4-11/16" SQ. 1-1/2" D W/1-1/2" EXT RING	M,P
		TRIM PLATE FOR SEMI-FLUSH MOUNTING	4090-9801		
	AIM	EXISTING MONITOR ZAM	2190-9155	4" SQ. 2-1/8" D W/ 1-1/2" EXT RING	M
	NOTIFICATION APPLIANCES				
2N	#	MULTI-TONE HORN/STROBE, ADDRESSABLE, WALL MOUNT, RED, FIRE LETTERING	49MTV-WRF	SINGLE GANG 1-1/2" D	A
1N	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		
1N	#	STROBE, ADDRESSABLE, WALL MOUNT, CLEAR LENS, RED, FIRE LETTERING	49VO-WRF	SINGLE GANG 1-1/2" D	A
	MISCELLANEOUS DEVICES				
1N	3.3K	END-OF-LINE RESISTOR 3.3kΩ, 1W (EOL)	4081-9002		
	100K	EXISTING END-OF-LINE RESISTOR 100K	EXISTING	EXISTING	

FIRE ALARM WIRE LEGEND

CIRCUIT DESCRIPTION		CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPL/R	FPL/P	THHN	TFFN	OUTDOOR * C.L.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft, MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X			
Mi	MAPNET/IDNET	STP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X			
Mm	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X			
P	POWER	2 COND. SOLID	14 AWG		X	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.

STP = SHIELDED TWISTED PAIR

UTP = UNSHIELDED TWISTED PAIR

SUBSCRIPT "c" = UNSHIELDED CABLES MIXED WITH SHIELDED CABLES OF SAME CIRCUIT DESIGNATION

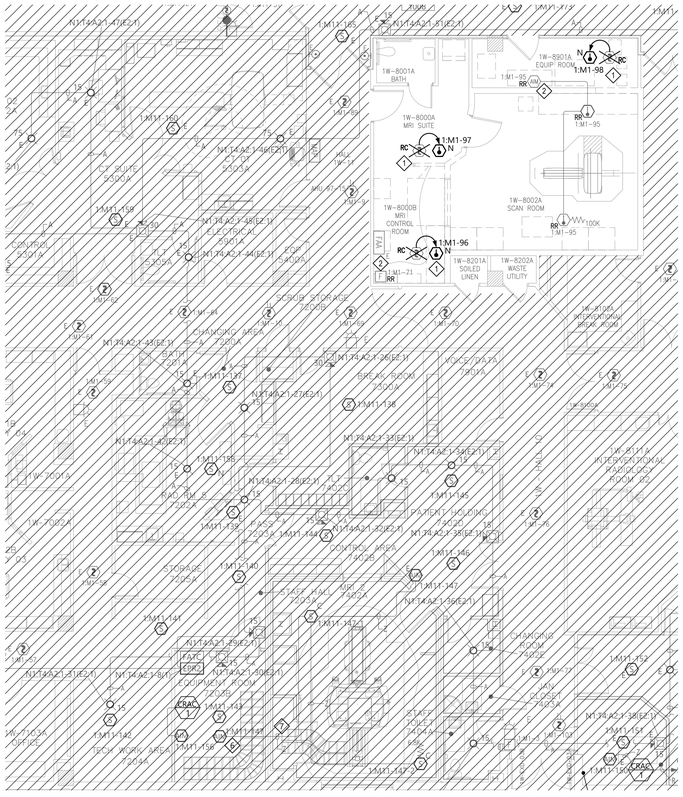
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS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

GENERAL NOTES:

1. ALL CEILINGS ARE ASSUMED TO BE 8'-5" A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
2. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.
3. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR MODIFIED.
4. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING.
5. ALL ITEMS THAT ARE HATCHED ARE NOT IN THIS SCOPE OF WORK.

KEYNOTES:

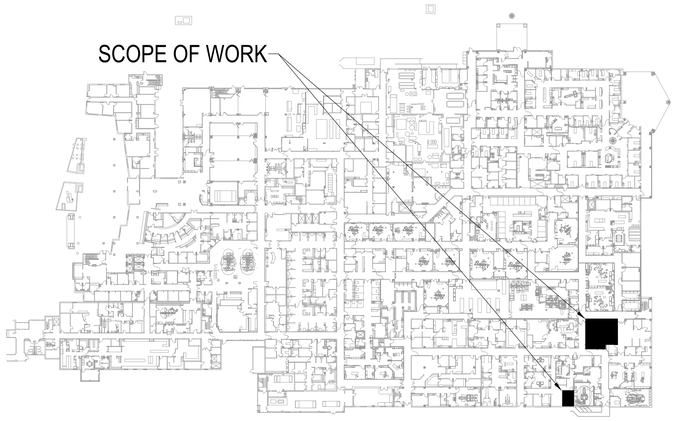
1. INTERIM HEAT DETECTOR. REUSE EXISTING BASE. RETAIN ADDRESS, WIRING, AND LOCATION FOR INTERIM ONLY. TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
2. DEVICE TO REMAIN AS INTERIM COVERAGE. TO BE REMOVED AND REPLACED WITH A NEW SIMILAR DEVICE DURING BUILDOUT.
3. EXACT DEVICE LOCATION TO BE FIELD DETERMINED BY ASSOCIATED INSTALLER.



1ST FLOOR PARTIAL DEVICE PLACEMENT PLAN - INTERIM

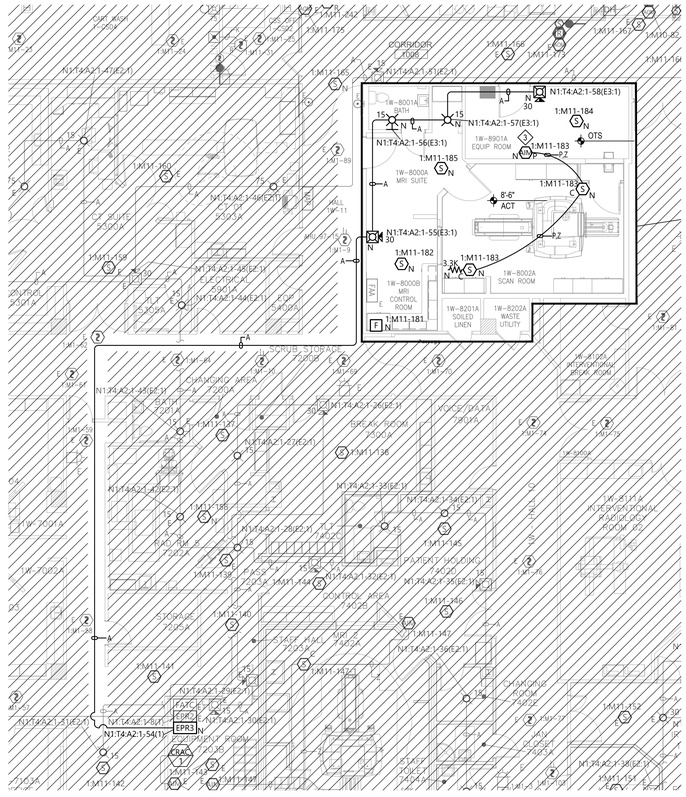
SCALE:1/8" = 1'-0"

SCALE:1/8" = 1'-0" 0 4' 8' 16' IN FEET



1ST FLOOR KEYPLAN

SCALE:N.T.S



1ST FLOOR PARTIAL DEVICE PLACEMENT PLAN - BUILDOUT

SCALE:1/8" = 1'-0"

SCALE:1/8" = 1'-0" 0 4' 8' 16' IN FEET

Johnson Controls
DISTRICT 1-415
5600 E. ARAPAHOE ROAD
AURORA, CO 80017
SERVICE: 303-355-6000
PHONE: 303.350.6500
FAX: 303.355.6615

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/21/2024

THE MEDICAL CENTER OF AURORA - SOUTH MRI REPLACEMENT

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

Revisions shown with ⚠ symbol

ISSUE LOG MARK	DATE	DESCRIPTION	CHK	CAD

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	NWILTSIE
ISSUE DATE:	11/20/24
JOB #:	
PROJECT #:	419:650469413
JOHNSON CONTROLS © 2024	

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **1ST FLOOR PARTIAL DEVICE PLACEMENT PLANS - INTERIM & BUILDOUT**

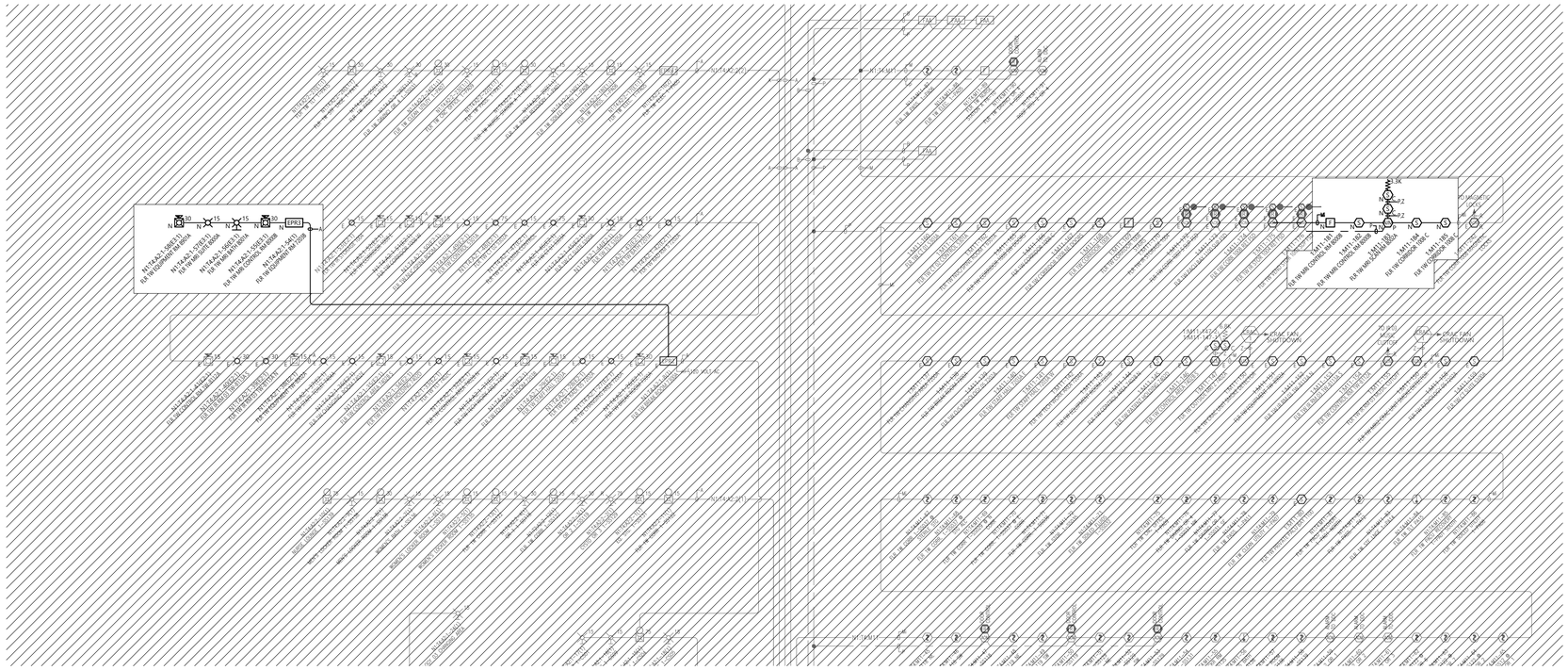
FA-101

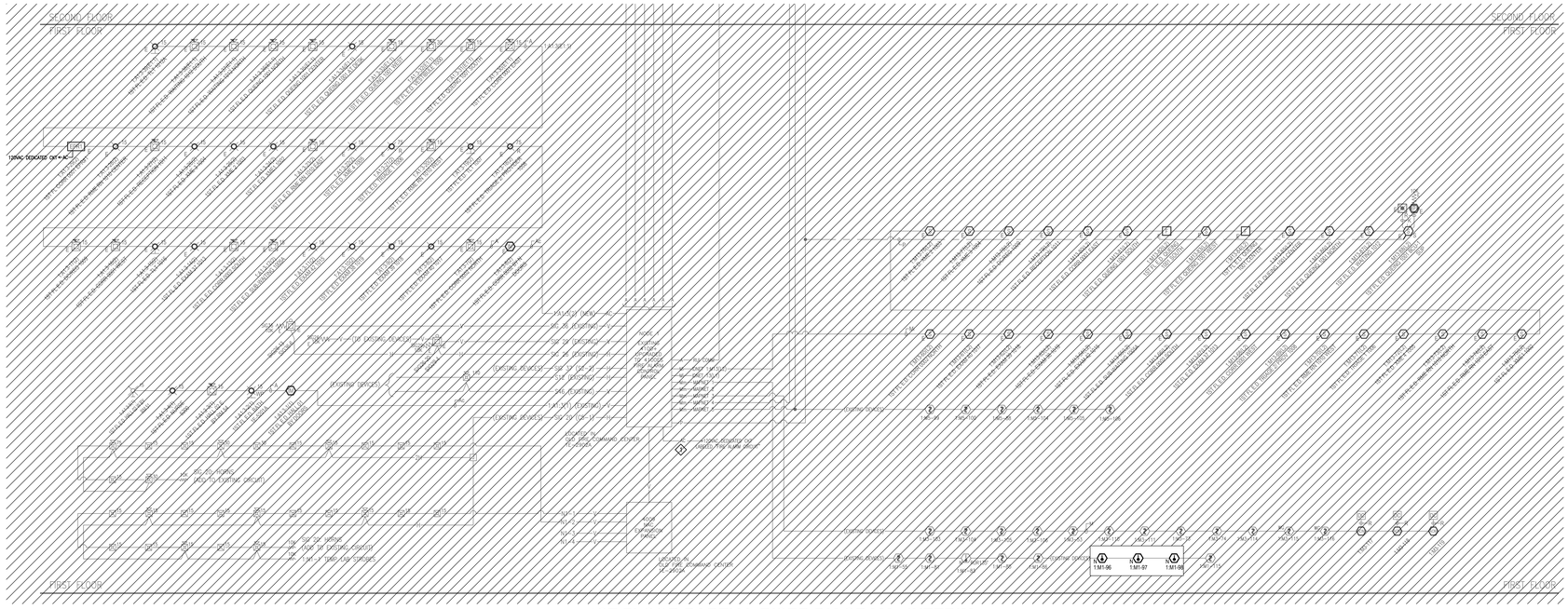
City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

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LAST PRINTED: 11/21/2024 9:06:31 AM
36" x 42" Arch E1 Size

PERMIT #2025 2503873-LT | RSN: 1871673





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

KEYED NOTES:

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

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND / MODEL	BACKBOX	WIRE TYPE(S)
1N	EPR#	4009 TRUEALERT ADDRESSABLE IDNAC REPEATER, 120/240 VAC, PLATINUM	4009-9601	SIMPLEX CABINET	
		SET OF (2) 7.0 AH BATTERIES	2081-9286		
	FAA	EXISTING FIRE ALARM ANNUNCIATOR	EXISTING	MOUNTS TO WALL	
INITIATING DEVICES					
3N	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
3N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ EXISTING STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	?	EXISTING SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ EXISTING STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
2N	S C	CONVENTIONAL SMOKE PHOTO 4W 12/24VDC	4W-B	4" OCT, 1-1/2" D	Z
	H	EXISTING HEAT SENSORS	EXISTING	EXISTING	
1N	F	DOUBLE ACTION MANUAL PUSH/PULL STATION, ADDRESSABLE	4099-9006	4" SQ, 2-1/8" D W/ 3/4" SINGLE GANG COVER EXTENSION	M
	F	EXISTING MAPNET SINGLE ACTION PULL STATION	2099-9795		
MODULES AND RELAYS					
1N	AIM P	MONITOR ZAM, CLASS B, ADDRESSABLE	4090-9101	4-11/16" SQ. 1-1/2" D W/1-1/2" EXT RING	M,P
		TRIM PLATE FOR SEMI-FLUSH MOUNTING	4090-9801		
	AIM	EXISTING MONITOR ZAM	2190-9155	4" SQ. 2-1/8" D W/ 1-1/2" EXT RING	M
NOTIFICATION APPLIANCES					
2N	#	MULTI-TONE HORN/STROBE, ADDRESSABLE, WALL MOUNT, RED, FIRE LETTERING	49MTV-WRF	SINGLE GANG 1-1/2" D	A
1N	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		
1N	#	STROBE, ADDRESSABLE, WALL MOUNT, CLEAR LENS, RED, FIRE LETTERING	49VO-WRF	SINGLE GANG 1-1/2" D	A
MISCELLANEOUS DEVICES					
1N	3.3K	END-OF-LINE RESISTOR 3.3kΩ, 1W (EOL)	4081-9002		
	100K	EXISTING END-OF-LINE RESISTOR 100K	EXISTING	EXISTING	

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR *	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
Mi	MAPNET/IDNET	STP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X				
Mm	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	X	X				
P	POWER	2 COND. SOLID	14 AWG		X	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.

STP = SHIELDED TWISTED PAIR

UTP = UNSHIELDED TWISTED PAIR

SUBSCRIPT "x" = UNSHIELDED CABLES MIXED WITH SHIELDED CABLES OF SAME CIRCUIT DESIGNATION

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.

Johnson Controls
DISTRICT 1-418
10685 E. PRESTON AVE
AURORA, CO 80012
SERVICE: 303-355-6000
PHONE: 303-360-9500
FAX: 303-355-9615

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/21/2024

THE MEDICAL CENTER OF AURORA - SOUTH MRI REPLACEMENT

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

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ISSUE LOG: MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

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CHECKED BY:	NWILTSIE
ISSUE DATE:	11/20/2024
JOB #:	
PROJECT #:	419-650469413

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SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **1ST FLOOR PARTIAL RISER DIAGRAM - INTERIM & BUILDOUT**

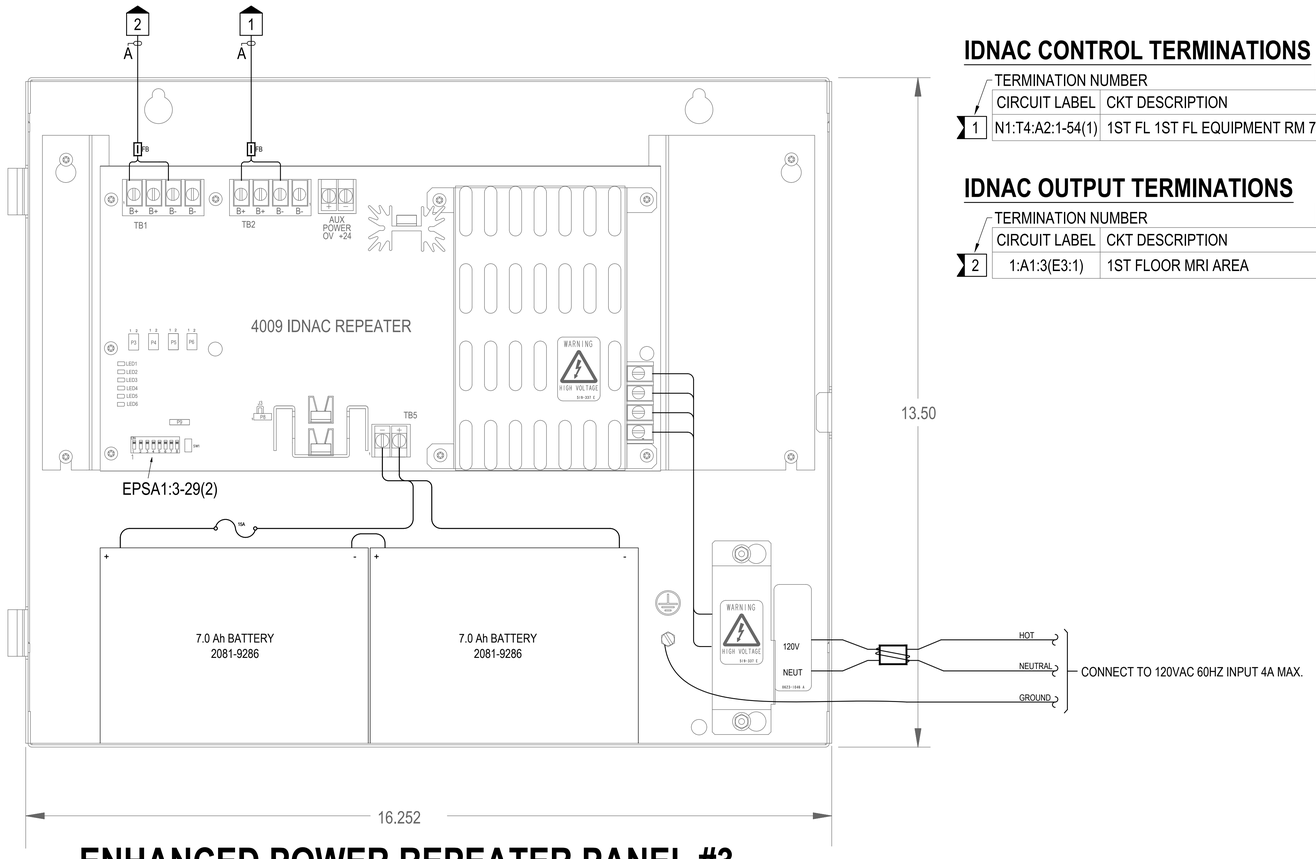
FA-201

FILE PATH: C:\Users\jrojas\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 144 - 1st MRI Replacement - 23224 - 650469413\Fire\FA-201 RISER DIAGRAM.dwg
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36" x 42" Arch E1 Size

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PANEL TERMINATION 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.



IDNAC CONTROL TERMINATIONS

TERMINATION NUMBER | ⊓ = FERRITE BEAD

	CIRCUIT LABEL	CKT DESCRIPTION	WIRE
1	N1:T4:A2:1-54(1)	1ST FL 1ST FL EQUIPMENT RM 7203B EPR#3	A

IDNAC OUTPUT TERMINATIONS

TERMINATION NUMBER | ⊓ = FERRITE BEAD

	CIRCUIT LABEL	CKT DESCRIPTION	WIRE
2	1:A1:3(E3:1)	1ST FLOOR MRI AREA	A

ENHANCED POWER REPEATER PANEL #3

LOCATED IN
1ST FL EQUIPMENT ROOM 7203B SCALE: NTS

Johnson Controls
DISTRICT - 145
MAIN: 1 HOUSTON AVE
AURORA, CO 80012
SERVICE: 303-355-6000
PHONE: 303-326-6500
FAX: 303-355-5815

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/21/2024

THE MEDICAL CENTER OF AURORA - SOUTH MRI REPLACEMENT

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

Revisions shown with ⚠ symbol

ISSUE LOG

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ISSUE DATE:	11/20/24
JOB #:	
PROJECT #:	419:650469413
JOHNSON CONTROLS © 2024	

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
4009 NAC PANEL DETAILS

FA-501

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36" x 42" Arch E1 Size

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MEDICAL CENTER OF AURORA SOUTH TOWER NODE 1 FACP

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4100-7150	1	MASTER CONTROLLER UPGRADE W/ 2X40 DISPLAY (4100 BA	0.1630	0.1630	0.2100	0.2100
4100-6078	1	NETWORK IF CARD, MODULAR	0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED	0.0550	0.1100	0.0550	0.1100
4100-0304	1	STYLE 7 REMOTE UNIT INTERFACE	0.0850	0.0850	0.0850	0.0850
4100-5005	8	ZONE MODULE, 8 IDC, CLASS B	0.0750	0.6000	0.1950	1.5600
4100-4321	10	6 CIRCUIT CLASS B (STYLE Y)	0.0250	0.2500	0.0700	0.7000
4100-3003	2	8 PT AUX RELAY MODULE 3 AMP	0.0250	0.0500	0.2800	0.5600
4100-0110	5	MAPNET II ADDRESSABLE MODULE *	0.2700	1.3500	0.2900	1.4500
4100-6005	1	MASTER CONTROLLER POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-0108	2	EXPANSION 120V 6AMP POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-6038	1	DUAL RS-232 IF CARD	0.1320	0.1320	0.1320	0.1320
4100-5101	2	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ	0.0500	0.1000	0.0500	0.1000
4100-3110	3	IDNet2+2 MODULE - UP TO 250 DEVICES 4 ISOLATED LOOPS *	0.0500	0.1500	0.1000	0.3000
4100-5325	1	ENHANCED POWER SUPPLY, 3 CHANNELS, 120V	0.1250	0.1250	0.2200	0.2200
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC	0.0700	0.0700	0.0960	0.0960
4100-96xx	3	REMOTE ANNUNCIATORS & MINIPLEX TRANSPONDERS *		RUI CURRENT DRAWS INCLUDED BELOW		
		Panel Totals		3.2310		5.5690
IDNet Addressable Devices (SLC)						
4090-9001	7	IDNET SUPERVISED IAM *				
4090-9002	1	IDNET RELAY IAM *				
4098-9714	32	TRUEALARM PHOTO SMOKE SENSOR				
4098-9733	8	TRUEALARM HEAT SENSOR				
4098-9756	3	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	1	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	39	TRUEALARM SENSOR BASE *				
4099-9006	12	ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH *				
Mapnet Addressable Devices (SLC)						
2190-9155	1	MAPNET CLASS B MONITOR ZAM *				
2190-9161	6	MAPNET CLASS B SIGNAL ZAM *				
2190-9163	44	MAPNET UNSUPERVISED CONTROL ZAM *				
2190-9172	41	MAPNET SUPERVISED IAM *				
2190-9173	3	MAPNET 2 POINT INPUT/OUTPUT ZAM *				
2099-9795	21	MAPNET SINGLE ACTION PULL STATION *				
4098-9714	**302**	**TRUEALARM PHOTO SMOKE SENSOR**				
4098-9733	**35**	**TRUEALARM HEAT SENSOR**				
4098-9756	36	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	296	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	41	TRUEALARM SENSOR BASE *				
4090-9008	3	ADDRESSABLE DUAL CONTACT RELAY IAM *				
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	39	ENCAPSULATED RELAY PAM-SD	0.0000	0.0000	0.0150	0.5850
4098-9756	39	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0030	0.1170	0.0150	0.5850
4603-9101	13	SERIAL LCD ANNUNCIATOR	0.0650	0.8450	0.1400	1.8200
2098-9808	26	REMOTE ALARM INDICATOR	0.0010	0.0260	0.0000	0.0000
2098-9806	55	REMOTE TEST STATION W/ LED AND KEY SWITCH	0.0000	0.0000	0.0000	0.0000
2190-9155	1	MAPNET CLASS B MONITOR ZAM	0.0200	0.0200	0.0900	0.0900
2190-9163	45	MAPNET UNSUPERVISED CONTROL ZAM	0.0100	0.4500	0.0400	1.8000
2190-9161	6	MAPNET CLASS B SIGNAL ZAM	0.0150	0.0900	0.0400	0.2400
2088-9021	1	ENCAPSULATED RELAY PAM-1	0.0000	0.0000	0.0150	0.0150
Notification Appliances		**Setting**				
4009-9001	2	FOUR CIRCUIT NAC EXTENDER, 120 VAC		0.0000	0.0000	0.0150	0.0300
4903-9219	10	HORN/STROBE, NON-SYNC, RED, WALL MTD	15	0.0000	0.0000	0.0220	0.2200
4903-9292	88	CHT0-2415W-FR,CHIME/STROBE, NON-SYNC,RED, WALL MTD	15	0.0000	0.0000	0.0700	0.1600
4904-9137	105	15CD VISIBLE ONLY RED	15	0.0000	0.0000	0.0900	9.4500
4906-9101	1	V/O MC NON-ADDRESS, RED, WALL	15	0.0000	0.0000	0.0600	0.0600
4906-9101	5	V/O MC NON-ADDRESS, RED, WALL	75	0.0000	0.0000	0.1860	0.9300
CHT0-2415T5W-FR (C)	1	CHIME, NON-SYNC,RED, WALL MTD	CHIME	0.0000	0.0000	0.0220	0.0220
CHT0-24MCW-FR	4	MULTI CD CHIME STROBE, WALL MNT, RED	15	0.0000	0.0000	0.0820	0.3280
RSS-24MCW-FR	1	MULTI CD STROBE, WALL MNT, RED	15	0.0000	0.0000	0.0600	0.0600
IDNac Notification Appliances		**Setting**				
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC *		0.0032	0.0032	0.0032	0.0032
4905-9929	2	TRUEALERT ISOLATOR MODULE		0.0032	0.0064	0.0100	0.0200
49MTV-WRF	38	MULTI-TONE A/V, RED, WALL MOUNT	15	0.0016	0.0608	0.1450	5.5100
49MTV-WRF	1	MULTI-TONE A/V, RED, WALL MOUNT	185	0.0016	0.0016	0.2990	0.2990
49MTV-WRF	4	MULTI-TONE A/V, RED, WALL MOUNT	30	0.0016	0.0064	0.1630	0.6520
49VO-APPLC	31	STROBE, APPLIANCE ONLY, CEILING MOUNT	15	0.0008	0.0248	0.0550	1.7050
49VO-APPLC	1	STROBE, APPLIANCE ONLY, CEILING MOUNT	30	0.0008	0.0008	0.0830	0.0830
49VO-WRFO	2	VO, WALL MT, RED, FIRE LABEL, WEATHERPROOF	15	0.0008	0.0016	0.0600	0.1200
49VOH-WRF	4	VO, WALL MT, RED, FIRE LABEL	15	0.0008	0.0032	0.0470	0.1880
49VOH-APPLCR	2	STROBE, APPLIANCE ONLY, CEILING MOUNT, RED LENS	75	0.0008	0.0016	0.1280	0.2560
		Total IDNac Device Current:			0.1104		8.8362
		IDNac Current Boost for 29vdc Regulated Output **					5.0377
		Peripheral Totals		1.5480			36.2689
		RUI Totals	16	0.0560			0.0560
		Address Totals	578.5 Addresses	0.9268			0.9394
		System Totals*:	**Standby**	5.8722	**Alarm**		42.8333

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

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

1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.

Battery Set #1 (Cabinet/Charger #1)

Select ALL Power Supplies on this battery set:	Standby Current	Standby Total	Alarm Current	Alarm Total
PS-1		1.3150		6.9520
PS-2		1.0530		11.0640
PS-3		1.9310		8.9410
XPS-1		0.1560		0.5110
XPS-2		0.1000		0.1500
EPS-1		0.3200		7.9022
	Sub Total	**4.8750**		**35.5202**
Additional Current Draws:				
RUI Connected Peripheral Devices 16	x 0.0035	= 0.0560	x 0.0035	= 0.0560
MAPNET/IDNet Device Address Communication Current 579	x 0.001602	= 0.9268	x 0.001624	= 0.9394
	Sub Total	**5.8578**		**40.8235**
Spare addressable point capacity 20% 116	x 0.001602	= 0.1858	x 0.001624	= 0.1884
	Total	**6.0436**		**41.0119**
Standby Time = 4 Hrs	x 6.0436	= 24.1743	Standby Ah	
Alarm Time = 5 Min	0.08333 x 41.0119	= 3.4177	Alarm Ah	
		27.5920		
Additional Spare Battery Capacity = 20%	+	5.5184		
		33.1104		
Battery Discharge Factor = 25%	+	8.2776		
Minimum Battery Required 2081-9296 50AH (2x)		**41.3880**		
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.**

Repeater Power Supply Battery Set:

	Standby Total	Alarm Total
EPR-1	0.0144	**1.2800**
Additional Current Draw:		
IDNac Current Boost for 29vdc Regulated Output **	0.0000	0.7298
Total	**0.0144**	**2.0098**
Standby Time = 4 Hrs	x 0.0144	= 0.0576 Standby Ah
Alarm Time = 5 Min	0.08333 x 2.0098	= 0.1675 Alarm Ah
	0.2251	
Additional Spare Battery Capacity = 20%	+ 0.0450	
	0.2701	
Battery Discharge Factor = 25%	+ 0.0675	
Minimum Battery Required 2081-9272 6.2AH (2x)	**0.3376**	
Battery Supplied 2081-9274 10AH (2x)		

MAPNET CHANNEL 1:M1

Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8	9
1:M1-1	ADRPUL	PULL	1:M1-1 FLR 1 W - EXIT BY X-RAY WAITING	X							ON	
1:M1-2	ADRPUL	PULL	1:M1-2 FLR 1W - EXIT HALL BY NUCLEAR MED		X						ON	
1:M1-3	ADRPUL	PULL	1:M1-3 FLR 1W - EXIT BY INTERVENTIONAL	X	X						ON	
1:M1-4	ADRPUL	PULL	1:M1-4 FLR 1 CENTRAL TWR EXIT BY MRI			X					ON	
1:M1-5	RPHOTO	SDUCT	1:M1-5 X-RAY ROOF - AHU-97-9 DUCT D.	X		X					ON	
1:M1-6	RPHOTO	SDUCT	1:M1-6 X-RAY ROOF - AHU-97-9 DUCT D		X	X					ON	
1:M1-7	RPHOTO	SDUCT	1:M1-7 X-RAY ROOF - AHU-97-14 DUCT D	X	X						ON	
1:M1-8	RPHOTO	SDUCT	1:M1-8 X-RAY ROOF - AHU-97-14 DUCT D.				X				ON	
1:M1-9	RPHOTO	SDUCT	1:M1-9 X-RAY ROOF - AHU-97-15 DUCT D.	X			X				ON	
1:M1-10	RPHOTO	SDUCT	1:M1-10 X-RAY ROOF - AHU-15 DUCT DET.		X		X				ON	
1:M1-11	GENIAM	SO	1:M1-11 FLR 1 CENTRAL TWR X-RAY HALL	X	X		X				ON	
1:M1-12	RZAM	RELAY	1:M1-12 X-RAY ROOF - AHU-97-9 DOWN			X	X				ON	
1:M1-13	RZAM	RELAY	1:M1-13 X-RAY ROOF AHU 97-14 SHUTDOWN	X		X	X				ON	
1:M1-14	RZAM	RELAY	1:M1-14 X-RAY ROOF AHU 97-15 SHUTDOWN		X	X	X				ON	
1:M1-15	PHOTO	VSMOKE	1:M1-15 FLR 1W - HALL BY X-RAY WAITING	X	X	X	X				ON	
1:M1-16	PHOTO	VSMOKE	1:M1-16 FLR 1W - X-RAY - PET SCAN					X			ON	
1:M1-17	PHOTO	VSMOKE	1:M1-17 FLR 1W - X-RAY - PET SCAN	X				X			ON	
1:M1-18	PHOTO	VSMOKE	1:M1-18 FLR 1W - HALL BY X-RAY WAITING		X			X			ON	
1:M1-19	PHOTO	VSMOKE	1:M1-19 FLR 1W - HALL BY X-RAY WAITING	X	X			X			ON	
1:M1-20	PHOTO	VSMOKE	1:M1-20 FLR 1W - X-RAY WAITING RM			X		X			ON	
1:M1-21	PHOTO	VSMOKE	1:M1-21 FLR 1W - HALL BY X-RAY WAITING	X		X		X			ON	
1:M1-22	PHOTO	VSMOKE	1:M1-22 FLR 1W - HALL BY X-RAY WAITING		X	X		X			ON	
1:M1-23	PHOTO	VSMOKE	1:M1-23 FLR 1W - BY PATHOLOGY STAIRS	X	X	X		X			ON	
1:M1-24	PHOTO	VSMOKE	1:M1-24 FLR 1W - HALL BY PATHOLOGY				X	X			ON	
1:M1-25	PHOTO	VSMOKE	1:M1-25 FLR 1W - HALL BY PATHOLOGY	X			X	X			ON	
1:M1-26			SPARE		X		X	X			ON	
1:M1-27			SPARE	X	X		X	X			ON	
1:M1-28			SPARE			X	X	X			ON	
1:M1-29			SPARE	X		X	X	X			ON	
1:M1-30			SPARE		X	X	X	X			ON	
1:M1-31			SPARE	X	X	X	X	X			ON	
1:M1-32			SPARE						X		ON	
1:M1-33			SPARE	X					X		ON	
1:M1-34			SPARE		X				X		ON	
1:M1-35			SPARE	X	X				X		ON	
1:M1-36	PHOTO	VSMOKE	1:M1-36 FLR 1W - PATHOLOGY LAB			X			X		ON	
1:M1-37	PHOTO	VSMOKE	1:M1-37 FLR 1W - ULTRASOUND SUITE	X		X			X		ON	
1:M1-38	PHOTO	VSMOKE	1:M1-38 FLR 1W - ULTRASOUND SUITE		X	X			X		ON	
1:M1-39	PHOTO	VSMOKE	1:M1-39 FLR 1W - HALL BY X-RAY WAITING	X	X	X			X		ON	
1:M1-40	PHOTO	VSMOKE	1:M1-40 FLR 1W - HALL BY X-RAY OFFICES				X		X		ON	
1:M1-41	PHOTO	VSMOKE	1:M1-41 FLR 1W - X-RAY WAITING RM	X			X		X		ON	
1:M1-42	PHOTO	VSMOKE	1:M1-42 FLR 1W - X-RAY OFFICE SUITE		X		X		X		ON	
1:M1-43	PHOTO	VSMOKE	1:M1-43 FLR 1W - X-RAY OFFICE SUITE	X	X		X		X		ON	
1:M1-44	PHOTO	VSMOKE	1:M1-44 FLR 1W - X-RAY OFFICE SUITE			X	X		X		ON	
1:M1-45	PHOTO	VSMOKE	1:M1-45 FLR 1W - HALL BY X-RAY OFFICES	X		X	X		X		ON	
1:M1-46	PHOTO	VSMOKE	1:M1-46 FLR 1W - HALL BY X-RAY OFFICES		X	X	X		X		ON	
1:M1-47	PHOTO	VSMOKE	1:M1-47 FLR 1W - HALL BY NUCLEAR MED	X	X	X	X		X		ON	
1:M1-48	PHOTO	VSMOKE	1:M1-48 FLR 1W - HALL BY NUCLEAR MED					X	X		ON	
1:M1-49	PHOTO	VSMOKE	1:M1-49 FLR 1W - HALL BY NUCLEAR MED	X				X	X		ON	
1:M1-50	PHOTO	VSMOKE	1:M1-50 FLR 1W - NUCLEAR MEDICINE		X			X	X		ON	
1:M1-51	PHOTO	VSMOKE	1:M1-51 FLR 1W - NUCLEAR MEDICINE	X	X			X	X		ON	
1:M1-52	PHOTO	VSMOKE	1:M1-52 FLR 1W - NUCLEAR MED HOT LAB			X		X	X		ON	
1:M1-53	PHOTO	VSMOKE	1:M1-53 FLR 1W - HALL BY NUCLEAR MED	X		X		X	X		ON	
1:M1-54	PHOTO	VSMOKE	1:M1-54 FLR 1W - EXIT HALL BY X-RAY 4		X	X		X	X		ON	
1:M1-55	PHOTO	VSMOKE	1:M1-55 FLR 1W - EXIT HALL BY X-RAY 3	X	X	X		X	X		ON	
1:M1-56	PHOTO	VSMOKE	1:M1-56 FLR 1W - INTER-HALL BY X-RAY 3				X	X	X		ON	
1:M1-57	PHOTO	VSMOKE	1:M1-57 FLR 1W - INTER-HALL BY X-RAY 3	X			X	X	X		ON	
1:M1-58	PHOTO	VSMOKE	1:M1-58 FLR 1W - INTER-HALL BY X-RAY 3		X		X	X	X		ON	
1:M1-59	PHOTO	VSMOKE	1:M1-59 FLR 1W - INTER-HALL BY X-RAY 4	X	X		X	X	X		ON	
1:M1-60	PHOTO	VSMOKE	1:M1-60 FLR 1W - HALL BY CAT SCAN			X	X	X	X		ON	
1:M1-61	PHOTO	VSMOKE	1:M1-61 FLR 1W - HALL BY CAT SCAN	X		X	X	X	X		ON	
1:M1-62	PHOTO	VSMOKE	1:M1-62 FLR 1W - HALL BY CAT SCAN		X	X	X	X	X		ON	
1:M1-63			SPARE	X	X	X	X	X	X		ON	
1:M1-64	PHOTO	VSMOKE	1:M1-64 FLR 1W - HALL BY CAT SCAN						X		ON	
1:M1-65			SPARE	X					X		ON	
1:M1-66			SPARE		X				X		ON	
1:M1-67			SPARE	X	X				X		ON	
1:M1-68			SPARE			X			X		ON	
1:M1-69	PHOTO	VSMOKE	1:M1-69 FLR 1W - HALL BY X-RAY LOUNGE	X		X			X		ON	
1:M1-70	PHOTO	VSMOKE	1:M1-70 FLR 1W - HALL BY INTERVENTIONAL		X	X			X		ON	
1:M1-71	ADRPUL	PULL	1:M1-71 FL 1 CENTRL TWR MRI NRS STATION	X	X	X			X		ON	
1:M1-72	RZAM	RELAY	1:M1-72 FLW VDF RM M - SE HALL ACCTL ML				X		X		ON	
1:M1-73	RZAM	RELAY	1:M1-73 1ST FL ROLL UP DOOR	X			X		X		ON	
1:M1-74	PHOTO	VSMOKE	1:M1-74 FLR 1W - HALL BY INTERVENTIONAL		X		X		X		ON	
1:M1-75	PHOTO	VSMOKE	1:M1-75 FLR 1W - INTERVENTIONAL X-RAY	X	X		X		X		ON	
1:M1-76	PHOTO	VSMOKE	1:M1-76 FLR 1W - HALL BY INTERVENTIONAL			X	X		X		ON	
1:M1-77	PHOTO	VSMOKE	1:M1-77 FLR 1W - HALL BY INTERVENTIONAL	X		X	X		X		ON	
1:M1-78			SPARE		X	X	X		X		ON	
1:M1-79			SPARE	X	X	X	X		X		ON	
1:M1-80	PHOTO	VSMOKE	1:M1-80 FLR 1W - INTERVENTIONAL X-RAY					X	X		ON	
1:M1-81	PHOTO	VSMOKE	1:M1-81 FLR 1W - INTERVENTIONAL X-RAY	X				X	X		ON	
1:M1-82	PHOTO	VSMOKE	1:M1-82 FLR 1W - INTERVENTIONAL X-RAY		X			X	X		ON	
1:M1-83			SPARE	X	X			X	X		ON	
1:M1-84			SPARE			X		X	X		ON	
1:M1-85			SPARE	X		X		X	X		ON	
1:M1-86			SPARE		X	X		X	X		ON	
1:M1-87			SPARE	X	X	X		X	X		ON	
1:M1-88			SPARE				X	X	X		ON	
1:M1-89	PHOTO	VSMOKE	1:M1-89 FLR 1W - HALL BY MRI	X			X	X	X		ON	
1:M1-90			SPARE		X		X	X	X		ON	
1:M1-91	PHOTO	VSMOKE	1:M1-91 FLR 1W - X-RAY - PET SCAN	X	X		X	X	X		ON	
1:M1-92			SPARE			X	X	X	X		ON	
1:M1-93	GENIAM	SO	1:M1-93 1ST FL PHARMACY SUPPLY TAMPER	X		X	X	X	X		ON	
1:M1-94	GENIAM	WATER	1:M1-94 FLR 1W - BLOOD BANK FLOW		X	X	X	X	X		ON	
1:M1-95	MBZAM	HEAT	1:M1-95 FLR 1W - MRI SCANNER ROOM	X	X	X	X	X	X		ON	
1:M1-96	**HEAT**	**HEAT**	**1:M1-96 FLR 1W - MRI CONTROL RM INTERIM**						X	X	ON	
1:M1-97	**HEAT**	**HEAT**	**1:M1-97 FLR 1W - MRI SUITE INTERIM**	X					X	X	ON	
1:M1-98	**HEAT**	**HEAT**	**1:M1-98 FLR 1W - MRI EQUIPMENT INTERIM**		X				X	X	ON	
1:M1-99	PHOTO	VSMOKE	1:M1-99 FLR 1W - INTERVENTIONAL X-RAY	X	X				X	X	ON	
1:M1-100	PHOTO	VSMOKE	1:M1-100 FLR 1W - INTERVENTIONAL BAY 2			X			X	X	ON	
1:M1-101	PHOTO	VSMOKE	1:M1-101 FLR 1W - INTERVENTIONAL BAY 1	X		X			X	X	ON	
1:M1-102	PHOTO	VSMOKE	1:M1-102 FLR 1W - INTERVENTIONAL N.STAT.		X	X			X	X	ON	
1:M1-103			SPARE	X	X	X			X	X	ON	
1:M1-104			SPARE				X		X	X	ON	
1:M1-105			SPARE	X			X		X	X	ON	
1:M1-106	PHOTO	VSMOKE	1:M1-106 FLR 1W - ELECTRIC RM BY LAB		X		X		X	X	ON	
1:M1-107	PHOTO	VSMOKE	1:M1-107 FLR 1 W - OR STORAGE	X	X		X		X	X	ON	
1:M1-108			SPARE			X	X		X	X	ON	
1:M1-109			SPARE	X		X	X		X	X	ON	
1:M1-110			SPARE		X	X	X		X	X	ON	
1:M1-111			SPARE	X	X	X	X		X	X	ON	
1:M1-112			SPARE					X	X	X	ON	
1:M1-113			SPARE	X				X	X	X	ON	
1:M1-114			SPARE		X			X	X	X	ON	
1:M1-115	PHOTO	VSMOKE	1:M1-115 FLR 1 RADI. 03 CHANGING AREA	X	X			X	X	X	ON	
1:M1-116			SPARE			X		X	X	X	ON	
1:M1-117			SPARE	X		X		X	X	X	ON	
1:M1-118			SPARE		X	X		X	X	X	ON	
1:M1-119			SPARE	X	X	X		X	X	X	ON	
1:M1-120			SPARE				X	X	X	X	ON	
1:M1-121			SPARE	X			X	X	X	X	ON	
1:M1-122			SPARE		X		X	X	X	X	ON	
1:M1-123			SPARE	X	X		X	X	X	X	ON	
1:M1-124			SPARE			X	X	X	X	X	ON	
1:M1-125			SPARE	X		X	X	X	X	X	ON	
1:M1-126			SPARE		X	X	X	X	X	X	ON	
1:M1-127			SPARE	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.

PANEL CALCULATIONS NOTES:

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

KEYED NOTES:

1. DEVICE(S) REMOVED FROM CIRCUIT. DEVICE QUANTITY CHANGED.
2. INTERIM HEAT DETECTOR TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
3. DEVICE WAS INTERIM FOR CONSTRUCTION AND IS NOW REMOVED. DEVICE QUANTITY CHANGED.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: chorst
Date: Jan 27, 2025
2021 INTERNATIONAL CODES & 2023 NEC

Johnson Controls
DISTRICT 1-418
5251 E. WASHINGTON AVE
AURORA, CO 80017
SERVICE: 303-355-6000
PHONE: 303-326-6500
FAX: 303-355-9415

NICET CERTIFICATION INFORMATION
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/21/2024

THE MEDICAL CENTER OF AURORA - SOUTH MRI REPLACEMENT

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

Revisions shown with Δ symbol

ISSUE LOG MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	NWILTSIE
ISSUE DATE:	11/20/24
JOB #:	
PROJECT #:	419-650469413

JOHNSON CONTROLS © 2024

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **NODE-1 4100U FACP CALCULATIONS AND SCHEDULES INTERIM**

FA-601

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FILE PATH: C:\Users\jrojas\OneDrive - Johnson Controls\Medical Center of Aurora\150\ S Potomac - Aurora South\South Tower - Node 1\4-1st MRI Replacement - 23\24 - 650469413\Fire\FA-601.dwg
LAST SAVED BY: JRNUCHC
LAST PRINTED: 11/21/2024 9:07:47 AM
30" x 42" Arch E1 Size

MEDICAL CENTER OF AURORA SOUTH TOWER NODE 1 FACP

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4100-7150	1	MASTER CONTROLLER UPGRADE W/ 2X40 DISPLAY (4100 BA	0.1630	0.1630	0.2100	0.2100
4100-6078	1	NETWORK IF CARD, MODULAR	0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED	0.0550	0.1100	0.0550	0.1100
4100-0304	1	STYLE 7 REMOTE UNIT INTERFACE	0.0850	0.0850	0.0850	0.0850
4100-5005	8	ZONE MODULE, 8 IDC, CLASS B	0.0750	0.6000	0.1950	1.5600
4100-4321	10	6 CIRCUIT CLASS B (STYLE Y)	0.0250	0.2500	0.0700	0.7000
4100-3003	2	8 PT AUX RELAY MODULE 3 AMP	0.0250	0.0500	0.2800	0.5600
4100-0110	5	MAPNET II ADDRESSABLE MODULE *	0.2700	1.3500	0.2900	1.4500
4100-6005	1	MASTER CONTROLLER POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-0108	2	EXPANSION 120V 8AMP POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-6038	1	DUAL RS-232 IF CARD	0.1320	0.1320	0.1320	0.1320
4100-5101	2	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ	0.0500	0.1000	0.0500	0.1000
4100-3110	3	IDNet2+2 MODULE - UP TO 250 DEVICES 4 ISOLATED LOOPS *	0.0500	0.1500	0.1000	0.3000
4100-5325	1	ENHANCED POWER SUPPLY, 3 CHANNELS, 120V	0.1250	0.1250	0.2200	0.2200
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC	0.0700	0.0700	0.0960	0.0960
4100-96xx	3	REMOTE ANNUNCIATORS & MINIPLEX TRANSPONDERS *	RUI CURRENT DRAWS INCLUDED BELOW			
		Panel Totals		**3.2310**		**5.5690**
IDNet Addressable Devices (SLC)						
4090-9001	7	IDNET SUPERVISED IAM *	*Constant current draw of .8mA standby and 1mA alarm per address used. Devices requiring additional current are accounted for in the section labeled "Miscellaneous Peripheral Devices Requiring Additional System Power".*			
4090-9002	1	IDNET RELAY IAM *				
4098-9714	32	TRUEALARM PHOTO SMOKE SENSOR				
4098-9733	8	TRUEALARM HEAT SENSOR				
4098-9756	3	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	1	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	39	TRUEALARM SENSOR BASE *				
4099-9006	12	ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH *				
Mapnet Addressable Devices (SLC)						
2190-9161	6	MAPNET CLASS B SIGNAL ZAM *				
2190-9163	44	MAPNET UNSUPERVISED CONTROL ZAM *				
2190-9172	41	MAPNET SUPERVISED IAM *				
2190-9173	3	MAPNET 2 POINT INPUT/OUTPUT ZAM *				
2099-9795	**20**	**MAPNET SINGLE ACTION PULL STATION ***				
4098-9714	**302**	**TRUEALARM PHOTO SMOKE SENSOR**				
4098-9733	**32**	**TRUEALARM HEAT SENSOR**				
4098-9756	36	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	293	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	41	TRUEALARM SENSOR BASE *				
4090-9008	3	ADDRESSABLE DUAL CONTACT RELAY IAM *				
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	39	ENCAPSULATED RELAY PAM-SD	0.0000	0.0000	0.0150	0.5850
4098-9756	39	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0030	0.1170	0.0150	0.5850
4603-9101	13	SERIAL LCD ANNUNCIATOR	0.0650	0.8450	0.1400	1.8200
2098-9808	26	REMOTE ALARM INDICATOR	0.0010	0.0260	0.0000	0.0000
2098-9806	55	REMOTE TEST STATION W/ LED AND KEY SWITCH	0.0000	0.0000	0.0000	0.0000
2190-9155	1	MAPNET CLASS B MONITOR ZAM	0.0200	0.0200	0.0900	0.0900
2190-9163	45	MAPNET UNSUPERVISED CONTROL ZAM	0.0100	0.4500	0.0400	1.8000
2190-9161	6	MAPNET CLASS B SIGNAL ZAM	0.0150	0.0900	0.0400	0.2400
2088-9021	1	ENCAPSULATED RELAY PAM-1	0.0000	0.0000	0.0150	0.0150
Notification Appliances		**Setting**				
4009-9001	2	FOUR CIRCUIT NAC EXTENDER, 120 VAC	0.0000	0.0000	0.0150	0.0300
4903-9219	10	HORN/STROBE, NON-SYNC, RED, WALL MTD	15 0.0000	0.0000	0.0220	0.2200
4903-9292	88	CH70-2415W-FR,CHIME/STROBE, NON-SYNC,RED, WALL MTD	15 0.0000	0.0000	0.0700	6.1600
4904-9137	105	15CD VISIBLE ONLY RED	15 0.0000	0.0000	0.0900	9.4500
4906-9101	1	V/O MC NON-ADDRESS, RED, WALL	15 0.0000	0.0000	0.0600	0.0600
4906-9101	5	V/O MC NON-ADDRESS, RED, WALL	75 0.0000	0.0000	0.1860	0.9300
CH70-241575W-FR (C)	1	CHIME, NON-SYNC,RED, WALL MTD	CHIME 0.0000	0.0000	0.0220	0.0220
CH70-24MCW-FR	4	MULTI CD CHIME STROBE, WALL MNT, RED	15 0.0000	0.0000	0.0820	0.3280
RSS-24MCW-FR	1	MULTI CD STROBE, WALL MNT, RED	15 0.0000	0.0000	0.0600	0.0600
IDNac Notification Appliances		**Setting**				
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC *	0.0032	0.0032	0.0032	0.0032
4905-9929	2	TRUEALERT ISOLATOR MODULE	0.0032	0.0064	0.0100	0.0200
49MTV-WRF	38	MULTI-TONE A/V, RED, WALL MOUNT	15 0.0016	0.0608	0.1450	5.5100
49MTV-WRF	1	MULTI-TONE A/V, RED, WALL MOUNT	185 0.0016	0.0016	0.2990	0.2990
49MTV-WRF	4	MULTI-TONE A/V, RED, WALL MOUNT	30 0.0016	0.0064	0.1630	0.6520
49VO-APPLC	31	STROBE, APPLIANCE ONLY, CEILING MOUNT	15 0.0008	0.0248	0.0550	1.7050
49VO-APPLC	1	STROBE, APPLIANCE ONLY, CEILING MOUNT	30 0.0008	0.0008	0.0830	0.0830
49VO-WRFO	2	VO, WALL MT, RED, FIRE LABEL, WEATHERPROOF	15 0.0008	0.0016	0.0600	0.1200
49VO-WRF	4	VO, WALL MT, RED, FIRE LABEL	15 0.0008	0.0032	0.0470	0.1880
49VOH-APPLCR	2	STROBE, APPLIANCE ONLY, CEILING MOUNT, RED LENS	75 0.0008	0.0016	0.1280	0.2560
		Total IDNac Device Current:		**0.1104**		**8.8362**
		IDNac Current Boost for 29vdc Regulated Output **				**5.0377**
		Peripheral Totals		**1.5480**		**36.2689**
		RUI Totals 16		**0.0560**		**0.0560**
		Address Totals 573.5 **Addresses**		**0.9183**		**0.9309**
		System Totals*: **Standby**		**5.8637**	**Alarm**	**42.8248**

*** Device Address current draw included below (See Additional Current Draws):**
1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
PS-1				1.3150		6.9520
PS-2				1.0530		11.0640
PS-3				1.9310		8.9410
XPS-1				0.1560		0.5110
XPS-2				0.1000		0.1500
EPS-1				0.3200		7.9022
				Sub Total		**35.5202**
Additional Current Draws:						
RUI Connected Peripheral Devices	16	x 0.0035		= 0.0560	x 0.0035	= 0.0560
MAPNET/IDNet Device Address Communication Current	574	x 0.001601		= 0.9183	x 0.001623	= 0.9309
		Sub Total		**5.8493**		**40.8150**
Spare addressable point capacity	**20%**	115 x 0.001601		= 0.1841	x 0.001623	= 0.1867
		Total		**6.0334**		**41.0017**
Standby Time =	**4** Hrs	x 6.0334		= 24.1335	Standby Ah	
Alarm Time =	**5** Min	0.08333 x 41.0017		= 3.4168	Alarm Ah	
				27.5503		
Additional Spare Battery Capacity =	**20%**		+	5.5101		
				33.0604		
Battery Discharge Factor =	**25%**		+	8.2651		
Minimum Battery Required	**2081-9296 50AH (2x)**			**41.3255**		
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.**

Repeater Power Supply Battery Set:			Standby Total	Alarm Total
EPR-1			0.0144	**1.2800**
Additional Current Draw:				
IDNac Current Boost for 29vdc Regulated Output **			0.0000	0.7298
		Total	**0.0144**	**2.0098**
Standby Time =	**4** Hrs	x 0.0144	= 0.0576	Standby Ah
Alarm Time =	**5** Min	0.08333 x 2.0098	= 0.1675	Alarm Ah
			0.2251	
Additional Spare Battery Capacity =	**20%**	+	0.0450	
			0.2701	
Battery Discharge Factor =	**25%**	+	0.0675	
Minimum Battery Required	**2081-9272 6.2AH (2x)**		**0.3376**	
Battery Supplied	**2081-9274 10AH (2x)**			

MAPNET CHANNEL 1:M1

Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1	2	3	4	5	6	7	8		9
1:M1-1	ADRPUL	PULL	1:M1-1 FLR 1 W - EXIT BY X-RAY WAITING	X								ON	
1:M1-2	ADRPUL	PULL	1:M1-2 FLR 1W - EXIT HALL BY NUCLEAR MED		X							ON	
1:M1-3	ADRPUL	PULL	1:M1-3 FLR 1W - EXIT BY INTERVENTIONAL	X	X							ON	
1:M1-4	ADRPUL	PULL	1:M1-4 FLR 1 CENTRAL TWR EXIT BY MRI			X						ON	
1:M1-5	RPHOTO	SDUCT	1:M1-5 X-RAY ROOF - AHU-97-9 DUCT D.	X		X						ON	
1:M1-6	RPHOTO	SDUCT	1:M1-6 X-RAY ROOF - AHU-97-9 DUCT D		X	X						ON	
1:M1-7	RPHOTO	SDUCT	1:M1-7 X-RAY ROOF - AHU-97-14 DUCT D	X	X	X						ON	
1:M1-8	RPHOTO	SDUCT	1:M1-8 X-RAY ROOF - AHU-97-14 DUCT D.				X					ON	
1:M1-9	RPHOTO	SDUCT	1:M1-9 X-RAY ROOF - AHU-97-15 DUCT D.	X			X					ON	
1:M1-10	RPHOTO	SDUCT	1:M1-10 X-RAY ROOF - AHU-15 DUCT DET.		X		X					ON	
1:M1-11	GENIAM	SO	1:M1-11 FLR 1 CENTRAL TWR X-RAY HALL	X	X		X					ON	
1:M1-12	RZAM	RELAY	1:M1-12 X-RAY ROOF - AHU-97-9 DOWN			X	X					ON	
1:M1-13	RZAM	RELAY	1:M1-13 X-RAY ROOF AHU 97-14 SHUTDOWN	X		X	X					ON	
1:M1-14	RZAM	RELAY	1:M1-14 X-RAY ROOF AHU 97-15 SHUTDOWN		X	X	X					ON	
1:M1-15	PHOTO	VSMOKE	1:M1-15 FLR 1W - HALL BY X-RAY WAITING	X	X	X	X					ON	
1:M1-16	PHOTO	VSMOKE	1:M1-16 FLR 1W - X-RAY - PET SCAN				X					ON	
1:M1-17	PHOTO	VSMOKE	1:M1-17 FLR 1W - X-RAY - PET SCAN	X			X					ON	
1:M1-18	PHOTO	VSMOKE	1:M1-18 FLR 1W - HALL BY X-RAY WAITING		X		X					ON	
1:M1-19	PHOTO	VSMOKE	1:M1-19 FLR 1W - HALL BY X-RAY WAITING	X	X		X					ON	
1:M1-20	PHOTO	VSMOKE	1:M1-20 FLR 1W - X-RAY WAITING RM			X	X					ON	
1:M1-21	PHOTO	VSMOKE	1:M1-21 FLR 1W - HALL BY X-RAY WAITING	X		X	X					ON	
1:M1-22	PHOTO	VSMOKE	1:M1-22 FLR 1W - HALL BY X-RAY WAITING		X	X	X					ON	
1:M1-23	PHOTO	VSMOKE	1:M1-23 FLR 1W - BY PATHOLOGY STAIRS	X	X	X	X					ON	
1:M1-24	PHOTO	VSMOKE	1:M1-24 FLR 1W - HALL BY PATHOLOGY				X	X				ON	
1:M1-25	PHOTO	VSMOKE	1:M1-25 FLR 1W - HALL BY PATHOLOGY	X			X	X				ON	
1:M1-26			SPARE		X		X	X				ON	
1:M1-27			SPARE	X	X		X	X				ON	
1:M1-28			SPARE			X	X	X				ON	
1:M1-29			SPARE	X		X	X	X				ON	
1:M1-30			SPARE		X	X	X	X				ON	
1:M1-31			SPARE	X	X	X	X	X				ON	
1:M1-32			SPARE						X			ON	
1:M1-33			SPARE	X					X			ON	
1:M1-34			SPARE		X				X			ON	
1:M1-35			SPARE	X	X				X			ON	
1:M1-36	PHOTO	VSMOKE	1:M1-36 FLR 1W - PATHOLOGY LAB			X			X			ON	
1:M1-37	PHOTO	VSMOKE	1:M1-37 FLR 1W - ULTRASOUND SUITE	X		X			X			ON	
1:M1-38	PHOTO	VSMOKE	1:M1-38 FLR 1W - ULTRASOUND SUITE		X	X			X			ON	
1:M1-39	PHOTO	VSMOKE	1:M1-39 FLR 1W - HALL BY X-RAY WAITING	X	X	X			X			ON	
1:M1-40	PHOTO	VSMOKE	1:M1-40 FLR 1W - HALL BY X-RAY OFFICES				X		X			ON	
1:M1-41	PHOTO	VSMOKE	1:M1-41 FLR 1W - X-RAY WAITNG RM	X			X		X			ON	
1:M1-42	PHOTO	VSMOKE	1:M1-42 FLR 1W - X-RAY OFFICE SUITE		X		X		X			ON	
1:M1-43	PHOTO	VSMOKE	1:M1-43 FLR 1W - X-RAY OFFICE SUITE	X	X		X		X			ON	
1:M1-44	PHOTO	VSMOKE	1:M1-44 FLR 1W - X-RAY OFFICE SUITE			X	X		X			ON	
1:M1-45	PHOTO	VSMOKE	1:M1-45 FLR 1W - HALL BY X-RAY OFFICES	X		X	X		X			ON	
1:M1-46	PHOTO	VSMOKE	1:M1-46 FLR 1W - HALL BY X-RAY OFFICES		X	X	X		X			ON	
1:M1-47	PHOTO	VSMOKE	1:M1-47 FLR 1W - HALL BY NUCLEAR MED	X	X	X	X		X			ON	
1:M1-48	PHOTO	VSMOKE	1:M1-48 FLR 1W - HALL BY NUCLEAR MED					X	X			ON	
1:M1-49	PHOTO	VSMOKE	1:M1-49 FLR 1W - HALL BY NUCLEAR MED	X				X	X			ON	
1:M1-50	PHOTO	VSMOKE	1:M1-50 FLR 1W - NUCLEAR MEDICINE		X			X	X			ON	
1:M1-51	PHOTO	VSMOKE	1:M1-51 FLR 1W - NUCLEAR MEDICINE	X	X			X	X			ON	
1:M1-52	PHOTO	VSMOKE	1:M1-52 FLR 1W - NUCLEAR MED HOT LAB			X		X	X			ON	
1:M1-53	PHOTO	VSMOKE	1:M1-53 FLR 1W - HALL BY NUCLEAR MED	X		X		X	X			ON	
1:M1-54	PHOTO	VSMOKE	1:M1-54 FLR 1W - EXIT HALL BY X-RAY 4		X	X		X	X			ON	
1:M1-55	PHOTO	VSMOKE	1:M1-55 FLR 1W - EXIT HALL BY X-RAY 3	X	X	X		X	X			ON	
1:M1-56	PHOTO	VSMOKE	1:M1-56 FLR 1W - INTER-HALL BY X-RAY 3				X	X	X			ON	
1:M1-57	PHOTO	VSMOKE	1:M1-57 FLR 1W - INTER-HALL BY X-RAY 3	X			X	X	X			ON	
1:M1-58	PHOTO	VSMOKE	1:M1-58 FLR 1W - INTER-HALL BY X-RAY 3		X		X	X	X			ON	
1:M1-59	PHOTO	VSMOKE	1:M1-59 FLR 1W - INTER-HALL BY X-RAY 4	X	X		X	X	X			ON	
1:M1-60	PHOTO	VSMOKE	1:M1-60 FLR 1W - HALL BY CAT SCAN			X	X	X	X			ON	
1:M1-61	PHOTO	VSMOKE	1:M1-61 FLR 1W - HALL BY CAT SCAN	X		X	X	X	X			ON	
1:M1-62	PHOTO	VSMOKE	1:M1-62 FLR 1W - HALL BY CAT SCAN		X	X	X	X	X			ON	
1:M1-63			SPARE	X	X	X	X	X	X			ON	
1:M1-64	PHOTO	VSMOKE	1:M1-64 FLR 1W - HALL BY CAT SCAN						X			ON	
1:M1-65			SPARE	X					X			ON	
1:M1-66			SPARE		X				X			ON	
1:M1-67			SPARE	X	X				X			ON	
1:M1-68			SPARE			X			X			ON	
1:M1-69	PHOTO	VSMOKE	1:M1-69 FLR 1W - HALL BY X-RAY LOUNGE	X		X			X			ON	
1:M1-70	PHOTO	VSMOKE	1:M1-70 FLR 1W - HALL BY INTERVENTIONAL		X	X			X			ON	
1:M1-71			SPARE	X	X	X			X			ON	
1:M1-72	RZAM	RELAY	1:M1-72 FLTW IDF RM M - SE HALL ACCTL ML				X		X			ON	
1:M1-73	RZAM	RELAY	1:M1-73 1ST FL ROLL UP DOOR	X			X		X			ON	
1:M1-74	PHOTO	VSMOKE	1:M1-74 FLR 1W - HALL BY INTERVENTIONAL		X		X		X			ON	
1:M1-75	PHOTO	VSMOKE	1:M1-75 FLR 1W - INTERVENTIONAL X-RAY	X	X		X		X			ON	
1:M1-76	PHOTO	VSMOKE	1:M1-76 FLR 1W - HALL BY INTERVENTIONAL			X	X		X			ON	
1:M1-77	PHOTO	VSMOKE	1:M1-77 FLR 1W - HALL BY INTERVENTIONAL	X		X	X		X			ON	
1:M1-78			SPARE		X	X	X		X			ON	
1:M1-79			SPARE	X	X	X	X		X			ON	
1:M1-80	PHOTO	VSMOKE	1:M1-80 FLR 1W - INTERVENTIONAL X-RAY					X	X			ON	
1:M1-81	PHOTO	VSMOKE	1:M1-81 FLR 1W - INTERVENTIONAL X-RAY	X				X	X			ON	
1:M1-82	PHOTO	VSMOKE	1:M1-82 FLR 1W - INTERVENTIONAL X-RAY		X			X	X			ON	
1:M1-83			SPARE	X	X			X	X			ON	
1:M1-84			SPARE			X		X	X			ON	
1:M1-85			SPARE	X		X		X	X			ON	
1:M1-86			SPARE		X	X		X	X			ON	
1:M1-87			SPARE	X	X	X		X	X			ON	
1:M1-88			SPARE				X	X	X			ON	
1:M1-89	PHOTO	VSMOKE	1:M1-89 FLR 1W - HALL BY MRI	X			X	X	X			ON	
1:M1-90			SPARE		X		X	X	X			ON	
1:M1-91	PHOTO	VSMOKE	1:M1-91 FLR 1W - X-RAY - PET SCAN	X	X		X	X	X			ON	
1:M1-92			SPARE			X	X	X	X			ON	
1:M1-93	GENIAM	SO	1:M1-93 1ST FL PHARMACY SUPPLY TAMPER	X		X	X	X	X			ON	
1:M1-94	GENIAM	WATER	1:M1-94 FLR 1W - BLOOD BANK FLOW		X	X	X	X	X			ON	
1:M1-95			SPARE	X	X	X	X	X	X			ON	
1:M1-96			SPARE						X	X		ON	
1:M1-97			SPARE	X					X	X		ON	
1:M1-98			SPARE		X				X	X		ON	
1:M1-99	PHOTO	VSMOKE	1:M1-99 FLR 1W - INTERVENTIONAL X-RAY	X	X				X	X		ON	
1:M1-100	PHOTO	VSMOKE	1:M1-100 FLR 1W - INTERVENTIONAL BAY 2			X			X	X		ON	
1:M1-101	PHOTO	VSMOKE	1:M1-101 FLR 1W - INTERVENTIONAL BAY 1	X		X			X	X		ON	
1:M1-102	PHOTO	VSMOKE	1:M1-102 FLR 1W - INTERVENTIONAL N.STAT.		X	X			X	X		ON	
1:M1-103			SPARE	X	X	X			X	X		ON	
1:M1-104			SPARE				X		X	X		ON	
1:M1-105			SPARE	X			X		X	X		ON	
1:M1-106	PHOTO	VSMOKE	1:M1-106 FLR 1W - ELECTRIC RM BY LAB		X		X		X	X		ON	
1:M1-107	PHOTO	VSMOKE	1:M1-107 FLR 1 W - OR STORAGE	X	X		X		X	X		ON	
1:M1-108			SPARE			X	X		X	X		ON	
1:M1-109			SPARE	X		X	X		X	X		ON	
1:M1-110			SPARE		X	X	X		X	X		ON	
1:M1-111			SPARE	X	X	X	X		X	X		ON	
1:M1-112			SPARE					X	X	X		ON	
1:M1-113			SPARE	X				X	X	X		ON	
1:M1-114			SPARE		X			X	X	X		ON	
1:M1-115	PHOTO	VSMOKE	1:M1-115 FLR 1 RADI..03 CHANGING AREA	X	X			X	X	X		ON	
1:M1-116			SPARE			X		X	X	X		ON	
1:M1-117			SPARE	X		X		X	X	X		ON	
1:M1-118			SPARE		X	X		X	X	X		ON	
1:M1-119			SPARE	X	X	X		X	X	X		ON	
1:M1-120			SPARE				X	X	X	X		ON	
1:M1-121			SPARE	X			X	X	X	X		ON	
1:M1-122			SPARE		X		X	X	X	X		ON	
1:M1-123			SPARE	X	X		X	X	X	X		ON	
1:M1-124			SPARE			X	X	X	X	X		ON	
1:M1-125			SPARE	X		X	X	X	X	X		ON	
1:M1-126			SPARE		X	X	X	X	X	X		ON	
1:M1-127			SPARE	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.

PANEL CALCULATIONS NOTES:

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

KEYED NOTES:

1. DEVICE(S) REMOVED FROM CIRCUIT. DEVICE QUANTITY CHANGED.
2. INTERIM HEAT DETECTOR TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
3. DEVICE WAS INTERIM FOR CONSTRUCTION AND IS NOW REMOVED. DEVICE QUANTITY CHANGED.

Johnson Controls
DISTRICT 1-418
10001 E. 104TH AVE
AURORA, CO 80017
SERVICE: 303-355-6000
PHONE: 303-395-6500
FAX: 303-395-6615

NICET CERTIFICATION INFORMATION
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/21/2024

THE MEDICAL CENTER OF AURORA - SOUTH MRI REPLACEMENT

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

Revisions shown with ⚠ symbol

ISSUE LOG MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	NWILTSIE
ISSUE DATE:	11/20/24
JOB #:	
PROJECT #:	419-65046413

JOHNSON CONTROLS © 2024

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **NODE-1 4100U FACP CALCULATIONS AND SCHEDULES BUILDOUT**

FA-602

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

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FILE PATH: C:\Users\jrojas\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 1\4-1st MRI Replacement - 2024 - 65046413\Fire\FA-601.dwg
LAST SAVED BY: JRAUCHC
LAST PRINTED: 11/21/2024 9:07:54 AM
30" x 42" - Arch E1 Size

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 4 4100es XPDR

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4100-9600	*1*	*BASIC TRANSPONDER 1.*	*0.0360*	*0.0360*	*0.0360*	*0.0360*
4100-0634	*1*	*POWER DISTRIBUTION MODULE 120V*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
4100-0636	*1*	*BOX TO BOX HARNESS KIT*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
4100-2300	*1*	*EXPANSION BAY (PHASE 10 ONLY)*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
4100-5311	*1*	*ENHANCED POWER SUPPLY, 3 CHANNELS, IDNet, 120V*	*0.2250*	*0.2250*	*0.4900*	*0.4900*
4009-9601	**3**	**IDNAC REPEATER 120V PLATINUM UL/ULC**	**0.0700**	**0.2100**	**0.0960**	**0.2880**
		Panel Totals		**0.4710**		**0.8140**
IDNet Addressable Devices (SLC)						
4090-9001	*3*	*IDNET SUPERVISED IAM **				
4090-9002	*41*	*IDNET RELAY IAM **				
4090-9101	**1**	**IDNET CLASS B MONITOR ZAM ***				
4098-9714	**103**	**TRUEALARM PHOTO SMOKE SENSOR**				
4098-9733	*9*	*TRUEALARM HEAT SENSOR*				
4098-9755	*2*	*TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT **				
4098-9756	*10*	*TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT **				
4098-9792	**112**	**TRUEALARM SENSOR BASE ***				
4099-9006	**6**	**ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH ***				
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	*10*	*ENCAPSULATED RELAY PAM-SD*	*0.0000*	*0.0000*	*0.0150*	*0.1500*
4098-9756	*10*	*TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT*	*0.0030*	*0.0300*	*0.0150*	*0.1500*
4603-9101	*4*	*SERIAL LCD ANNUNCIATOR*	*0.0650*	*0.2600*	*0.1400*	*0.5600*
2088-9021	*11*	*ENCAPSULATED RELAY, PAM-1*	*0.0000*	*0.0000*	*0.0150*	*0.1650*
4098-9605	*2*	*PHOTO SMOKE DETECTOR SSD*	*0.0001*	*0.0002*	*0.0000*	*0.0000*
4098-9788	*2*	*2 WIRE DETECTOR BASE*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
2098-9806	*10*	*REMOTE TEST STATION W/ LED AND KEY SWITCH*	*0.0045*	*0.0450*	*0.0000*	*0.0000*
4W-B	**2**	**4-WIRE SMOKE SENSOR**	**0.0005**	**0.0010**	**0.0200**	**0.0400**
4090-9101	**1**	**IDNET CLASS B MONITOR ZAM**	**0.0160**	**0.0160**	**0.0720**	**0.0720**
IDNAC Notification Appliances		**Setting**				
4009-9601	**3**	**IDNAC REPEATER 120V PLATINUM UL/ULC ***	**0.0032**	**0.0096**	**0.0032**	**0.0096**
4906-9202	*6*	*ADDRESSABLE CEILING MNT MC V/O, RED*	*15*	*0.0008*	*0.0048*	*0.0600*	*0.3600*
4906-9202	*1*	*ADDRESSABLE CEILING MNT MC V/O, RED*	*75*	*0.0008*	*0.0008*	*0.1800*	*0.1800*
49MT-WRF	*2*	*MULTI-TONE AUDIBLE ONLY, RED, WALL MOUNT*	*520 Hz*	*0.0016*	*0.0032*	*0.0990*	*0.1980*
49MTV-WRF	*18*	*MULTI-TONE A/V, RED, WALL MOUNT*	*15*	*0.0016*	*0.0288*	*0.1450*	*2.6100*
49MTV-WRF	**13**	**MULTI-TONE A/V, RED, WALL MOUNT**	**30**	**0.0016**	**0.0208**	**0.1630**	**2.1190**
49MTV-WRF	*6*	*MULTI-TONE A/V, RED, WALL MOUNT*	*75*	*0.0016*	*0.0096*	*0.1980*	*1.1880*
49VO-APPLC	**12**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**15**	**0.0008**	**0.0096**	**0.0550**	**0.6600**
49VO-APPLC	**2**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**30**	**0.0008**	**0.0016**	**0.0830**	**0.1660**
49VO-APPLC	**2**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**75**	**0.0008**	**0.0016**	**0.1530**	**0.3060**
49VO-APPLW	*1*	*VO APPLIANCE ONLY WALL MT.*	*15*	*0.0008*	*0.0008*	*0.0470*	*0.0470*
49VO-APPLW	*4*	*VO APPLIANCE ONLY WALL MT.*	*30*	*0.0008*	*0.0032*	*0.0570*	*0.2280*
49VO-APPLW	*1*	*VO APPLIANCE ONLY WALL MT.*	*75*	*0.0008*	*0.0008*	*0.1000*	*0.1000*
49VO-WRF	**31**	**VO, WALL MT, RED, FIRE LABEL**	**15**	**0.0008**	**0.0248**	**0.0470**	**1.4570**
49VO-WRF	*4*	*VO, WALL MT, RED, FIRE LABEL*	*30*	*0.0008*	*0.0032*	*0.0570*	*0.2280*
49VO-WRF	*1*	*VO, WALL MT, RED, FIRE LABEL*	*75*	*0.0008*	*0.0008*	*0.1000*	*0.1000*
		Total IDNAC Device Current:		**0.1240**			**9.9566**
		IDNAC Current Boost for 29vdc Regulated Output **					**5.6764**
		Peripheral Totals		**0.3522**			**16.7700**
		RUI Totals	**4**	**0.0140**			**0.0140**
		Address Totals	**175 Addresses**	**0.1400**			**0.1750**
		System Totals*:	**Standby**	**1.1012**		**Alarm**	**17.7730**

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

IDNet cards include 40mA alarm current for 20 device LEDs in alarm in addition to base current listed on datasheet.

1. Base FACP includes current draw for all included components. See data sheet for details.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
EPS-1				0.8976		7.5496
		Sub Total		**0.8976**		**7.5496**
Additional Current Draws:						
IDNAC Current Boost for 29vdc Regulated Output **						3.1919
RUI Connected Peripheral Devices	4	x 0.0035		= 0.0140	x 0.0035	= 0.0140
MAPNET/IDNet Device Address Communication Current	175	x 0.000800		= 0.1400	x 0.001000	= 0.1750
		Sub Total		**1.0516**		**10.9305**
Spare addressable point capacity	**20%**	35 x 0.0008		= 0.0280	x 0.001	= 0.0350
		Total		**1.0796**		**10.9655**
Standby Time =	4 Hrs	x 1.0796		= 4.3184 Standby Ah		
Alarm Time =	5 Min	0.08333 x 10.9655		= 0.9138 Alarm Ah		
				5.2322		
Additional Spare Battery Capacity =	**20%**		+	1.0464		
				6.2786		
Battery Discharge Factor =	**25%**		+	1.5697		
Minimum Battery Required	**2081-9274 10AH (2x)**			**7.8483**		
Battery Supplied	**2081-9287 25AH (2x)**					

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

** IDNac Current Boost formula: ((29.5 * IDNAC Alarm Current) / .925) / 20.4 - IDNAC Alarm Current

DC-DC Converter Output = 29.5vdc. Terminal Output is 29vdc due to 0.5vdc internal loss.

Converter Worst Case efficiency is 92.1%, 20.4vdc represents battery output in 85% depleted state

Repeater Power Supply Battery Set:			Standby Total	Alarm Total
EPR-1			0.0136	**1.1280**
Additional Current Draw:				
IDNac Current Boost for 29vdc Regulated Output **			0.0000	0.6431
		Total	**0.0136**	**1.7711**
Standby Time =	4 Hrs	x 0.0136	= 0.0544 Standby Ah	
Alarm Time =	5 Min	0.08333 x 1.7711	= 0.1476 Alarm Ah	
			0.2020	
Additional Spare Battery Capacity =	**20%**	+	0.0404	
			0.2424	
Battery Discharge Factor =	**25%**	+	0.0606	
Minimum Battery Required	**2081-9286 7.0AH (2x)**		**0.3030**	
Battery Supplied	**2081-9286 7.0AH (2x)**			

Repeater Power Supply Battery Set:			Standby Total	Alarm Total
EPR-2			0.0312	**2.8020**
Additional Current Draw:				
IDNac Current Boost for 29vdc Regulated Output **			0.0000	1.5975
		Total	**0.0312**	**4.3995**
Standby Time =	4 Hrs	x 0.0312	= 0.1248 Standby Ah	
Alarm Time =	5 Min	0.08333 x 4.3995	= 0.3666 Alarm Ah	
			0.4914	
Additional Spare Battery Capacity =	**20%**	+	0.0983	
			0.5897	
Additional Spare Battery Capacity =	**25%**	+	0.1474	
Minimum Battery Required	**2081-9286 7.0AH (2x)**		**0.7371**	
Battery Supplied	**2081-9286 7.0AH (2x)**			

Repeater Power Supply Battery Set:			Standby Total	Alarm Total
EPR-3			0.0048	**0.4280**
Additional Current Draw:				
IDNac Current Boost for 29vdc Regulated Output **			0.0000	0.2440
		Total	**0.0048**	**0.6720**
Standby Time =	4 Hrs	x 0.0048	= 0.0192 Standby Ah	
Alarm Time =	5 Min	0.08333 x 0.672	= 0.0560 Alarm Ah	
			0.0752	
Additional Spare Battery Capacity =	**20%**	+	0.0150	
			0.0902	
Battery Discharge Factor =	**25%**	+	0.0226	
Minimum Battery Required	**2081-9286 7.0AH (2x)**		**0.1128**	
Battery Supplied	**2081-9286 7.0AH (2x)**			

IDNET CHANNEL N1:T4M11 — **ADDRESSES IN USE: 175 (70%) | SPARE ADDRESSES: 75 (30%)**

Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1 2 3 4 5 6 7 8	
N1:T4M11-1	*PHOTO*	*SMOKE*	*1:M11-1 FLR 1W ELEC 1-CS16*	X	ON
N1:T4M11-2	*PHOTO*	*SMOKE*	*1:M11-2 FLR 1W OR-11 1-SS10 SW*	X	ON
N1:T4M11-3	*PHOTO*	*SMOKE*	*1:M11-3 FLR 1W OR-11 1-SS10 NE*	X X	ON
N1:T4M11-4	*RIAM*	*DHOLDER*	*1:M11-4 FLR 1W OR-11 1-SS100*	X	ON
N1:T4M11-5	*HEAT*	*HEAT*	*1:M11-5 FLR 1W TOILET CS15*	X X	ON
N1:T4M11-6	*PHOTO*	*VSMOKE*	*1:M11-6 FLR 1W CORR 1-CS14*	X X	ON
N1:T4M11-7	*PHOTO*	*VSMOKE*	*1:M11-7 FLR 1W CORR 1-CS14*	X X X	ON
N1:T4M11-8	*PHOTO*	*SMOKE*	*1:M11-8 FLR 1W STER STG 1-CS10 NORTH*	X	ON
N1:T4M11-9	*PHOTO*	*SMOKE*	*1:M11-9 FLR 1W STER STG 1-CS10*	X X	ON
N1:T4M11-10	*PHOTO*	*SMOKE*	*1:M11-10 FLR 1W JAN1-CS13*	X X	ON
N1:T4M11-11	*PHOTO*	*VSMOKE*	*1:M11-11 FLR 1W STORAGE 1012*	X X X	ON
N1:T4M11-12	*PHOTO*	*SMOKE*	*1:M11-12 FLR 1W STER STG 1-CS10 CTR*	X X	ON
N1:T4M11-13	*PHOTO*	*SMOKE*	*1:M11-13 FLR 1W CENTRAL STERILE*	X X X	ON
N1:T4M11-14	*PHOTO*	*SMOKE*	*1:M11-14 FLR 1W STER STG 1-CS10 SOUTH*	X X X	ON
N1:T4M11-15	*PHOTO*	*SMOKE*	*1:M11-15 FLR 1W STER STG 1-CS10 SOUTH*	X X X X	ON
N1:T4M11-16	*PHOTO*	*SMOKE*	*1:M11-16 FLR 1W MAKE UP 1-CS07 W*	X	ON
N1:T4M11-17	*PHOTO*	*SMOKE*	*1:M11-17 FL 1W CENTRAL STERILE*	X X	ON
N1:T4M11-18	*PHOTO*	*SMOKE*	*1:M11-18 FL 1W MAKE UP 1-CS07 @ CORR*	X X X	ON
N1:T4M11-19	*PHOTO*	*SMOKE*	*1:M11-19 FL 1W STERILIZER 1-CS08*	X X X	ON
N1:T4M11-20	*PHOTO*	*SMOKE*	*1:M11-20 FL 1W CLEAN STORAGE 1-CS06*	X X	ON
N1:T4M11-21	*PHOTO*	*SMOKE*	*1:M11-21 FL 1W DECON 1-CS03 NORTH*	X X X	ON
N1:T4M11-22	*PHOTO*	*SMOKE*	*1:M11-22 FL 1W DECON 1-CS03 SOUTH*	X X X	ON
N1:T4M11-23	*PHOTO*	*SMOKE*	*1:M11-23 FL 1W CART WASH 1-CS04 NORTH*	X X X X	ON
N1:T4M11-24	*PHOTO*	*SMOKE*	*1:M11-24 FL 1W CART WASH 1-CS04 SOUTH*	X X	ON
N1:T4M11-25	*PHOTO*	*SMOKE*	*1:M11-25 FL 1W CSS OFF 1-CS02*	X X X	ON
N1:T4M11-26	*PHOTO*	*SMOKE*	*1:M11-26 FL 1W DI WATER 1-CS09*	X X X	ON
N1:T4M11-27	*PHOTO*	*SMOKE*	*1:M11-27 FL 1W STORAGE 1103*	X X X	ON
N1:T4M11-28	*PHOTO*	*SMOKE*	*1:M11-28 FL 1W CLEAN STORAGE 1-CS05*	X X X	ON
N1:T4M11-29			*SPARE*	X X X X	ON
N1:T4M11-30	*RPHOTO*	*LSDUCT*	*1:M11-30 FLR 1W STER STG SUP FSD 1-CS10*	X X X X	ON
N1:T4M11-31	*RPHOTO*	*LSDUCT*	*1:M11-31 FLR 1W CARTWASH 1-CS04 RET FSD*	X X X X X	ON
N1:T4M11-32			*SPARE*	X	ON
N1:T4M11-33	*RPHOTO*	*LSDUCT*	*1:M11-33 FLR 1W SRG VEND 1-CS01 RET FSD*	X X	ON
N1:T4M11-34			*SPARE*	X X	ON
N1:T4M11-35	*RPHOTO*	*LSDUCT*	*1:M11-35 FLR 1W DECON 1- CS03 SUP FSP*	X X X	ON
N1:T4M11-36			*SPARE*	X X	ON
N1:T4M11-37			*SPARE*	X X X	ON
N1:T4M11-38			*SPARE*	X X X	ON
N1:T4M11-39	*RIAM*	*RELAY*	*1:M11-39 FLR 1W OR 811 ALARM TO DCC*	X X X	ON
N1:T4M11-40	*RIAM*	*RELAY*	*1:M11-40 FLR 1W OR 83 ALARM TO DDC*	X X	ON
N1:T4M11-41	*RPHOTO*	*LSDUCT*	*1:M11-41 FLR 1W ELEC RM 1-CS16 SUP FSD*	X X X	ON
N1:T4M11-42	*RPHOTO*	*LSDUCT*	*1:M11-42 FLR 1W ELEC RM 1-CS16 RET FSD*	X X X	ON
N1:T4M11-43	*RPHOTO*	*LSDUCT*	*1:M11-43 FLR 1W TLT 1-CS15 SUP FSD*	X X X X	ON
N1:T4M11-44	*RPHOTO*	*LSDUCT*	*1:M11-44 FLR 1W OR-11 1-SS100 RET FSD*	X X X	ON
N1:T4M11-45	*PHOTO*	*VSMOKE*	*1:M11-45 FLR 1W OR-1 1-SS118 NE*	X X X X	ON
N1:T4M11-46	*PHOTO*	*VSMOKE*	*1:M11-46 FLR 1W OR-1 1-SS118 SW*	X X X X	ON
N1:T4M11-47	*RIAM*	*DHOLDER*	*1:M11-47 FLR 1W OR-1 1-SS118 D/H*	X X X X X	ON
N1:T4M11-48	*PHOTO*	*VSMOKE*	*1:M11-48 FLR 1W OR-2 1-SS119 NE*	X X X	ON
N1:T4M11-49	*PHOTO*	*VSMOKE*	*1:M11-49 FLR 1W OR-2 1-SS119 SW*	X X X	ON
N1:T4M11-50	*RIAM*	*DHOLDER*	*1:M11-50 FLR 1W OR-2 1-SS119 D/H*	X X X	ON
N1:T4M11-51	*PHOTO*	*VSMOKE*	*1:M11-51 FLR 1W CYSTO OR-3 1-SS129 NE*	X X X X	ON
N1:T4M11-52	*PHOTO*	*VSMOKE*	*1:M11-52 FLR 1W CYSTO OR-3 1-SS129 SW*	X X X	ON
N1:T4M11-53	*RIAM*	*DHOLDER*	*1:M11-53 FLR 1W CYSTO OR-3 1-SS129 D/H*	X X X X	ON
N1:T4M11-54	*PHOTO*	*VSMOKE*	*1:M11-54 FLR 1W EQUIP STG 1-SS131*	X X X X	ON
N1:T4M11-55	*PHOTO*	*VSMOKE*	*1:M11-55 FLR 1W WOMENS LOCKER 1-SS135*	X X X X X	ON
N1:T4M11-56	*HEAT*	*HEAT*	*1:M11-56 FLR 1W WOMENS BATH 1-SS136*	X X X	ON
N1:T4M11-57	*PHOTO*	*VSMOKE*	*1:M11-57 FLR 1W MENS LOCKER 1-SS138*	X X X X	ON
N1:T4M11-58	*PHOTO*	*VSMOKE*	*1:M11-58 FLR 1W NURSE LOUNGE 1-SS139*	X X X X	ON
N1:T4M11-59			*SPARE*	X X X X X	ON
N1:T4M11-60			*SPARE*	X X X X	ON
N1:T4M11-61			*SPARE*	X X X X X	ON
N1:T4M11-62	*RPHOTO*	*LSDUCT*	*1:M11-62 FLR 1W OR-11 1-SS100 SUP FSD*	X X X X X	ON
N1:T4M11-63	*RPHOTO*	*LSDUCT*	*1:M11-63 FLR 1W CORR 1-SS112 SUP FSD*	X X X X X X	ON
N1:T4M11-64			*SPARE*	X	ON
N1:T4M11-65	*RIAM*	*RELAY*	*1:M11-65 FLR 1W OR-1 PHOENIX VALVE*	X	ON
N1:T4M11-66	*RIAM*	*RELAY*	*1:M11-66 FLR 1W OR-2 PHOENIX VALVE*	X	ON
N1:T4M11-67	*PHOTO*	*VSMOKE*	*1:M11-67 FLR 1W CORR 1-SS0237 @ STER STG*	X X	ON
N1:T4M11-68	*PHOTO*	*VSMOKE*	*1:M11-68 FLR 1W CORR 1-SS037 @ STG ALC*	X	ON
N1:T4M11-69	*PHOTO*	*VSMOKE*	*1:M11-69 FLR 1W CORR 1-SS029 @ N CORR*	X	ON
N1:T4M11-70	*PHOTO*	*SMOKE*	*1:M11-70 FLR 1W CORR 1-SS036*	X X	ON
N1:T4M11-71	*PHOTO*	*SMOKE*	*1:M11-71 FLR 1W CORR 1-SS036*	X X X	ON
N1:T4M11-72	*PHOTO*	*SMOKE*	*1:M11-72 FLR 1W STOR 1-SS035*	X	ON
N1:T4M11-73	*PHOTO*	*SMOKE*	*1:M11-73 FLR 1W SOILED FLUIDS 1-SS032*	X X	ON
N1:T4M11-74	*RIAM*	*DHOLDER*	*1:M11-74 FLR 1W OR 4 CORR 1-SS036*	X X	ON
N1:T4M11-75	*RIAM*	*RELAY*	*1:M11-75 FLR 1W OR 4 PHOENIX VALVE*	X X X	ON
N1:T4M11-76	*PHOTO*	*SMOKE*	*1:M11-76 FLR 1W DAVINCI OR 4 1-SS031 NW*	X X	ON
N1:T4M11-77	*PHOTO*	*SMOKE*	*1:M11-77 FLR 1W DAVINCI OR 4 1-SS031 SE*	X X X	ON
N1:T4M11-78	*PHOTO*	*VSMOKE*	*1:M11-78 FLR 1W PASS 1-PA11*	X X X	ON
N1:T4M11-79	*PHOTO*	*VSMOKE*	*1:M11-79 FLR 1W CLEAN UTILITY 1-PA07*	X X X X	ON
N1:T4M11-80	*PHOTO*	*VSMOKE*	*1:M11-80 FLR 1W PRIVATE PACU BAY 1100*	X	ON
N1:T4M11-81	*PHOTO*	*VSMOKE*	*1:M11-81 FLR 1W PACU RECOVERY 1-PA01 N*	X	ON
N1:T4M11-82	*PHOTO*	*VSMOKE*	*1:M11-82 FLR 1W PASS 1-PA12*	X X	ON
N1:T4M11-83	*PHOTO*	*VSMOKE*	*1:M11-83 FLR 1W STF LNGE 1-PA14*	X X X	ON
N1:T4M11-84	*HEAT*	*HEAT*	*1:M11-84 FLR 1W TLT PA15*	X X	ON
N1:T4M11-85	*PHOTO*	*SMOKE*	*1:M11-85 FLR 1W PACU RECOVERY 1-PA01 S*	X X X	ON
N1:T4M11-86	*PHOTO*	*SMOKE*	*1:M11-86 FLR 1W SOILED UTILITY 1-PA08*	X X X X	ON
N1:T4M11-87	*PHOTO*	*SMOKE*	*1:M11-87 FLR 1W PASS 1-PA06*	X X X X X	ON
N1:T4M11-88	*PHOTO*	*SMOKE*	*1:M11-88 FLR 1W ELEC 1-PA05*	X X X	ON
N1:T4M11-89	*ADRPUL*	*PULL*	*1:M11-89 FLR 1W NURSE STATION A 1-PA10*	X X X X	ON
N1:T4M11-90	*RIAM*	*RRELAY*	*1:M11-90 FLR 1W DAVINCI OR 4 1-SS029*	X X X X	ON
N1:T4M11-91			*SPARE*	X X X X X	ON
N1:T4M11-92	*PHOTO*	*VSMOKE*	*1:M11-92 FLR 1W CORR 1-SS122 @STORAGE*	X X X X	ON
N1:T4M11-93	*PHOTO*	*VSMOKE*	*1:M11-93 FLR 1W STORAGE 1-SS125*	X X X X X	ON
N1:T4M11-94			*SPARE*	X X X X X	ON
N1:T4M11-95			*SPARE*	X X X X X X	ON
N1:T4M11-96			*SPARE*	X X	ON
N1:T4M11-97			*SPARE*	X X X	ON
N1:T4M11-98			*SPARE*	X X X	ON
N1:T4M11-99			*SPARE*	X X X X	ON
N1:T4M11-100	*PHOTO*	*VSMOKE*	*1:M11-100 FLR 1W PASS 1-SS204 S*	X X X	ON
N1:T4M11-101	*PHOTO*	*VSMOKE*	*1:M11-101 FLR 1W PASS 1-SS204 CTR*	X X X X	ON
N1:T4M11-102	*PHOTO*	*VSMOKE*	*1:M11-102 FLR 1W PASS 1-SS204 N*	X X X X	ON
N1:T4M11-103	*PHOTO*	*VSMOKE*	*1:M11-103 FLR 1W STORE ROOM 1-SS201*	X X X X X	ON
N1:T4M11-104	*PHOTO*	*VSMOKE*	*1:M11-104 FLR 1W EVS 1-SS202*	X X X	ON
N1:T4M11-105	*HEAT*	*HEAT*	*1:M11-105 FLR 1W TOILET 1-SS203*	X X X	ON
N1:T4M11-106	*ADRPUL*	*PULL*	*1:M11-106 FLR 1W NURSE STATION A 1-SS205*	X X X X	ON
N1:T4M11-107	*PHOTO*	*VSMOKE*	*1:M11-107 FLR 1W PASS E 1-SS212*	X X X X	ON
N1:T4M11-108	*HEAT*	*HEAT*	*1:M11-108 FLR 1W TOILET 1-SS206*	X X X	ON
N1:T4M11-109	*PHOTO*	*VSMOKE*	*1:M11-109 FLR 1W MEDS 1-SS207*	X X X X	ON
N1:T4M11-110	*PHOTO*	*VSMOKE*	*1:M11-110 FLR 1W SOILED UTILITY 1-SS208*	X X X X X	ON
N1:T4M11-111	*PHOTO*	*VSMOKE*	*1:M11-111 FLR 1W OFFICE 1-SS209*	X X X X X X	ON
N1:T4M11-112	*PHOTO*	*VSMOKE*	*1:M11-112 FLR 1W PASSAGE 1-SS210*	X X X X	ON
N1:T4M11-113	*PHOTO*	*VSMOKE*	*1:M11-113 FLR 1W WORK ROOM 1-SS215*	X X X X	ON
N1:T4M11-114	*PHOTO*	*VSMOKE*	*1:M11-114 FLR 1W CLEAN UTILITY 1-SS214*	X X X X X	ON
N1:T4M11-115	*ADRPUL*	*PULL*	*1:M11-115 FLR 1W NURSE STATION 1-SS213*	X X X X X	ON
N1:T4M11-116	*PHOTO*	*SMOKE*	*1:M11-116 FLR 1W PASSAGE W 1-SS212*	X X X X	ON
N1:T4M11-117	*HEAT*	*HEAT*	*1:M11-117 FLR 1W TOILET 1-SS221*	X X X X	ON
N1:T4M11-118	*PHOTO*	*VSMOKE*	*1:M11-118 FLR 1W NOURISHMENT 1-SS222*	X X X X	ON
N1:T4M11-119	*PHOTO*	*VSMOKE*	*1:M11-119 FLR 1W PASS E 1-SS224*	X X X X X	ON
N1:T4M11-120	*PHOTO*	*VSMOKE*	*1:M11-120 FLR 1W PASS N 1-SS224*	X X X X	ON
N1:T4M11-121	*PHOTO*	*VSMOKE*	*1:M11-121 FLR 1W PASS S 1-SS224*	X X X X X	ON
N1:T4M11-122	*ADRPUL*	*PULL*	*1:M11-122 FLR 1W NURSE STAT C 1-SS223*	X X X X X	ON
N1:T4M11-123	*HEAT*	*HEAT*	*1:M11-123 FLR 1W TLT 1-SS219*	X X X X X	ON
N1:T4M11-124	*HEAT*	*HEAT*	*1:M11-124 FLR 1W TLT 1-SS218*	X X X X X	ON
N1:T4M11-125	*PHOTO*	*VSMOKE*	*1:M11-125 FLR 1W NURSE LOUNGE 1-SS217*	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 N1:T4M11 — **ADDRESSES IN USE: 175 (70%) | SPARE ADDRESSES: 75 (30%)**

Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1 2 3 4 5 6 7 8	
N1:T4M11-126	*HEAT*	*HEAT*	*1:M11-126 FLR 1W TOILET 1-SS220*	X X X X X X	ON
N1:T4M11-127	*PHOTO*	*VSMOKE*	*1:M11-127 FLR 1W COMM 1-SS216*	X X X X X X X	ON
N1:T4M11-128	*PHOTO*	*LSDUCT*	*1:M11-128 ROOF RTU-3 SUP DET TO DDC*	X	ON
N1:T4M11-129	*PHOTO*	*LSDUCT*	*1:M11-129 ROOF RTU-3 RET DET TO DDC*	X X	ON
N1:T4M11-130	*RIAM*	*RELAY*	*1:M11-130 ROOF RTU-3 SUPPLY TO DDC*	X X	ON
N1:T4M11-131	*RIAM*	*RELAY*	*1:M11-131 ROOF RTU-3 RETURN TO DDC*	X X X	ON
N1:T4M11-132	*RIAM*	*RELAY*	*1:M11-132 FLR 1W ALARM TO DDC AHU-3*	X X	ON
N1:T4M11-133	*RIAM*	*RELAY*	*1:M11-133 FLR 1W SUPPY FSD TO DDC AHU-3*	X X X	ON
N1:T4M11-134	*RIAM*	*RELAY*	*1:M11-134 FLR 1W RET FSD TO DDC AHU-3*	X X X	ON
N1:T4M11-135	*RIAM*	*RRELAY*	*1:M11-135 FL 1W PACU BY HALL SEC RELEASE*	X X X X	ON
N1:T4M11-136			*SPARE*	X X	ON
N1:T4M11-137	*PHOTO*	*VSMOKE*	*1:M11-137 FLR 1 1W CHANGING AREA 7200A*	X X X	ON
N1:T4M11-138	*PHOTO*	*VSMOKE*	*1:M11-138 FLR 1W BREAK RM 7300A*	X X X X	ON
N1:T4M11-139	*PHOTO*	*VSMOKE*	*1:M11-139 FLR 1W O/S RADIOLOGY 05 7202A*	X X X X	ON
N1:T4M11-140	*PHOTO*	*VSMOKE*	*1:M11-140 FLR1 1W STAFF HALL 7203A E*	X X X X	ON
N1:T4M11-141	*PHOTO*	*VSMOKE*	*1:M11-141 FLR 1W STAFF HALL 7203A W*	X X X X	ON
N1:T4M11-142	*PHOTO*	*VSMOKE*	*1:M11-142 FLR 1W TECH WORK AREA 7204A*	X X X X	ON
N1:T4M11-143	*PHOTO*	*VSMOKE*	*1:M11-143 FLR 1W EQUIPMENT RM 7203B*	X X X X X	ON
N1:T4M11-144	*PHOTO*	*VSMOKE*	*1:M11-144 FLR 1W CONTROL AREA 7402B*	X X	ON
N1:T4M11-145	*PHOTO*	*VSMOKE*	*1:M11-145 FLR 1W PATIENT HOLDING 7402D*	X X X	ON
N1:T4M11-146	*PHOTO*	*VSMOKE*	*1:M11-146 FLR1 1W CONTROL AREA 7402B S*	X X X	ON
N1:T4M11-147	*IAM*	*SMOKE*	*1:M11-147 FLR 1W MRI 2 7402A HW SMKDET*	X X X X	ON
N1:T4M11-148			*SPARE*	X X X	ON
N1:T4M11-149			*SPARE*	X X X X	ON
N1:T4M11-150	*IAM*	*SDUCT*	*1:M11-150 FLR 1W CRAC1 INTERGRAL SMK DET*	X X X X	ON
N1:T4M11-151	*PHOTO*	*VSMOKE*	*1:M11-151 FLR 1W EQUIP RM 1W-8902A*	X X X X X	ON
N1:T4M11-152	*PHOTO*	*VSMOKE*	*1:M11-152 FLR1 1R RM 03 1W-8113A N*	X X X	ON
N1:T4M11-153	*PHOTO*	*VSMOKE*	*1:M11-153 FLR1 1R RM 03 1W-8113A S*	X X X X	ON
N1:T4M11-154	*PHOTO*	*VSMOKE*	*1:M11-154 FLR 1W CONTROL RM 1W-8112A*	X X X X	ON
N1:T4M11-155	*RIAM*	*RELAY*	*1:M11-155 FLR 1W IR RM 03 MUSIC SHUT-OFF*	X X X X	ON
N1:T4M11-156	*IAM*	*LSDUCT*	*1:M11-156FLR 1W MRI2 7402A CRAC UNIT SMK*	X X X X	ON
N1:T4M11-157			*SPARE*	X X X X	ON
N1:T4M11-158	*PHOTO*	*VSMOKE*	*1:M11-158 FLR 1W RADIOLOGY 05 7202A*	X X X X X	ON
N1:T4M11-159	*PHOTO*	*VSMOKE*	*1:M11-159 FLR 1W CT SUITE 5300A*	X X X X X X	ON
N1:T4M11-160	*PHOTO*	*VSMOKE*	*1:M11-160 FLR 1W CT 01 5303A*	X	ON
N1:T4M11-161	*PHOTO*	*VSMOKE*	*1:M11-161 FLR 1W CT 02 CONTROL 5301A*	X X	ON
N1:T4M11-162	*PHOTO*	*VSMOKE*	*1:M11-162 FLR 1W NUC/SPINE ROOM 1 6307A*	X X	ON
N1:T4M11-163			*SPARE*	X X X	ON
N1:T4M11-164			*SPARE*	X X	ON
N1:T4M11-165	*PHOTO*	*VSMOKE*	*1:M11-165 FLR 1W CORRIDOR 1008 SW DOORS*	X X X	ON
N1:T4M11-166	*PHOTO*	*VSMOKE*	*1:M11-166 FLR

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 4 - EPS-1 CIRCUIT SUMMARY & VOLTAGE DROP

Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
N1:T4:A2:1	*FLR 1W OR 11, STERILE STG*	*2.244A*	*2.71%*	*40*	*805*	*25%*	*87%*
N1:T4:A2:2	*FLR 1W OR 14, PACU CORR*	*1.345A*	*3.24%*	*23*	*674*	*55%*	*84%*
N1:T4:A2:3	*FLR 1W OR RECOVERY*	*2.008A*	*4.45%*	*30*	*849*	*33%*	*78%*
EPR2	*FLR 1W MRI AREA EQUIPMENT ROOM 7203B*	*2.802A*	*6.91%*	*39*	*864*	*7%*	*67%*
EPR3	**FLR 1W MRI AREA EQUIPMENT ROOM 7203B**	**0.428A**	**1.21%**	**6**	**169**	**86%**	**94%**
EPR1	*PACU RECOVERY*	*1.126A*	*2.53%*	*17*	*337*	*62%*	*88%*

PANEL CALCULATIONS NOTES:

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

KEYED NOTES:

1. DEVICE(S) REMOVED FROM CIRCUIT. DEVICE QUANTITY CHANGED.
2. INTERIM HEAT DETECTOR TO RE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
3. DEVICE WAS INTERIM FOR CONSTRUCTION AND IS NOW REMOVED. DEVICE QUANTITY CHANGED.

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CIRCUIT N1:T4:A2:1

IDNAC Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	SWITCH SETTINGS 1	2	3	4	5	6	7	8	
N1:T4:A2:1-1	*VO*	*49VO-WRF*	*15cd*	*FLR 1W ELEC 1-CS16 T4:A2-1-1*	X								ON
N1:T4:A2:1-2	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-CS14 T4:A2-1-2*		X							ON
N1:T4:A2:1-3	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TOILET 1-CS15 T4:A2-1-3*	X	X							ON
N1:T4:A2:1-4	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-CS14 T4:A2-1-4*			X						ON
N1:T4:A2:1-5	*AO*	*49MT-WRF*	*520 Hz*	*FLR 1W CASE CARTS 1-CS11 T4:A2-1-5*	X		X						ON
N1:T4:A2:1-6	*STRB*	*4906-9202*	*75cd*	*FLR 1W STERILE STG 1-CS1 T4:A2-1-6*		X	X						ON
N1:T4:A2:1-7	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 11 LSS100 T4:A2-1-7*	X	X	X						ON
N1:T4:A2:1-8	*REPEATER*	*4009-9601*		*FLR 1W EQUIPMENT ROOM 7203B T4:A2-1-8*				X					ON
N1:T4:A2:1-9	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W MAKE UP 1-CS7 T4:A2-1-9*	X			X					ON
N1:T4:A2:1-10	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W MAKE UP 1CS7 T4:A2-1-10*		X		X					ON
N1:T4:A2:1-11	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WAKE UP 1-CS07 T4:A2-1-11*	X	X		X					ON
N1:T4:A2:1-12	*VO*	*49VO-WRF*	*30cd*	*FLR 1W STERILIZER 1-CS08 T4:A2-1-12*			X	X					ON
N1:T4:A2:1-13	*VO*	*49VO-WRF*	*30cd*	*FLR 1W CLEAN STORAGE 1-CS06 T4:A2-1-13*	X		X	X					ON
N1:T4:A2:1-14	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W DECON 1-CS03 T4:A2-1-14*		X	X						ON
N1:T4:A2:1-15	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W CART WASH 1-CS04 T4:A2-1-15*	X	X	X	X					ON
N1:T4:A2:1-16	*STRB*	*4906-9202*	*15cd*	*FLR 1W DI WATER 1-CS09 T4:A2-1-16*					X				ON
N1:T4:A2:1-17	*VO*	*49VO-WRF*	*15cd*	*FLR 1W SURGERY VEN 1-CS01 T4:A2-1-17*	X				X				ON
N1:T4:A2:1-18	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CLEAN STORAGE 1-CS05 T4:A2-1-18*		X			X				ON
N1:T4:A2:1-19	*AO*	*49MT-WRF*	*520 Hz*	*FLR 1W STERILE STG 1-CSG1 T4:A2-1-19*	X	X			X				ON
N1:T4:A2:1-20	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2-1-20*			X		X				ON
N1:T4:A2:1-21	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2-1-21*	X		X		X				ON
N1:T4:A2:1-22	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2-1-22*		X	X		X				ON
N1:T4:A2:1-23	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2-1-23*	X	X	X		X				ON
N1:T4:A2:1-24	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2-1-24*				X	X				ON
N1:T4:A2:1-25	*VO*	*49VO-APPLW*	*15cd*	*FLR 1W RADI.03 CHANG AREA T4:A2-1-25*	X			X	X				ON
N1:T4:A2:1-26	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W BREAK RM 7300A T4:A2-1-26*		X		X	X				ON
N1:T4:A2:1-27	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CHANGING AREA 7203F T4:A2-1-27*	X	X		X	X				ON
N1:T4:A2:1-28	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W O/S RAD. 05 7202A T4:A2-1-28*			X	X	X				ON
N1:T4:A2:1-29	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W STAFF HALL 7203A T4:A2-1-29*	X		X	X	X				ON
N1:T4:A2:1-30	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQUIP RM 7203B T4:A2-1-30*		X	X	X	X				ON
N1:T4:A2:1-31	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W TECH WORK AREA 7204A T4:A2-1-31*	X	X		X	X				ON
N1:T4:A2:1-32	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL AREA 7402B T4:A2-1-32*					X				ON
N1:T4:A2:1-33	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W TLT 7402C T4:A2-1-33*	X				X				ON
N1:T4:A2:1-34	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W PAT HOLDING 7402C T4:A2-1-34*		X			X				ON
N1:T4:A2:1-35	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL AREA 7402B S T4:A2-1-35*	X	X			X				ON
N1:T4:A2:1-36	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CHANGING RM 7402E T4:A2-1-36*			X		X				ON
N1:T4:A2:1-37	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W STAFF TLT 7404A T4:A2-1-37*	X		X		X				ON
N1:T4:A2:1-38	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQUIP RM 1W-6902A T4:A2-1-38*		X	X		X				ON
N1:T4:A2:1-39	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W IR RM 03 1W-8113A N T4:A2-1-39*	X	X	X		X				ON
N1:T4:A2:1-40	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W IR RM 03 1W-8113A S T4:A2-1-40*				X	X				ON
N1:T4:A2:1-41	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL RM 1W-8112A T4:A2-1-41*	X			X	X				ON
N1:T4:A2:1-42	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W RAD RM 5 7202A T4:A2-1-42*		X		X	X				ON
N1:T4:A2:1-43	*VO*	*49VO-WRF*	*15cd*	*FLR 1W BATH 7201A T4:A2-1-43*	X	X		X	X				ON
N1:T4:A2:1-44	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TLT 5305A 1-44*			X	X	X				ON
N1:T4:A2:1-45	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W CT SUITE 5300A 1-45*	X		X	X	X				ON
N1:T4:A2:1-46	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CT 01 5303A 1-46*		X	X	X	X				ON
N1:T4:A2:1-47	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CT 01 5303A CONTROL 1-47*	X	X	X	X	X				ON
N1:T4:A2:1-48	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CT 02 5302A 1-48*				X	X				ON
N1:T4:A2:1-49	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CONTROL 5301A 1-49*	X			X	X				ON
N1:T4:A2:1-50	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W NUCSPNR ROOM 1 6307A 1-50*		X		X	X				ON
N1:T4:A2:1-51	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORRIDOR 1008 W T4:A2:1-51*	X	X		X	X				ON
N1:T4:A2:1-52	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORRIDOR 1008 E T4:A2:1-52*			X	X	X				ON
N1:T4:A2:1-53	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W IR STORAGE 1004 T4:A2:1-53*	X		X	X	X				ON
N1:T4:A2:1-54	**REPEATER**	**4009-9601**		**FLR 1W EQUIPMENT RM 7203B**			X	X	X				ON
N1:T4:A2:1-55	**AV**	**49MTV-WRF**	**30cd**	**FLR 1W MRI CONTROL RM 8000B**	X	X	X		X	X			ON
N1:T4:A2:1-56	**VO**	**49VO-WRF**	**15cd**	**FLR 1W MRI BATH 8001A**					X	X			ON
N1:T4:A2:1-57	**VO**	**49VO-APPLC**	**15cd**	**FLR 1W MRI SUITE 8000A**	X				X	X			ON
N1:T4:A2:1-58	**AV**	**49MTV-WRF**	**30cd**	**FLR 1W EQUIPMENT RM 8901A**		X			X	X			ON

N1:T4:A2:1 — Notification SLC Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Class B Calculations Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*N1:T4:A2:1-1*	*PANEL*	*15*	*49VO-WRF*	*15cd*	*0.0470*	*1.059*	*0.098*	*28.902*	*Branch 1: 2.71%*
1	*N1:T4:A2:1-2*	*N1:T4:A2:1-1*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*0.955*	*0.147*	*28.756*	*Length: 805*
1	*N1:T4:A2:1-3*	*N1:T4:A2:1-2*	*22*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.750*	
1	*N1:T4:A2:1-4*	*N1:T4:A2:1-2*	*51*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.045*	*28.710*	
1	*TAP9*	*N1:T4:A2:1-2*	*18*	*JBOX*		*0.0000*	*0.618*	*0.068*	*28.688*	
1	*N1:T4:A2:1-5*	*TAP9*	*18*	*49MT-WRF*	*520 Hz*	*0.0990*	*0.339*	*0.037*	*28.650*	
1	*N1:T4:A2:1-6*	*N1:T4:A2:1-5*	*45*	*4906-9202*	*75cd*	*0.1800*	*0.180*	*0.050*	*28.600*	
1	*N1:T4:A2:1-7*	*N1:T4:A2:1-1*	*48*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.017*	*28.896*	
1	*N1:T4:A2:1-8*	*N1:T4:A2:1-25*	*89*	*4009-9601*		*0.0032*	*0.006*	*0.003*	*28.435*	
1	*N1:T4:A2:1-9*	*N1:T4:A2:1-19*	*18*	*49MTV-WRF*	*75cd*	*0.1980*	*1.119*	*0.124*	*28.547*	
1	*N1:T4:A2:1-10*	*N1:T4:A2:1-9*	*56*	*49MTV-WRF*	*75cd*	*0.1980*	*0.245*	*0.084*	*28.463*	
1	*TAP10*	*N1:T4:A2:1-9*	*29*	*JBOX*		*0.0000*	*0.676*	*0.120*	*28.426*	
1	*N1:T4:A2:1-11*	*TAP10*	*17*	*49VO-WRF*	*15cd*	*0.0470*	*0.104*	*0.011*	*28.416*	
1	*N1:T4:A2:1-12*	*TAP10*	*15*	*49VO-WRF*	*30cd*	*0.0570*	*0.057*	*0.005*	*28.421*	
1	*N1:T4:A2:1-13*	*N1:T4:A2:1-11*	*17*	*49VO-WRF*	*30cd*	*0.0570*	*0.057*	*0.006*	*28.410*	
1	*N1:T4:A2:1-14*	*TAP10*	*51*	*49MTV-WRF*	*30cd*	*0.1630*	*0.515*	*0.161*	*28.265*	
1	*TAP11*	*N1:T4:A2:1-14*	*10*	*JBOX*		*0.0000*	*0.305*	*0.019*	*28.246*	
1	*N1:T4:A2:1-15*	*TAP11*	*27*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.033*	*28.214*	
1	*N1:T4:A2:1-16*	*TAP11*	*28*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.010*	*28.237*	
1	*N1:T4:A2:1-17*	*TAP11*	*20*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.241*	
1	*N1:T4:A2:1-18*	*N1:T4:A2:1-14*	*28*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.008*	*28.257*	
1	*N1:T4:A2:1-19*	*TAP9*	*10*	*49MT-WRF*	*520 Hz*	*0.0990*	*0.279*	*0.017*	*28.670*	
1	*N1:T4:A2:1-20*	*N1:T4:A2:1-24*	*39*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.014*	*28.649*	
1	*N1:T4:A2:1-21*	*N1:T4:A2:1-5*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.001*	*28.649*	
1	*N1:T4:A2:1-22*	*N1:T4:A2:1-19*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.180*	*0.002*	*28.668*	
1	*N1:T4:A2:1-23*	*N1:T4:A2:1-22*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.120*	*0.001*	*28.667*	
1	*N1:T4:A2:1-24*	*N1:T4:A2:1-23*	*10*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.004*	*28.663*	
1	*N1:T4:A2:1-25*	*N1:T4:A2:1-10*	*85*	*49VO-APPLW*	*15cd*	*0.0470*	*0.047*	*0.025*	*28.438*	
E2:1	*N1:T4:A2:1-26*	*EPR3*	*26*	*49MTV-WRF*	*30cd*	*0.1630*	*2.802*	*0.447*	*28.553*	*Branch E2:1: 6.91%*
E2:1	*N1:T4:A2:1-27*	*N1:T4:A2:1-26*	*28*	*49VO-APPLC*	*15cd*	*0.0550*	*2.639*	*0.454*	*28.099*	*Length: 864*
E2:1	*N1:T4:A2:1-28*	*N1:T4:A2:1-27*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*2.584*	*0.333*	*27.766*	
E2:1	*N1:T4:A2:1-29*	*N1:T4:A2:1-28*	*29*	*49MTV-WRF*	*15cd*	*0.1450*	*0.345*	*0.061*	*27.704*	
E2:1	*N1:T4:A2:1-30*	*N1:T4:A2:1-29*	*18*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.022*	*27.682*	
E2:1	*N1:T4:A2:1-31*	*N1:T4:A2:1-30*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.010*	*27.672*	
E2:1	*N1:T4:A2:1-32*	*N1:T4:A2:1-28*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.966*	*0.130*	*27.635*	
E2:1	*N1:T4:A2:1-33*	*N1:T4:A2:1-32*	*24*	*49VO-APPLC*	*15cd*	*0.0550*	*0.821*	*0.121*	*27.514*	
E2:1	*N1:T4:A2:1-34*	*N1:T4:A2:1-33*	*19*	*49VO-APPLC*	*15cd*	*0.0550*	*0.766*	*0.089*	*27.425*	
E2:1	*N1:T4:A2:1-35*	*N1:T4:A2:1-34*	*29*	*49MTV-WRF*	*15cd*	*0.1450*	*0.711*	*0.109*	*27.316*	
E2:1	*N1:T4:A2:1-36*	*N1:T4:A2:1-35*	*27*	*49VO-APPLC*	*15cd*	*0.0550*	*0.566*	*0.094*	*27.222*	
E2:1	*N1:T4:A2:1-37*	*N1:T4:A2:1-36*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.511*	*0.066*	*27.156*	
E2:1	*N1:T4:A2:1-38*	*N1:T4:A2:1-37*	*34*	*49MTV-WRF*	*15cd*	*0.1450*	*0.456*	*0.095*	*27.061*	
E2:1	*N1:T4:A2:1-39*	*N1:T4:A2:1-38*	*23*	*49VO-APPLC*	*30cd*	*0.0830*	*0.311*	*0.040*	*27.021*	
E2:1	*N1:T4:A2:1-40*	*N1:T4:A2:1-39*	*47*	*49VO-APPLC*	*30cd*	*0.0830*	*0.083*	*0.024*	*26.997*	
E2:1	*N1:T4:A2:1-41*	*N1:T4:A2:1-39*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.020*	*27.001*	
E2:1	*N1:T4:A2:1-42*	*N1:T4:A2:1-28*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*1.218*	*0.157*	*27.609*	
E2:1	*N1:T4:A2:1-43*	*N1:T4:A2:1-42*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*1.163*	*0.150*	*27.459*	
E2:1	*N1:T4:A2:1-44*	*N1:T4:A2:1-43*	*27*	*49VO-WRF*	*15cd*	*0.0470*	*1.116*	*0.185*	*27.274*	
E2:1	*N1:T4:A2:1-45*	*N1:T4:A2:1-44*	*19*	*49MTV-WRF*	*30cd*	*0.1630*	*0.724*	*0.084*	*27.189*	
E2:1	*N1:T4:A2:1-46*	*N1:T4:A2:1-45*	*40*	*49VO-APPLC*	*75cd*	*0.1530*	*0.153*	*0.038*	*27.152*	
E2:1	*N1:T4:A2:1-47*	*N1:T4:A2:1-45*	*35*	*49VO-APPLC*	*15cd*	*0.0550*	*0.208*	*0.045*	*27.145*	
E2:1	*N1:T4:A2:1-48*	*N1:T4:A2:1-47*	*24*	*49VO-APPLC*	*75cd*	*0.1530*	*0.153*	*0.023*	*27.122*	
E2:1	*N1:T4:A2:1-49*	*N1:T4:A2:1-45*	*33*	*49VO-APPLC*	*15cd*	*0.0550*	*0.200*	*0.041*	*27.149*	
E2:1	*N1:T4:A2:1-50*	*N1:T4:A2:1-49*	*75*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.067*	*27.082*	
E2:1	*N1:T4:A2:1-51*	*N1:T4:A2:1-44*	*65*	*49MTV-WRF*	*15cd*	*0.1450*	*0.345*	*0.138*	*27.106*	
E2:1	*N1:T4:A2:1-52*	*N1:T4:A2:1-51*	*66*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.081*	*27.055*	
E2:1	*N1:T4:A2:1-53*	*N1:T4:A2:1-52*	*55*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.009*	*27.037*	
1	**N1:T4:A2:1-54**	**N1:T4:A2:1-8**	**10**	**4009-9601**		**0.0032**	**0.003**	**0.000**	**28.434**	**Branch 1: 2.71%**
E3:1	**N1:T4:A2:1-55**	**EPR3**	**98**	**49MTV-WRF**	**30cd**	**0.1630**	**0.428**	**0.258**	**28.742**	**Branch E3:1: 1.21%**
E3:1	**N1:T4:A2:1-56**	**N1:T4:A2:1-55**	**28**	**49VO-WRF**	**15cd**	**0.0470**	**0.265**	**0.046**	**28.697**	**Length: 169**
E3:1	**N1:T4:A2:1-57**	**N1:T4:A2:1-56**	**17**	**49VO-APPLC**	**15cd**	**0.0550**	**0.218**	**0.023**	**28.674**	
E3:1	**N1:T4:A2:1-58**	**N1:T4:A2:1-57**	**26**	**49MTV-WRF**	**30cd**	**0.1630**	**0.163**	**0.026**	**28.648**	

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CIRCUIT N1:T4:A2:2

IDNAC Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	SWITCH SETTINGS 1	2	3	4	5	6	7	8	
N1:T4:A2:2-1	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQ. STG 1-SS117 1:A2:2-1*	X								ON
N1:T4:A2:2-2	*VO*	*49VO-APPLW*	*75cd*	*FLR 1W CYSTO OR 1-SS129 1:A2:3-2*		X							ON
N1:T4:A2:2-3	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 2 1-SS119 1:A2:2-3*	X	X							ON
N1:T4:A2:2-4	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 1 1-SS118 1:A2:2-4*			X						ON
N1:T4:A2:2-5	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W WOMENS LCKR RM 1-SS135 1:A2:2-5*	X		X						ON
N1:T4:A2:2-6	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WOMENS LCKR RM 1-SS135 1:A2:2-6*		X	X						ON
N1:T4:A2:2-7	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WOMENS BATH T-SS136 1:A2:2-7*	X	X	X						ON
N1:T4:A2:2-8	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W MENS LCKR RM 1-SS138 1:A2:2-8*				X					ON
N1:T4:A2:2-9	*VO*	*49VO-WRF*	*15cd*	*FLR 1W MENS LCKR RM 1-SS138 1:A2:2-9*	X			X					ON
N1:T4:A2:2-10	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W NURSE LOUNGE 1-SS139 1:A2:2-10*		X		X					ON
N1:T4:A2:2-11	*AV*	*49MTV-WRF*	*15cd*	*SPARE*	X	X		X					ON
N1:T4:A2:2-12	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS029 @COR 1 1:A2:2-12*			X	X					ON
N1:T4:A2:2-13	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CORR 1-SS029 @COR 1 1:A2:2-13*	X		X	X					ON
N1:T4:A2:2-14				*SPARE*		X	X	X					ON
N1:T4:A2:2-15				*SPARE*	X	X	X	X					ON
N1:T4:A2:2-16	*REPEATER*	*4009-9601*		*FLR 1W ELEC 1-PA05 1:A2:2-16*				X					ON
N1:T4:A2:2-17	*VO*	*49VO-WRF*	*15cd*	*FLR 1W ELEC 1-PA05 1:A2:2-17*	X			X					ON
N1:T4:A2:2-18	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W PASS 1-PA06 1:A2:2-18*		X		X					ON
N1:T4:A2:2-19	*VO*	*49VO-WRF*	*15cd*	*FLR 1W SOIL UTILITY 1-PA08 1:A2:2-19*	X	X		X					ON
N1:T4:A2:2-20	*VO*	*49VO-WRF*	*15cd*	*FLR 1W PACU RECOVERY 1-PA01 1:A2:2-20*			X	X					ON
N1:T4:A2:2-21	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W NURSE STAT A 1-PA10 1:A2:2-21*	X		X	X					ON
N1:T4:A2:2-22	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W PASS 1-PA11 1:A2:2-22*		X	X	X					ON
N1:T4:A2:2-23	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CNC OFF 1-PA09 1:A2:2-28*	X	X	X	X					ON
N1:T4:A2:2-24	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W CL UTILITY 1-PA07 1:A2:2-29*				X					ON
N1:T4:A2:2-25	*VO*	*49VO-WRF*	*30cd*	*FLR 1W PASS 1-PA12 1:A2:2-30*	X			X					ON
N1:T4:A2:2-26	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W STAFF LOUNGE 1-PA14 1:A2:2-31*		X		X	X				ON
N1:T4:A2:2-27	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TLT 1-PA15 1:A2:2-32*	X	X		X	X				ON
N1:T4:A2:2-28	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W DAVINCI OR 4 1-SS031 1:A1:1-28*			X	X	X				ON

N1:T4:A2:2 — Distributed Load Voltage Drop

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

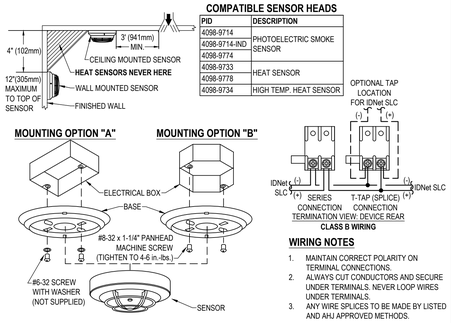
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Class B Calculations Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*TAP12*	*PANEL*	*105*	*JBOX*		*0.0000*	*1.196*	*0.172*	*28.228*	*Branch 1: 2.24%*
1	*N1:T4:A2:2-11*	*TAP12*	*18*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.016*	*28.212*	*Length: 442*
1	*N1:T4:A2:2-1*	*TAP12*	*33*	*49MTV-WRF*	*15cd*	*0.1450*	*0.359*	*0.073*	*28.155*	
1	*N1:T4:A2:2-2*	*N1:T4:A2:2-1*	*31*	*49VO-APPLW*	*75cd*	*0.1000*	*0.214*	*0.041*	*28.114*	
1	*N1:T4:A2:2-3*	*N1:T4:A2:2-2*	*43*	*49VO-APPLW*	*30cd*	*0.0570*	*0.114*	*0.031*	*28.083*	
1	*N1:T4:A2:2-12*	*N1:T4:A2:2-13*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.024*	*28.200*	
1	*N1:T4:A2:2-4*	*N1:T4:A2:2-3*	*37*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.013*	*28.070*	
1	*N1:T4:A2:2-13*	*TAP12*	*11*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.003*	*28.224*	
1	*N1:T4:A2:2-5*	*TAP12*	*19*	*49MTV-WRF*	*15cd*	*0.1450*	*0.647*	*0.075*	*28.152*	
1	*TAP13*	*N1:T4:A2:2-5*	*11*	*JBOX*		*0.0000*	*0.502*	*0.034*	*28.118*	
1	*N1:T4:A2:2-6*	*TAP13*	*19*	*49VO-WRF*	*15cd*	*0.0470*	*0.292*	*0.034*	*28.084*	
1	*N1:T4:A2:2-7*	*N1:T4:A2:2-6*	*25*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.077*	
1	*N1:T4:A2:2-8*	*TAP13*	*19*	*49MTV-WRF*	*30cd*	*0.1630*	*0.210*	*0.024*	*28.054*	
1	*N1:T4:A2:2-9*	*N1:T4:A2:2-8*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.097*	
1	*N1:T4:A2:2-10*	*N1:T4:A2:2-6*	*19*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.023*	*28.061*	
2	*N1:T4:A2:2-16*	*PANEL*	*232*	*4009-9601*		*0.0032*	*0.003*	*0.005*	*28.995*	*Branch 2: 0.02%*
E1:1	*N1:T4:A2:2-17*	*EPR1*	*18*	*49VO-WRF*	*15cd*	*0.0470*	*1.128*	*0.125*	*28.875*	*Branch E1:1: 2.53%*
E1:1	*N1:T4:A2:2-18*	*N1:T4:A2:2-17*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*1.081*	*0.166*	*28.709*	*Length: 357*
E1:1	*N1:T4:A2:2-19*	*N1:T4:A2:2-18*	*21*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.703*	
E1:1	*TAP14*	*N1:T4:A2:2-18*	*25*	*JBOX*		*0.0000*	*0.889*	*0.136*	*28.573*	
E1:1	*N1:T4:A2:2-20*	*TAP14*	*22*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.566*	
E1:1	*N1:T4:A2:2-21*	*TAP14*	*29*	*49MTV-WRF*	*30cd*	*0.1630*	*0.842*	*0.150*	*28.423*	
E1:1	*TAP15*	*N1:T4:A2:2-21*	*9*	*JBOX*		*0.0000*	*0.679*	*0.038*	*28.385*	
E1:1	*N1:T4:A2:2-22*	*TAP15*	*17*	*49MTV-WRF*	*15cd*	*0.1450*	*0.412*	*0.043*	*28.342*	
E1:1	*N1:T4:A2:2-23*	*N1:T4:A2:2-22*	*14*	*49VO-WRF*	*15cd*	*0.0470*	*0.267*	*0.023*	*28.320*	
E1:1	*N1:T4:A2:2-24*	*N1:T4:A2:2-23*	*25*	*49MTV-WRF*	*30cd*	*0.1630*	*0.220*	*0.034*	*28.286*	
E1:1	*N1:T4:A2:2-28*	*N1:T4:A2:2-24*	*52*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.018*	*28.268*	
E1:1	*N1:T4:A2:2-25*	*TAP15*	*55*	*49VO-WRF*	*30cd*	*0.0570*	*0.267*	*0.090*	*28.295*	
E1:1	*N

STANDARD SENSOR BASE

SIMPLEX 4098-9792



COMPATIBLE SENSOR HEADS

PID	DESCRIPTION
4098-9714	PHOTOELECTRIC SMOKE SENSOR
4098-9714-IND	
4098-9774	
4098-9733	HEAT SENSOR
4098-9778	
4098-9734	HIGH TEMP. HEAT SENSOR

MOUNTING OPTIONS

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

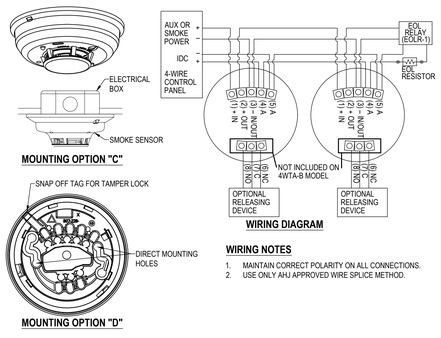
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4098-0019 FROM HTTP://WWW.SIMPLEX-FIRE.COM

WIRING NOTES

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

PHOTOELECTRIC SMOKE DETECTOR

SYSTEM SENSOR 4WTAR-B (4-WIRE, FORM C RELAY, SOUNDER)



MOUNTING OPTIONS

OPTION[1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 1-1/2" DEEP	SUPPLIED BY OTHERS
B	3-1/2" OR 4" OCTAGONAL BOX, 1-1/2" DEEP	SUPPLIED BY OTHERS
C	4" SQUARE BOX WITH PLASTER RING	SUPPLIED BY OTHERS
D	DIRECTLY TO WALL/CEILING	USE DRYWALL FASTENERS

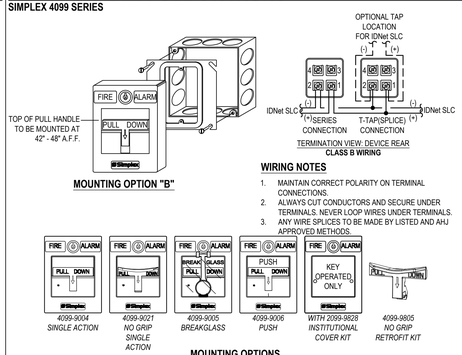
1. FOR ADDITIONAL INFORMATION, REFER TO MANUFACTURER DATA SHEET.

WIRING NOTES

1. MAINTAIN CORRECT POLARITY ON ALL CONNECTIONS.
2. USE ONLY AHJ APPROVED WIRE SPLICE METHOD.

ADDRESSABLE PULL STATIONS

SIMPLEX 4099 SERIES



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.

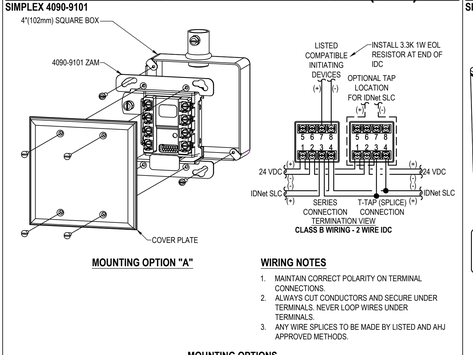
MOUNTING OPTIONS

OPTION[1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/2" (64mm) DEEP	BY OTHERS
B	4" (102mm) SQUARE BOX, 2-1/8" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS
C	SIMPLEX 2975-9222 - 5H x 3-7/8"W x 2-3/16"D (127mm x 98mm x 56mm)	ORDERED SEPARATELY
D	SIMPLEX 2975-9178 - 5-3/4"H x 3-7/8"W x 2-3/16"D (132mm x 102mm x 56mm)	ORDERED SEPARATELY

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET 4099-0005 FROM HTTP://WWW.SIMPLEX-FIRE.COM

ADDRESSABLE ZONE ADAPTER MODULE (ZAM)

SIMPLEX 4090-9101



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.

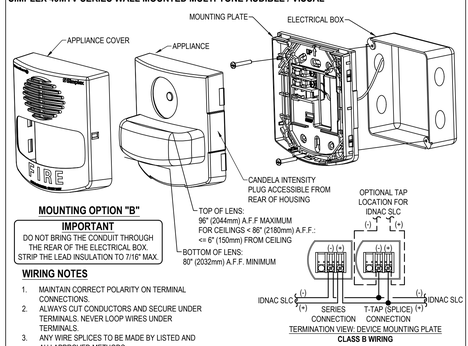
MOUNTING OPTIONS

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 ES ADDRESSABLE APPLIANCES

SIMPLEX 49MTV SERIES WALL MOUNTED MULTI-TONE AUDIBLE / VISUAL



MOUNTING OPTION "B"

IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.

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.

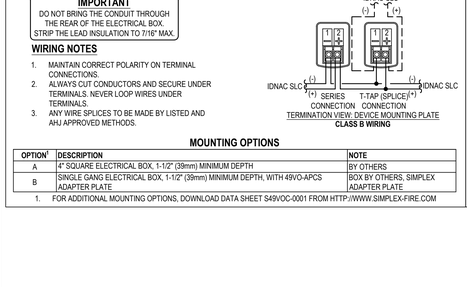
MOUNTING OPTIONS

OPTION[1]	DESCRIPTION	NOTE
A	SINGLE GANG OR DOUBLE GANG BOX, 1-1/2" (38mm) MINIMUM DEPTH	BY OTHERS
B	4" (102mm) SQUARE BOX, 1-1/2" (38mm) MINIMUM DEPTH	BY OTHERS
C	SIMPLEX 2975-9145, 7-7/8"H x 5-1/8"W x 2-3/4"D (127mm x 98mm x 56mm) REQUIRES 4906-9931 PLATE	ORDERED SEPARATELY

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49MTV-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49VO / 49VOH SERIES CEILING MOUNTED VISUAL ONLY



IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.

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.

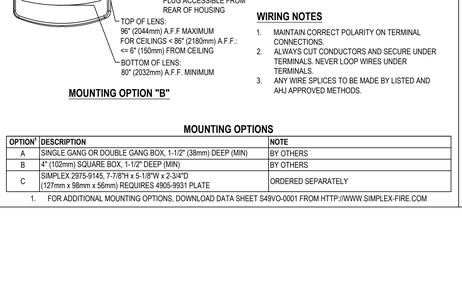
MOUNTING OPTIONS

OPTION[1]	DESCRIPTION	NOTE
A	4" SQUARE ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH	BY OTHERS
B	SINGLE GANG ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH, WITH 49VO-APCS ADAPTER PLATE	BOX BY OTHERS, SIMPLEX ADAPTER PLATE

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49VOC-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49VO SERIES WALL MOUNTED VISUAL ONLY



WIRING NOTES

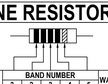
1. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS.
2. ALWAYS CUT CONDUCTORS AND SECURE UNDER TERMINALS. NEVER LOOP WIRES UNDER TERMINALS.
3. ANY WIRE SPLICES TO BE MADE BY LISTED AND AHJ APPROVED METHODS.

MOUNTING OPTIONS

OPTION[1]	DESCRIPTION	NOTE
A	SINGLE GANG OR DOUBLE GANG BOX, 1-1/2" (38mm) DEEP (MIN)	BY OTHERS
B	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN)	BY OTHERS
C	SIMPLEX 2975-9145, 7-7/8"H x 5-1/8"W x 2-3/4"D (127mm x 98mm x 56mm) REQUIRES 4906-9931 PLATE	ORDERED SEPARATELY

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49VO-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

END OF LINE RESISTOR CODES



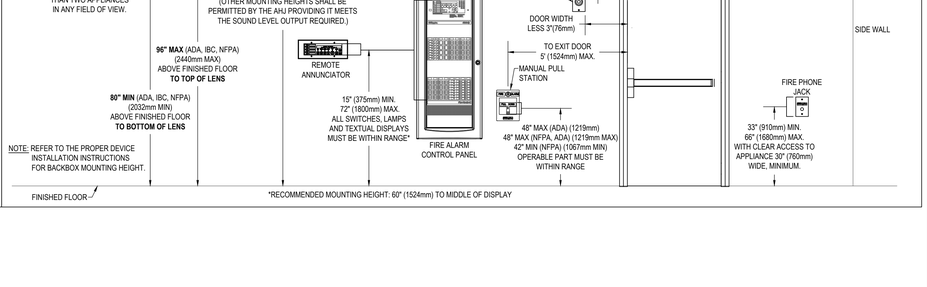
NOTE: REFER TO PANEL/MODULE AND DEVICE INSTALLATION INSTRUCTIONS FOR PROPER TERMINATIONS.

MODEL	REF. NUMBER	Ω	BAND NUMBER 1	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 (4320)	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.	2004, 2008, 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) 24 PT. I/O (ACROSS CONTACTS CURRENT LIMITED N.O. INIT. (IN SERIES WITH CONTACT)	4005*, 4090-9001 IDNET IAM 4605-7401, 4100 SERIES 4090-9001 IDNET IAM
4081-9011	733-974	100	BRN	BLK	BRN	GLD	N/A	1/2	ANNUNCIATOR (N/O), IAM SUPERVISION	2050, 2250, 4006, 4008, 4010, 4090-5258 MX IAM
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
4081-9020	734-246	200	RED	BLK	BRN	GLD	N/A	1/2	N.O. OR N.C. CONTACT SUPERVISION	4090-5258 MX IAM

* USE WITH RETROFIT OR HIGH CURRENT MODULE

DEVICE MOUNTING HEIGHT REFERENCE

PER NFPA 72



Johnson Controls
DISTRICT 1-418
10001 PARK MEADOWS DR
LONE TREE, CO 80124
PHONE: 303-390-6500
FAX: 303-390-6615

NICET CERTIFICATION INFORMATION
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/21/2024

THE MEDICAL CENTER OF AURORA - SOUTH MRI REPLACEMENT

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

Revisions shown with ⚠ symbol

ISSUE LOG MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	NWILTSIE
ISSUE DATE:	11/20/24
JOB #:	
PROJECT #:	419-650469413
	JOHNSON CONTROLS © 2024

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **TYPICAL DEVICE WIRING**

FA-701

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

FILE PATH: C:\Users\jrauch\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 144 - 1st MRI Replacement - 2024 - 650469413\FA-701.dwg
LAST SAVED BY: JROJAS87
LAST PRINTED: 11/21/2024 9:08:30 AM
36" x 42" - Arch E1 Size

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PERMIT #2025 2503873-LT | RSN: 1871673

GRAPHIC MAP NOTES:

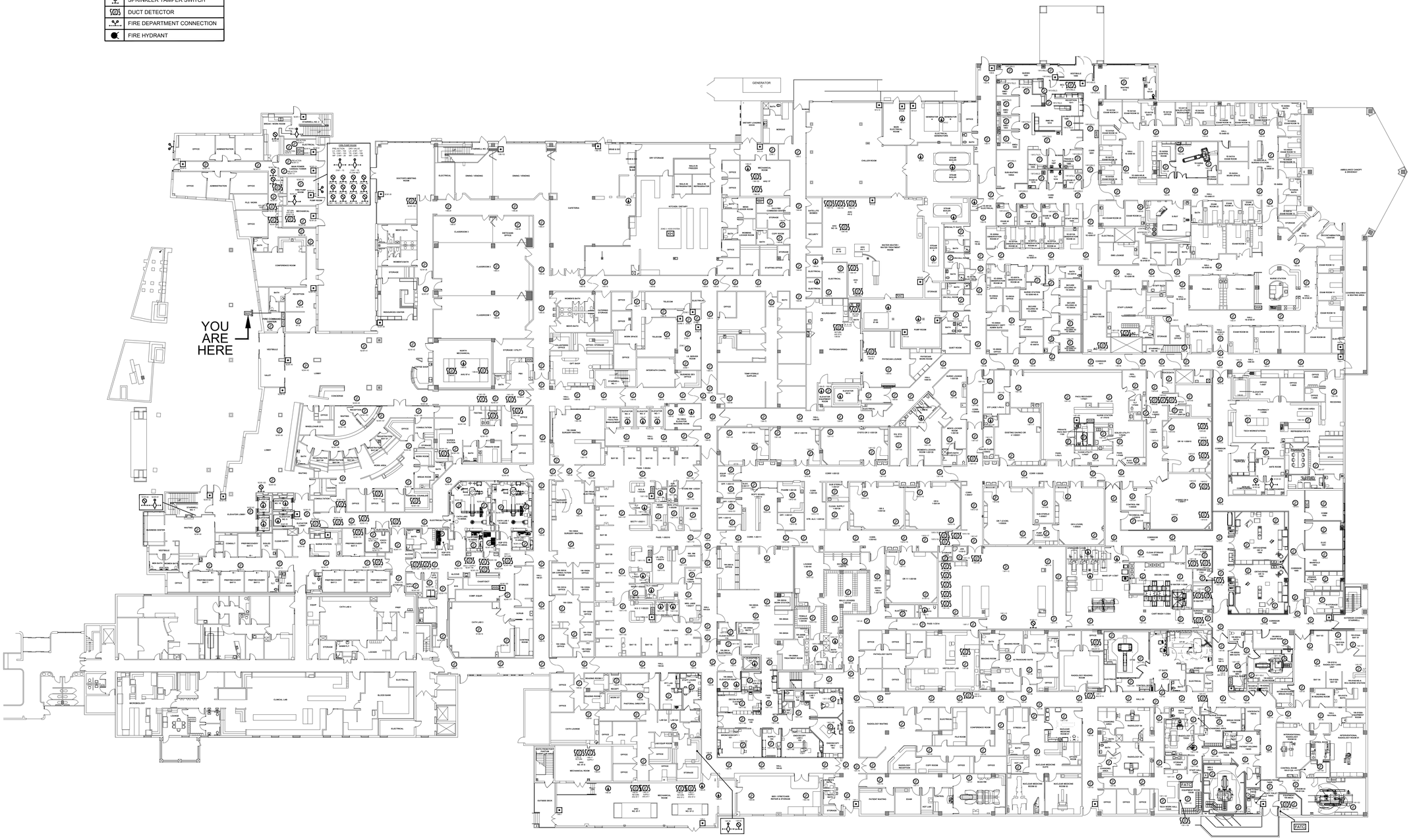
1. THIS 36"X48" GRAPHIC MAP IS NOT SHOWN TO SCALE.

AS OF: 11/19/2024

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

LEGEND:

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



Johnson Controls
AURORA (303) 355-0500

The Medical Center of Aurora
Health ONE

Johnson Controls
DISTRICT: 1-418
14000 E. EXPOSITION AVE
AURORA, CO 80017
SERVICE: 303-355-0500
PHONE: 303-326-9500
FAX: 303-355-0415

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/21/2024

THE MEDICAL CENTER OF AURORA - SOUTH MRI REPLACEMENT

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

Revisions shown with ⚠ symbol

ISSUE LOC	MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	NWILTSIE
ISSUE DATE:	11/20/24
JOB #:	
PROJECT #:	419:650489413

JOHNSON CONTROLS © 2024

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
STATIC GRAPHIC MAP AT FACP IN FIRE COMMAND CENTER 1E-2902A

FA-801

FILE PATH: C:\Users\jrojas\OneDrive - Johnson Controls\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 144 - 1st MRI Replacement - 2024 - 650489413\FA\FA-801.dwg
LAST SAVED BY: JROJAS87
LAST PRINTED: 11/21/2024 9:09:12 AM
30" x 42" Arch E1 Size

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PERMIT #2025 2503873-LT | RSN: 1871673

THE MEDICAL CENTER OF AURORA - SOUTH
IMAGING CT REPLACEMENT
MODIFICATION TO EXISTING FIRE ALARM SYSTEM

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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

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(S)
INITIATING DEVICES					
2N 1RL	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mi
2N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mi
NOTIFICATION APPLIANCES					
2RL	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		

GENERAL NOTES:

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

FIRE ALARM WIRE LEGEND

CIRCUIT DESCRIPTION		CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR **	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft, MAX CAPACITANCE; 3 twists/ft, MINIMUM	X	X				
Mi	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	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.

STP = SHIELDED TWISTED PAIR

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), 2021 EDITION

INTERNATIONAL FIRE CODE (IFC), 2021 EDITION

NATIONAL ELECTRIC CODE (NFPA 70), 2023 EDITION

NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72), 2022 EDITION 2019

LIFE SAFETY CODE (NFPA 101), 2012 (STATE) EDITION

ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, 2017 EDITION

ADA STANDARDS FOR ACCESSIBLE DESIGN, 2023 EDITION

COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT - HOSPITAL LICENSING RULES, 2021 EDITION

OCCUPANCY TYPE(S): I-2 INSTITUTIONAL GROUP

SPRINKLER PROTECTION: BUILDING IS FULLY SPRINKLERED

AREA: TOTAL: APPROX. 450,396 SQ. FT. SQ. FT. SCOPE: APPROX. 830 SQ. FT.

STORIES TOTAL:6 STORIES + BASEMENT SCOPE: PARTIAL 1ST FLOOR

CONSTRUCTION: TYPE 1-A

SCOPE OF WORK

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

SCOPE OF WORK INCLUDES APPROXIMATELY 830 SQUARE FEET ENCOMPASSING THE FIRST FLOOR OF THE MEDICAL CENTER OF AURORA - SOUTH, LOCATED AT 1501 SOUTH POTOMAC STREET, AURORA, COLORADO 80012. FIRE ALARM IS AFFECTED.

FOR INTERIM: EXISTING AREA TO RECEIVE PARTIAL DEMOLITION TO ALLOW FOR UPDATES TO THE AREA. DURING DEMOLITION, NEW INTERIM HEAT-DETECTORS TO BE INSTALLED IN SCOPE AREA FOR CONSTRUCTION. NEW INTERIM HEAT-DETECTORS TO REMAIN ON THE EXISTING 1:M11 CIRCUIT OF THE EXISTING NODE-1 TRANSPONDER 4 LOCATED IN ELEC 1-CS16, WHICH TIES BACK TO THE 4100U FIRE ALARM CONTROL PANEL (FACP) LOCATED IN FIRE COMMAND CENTER 1E-2902A.

FOR BUILDOUT: REMOVE INTERIM DEVICES FROM SCOPE AREA. NEW ADDRESSABLE INITIATION AND NOTIFICATION DEVICES TO BE INSTALLED. NEW DEVICES WILL TIE TO EXISTING NODE-1 TRANSPONDER 4. NEW INITIATION TO TIE TO 1:M11 CIRCUIT. NEW ADDRESSABLE NOTIFICATION TO TIE TO NEW ENHANCED POWER REPEATER (EPR) ON CIRCUIT N1:T4:A2:1(E2:1).

EXISTING STATIC GRAPHIC MAP AT THE FACP IN FIRE COMMAND CENTER 1E-2902A TO BE UPDATED WITH NEW ARCHITECTURE AND INITIATION DEVICES.

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

ALL NEW WIRING TO BE CLASS B.

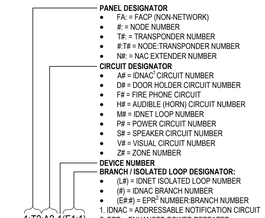
THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.

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

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
AFF = ABOVE FINISHED FLOOR
AHJ = AUTHORITY HAVING JURISDICTION
ALM = ALARM
ANN = ANNUNCIATOR
BMS = BUILDING MANAGEMENT SYSTEM
C = CEILING MOUNTED
CD = CANDELA RATING
DET = DETECTOR
DGP = DATA GATHERING PANEL
E = EXISTING TO REMAIN
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
ER = ELEVATOR RECALL
FAA = FIRE ALARM ANNUNCIATOR
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBO = FURNISHED BY OTHERS
FCC = FIRE COMMAND CENTER
FSD = FIRE SMOKE DAMPER
FTR = FIRE ALARM TRANSPONDER
H = HIGH HUMIDITY
HT = HEIGHT
HVAC = HEATING VENTILATION & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
N = NEW
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
N.T.S. = 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

DEVICE TAG LEGEND



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

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

DEVICE NUMBER

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

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

SYSTEM SEQUENCE OF OPERATIONS

M.C.O.A. SOUTH TOWER	SYSTEM OUTPUTS: FACP Annunciation: ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE COMMON TROUBLE SIGNAL #INDICATOR#	ACTIVATE AUDIBLE COMMON TROUBLE SIGNAL	Notification: ACTIVATE EVACUATION SIGNALS (AUDIBLE/VISUAL/S)	ACTIVATE SPRINKLER BELL	DISPLAY CHANGE OF STATUS AT REMOTE ANNUNCIATOR	TRANSMIT FIRE ALARM SIGNAL TO OFF-SITE REPORTING	TRANSMIT SUPERVISORY SIGNAL TO OFF-SITE REPORTING	TRANSMIT TROUBLE SIGNAL TO OFF-SITE REPORTING	NOTIFY HOSPITAL PBX	Required Controls: FAN SHUT DOWN	DAMPER SHUT DOWN	DOOR HOLD MAG LOCK RELEASE	RELEASE CORRIDOR FIRE DOORS	RELEASE ASSOCIATED ROLL-UP DOOR	ELEVATOR SHUT DOWN (?)	ELEVATOR RECALL - MAIN FLOOR	ELEVATOR RECALL - ALTERNATE FLOOR	ELEVATOR HAT FLASH	OVERRIDE MASS SYSTEM	Supplementary: SILENCE AUDIBLE SIGNAL ONLY (VISUALS TO REMAIN)	ACTIVATE OTHER NOTIFICATION DEVICES ON GENERAL ALARM	RESET PANEL TO NORMAL CONDITION	
SEQUENCE OF OPERATIONS																												
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	Z		
1 SMOKE DETECTOR							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														7
8 MAIN FLR. ELEV. LOBBY SMOKE DETECTOR	X	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			9
10 ELEV. MECH. ROOM SMOKE DETECTOR	X	X					X		X	X				X		X			X		X		X		X			10
11 ELEV. SHAFT HEAT DETECTOR	X	X					X		X	X					X					X								11
12 ELEV. MECH. ROOM HEAT DETECTOR	X	X					X		X	X					X				X									12
13 WATERFLOW SWITCH	X	X					X	X	X	X					X								X		X			13
14 TAMPER SWITCH			X	X					X		X																	14
15 POST INDICATOR VALVE SWITCH			X	X					X		X																	15
16 FACP AC POWER FAILURE					X	X						X																16
17 FACP LOW BATTERY					X	X						X																17
18 OPEN CIRCUIT					X	X						X																18
19 GROUND FAULT					X	X						X																19
20 NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X						X																20
21 ALARM SIGNAL SILENCE																								X				21
22 SYSTEM RESET																											X	22
23 CATH LAB BUILDING ALARM	X	X							X				X															23
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		

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 to follow existing Sequence of Operations; no further changes to occur.

JOHNSON CONTROLS CONTACTS

Sales Representative
RYAN SCHISSEL
RYAN.SCHISSEL@JCI.COM
PHONE:720-633-5751

Project Manager
JASON ROMERO
JASON.ROMERO@JCI.COM
PHONE:303-349-9483

Drawings Prepared By
JOSUE R. ROJAS L.
JOSUEROGRIGO.ROJAS.LOZANO@JCI.COM
PHONE:913-660-9415

Drawings Checked By
AMANDA WILHELM
AMANDA.MONETTE.WILHELM@JCI.COM
NICET II #152549, EXP 06/01/2026

Drawings Reviewed By
CALE RAUCH
CALE.RAUCH@JCI.COM
NICET III #151588, EXP. 12/01/2025

PROJECT DIRECTORY

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

Owner
HEALTH ONE
4900 SOUTH MONACO STREET
DENVER, COLORADO 80237
PHONE: 303-946-5511

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

Installer
E LIGHT ELECTRIC SERVICES, INC.
361 INVERNESS DRIVE SOUTH, SUITE B
ENGLEWOOD, COLORADO 80112
PHONE: 303-754-0001

DESIGN STATEMENT

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

ARCHITECTURAL PLANS DATED:	SEPTEMBER 05, 2023
MECHANICAL PLANS DATED:	SEPTEMBER 05, 2023
ELECTRICAL PLANS DATED:	SEPTEMBER 05, 2023
SPECIFICATIONS DATED:	SEPTEMBER 05, 2023
ADDENDUM DATED:	

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
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/22/2024

THE MEDICAL CENTER OF AURORA - SOUTH
IMAGING CT REPLACEMENT
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

ISSUE LOG: MARK	DATE	CAD	CHK	DESCRIPTION
Revisions shown with Δ symbol				

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	AWILHELM
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419:650469365

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: COVER SHEET

FA-001

FILE PATH: C:\Users\jrojas87\OneDrive - Johnson Controls\1501 S Potomac - Aurora South\South Tower - Node 1\4E-1st Imaging CT Replacement - 2024 - 650469365\Fire\FA001.dwg
LAST SAVED BY: JROJAS87
LAST PRINTED: 11/22/2024 2:34:10 PM
30" x 42" Arch E1 Size

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PERMIT #2025 2503873-LT | RSN: 1871673

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND / MODEL	BACKBOX	WIRE TYPE(S)
INITIATING DEVICES					
2N 1RL	(S)	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mi
2N	(T)	HEAT SENSOR, ADDRESSABLE, STANDARD W/ STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mi
NOTIFICATION APPLIANCES					
2RL	(#)	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		

FIRE ALARM WIRE LEGEND

CIRCUIT DESCRIPTION		CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR **	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
Mi	IDNET	UTP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	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.

STP = SHIELDED TWISTED PAIR

UTP = UNSHIELDED TWISTED PAIR

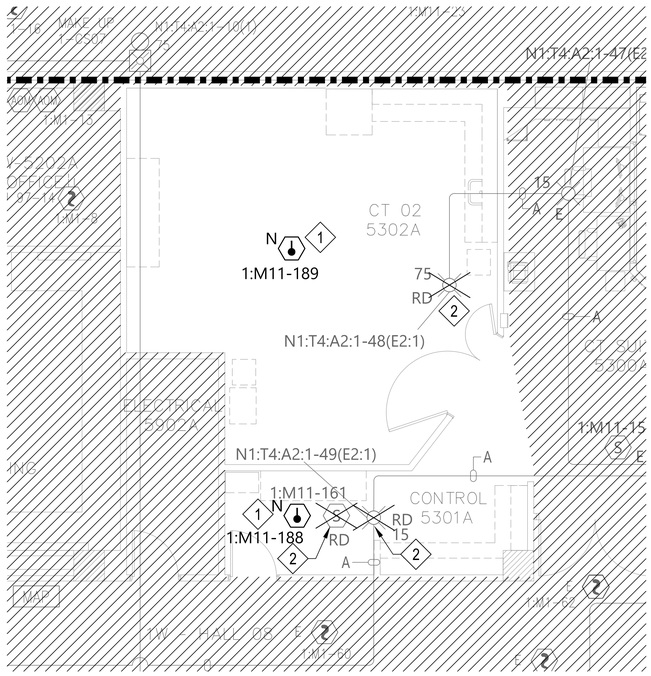
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS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

GENERAL NOTES:

1. ALL NOTIFICATION APPLIANCE CANDELA INTENSITY PLUGS SHALL RETAIN THEIR FACTORY SETTING OF "FACP" UNLESS OTHERWISE DIRECTED BY THE AUTHORITY HAVING JURISDICTION.
2. DO NOT CHANGE DEFAULT APPLIANCE CONFIGURATION SWITCH SETTINGS ON ADDRESSABLE A/V DEVICES (CFIG1). REFER TO DEVICE DETAILS AND INSTALLATION INSTRUCTIONS FOR MORE INFORMATION..
3. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.
4. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR MODIFIED.
5. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING.
6. ALL ITEMS THAT ARE HATCHED ARE NOT IN THIS SCOPE OF WORK.

KEYNOTES:

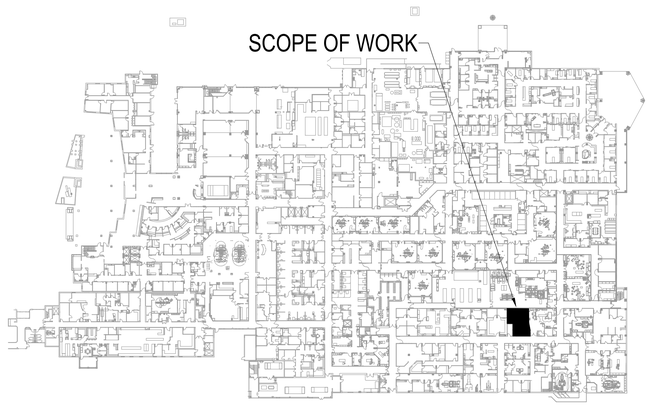
1. INTERIM HEAT DETECTOR. TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
2. DEVICE TO BE TEMPORARILY REMOVED AND RELOCATED BACK TO THIS AREA AFTER CONSTRUCTION.



1ST FLOOR PARTIAL DEVICE PLACEMENT PLAN - INTERIM

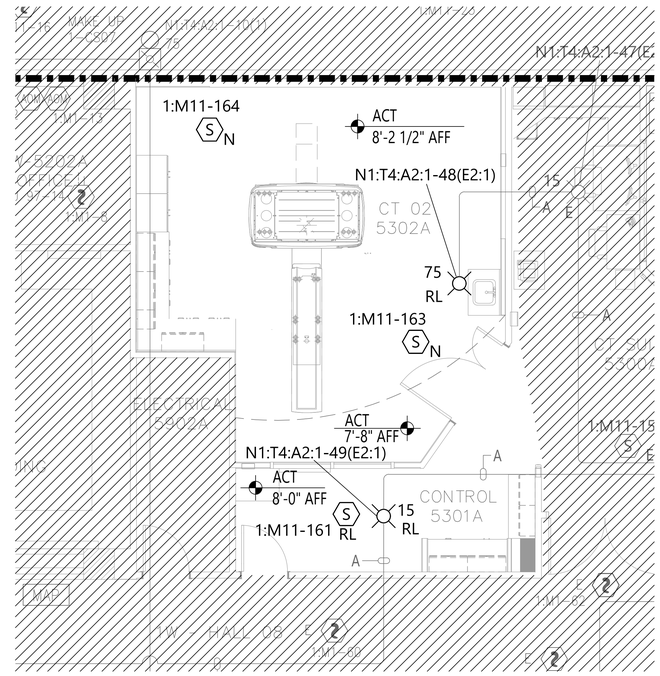
SCALE:1/4" = 1'-0"

SCALE:1/4" = 1'-0" 0 2' 4' 8' IN FEET



1ST FLOOR KEYPLAN

SCALE:N.T.S



1ST FLOOR PARTIAL DEVICE PLACEMENT PLAN - BUILDOUT

SCALE:1/4" = 1'-0"

SCALE:1/4" = 1'-0" 0 2' 4' 8' IN FEET

Johnson Controls
DISTRICT 1-416
10001 E. 104TH AVE
AURORA, CO 80010
SERVICE: 303-355-6000
PHONE: 303-355-0900
FAX: 303-355-9415

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/22/2024

THE MEDICAL CENTER OF AURORA - SOUTH IMAGING CT REPLACEMENT

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

ISSUE LOG				
MARK	DATE	CAD	CHK	DESCRIPTION
Revisions shown with Δ symbol				

FOR PERMIT

DRAWN BY:	JRGJAS
CHECKED BY:	AWILHELM
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419:650469365

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: 1ST FLOOR PARTIAL DEVICE PLACEMENT PLANS - INTERIM & BUILDOUT

FA-101

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

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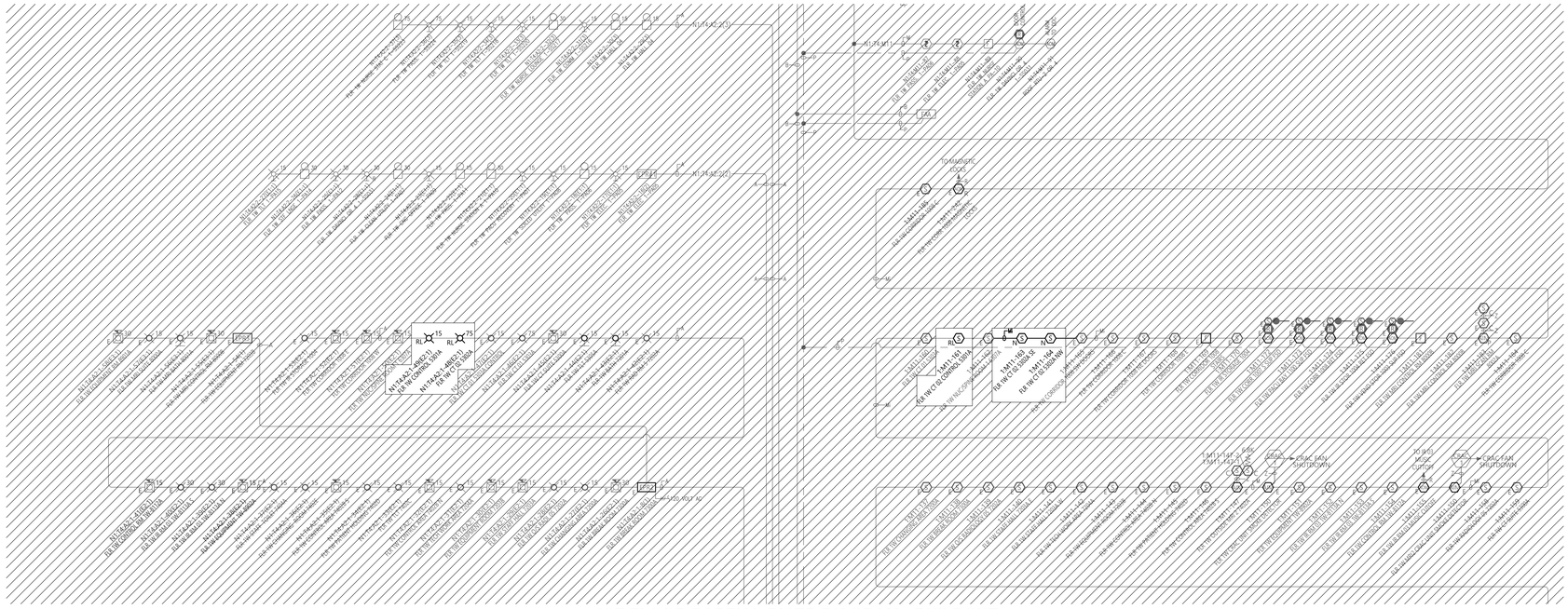
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LAST PRINTED: 11/22/2024 2:26:29 PM
30" x 42" - Arch E1 Size

PERMIT #2025 2503873-LT | RSN: 1871673

FILE PATH: C:\Users\jrojas8\OneDrive - Johnson Controls\1501 S Potomac - Aurora South\South Tower - Node 1\45-1st Imaging CT Replacement - 2024 - 650469365\FireFA-2201.dwg
LAST SAVED BY: JROJAS87
LAST PRINTED: 11/22/2024 2:36:33 PM
30" x 42" - Arch E1 Size

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.
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1ST FLOOR PARTIAL RISER DIAGRAM - BUILDOUT

SCALE:N.T.S.

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND / MODEL	BACKBOX	WIRE TYPE(S)
		INITIATING DEVICES			
2N 1RL	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	MI
2N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	MI
		NOTIFICATION APPLIANCES			
2RL	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY.	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR **	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE: 3 twists/ft. MINIMUM	X	X				
MI	IDNET	UTP SOLID	18 AWG	0.60uF MAX TOTAL LINE CAPACITANCE	X	X				

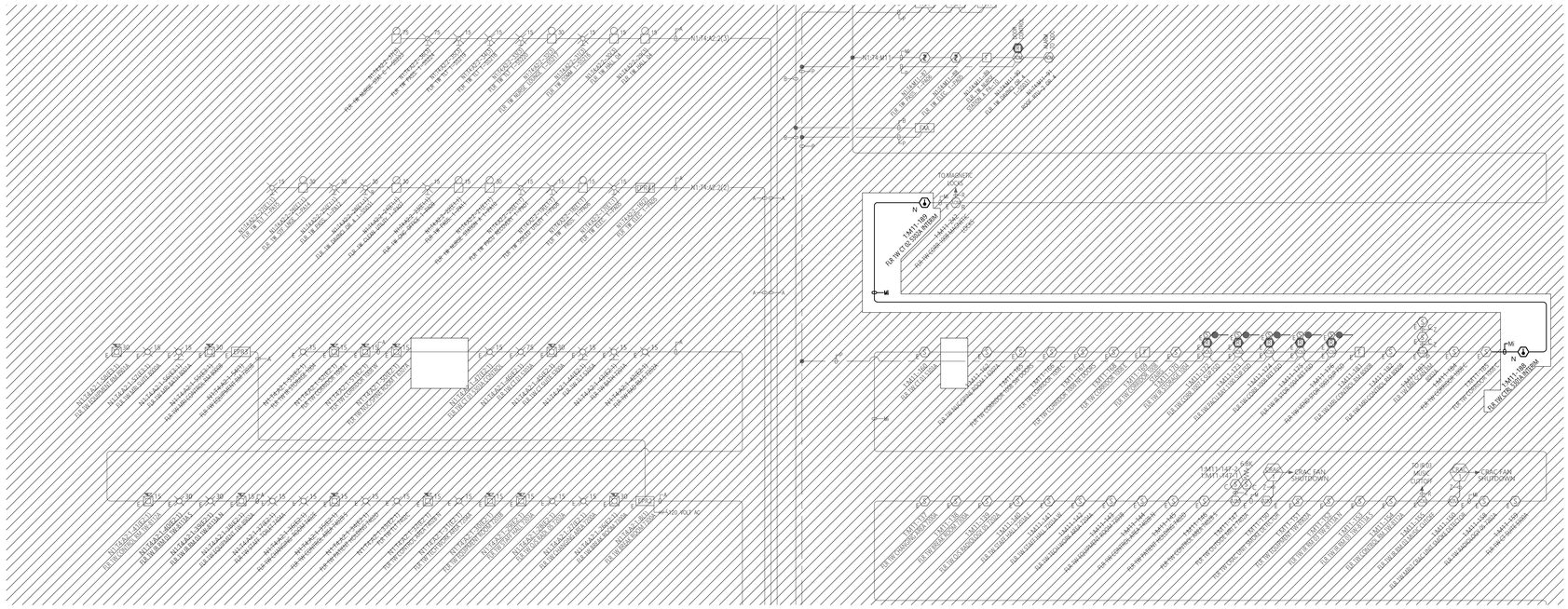
CONDUIT SIZE	MAX CONDUCTOR AREA	CONDUIT SIZE	MAX CONDUCTOR AREA
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3/4"	0.213 SQ INCH*	1-1/2"	0.814 SQ INCH*
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1ST FLOOR PARTIAL RISER DIAGRAM - INTERIM

SCALE:N.T.S.

Johnson Controls
DISTRICT 1-415
10001 E. 104TH AVENUE
AURORA, CO 80010
SERVICE: 303-355-0500
PHONE: 303-350-9500
FAX: 303-355-9415

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/22/2024

THE MEDICAL CENTER OF AURORA - SOUTH IMAGING CT REPLACEMENT

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:	JROJAS
CHECKED BY:	AWILHELM
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419-650469365

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: 1ST FLOOR PARTIAL RISER DIAGRAM - INTERIM & BUILDOUT

FA-201

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MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 4 4100es XPDR

	Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
	Panel Equipment						
	4100-9600	1	BASIC TRANSPONDER	0.0360	0.0360	0.0360	0.0360
	4100-0634	1	POWER DISTRIBUTION MODULE 120V	0.0000	0.0000	0.0000	0.0000
	4100-0636	1	BOX TO BOX HARNESS KIT	0.0000	0.0000	0.0000	0.0000
	4100-2300	1	EXPANSION BAY (PHASE 10 ONLY)	0.0000	0.0000	0.0000	0.0000
	4100-3311	1	ENHANCED POWER SUPPLY, 3 CHANNELS, IDNet, 120V	0.2250	0.2250	0.4900	0.4900
	4009-9601	3	IDNAC REPEATER 120V PLATINUM UL/ULC	0.0700	0.2100	0.0960	0.2880
			Panel Totals		**0.4710**		**0.8140**
	IDNet Addressable Devices (SLC)						
	4090-9001	3	IDNET SUPERVISED IAM *				
	4090-9002	41	IDNET RELAY IAM *				
	4090-9101	1	IDNET CLASS B MONITOR ZAM *				
3	**4098-9714**	**102**	**TRUEALARM PHOTO SMOKE SENSOR**	*Constant current draw of .8mA standby and 1mA alarm per address used. Devices requiring additional current are accounted for in the section labeled "Miscellaneous Peripheral Devices Requiring Additional System Power".*			
	4098-9733	**11**	**TRUEALARM HEAT SENSOR**				
	4098-9755	2	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT *				
	4098-9756	10	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
	4098-9792	**113**	**TRUEALARM SENSOR BASE ***				
	4099-9008	6	ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH *				
	Miscellaneous Peripheral Devices That Require (Additional) System Power						
	4098-9543	10	ENCAPSULATED RELAY PAM-SD	0.0000	0.0000	0.0150	0.1500
	4098-9756	10	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0030	0.0300	0.0150	0.1500
	4603-9101	4	SERIAL LCD ANNUNCIATOR	0.0650	0.2600	0.1400	0.5600
	2088-9021	11	ENCAPSULATED RELAY PAM-1	0.0000	0.0000	0.0150	0.1650
	4098-9605	2	PHOTO SMOKE DETECTOR SSD	0.0001	0.0002	0.0000	0.0000
	4098-9788	2	2 WIRE DETECTOR BASE	0.0000	0.0000	0.0000	0.0000
	2098-9806	10	REMOTE TEST STATION W/ LED AND KEY SWITCH	0.0045	0.0450	0.0000	0.0000
	4W-B	2	4-WIRE SMOKE SENSOR	0.0005	0.0010	0.0200	0.0400
	IDNAC Notification Appliances		**Setting**				
	4009-9601	3	IDNAC REPEATER 120V PLATINUM UL/ULC *	0.0032	0.0096	0.0032	0.0096
	4906-9202	6	ADDRESSABLE CEILING MNT MC V/O, RED	15 0.0008	0.0048	0.0600	0.3600
	4906-9202	1	ADDRESSABLE CEILING MNT MC V/O, RED	75 0.0008	0.0008	0.1800	0.1800
	49MT-WRF	2	MULTI-TONE AUDIBLE ONLY, RED, WALL MOUNT	520 Hz 0.0016	0.0032	0.0990	0.1980
	49MTV-WRF	18	MULTI-TONE A/V, RED, WALL MOUNT	15 0.0016	0.0288	0.1450	2.6100
	49MTV-WRF	12	MULTI-TONE A/V, RED, WALL MOUNT	30 0.0016	0.0192	0.1630	1.9560
	49MTV-WRF	6	MULTI-TONE A/V, RED, WALL MOUNT	75 0.0016	0.0096	0.1980	1.1880
3	**49VO-APPLC**	**11**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**15 0.0008**	**0.0088**	**0.0550**	**0.6050**
	49VO-APPLC	3	STROBE, APPLIANCE ONLY, CEILING MOUNT	30 0.0008	0.0024	0.0830	0.2490
3	**49VO-APPLC**	**2**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**75 0.0008**	**0.0016**	**0.1530**	**0.3060**
	49VO-APPLW	1	VO APPLIANCE ONLY WALL MT	15 0.0008	0.0008	0.0470	0.0470
	49VO-APPLW	4	VO APPLIANCE ONLY WALL MT	30 0.0008	0.0032	0.0570	0.2280
	49VO-APPLW	1	VO APPLIANCE ONLY WALL MT	75 0.0008	0.0008	0.1000	0.1000
	49VO-WRF	31	VO, WALL MT, RED, FIRE LABEL	15 0.0008	0.0248	0.0470	1.4570
	49VO-WRF	4	VO, WALL MT, RED, FIRE LABEL	30 0.0008	0.0032	0.0570	0.2280
	49VO-WRF	1	VO, WALL MT, RED, FIRE LABEL	75 0.0008	0.0008	0.1000	0.1000
			Total IDNAC Device Current:		**0.1224**		**9.8216**
			IDNAC Current Boost for 29vdc Regulated Output **				**5.5995**
			Peripheral Totals		**0.3362**		**16.4861**
			RUI Totals 4		**0.0140**		**0.0140**
			Address Totals 176 Addresses		**0.1408**		**0.1760**
			System Totals*:	**Standby**	**1.0844**	**Alarm**	**17.4901**

*** Device Address current draw included below (See Additional Current Draws):**
IDNet cards include 40mA alarm current for 20 device LEDs in alarm in addition to base current listed on datasheet.
1. Base FACP includes current draw for all included components. See data sheet for details.

				Standby Current	Standby Total	Alarm Current	Alarm Total
Battery Set #1 (Cabinet/Charger #1)							
Select ALL Power Supplies on this battery set:							
EPS-1					0.8816		7.4776
			Sub Total		**0.8816**		**7.4776**
Additional Current Draws:							
IDNAC Current Boost for 29vdc Regulated Output **							3.1919
RUI Connected Peripheral Devices	4	x 0.0035			= 0.0140	x 0.0035	= 0.0140
MAPNET/IDNet Device Address Communication Current	176	x 0.000800			= 0.1408	x 0.001000	= 0.1760
			Sub Total		**1.0364**		**10.8595**
Spare addressable point capacity	**20%**	36	x 0.0008		= 0.0288	x 0.001	= 0.0360
			Total		**1.0652**		**10.8955**
Standby Time =	**4**	Hrs	x 1.0652		= 4.2608	Standby Ah	
Alarm Time =	**5**	Min	0.08333 x 10.8955		= 0.9080	Alarm Ah	
					5.1688		
Additional Spare Battery Capacity =	**20%**				+ 1.0338		
					6.2025		
Battery Discharge Factor =	**25%**				+ 1.5506		
Minimum Battery Required	**2081-9274 10AH (2x)**				**7.7531**		
Battery Supplied	**2081-9287 25AH (2x)**						

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

**** IDNac Current Boost formula: ((29.5 * IDNAC Alarm Current) / .921) / 20.4 - IDNAC Alarm Current**
DC-DC Converter Output = 29.5vdc. Terminal Output is 29vdc due to 0.5vdc internal loss.
Converter Worst Case efficiency is 92.1%, 20.4vdc represents battery output in 85% depleted state

				Standby Total	Alarm Total
Repeater Power Supply Battery Set:					
EPR-1				0.0136	**1.1280**
Additional Current Draw:					
IDNAC Current Boost for 29vdc Regulated Output **				0.0000	0.6431
			Total	**0.0136**	**1.7711**
Standby Time =	**4**	Hrs	x 0.0136	= 0.0544	Standby Ah
Alarm Time =	**5**	Min	0.08333 x 1.7711	= 0.1476	Alarm Ah
				0.2020	
Additional Spare Battery Capacity =	**20%**			+ 0.0404	
				0.2424	
Battery Discharge Factor =	**25%**			+ 0.0606	
Minimum Battery Required	**2081-9286 7.0AH (2x)**			**0.3030**	
Battery Supplied	**2081-9286 7.0AH (2x)**				

				Standby Total	Alarm Total
Repeater Power Supply Battery Set:					
EPR-2				0.0296	**2.5940**
Additional Current Draw:					
IDNAC Current Boost for 29vdc Regulated Output **				0.0000	1.4789
			Total	**0.0296**	**4.0729**
Standby Time =	**4**	Hrs	x 0.0296	= 0.1184	Standby Ah
Alarm Time =	**5**	Min	0.08333 x 4.0729	= 0.3394	Alarm Ah
				0.4578	
Additional Spare Capacity =	**20%**			+ 0.0916	
				0.5494	
Additional Spare Battery Capacity =	**25%**			+ 0.1373	
Minimum Battery Required	**2081-9286 7.0AH (2x)**			**0.6867**	
Battery Supplied	**2081-9286 7.0AH (2x)**				

				Standby Total	Alarm Total
Repeater Power Supply Battery Set:					
EPR-3				0.0048	**0.5010**
Additional Current Draw:					
IDNAC Current Boost for 29vdc Regulated Output **				0.0000	0.2856
			Total	**0.0048**	**0.7866**
Standby Time =	**4**	Hrs	x 0.0048	= 0.0192	Standby Ah
Alarm Time =	**5**	Min	0.08333 x 0.7866	= 0.0656	Alarm Ah
				0.0848	
Additional Spare Battery Capacity =	**20%**			+ 0.0170	
				0.1017	
Battery Discharge Factor =	**25%**			+ 0.0254	
Minimum Battery Required	**2081-9286 7.0AH (2x)**			**0.1271**	
Battery Supplied	**2081-9286 7.0AH (2x)**				

IDNET CHANNEL N1:T4M1		ADDRESSES IN USE: 177 (70.8%) | SPARE ADDRESSES: 73 (29.2%)		SWITCH SETTINGS							
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8
N1:T4M1-1	PHOTO	SMOKE	1:M11-1 FLR 1W ELEC 1-CS16	X							ON
N1:T4M1-2	PHOTO	SMOKE	1:M11-2 FLR 1W OR-11 1-SS10 SW		X						ON
N1:T4M1-3	PHOTO	SMOKE	1:M11-3 FLR 1W OR-11 1-SS10 NE	X	X						ON
N1:T4M1-4	RIAM	DHOLDER	1:M11-4 FLR 1W OR-11 1-SS100			X					ON
N1:T4M1-5	HEAT	HEAT	1:M11-5 FLR 1W TOILET CS15	X			X				ON
N1:T4M1-6	PHOTO	VSMOKE	1:M11-6 FLR 1W CORR 1-CS14		X	X					ON
N1:T4M1-7	PHOTO	VSMOKE	1:M11-7 FLR 1W CORR 1-CS14	X	X	X					ON
N1:T4M1-8	PHOTO	SMOKE	1:M11-8 FLR 1W STER STG 1-CS10 NORTH				X				ON
N1:T4M1-9	PHOTO	SMOKE	1:M11-9 FLR 1W STER STG 1-CS10	X			X				ON
N1:T4M1-10	PHOTO	SMOKE	1:M11-10 FLR 1W JANT-CS13		X		X				ON
N1:T4M1-11	PHOTO	VSMOKE	1:M11-11 FLR 1W STORAGE 1012	X	X		X				ON
N1:T4M1-12	PHOTO	SMOKE	1:M11-12 FLR 1W STER STG 1-CS10 CTR			X	X				ON
N1:T4M1-13	PHOTO	SMOKE	1:M11-13 FLR 1W CENTRAL STERILE	X		X	X				ON
N1:T4M1-14	PHOTO	SMOKE	1:M11-14 FLR 1W STER STG 1-CS10 SOUTH		X	X	X				ON
N1:T4M1-15	PHOTO	SMOKE	1:M11-15 FLR 1W STER STG 1-CS10 SOUTH	X	X	X	X				ON
N1:T4M1-16	PHOTO	SMOKE	1:M11-16 FLR 1W MAKE UP 1-CS07 W					X			ON
N1:T4M1-17	PHOTO	SMOKE	1:M11-17 FL 1W CENTRAL STERILE	X				X			ON
N1:T4M1-18	PHOTO	SMOKE	1:M11-18 FL 1W MAKE UP 1-CS07 @ CORR		X			X			ON
N1:T4M1-19	PHOTO	SMOKE	1:M11-19 FL 1W STERILIZER 1-CS06	X	X			X			ON
N1:T4M1-20	PHOTO	SMOKE	1:M11-20 FL 1W CLEAN STORAGE 1-CS06			X		X			ON
N1:T4M1-21	PHOTO	SMOKE	1:M11-21 FL 1W DECON 1-CS03 NORTH	X		X		X			ON
N1:T4M1-22	PHOTO	SMOKE	1:M11-22 FL 1W DECON 1-CS03 SOUTH		X	X		X			ON
N1:T4M1-23	PHOTO	SMOKE	1:M11-23 FL 1W CART WASH 1-CS04 NORTH	X	X	X		X			ON
N1:T4M1-24	PHOTO	SMOKE	1:M11-24 FL 1W CART WASH 1-CS04 SOUTH				X	X			ON
N1:T4M1-25	PHOTO	SMOKE	1:M11-25 FL 1W CSS OFF 1-CS02	X			X	X			ON
N1:T4M1-26	PHOTO	SMOKE	1:M11-26 FL 1W DI WATER 1-CS09		X		X	X			ON
N1:T4M1-27	PHOTO	SMOKE	1:M11-27 FL 1W STORAGE 1103	X	X		X	X			ON
N1:T4M1-28	PHOTO	SMOKE	1:M11-28 FL 1W CLEAN STORAGE 1-CS05			X	X	X			ON
N1:T4M1-29			SPARE	X		X	X	X			ON
N1:T4M1-30	RPHOTO	LSDUCT	1:M11-30 FLR 1W STER STG SUP FSD 1-CS10		X	X	X	X			ON
N1:T4M1-31	RPHOTO	LSDUCT	1:M11-31 FLR 1W CARTWASH 1-CS04 RET FSD	X	X	X	X	X			ON
N1:T4M1-32			SPARE						X		ON
N1:T4M1-33	RPHOTO	LSDUCT	1:M11-33 FLR 1W SRG VEND 1-CS01 RET FSD	X					X		ON
N1:T4M1-34			SPARE		X				X		ON
N1:T4M1-35	RPHOTO	LSDUCT	1:M11-35 FLR 1W DECON 1- CS03 SUP FSP	X	X				X		ON
N1:T4M1-36			SPARE			X			X		ON
N1:T4M1-37			SPARE	X		X			X		ON
N1:T4M1-38			SPARE		X	X			X		ON
N1:T4M1-39	RIAM	RELAY	1:M11-39 FLR 1W OR 811 ALARM TO DDC	X	X	X			X		ON
N1:T4M1-40	RIAM	RELAY	1:M11-40 FLR 1W OR 83 ALARM TO DDC				X		X		ON
N1:T4M1-41	RPHOTO	LSDUCT	1:M11-41 FLR 1W ELEC RM 1-CS16 SUP FSD	X			X		X		ON
N1:T4M1-42	RPHOTO	LSDUCT	1:M11-42 FLR 1W ELEC RM 1-CS16 RET FSD		X		X		X		ON
N1:T4M1-43	RPHOTO	LSDUCT	1:M11-43 FLR 1W TLT 1-CS15 SUP FSD	X	X		X		X		ON
N1:T4M1-44	RPHOTO	LSDUCT	1:M11-44 FLR 1W OR-11 1-SS100 RET FSD		X		X		X		ON
N1:T4M1-45	PHOTO	VSMOKE	1:M11-45 FLR 1W OR-11 1-SS118 NE	X			X		X		ON
N1:T4M1-46	PHOTO	VSMOKE	1:M11-46 FLR 1W OR-1 1-SS118 SW		X	X	X		X		ON
N1:T4M1-47	RIAM	DHOLDER	1:M11-47 FLR 1W OR-1 1-SS118 D/H	X	X	X	X		X		ON
N1:T4M1-48	PHOTO	VSMOKE	1:M11-48 FLR 1W OR-2 1-SS119 NE					X	X		ON
N1:T4M1-49	PHOTO	VSMOKE	1:M11-49 FLR 1W OR-2 1-SS119 SW	X				X	X		ON
N1:T4M1-50	RIAM	DHOLDER	1:M11-50 FLR 1W OR-2 1-SS119 D/H		X			X	X		ON
N1:T4M1-51	PHOTO	VSMOKE	1:M11-51 FLR 1W CYSTO OR-3 1-SS129 NE	X	X			X	X		ON
N1:T4M1-52	PHOTO	VSMOKE	1:M11-52 FLR 1W CYSTO OR-3 1-SS129 SW			X		X	X		ON
N1:T4M1-53	RIAM	DHOLDER	1:M11-53 FLR 1W CYSTO OR-3 1-SS129 D/H	X		X		X	X		ON
N1:T4M1-54	PHOTO	VSMOKE	1:M11-54 FLR 1W EQUIP STG 1-SS131		X	X		X	X		ON
N1:T4M1-55	PHOTO	VSMOKE	1:M11-55 FLR 1W WOMENS LOCKER 1-SS135	X	X	X		X	X		ON
N1:T4M1-56	HEAT	HEAT	1:M11-56 FLR 1W WOMENS BATH 1-SS136				X	X	X		ON
N1:T4M1-57	PHOTO	VSMOKE	1:M11-57 FLR 1W MENS LOCKER 1-SS138	X			X	X	X		ON
N1:T4M1-58	PHOTO	VSMOKE	1:M11-58 FLR 1W NURSE LOUNGE 1-SS139		X		X	X	X		ON
N1:T4M1-59			SPARE	X	X		X	X	X		ON
N1:T4M1-60			SPARE			X	X	X	X		ON
N1:T4M1-61			SPARE	X		X	X	X	X		ON
N1:T4M1-62	RPHOTO	LSDUCT	1:M11-62 FLR 1W OR-11 1-SS100 SUP FSD		X	X	X	X	X		ON
N1:T4M1-63	RPHOTO	LSDUCT	1:M11-63 FLR 1W CORR 1-SS112 SUP FSD	X	X	X	X	X	X		ON
N1:T4M1-64			SPARE							X	ON
N1:T4M1-65	RIAM	RELAY	1:M11-65 FLR 1W OR-1 PHOENIX VALVE	X						X	ON
N1:T4M1-66	RIAM	RELAY	1:M11-66 FLR 1W OR-2 PHOENIX VALVE		X					X	ON
N1:T4M1-67	PHOTO	VSMOKE	1:M11-67 FLR 1W CORR 1-SS0237 @ STER STG	X	X					X	ON
N1:T4M1-68	PHOTO	VSMOKE	1:M11-68 FLR 1W CORR 1-SS037 @ STG ALC			X				X	ON
N1:T4M1-69	PHOTO	VSMOKE	1:M11-69 FLR 1W CORR 1-SS029 @ N CORR	X		X				X	ON
N1:T4M1-70	PHOTO	SMOKE	1:M11-70 FLR 1W CORR 1-SS036		X	X				X	ON
N1:T4M1-71	PHOTO	SMOKE	1:M11-71 FLR 1W CORR 1-SS036	X	X	X				X	ON
N1:T4M1-72	PHOTO	SMOKE	1:M11-72 FLR 1W STOR 1-SS035				X			X	ON
N1:T4M1-73	PHOTO	SMOKE	1:M11-73 FLR 1W SOILED FLUIDS 1-SS032	X			X			X	ON
N1:T4M1-74	RIAM	DHOLDER	1:M11-74 FLR 1W OR 4 CORR 1-SS036		X		X			X	ON
N1:T4M1-75	RIAM	RELAY	1:M11-75 FLR 1W OR 4 PHOENIX VALVE	X	X		X			X	ON
N1:T4M1-76	PHOTO	SMOKE	1:M11-76 FLR 1W DAVINCI OR 4 1-SS031 NW			X	X			X	ON
N1:T4M1-77	PHOTO	SMOKE	1:M11-77 FLR 1W DAVINCI OR 4 1-SS031 SE	X		X	X			X	ON
N1:T4M1-78	PHOTO	VSMOKE	1:M11-78 FLR 1W PASS 1-PA11		X	X	X			X	ON
N1:T4M1-79	PHOTO	VSMOKE	1:M11-79 FLR 1W CLEAN UTILITY 1-PA07	X	X	X	X			X	ON
N1:T4M1-80	PHOTO	VSMOKE	1:M11-80 FLR 1W PRIVATE PACU BAY 1100					X		X	ON
N1:T4M1-81	PHOTO	VSMOKE	1:M11-81 FLR 1W PACU RECOVERY 1-PA01 N	X				X		X	ON
N1:T4M1-82	PHOTO	VSMOKE	1:M11-82 FLR 1W PASS 1-PA12		X			X		X	ON
N1:T4M1-83	PHOTO	VSMOKE	1:M11-83 FLR 1W STF LNGE 1-PA14	X	X			X		X	ON
N1:T4M1-84	HEAT	HEAT	1:M11-84 FLR 1W TLT PA15			X		X		X	ON
N1:T4M1-85	PHOTO	SMOKE	1:M11-85 FLR 1W PACU RECOVERY 1-PA01 S	X		X		X		X	ON
N1:T4M1-86	PHOTO	SMOKE	1:M11-86 FLR 1W SOILED UTILITY 1-PA08		X	X		X		X	ON
N1:T4M1-87	PHOTO	SMOKE	1:M11-87 FLR 1W PASS 1-PA06	X	X	X		X		X	ON
N1:T4M1-88	PHOTO	SMOKE	1:M11-88 FLR 1W ELEC 1-PA05				X	X		X	ON
N1:T4M1-89	ADRPUL	PULL	1:M11-89 FLR 1W NURSE STATION A 1-PA10	X			X	X		X	ON
N1:T4M1-90	RIAM	RRELAY	1:M11-90 FLR 1W DAVINCI OR 4 1-SS029		X		X	X		X	ON
N1:T4M1-91			SPARE	X	X		X	X		X	ON
N1:T4M1-92	PHOTO	VSMOKE	1:M11-92 FLR 1W CORR 1-SS122 @STORAGE			X	X	X		X	ON
N1:T4M1-93	PHOTO	VSMOKE	1:M11-93 FLR 1W STORAGE 1-SS125	X		X	X	X		X	ON
N1:T4M1-94			SPARE		X	X	X	X		X	ON
N1:T4M1-95			SPARE	X	X	X	X	X		X	ON
N1:T4M1-96			SPARE						X	X	ON
N1:T4M1-97			SPARE	X					X	X	ON
N1:T4M1-98			SPARE		X				X	X	ON
N1:T4M1-99			SPARE	X	X				X	X	ON
N1:T4M1-100	PHOTO	VSMOKE	1:M11-100 FLR 1W PASS 1-SS204 S			X			X	X	ON
N1:T4M1-101	PHOTO	VSMOKE	1:M11-101 FLR 1W PASS 1-SS204 CTR	X		X			X	X	ON
N1:T4M1-102	PHOTO	VSMOKE	1:M11-102 FLR 1W PASS 1-SS204 N		X	X			X	X	ON
N1:T4M1-103	PHOTO	VSMOKE	1:M11-103 FLR 1W STORE ROOM 1-SS201	X	X	X			X	X	ON
N1:T4M1-104	PHOTO	VSMOKE	1:M11-104 FLR 1W EWS 1-SS202			X			X	X	ON
N1:T4M1-105	HEAT	HEAT	1:M11-105 FLR 1W TOILET 1-SS203	X			X		X	X	ON
N1:T4M1-106	ADRPUL	PULL	1:M11-106 FLR 1W NURSE STATION A 1-SS205		X		X		X	X	ON
N1:T4M1-107	PHOTO	VSMOKE	1:M11-107 FLR 1W PASS E 1-SS212	X	X		X		X	X	ON
N1:T4M1-108	HEAT	HEAT	1:M11-108 FLR 1W TOILET 1-SS206			X	X		X	X	ON
N1:T4M1-109	PHOTO	VSMOKE	1:M11-109 FLR 1W MEDS 1-SS207	X		X	X		X	X	ON
N1:T4M1-110	PHOTO	VSMOKE	1:M11-110 FLR 1W SOILED UTILITY 1-SS208		X	X	X		X	X	ON
N1:T4M1-111	PHOTO	VSMOKE	1:M11-111 FLR 1W OFFICE 1-SS209	X	X	X	X		X	X	ON
N1:T4M1-112	PHOTO	VSMOKE	1:M11-112 FLR 1W PASSAGE 1-SS210					X	X	X	ON
N1:T4M1-113	PHOTO	VSMOKE	1:M11-113 FLR 1W WORK ROOM 1-SS215	X				X	X	X	ON
N1:T4M1-114	PHOTO	VSMOKE	1:M11-114 FLR 1W CLEAN UTILITY 1-SS214		X			X	X	X	ON
N1:T4M1-115	ADRPUL	PULL	1:M11-115 FLR 1W NURSE STATION 1-SS213	X	X			X	X	X	ON
N1:T4M1-116	PHOTO	SMOKE	1:M11-116 FLR 1W PASSAGE W 1-SS212			X		X	X	X	ON
N1:T4M1-117	HEAT	HEAT	1:M11-117 FLR 1W TOILET 1-SS221	X		X		X	X	X	ON
N1:T4M1-118	PHOTO	VSMOKE	1:M11-118 FLR 1W NOURISHMENT 1-SS222		X	X		X	X	X	ON
N1:T4M1-119	PHOTO	VSMOKE	1:M11-119 FLR 1W PASS E 1-SS224	X	X	X		X	X	X	ON
N1:T4M1-120	PHOTO	VSMOKE	1:M11-120 FLR 1W PASS N 1-SS224				X	X	X	X	ON
N1:T4M1-121	PHOTO	VSMOKE	1:M11-121 FLR 1W PASS S 1-SS224	X			X	X	X	X	ON
N1:T4M1-122	ADRPUL	PULL	1:M11-122 FLR 1W NURSE STAT C 1-SS223		X		X	X	X	X	ON
N1:T4M1-123	HEAT	HEAT	1:M11-123 FLR 1W TLT 1-SS219	X	X		X	X	X	X	ON
N1:T4M1-124	HEAT	HEAT	1:M11-124 FLR 1W TLT 1-SS218			X	X	X	X	X	ON
N1:T4M1-125	PHOTO	VSMOKE	1:M11-125 FLR 1W NURSE LOUNGE 1-SS217	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 N1:T4M1		ADDRESSES IN USE: 176 (70.4%) | SPARE ADDRESSES: 74 (29.6%)		SWITCH SETTINGS							
Address			Location Description	1	2	3	4	5	6	7	8
N1:T4M1-126	HEAT	HEAT	1:M11-126 FLR 1W TOILET 1-SS220		X	X	X	X	X	X	ON
N1:T4M1-127	PHOTO	VSMOKE	1:M11-127 FLR 1W COMM 1-SS216	X	X	X	X	X	X	X	ON
N1:T4M1-128	PHOTO	LSDUCT	1:M11-128 ROOF RTU-3 SUP DET TO DDC							X	ON
N1:T4M1-129	PHOTO	LSDUCT	1:M11-129 ROOF RTU-3 RET DET TO DDC	X						X	ON
N1:T4M1-130	RIAM	RELAY	1:M11-130 ROOF RTU-3 SUPPLY TO DDC		X					X	ON
N1:T4M1-131	RIAM	RELAY	1:M11-131 ROOF RTU-3 RETURN TO DDC	X	X					X	ON
N1:T4M1-132	RIAM	RELAY	1:M11-132 FLR 1W ALARM TO DDC AHU-3			X				X	ON
N1:T4M1-133	RIAM	RELAY	1:M11-133 FLR 1W SUPV FSD TO DDC AHU-3	X		X				X	ON
N1:T4M1-134	RIAM	RELAY	1:M11-134 FLR 1W RET FSD TO DDC AHU-3		X	X				X	ON
N1:T4M1-135	RIAM	RRELAY	1:M11-135 FL 1W PACU BY HALL SEC RELEASE	X	X	X				X	ON
N1:T4M1-136			SPARE				X			X	ON
N1:T4M1-137	PHOTO	VSMOKE	1:M11-137 FLR 1 1W CHANGING AREA 7200A	X			X			X	ON
N1:T4M1-138	PHOTO	VSMOKE	1:M11-138 FLR 1W BREAK RM 7300A		X		X			X	ON
N1:T4M1-139	PHOTO	VSMOKE	1:M11-139 FLR 1W O/S RADIOLOGY 05 7202A	X	X		X			X	ON
N1:T4M1-140	PHOTO	VSMOKE	1:M11-140 FLR1 1W STAFF HALL 7203A E			X	X			X	ON
N1:T4M1-141	PHOTO	VSMOKE	1:M11-141 FLR 1W STAFF HALL 7203A W	X		X	X			X	ON
N1:T4M1-142	PHOTO	VSMOKE	1:M11-142 FLR 1W TECH WORK AREA 7204A		X	X	X			X	ON
N1:T4M1-143	PHOTO	VSMOKE	1:M11-143 FLR 1W EQUIPMENT RM 7203B	X	X	X	X			X	ON
N1:T4M1-144	PHOTO	VSMOKE	1:M11-144 FLR 1W CONTROL AREA 7402B					X		X	ON
N1:T4M1-145	PHOTO	VSMOKE	1:M11-145 FLR 1W PATIENT HOLDING 7402D	X				X		X	ON
N1:T4M1-146	PHOTO	VSMOKE	1:M11-146 FLR1 1W CONTROL AREA 7402B S		X			X		X	ON
N1:T4M1-147	IAM	SMOKE	1:M11-147 FLR 1W MRI 2 7402A HW SMKDET	X	X			X		X	ON
N1:T4M1-148			SPARE			X		X		X	ON
N1:T4M1-149			SPARE	X		X		X		X	ON
N1:T4M1-150	IAM	SDUCT	1:M11-150 FLR 1W CRAC1 INTERGRAL SMK.DET		X	X		X		X	ON
N1:T4M1-151	PHOTO	VSMOKE	1:M11-151 FLR 1W EQUIP RM 1W-9902A	X	X	X		X		X	ON
N1:T4M1-152	PHOTO	VSMOKE	1:M11-152 FLR1 IR RM 03 1W-8113A N				X	X		X	ON
N1:T4M1-153	PHOTO	VSMOKE	1:M11-153 FLR1 IR RM 03 1W-8113A S	X			X	X		X	ON
N1:T4M1-154	PHOTO	VSMOKE	1:M11-154 FLR 1W CONTROL RM 1W-8112A		X		X	X		X	ON
N1:T4M1-155	RIAM	RELAY	1:M11-155 FLR 1W IR RM 03 MUSIC SHUT-OFF	X	X		X	X		X	ON
N1:T4M1-156	IAM	LSDUCT	1:M11-156FLR 1W MRI2 7402A CRAC UNIT SMK			X	X	X		X	ON
N1:T4M1-157			SPARE	X		X	X	X		X	ON
N1:T4M1-158	PHOTO	VSMOKE	1:M11-158 FLR 1W RADIOLOGY 05 7202A		X	X	X	X		X	ON
N1:T4M1-159	PHOTO	VSMOKE	1:M11-159 FLR 1W CT SUITE 5300A	X	X	X	X	X		X	ON
N1:T4M1-160	PHOTO	VSMOKE	1:M11-160 FLR 1W CT 01 5303A						X	X	ON
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PERMIT #2025 2503873-LT | RSN: 1871673

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 4 - EPS-1 CIRCUIT SUMMARY & VOLTAGE DROP

Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
N1:T4:A2:1	*FLR 1W OR 11. STERILE STG*	*2.244A*	*2.71%*	*40*	*805*	*25%*	*87%*
N1:T4:A2:2	*FLR 1W OR 1-4, PACU CORR*	*1.346A*	*3.24%*	*23*	*674*	*55%*	*84%*
N1:T4:A2:3	*FLR 1W OR RECOVERY*	*2.000A*	*4.45%*	*38*	*845*	*33%*	*78%*
EPR2	**FLR 1W MRI AREA EQUIPMENT ROOM 7203B**	**2.594A**	**6.58%**	**37**	**829**	**14%**	**68%**
EPR3	*FLR 1W MRI AREA EQUIPMENT ROOM 7203B*	*0.501A*	*1.42%*	*6*	*191*	*83%*	*93%*
EPR1	*PACU RECOVERY*	*1.128A*	*2.53%*	*17*	*357*	*62%*	*88%*

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CIRCUIT N1:T4:A2:1

IDNAC Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	SWITCH SETTINGS 1	2	3	4	5	6	7	8	
N1:T4:A2:1-1	*VO*	*49VO-WRF*	*15cd*	*FLR 1W ELEC 1-CS15 T4:A2:1-1*	X								ON
N1:T4:A2:1-2	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-CS14 T4:A2:1-2*		X							ON
N1:T4:A2:1-3	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TOILET 1-CS15 T4:A2:1-3*	X	X							ON
N1:T4:A2:1-4	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-CS14 T4:A2:1-4*			X						ON
N1:T4:A2:1-5	*AO*	*49MT-WRF*	*520 Hz*	*FLR 1W CASE CARTS 1-CS11 T4:A2:1-5*	X		X						ON
N1:T4:A2:1-6	*STRB*	*4906-9202*	*75cd*	*FLR 1W STERILE STG 1-CS1 T4:A2:1-6*		X	X						ON
N1:T4:A2:1-7	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 11 1-SS100 T4:A2:1-7*	X	X	X						ON
N1:T4:A2:1-8	*REPEATER*	*4009-9601*		*FLR 1W EQUIPMENT ROOM 7203B T4:A2:1-8*				X					ON
N1:T4:A2:1-9	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W MAKE UP 1-CS7 T4:A2:1-9*	X			X					ON
N1:T4:A2:1-10	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W MAKE UP 1CS7 T4:A2:1-10*		X		X					ON
N1:T4:A2:1-11	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WAKE UP 1-CS07 T4:A2:1-11*	X	X		X					ON
N1:T4:A2:1-12	*VO*	*49VO-WRF*	*30cd*	*FLR 1W STERILIZER 1-CS08 T4:A2:1-12*			X	X					ON
N1:T4:A2:1-13	*VO*	*49VO-WRF*	*30cd*	*FLR 1W CLEAN STORAGE 1-CS06 T4:A2:1-13*	X		X	X					ON
N1:T4:A2:1-14	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W DECON 1-CS03 T4:A2:1-14*		X	X	X					ON
N1:T4:A2:1-15	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W CART WASH 1-CS04 T4:A2:1-15*	X	X	X	X					ON
N1:T4:A2:1-16	*STRB*	*4906-9203*	*15cd*	*FLR 1W DI WATER 1-CS09 T4:A2:1-16*					X				ON
N1:T4:A2:1-17	*VO*	*49VO-WRF*	*15cd*	*FLR 1W SURGERY VEN 1-CS01 T4:A2:1-17*	X				X				ON
N1:T4:A2:1-18	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CLEAN STORAGE 1-CS05 T4:A2:1-18*		X			X				ON
N1:T4:A2:1-19	*AO*	*49MT-WRF*	*520 Hz*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-19*	X	X			X				ON
N1:T4:A2:1-20	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-20*			X		X				ON
N1:T4:A2:1-21	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-21*	X		X		X				ON
N1:T4:A2:1-22	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-22*		X	X		X				ON
N1:T4:A2:1-23	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-23*	X	X	X		X				ON
N1:T4:A2:1-24	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-24*				X	X				ON
N1:T4:A2:1-25	*VO*	*49VO-APPLW*	*15cd*	*FLR 1W RADI.03 CHANG AREA T4:A2:1-25*	X			X	X				ON
N1:T4:A2:1-26	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W BREAK RM 7300A T4:A2:1-26*		X		X	X				ON
N1:T4:A2:1-27	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CHANGING AREA 7200A T4:A2:1-27*	X	X		X	X				ON
N1:T4:A2:1-28	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W O/S RAD. 05 7202A T4:A2:1-28*				X	X				ON
N1:T4:A2:1-29	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W STAFF HALL 7203A T4:A2:1-29*	X		X	X	X				ON
N1:T4:A2:1-30	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQUIP RM 7203B T4:A2:1-30*		X	X	X	X				ON
N1:T4:A2:1-31	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W TECH WORK AREA 7204A T4:A2:1-31*	X	X	X	X	X				ON
N1:T4:A2:1-32	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL AREA 7402B T4:A2:1-32*						X			ON
N1:T4:A2:1-33	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W TLT 7402C T4:A2:1-33*	X					X			ON
N1:T4:A2:1-34	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W PAT HOLDING 7402C T4:A2:1-34*		X				X			ON
N1:T4:A2:1-35	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL AREA 7402B S T4:A2:1-35*	X	X				X			ON
N1:T4:A2:1-36	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CHANGING RM 7402E T4:A2:1-36*			X			X			ON
N1:T4:A2:1-37	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W STAFF TLT 7404A T4:A2:1-37*	X		X			X			ON
N1:T4:A2:1-38	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQUIP RM 1W-8902A T4:A2:1-38*		X	X			X			ON
N1:T4:A2:1-39	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W IR RM 03 1W-8113A N T4:A2:1-39*	X	X	X			X			ON
N1:T4:A2:1-40	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W IR RM 03 1W-8113A S T4:A2:1-40*				X		X			ON
N1:T4:A2:1-41	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL RM 1W-8112A T4:A2:1-41*	X			X		X			ON
N1:T4:A2:1-42	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W RAD RM 5 7202A T4:A2:1-42*		X		X		X			ON
N1:T4:A2:1-43	*VO*	*49VO-WRF*	*15cd*	*FLR 1W BATH 7201A T4:A2:1-43*	X	X		X		X			ON
N1:T4:A2:1-44	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TLT 5305A 1-44*			X	X		X			ON
N1:T4:A2:1-45	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W CT SUITE 5303A 1-45*	X		X	X		X			ON
N1:T4:A2:1-46	*VO*	*49VO-APPLC*	*75cd*	*FLR 1W CT 01 5303A 1-46*		X	X	X		X			ON
N1:T4:A2:1-47	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CT 01 5303A CONTROL 1-47*	X	X	X	X		X			ON
N1:T4:A2:1-48										X			ON
N1:T4:A2:1-49					X					X			ON
N1:T4:A2:1-50	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W NUC/SPINE ROOM 1 6307A 1-50*		X				X			ON
N1:T4:A2:1-51	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORRIDOR 1008 W T4:A2:1-51*	X	X				X			ON
N1:T4:A2:1-52	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORRIDOR 1008 E T4:A2:1-52*			X			X			ON
N1:T4:A2:1-53	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W IR STORAGE 1004 T4:A2:1-53*	X		X			X			ON
N1:T4:A2:1-54	*REPEATER*	*4009-9601*		*FLR 1W EQUIPMENT RM 7203B T4:A2:1-54*		X	X			X			ON
N1:T4:A2:1-55	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W MRI CONTROL RM 8000B T4:A2:1-55*	X	X	X			X			ON
N1:T4:A2:1-56	*VO*	*49VO-APPLC*	*75cd*	*FLR 1W MRI SCAN RM 8002A T4:A2:1-56*				X		X			ON
N1:T4:A2:1-57	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W EQUIPMENT RM 8901A T4:A2:1-57*	X			X		X			ON
N1:T4:A2:1-58	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W MRI SUITE 8000A T4:A2:1-58*		X		X		X			ON
N1:T4:A2:1-59	*VO*	*49VO-WRF*	*15cd*	*FLR 1W MRI BATH 8001A T4:A2:1-59*	X	X		X		X			ON

N1:T4:A2:1 — **Notification SLC Distributed Load Voltage Drop**

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Class B Calculations Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*N1:T4:A2:1-1*	*PANEL*	*15*	*49VO-WRF*	*15cd*	*0.0470*	*1.059*	*0.038*	*28.902*	*Branch 1: 2.71%*
1	*N1:T4:A2:1-2*	*N1:T4:A2:1-1*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*0.955*	*0.147*	*28.756*	*Length: 805*
1	*N1:T4:A2:1-3*	*N1:T4:A2:1-2*	*22*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.750*	
1	*N1:T4:A2:1-4*	*N1:T4:A2:1-2*	*51*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.045*	*28.710*	
1	*TAP9*	*N1:T4:A2:1-2*	*18*	*JBOX*		*0.0000*	*0.618*	*0.068*	*28.688*	
1	*N1:T4:A2:1-5*	*TAP9*	*18*	*49MT-WRF*	*520 Hz*	*0.0990*	*0.339*	*0.037*	*28.650*	
1	*N1:T4:A2:1-6*	*N1:T4:A2:1-5*	*45*	*4906-9202*	*75cd*	*0.1800*	*0.180*	*0.060*	*28.600*	
1	*N1:T4:A2:1-7*	*N1:T4:A2:1-1*	*48*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.017*	*28.586*	
1	*N1:T4:A2:1-8*	*N1:T4:A2:1-25*	*89*	*4009-9601*		*0.0032*	*0.006*	*0.003*	*28.435*	
1	*N1:T4:A2:1-9*	*N1:T4:A2:1-19*	*18*	*49MTV-WRF*	*75cd*	*0.1980*	*1.119*	*0.124*	*28.547*	
1	*N1:T4:A2:1-10*	*N1:T4:A2:1-9*	*56*	*49MTV-WRF*	*75cd*	*0.1980*	*0.245*	*0.064*	*28.483*	
1	*TAP10*	*N1:T4:A2:1-9*	*29*	*JBOX*		*0.0000*	*0.676*	*0.120*	*28.426*	
1	*N1:T4:A2:1-11*	*TAP10*	*17*	*49VO-WRF*	*15cd*	*0.0470*	*0.104*	*0.011*	*28.416*	
1	*N1:T4:A2:1-12*	*TAP10*	*15*	*49VO-WRF*	*30cd*	*0.0570*	*0.057*	*0.005*	*28.421*	
1	*N1:T4:A2:1-13*	*N1:T4:A2:1-11*	*17*	*49VO-WRF*	*30cd*	*0.0570*	*0.057*	*0.006*	*28.410*	
1	*N1:T4:A2:1-14*	*TAP10*	*51*	*49MTV-WRF*	*30cd*	*0.1630*	*0.515*	*0.161*	*28.265*	
1	*TAP11*	*N1:T4:A2:1-14*	*10*	*JBOX*		*0.0000*	*0.305*	*0.019*	*28.246*	
1	*N1:T4:A2:1-15*	*TAP11*	*27*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.033*	*28.214*	
1	*N1:T4:A2:1-16*	*TAP11*	*26*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.010*	*28.237*	
1	*N1:T4:A2:1-17*	*TAP11*	*20*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.241*	
1	*N1:T4:A2:1-18*	*N1:T4:A2:1-14*	*28*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.008*	*28.257*	
1	*N1:T4:A2:1-19*	*TAP9*	*10*	*49MT-WRF*	*520 Hz*	*0.0990*	*0.279*	*0.017*	*28.670*	
1	*N1:T4:A2:1-20*	*N1:T4:A2:1-24*	*39*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.014*	*28.649*	
1	*N1:T4:A2:1-21*	*N1:T4:A2:1-5*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.001*	*28.649*	
1	*N1:T4:A2:1-22*	*N1:T4:A2:1-19*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.180*	*0.002*	*28.668*	
1	*N1:T4:A2:1-23*	*N1:T4:A2:1-22*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.120*	*0.001*	*28.667*	
1	*N1:T4:A2:1-24*	*N1:T4:A2:1-23*	*10*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.004*	*28.663*	
1	*N1:T4:A2:1-25*	*N1:T4:A2:1-10*	*85*	*49VO-APPLW*	*15cd*	*0.0470*	*0.047*	*0.025*	*28.438*	
E2:1	*N1:T4:A2:1-26*	*EPR2*	*26*	*49MTV-WRF*	*30cd*	*0.1630*	*2.594*	*0.414*	*28.586*	*Branch E2:1: 6.58%*
E2:1	*N1:T4:A2:1-27*	*N1:T4:A2:1-26*	*28*	*49VO-APPLC*	*15cd*	*0.0550*	*2.431*	*0.418*	*28.168*	*Length: 829*
E2:1	*N1:T4:A2:1-28*	*N1:T4:A2:1-27*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*2.376*	*0.306*	*27.862*	
E2:1	*N1:T4:A2:1-29*	*N1:T4:A2:1-28*	*29*	*49MTV-WRF*	*15cd*	*0.1450*	*0.345*	*0.061*	*27.800*	
E2:1	*N1:T4:A2:1-30*	*N1:T4:A2:1-29*	*18*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.022*	*27.778*	
E2:1	*N1:T4:A2:1-31*	*N1:T4:A2:1-30*	*31*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.010*	*27.768*	
E2:1	*N1:T4:A2:1-32*	*N1:T4:A2:1-28*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.966*	*0.130*	*27.731*	
E2:1	*N1:T4:A2:1-33*	*N1:T4:A2:1-32*	*24*	*49VO-APPLC*	*15cd*	*0.0550*	*0.821*	*0.121*	*27.610*	
E2:1	*N1:T4:A2:1-34*	*N1:T4:A2:1-33*	*19*	*49VO-APPLC*	*15cd*	*0.0550*	*0.766*	*0.089*	*27.523*	
E2:1	*N1:T4:A2:1-35*	*N1:T4:A2:1-34*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*0.711*	*0.109*	*27.412*	
E2:1	*N1:T4:A2:1-36*	*N1:T4:A2:1-35*	*27*	*49VO-APPLC*	*15cd*	*0.0550*	*0.566*	*0.094*	*27.318*	
E2:1	*N1:T4:A2:1-37*	*N1:T4:A2:1-36*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.511*	*0.066*	*27.252*	
E2:1	*N1:T4:A2:1-38*	*N1:T4:A2:1-37*	*34*	*49MTV-WRF*	*15cd*	*0.1450*	*0.456*	*0.095*	*27.157*	
E2:1	*N1:T4:A2:1-39*	*N1:T4:A2:1-38*	*21*	*49VO-APPLC*	*30cd*	*0.0830*	*0.311*	*0.040*	*27.117*	
E2:1	*N1:T4:A2:1-40*	*N1:T4:A2:1-39*	*47*	*49VO-APPLC*	*30cd*	*0.0830*	*0.083*	*0.024*	*27.093*	
E2:1	*N1:T4:A2:1-41*	*N1:T4:A2:1-39*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.020*	*27.097*	
E2:1	*N1:T4:A2:1-42*	*N1:T4:A2:1-28*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*1.010*	*0.130*	*27.731*	
E2:1	*N1:T4:A2:1-43*	*N1:T4:A2:1-42*	*21*	*49VO-WRF*	*15cd*	*0.0470*	*0.955*	*0.123*	*27.608*	
E2:1	*N1:T4:A2:1-44*	*N1:T4:A2:1-43*	*27*	*49VO-WRF*	*15cd*	*0.0470*	*0.908*	*0.151*	*27.458*	
E2:1	*N1:T4:A2:1-45*	*N1:T4:A2:1-44*	*19*	*49MTV-WRF*	*30cd*	*0.1630*	*0.516*	*0.060*	*27.398*	
E2:1	*N1:T4:A2:1-46*	*N1:T4:A2:1-45*	*40*	*49VO-APPLC*	*75cd*	*0.1530*	*0.153*	*0.038*	*27.360*	
E2:1	*N1:T4:A2:1-47*	*N1:T4:A2:1-45*	*35*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.012*	*27.386*	
						0.0000	*0.000*	*0.000*	*0.000*	
						0.0000	*0.000*	*0.000*	*0.000*	
E2:1	*N1:T4:A2:1-50*	**N1:T4:A2:1-45**	**97**	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.086*	*27.311*	*Branch E2:1: 6.58%*
E2:1	*N1:T4:A2:1-51*	*N1:T4:A2:1-44*	*65*	*49MTV-WRF*	*15cd*	*0.1450*	*0.345*	*0.138*	*27.320*	*Length: 829*
E2:1	*N1:T4:A2:1-52*	*N1:T4:A2:1-51*	*66*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.081*	*27.239*	
E2:1	*N1:T4:A2:1-53*	*N1:T4:A2:1-52*	*23*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.008*	*27.231*	
1	*N1:T4:A2:1-54*	*N1:T4:A2:1-8*	*10*	*4009-9601*		*0.0032*	*0.003*	*0.000*	*28.434*	*Branch 1: 2.71%*
E3:1	*N1:T4:A2:1-55*	*EPR3*	*98*	*49MTV-WRF*	*30cd*	*0.1630*	*0.501*	*0.301*	*28.699*	*Branch E3:1: 1.42%*
E3:1	*N1:T4:A2:1-56*	*N1:T4:A2:1-55*	*31*	*49VO-APPLC*	*75cd*	*0.1530*	*0.338*	*0.064*	*28.634*	*Length: 191*
E3:1	*N1:T4:A2:1-57*	*N1:T4:A2:1-56*	*25*	*49VO-APPLC*	*30cd*	*0.0830*	*0.185*	*0.028*	*28.606*	
E3:1	*N1:T4:A2:1-58*	*N1:T4:A2:1-57*	*20*	*49VO-APPLC*	*15cd*	*0.0550*	*0.102*	*0.013*	*28.593*	
E3:1	*N1:T4:A2:1-59*	*N1:T4:A2:1-58*	*17*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.005*	*28.588*	

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CIRCUIT N1:T4:A2:2

IDNAC Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	SWITCH SETTINGS 1	2	3	4	5	6	7	8	
N1:T4:A2:2-1	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQ STG 1-SS131 1:A2:2-1*	X								ON
N1:T4:A2:2-2	*VO*	*49VO-APPLW*	*75cd*	*FLR 1W CYSTO OR 3 1-SS129 1:A2:2-2*		X							ON
N1:T4:A2:2-3	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 2 1-SS119 1:A2:2-3*	X	X							ON
N1:T4:A2:2-4	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 1 1-SS118 1:A2:2-4*			X						ON
N1:T4:A2:2-5	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W WOMENS LCKR RM 1-SS135 1:A2:2-5*	X		X						ON
N1:T4:A2:2-6	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WOMENS LCKR RM 1-SS135 1:A2:2-6*		X	X						ON
N1:T4:A2:2-7	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WOMENS BATH 1-SS136 1:A2:2-7*	X	X	X						ON
N1:T4:A2:2-8	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W MENS LCKR RM 1-SS138 1:A2:2-8*				X					ON
N1:T4:A2:2-9	*VO*	*49VO-WRF*	*15cd*	*FLR 1W MENS LCKR RM 1-SS139 1:A2:2-9*	X			X					ON
N1:T4:A2:2-10	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W NURSE LOUNGE 1-SS139 1:A2:2-10*		X		X					ON
N1:T4:A2:2-11	*AV*	*49MTV-WRF*	*15cd*	*SPARE*	X	X		X					ON
N1:T4:A2:2-12	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS029 @OR 1 1:A2:2-12*				X	X				ON
N1:T4:A2:2-13	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CORR 1-SS029 @OR 1 1:A2:2-13*	X			X	X				ON
N1:T4:A2:2-14				*SPARE*	X	X	X	X					ON
N1:T4:A2:2-15				*SPARE*	X	X	X	X					ON
N1:T4:A2:2-16	*REPEATER*	*4009-9601*		*FLR 1W ELEC 1-PA05 1:A2:2-16*					X				ON
N1:T4:A2:2-17	*VO*	*49VO-WRF*	*15cd*	*FLR 1W ELEC 1-PA05 1:A2:2-17*	X				X				ON
N1:T4:A2:2-18	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W PASS 1-PA06 1:A2:2-18*		X			X				ON
N1:T4:A2:2-19	*VO*	*49VO-WRF*	*15cd*	*FLR 1W SOIL UTILITY 1-PA08 1:A2:2-19*	X	X			X				ON
N1:T4:A2:2-20	*VO*	*49VO-WRF*	*15cd*	*FLR 1W PACU RECOVERY 1-PA01 1:A2:2-20*			X		X				ON
N1:T4:A2:2-21	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W NURSE STAT A 1-PA10 1:A2:2-21*	X		X		X				ON
N1:T4:A2:2-22	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W PASS 1-PA11 1:A2:2-27*		X	X		X				ON
N1:T4:A2:2-23	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CNC OFF 1-PA09 1:A2:2-28*	X	X	X		X				ON
N1:T4:A2:2-24	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W CL UTILITY 1-PA07 1:A2:2-29*				X	X				ON
N1:T4:A2:2-25	*VO*	*49VO-WRF*	*30cd*	*FLR 1W PASS 1-PA12 1:A2:2-30*	X			X	X				ON
N1:T4:A2:2-26	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W STAFF LOUNGE 1-PA14 1:A2:2-31*		X		X	X				ON
N1:T4:A2:2-27	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TLT 1-PA15 1:A2:2-32*	X	X		X	X				ON
N1:T4:A2:2-28	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W DAVINCI OR 4 1-SS031 1:A1:1-28*			X	X					ON

N1:T4:A2:2 — **Distributed Load Voltage Drop**

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Class B Calculations Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*TAP12*	*PANEL*	*105*	*JBOX*		*0.0000*	*1.198*	*0.772*	*28.228*	*Branch 1: 3.24%*
1	*N1:T4:A2:2-11*	*TAP12*	*18*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.016*	*28.212*	*Length: 442*
1	*N1:T4:A2:2-1*	*TAP12*	*33*	*49MTV-WRF*	*15cd*	*0.1450*	*0.359*	*0.073*	*28.155*	
1	*N1:T4:A2:2-2*	*N1:T4:A2:2-1*	*31*	*49VO-APPLW*	*75cd*	*0.1000*	*0.214*	*0.041*	*28.114*	
1	*N1:T4:A2:2-3*	*N1:T4:A2:2-2*	*45*	*49VO-APPLW*	*30cd*	*0.0570*	*0.114*	*0.031*	*28.083*	
1	*N1:T4:A2:2-12*	*N1:T4:A2:2-13*	*27*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.024*	*28.200*	
1	*N1:T4:A2:2-4*	*N1:T4:A2:2-3*	*37*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.013*	*28.070*	
1	*N1:T4:A2:2-13*	*TAP12*	*11*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.003*	*28.224*	
1	*N1:T4:A2:2-5*	*TAP12*	*19*	*49MTV-WRF*	*15cd*	*0.1450*	*0.647*	*0.075*	*28.152*	
1	*TAP13*	*N1:T4:A2:2-5*	*11*	*JBOX*		*0.0000*	*0.502*	*0.034*	*28.118*	
1	*N1:T4:A2:2-6*	*TAP13*	*19*	*49VO-WRF*	*15cd*	*0.0470*	*0.292*	*0.034*	*28.084*	
1	*N1:T4:A2:2-7*	*N1:T4:A2:2-6*	*25*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.077*	
1	*N1:T4:A2:2-8*	*TAP13*	*19*	*49MTV-WRF*	*30cd*	*0.1630*	*0.210*	*0.024*	*28.094*	
1	*N1:T4:A2:2-9*	*N1:T4:A2:2-8*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.087*	
1	*N1:T4:A2:2-10*	*N1:T4:A2:2-6*	*19*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.023*	*28.061*	
2	*N1:T4:A2:2-16*	*PANEL*	*232*	*4009-9601*		*0.0032*	*0.003*	*0.005*	*28.995*	*Branch 2: 0.02%*
E1:1	*N1:T4:A2:2-17*	*EPR1*	*18*	*49VO-WRF*	*15cd*	*0.0470*	*1.128*	*0.125*	*28.870*	*Branch E1:1: 2.53%*
E1:1	*N1:T4:A2:2-18*	*N1:T4:A2:2-17*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*1.081*	*0.166*	*28.709*	*Length: 357*
E1:1	*N1:T4:A2:2-19*	*N1:T4:A2:2-18*	*21*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.703*	
E1:1	*TAP14*	*N1:T4:A2:2-18*	*25*	*JBOX*		*0.0000*	*0.889*	*0.136*	*28.573*	
E1:1	*N1:T4:A2:2-20*	*TAP14*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.566*	
E1:1	*N1:T4:A2:2-21*	*TAP14*	*29*	*49MTV-WRF*	*30cd*	*0.1630*	*0.942*	*0.150*	*28.423*	
E1:1	*TAP15*	*N1:T4:A2:2-21*	*9*	*JBOX*		*0.0000*	*0.679*	*0.038*	*28.385*	
E1:1	*N1:T4:A2:2-22*	*TAP15*	*17*	*49MTV-WRF*	*15cd*	*0.1450*	*0.412*	*0.043*	*28.342*	
E1:1	*N1:T4:A2:2-23*	*N1:T4:A2:2-22*	*14*	*49VO-WRF*	*15cd*	*0.0470*	*0.267*	*0.023*	*28.320*	
E1:1	*N1:T4:A2:2-24*	*N1:T4:A2:2-23*	*25*	*49MTV-WRF*	*30cd*	*0.1630*	*0.220*	*0.034*	*28.286*	
E1:1	*N1:T4:A2:2-28*	*N1:T4:A2:2-24*	*52*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.018*	*28.268*	
E1:1	*N1:T4:A2:2-25*	*TAP15*	*55*	*49VO-WRF*	*30cd*	*0.0570*	*0.267*	*0.090*	*28.295*	
E1:1	*N1:T4:A2:2-26*	*N1:T4:A2:2-25*	*13*	*49MTV-WRF*	*30cd*	*0.1630*	*0.210*	*0.017*	*28.279*	
E1:1	*N1:T4:A2:2-27*	*N1:T4:A2:2-26*	*31*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.009*	*28.270*	

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CIRCUIT N1:T4:A2:3

| IDNAC Address | Device Type |

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 4 4100es XPDR

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4100-9600	*1*	*BASIC TRANSPONDER 1*	*0.0360*	*0.0360*	*0.0360*	*0.0360*
4100-0634	*1*	*POWER DISTRIBUTION MODULE 120V*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
4100-0636	*1*	*BOX TO BOX HARNESS KIT*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
4100-2300	*1*	*EXPANSION BAY (PHASE 10 ONLY)*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
4100-5311	*1*	*ENHANCED POWER SUPPLY, 3 CHANNELS, IDNet, 120V*	*0.2250*	*0.2250*	*0.4900*	*0.4900*
4009-9601	*3*	*IDNAC REPEATER 120V PLATINUM UL/ULC*	*0.0700*	*0.2100*	*0.0960*	*0.2880*
		Panel Totals		**0.4710**		**0.8140**
IDNet Addressable Devices (SLC)						
4090-9001	*3*	*IDNET SUPERVISED IAM **	*Constant current draw of .8mA standby and 1mA alarm per address used. Devices requiring additional current are accounted for in the section labeled "Miscellaneous Peripheral Devices Requiring Additional System Power".*			
4090-9002	*41*	*IDNET RELAY IAM **				
4090-9101	*1*	*IDNET CLASS B MONITOR ZAM **				
4098-9714	**105**	**TRUEALARM PHOTO SMOKE SENSOR**				
4098-9733	**9**	**TRUEALARM HEAT SENSOR**				
4098-9755	*2*	*TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT **				
4098-9756	*10*	*TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT **				
4098-9792	**114**	**TRUEALARM SENSOR BASE ***				
4099-9006	*6*	*ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH **				
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	*10*	*ENCAPSULATED RELAY PAM-SD*	*0.0000*	*0.0000*	*0.0150*	*0.1500*
4098-9756	*10*	*TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT*	*0.0030*	*0.0300*	*0.0150*	*0.1500*
4603-9101	*4*	*SERIAL LCD ANNUNCIATOR*	*0.0650*	*0.2600*	*0.1400*	*0.5600*
2088-9021	*11*	*ENCAPSULATED RELAY PAM-1*	*0.0000*	*0.0000*	*0.0150*	*0.1650*
4098-9605	*2*	*PHOTO SMOKE DETECTOR SSD*	*0.0001*	*0.0002*	*0.0000*	*0.0000*
4098-9788	*2*	*2 WIRE DETECTOR BASE*	*0.0000*	*0.0000*	*0.0000*	*0.0000*
2098-9806	*10*	*REMOTE TEST STATION W/ LED AND KEY SWITCH*	*0.0045*	*0.0450*	*0.0000*	*0.0000*
SW-S	*2*	*4-WIRE SMOKE SENSOR*	*0.0005*	*0.0010*	*0.0200*	*0.0400*
IDNAC Notification Appliances		**Setting**				
4009-9601	*3*	*IDNAC REPEATER 120V PLATINUM UL/ULC **	*0.0032*	*0.0096*	*0.0032*	*0.0096*
4906-9202	*6*	*ADDRESSABLE CEILING MNT MC V/O, RED*	*15*	*0.0008*	*0.0048*	*0.0600*	*0.3600*
4906-9202	*1*	*ADDRESSABLE CEILING MNT MC V/O, RED*	*75*	*0.0008*	*0.0008*	*0.1800*	*0.1800*
49MT-WRF	*2*	*MULTI-TONE AUDIBLE ONLY, RED, WALL MOUNT*	*520 Hz*	*0.0016*	*0.0032*	*0.0990*	*0.1980*
49MTV-WRF	*18*	*MULTI-TONE A/V, RED, WALL MOUNT*	*15*	*0.0016*	*0.0288*	*0.1450*	*2.6100*
49MTV-WRF	*12*	*MULTI-TONE A/V, RED, WALL MOUNT*	*30*	*0.0016*	*0.0192*	*0.1630*	*1.9560*
49MTV-WRF	*6*	*MULTI-TONE A/V, RED, WALL MOUNT*	*75*	*0.0016*	*0.0096*	*0.1980*	*1.1880*
49VO-APPLC	**12**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**15**	**0.0008**	**0.0096**	**0.0550**	**0.6600**
49VO-APPLC	*3*	*STROBE, APPLIANCE ONLY, CEILING MOUNT*	*30*	*0.0008*	*0.0024*	*0.0830*	*0.2490*
49VO-APPLC	**3**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**75**	**0.0008**	**0.0024**	**0.1530**	**0.4590**
49VO-APPLW	*1*	*VO APPLIANCE ONLY WALL MT*	*15*	*0.0008*	*0.0008*	*0.0470*	*0.0470*
49VO-APPLW	*4*	*VO APPLIANCE ONLY WALL MT*	*30*	*0.0008*	*0.0032*	*0.0570*	*0.2280*
49VO-APPLW	*1*	*VO APPLIANCE ONLY WALL MT*	*75*	*0.0008*	*0.0008*	*0.1000*	*0.1000*
49VO-WRF	*31*	*VO, WALL MT, RED, FIRE LABEL*	*15*	*0.0008*	*0.0248*	*0.0470*	*1.4570*
49VO-WRF	*4*	*VO, WALL MT, RED, FIRE LABEL*	*30*	*0.0008*	*0.0032*	*0.0570*	*0.2280*
49VO-WRF	*1*	*VO, WALL MT, RED, FIRE LABEL*	*75*	*0.0008*	*0.0008*	*0.1000*	*0.1000*
		Total IDNAC Device Current:		**0.1240**			**10.0296**
		IDNAC Current Boost for 29vdc Regulated Output **					**5.7181**
		Peripheral Totals		**0.3362**			**16.8127**
		RUI Totals 4		**0.0140**			**0.0140**
		Address Totals 177 Addresses		**0.1416**			**0.1770**
		System Totals*:	**Standby**	**1.0868**	**Alarm**		**17.8177**

*** Device Address current draw included below (See Additional Current Draws):**
IDNet cards include 40mA alarm current for 20 device LEDs in alarm in addition to base current listed on datasheet.
1. Base FACP includes current draw for all included components. See data sheet for details.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
EPS-1				0.8816		7.4776
			Sub Total	**0.8816**		**7.4776**
Additional Current Draws:						
IDNAC Current Boost for 29vdc Regulated Output **						3.1919
RUI Connected Peripheral Devices	4	x 0.0035		= 0.0140	x 0.0035	= 0.0140
MAPNET/IDNet Device Address Communication Current	177	x 0.000800		= 0.1416	x 0.001000	= 0.1770
			Sub Total	**1.0372**		**10.8605**
Spare addressable point capacity	**20%**	36 x 0.0008		= 0.0288	x 0.001	= 0.0360
			Total	**1.0660**		**10.8965**
Standby Time =	**4**	Hrs x 1.0660		= 4.2640	Standby Ah	
Alarm Time =	**5**	Min 0.08333 x 10.8965		= 0.9080	Alarm Ah	
				5.1720		
Additional Spare Battery Capacity =	**20%**		+	1.0344		
				6.2064		
Battery Discharge Factor =	**25%**		+	1.5516		
Minimum Battery Required	**2081-9274 10AH (2x)**			**7.7581**		
Battery Supplied	**2081-9287 25AH (2x)**					

*** System Totals represent total system current requirements. Those currents may be distributed between multiple battery sets or power supplies as shown above.**
**** IDNac Current Boost formula: ((29.5 * IDNAC Alarm Current) / .921) / 20.4 - IDNAC Alarm Current**
DC-DC Converter Output = 29.5vdc. Terminal Output is 29vdc due to 0.5vdc internal loss.
Converter Worst Case efficiency is 92.1%, 29.4vdc represents battery output in 85% depleted state

Repeater Power Supply Battery Set:				Standby Total	Alarm Total
EPR-1				0.0136	**1.1280**
Additional Current Draw:					
IDNac Current Boost for 29vdc Regulated Output **				0.0000	0.6431
			Total	**0.0136**	**1.7711**
Standby Time =	**4**	Hrs x 0.0136	= 0.0544	Standby Ah	
Alarm Time =	**5**	Min 0.08333 x 1.7711	= 0.1476	Alarm Ah	
			0.2020		
Additional Spare Battery Capacity =	**20%**	+	0.0404		
			0.2424		
Battery Discharge Factor =	**25%**	+	0.0606		
Minimum Battery Required	**2081-9286 7.0AH (2x)**		**0.3030**		
Battery Supplied	**2081-9286 7.0AH (2x)**				

Repeater Power Supply Battery Set:				Standby Total	Alarm Total
EPR-2				0.0312	**2.8020**
Additional Current Draw:					
IDNac Current Boost for 29vdc Regulated Output **				0.0000	1.5975
			Total	**0.0312**	**4.3995**
Standby Time =	**4**	Hrs x 0.0312	= 0.1248	Standby Ah	
Alarm Time =	**5**	Min 0.08333 x 4.3995	= 0.3666	Alarm Ah	
			0.4914		
Additional Spare Capacity =	**20%**	+	0.0983		
			0.5897		
Additional Spare Battery Capacity =	**25%**	+	0.1474		
Minimum Battery Required	**2081-9286 7.0AH (2x)**		**0.7371**		
Battery Supplied	**2081-9286 7.0AH (2x)**				

Repeater Power Supply Battery Set:				Standby Total	Alarm Total
EPR-3				0.0048	**0.5010**
Additional Current Draw:					
IDNac Current Boost for 29vdc Regulated Output **				0.0000	0.2856
			Total	**0.0048**	**0.7866**
Standby Time =	**4**	Hrs x 0.0048	= 0.0192	Standby Ah	
Alarm Time =	**5**	Min 0.08333 x 0.7866	= 0.0656	Alarm Ah	
			0.0848		
Additional Spare Battery Capacity =	**20%**	+	0.0170		
			0.1017		
Battery Discharge Factor =	**25%**	+	0.0254		
Minimum Battery Required	**2081-9286 7.0AH (2x)**		**0.1271**		
Battery Supplied	**2081-9286 7.0AH (2x)**				

IDNET CHANNEL N1:T4M1		ADDRESSES IN USE: 177 (70.8%) | SPARE ADDRESSES: 73 (29.2%)		SWITCH SETTINGS
Address	**Device Type**	**Point Type**	**Location Description**	**1 2 3 4 5 6 7 8**
N1:T4M1-1	*PHOTO*	*SMOKE*	*1:M11-1 FLR 1W ELEC 1-CS16*	X ON
N1:T4M1-2	*PHOTO*	*SMOKE*	*1:M11-2 FLR 1W OR-11 1-SS10 SW*	X ON
N1:T4M1-3	*PHOTO*	*SMOKE*	*1:M11-3 FLR 1W OR-11 1-SS10 NE*	X X ON
N1:T4M1-4	*RIAM*	*DHOLDER*	*1:M11-4 FLR 1W OR-11 1-SS100*	X ON
N1:T4M1-5	*HEAT*	*HEAT*	*1:M11-5 FLR 1W TOILET CS15*	X X ON
N1:T4M1-6	*PHOTO*	*VSMOKE*	*1:M11-6 FLR 1W CORR 1-CS14*	X X ON
N1:T4M1-7	*PHOTO*	*VSMOKE*	*1:M11-7 FLR 1W CORR 1-CS14*	X X X ON
N1:T4M1-8	*PHOTO*	*SMOKE*	*1:M11-8 FLR 1W STER STG 1-CS10 NORTH*	X ON
N1:T4M1-9	*PHOTO*	*SMOKE*	*1:M11-9 FLR 1W STER STG 1-CS10*	X X ON
N1:T4M1-10	*PHOTO*	*SMOKE*	*1:M11-10 FLR 1W JANT-CS13*	X X ON
N1:T4M1-11	*PHOTO*	*VSMOKE*	*1:M11-11 FLR 1W STORAGE 1012*	X X X ON
N1:T4M1-12	*PHOTO*	*SMOKE*	*1:M11-12 FLR 1W STER STG 1-CS10 CTR*	X X ON
N1:T4M1-13	*PHOTO*	*SMOKE*	*1:M11-13 FLR 1W CENTRAL STERILE*	X X X ON
N1:T4M1-14	*PHOTO*	*SMOKE*	*1:M11-14 FLR 1W STER STG 1-CS10 SOUTH*	X X X ON
N1:T4M1-15	*PHOTO*	*SMOKE*	*1:M11-15 FLR 1W STER STG 1-CS10 SOUTH*	X X X X ON
N1:T4M1-16	*PHOTO*	*SMOKE*	*1:M11-16 FLR 1W MAKE UP 1-CS07 W*	X ON
N1:T4M1-17	*PHOTO*	*SMOKE*	*1:M11-17 FLL 1W CENTRAL STERILE*	X X ON
N1:T4M1-18	*PHOTO*	*SMOKE*	*1:M11-18 FL 1W MAKE UP 1-CS07 @ CORR*	X X ON
N1:T4M1-19	*PHOTO*	*SMOKE*	*1:M11-19 FL 1W STERILIZER 1-CS08*	X X X ON
N1:T4M1-20	*PHOTO*	*SMOKE*	*1:M11-20 FL 1W CLEAN STORAGE 1-CS06*	X ON
N1:T4M1-21	*PHOTO*	*SMOKE*	*1:M11-21 FL 1W DECON 1-CS03 NORTH*	X X ON
N1:T4M1-22	*PHOTO*	*SMOKE*	*1:M11-22 FL 1W DECON 1-CS03 SOUTH*	X X X ON
N1:T4M1-23	*PHOTO*	*SMOKE*	*1:M11-23 FL 1W CART WASH 1-CS04 NORTH*	X X X X ON
N1:T4M1-24	*PHOTO*	*SMOKE*	*1:M11-24 FL 1W CART WASH 1-CS04 SOUTH*	X X ON
N1:T4M1-25	*PHOTO*	*SMOKE*	*1:M11-25 FL 1W CSS OFF 1-CS02*	X X X ON
N1:T4M1-26	*PHOTO*	*SMOKE*	*1:M11-26 FL 1W DI WATER 1-CS09*	X X X ON
N1:T4M1-27	*PHOTO*	*SMOKE*	*1:M11-27 FL 1W STORAGE 1103*	X X X X ON
N1:T4M1-28	*PHOTO*	*SMOKE*	*1:M11-28 FL 1W CLEAN STORAGE 1-CS05*	X X X ON
N1:T4M1-29			*SPARE*	X X X X ON
N1:T4M1-30	*RPHOTO*	*LSDUCT*	*1:M11-30 FLR 1W STER STG SUP FSD 1-CS10*	X X X X ON
N1:T4M1-31	*RPHOTO*	*LSDUCT*	*1:M11-31 FLR 1W CARTWASH 1-CS04 RET FSD*	X X X X X ON
N1:T4M1-32			*SPARE*	X ON
N1:T4M1-33	*RPHOTO*	*LSDUCT*	*1:M11-33 FLR 1W SRG VEND 1-CS01 RET FSD*	X X ON
N1:T4M1-34			*SPARE*	X X ON
N1:T4M1-35	*RPHOTO*	*LSDUCT*	*1:M11-35 FLR 1W DECON 1- CS03 SUP FSP*	X X X ON
N1:T4M1-36			*SPARE*	X X ON
N1:T4M1-37			*SPARE*	X X X ON
N1:T4M1-38			*SPARE*	X X X ON
N1:T4M1-39	*RIAM*	*RELAY*	*1:M11-39 FLR 1W OR #11 ALARM TO DCC*	X X X X ON
N1:T4M1-40	*RIAM*	*RELAY*	*1:M11-40 FLR 1W OR #3 ALARM TO DDC*	X X ON
N1:T4M1-41	*RPHOTO*	*LSDUCT*	*1:M11-41 FLR 1W ELEC RM 1-CS16 SUP FSD*	X X X ON
N1:T4M1-42	*RPHOTO*	*LSDUCT*	*1:M11-42 FLR 1W ELEC RM 1-CS16 RET FSD*	X X X ON
N1:T4M1-43	*RPHOTO*	*LSDUCT*	*1:M11-43 FLR 1W TLT 1-CS15 SUP FSD*	X X X X ON
N1:T4M1-44	*RPHOTO*	*LSDUCT*	*1:M11-44 FLR 1W OR-11 1-SS100 RET FSD*	X X X ON
N1:T4M1-45	*PHOTO*	*VSMOKE*	*1:M11-45 FLR 1W OR-1 1-SS118 NE*	X X X X ON
N1:T4M1-46	*PHOTO*	*VSMOKE*	*1:M11-46 FLR 1W OR-1 1-SS118 SW*	X X X X ON
N1:T4M1-47	*RIAM*	*DHOLDER*	*1:M11-47 FLR 1W OR-1 1-SS118 D/H*	X X X X ON
N1:T4M1-48	*PHOTO*	*VSMOKE*	*1:M11-48 FLR 1W OR-2 1-SS119 NE*	X X ON
N1:T4M1-49	*PHOTO*	*VSMOKE*	*1:M11-49 FLR 1W OR-2 1-SS119 SW*	X X X ON
N1:T4M1-50	*RIAM*	*DHOLDER*	*1:M11-50 FLR 1W OR-2 1-SS119 D/H*	X X X ON
N1:T4M1-51	*PHOTO*	*VSMOKE*	*1:M11-51 FLR 1W CYSTO OR-3 1-SS129 NE*	X X X ON
N1:T4M1-52	*PHOTO*	*VSMOKE*	*1:M11-52 FLR 1W CYSTO OR-3 1-SS129 SW*	X X ON
N1:T4M1-53	*RIAM*	*DHOLDER*	*1:M11-53 FLR 1W CYSTO OR-3 1-SS129 D/H*	X X X X ON
N1:T4M1-54	*PHOTO*	*VSMOKE*	*1:M11-54 FLR 1W EQUIP STG 1-SS131*	X X X ON
N1:T4M1-55	*PHOTO*	*VSMOKE*	*1:M11-55 FLR 1W WOMENS LOCKER 1-SS135*	X X X X X ON
N1:T4M1-56	*HEAT*	*HEAT*	*1:M11-56 FLR 1W WOMENS BATH 1-SS136*	X X X ON
N1:T4M1-57	*PHOTO*	*VSMOKE*	*1:M11-57 FLR 1W MENS LOCKER 1-SS138*	X X X X ON
N1:T4M1-58	*PHOTO*	*VSMOKE*	*1:M11-58 FLR 1W NURSE LOUNGE 1-SS139*	X X X X ON
N1:T4M1-59			*SPARE*	X X X X X ON
N1:T4M1-60			*SPARE*	X X X X X ON
N1:T4M1-61			*SPARE*	X X X X X ON
N1:T4M1-62	*RPHOTO*	*LSDUCT*	*1:M11-62 FLR 1W OR-11 1-SS100 SUP FSD*	X X X X X ON
N1:T4M1-63	*RPHOTO*	*LSDUCT*	*1:M11-63 FLR 1W CORR 1-SS112 SUP FSD*	X X X X X X ON
N1:T4M1-64			*SPARE*	X ON
N1:T4M1-65	*RIAM*	*RELAY*	*1:M11-65 FLR 1W OR-1 PHOENIX VALVE*	X X ON
N1:T4M1-66	*RIAM*	*RELAY*	*1:M11-66 FLR 1W OR-2 PHOENIX VALVE*	X X ON
N1:T4M1-67	*PHOTO*	*VSMOKE*	*1:M11-67 FLR 1W CORR 1-SS0237 @ STER STG*	X X X ON
N1:T4M1-68	*PHOTO*	*VSMOKE*	*1:M11-68 FLR 1W CORR 1-SS037 @ STG ALC*	X X ON
N1:T4M1-69	*PHOTO*	*VSMOKE*	*1:M11-69 FLR 1W CORR 1-SS029 @ N CORR*	X X X ON
N1:T4M1-70	*PHOTO*	*SMOKE*	*1:M11-70 FLR 1W CORR 1-SS036*	X X X ON
N1:T4M1-71	*PHOTO*	*SMOKE*	*1:M11-71 FLR 1W CORR 1-SS036*	X X X X ON
N1:T4M1-72	*PHOTO*	*SMOKE*	*1:M11-72 FLR 1W STOR 1-SS035*	X X ON
N1:T4M1-73	*PHOTO*	*SMOKE*	*1:M11-73 FLR 1W SOILED FLUIDS 1-SS032*	X X X ON
N1:T4M1-74	*RIAM*	*DHOLDER*	*1:M11-74 FLR 1W OR 4 CORR 1-SS036*	X X X ON
N1:T4M1-75	*RIAM*	*RELAY*	*1:M11-75 FLR 1W OR 4 PHOENIX VALVE*	X X X X ON
N1:T4M1-76	*PHOTO*	*SMOKE*	*1:M11-76 FLR 1W DAVINCI OR 4 1-SS031 NW*	X X X ON
N1:T4M1-77	*PHOTO*	*SMOKE*	*1:M11-77 FLR 1W DAVINCI OR 4 1-SS031 SE*	X X X X ON
N1:T4M1-78	*PHOTO*	*VSMOKE*	*1:M11-78 FLR 1W PASS 1-PA11*	X X X X ON
N1:T4M1-79	*PHOTO*	*VSMOKE*	*1:M11-79 FLR 1W CLEAN UTILITY 1-PA07*	X X X X X ON
N1:T4M1-80	*PHOTO*	*VSMOKE*	*1:M11-80 FLR 1W PRIVATE PACU BAY 1100*	X X ON
N1:T4M1-81	*PHOTO*	*VSMOKE*	*1:M11-81 FLR 1W PACU RECOVERY 1-PA01 N*	X X X ON
N1:T4M1-82	*PHOTO*	*VSMOKE*	*1:M11-82 FLR 1W PASS 1-PA12*	X X X ON
N1:T4M1-83	*PHOTO*	*VSMOKE*	*1:M11-83 FLR 1W STF LNGE 1-PA14*	X X X ON
N1:T4M1-84	*HEAT*	*HEAT*	*1:M11-84 FLR 1W TLT PA15*	X X ON
N1:T4M1-85	*PHOTO*	*SMOKE*	*1:M11-85 FLR 1W PACU RECOVERY 1-PA01 S*	X X X ON
N1:T4M1-86	*PHOTO*	*SMOKE*	*1:M11-86 FLR 1W SOILED UTILITY 1-PA08*	X X X X ON
N1:T4M1-87	*PHOTO*	*SMOKE*	*1:M11-87 FLR 1W PASS 1-PA06*	X X X X X ON
N1:T4M1-88	*PHOTO*	*SMOKE*	*1:M11-88 FLR 1W ELEC 1-PA05*	X X X ON
N1:T4M1-89	*ADRPUL*	*PULL*	*1:M11-89 FLR 1W NURSE STATION A 1-PA10*	X X X ON
N1:T4M1-90	*RIAM*	*RRELAY*	*1:M11-90 FLR 1W DAVINCI OR 4 1-SS029*	X X X X ON
N1:T4M1-91			*SPARE*	X X X X X ON
N1:T4M1-92	*PHOTO*	*VSMOKE*	*1:M11-92 FLR 1W CORR 1-SS122 @STORAGE*	X X X ON
N1:T4M1-93	*PHOTO*	*VSMOKE*	*1:M11-93 FLR 1W STORAGE 1-SS125*	X X X X ON
N1:T4M1-94			*SPARE*	X X X X X ON
N1:T4M1-95			*SPARE*	X X X X X X ON
N1:T4M1-96			*SPARE*	X X ON
N1:T4M1-97			*SPARE*	X X X ON
N1:T4M1-98			*SPARE*	X X X ON
N1:T4M1-99			*SPARE*	X X X X ON
N1:T4M1-100	*PHOTO*	*VSMOKE*	*1:M11-100 FLR 1W PASS 1-SS204 S*	X X X ON
N1:T4M1-101	*PHOTO*	*VSMOKE*	*1:M11-101 FLR 1W PASS 1-SS204 CTR*	X X X ON
N1:T4M1-102	*PHOTO*	*VSMOKE*	*1:M11-102 FLR 1W PASS 1-SS204 N*	X X X ON
N1:T4M1-103	*PHOTO*	*VSMOKE*	*1:M11-103 FLR 1W STORE ROOM 1-SS201*	X X X X ON
N1:T4M1-104	*PHOTO*	*VSMOKE*	*1:M11-104 FLR 1W EVS 1-SS202*	X X X ON
N1:T4M1-105	*HEAT*	*HEAT*	*1:M11-105 FLR 1W TOILET 1-SS203*	X X X ON
N1:T4M1-106	*ADRPUL*	*PULL*	*1:M11-106 FLR 1W NURSE STATION A 1-SS205*	X X X ON
N1:T4M1-107	*PHOTO*	*VSMOKE*	*1:M11-107 FLR 1W PASS E 1-SS212*	X X X X ON
N1:T4M1-108	*HEAT*	*HEAT*	*1:M11-108 FLR 1W TOILET 1-SS206*	X X X X ON
N1:T4M1-109	*PHOTO*	*VSMOKE*	*1:M11-109 FLR 1W MEDS 1-SS207*	X X X X ON
N1:T4M1-110	*PHOTO*	*VSMOKE*	*1:M11-110 FLR 1W SOILED UTILITY 1-SS208*	X X X X ON
N1:T4M1-111	*PHOTO*	*VSMOKE*	*1:M11-111 FLR 1W OFFICE 1-SS209*	X X X X X ON
N1:T4M1-112	*PHOTO*	*VSMOKE*	*1:M11-112 FLR 1W PASSAGE 1-SS210*	X X X ON
N1:T4M1-113	*PHOTO*	*VSMOKE*	*1:M11-113 FLR 1W WORK ROOM 1-SS215*	X X X X ON
N1:T4M1-114	*PHOTO*	*VSMOKE*	*1:M11-114 FLR 1W CLEAN UTILITY 1-SS214*	X X X X ON
N1:T4M1-115	*ADRPUL*	*PULL*	*1:M11-115 FLR 1W NURSE STATION 1-SS213*	X X X X ON
N1:T4M1-116	*PHOTO*	*SMOKE*	*1:M11-116 FLR 1W PASSAGE W 1-SS212*	X X X X ON
N1:T4M1-117	*HEAT*	*HEAT*	*1:M11-117 FLR 1W TOILET 1-SS221*	X X X X ON
N1:T4M1-118	*PHOTO*	*VSMOKE*	*1:M11-118 FLR 1W NOURISHMENT 1-SS222*	X X X X ON
N1:T4M1-119	*PHOTO*	*VSMOKE*	*1:M11-119 FLR 1W PASS E 1-SS224*	X X X X X ON
N1:T4M1-120	*PHOTO*	*VSMOKE*	*1:M11-120 FLR 1W PASS N 1-SS224*	X X X X ON
N1:T4M1-121	*PHOTO*	*VSMOKE*	*1:M11-121 FLR 1W PASS S 1-SS224*	X X X X X ON
N1:T4M1-122	*ADRPUL*	*PULL*	*1:M11-122 FLR 1W NURSE STAT C 1-SS223*	X X X X ON
N1:T4M1-123	*HEAT*	*HEAT*	*1:M11-123 FLR 1W TLT 1-SS219*	X X X X X ON
N1:T4M1-124	*HEAT*	*HEAT*	*1:M11-124 FLR 1W TLT 1-SS218*	X X X X X ON
N1:T4M1-125	*PHOTO*	*VSMOKE*	*1:M11-125 FLR 1W NURSE LOUNGE 1-SS217*	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 N1:T4M1		ADDRESSES IN USE: 177 (70.8%) | SPARE ADDRESSES: 73 (29.2%)		SWITCH SETTINGS
Address			**Location Description**	**1 2 3 4 5 6 7 8**
N1:T4M1-126	*HEAT*	*HEAT*	*1:M11-126 FLR 1W TOILET 1-SS220*	X X X X X X ON
N1:T4M1-127	*PHOTO*	*VSMOKE*	*1:M11-127 FLR 1W COMM 1-SS216*	X X X X X X X ON
N1:T4M1-128	*PHOTO*	*LSDUCT*	*1:M11-128 ROOF RTU-3 SUP DET TO DDC*	X ON
N1:T4M1-129	*PHOTO*	*LSDUCT*	*1:M11-129 ROOF RTU-3 RET DET TO DDC*	X X ON
N1:T4M1-130	*RIAM*	*RELAY*	*1:M11-130 ROOF RTU-3 SUPPLY TO DDC*	X X ON
N1:T4M1-131	*RIAM*	*RELAY*	*1:M11-131 ROOF RTU-3 RETURN TO DDC*	X X X ON
N1:T4M1-132	*RIAM*	*RELAY*	*1:M11-132 FLR 1W ALARM TO DDC AHU-3*	X X ON
N1:T4M1-133	*RIAM*	*RELAY*	*1:M11-133 FLR 1W SUPPLY FSD TO DDC AHU-3*	X X X ON
N1:T4M1-134	*RIAM*	*RELAY*	*1:M11-134 FLR 1W RET FSD TO DDC AHU-3*	X X X ON
N1:T4M1-135	*RIAM*	*RRELAY*	*1:M11-135 FL 1W PACU BY HALL SEC RELEASE*	X X X X ON
N1:T4M1-136			*SPARE*	X X X ON
N1:T4M1-137	*PHOTO*	*VSMOKE*	*1:M11-137 FLR 1 1W CHANGING AREA T200A*	X X X ON
N1:T4M1-138	*PHOTO*	*VSMOKE*	*1:M11-138 FLR 1W BREAK RM T300A*	X X X ON
N1:T4M1-139	*PHOTO*	*VSMOKE*	*1:M11-139 FLR 1W O/S RADIOLOGY 05 T202A*	X X X X ON
N1:T4M1-140	*PHOTO*	*VSMOKE*	*1:M11-140 FLR1 1W STAFF HALL T203A E*	X X X ON
N1:T4M1-141	*PHOTO*	*VSMOKE*	*1:M11-141 FLR 1W STAFF HALL T203A W*	X X X X ON
N1:T4M1-142	*PHOTO*	*VSMOKE*	*1:M11-142 FLR 1W TECH WORK AREA T204A*	X X X X ON
N1:T4M1-143	*PHOTO*	*VSMOKE*	*1:M11-143 FLR 1W EQUIPMENT RM T203B*	X X X X X ON
N1:T4M1-144	*PHOTO*	*VSMOKE*	*1:M11-144 FLR 1W CONTROL AREA T402B*	X ON
N1:T4M1-145	*PHOTO*	*VSMOKE*	*1:M11-145 FLR 1W PATIENT HOLDING T402D*	X X ON
N1:T4M1-146	*PHOTO*	*VSMOKE*	*1:M11-146 FLR1 1W CONTROL AREA T402B S*	X X X ON
N1:T4M1-147	*IAM*	*SMOKE*	*1:M11-147 FLR 1W MRI 2 T402A HW SMKDET*	X X X X ON
N1:T4M1-148			*SPARE*	X X X X ON
N1:T4M1-149			*SPARE*	X X X X ON
N1:T4M1-150	*IAM*	*SDUCT*	*1:M11-150 FLR 1W CRAC1 INTERGRAL SMK DET*	X X X X ON
N1:T4M1-151	*PHOTO*	*VSMOKE*	*1:M11-151 FLR 1W EQUIP RM 1W-8902A*	X X X X X ON
N1:T4M1-152	*PHOTO*	*VSMOKE*	*1:M11-152 FLR1 IR RM 03 1W-8113A N*	X X X ON
N1:T4M1-153	*PHOTO*	*VSMOKE*	*1:M11-153 FLR1 IR RM 03 1W-8113A S*	X X X X ON
N1:T4M1-154	*PHOTO*	*VSMOKE*	*1:M11-154 FLR 1W CONTROL RM 1W-8112A*	X X X X ON
N1:T4M1-155	*RIAM*	*RELAY*	*1:M11-155 FLR 1W IR RM 03 MUSIC SHUT-OFF*	X X X X ON
N1:T4M1-156	*IAM*	*LSDUCT*	*1:M11-156FLR 1W MRI2 T402A CRAC UNIT SMK*	X X X X ON
N1:T4M1-157			*SPARE*	X X X X ON
N1:T4M1-158	*PHOTO*	*VSMOKE*	*1:M11-158 FLR 1W RADIOLOGY 05 T202A*	X X X X X ON
N1:T4M1-159	*PHOTO*	*VSMOKE*	*1:M11-159 FLR 1W CT SUITE 5300A*	X X X X X X ON
N1:T4M1-160	*PHOTO*	*VSMOKE*	*1:M11-160 FLR 1W CT 01 5302A*	X ON
4 **N1:T4M1-161**	**PHOTO**	**VSMOKE**	**1:M11-161 FLR 1W CT 02 CONTROL 5301A**	X X ON
N1:T4M1-162	*PHOTO*	*VSMOKE*	*1:M11-162 FLR 1W NUC/SPINE ROOM 1 6307A*	X X ON
N1:T4M1-163	**PHOTO**	**VSMOKE**	**1:M11-163 FLR 1W CT 02 5302A SE**	X X X ON
N1:T4M1-164	**PHOTO**	**VSMOKE**	**1:M11-163 FLR 1W CT 02 5302A NW**	X X ON
N1:T4M1-165	*PHOTO*	*VSMOKE*	*1:M11-165 FLR 1W CORRIDOR 1008 SW DOORS*	X X X ON
N1:T4M1-166	*PHOTO*	*VSMOKE*	*1:M11-166 FLR 1W CORRIDOR 1008 C*	X X X

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 4 - EPS-1 CIRCUIT SUMMARY & VOLTAGE DROP

Circuit	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
N1:T4:A2:1	*FLR 1W OR 11, STERILE STG*	*2.244A*	*2.71%*	*40*	*805*	*25%*	*87%*
N1:T4:A2:2	*FLR 1W OR 1-4, PACU CORR*	*1.346A*	*3.24%*	*23*	*674*	*55%*	*84%*
N1:T4:A2:3	*FLR 1W OR RECOVERY*	*2.009A*	*4.45%*	*30*	*949*	*33%*	*76%*
EPR2	**FLR 1W MRI AREA EQUIPMENT ROOM 7203B**	**2.802A**	**6.91%**	**39**	**864**	**7%**	**67%**
EPR3	*FLR 1W MRI AREA EQUIPMENT ROOM 7203B*	*0.501A*	*1.42%*	*6*	*191*	*83%*	*93%*
EPR1	*PACU RECOVERY*	*1.128A*	*2.53%*	*17*	*357*	*62%*	*86%*

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CIRCUIT N1:T4:A2:1					SWITCH SETTINGS							
IDNAC Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	1	2	3	4	5	6	7	8
N1:T4:A2:1-1	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W ELEC 1-CS1S T4:A2:1-1*	X							ON
N1:T4:A2:1-2	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-CS14 T4:A2:1-2*		X						ON
N1:T4:A2:1-3	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TOILET 1-CS1S 1:A2:1-3*	X	X						ON
N1:T4:A2:1-4	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-CS14 T4:A2:1-4*			X					ON
N1:T4:A2:1-5	*AO*	*49MT-WRF*	*520 Hz*	*FLR 1W CASE CARTS 1-CS11 T4:A2:1-5*	X		X					ON
N1:T4:A2:1-6	*STRB*	*4906-9202*	*75cd*	*FLR 1W STERILE STG 1-CS1 T4:A2:1-6*		X	X					ON
N1:T4:A2:1-7	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 11 1-SS100 T4:A2:1-7*	X	X	X					ON
N1:T4:A2:1-8	*REPEATER*	*4009-9601*		*FLR 1W EQUIPMENT ROOM 7203B T4:A2:1-8*				X				ON
N1:T4:A2:1-9	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W MAKE UP 1-CS7 T4:A2:1-9*	X			X				ON
N1:T4:A2:1-10	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W MAKE UP 1CS7 T4:A2:1-10*		X		X				ON
N1:T4:A2:1-11	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WAKE UP 1-CS07 T4:A2:1-11*	X	X		X				ON
N1:T4:A2:1-12	*VO*	*49VO-WRF*	*30cd*	*FLR 1W STERILIZER 1-CS08 T4:A2:1-12*			X	X				ON
N1:T4:A2:1-13	*VO*	*49VO-WRF*	*30cd*	*FLR 1W CLEAN STORAGE 1-CS09 T4:A2:1-13*	X		X	X				ON
N1:T4:A2:1-14	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W DECON 1-CS03 T4:A2:1-14*		X	X	X				ON
N1:T4:A2:1-15	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W CART WASH 1-CS04 T4:A2:1-15*	X	X	X	X				ON
N1:T4:A2:1-16	*STRB*	*4906-9202*	*15cd*	*FLR 1W DI WATER 1-CS09 T4:A2:1-16*				X				ON
N1:T4:A2:1-17	*VO*	*49VO-WRF*	*15cd*	*FLR 1W SURGERY VEN 1-CS01 T4:A2:1-17*	X			X				ON
N1:T4:A2:1-18	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CLEAN STORAGE 1-CS05 T4:A2:1-18*		X		X				ON
N1:T4:A2:1-19	*AO*	*49MT-WRF*	*520 Hz*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-19*	X	X		X				ON
N1:T4:A2:1-20	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-20*			X	X				ON
N1:T4:A2:1-21	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-21*	X		X	X				ON
N1:T4:A2:1-22	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-22*		X	X	X				ON
N1:T4:A2:1-23	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-23*	X	X	X	X				ON
N1:T4:A2:1-24	*STRB*	*4906-9202*	*15cd*	*FLR 1W STERILE STG 1-CSG1 T4:A2:1-24*				X	X			ON
N1:T4:A2:1-25	*VO*	*49VO-APPLW*	*15cd*	*FLR 1W RADI.03 CHANG AREA T4:A2:1-25*	X			X	X			ON
N1:T4:A2:1-26	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W BREAK RM 7300A T4:A2:1-26*	X			X	X			ON
N1:T4:A2:1-27	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CHANGING AREA 7200A T4:A2:1-27*	X	X		X	X			ON
N1:T4:A2:1-28	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W O/S RAD. 05 7202A T4:A2:1-28*			X	X	X			ON
N1:T4:A2:1-29	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W STAFF HALL 7203A T4:A2:1-29*	X		X	X	X			ON
N1:T4:A2:1-30	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQUIP RM 7203B T4:A2:1-30*		X	X	X	X			ON
N1:T4:A2:1-31	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W TECH WORK AREA 7204A T4:A2:1-31*	X	X	X	X	X			ON
N1:T4:A2:1-32	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL AREA 7402B T4:A2:1-32*						X		ON
N1:T4:A2:1-33	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W TLT 7402C T4:A2:1-33*	X					X		ON
N1:T4:A2:1-34	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W PAT HOLDING 7402C T4:A2:1-34*		X				X		ON
N1:T4:A2:1-35	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL AREA 7402B S T4:A2:1-35*	X	X				X		ON
N1:T4:A2:1-36	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CHANGING RM 7402E T4:A2:1-36*			X			X		ON
N1:T4:A2:1-37	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W STAFF TLT 7404A T4:A2:1-37*	X		X			X		ON
N1:T4:A2:1-38	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQUIP RM 1W-8902A T4:A2:1-38*		X	X			X		ON
N1:T4:A2:1-39	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W IR RM 03 1W-8113A N T4:A2:1-39*	X	X	X			X		ON
N1:T4:A2:1-40	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W IR RM 03 1W-8113A S T4:A2:1-40*				X		X		ON
N1:T4:A2:1-41	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CONTROL RM 1W-8112A T4:A2:1-41*	X			X		X		ON
N1:T4:A2:1-42	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W RAD RM 5 7202A T4:A2:1-42*		X		X		X		ON
N1:T4:A2:1-43	*VO*	*49VO-WRF*	*15cd*	*FLR 1W BATH 7201A T4:A2:1-43*	X	X		X		X		ON
N1:T4:A2:1-44	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TLT 5305A 1-44*			X	X		X		ON
N1:T4:A2:1-45	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W CT SUITE 5305A 1-45*	X		X	X		X		ON
N1:T4:A2:1-46	*VO*	*49VO-APPLC*	*75cd*	*FLR 1W CT 01 5303A 1-46*		X	X	X		X		ON
N1:T4:A2:1-47	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W CT 01 5303A CONTROL 1-47*	X	X	X	X		X		ON
N1:T4:A2:1-48	**VO**	**49VO-APPLC**	**75cd**	**FLR 1W CT 02 5302A 1-48**						X	X	ON
N1:T4:A2:1-49	**VO**	**49VO-APPLC**	**15cd**	**FLR 1W CONTROL 5301A 1-49**	X					X	X	ON
N1:T4:A2:1-50	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W NURSE ROOM 1 6307A 1-50*		X				X	X	ON
N1:T4:A2:1-51	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORRIDOR 1008 W T4:A2:1-51*	X	X				X	X	ON
N1:T4:A2:1-52	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORRIDOR 1008 E T4:A2:1-52*			X		X	X	X	ON
N1:T4:A2:1-53	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W IR STORAGE 1004 T4:A2:1-53*	X		X		X	X	X	ON
N1:T4:A2:1-54	*REPEATER*	*4009-9601*		*FLR 1W EQUIPMENT RM 7203B T4:A2:1-54*			X	X	X	X	X	ON
N1:T4:A2:1-55	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W MRI CONTROL RM 8000B T4:A2:1-55*	X	X	X		X	X	X	ON
N1:T4:A2:1-56	*VO*	*49VO-APPLC*	*75cd*	*FLR 1W MRI SCAN RM 8002A T4:A2:1-56*				X	X	X	X	ON
N1:T4:A2:1-57	*VO*	*49VO-APPLC*	*30cd*	*FLR 1W EQUIPMENT RM 8901A T4:A2:1-57*	X			X	X	X	X	ON
N1:T4:A2:1-58	*VO*	*49VO-APPLC*	*15cd*	*FLR 1W MRI SUITE 8000A T4:A2:1-58*		X		X	X	X	X	ON
N1:T4:A2:1-59	*VO*	*49VO-WRF*	*15cd*	*FLR 1W MRI BATH 8001A T4:A2:1-59*	X	X		X	X	X	X	ON

N1:T4:A2:1 — **Notification SLC Distributed Load Voltage Drop**

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*N1:T4:A2:1-1*	*PANEL*	*15*	*49VO-WRF*	*15cd*	*0.0470*	*1.059*	*0.038*	*28.902*	*Branch 1: 2.71%*
1	*N1:T4:A2:1-2*	*N1:T4:A2:1-1*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*0.955*	*0.147*	*28.756*	*Length: 805*
1	*N1:T4:A2:1-3*	*N1:T4:A2:1-2*	*22*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.750*	
1	*N1:T4:A2:1-4*	*N1:T4:A2:1-2*	*51*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.045*	*28.710*	
1	*TAP9*	*N1:T4:A2:1-2*	*18*	*JBOX*		*0.0000*	*0.618*	*0.068*	*28.688*	
1	*N1:T4:A2:1-5*	*TAP9*	*18*	*49MT-WRF*	*520 Hz*	*0.0990*	*0.339*	*0.037*	*28.650*	
1	*N1:T4:A2:1-6*	*N1:T4:A2:1-5*	*45*	*4906-9202*	*75cd*	*0.1800*	*0.180*	*0.050*	*28.600*	
1	*N1:T4:A2:1-7*	*N1:T4:A2:1-1*	*48*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.017*	*28.586*	
1	*N1:T4:A2:1-8*	*N1:T4:A2:1-25*	*89*	*4009-9601*		*0.0032*	*0.006*	*0.003*	*28.435*	
1	*N1:T4:A2:1-9*	*N1:T4:A2:1-19*	*18*	*49MTV-WRF*	*75cd*	*0.1980*	*1.119*	*0.124*	*28.547*	
1	*N1:T4:A2:1-10*	*N1:T4:A2:1-9*	*56*	*49MTV-WRF*	*75cd*	*0.1980*	*0.245*	*0.084*	*28.463*	
1	*TAP10*	*N1:T4:A2:1-9*	*29*	*JBOX*		*0.0000*	*0.676*	*0.120*	*28.426*	
1	*N1:T4:A2:1-11*	*TAP10*	*17*	*49VO-WRF*	*15cd*	*0.0470*	*0.104*	*0.011*	*28.416*	
1	*N1:T4:A2:1-12*	*TAP10*	*15*	*49VO-WRF*	*30cd*	*0.0570*	*0.057*	*0.005*	*28.421*	
1	*N1:T4:A2:1-13*	*N1:T4:A2:1-11*	*17*	*49VO-WRF*	*30cd*	*0.0570*	*0.057*	*0.006*	*28.410*	
1	*N1:T4:A2:1-14*	*TAP10*	*51*	*49MTV-WRF*	*30cd*	*0.1630*	*0.515*	*0.161*	*28.265*	
1	*TAP11*	*N1:T4:A2:1-14*	*10*	*JBOX*		*0.0000*	*0.305*	*0.019*	*28.246*	
1	*N1:T4:A2:1-15*	*TAP11*	*27*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.033*	*28.214*	
1	*N1:T4:A2:1-16*	*TAP11*	*26*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.010*	*28.237*	
1	*N1:T4:A2:1-17*	*TAP11*	*20*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.241*	
1	*N1:T4:A2:1-18*	*N1:T4:A2:1-14*	*28*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.008*	*28.257*	
1	*N1:T4:A2:1-19*	*TAP9*	*10*	*49MT-WRF*	*520 Hz*	*0.0990*	*0.279*	*0.017*	*28.670*	
1	*N1:T4:A2:1-20*	*N1:T4:A2:1-24*	*39*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.014*	*28.649*	
1	*N1:T4:A2:1-21*	*N1:T4:A2:1-5*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.001*	*28.649*	
1	*N1:T4:A2:1-22*	*N1:T4:A2:1-19*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.180*	*0.002*	*28.668*	
1	*N1:T4:A2:1-23*	*N1:T4:A2:1-22*	*2*	*4906-9202*	*15cd*	*0.0600*	*0.120*	*0.001*	*28.667*	
1	*N1:T4:A2:1-24*	*N1:T4:A2:1-23*	*10*	*4906-9202*	*15cd*	*0.0600*	*0.060*	*0.004*	*28.663*	
1	*N1:T4:A2:1-25*	*N1:T4:A2:1-10*	*85*	*49VO-APPLW*	*15cd*	*0.0470*	*0.047*	*0.025*	*28.438*	
E2:1	*N1:T4:A2:1-26*	*EPR2*	*26*	*49MTV-WRF*	*30cd*	*0.1630*	*2.802*	*0.447*	*28.553*	*Branch E2:1: 6.91%*
E2:1	*N1:T4:A2:1-27*	*N1:T4:A2:1-26*	*28*	*49VO-APPLC*	*15cd*	*0.0550*	*2.639*	*0.454*	*28.099*	*Length: 864*
E2:1	*N1:T4:A2:1-28*	*N1:T4:A2:1-27*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*2.584*	*0.333*	*27.766*	
E2:1	*N1:T4:A2:1-29*	*N1:T4:A2:1-28*	*29*	*49MTV-WRF*	*15cd*	*0.1450*	*0.345*	*0.061*	*27.704*	
E2:1	*N1:T4:A2:1-30*	*N1:T4:A2:1-29*	*18*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.022*	*27.682*	
E2:1	*N1:T4:A2:1-31*	*N1:T4:A2:1-30*	*31*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.010*	*27.672*	
E2:1	*N1:T4:A2:1-32*	*N1:T4:A2:1-28*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.966*	*0.130*	*27.635*	
E2:1	*N1:T4:A2:1-33*	*N1:T4:A2:1-32*	*24*	*49VO-APPLC*	*15cd*	*0.0550*	*0.821*	*0.121*	*27.514*	
E2:1	*N1:T4:A2:1-34*	*N1:T4:A2:1-33*	*19*	*49VO-APPLC*	*15cd*	*0.0550*	*0.766*	*0.089*	*27.425*	
E2:1	*N1:T4:A2:1-35*	*N1:T4:A2:1-34*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*0.711*	*0.109*	*27.316*	
E2:1	*N1:T4:A2:1-36*	*N1:T4:A2:1-35*	*27*	*49VO-APPLC*	*15cd*	*0.0550*	*0.566*	*0.094*	*27.222*	
E2:1	*N1:T4:A2:1-37*	*N1:T4:A2:1-36*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.511*	*0.068*	*27.156*	
E2:1	*N1:T4:A2:1-38*	*N1:T4:A2:1-37*	*34*	*49MTV-WRF*	*15cd*	*0.1450*	*0.456*	*0.095*	*27.061*	
E2:1	*N1:T4:A2:1-39*	*N1:T4:A2:1-38*	*21*	*49VO-APPLC*	*30cd*	*0.0830*	*0.311*	*0.040*	*27.021*	
E2:1	*N1:T4:A2:1-40*	*N1:T4:A2:1-39*	*47*	*49VO-APPLC*	*30cd*	*0.0830*	*0.083*	*0.024*	*26.997*	
E2:1	*N1:T4:A2:1-41*	*N1:T4:A2:1-39*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.020*	*27.001*	
E2:1	*N1:T4:A2:1-42*	*N1:T4:A2:1-28*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*1.218*	*0.197*	*27.609*	
E2:1	*N1:T4:A2:1-43*	*N1:T4:A2:1-42*	*21*	*49VO-WRF*	*15cd*	*0.0470*	*1.163*	*0.150*	*27.459*	
E2:1	*N1:T4:A2:1-44*	*N1:T4:A2:1-43*	*27*	*49VO-WRF*	*15cd*	*0.0470*	*1.116*	*0.185*	*27.274*	
E2:1	*N1:T4:A2:1-45*	*N1:T4:A2:1-44*	*19*	*49MTV-WRF*	*30cd*	*0.1630*	*0.724*	*0.084*	*27.189*	
E2:1	*N1:T4:A2:1-46*	*N1:T4:A2:1-45*	*40*	*49VO-APPLC*	*75cd*	*0.1530*	*0.153*	*0.038*	*27.152*	
E2:1	*N1:T4:A2:1-47*	*N1:T4:A2:1-45*	*35*	*49VO-APPLC*	*15cd*	*0.0550*	*0.208*	*0.045*	*27.145*	
E2:1	**N1:T4:A2:1-48**	**N1:T4:A2:1-47**	**24**	*49VO-APPLC*	*75cd*	*0.1530*	*0.153*	*0.023*	*27.122*	
E2:1	**N1:T4:A2:1-49**	**N1:T4:A2:1-45**	**33**	*49VO-APPLC*	*15cd*	*0.0550*	*0.200*	*0.041*	*27.149*	
E2:1	*N1:T4:A2:1-50*	**N1:T4:A2:1-49**	**75**	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.067*	*27.082*	
E2:1	*N1:T4:A2:1-51*	*N1:T4:A2:1-44*	*65*	*49MTV-WRF*	*15cd*	*0.1450*	*0.345*	*0.138*	*27.136*	
E2:1	*N1:T4:A2:1-52*	*N1:T4:A2:1-51*	*66*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.081*	*27.055*	
E2:1	*N1:T4:A2:1-53*	*N1:T4:A2:1-52*	*23*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.008*	*27.047*	
1	*N1:T4:A2:1-54*	*N1:T4:A2:1-8*	*10*	*4009-9601*		*0.0032*	*0.003*	*0.000*	*28.434*	*Branch 1: 2.71%*
E3:1	*N1:T4:A2:1-55*	*EPR3*	*98*	*49MTV-WRF*	*30cd*	*0.1630*	*0.501*	*0.301*	*28.699*	*Branch E3:1: 1.42%*
E3:1	*N1:T4:A2:1-56*	*N1:T4:A2:1-55*	*31*	*49VO-APPLC*	*75cd*	*0.1530*	*0.338*	*0.064*	*28.634*	*Length: 191*
E3:1	*N1:T4:A2:1-57*	*N1:T4:A2:1-56*	*25*	*49VO-APPLC*	*30cd*	*0.0830*	*0.185*	*0.028*	*28.606*	
E3:1	*N1:T4:A2:1-58*	*N1:T4:A2:1-57*	*20*	*49VO-APPLC*	*15cd*	*0.0550*	*0.102*	*0.013*	*28.593*	
E3:1	*N1:T4:A2:1-59*	*N1:T4:A2:1-58*	*17*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.005*	*28.588*	

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CIRCUIT N1:T4:A2:2					SWITCH SETTINGS							
IDNAC Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	1	2	3	4	5	6	7	8
N1:T4:A2:2-1	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQ STO 1-SS131 1:A2:2-1*	X							ON
N1:T4:A2:2-2	*VO*	*49VO-APPLW*	*75cd*	*FLR 1W CYSTO OR 3 1-SS129 1:A2:2-2*		X						ON
N1:T4:A2:2-3	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 2 1-SS119 1:A2:2-3*	X	X						ON
N1:T4:A2:2-4	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 1 1-SS118 1:A2:2-4*			X					ON
N1:T4:A2:2-5	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W WOMENS LCKR RM 1-SS135 1:A2:2-5*	X		X					ON
N1:T4:A2:2-6	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WOMENS LCKR RM 1-SS135 1:A2:2-6*		X	X					ON
N1:T4:A2:2-7	*VO*	*49VO-WRF*	*15cd*	*FLR 1W WOMENS BATH 1-SS136 1:A2:2-7*	X	X	X					ON
N1:T4:A2:2-8	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W MENS LCKR RM 1-SS138 1:A2:2-8*				X				ON
N1:T4:A2:2-9	*VO*	*49VO-WRF*	*15cd*	*FLR 1W MENS LCKR RM 1-SS138 1:A2:2-9*	X			X				ON
N1:T4:A2:2-10	*AV*	*49MTV-WRF*	*75cd*	*FLR 1W NURSE LOUNGE 1-SS139 1:A2:2-10*		X		X				ON
N1:T4:A2:2-11	*AV*	*49MTV-WRF*	*15cd*	*SPARE*	X	X		X				ON
N1:T4:A2:2-12	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS029 @OR 1 1:A2:2-12*			X	X				ON
N1:T4:A2:2-13	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CORR 1-SS029 @OR 1 1:A2:2-13*	X		X	X				ON
N1:T4:A2:2-14				*SPARE*		X	X	X				ON
N1:T4:A2:2-15				*SPARE*	X	X	X	X				ON
N1:T4:A2:2-16	*REPEATER*	*4009-9601*		*FLR 1W ELEC 1-PA05 1:A2:2-16*					X			ON
N1:T4:A2:2-17	*VO*	*49VO-WRF*	*15cd*	*FLR 1W ELEC 1-PA05 1:A2:2-17*	X				X			ON
N1:T4:A2:2-18	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W PASS 1-PA06 1:A2:2-18*		X			X			ON
N1:T4:A2:2-19	*VO*	*49VO-WRF*	*15cd*	*FLR 1W SOIL UTILITY 1-PA08 1:A2:2-19*	X	X			X			ON
N1:T4:A2:2-20	*VO*	*49VO-WRF*	*15cd*	*FLR 1W PACU RECOVERY 1-PA01 1:A2:2-20*			X		X			ON
N1:T4:A2:2-21	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W NURSE STAT A 1-PA10 1:A2:2-21*	X		X		X			ON
N1:T4:A2:2-22	*AV*	*49MTV-WRF*	*15cd*	*FLR 1W PASS 1-PA11 1:A2:2-27*		X	X		X			ON
N1:T4:A2:2-23	*VO*	*49VO-WRF*	*15cd*	*FLR 1W CNC OFF 1-PA09 1:A2:2-28*	X	X	X		X			ON
N1:T4:A2:2-24	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W CL UTILITY 1-PA07 1:A2:2-29*				X	X			ON
N1:T4:A2:2-25	*VO*	*49VO-WRF*	*30cd*	*FLR 1W PASS 1-PA12 1:A2:2-30*	X			X	X			ON
N1:T4:A2:2-26	*AV*	*49MTV-WRF*	*30cd*	*FLR 1W STAFF LOUNGE 1-PA14 1:A2:2-31*		X		X	X			ON
N1:T4:A2:2-27	*VO*	*49VO-WRF*	*15cd*	*FLR 1W TLT 1-PA15 1:A2:2-32*	X	X		X	X			ON
N1:T4:A2:2-28	*VO*	*49VO-APPLW*	*30cd*	*FLR 1W DAVINCI OR 4 1-SS131 1:A1:1-28*			X	X	X			ON

N1:T4:A2:2 — **Distributed Load Voltage Drop**

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

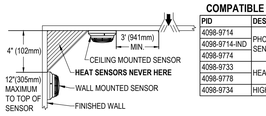
							Class B Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*TAP12*	*PANEL*	*105*	*JBOX*		*0.0000*	*1.198*	*0.772*	*28.228*	*Branch 1: 3.24%*
1	*N1:T4:A2:2-11*	*TAP12*	*16*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.016*	*28.212*	*Length: 442*
1	*N1:T4:A2:2-1*	*TAP12*	*33*	*49MTV-WRF*	*15cd*	*0.1450*	*0.359*	*0.073*	*28.155*	
1	*N1:T4:A2:2-2*	*N1:T4:A2:2-1*	*31*	*49VO-APPLW*	*75cd*	*0.1000*	*0.214*	*0.041*	*28.114*	
1	*N1:T4:A2:2-3*	*N1:T4:A2:2-2*	*45*	*49VO-APPLW*	*30cd*	*0.0570*	*0.114*	*0.031*	*28.083*	
1	*N1:T4:A2:2-12*	*N1:T4:A2:2-13*	*27*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.024*	*28.200*	
1	*N1:T4:A2:2-4*	*N1:T4:A2:2-3*	*37*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.013*	*28.070*	
1	*N1:T4:A2:2-13*	*TAP12*	*11*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.003*	*28.224*	
1	*N1:T4:A2:2-5*	*TAP12*	*19*	*49MTV-WRF*	*15cd*	*0.1450*	*0.647*	*0.075*	*28.152*	
1	*TAP13*	*N1:T4:A2:2-5*	*11*	*JBOX*		*0.0000*	*0.502*	*0.034*	*28.118*	
1	*N1:T4:A2:2-6*	*TAP13*	*19*	*49VO-WRF*	*15cd*	*0.0470*	*0.292*	*0.034*	*28.084*	
1	*N1:T4:A2:2-7*	*N1:T4:A2:2-6*	*25*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.077*	
1	*N1:T4:A2:2-8*	*TAP13*	*19*	*49MTV-WRF*	*30cd*	*0.1630*	*0.210*	*0.024*	*28.094*	
1	*N1:T4:A2:2-9*	*N1:T4:A2:2-8*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.087*	
1	*N1:T4:A2:2-10*	*N1:T4:A2:2-5*	*19*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.023*	*28.061*	
2	*N1:T4:A2:2-16*	*PANEL*	*232*	*4009-9601*		*0.0032*	*0.003*	*0.005*	*28.995*	*Branch 2: 0.02%*
E1:1	*N1:T4:A2:2-17*	*EPR1*	*18*	*49VO-WRF*	*15cd*	*0.0470*	*1.128*	*0.125*	*28.875*	*Branch E1:1: 2.53%*
E1:1	*N1:T4:A2:2-19*	*N1:T4:A2:2-17*	*25*	*49MTV-WRF*	*15cd*	*0.1450*	*1.081*	*0.156*	*28.719*	*Length: 357*
E1:1	*N1:T4:A2:2-18*	*N1:T4:A2:2-18*	*21*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.703*	
E1:1	*TAP14*	*N1:T4:A2:2-18*	*25*	*JBOX*		*0.0000*	*0.889*	*0.136*	*28.573*	
E1:1	*N1:T4:A2:2-20*	*TAP14*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*28.566*	
E1:1	*N1:T4:A2:2-21*	*TAP14*	*29*	*49MTV-WRF*	*30cd*	*0.1630*	*0.842*	*0.150*	*28.423*	
E1:1	*TAP15*	*N1:T4:A2:2-21*	*9*	*JBOX*		*0.0000*	*0.679*	*0.038*	*28.385*	
E1:1	*N1:T4:A2:2-22*	*TAP15*	*17*	*49MTV-WRF*	*15cd*	*0.1450*	*0.412*	*0.043*	*28.342*	
E1:1	*N1:T4:A2:2-23*	*N1:T4:A2:2-22*	*14*	*49VO-WRF*	*15cd*	*0.0470*	*0.267*	*0.023*	*28.320*	
E1:1	*N1:T4:A2:2-24*	*N1:T4:A2:2-23*	*25*	*49MTV-WRF*	*30cd*	*0.1630*	*0.220*	*0.034*	*28.286*	
E1:1	*N1:T4:A2:2-28*	*N1:T4:A2:2-24*	*52*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.018*	*28.268*	
E1:1	*N1:T4:A2:2-25*	*TAP15*	*55*	*49VO-WRF*	*30cd*	*0.0570*	*0.267*	*0.090*	*28.295*	
E1:1	*N1:T4:A2:2-26*	*N1:T4:A2:2-25*	*13*	*49MTV-WRF*	*30cd*	*0.1630*	*0.210*	*0.017*	*28.279*	
E1:1	*N1:T4:A2:2-27*	*N1:T4:A2:2-26*	*31

PERMIT #2025 2503873-LT | RSN: 1871673

FOR REFERENCE ONLY

STANDARD SENSOR BASE

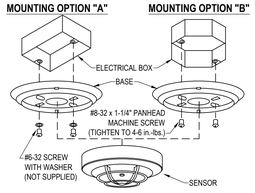
SIMPLEX 4098-9792



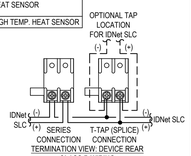
COMPATIBLE SENSOR HEADS

PID	DESCRIPTION
4098-9714	PHOTOELECTRIC SMOKE SENSOR
4098-9714-IND	
4098-9774	HEAT SENSOR
4098-9733	
4098-9778	
4098-9734	HIGH TEMP. HEAT SENSOR

MOUNTING OPTION "A"



MOUNTING OPTION "B"



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.

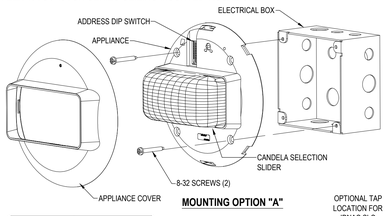
MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/8" (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

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49VO / 49VOH SERIES CEILING MOUNTED VISUAL ONLY

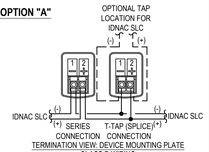


IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.

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 OPTION "A"



MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	4" SQUARE ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH	BY OTHERS
B	SINGLE GANG ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH, WITH 49VO-APCS ADAPTER PLATE	BOX BY OTHERS, SIMPLEX ADAPTER PLATE

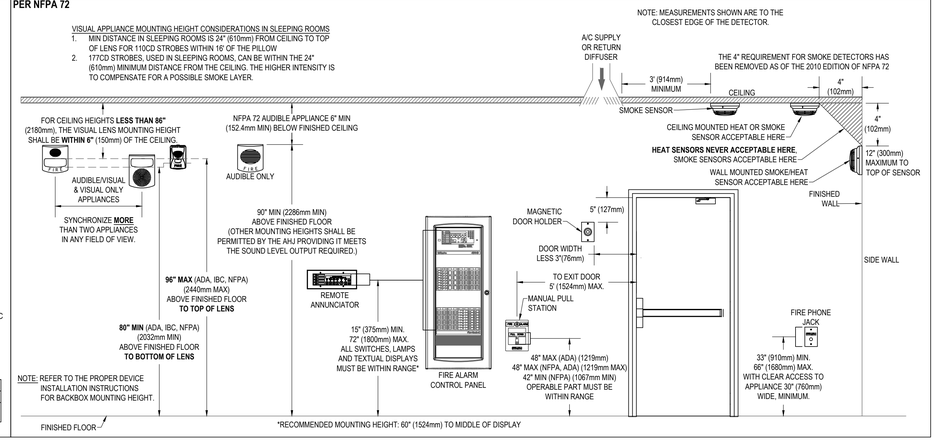
1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49VOC-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

DEVICE MOUNTING HEIGHT REFERENCE

PER NFPA 72

VISUAL APPLIANCE MOUNTING HEIGHT CONSIDERATIONS IN SLEEPING ROOMS

1. MIN DISTANCE IN SLEEPING ROOMS IS 24" (610mm) FROM CEILING TO TOP OF LENS FOR 110CD STROBES WITHIN 16' OF THE PILLOW
2. 177CD STROBES, USED IN SLEEPING ROOMS, CAN BE WITHIN THE 24" (610mm) MINIMUM DISTANCE FROM THE CEILING. THE HIGHER INTENSITY IS TO COMPENSATE FOR A POSSIBLE SMOKE LAYER.



City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: chorst
Date: Jan 27, 2025
2021 INTERNATIONAL CODES & 2023 NEC

Johnson Controls
DISTRICT 1-415
10065 E. HARVARD AVE
AURORA, CO 80017
PHONE: 303-350-0500
FAX: 303-355-9415
SERVICE: 303-355-5000

NICET CERTIFICATION INFORMATION
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/22/2024

THE MEDICAL CENTER OF AURORA - SOUTH IMAGING CT REPLACEMENT

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:	JROJAS
CHECKED BY:	AWILHELM
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419-650469365

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: TYPICAL DEVICE WIRING

FA-701

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FILE PATH: C:\Users\jrojas8\OneDrive - Johnson Controls\1501 S Potomac - Aurora South\South Tower - Node 1\4S-1st Imaging CT Replacement - 2024 - 650469365\FireFA-701 TYPICAL DEVICE WIRING.dwg
LAST SAVED BY: JROJAS87
LAST PRINTED: 11/22/2024 2:36:02 PM
30" x 42" - Arch E1 Size

PERMIT #2025 2503873-LT | RSN: 1871673

GRAPHIC MAP NOTES:

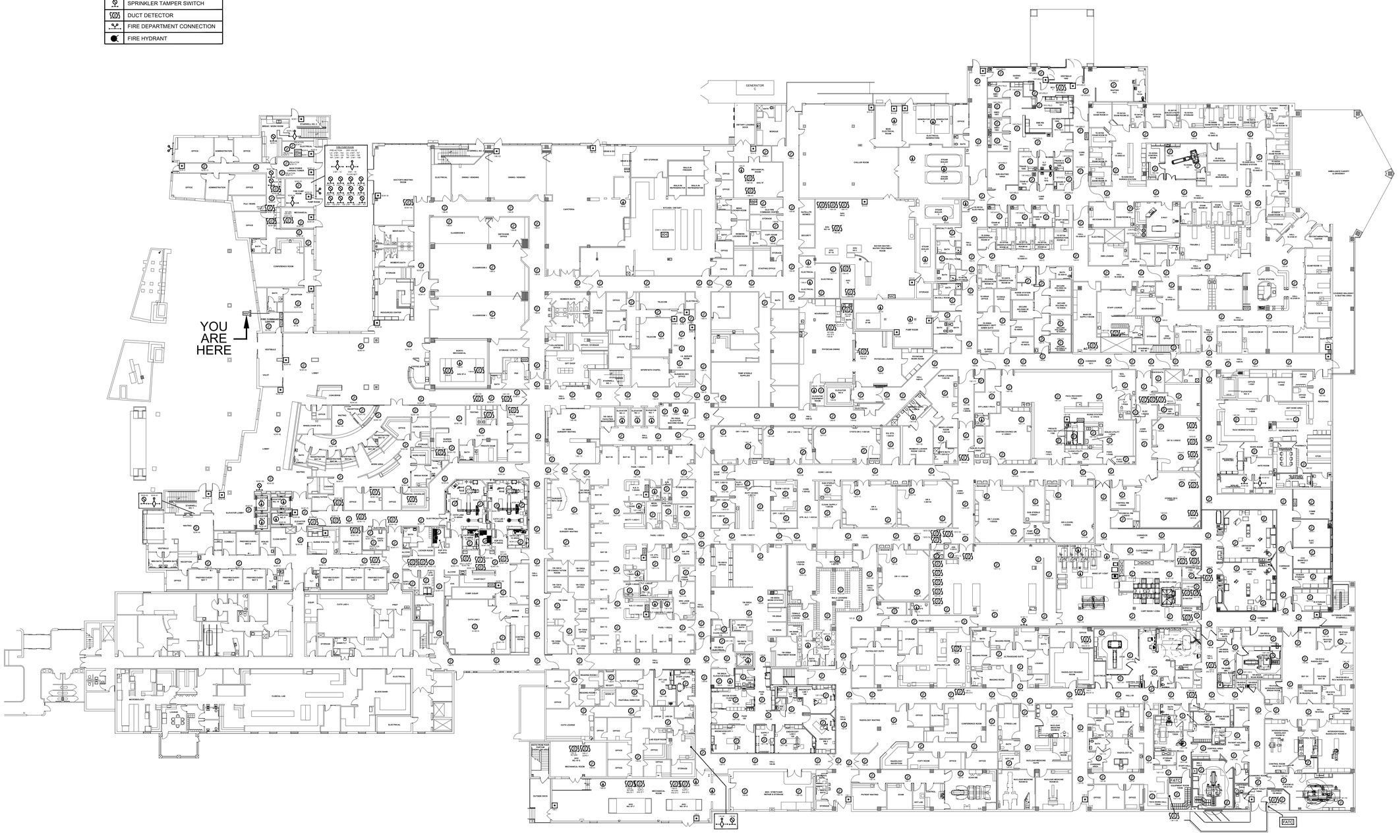
1. THIS 36"X48" GRAPHIC MAP IS NOT SHOWN TO SCALE.

AS OF: 11/19/2024

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

LEGEND:

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



Johnson Controls
AURORA (303) 355-0500

The Medical Center of Aurora
Health ONE

Johnson Controls
DISTRICT: I-15
1400 E. 104TH AVENUE
AURORA, CO 80017
SERVICE: 303-355-0500
PHONE: 303-355-0500
FAX: 303-355-5815

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/22/2024

THE MEDICAL CENTER OF AURORA - SOUTH
IMAGING CT REPLACEMENT

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

Revisions shown with Δ symbol

ISSUE LOG				
MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JRG/AS
CHECKED BY:	AWILHELM
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419:650469365

JOHNSON CONTROLS © 2024

SYSTEM:
FIRE ALARM SYSTEM

SHEET:

STATIC GRAPHIC MAP AT FACP IN FIRE COMMAND CENTER 1E-2902A

FA-801

FILE PATH: C:\Users\jrgas\OneDrive - Johnson Controls\1501 S Potomac - Aurora South\South Tower - Node 1\AS-1st Imaging CT Replacement - 2024 - 650469365\Fire\FA801 STATIC GRAPHIC MAP AT FACP IN FIRE COMMAND CENTER 1E-2902A.dwg
LAST SAVED BY: JRGAS837
LAST PRINTED: 11/22/2024 2:36:16 PM
30" x 42" Arch E1 Size

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PERMIT #2025 2503873-LT | RSN: 1871673

THE MEDICAL CENTER OF AURORA - SOUTH
ED CT REPLACEMENT
MODIFICATION TO EXISTING FIRE ALARM SYSTEM

DRAWING INDEX

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Risers (FA-200 Series)	
FA-201	1ST FLOOR PARTIAL RISER DIAGRAM - INTERIM & BUILDOUT
Panel Details (FA-500 Series)	
FA-501	4009 NAC PANEL DETAILS
Calculations (FA-600 Series)	
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FA-602	NODE-1 4100U FACP CALCULATIONS AND SCHEDULES BUILDOUT
FA-603	NODE-1 4100U FACP CALCULATIONS AND SCHEDULES BUILDOUT CONTINUED
Typical Details (FA-700 Series)	
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Graphic Map (FA-800 Series)	
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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: chorst
Date: Jan 27, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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(S)
INITIATING DEVICES					
3N	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mm
1N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mm
NOTIFICATION APPLIANCES					
1N	#	MULTI-TONE HORN/STROBE, ADDRESSABLE, WALL MOUNT, RED, FIRE LETTERING	49MTV-WRF	SINGLE GANG 1-1/2" D	A
1N	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		

GENERAL NOTES:

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

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR **	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
Mm	MAPNET	STP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	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.
STP = SHIELDED TWISTED PAIR
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), 2021 EDITION

INTERNATIONAL FIRE CODE (IFC), 2021 EDITION

NATIONAL ELECTRIC CODE (NFPA 70), 2023 EDITION

NATIONAL FIRE ALARM AND SIGNALING CODE (NFPA 72), 2022 EDITION 2019

LIFE SAFETY CODE (NFPA 101), 2012 (STATE) EDITION

ICC A117.1 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES, 2017 EDITION

ADA STANDARDS FOR ACCESSIBLE DESIGN, 2023 EDITION

COLORADO DEPARTMENT OF HEALTH AND ENVIRONMENT - HOSPITAL LICENSING RULES, 2021 EDITION

OCCUPANCY TYPE(S): Select State

SPRINKLER PROTECTION: UNKNOWN

AREA: TOTAL: APPROX. 450,396 SQ. FT. SQ. FT. SCOPE: APPROX. 583 SQ. FT.

STORIES TOTAL:6 STORIES + BASEMENT SCOPE: PARTIAL 1ST FLOOR

CONSTRUCTION: TYPE 1-A

SCOPE OF WORK

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

SCOPE OF WORK INCLUDES APPROXIMATELY 583 SQUARE FEET ENCOMPASSING THE FIRST FLOOR OF THE MEDICAL CENTER OF AURORA - SOUTH, LOCATED AT 1501 SOUTH POTOMAC STREET, AURORA, COLORADO 80012. FIRE ALARM IS AFFECTED.

FOR INTERIM: EXISTING AREA TO RECEIVE PARTIAL DEMOLITION TO ALLOW FOR UPDATES TO THE AREA. DURING DEMOLITION, NEW INTERIM HEAT-DETECTORS TO BE INSTALLED IN SCOPE AREA FOR CONSTRUCTION. RE-USE SELECT EXISTING ADDRESSABLE STANDARD INITIATION-BASES WHERE SHOWN. NEW INTERIM HEAT-DETECTORS TO REMAIN ON THE EXISTING 1.M3 CIRCUIT OF THE EXISTING NODE-1 4100U FIRE ALARM CONTROL PANEL (FACP) LOCATED IN FIRE COMMAND CENTER 1E-2902A.

FOR BUILDOUT: REMOVE INTERIM DEVICES FROM SCOPE AREA. NEW ADDRESSABLE INITIATION AND NOTIFICATION DEVICES TO BE INSTALLED. NEW DEVICES WILL TIE TO EXISTING NODE-1 FACP. NEW INITIATION TO TIE TO 1.M3 CIRCUIT. NEW ADDRESSABLE NOTIFICATION TO TIE TO NEW ENHANCED POWER REPEATER (EPR) ON CIRCUIT 1:A1.3(E1:2).

EXISTING STATIC GRAPHIC MAP AT THE FACP IN FIRE COMMAND CENTER 1E-2902A TO BE UPDATED WITH NEW ARCHITECTURE AND INITIATION DEVICES.

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

ALL NEW WIRING TO BE CLASS B.

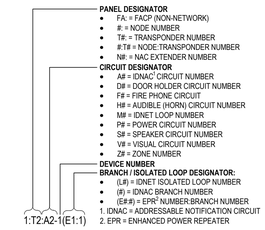
THE EXISTING FIRE ALARM SYSTEM SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF ANY EXISTING FIRE ALARM SYSTEM DEMOLITION WORK.

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

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
AFF = ABOVE FINISHED FLOOR
AHJ = AUTHORITY HAVING JURISDICTION
ALM = ALARM
ANN = ANNUNCIATOR
BMS = BUILDING MANAGEMENT SYSTEM
C = CEILING MOUNTED
CD = CANDELA RATING
DET = DETECTOR
DGP = DATA GATHERING PANEL
E = EXISTING TO REMAIN
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
ER = ELEVATOR RECALL
FAA = FIRE ALARM ANNUNCIATOR
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBO = FURNISHED BY OTHERS
FCC = FIRE COMMAND CENTER
FSD = FIRE SMOKE DAMPER
FTR = FIRE ALARM TRANSPONDER
H = HIGH HUMIDITY
HT = HEIGHT
HVAC = HEATING VENTILATION & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
N = NEW
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
N.T.S. = 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
WO = WITHOUT
WF = WATERFLOW
WG = WIRE GUARD
WP = WEATHERPROOF
XP = EXPLOSION PROOF

DEVICE TAG LEGEND



SYSTEM SEQUENCE OF OPERATIONS

M.C.O.A. SOUTH TOWER	SYSTEM OUTPUTS: FACP Annunciation: ACTIVATE COMMON ALARM SIGNAL INDICATOR	ACTIVATE AUDIBLE ALARM SIGNAL	ACTIVATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTIVATE AUDIBLE SUPERVISORY SIGNAL	ACTIVATE COMMON TROUBLE SIGNAL INDICATOR	ACTIVATE AUDIBLE COMMON TROUBLE SIGNAL	Notification: ACTIVATE ALL NAC(S) (MASTER EVACUATE)	ACTIVATE SPRINKLER BELL	DISPLAY CHANGE OF STATUS AT REMOTE ANNUNCIATOR	TRANSMIT FIRE ALARM SIGNAL TO OFF-SITE REPORTING	TRANSMIT SUPERVISORY SIGNAL TO OFF-SITE REPORTING	TRANSMIT TROUBLE SIGNAL TO OFF-SITE REPORTING	Required Controls: MOTOR HOIST PAL PBS	FAN SHUT DOWN	DAMPER SHUT DOWN	DOOR HOLD MAGLOCK RELEASE	RELEASE ASSOCIATED FIRE DOORS	ELEVATOR SHUT DOWN (*)	ELEVATOR RECALL - MAIN FLOOR	ELEVATOR RECALL - ALTERNATE FLOOR	ELEVATOR HAT FLASH	OVERRIDE HVAC SYSTEM	ACTIVATE CAUSE/EFFECT MATRIX (SEE GENERAL ALARM)	Supplementary: SILENCE AUDIBLE SIGNAL ONLY, VISUALS TO REMAIN	RESET PANEL TO NORMAL CONDITION	
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	Z	
1 SMOKE DETECTOR	X	X					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			2
3 SMOKE DETECTOR AT SMOKE PARTITION	X	X					X		X	X				X		X	X							X			3
4 MANUAL PULL STATION	X	X					X		X	X						X	X							X			4
5 HEAT DETECTOR	X	X					X		X	X						X	X							X			5
6 DUCT DETECTOR			X	X					X		X			X	X									X			6
7 DUCT DETECTOR AT F/S DAMPER			X	X					X		X			X													7
8 MAIN FLR, ELEV. LOBBY SMOKE DETECTOR	X	X					X		X	X				X	X	X	X				X	X	X	X			8
9 ELEV. LOBBY SMOKE DETECTORS (EXCL. MAIN FLR.)	X	X					X		X	X				X		X	X				X	X	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				X		X				X			X	X			11
12 ELEV. MECH. ROOM HEAT DETECTOR	X	X					X		X	X				X		X				X			X	X			12
13 WATERFLOW SWITCH	X	X					X		X	X				X		X							X	X			13
14 TAMPER SWITCH			X	X			X				X			X													14
15 POST INDICATOR VALVE SWITCH			X	X			X				X																15
16 FACP AC POWER FAILURE					X	X						X															16
17 FACP LOW BATTERY					X	X						X															17
18 OPEN CIRCUIT					X	X						X															18
19 GROUND FAULT					X	X						X															19
20 NOTIFICATION APPLIANCE CIRCUIT SHORT					X	X						X															20
21 ALARM SIGNAL SILENCE																							X				21
22 SYSTEM RESET																											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	Z	

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 to follow existing Sequence of Operations; no further changes to occur.

JOHNSON CONTROLS CONTACTS

Sales Representative
RYAN SCHISSEL
RYAN.SCHISSEL@JCI.COM
PHONE:720-633-5751

Project Manager
JASON ROMERO
JASON.ROMERO@JCI.COM
PHONE:303-349-9483

Drawings Prepared By
JOSUE R. ROJAS L
JOSUERODRIGO.ROJAS.LOZANO@JCI.COM
PHONE:913-660-9415

Drawings Checked By
AMANDA WILHELM
AMANDA.MONETTE.WILHELM@JCI.COM
NICET II #152549, EXP 09/01/2026

Drawings Reviewed By
CALE RAUCH
CALE.RAUCH@JCI.COM
NICET III #151588, EXP. 12/01/2025

PROJECT DIRECTORY

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

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

Owner
HEALTH ONE
4900 SOUTH MONACO STREET
DENVER, COLORADO 80237
PHONE: 303-946-5511

Installer
E LIGHT ELECTRIC SERVICES, INC.
361 INVERNESS DRIVE SOUTH, SUITE B
ENGLEWOOD, COLORADO 80112
PHONE: 303-754-0001

DESIGN STATEMENT

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

ARCHITECTURAL PLANS DATED:	SEPTEMBER 05, 2023
MECHANICAL PLANS DATED:	SEPTEMBER 05, 2023
ELECTRICAL PLANS DATED:	SEPTEMBER 05, 2023
SPECIFICATIONS DATED:	SEPTEMBER 05, 2023
ADDENDUM DATED:	

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
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH
ED CT REPLACEMENT
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

Revisions shown with ⚠ symbol

ISSUE LOG	DATE	CHK	DESCRIPTION
MARK		CAD	

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419:6504693325

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: COVER SHEET

FA-001

FILE PATH: C:\Users\jrojas97\OneDrive - Johnson Controls\501 S Potomac - Aurora South\South Tower - Node 1\4E-1st ED CT Replacement - 2024 - 6504693325\Fire\FA-001.dwg
LAST SAVED BY: JROJAS97
LAST PRINTED: 11/26/2024 10:50 PM
30" x 42" - Arch E Size

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND / MODEL	BACKBOX	WIRE TYPE(S)
		INITIATING DEVICES			
3N	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mm
1N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mm
		NOTIFICATION APPLIANCES			
1N	#	MULTI-TONE HORN/STROBE, ADDRESSABLE, WALL MOUNT, RED, FIRE LETTERING	49MTV-WRF	SINGLE GANG 1-1/2" D	A
1N	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR **	CL
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
Mm	MAPNET	STP SOLID	18 AWG	0.60uF MAX TOTAL LINE CAPACITANCE	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.

STP = SHIELDED TWISTED PAIR

UTP = UNSHIELDED TWISTED PAIR

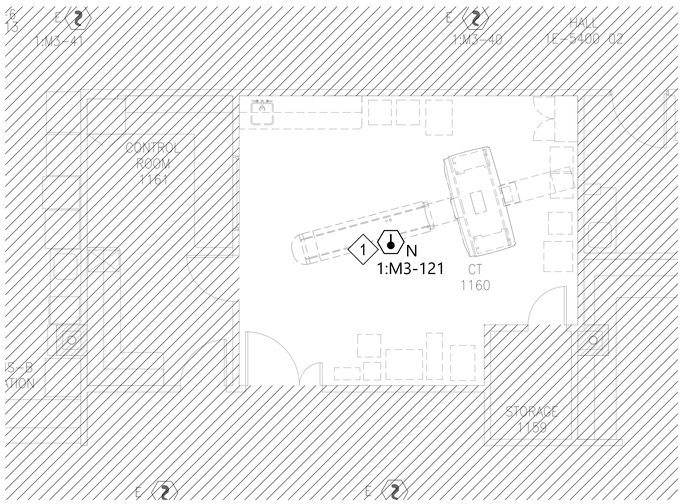
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS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

GENERAL NOTES:

1. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.
2. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
3. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING.
4. ALL ITEMS THAT ARE HATCHED ARE NOT IN THIS SCOPE OF WORK.

KEYNOTES:

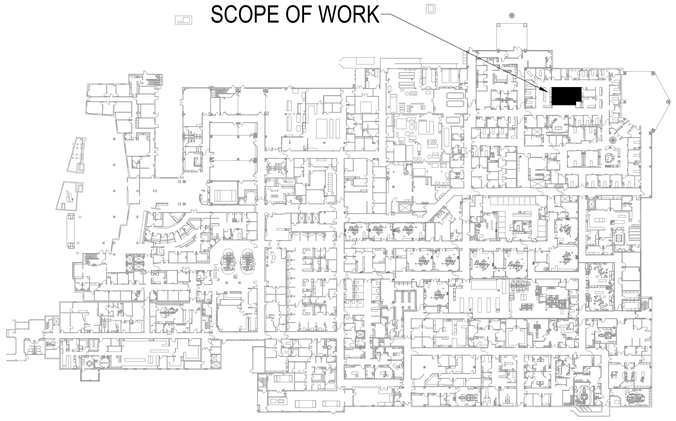
1. INTERIM HEAT DETECTOR. REUSE EXISTING BASE. RETAIN ADDRESS, WIRING, AND LOCATION FOR INTERIM ONLY. TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.



1ST FLOOR PARTIAL DEVICE PLACEMENT PLAN - INTERIM

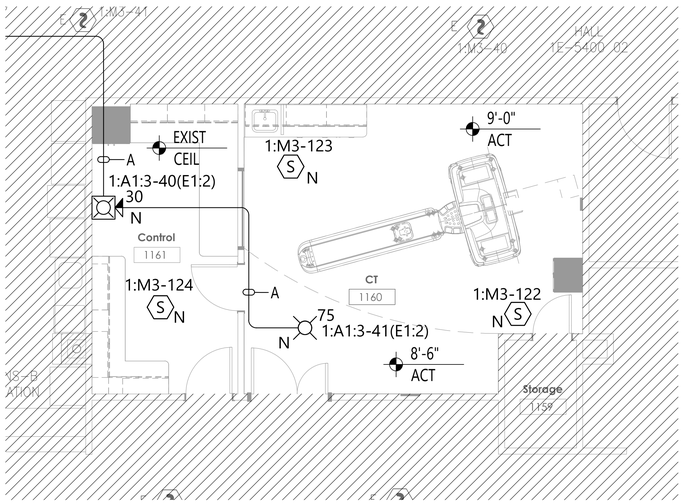
SCALE:1/4" = 1'-0"

SCALE:1/4" = 1'-0" IN FEET 0 2 4 8



1ST FLOOR KEYPLAN

SCALE:N.T.S



1ST FLOOR PARTIAL DEVICE PLACEMENT PLAN - BUILDOUT

SCALE:1/4" = 1'-0"

SCALE:1/4" = 1'-0" IN FEET 0 2 4 8

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

Johnson Controls
DISTRICT - 145
14001 E. ILIFF AVENUE
AURORA, CO 80012
SERVICE: 303-355-6500
PHONE: 303-355-6500
FAX: 303-355-9815

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH ED CT REPLACEMENT

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

Revisions shown with A symbol

ISSUE LOG MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419-650469325

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: 1ST FLOOR PARTIAL DEVICE PLACEMENT PLANS - INTERIM & BUILDOUT

FA-101

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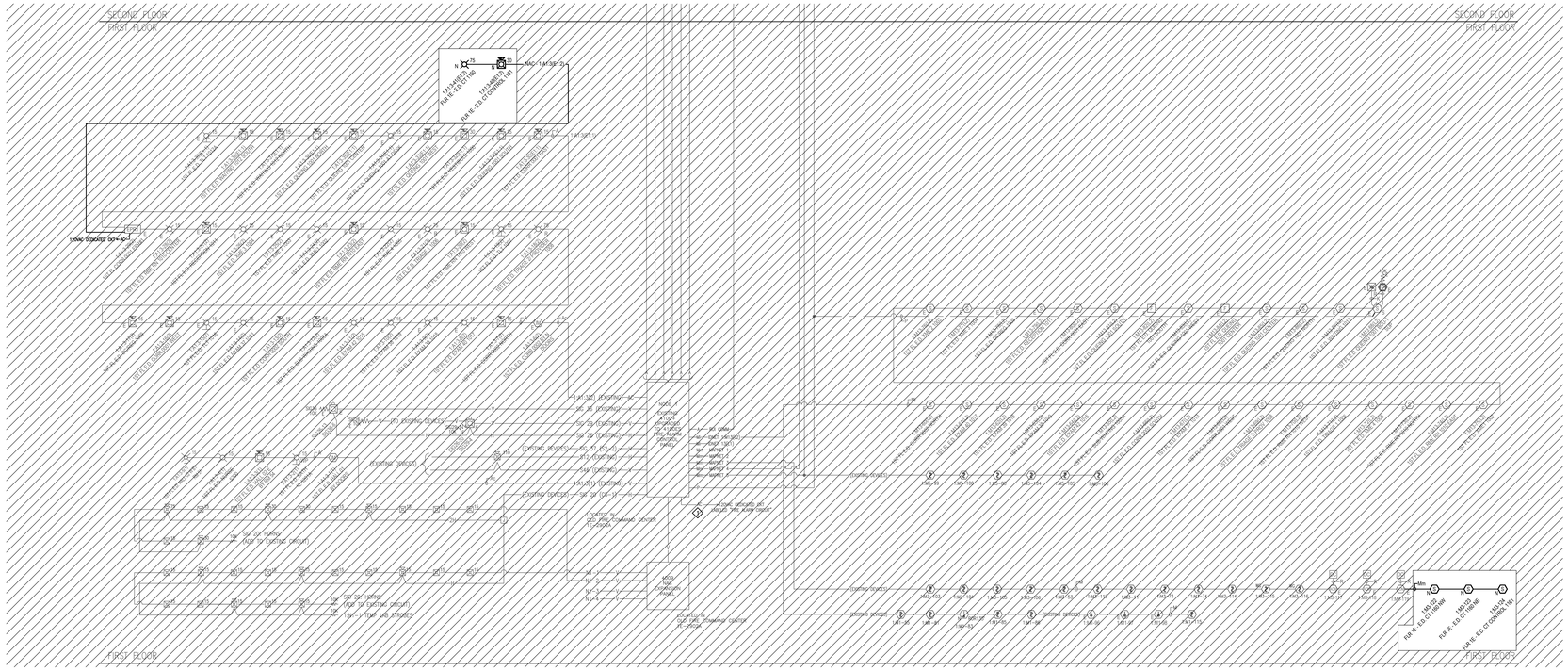
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RISER NOTES:

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.

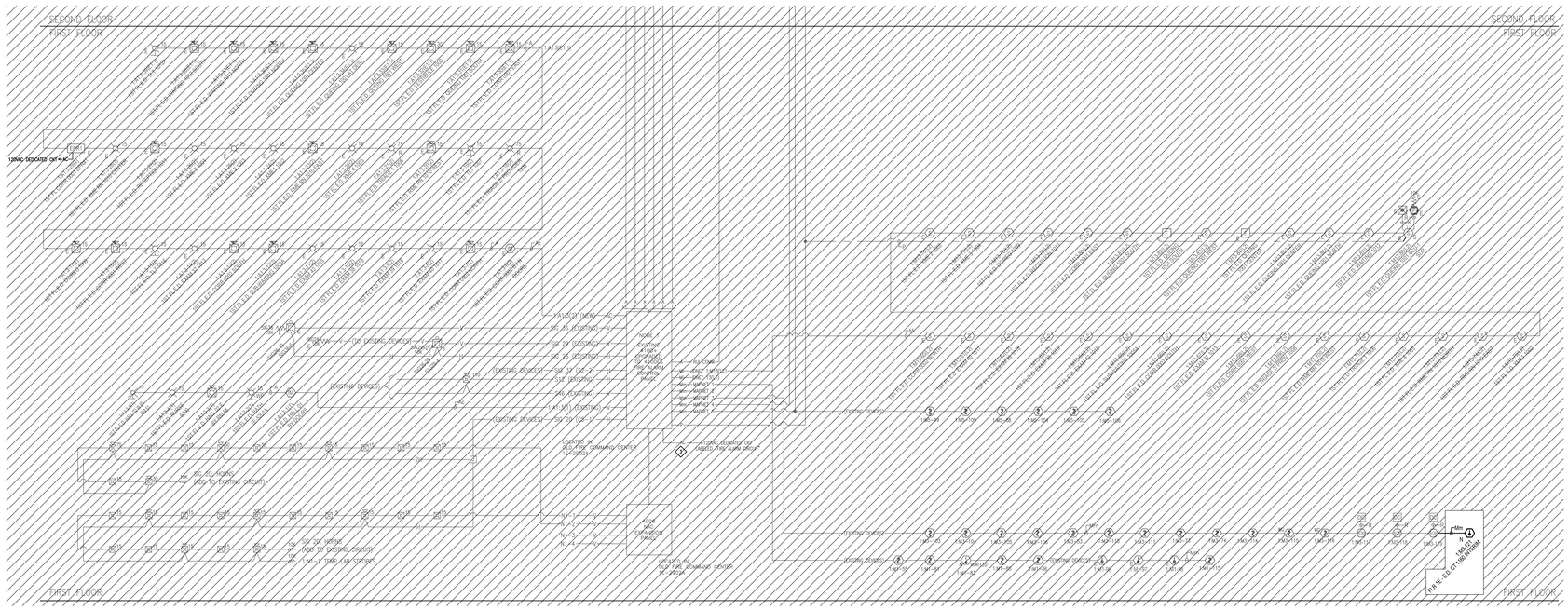
KEYED NOTES:

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



1ST FLOOR PARTIAL RISER DIAGRAM - BUILDOUT

SCALE:N.T.S.



1ST FLOOR PARTIAL RISER DIAGRAM - INTERIM

SCALE:N.T.S.

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND / MODEL	BACKBOX	WIRE TYPE(S)
		INITIATING DEVICES			
3N	S	SMOKE SENSOR, ADDRESSABLE, PHOTOELECTRIC W/ STANDARD BASE, ADDRESSABLE	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mm
1N	H	HEAT SENSOR, ADDRESSABLE, STANDARD W/ STANDARD BASE, ADDRESSABLE	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	Mm
		NOTIFICATION APPLIANCES			
1N	H	MULTI-TONE HORN/STROBE, ADDRESSABLE, WALL MOUNT, RED, FIRE LETTERING	49MTV-WRF	SINGLE GANG 1-1/2" D	A
1N	#	STROBE, ADDRESSABLE, CEILING MOUNT, MULTI CANDELA, CLEAR LENS, APPLIANCE ONLY	49VO-APPLC	4" SQ. 1-1/2" D	A
		APPLIANCE COVER, RED, FIRE LETTERING	49VOC-CRF		

FIRE ALARM WIRE LEGEND

CIRCUIT DESCRIPTION		CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES					
					FPLR	FPLP	THHN	TFFN	OUTDOOR *	C.I.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	X	X				
Mm	MAPNET	STP SOLID	18 AWG	0.60µF MAX TOTAL LINE CAPACITANCE	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.

STP = SHIELDED TWISTED PAIR

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.

Johnson Controls
DISTRICT 148
10065 E. MISSISSIPPI AVE
AURORA, CO 80017
SERVICE: 303-355-5000
PHONE: 303-350-5900
FAX: 303-355-5815

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH ED CT REPLACEMENT

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

Revisions shown with Δ symbol

ISSUE LOG			
MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419:650469325

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SYSTEM: FIRE ALARM SYSTEM

SHEET: 1ST FLOOR PARTIAL RISER DIAGRAM - INTERIM & BUILDOUT

FA-201

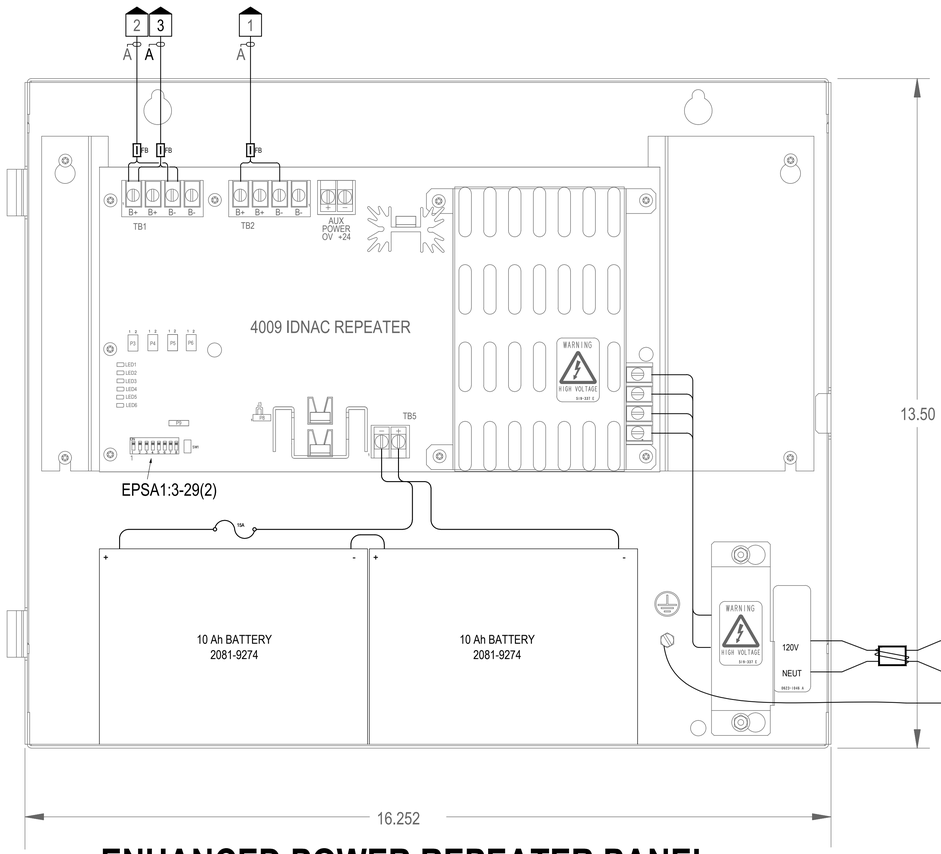
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PANEL TERMINATION NOTES:

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.



IDNAC CONTROL TERMINATIONS

FB = FERRITE BEAD

TERMINATION NUMBER	CIRCUIT LABEL	CKT DESCRIPTION	WIRE
1	1:A1:3(2)	1ST FLOOR SC1A E.D. COORIDOR 0001 EPR#1	A

IDNAC OUTPUT TERMINATIONS

FB = FERRITE BEAD

TERMINATION NUMBER	CIRCUIT LABEL	CKT DESCRIPTION	WIRE	
2	1:A1:3(E1:1)	1ST FLOOR SC1A E.D. EAST	A	
3	1:A1:3(E1:2)	1ST FLOOR SC1A E.D. SOUTH	A	SCOPE OF WORK

ENHANCED POWER REPEATER PANEL

LOCATED IN
1ST FL CORR 0001

SCALE: NTS

Johnson Controls
DISTRICT 1-418
14000 E EXPOSITION AVE
AURORA, CO 80012
SERVICE: 303-355-6000
PHONE: 303-355-9000
FAX: 303-355-9415

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH ED CT REPLACEMENT

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:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419-650469325

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SYSTEM:
FIRE ALARM SYSTEM

SHEET:
4009 NAC PANEL DETAILS

FA-501

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MEDICAL CENTER OF AURORA SOUTH TOWER NODE 1 FACP

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4100-7150	1	MASTER CONTROLLER UPGRADE W/ 2X40 DISPLAY (4100 BA	0.1630	0.1630	0.2100	0.2100
4100-6078	1	NETWORK IF CARD, MODULAR	0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED	0.0550	0.1100	0.0550	0.1100
4100-0304	1	STYLE 7 REMOTE UNIT INTERFACE	0.0850	0.0850	0.0850	0.0850
4100-5005	8	ZONE MODULE, 8 IDC, CLASS B	0.0750	0.6000	0.1950	1.5600
4100-4321	10	6 CIRCUIT CLASS B (STYLE Y)	0.0250	0.2500	0.0700	0.7000
4100-3003	2	8 PT AUX RELAY MODULE 3 AMP	0.0250	0.0500	0.2800	0.5600
4100-0110	5	MAPNET II ADDRESSABLE MODULE *	0.2700	1.3500	0.2900	1.4500
4100-6005	1	MASTER CONTROLLER POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-0108	2	EXPANSION 120V 8AMP POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-6038	1	DUAL RS-232 IF CARD	0.1320	0.1320	0.1320	0.1320
4100-5101	2	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ	0.0500	0.1000	0.0500	0.1000
4100-3110	3	IDNet2+2 MODULE - UP TO 250 DEVICES 4 ISOLATED LOOPS *	0.0500	0.1500	0.1000	0.3000
4100-5325	1	ENHANCED POWER SUPPLY, 3 CHANNELS, 120V	0.1250	0.1250	0.2200	0.2200
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC	0.0700	0.0700	0.0960	0.0960
4100-96xx	3	REMOTE ANNUNCIATORS & MINIPLEX TRANSPONDERS *	RUI CURRENT DRAWS INCLUDED BELOW			
		Panel Totals		3.2310		5.5690
IDNet Addressable Devices (SLC)						
4090-9001	7	IDNET SUPERVISED IAM *				
4090-9002	1	IDNET RELAY IAM *				
4098-9714	32	TRUEALARM PHOTO SMOKE SENSOR				
4098-9733	8	TRUEALARM HEAT SENSOR				
4098-9756	3	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	1	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	39	TRUEALARM SENSOR BASE *				
4099-9006	12	ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH *				
Mapnet Addressable Devices (SLC)						
2190-9161	6	MAPNET CLASS B SIGNAL ZAM *				
2190-9163	44	MAPNET UNSUPERVISED CONTROL ZAM *				
2190-9172	41	MAPNET SUPERVISED IAM *				
2190-9173	3	MAPNET 2 POINT INPUT/OUTPUT ZAM *				
2099-9795	20	MAPNET SINGLE ACTION PULL STATION *				
4098-9714	302	TRUEALARM PHOTO SMOKE SENSOR				
4098-9733	**33**	**TRUEALARM HEAT SENSOR**				
4098-9756	36	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	293	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	**42**	**TRUEALARM SENSOR BASE ***				
4090-9008	3	ADDRESSABLE DUAL CONTACT RELAY IAM *				
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	39	ENCAPSULATED RELAY PAM-SD	0.0000	0.0000	0.0150	0.5850
4098-9756	39	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0030	0.1170	0.0150	0.5850
4603-9101	13	SERIAL LCD ANNUNCIATOR	0.0650	0.8450	0.1400	1.8200
2098-9808	26	REMOTE ALARM INDICATOR	0.0010	0.0260	0.0000	0.0000
2098-9806	55	REMOTE TEST STATION W/ LED AND KEY SWITCH	0.0000	0.0000	0.0000	0.0000
2190-9155	1	MAPNET CLASS B MONITOR ZAM	0.0200	0.0200	0.0900	0.0900
2190-9163	45	MAPNET UNSUPERVISED CONTROL ZAM	0.0100	0.4500	0.0400	1.8000
2190-9161	6	MAPNET CLASS B SIGNAL ZAM	0.0150	0.0900	0.0400	0.2400
2088-9021	1	ENCAPSULATED RELAY PAM-1	0.0000	0.0000	0.0150	0.0150
Notification Appliances		**Setting**				
4009-9001	2	FOUR CIRCUIT NAC EXTENDER, 120 VAC	0.0000	0.0000	0.0150	0.0300
4903-9219	10	HORN/STROBE, NON-SYNC, RED, WALL MTD 15	0.0000	0.0000	0.0220	0.2200
4903-9292	88	CH70-2415W-FR,CHIME/STROBE, NON-SYNC,RED, WALL MTD 15	0.0000	0.0000	0.0700	6.1600
4904-9137	105	15CD VISIBLE ONLY RED 15	0.0000	0.0000	0.0900	9.4500
4906-9101	1	V/O MC NON-ADDRESS, RED, WALL 15	0.0000	0.0000	0.0600	0.0600
4906-9101	5	V/O MC NON-ADDRESS, RED, WALL 75	0.0000	0.0000	0.1860	0.9300
CH70-241575W-FR (C)	1	CHIME, NON-SYNC,RED, WALL MTD CHIME	0.0000	0.0000	0.0220	0.0220
CH70-24MCW-FR	4	MULTI CD CHIME STROBE, WALL MNT, RED 15	0.0000	0.0000	0.0820	0.3280
RSS-24MCW-FR	1	MULTI CD STROBE, WALL MNT, RED 15	0.0000	0.0000	0.0600	0.0600
IDNac Notification Appliances		**Setting**				
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC *	0.0032	0.0032	0.0032	0.0032
4905-9929	2	TRUEALERT ISOLATOR MODULE	0.0032	0.0064	0.0100	0.0200
49MTV-WRF	38	MULTI-TONE A/V, RED, WALL MOUNT 15	0.0016	0.0608	0.1450	5.5100
49MTV-WRF	1	MULTI-TONE A/V, RED, WALL MOUNT 185	0.0016	0.0016	0.2990	0.2990
49MTV-WRF	4	MULTI-TONE A/V, RED, WALL MOUNT 30	0.0016	0.0064	0.1630	0.6520
49VO-APPLC	31	STROBE, APPLIANCE ONLY, CEILING MOUNT 15	0.0008	0.0248	0.0550	1.7050
49VO-APPLC	1	STROBE, APPLIANCE ONLY, CEILING MOUNT 30	0.0008	0.0008	0.0830	0.0830
49VO-WRFO	2	VO, WALL MT, RED, FIRE LABEL, WEATHERPROOF 15	0.0008	0.0016	0.0600	0.1200
49VO-WRF	4	VO, WALL MT, RED, FIRE LABEL 15	0.0008	0.0032	0.0470	0.1880
49VOH-APPLCR	2	STROBE, APPLIANCE ONLY, CEILING MOUNT, RED LENS 75	0.0008	0.0016	0.1280	0.2560
		Total IDNac Device Current:		0.1104		8.8362
		IDNac Current Boost for 29vdc Regulated Output **				5.0377
		Peripheral Totals		1.5480		36.2689
		RUI Totals 16		0.0560		0.0560
		Address Totals 574.5 **Addresses**		0.9200		0.9326
		System Totals*: **Standby**		5.8654	**Alarm**	42.8265

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

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

1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
PS-1				1.3150		6.9520
PS-2				1.0530		11.0640
PS-3				1.9310		8.9410
XPS-1				0.1560		0.5110
XPS-2				0.1000		0.1500
EPS-1				0.3200		7.9022
			Sub Total	**4.8750**		**35.5202**
Additional Current Draws:						
RUI Connected Peripheral Devices	16	x 0.0035		= 0.0560	x 0.0035	= 0.0560
MAPNET/IDNet Device Address Communication Current	575	x 0.001601		= 0.9200	x 0.001623	= 0.9326
			Sub Total	**5.8510**		**40.8167**
Spare addressable point capacity **20%**	115	x 0.001601		= 0.1842	x 0.001623	= 0.1867
			Total	**6.0351**		**41.0034**
Standby Time = 4 Hrs		x 6.0351		= 24.1404	Standby Ah	
Alarm Time = 5 Min		0.08333 x 41.0034		= 3.4170	Alarm Ah	
				27.5574		
Additional Spare Battery Capacity = 20%			+	5.5115		
				33.0688		
Battery Discharge Factor = 25%			+	8.2672		
Minimum Battery Required 2081-9296 50AH (2x)				41.3360		
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.

			Standby Total	Alarm Total
Repeater Power Supply Battery Set:				
EPR-1			0.0144	**1.2800**
Additional Current Draw:				
IDNac Current Boost for 29vdc Regulated Output **			0.0000	0.7298
		Total	**0.0144**	**2.0098**
Standby Time = 4 Hrs		x 0.0144	= 0.0576	Standby Ah
Alarm Time = 5 Min		0.08333 x 2.0098	= 0.1675	Alarm Ah
			0.2251	
Additional Spare Battery Capacity = 20%		+	0.0450	
			0.2701	
Battery Discharge Factor = 25%		+	0.0675	
Minimum Battery Required 2081-9272 6.2AH (2x)			**0.3376**	
Battery Supplied 2081-9274 10AH (2x)				

MAPNET CHANNEL 1:M3

	Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1	2	3	4	5	6	7	8		9
	1:M3-1	ADRPUL	PULL	1:M3-1 FLR 1E - EXIT BY PHARMACY	X								ON	
	1:M3-2	ADRPUL	PULL	1:M3-2 FLR 1E - E.D. DECK ELEC. RM		X							ON	
	1:M3-3			SPARE	X	X							ON	
	1:M3-4			SPARE			X						ON	
	1:M3-5			SPARE	X		X						ON	
	1:M3-6	ADRPUL	PULL	1:M3-6 FLR 1E - EXIT BY E.D. WAITING RM		X	X						ON	
	1:M3-7			SPARE	X	X	X						ON	
	1:M3-8	RZAM	RELAY	1:M3-8 1ST FL ELEVATOR #5 WON DOOR				X					ON	
	1:M3-9			SPARE	X			X					ON	
	1:M3-10	RZAM	RRELAY	1:M3-10 1ST FL CONTROL FOR AUTO DOORS		X		X					ON	
	1:M3-11	GENIAM	SO	1:M3-11 FLR 1E-ER GLYCOL LOOP IN CEILING	X	X		X					ON	
	1:M3-12			SPARE			X	X					ON	
	1:M3-13	GENIAM	SO	1:M3-13 BSMT ELEV 5 SHAFT TAMPER SWITCH	X		X	X					ON	
	1:M3-14			SPARE		X	X	X					ON	
	1:M3-15	PHOTO	VSMOKE	1:M3-15 FLR 1W - HALL BY LAB	X	X	X	X					ON	
	1:M3-16			SPARE					X				ON	
	1:M3-17			SPARE	X				X				ON	
	1:M3-18	PHOTO	VSMOKE	1:M3-18 FLR 1W - HALL BY LAB		X			X				ON	
	1:M3-19	PHOTO	VSMOKE	1:M3-19 FLR 1W - HALL BY PHARMACY	X	X			X				ON	
	1:M3-20	PHOTO	VSMOKE	1:M3-20 FLR 1W - HALL BY PHARMACY			X		X				ON	
	1:M3-21	PHOTO	VSMOKE	1:M3-21 FLR 1W - HALL BY PHARMACY	X		X		X				ON	
	1:M3-22			SPARE		X	X		X				ON	
	1:M3-23			SPARE	X	X	X		X				ON	
	1:M3-24	PHOTO	VSMOKE	1:M3-19 FLR 1W - HALL BY PHARMACY				X	X				ON	
	1:M3-25	PHOTO	VSMOKE	1:M3-25 FLR 1E - HALL BY PHARMACY	X			X	X				ON	
	1:M3-26	PHOTO	VSMOKE	1:M3-26 FLR 1E - EXIT HALL BY PHARMACY		X		X	X				ON	
	1:M3-27	PHOTO	VSMOKE	1:M3-27 FLR 1E - EXIT HALL BY PHARMACY	X	X		X	X				ON	
	1:M3-28	PHOTO	VSMOKE	1:M3-28 FLR 1E - EXIT HALL BY PHARMACY			X	X	X				ON	
	1:M3-29	PHOTO	VSMOKE	1:M3-29 FLR 1E - EXIT HALL BY PHARMACY	X		X	X	X				ON	
	1:M3-30	PHOTO	VSMOKE	1:M3-30 FLR 1E - E.D. - WEST ENTRANCE		X	X	X	X				ON	
	1:M3-31	PHOTO	VSMOKE	1:M3-31 FLR 1E - E.D. - BY EXAM RM 6	X	X	X	X	X				ON	
	1:M3-32	PHOTO	VSMOKE	1:M3-32 FLR 1E - E.D. - O/S FAM CON 5310						X			ON	
	1:M3-33	PHOTO	VSMOKE	1:M3-33 FLR 1E - E.D. - BY EXAM RM7	X					X			ON	
	1:M3-34	PHOTO	VSMOKE	1:M3-34 FLR 1E - E.D. BY NURSE STATION		X				X			ON	
	1:M3-35	PHOTO	VSMOKE	1:M3-35 FLR 1E - E.D. BY TRAUMA 1-5324	X	X				X			ON	
	1:M3-36			SPARE			X			X			ON	
	1:M3-37	PHOTO	VSMOKE	1:M3-37 FLR 1E - E.D. HALL BY RM 20	X		X			X			ON	
	1:M3-38	PHOTO	VSMOKE	1:M3-38 FLR 1E - E.D. HALL BY RM 15		X	X			X			ON	
	1:M3-39	PHOTO	VSMOKE	1:M3-39 FLR 1E - E.D. HALL BY RM 17	X	X	X			X			ON	
	1:M3-40	PHOTO	VSMOKE	1:M3-40 FLR 1E - E.D. HALL BY RM 19				X		X			ON	
	1:M3-41	PHOTO	VSMOKE	1:M3-41 FLR 1E - E.D. HALL BY RM 32	X			X		X			ON	
	1:M3-42	PHOTO	VSMOKE	1:M3-42 FLR 1E - E.D. HALL BY RM 28		X		X		X			ON	
	1:M3-43	PHOTO	VSMOKE	1:M3-43 FLR 1E - E.D. HALL BY RM 24	X	X		X		X			ON	
	1:M3-44	PHOTO	VSMOKE	1:M3-44 FLR 1E - E.D. HALL BY RM 25			X	X		X			ON	
	1:M3-45	PHOTO	VSMOKE	1:M3-45 FLR 1E - E.D. HALL BY RM 25	X		X	X		X			ON	
	1:M3-46	PHOTO	VSMOKE	1:M3-46 FLR 1E - E.D. ELEC RM 1E-5902A		X	X	X		X			ON	
	1:M3-47	ADRPUL	PULL	1:M3-47 FLR 1E - E.D. EAST ENTRY	X	X	X	X		X			ON	
	1:M3-48	PHOTO	VSMOKE	1:M3-48 FLR 1E - E.D. BY NURSE STATION					X	X			ON	
	1:M3-49	PHOTO	VSMOKE	1:M3-49 FLR 1E - E.D. BY EXAM RM 10	X				X	X			ON	
	1:M3-50	PHOTO	VSMOKE	1:M3-50 FLR 1E - E.D. BY ALCOVE 5329		X			X	X			ON	
	1:M3-51	PHOTO	VSMOKE	1:M3-51 FLR 1E - E.D. BY TRAUMA 3-5321	X	X			X	X			ON	
	1:M3-52	PHOTO	VSMOKE	1:M3-52 FLR 1E - E.D. BY EXAM RM 11			X		X	X			ON	
	1:M3-53	PHOTO	VSMOKE	1:M3-53 FLR 1E - E.D. HALL BY RM 43	X		X		X	X			ON	
	1:M3-54	PHOTO	VSMOKE	1:M3-54 FLR 1E - E.D. HALL BY RM 43		X	X		X	X			ON	
	1:M3-55			SPARE	X	X	X		X	X			ON	
	1:M3-56			SPARE					X	X			ON	
	1:M3-57	PHOTO	VSMOKE	1:M3-57 FLR 1E - E.D. HALL BY RM 26	X				X	X			ON	
	1:M3-58	PHOTO	VSMOKE	1:M3-58 FLR 1E - E.D. - BY TRIAGE DESK		X			X	X			ON	
	1:M3-59			SPARE	X	X			X	X			ON	
	1:M3-60			SPARE			X		X	X			ON	
	1:M3-61			SPARE	X		X		X	X			ON	
	1:M3-62			SPARE		X	X		X	X			ON	
	1:M3-63			SPARE	X	X	X		X	X			ON	
	1:M3-64			SPARE							X		ON	
	1:M3-65			SPARE	X						X		ON	
	1:M3-66			SPARE		X					X		ON	
	1:M3-67			SPARE	X	X					X		ON	
	1:M3-68			SPARE			X				X		ON	
	1:M3-69	PHOTO	VSMOKE	1:M3-69 FLR 1E - HALL BY E.D. ON-CALL RM	X		X				X		ON	
	1:M3-70	PHOTO	VSMOKE	1:M3-70 FLR 1E - HALL BY E.D. ON-CALL RM		X	X				X		ON	
	1:M3-71	PHOTO	VSMOKE	1:M3-71 FLR 1E - E.D. HALL BY RM 48	X	X	X				X		ON	
	1:M3-72	PHOTO	VSMOKE	1:M3-72 FLR 1E - E.D. HALL BY RM 44				X			X		ON	
	1:M3-73	PHOTO	VSMOKE	1:M3-73 FLR 1E - E.D. HALL 02 BY RM 54	X			X			X		ON	
	1:M3-74	PHOTO	VSMOKE	1:M3-74 FLR 1E - E.D. HALL 02 BY RM 51		X		X			X		ON	
	1:M3-75	PHOTO	VSMOKE	1:M3-75 FLR 1E - E.D. ADMIN OFFICES	X	X		X			X		ON	
	1:M3-76	PHOTO	VSMOKE	1:M3-76 FLR 1E - HALL BEHIND E.D.			X	X			X		ON	
	1:M3-77	PHOTO	VSMOKE	1:M3-77 FLR 1E - HALL BY E.D. ON-CALL RM	X		X	X			X		ON	
	1:M3-78	PHOTO	VSMOKE	1:M3-76 FLR 1E - HALL BY E.D. ON-CALL RM		X	X	X			X		ON	
	1:M3-79	PHOTO	VSMOKE	1:M3-79 FLR 1E - E.D. SPECIALITY ON-CALL	X	X	X	X			X		ON	
	1:M3-80	PHOTO	VSMOKE	1:M3-80 FLR 1E - HALL BY E.D. ON-CALL RM					X		X		ON	
	1:M3-81	PHOTO	VSMOKE	1:M3-81 FLR 1E - HALL BY E.D. ON-CALL RM	X				X		X		ON	
	1:M3-82	PHOTO	VSMOKE	1:M3-82 FLR 1E - HALL BY E.D. ON-CALL RM		X			X		X		ON	
	1:M3-83	PHOTO	VSMOKE	1:M3-83 FLR 1E - IN THE E.D. ON-CALL RM	X	X			X		X		ON	
	1:M3-84	PHOTO	VSMOKE	1:M3-84 FLR 1E - HALL BATH BY E.D. ADMIN			X		X		X		ON	
	1:M3-85	PHOTO	VSMOKE	1:M3-85 FLR 1E - BACK HALL BY QUIET RM	X		X		X		X		ON	
	1:M3-86	PHOTO	VSMOKE	1:M3-86 FLR 1E - HALL BY MEDICAL LIBRARY		X	X		X		X		ON	
	1:M3-87			SPARE	X	X	X		X		X		ON	
	1:M3-88			SPARE				X	X		X		ON	
	1:M3-89	PHOTO	VSMOKE	1:M3-89 FLR 1E - HALL BY PACU	X			X	X		X		ON	
	1:M3-90	PHOTO	VSMOKE	1:M3-90 FLR 1E - HALL BY PACU		X		X	X		X		ON	
	1:M3-91			SPARE	X	X		X	X		X		ON	
	1:M3-92			SPARE			X	X	X		X		ON	
	1:M3-93	PHOTO	VSMOKE	1:M3-93 FLR 1E - HALL BY PACU	X		X	X	X		X		ON	
	1:M3-94	PHOTO	VSMOKE	1:M3-94 FLR 1E - HALL BY PACU		X	X	X	X		X		ON	
	1:M3-95	PHOTO	VSMOKE	1:M3-95 FLR 1E - HALL BY PACU	X	X	X	X	X		X		ON	
	1:M3-96	PHOTO	VSMOKE	1:M3-96 FLR 1E - HALL BY PACU						X	X		ON	
	1:M3-97	PHOTO	VSMOKE	1:M3-97 FLR 1E - HALL BY E.D. STAIRWELL	X					X	X		ON	
	1:M3-98	PHOTO	VSMOKE	1:M3-98 FLR 1E - HALL BY E.D. STAIRWELL		X				X	X		ON	
	1:M3-99	PHOTO	VSMOKE	1:M3-99 FLR 1E - HALL BY E.D. STAIRWELL	X	X				X	X		ON	
	1:M3-100	PHOTO	VSMOKE	1:M3-100 FLR 1E - EMS LOUNGE			X			X	X		ON	
	1:M3-101			SPARE	X		X			X	X		ON	
	1:M3-102	PHOTO	VSMOKE	1:M3-102 FLR 1E - E.D. HALL BY RM 13			X	X		X	X		ON	
	1:M3-103	PHOTO	VSMOKE	1:M3-103 FLR 1W - PHARMACY	X	X	X			X	X		ON	
	1:M3-104	PHOTO	VSMOKE	1:M3-104 FLR 1W - PHARMACY				X		X	X		ON	
	1:M3-105	PHOTO	VSMOKE	1:M3-105 FLR 1W - PHARMACY	X			X		X	X		ON	
	1:M3-106	PHOTO	VSMOKE	1:M3-106 FLR 1W - PHARMACY ANTE ROOM		X		X		X	X		ON	
	1:M3-107	PHOTO	VSMOKE	1:M3-107 FLR 1W - PHARMACY MEETING ROOM	X	X		X		X	X		ON	
	1:M3-108	GENIAM	UTILITY	1:M3-108 FLR 1E - E.D. SPARE MON 2 PT IO			X	X		X	X		ON	
	1:M3-109	RZAM	RRELAY	1:M3-109 FLR 1E - E.D. DOOR RELEASE	X		X	X		X	X		ON	
	1:M3-110	PHOTO	VSMOKE	1:M3-110 FL CTL TWR E OUTSIDE EMS LOUNGE		X	X	X		X	X		ON	
	1:M3-111	PHOTO	VSMOKE	1:M3-111 FL CTL TWR E HALL BY EMS LOUNGE	X	X	X	X		X	X		ON	
	1:M3-112			SPARE					X	X	X		ON	
	1:M3-113			SPARE	X				X	X	X		ON	
	1:M3-114	PHOTO	VSMOKE	1:M3-114 FLR 1E - E.D. NURSE 5200		X			X	X	X		ON	
	1:M3-115	PHOTO	VSMOKE	1:M3-115 FLR 1E - E.D. SECURE HOLDING 52	X	X			X	X	X		ON	
	1:M3-116	PHOTO	VSMOKE	1:M3-116 FLR 1E - E.D. SECURE HOLDING 51			X		X	X	X		ON	
	1:M3-117	RZAM	RELAY	1:M3-117 FLR 1E - E.D. HALL DR RELEASE E	X		X		X	X	X		ON	
	1:M3-118	RZAM	RELAY	1:M3-118 FLR 1E - E.D. NURSE DR RELEASE		X	X		X	X	X		ON	
	1:M3-119	RZAM	RELAY	1:M3-119 FLR 1E - E.D. HALL DR RELEASE W	X	X	X		X	X	X		ON	
	1:M3-120			SPARE				X	X	X	X		ON	
1	**1:M3-121**	**HEAT**	**HEAT**	**1:M3-121 FLR 1E - E.D. CT 1160 INTERIM**	X			X	X	X	X		ON	
	1:M3-122			SPARE		X		X	X	X	X		ON	
	1:M3-123			SPARE	X	X		X	X	X	X		ON	
	1:M3-124			SPARE			X	X	X	X	X		ON	
	1:M3-125			SPARE	X		X	X	X	X	X		ON	
	1:M3-126			SPARE		X	X	X	X	X	X		ON	
	1:M3-127			SPARE	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.

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.

KEYED NOTES:

1. INTERIM HEAT DETECTOR TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
2. DEVICE WAS INTERIM FOR CONSTRUCTION AND IS NOW REMOVED. DEVICE QUANTITY CHANGED.

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: chorst
Date: Jan 27, 2025
2021 INTERNATIONAL CODES & 2023 NEC

Johnson Controls
DISTRICT 1-415
10065 E. HARVARD AVE
AURORA, CO 80010
SERVICE: 303-355-6000
PHONE: 303-355-3400
FAX:

NICET CERTIFICATION INFORMATION
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH TOWER NODE 1 ED CT REPLACEMENT

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:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419-6504693325

JOHNSON CONTROLS © 2024

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **NODE-1 4100U FACP CALCULATIONS AND SCHEDULES INTERIM**

FA-601

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FILE PATH: C:\Users\jrojas87\OneDrive - Johnson Controls\1501 S Potomac - Aurora South\South Tower - Node 1\AE-1st ED CT Replacement - 2024 - 6504693325\Fire\FA-601.dwg
LAST SAVED BY: JROJAS87
LAST PRINTED: 11/26/2024 4:16:59 PM
30" x 42" - Arch E1 Size

MEDICAL CENTER OF AURORA SOUTH TOWER NODE 1 FACP

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4100-7150	1	MASTER CONTROLLER UPGRADE W/ 2X40 DISPLAY (4100 BA	0.1630	0.1630	0.2100	0.2100
4100-6078	1	NETWORK IF CARD, MODULAR	0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED	0.0550	0.1100	0.0550	0.1100
4100-0304	1	STYLE 7 REMOTE UNIT INTERFACE	0.0850	0.0850	0.0850	0.0850
4100-5005	8	ZONE MODULE, 8 IDC, CLASS B	0.0750	0.6000	0.1950	1.5600
4100-4321	10	6 CIRCUIT CLASS B (STYLE Y)	0.0250	0.2500	0.0700	0.7000
4100-3003	2	8 PT AUX RELAY MODULE 3 AMP	0.0250	0.0500	0.2800	0.5600
4100-0110	5	MAPNET II ADDRESSABLE MODULE *	0.2700	1.3500	0.2900	1.4500
4100-6005	1	MASTER CONTROLLER POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-0108	2	EXPANSION 120V 8AMP POWER SUPPLY	0.0000	0.0000	0.0000	0.0000
4100-6038	1	DUAL RS-232 IF CARD	0.1320	0.1320	0.1320	0.1320
4100-5101	2	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ	0.0500	0.1000	0.0500	0.1000
4100-3110	3	IDNet/2+2 MODULE - UP TO 250 DEVICES 4 ISOLATED LOOPS *	0.0500	0.1500	0.1000	0.3000
4100-5325	1	ENHANCED POWER SUPPLY, 3 CHANNELS, 120V	0.1250	0.1250	0.2200	0.2200
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC	0.0700	0.0700	0.0960	0.0960
4100-96xx	3	REMOTE ANNUNCIATORS & MINIPLEX TRANSPONDERS *		RUI CURRENT DRAWS INCLUDED BELOW		
		Panel Totals		**3.2310**		**5.5690**
IDNet Addressable Devices (SLC)						
4090-9001	7	IDNET SUPERVISED IAM *				
4090-9002	1	IDNET RELAY IAM *				
4098-9714	32	TRUEALARM PHOTO SMOKE SENSOR				
4098-9733	8	TRUEALARM HEAT SENSOR				
4098-9756	3	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	1	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	39	TRUEALARM SENSOR BASE *				
4099-9006	12	ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH *				
Mapnet Addressable Devices (SLC)						
2190-9161	6	MAPNET CLASS B SIGNAL ZAM *				
2190-9163	44	MAPNET UNSUPERVISED CONTROL ZAM *				
2190-9172	41	MAPNET SUPERVISED IAM *				
2190-9173	3	MAPNET 2 POINT INPUT/OUTPUT ZAM *				
2099-9795	20	MAPNET SINGLE ACTION PULL STATION *				
4098-9714	**305**	**TRUEALARM PHOTO SMOKE SENSOR**				
4098-9733	**32**	**TRUEALARM HEAT SENSOR**				
4098-9756	36	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9789	293	TRUEALARM SENSOR BASE W/ LED OUTPUT *				
4098-9792	**44**	**TRUEALARM SENSOR BASE ***				
4090-9008	3	ADDRESSABLE DUAL CONTACT RELAY IAM *				
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	39	ENCAPSULATED RELAY PAM-SD	0.0000	0.0000	0.0150	0.5850
4098-9756	39	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0030	0.1170	0.0150	0.5850
4603-9101	13	SERIAL LCD ANNUNCIATOR	0.0650	0.8450	0.1400	1.8200
2098-9808	26	REMOTE ALARM INDICATOR	0.0010	0.0260	0.0000	0.0000
2098-9806	55	REMOTE TEST STATION W/ LED AND KEY SWITCH	0.0000	0.0000	0.0000	0.0000
2190-9155	1	MAPNET CLASS B MONITOR ZAM	0.0200	0.0200	0.0900	0.0900
2190-9163	45	MAPNET UNSUPERVISED CONTROL ZAM	0.0100	0.4500	0.0400	1.8000
2190-9161	6	MAPNET CLASS B SIGNAL ZAM	0.0150	0.0900	0.0400	0.2400
2088-9021	1	ENCAPSULATED RELAY PAM-1	0.0000	0.0000	0.0150	0.0150
Notification Appliances			**Setting**			
4009-9001	2	FOUR CIRCUIT NAC EXTENDER, 120 VAC	0.0000	0.0000	0.0150	0.0300
4903-9219	10	HORN/STROBE, NON-SYNC, RED, WALL MTD 15	0.0000	0.0000	0.0220	0.2200
4903-9292	88	CH70-2415W-FR,CHIME/STROBE, NON-SYNC,RED, WALL MTD 15	0.0000	0.0000	0.0700	6.1600
4904-9137	105	15CD VISIBLE ONLY RED 15	0.0000	0.0000	0.0900	9.4500
4906-9101	1	V/O MC NON-ADDRESS, RED, WALL 15	0.0000	0.0000	0.0600	0.0600
4906-9101	5	V/O MC NON-ADDRESS, RED, WALL 75	0.0000	0.0000	0.1860	0.9300
CH70-241575W-FR (C)	1	CHIME, NON-SYNC,RED, WALL MTD CHIME	0.0000	0.0000	0.0220	0.0220
CH70-24MCW-FR	4	MULTI CD CHIME STROBE, WALL MNT, RED 15	0.0000	0.0000	0.0820	0.3280
RSS-24MCW-FR	1	MULTI CD STROBE, WALL MNT, RED 15	0.0000	0.0000	0.0600	0.0600
IDNac Notification Appliances			**Setting**			
4009-9601	1	IDNAC REPEATER 120V PLATINUM UL/ULC *	0.0032	0.0032	0.0032	0.0032
4905-9929	2	TRUEALERT ISOLATOR MODULE	0.0032	0.0064	0.0100	0.0200
49MTV-WRF	38	MULTI-TONE A/V, RED, WALL MOUNT 15	0.0016	0.0608	0.1450	5.5100
49MTV-WRF	1	MULTI-TONE A/V, RED, WALL MOUNT 185	0.0016	0.0016	0.2990	0.2990
49MTV-WRF	**5**	**MULTI-TONE A/V, RED, WALL MOUNT**	**30**	**0.0016**	**0.0080**	**0.1630**	**0.8150**
49VO-APPLC	31	STROBE, APPLIANCE ONLY, CEILING MOUNT 15	0.0008	0.0248	0.0550	1.7050
49VO-APPLC	1	STROBE, APPLIANCE ONLY, CEILING MOUNT 30	0.0008	0.0008	0.0830	0.0830
49VO-APPLC	**1**	**STROBE, APPLIANCE ONLY, CEILING MOUNT**	**75**	**0.0008**	**0.0008**	**0.1530**	**0.1530**
49VO-WRFO	2	VO, WALL MT, RED, FIRE LABEL, WEATHERPROOF 15	0.0008	0.0016	0.0600	0.1200
49VO-WRF	4	VO, WALL MT, RED, FIRE LABEL 15	0.0008	0.0032	0.0470	0.1880
49VOH-APPLCR	2	STROBE, APPLIANCE ONLY, CEILING MOUNT, RED LENS 75	0.0008	0.0016	0.1280	0.2560
		Total IDNac Device Current:		**0.1128**		**9.1522**
		IDNac Current Boost for 29vdc Regulated Output **				**5.2178**
		Peripheral Totals		**1.5480**		**36.7650**
		RUI Totals 16		**0.0560**		**0.0560**
		Address Totals 576.5 Addresses		**0.9234**		**0.9360**
		System Totals*:	**Standby**	**5.8712**	**Alarm**	**43.3260**

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

* Device Address current draw included below (See Additional Current Draws):
1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
PS-1				1.3150		6.9520
PS-2				1.0530		11.0640
PS-3				1.9310		8.9410
XPS-1				0.1560		0.5110
XPS-2				0.1000		0.1500
EPS-1				0.3200		7.9022
			Sub Total	**4.8750**		**35.5202**
Additional Current Draws:						
RUI Connected Peripheral Devices	16	x 0.0035		= 0.0560	x 0.0035	= 0.0560
MAPNET/IDNet Device Address Communication Current	577	x 0.001602		= 0.9234	x 0.001624	= 0.9360
		Sub Total		**5.8544**		**40.8201**
Spare addressable point capacity	20%	116 x 0.001602		= 0.1858	x 0.001624	= 0.1883
		Total		**6.0401**		**41.0085**
Standby Time = 4 Hrs		x 6.0401		= 24.1606	Standby Ah	
Alarm Time = 5 Min		0.08333 x 41.0085		= 3.4174	Alarm Ah	
				27.5779		
Additional Spare Battery Capacity = 20%				+ 5.5156		
				33.0935		
Battery Discharge Factor = 25%				+ 8.2734		
Minimum Battery Required	2081-9296 50AH (2x)			**41.3669**		
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.

Repeater Power Supply Battery Set:			Standby Total	Alarm Total
EPR-1			0.0168	**1.5960**
Additional Current Draw:				
IDNac Current Boost for 29vdc Regulated Output **			0.0000	0.9099
		Total	**0.0168**	**2.5059**
Standby Time = 4 Hrs		x 0.0168	= 0.0672	Standby Ah
Alarm Time = 5 Min		0.08333 x 2.5059	= 0.2088	Alarm Ah
			0.2760	
Additional Spare Battery Capacity = 20%			+ 0.0552	
			0.3312	
Battery Discharge Factor = 25%			+ 0.0828	
Minimum Battery Required	2081-9272 6.2AH (2x)		**0.4140**	
Battery Supplied	2081-9274 10AH (2x)			

MAPNET CHANNEL 1:M3

Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1	2	3	4	5	6	7	8		9
1:M3-1	ADRPUL	PULL	1:M3-1 FLR 1E - EXIT BY PHARMACY	X								ON	
1:M3-2	ADRPUL	PULL	1:M3-2 FLR 1E - E.D. DECK ELEC. RM		X							ON	
1:M3-3			SPARE	X	X							ON	
1:M3-4			SPARE			X						ON	
1:M3-5			SPARE	X		X						ON	
1:M3-6	ADRPUL	PULL	1:M3-6 FLR 1E - EXIT BY E.D. WAITING RM		X	X						ON	
1:M3-7			SPARE	X	X	X						ON	
1:M3-8	RZAM	RELAY	1:M3-8 1ST FL ELEVATOR 85 WON DOOR				X					ON	
1:M3-9			SPARE	X			X					ON	
1:M3-10	RZAM	RRELAY	1:M3-10 1ST FL CONTROL FOR AUTO DOORS		X		X					ON	
1:M3-11	GENIAM	SO	1:M3-11 FLR 1E-ER GLYCOL LOOP IN CEILING	X	X		X					ON	
1:M3-12			SPARE			X	X					ON	
1:M3-13	GENIAM	SO	1:M3-13 BSMT ELEV 5 SHAFT TAMPER SWITCH	X		X	X					ON	
1:M3-14			SPARE		X	X	X					ON	
1:M3-15	PHOTO	VSMOKE	1:M3-15 FLR 1W - HALL BY LAB	X	X	X	X					ON	
1:M3-16			SPARE					X				ON	
1:M3-17			SPARE	X				X				ON	
1:M3-18	PHOTO	VSMOKE	1:M3-18 FLR 1W - HALL BY LAB		X			X				ON	
1:M3-19	PHOTO	VSMOKE	1:M3-19 FLR 1W - HALL BY PHARMACY	X	X			X				ON	
1:M3-20	PHOTO	VSMOKE	1:M3-20 FLR 1W - HALL BY PHARMACY			X		X				ON	
1:M3-21	PHOTO	VSMOKE	1:M3-21 FLR 1W - HALL BY PHARMACY	X		X		X				ON	
1:M3-22			SPARE		X	X		X				ON	
1:M3-23			SPARE	X	X	X		X				ON	
1:M3-24	PHOTO	VSMOKE	1:M3-19 FLR 1W - HALL BY PHARMACY				X	X				ON	
1:M3-25	PHOTO	VSMOKE	1:M3-25 FLR 1E - HALL BY PHARMACY	X			X	X				ON	
1:M3-26	PHOTO	VSMOKE	1:M3-26 FLR 1E - EXIT HALL BY PHARMACY		X		X	X				ON	
1:M3-27	PHOTO	VSMOKE	1:M3-27 FLR 1E - EXIT HALL BY PHARMACY	X	X		X	X				ON	
1:M3-28	PHOTO	VSMOKE	1:M3-28 FLR 1E - EXIT HALL BY PHARMACY			X	X	X				ON	
1:M3-29	PHOTO	VSMOKE	1:M3-29 FLR 1E - EXIT HALL BY PHARMACY	X		X	X	X				ON	
1:M3-30	PHOTO	VSMOKE	1:M3-30 FLR 1E - E.D. - WEST ENTRANCE		X	X	X	X				ON	
1:M3-31	PHOTO	VSMOKE	1:M3-31 FLR 1E - E.D. - BY EXAM RM 6	X	X	X	X	X				ON	
1:M3-32	PHOTO	VSMOKE	1:M3-32 FLR 1E - E.D. - O/S FAM CON 5310						X			ON	
1:M3-33	PHOTO	VSMOKE	1:M3-33 FLR 1E - E.D. - BY EXAM RM7	X					X			ON	
1:M3-34	PHOTO	VSMOKE	1:M3-34 FLR 1E - E.D. BY NURSE STATION		X				X			ON	
1:M3-35	PHOTO	VSMOKE	1:M3-35 FLR 1E - E.D. BY TRAUMA 1-5324	X	X				X			ON	
1:M3-36			SPARE			X			X			ON	
1:M3-37	PHOTO	VSMOKE	1:M3-37 FLR 1E - E.D. HALL BY RM 20	X		X			X			ON	
1:M3-38	PHOTO	VSMOKE	1:M3-38 FLR 1E - E.D. HALL BY RM 15		X	X			X			ON	
1:M3-39	PHOTO	VSMOKE	1:M3-39 FLR 1E - E.D. HALL BY RM 17	X	X	X			X			ON	
1:M3-40	PHOTO	VSMOKE	1:M3-40 FLR 1E - E.D. HALL BY RM 19				X		X			ON	
1:M3-41	PHOTO	VSMOKE	1:M3-41 FLR 1E - E.D. HALL BY RM 32	X			X		X			ON	
1:M3-42	PHOTO	VSMOKE	1:M3-42 FLR 1E - E.D. HALL BY RM 28		X		X		X			ON	
1:M3-43	PHOTO	VSMOKE	1:M3-43 FLR 1E - E.D. HALL BY RM 24	X	X		X		X			ON	
1:M3-44	PHOTO	VSMOKE	1:M3-44 FLR 1E - E.D. HALL BY RM 25			X	X		X			ON	
1:M3-45	PHOTO	VSMOKE	1:M3-45 FLR 1E - E.D. HALL BY RM 25	X		X	X		X			ON	
1:M3-46	PHOTO	VSMOKE	1:M3-46 FLR 1E - E.D. ELEC RM 1E-5902A		X	X	X		X			ON	
1:M3-47	ADRPUL	PULL	1:M3-47 FLR 1E - E.D. EAST ENTRY	X	X	X	X		X			ON	
1:M3-48	PHOTO	VSMOKE	1:M3-48 FLR 1E - E.D. BY NURSE STATION					X	X			ON	
1:M3-49	PHOTO	VSMOKE	1:M3-49 FLR 1E - E.D. BY EXAM RM 10	X				X	X			ON	
1:M3-50	PHOTO	VSMOKE	1:M3-50 FLR 1E - E.D. BY ALCOVE 5329		X			X	X			ON	
1:M3-51	PHOTO	VSMOKE	1:M3-51 FLR 1E - E.D. BY TRAUMA 3-5321	X	X			X	X			ON	
1:M3-52	PHOTO	VSMOKE	1:M3-52 FLR 1E - E.D. BY EXAM RM 11			X		X	X			ON	
1:M3-53	PHOTO	VSMOKE	1:M3-53 FLR 1E - E.D. HALL BY RM 43	X		X		X	X			ON	
1:M3-54	PHOTO	VSMOKE	1:M3-54 FLR 1E - E.D. HALL BY RM 43		X	X		X	X			ON	
1:M3-55			SPARE	X	X	X		X	X			ON	
1:M3-56			SPARE				X	X	X			ON	
1:M3-57	PHOTO	VSMOKE	1:M3-57 FLR 1E - E.D. HALL BY RM 26	X			X	X	X			ON	
1:M3-58	PHOTO	VSMOKE	1:M3-58 FLR 1E - E.D. - BY TRIAGE DESK		X		X	X	X			ON	
1:M3-59			SPARE	X	X		X	X	X			ON	
1:M3-60			SPARE			X	X	X	X			ON	
1:M3-61			SPARE	X		X	X	X	X			ON	
1:M3-62			SPARE		X	X	X	X	X			ON	
1:M3-63			SPARE	X	X	X	X	X	X			ON	
1:M3-64			SPARE							X		ON	
1:M3-65			SPARE	X						X		ON	
1:M3-66			SPARE		X					X		ON	
1:M3-67			SPARE	X	X					X		ON	
1:M3-68			SPARE			X				X		ON	
1:M3-69	PHOTO	VSMOKE	1:M3-69 FLR 1E - HALL BY E.D. ON-CALL RM	X		X				X		ON	
1:M3-70	PHOTO	VSMOKE	1:M3-70 FLR 1E - HALL BY E.D. ON-CALL RM		X	X				X		ON	
1:M3-71	PHOTO	VSMOKE	1:M3-71 FLR 1E - E.D. HALL BY RM 48	X	X	X				X		ON	
1:M3-72	PHOTO	VSMOKE	1:M3-72 FLR 1E - E.D. HALL BY RM 44				X			X		ON	
1:M3-73	PHOTO	VSMOKE	1:M3-73 FLR 1E - E.D. HALL 02 BY RM 54	X			X			X		ON	
1:M3-74	PHOTO	VSMOKE	1:M3-74 FLR 1E - E.D. HALL 02 BY RM 51		X		X			X		ON	
1:M3-75	PHOTO	VSMOKE	1:M3-75 FLR 1E - E.D. ADMIN OFFICES	X	X		X			X		ON	
1:M3-76	PHOTO	VSMOKE	1:M3-76 FLR 1E - HALL BEHIND E.D.			X	X			X		ON	
1:M3-77	PHOTO	VSMOKE	1:M3-77 FLR 1E - HALL BY E.D. ON-CALL RM	X		X	X			X		ON	
1:M3-78	PHOTO	VSMOKE	1:M3-78 FLR 1E - HALL BY E.D. ON-CALL RM		X	X	X			X		ON	
1:M3-79	PHOTO	VSMOKE	1:M3-79 FLR 1E - E.D. SPECIALITY ON-CALL	X	X	X	X			X		ON	
1:M3-80	PHOTO	VSMOKE	1:M3-80 FLR 1E - HALL BY E.D. ON-CALL RM					X		X		ON	
1:M3-81	PHOTO	VSMOKE	1:M3-81 FLR 1E - HALL BY E.D. ON-CALL RM	X				X		X		ON	
1:M3-82	PHOTO	VSMOKE	1:M3-82 FLR 1E - HALL BY E.D. ON-CALL RM		X			X		X		ON	
1:M3-83	PHOTO	VSMOKE	1:M3-83 FLR 1E - IN THE E.D. ON-CALL RM	X	X			X		X		ON	
1:M3-84	PHOTO	VSMOKE	1:M3-84 FLR 1E - HALL BATH BY E.D. ADMIN			X		X		X		ON	
1:M3-85	PHOTO	VSMOKE	1:M3-85 FLR 1E - BACK HALL BY QUIET RM	X		X		X		X		ON	
1:M3-86	PHOTO	VSMOKE	1:M3-86 FLR 1E - HALL BY MEDICAL LIBRARY		X	X		X		X		ON	
1:M3-87			SPARE	X	X	X		X		X		ON	
1:M3-88			SPARE				X	X		X		ON	
1:M3-89	PHOTO	VSMOKE	1:M3-89 FLR 1E - HALL BY PACU	X			X	X		X		ON	
1:M3-90	PHOTO	VSMOKE	1:M3-90 FLR 1E - HALL BY PACU		X		X	X		X		ON	
1:M3-91			SPARE	X	X		X	X		X		ON	
1:M3-92			SPARE			X	X	X		X		ON	
1:M3-93	PHOTO	VSMOKE	1:M3-93 FLR 1E - HALL BY PACU	X		X	X	X		X		ON	
1:M3-94	PHOTO	VSMOKE	1:M3-94 FLR 1E - HALL BY PACU		X	X	X	X		X		ON	
1:M3-95	PHOTO	VSMOKE	1:M3-95 FLR 1E - HALL BY PACU	X	X	X	X	X		X		ON	
1:M3-96	PHOTO	VSMOKE	1:M3-96 FLR 1E - HALL BY PACU						X	X		ON	
1:M3-97	PHOTO	VSMOKE	1:M3-97 FLR 1E - HALL BY E.D. STAIRWELL	X					X	X		ON	
1:M3-98	PHOTO	VSMOKE	1:M3-98 FLR 1E - HALL BY E.D. STAIRWELL		X				X	X		ON	
1:M3-99	PHOTO	VSMOKE	1:M3-99 FLR 1E - HALL BY E.D. STAIRWELL	X	X				X	X		ON	
1:M3-100	PHOTO	VSMOKE	1:M3-100 FLR 1E - EMS LOUNGE			X			X	X		ON	
1:M3-101			SPARE	X		X			X	X		ON	
1:M3-102	PHOTO	VSMOKE	1:M3-102 FLR 1E - E.D. HALL BY RM 13		X	X			X	X		ON	
1:M3-103	PHOTO	VSMOKE	1:M3-103 FLR 1W - PHARMACY	X	X	X			X	X		ON	
1:M3-104	PHOTO	VSMOKE	1:M3-104 FLR 1W - PHARMACY				X		X	X		ON	
1:M3-105	PHOTO	VSMOKE	1:M3-105 FLR 1W - PHARMACY	X			X		X	X		ON	
1:M3-106	PHOTO	VSMOKE	1:M3-106 FLR 1W - PHARMACY ANTE ROOM		X		X		X	X		ON	
1:M3-107	PHOTO	VSMOKE	1:M3-107 FLR 1W - PHARMACY MEETING ROOM	X	X		X		X	X		ON	
1:M3-108	GENIAM	UTILITY	1:M3-108 FLR 1E - E.D. SPARE MON 2 PT IO			X	X		X	X		ON	
1:M3-109	RZAM	RRELAY	1:M3-109 FLR 1E - E.D. DOOR RELEASE	X		X	X		X	X		ON	
1:M3-110	PHOTO	VSMOKE	1:M3-110 FL CTL TWR E OUTSIDE EMS LOUNGE		X	X	X		X	X		ON	
1:M3-111	PHOTO	VSMOKE	1:M3-111 FL CTL TWR E HALL BY EMS LOUNGE	X	X	X	X		X	X		ON	
1:M3-112			SPARE					X	X	X		ON	
1:M3-113			SPARE	X				X	X	X		ON	
1:M3-114	PHOTO	VSMOKE	1:M3-114 FLR 1E - E.D. NURSE 5200		X			X	X	X		ON	
1:M3-115	PHOTO	VSMOKE	1:M3-115 FLR 1E - E.D. SECURE HOLDING 52	X	X			X	X	X		ON	
1:M3-116	PHOTO	VSMOKE	1:M3-116 FLR 1E - E.D. SECURE HOLDING 51			X		X	X	X		ON	
1:M3-117	RZAM	RELAY	1:M3-117 FLR 1E - E.D. HALL DR RELEASE E	X		X		X	X	X		ON	
1:M3-118	RZAM	RELAY	1:M3-118 FLR 1E - E.D. NURSE DR RELEASE		X	X		X	X	X		ON	
1:M3-119	RZAM	RELAY	1:M3-119 FLR 1E - E.D. HALL DR RELEASE W	X	X	X		X	X	X		ON	
1:M3-120			SPARE				X	X	X	X		ON	
1:M3-121			**SPARE**	X			X	X	X	X		ON	
1:M3-122	**PHOTO**	**VSMOKE**	**1:M3-122 FLR 1E - E.D. CT 1160 SW**		X		X	X	X	X		ON	
1:M3-123	**PHOTO**	**VSMOKE**	**1:M3-123 FLR 1E - E.D. CT 1160 NE**	X	X		X	X	X	X		ON	
1:M3-124	**PHOTO**	**VSMOKE**	**1:M3-124 FLR 1E - E.D. CT CONTROL 1161**			X	X	X	X	X		ON	
1:M3-125			SPARE	X		X	X	X	X	X		ON	
1:M3-126			SPARE		X	X	X	X	X	X		ON	
1:M3-127			SPARE	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.

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.

KEYED NOTES:

1. INTERIM HEAT DETECTOR TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
2. DEVICE WAS INTERIM FOR CONSTRUCTION AND IS NOW REMOVED. DEVICE QUANTITY CHANGED.

Johnson Controls
DISTRICT 1-415
10001 E. 376TH AVE
AURORA, CO 80017
SERVICE: 303-355-6500
PHONE: 303-350-9500
FAX: 303-350-9515

NICET CERTIFICATION INFORMATION
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH TOWER ED CT REPLACEMENT

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:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419-650469325

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: NODE-1 4100U FACP CALCULATIONS AND SCHEDULES BUILDOUT

FA-602

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *chorst*
Date: *Jan 27, 2025*
2021 INTERNATIONAL CODES & 2023 NEC

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FILE PATH: C:\Users\rjrojas87\OneDrive - Johnson Controls\501 S Potomac - Aurora South\South Tower - Node 1\4E-1st ED CT Replacement - 2024 - 650469325\Fire\FA-601.dwg
LAST SAVED BY: JROJAS87
LAST PRINTED: 11/26/2024 4:17:01 PM
36" x 42" Arch E1 Size

MEDICAL CENTER OF AURORA SOUTH TOWER NODE 1 FACP - EPS-1 CIRCUIT SUMMARY & VOLTAGE DROP

Channel	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
1:A1:1	3RD FLR A-TOWER SOUTH-EAST	2.566A	15.37%	34	900	14%	26%
1:A1:2	3RD FLR A-TOWER NORTH-WEST	2.600A	12.76%	39	1,072	13%	38%
1:A1:3	1ST FLR SC1A & SC1B E.D.	2.390A	10.90%	47	1,057	20%	43%
EPR1	**1ST FLR SC1A E.D. EAST**	**1.596A**	**1.90%**	**21**	**343**	**47%**	**90%**

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1. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
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KEYED NOTES:

1. INTERIM HEAT DETECTOR TO BE REMOVED AND REPLACED WITH NEW SMOKE DETECTOR IN THE AREA AFTER CONSTRUCTION.
2. DEVICE WAS INTERIM FOR CONSTRUCTION AND IS NOW REMOVED. DEVICE QUANTITY CHANGED.

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CHANNEL 1					SWITCH SETTINGS								
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1	2	3	4	5	6	7	8	
1:A1:1-1	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS52*	*:A1:1-1*	X								ON
1:A1:1-2	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS53 N*	*:A1:1-2*		X							ON
1:A1:1-3	VO	49VO-APPLC	15cd	*3RD FL TWR A PUBLIC TLT 3AM00*	*:A1:1-3*	X	X							ON
1:A1:1-4	VO	49VO-APPLC	15cd	*3RD FL TWR A OFFICE 3MS64*	*:A1:1-4*			X						ON
1:A1:1-5	AV	49MTV-WRF	185cd	*3RD FL TWR A SLEEP RM 3MS36A*	*:A1:1-5*	X		X						ON
1:A1:1-6	AV	49MTV-WRF	30cd	*3RD FL TWR A WAITING RM 3AM01*	*:A1:1-6*		X	X						ON
1:A1:1-7	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS53 S*	*:A1:1-7*	X	X	X						ON
1:A1:1-8	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS54 N*	*:A1:1-8*				X					ON
1:A1:1-9	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS54 S*	*:A1:1-9*	X			X					ON
1:A1:1-10	AV	49MTV-WRF	15cd	*3RD FL TWR A ELEV VTI5 LOBBY*	*:A1:1-10*		X		X					ON
1:A1:1-11	AV	49MTV-WRF	30cd	*3RD FL TWR A MECH 3EG02*	*:A1:1-11*	X	X		X					ON
1:A1:1-12	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS56 E*	*:A1:1-12*			X	X					ON
1:A1:1-13	VO	49VO-APPLC	30cd	*3RD FL TWR A BIOHAZARD 3MS39*	*:A1:1-13*	X		X	X					ON
1:A1:1-14	VO	49VO-APPLC	15cd	*3RD FL TWR A DICTATION 3MS41B*	*:A1:1-14*		X	X	X					ON
1:A1:1-15	AV	49MTV-WRF	15cd	*3RD FL TWR A NS 3MS41A*	*:A1:1-15*	X	X	X	X					ON
1:A1:1-16	AV	49MTV-WRF	30cd	*3RD FL TWR A MECH 3EG03*	*:A1:1-16*				X					ON
1:A1:1-17	VO	49VO-APPLC	15cd	*3RD FL TWR A POU 3MS43*	*:A1:1-17*	X			X					ON
1:A1:1-18	VO	49VO-APPLC	15cd	*3RD FL TWR A PANTRY 3MS42*	*:A1:1-18*		X			X				ON
1:A1:1-19	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS56 W*	*:A1:1-19*	X	X			X				ON
1:A1:1-20	VO	49VO-APPLC	15cd	*3RD FL TWR A ISO PAT RM 334*	*:A1:1-20*			X		X				ON
1:A1:1-21	VO	49VO-WRFO	15cd	*3RD FL TWR A UNI SHWR 3MS01B*	*:A1:1-21*	X		X		X				ON

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CHANNEL 2					SWITCH SETTINGS								
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1	2	3	4	5	6	7	8	
1:A1:2-1	AV	49MTV-WRF	15cd	*3RD FL TWR A STAFF LNG 3MS38*	*:A1:2-1*	X								ON
1:A1:2-2	VO	49VO-APPLC	15cd	*3RD FL TWR A CLEAN UTILITY 3MS40*	*:A1:2-2*		X							ON
1:A1:2-3	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS63*	*:A1:2-3*	X	X							ON
1:A1:2-4	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS62 N*	*:A1:2-4*			X						ON
1:A1:2-5	VO	49VO-APPLC	15cd	*3RD FL TWR A DICTATION 3MS44*	*:A1:2-5*	X		X						ON
1:A1:2-6	VO	49VO-APPLC	15cd	*3RD FL TWR A MEDS 3MS46*	*:A1:2-6*	X	X							ON
1:A1:2-7	VO	49VO-APPLC	15cd	*3RD FL TWR A POU 3MS48*	*:A1:2-7*	X	X	X						ON
1:A1:2-8	VO	49VO-APPLC	15cd	*3RD FL TWR A EQ STOR 3MS049*	*:A1:2-8*				X					ON
1:A1:2-9	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS61A*	*:A1:2-9*	X			X					ON
1:A1:2-10	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS60*	*:A1:2-10*		X		X					ON
1:A1:2-11	VO	49VO-APPLC	15cd	*3RD FL TWR A SOILED UTIL 3MS050*	*:A1:2-11*	X	X		X					ON
1:A1:2-12	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS59 N*	*:A1:2-12*			X	X					ON
1:A1:2-13	VO	49VO-APPLC	15cd	*3RD FL TWR A ISO PAT RM 309*	*:A1:2-13*	X		X	X					ON
1:A1:2-14	VO	49VO-APPLC	15cd	*3RD FL TWR A ACC PAT TLT 309*	*:A1:2-14*		X	X	X					ON
1:A1:2-15	AV	49MTV-WRF	15cd	*3RD FL TWR A STAFF LNG 3MS22A*	*:A1:2-15*	X	X	X	X					ON
1:A1:2-16	VO	49VO-APPLC	15cd	*3RD FL TWR A STAFF TLT 3MS22B*	*:A1:2-16*					X				ON
1:A1:2-17	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS59 S*	*:A1:2-17*	X				X				ON
1:A1:2-18	VO	49VO-APPLC	15cd	*3RD FL TWR A OFFICE 3MS21*	*:A1:2-18*		X			X				ON
1:A1:2-19	AV	49MTV-WRF	15cd	*3RD FL TWR A CLEAN UTIL 3MS19*	*:A1:2-19*	X	X			X				ON
1:A1:2-20	VO	49VO-APPLC	15cd	*3RD FL TWR A MEDS 3MS18*	*:A1:2-20*			X		X				ON
1:A1:2-21	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS58A W*	*:A1:2-21*	X		X		X				ON
1:A1:2-22	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS58A E*	*:A1:2-22*		X	X		X				ON
1:A1:2-23	VO	49VO-APPLC	15cd	*3RD FL TWR A POU 3MS47*	*:A1:2-23*	X	X	X		X				ON
1:A1:2-24	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS57*	*:A1:2-24*				X	X				ON
1:A1:2-25	VO	49VO-APPLC	15cd	*3RD FL TWR A IDF 3MS45*	*:A1:2-25*	X			X	X				ON
1:A1:2-26	AV	49MTV-WRF	15cd	*3RD FL TWR A CORR 3MS62 S*	*:A1:2-26*		X		X	X				ON

POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

ENHANCED POWER SUPPLY 1 - CHANNEL 2					SWITCH SETTINGS								
IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)		1	2	3	4	5	6	7	8	
1:A1:3-1	ISO	4905-9929		*1ST FL E.D. HALL 01 BY DOORS*	*:A1:3-1*	X								ON
1:A1:3-2	VO	49VO-WRFO	15cd	*1ST FL E.D. BATH 1E-5201A*	*:A1:3-2*		X							ON
1:A1:3-3	AV	49MTV-WRF	15cd	*1ST FL E.D. HALL 02 E BY RM 54*	*:A1:3-3*	X	X							ON
1:A1:3-4	VO	49VO-APPLC	15cd	*1ST FL E.D. NURSE 5200*	*:A1:3-4*			X						ON
1:A1:3-5	VO	49VO-WRF	15cd	*1ST FL E.D. HALL 02 W BY RM 51*	*:A1:3-5*	X		X						ON
1:A1:3-6	ISO	4905-9929		*1ST FL E.D. CORR 0002 BY N DOORS*			X	X						ON
1:A1:3-7	AV	49MTV-WRF	15cd	*1ST FL E.D. CORR 0002 NORTH*		X	X							ON
1:A1:3-8	VO	49VO-APPLC	15cd	*1ST FL E.D. EXAM 40 1017*					X					ON
1:A1:3-9	VO	49VO-APPLC	15cd	*1ST FL E.D. EXAM 39 1018*		X			X					ON
1:A1:3-10	VO	49VO-APPLC	15cd	*1ST FL E.D. EXAM 38 1019*			X		X					ON
1:A1:3-11	VO	49VO-APPLC	15cd	*1ST FL E.D. EXAM 42 1015*		X	X		X					ON
1:A1:3-12	AV	49MTV-WRF	15cd	*1ST FL E.D. SUB-WAITING 1005A*				X	X					ON
1:A1:3-13	AV	49MTV-WRF	15cd	*1ST FL E.D. CORR 0002 SOUTH*		X		X	X					ON
1:A1:3-14	VO	49VO-APPLC	15cd	*1ST FL E.D. EXAM 37 1013*			X	X	X					ON
1:A1:3-15	VO	49VO-WRF	15cd	*1ST FL E.D. TLT 1016*		X	X	X	X					ON
1:A1:3-16	AV	49MTV-WRF	15cd	*1ST FL E.D. CORR 0001 WEST*					X					ON
1:A1:3-17	AV	49MTV-WRF	15cd	*1ST FL E.D. DCREG 1009*		X			X					ON
1:A1:3-18	VO	49VOH-APPLCR	75cd	*1ST FL E.D. TRIAGE 2/ PROVIDER 1008*			X		X					ON
1:A1:3-19	VO	49VO-WRF	15cd	*1ST FL E.D. TLT 1007*		X	X		X					ON
1:A1:3-20	AV	49MTV-WRF	15cd	*1ST FL E.D. RME RN 1010 WEST*				X	X					ON
1:A1:3-21	VO	49VOH-APPLCR	75cd	*1ST FL E.D. TRIAGE 1 1006*		X		X	X					ON
1:A1:3-22	VO	49VO-APPLC	15cd	*1ST FL E.D. XME 4 1005*			X	X	X					ON
1:A1:3-23	AV	49MTV-WRF	15cd	*1ST FL E.D. RME RN 1010 EAST*		X	X	X	X					ON
1:A1:3-24	VO	49VO-APPLC	15cd	*1ST FL E.D. XME1 1002*					X	X				ON
1:A1:3-25	VO	49VO-APPLC	15cd	*1ST FL E.D. XME 2 1003*		X			X	X				ON
1:A1:3-26	VO	49VO-APPLC	15cd	*1ST FL E.D. XME 3 1004*			X		X	X				ON
1:A1:3-27	AV	49MTV-WRF	15cd	*1ST FL E.D. RECEPTION 1011*		X	X		X	X				ON
1:A1:3-28	VO	49VO-APPLC	15cd	*1ST FL E.D. RME RN 1010 CENTER*				X	X	X				ON
1:A1:3-29	REPEATER	4009-9601		*1ST FL CORR 0001 EPR1*		X		X	X	X				ON
1:A1:3-30	AV	49MTV-WRF	15cd	*1ST FL E.D. CORR 0001 EAST*			X	X	X	X				ON
1:A1:3-31	AV	49MTV-WRF	15cd	*1ST FL E.D. QUEING 1001 SOUTH*		X	X	X	X	X				ON
1:A1:3-32	AV	49MTV-WRF	30cd	*1ST FL E.D. VESTIBULE 1000*							X			ON
1:A1:3-33	AV	49MTV-WRF	15cd	*1ST FL E.D. QUEING 1001 WEST*		X					X			ON
1:A1:3-34	VO	49VO-APPLC	15cd	*1ST FL E.D. QUEING 1001 AT DESK*			X				X			ON
1:A1:3-35	AV	49MTV-WRF	15cd	*1ST FL E.D. QUEING 1001 CENTER*		X	X				X			ON
1:A1:3-36	AV	49MTV-WRF	15cd	*1ST FL E.D. QUEING 1001 NORTH*				X			X			ON
1:A1:3-37	AV	49MTV-WRF	15cd	*1ST FL E.D. WAITING 1012 NORTH*		X		X			X			ON
1:A1:3-38	AV	49MTV-WRF	15cd	*1ST FL E.D. WAITING 1012 SOUTH*			X	X			X			ON
1:A1:3-39	VO	49VO-WRF	15cd	*1ST FL E.D. TLT 1012A*		X	X	X			X			ON
1:A1:3-40	**AV**	**49MTV-WRF**	**30cd**	**FLR 1E - E.D. CT CONTROL 1161**					X		X			ON
1:A1:3-41	**VO**	**49VO-APPLC**	**75cd**	**FLR 1E - E.D. CT 1160**		X			X		X			ON

1:A1:1 — **Notification SLC Distributed Load Voltage Drop**

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			Class A Return Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*1:A1:1-1*	*PANEL*	*150*	*49MTV-WRF*	*15cd*	*0.1450*	*2.566*	*2.352*	*25.637*	*0.145*	*0.028*	*-0.999*	*Branch 1: 15.37%*
1	*1:A1:1-2*	*1:A1:1-1*	*32*	*49MTV-WRF*	*15cd*	*0.1450*	*2.421*	*0.476*	*26.161*	*0.290*	*0.048*	*-0.973*	*Length: 900*
1	*1:A1:1-3*	*1:A1:1-2*	*27*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.009*	*26.152*	*0.345*	*0.000*	*-0.923*	
1	*TAP1*	*1:A1:1-2*	*23*	*JBOX*		*0.0000*	*2.221*	*0.314*	*25.847*	*0.390*	*0.028*	*-0.923*	
1	*1:A1:1-4*	*TAP1*	*16*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.003*	*25.842*	*0.345*	*0.000*	*-0.894*	
1	*1:A1:1-5*	*TAP1*	*39*	*49MTV-WRF*	*185cd*	*0.2990*	*0.299*	*0.072*	*25.776*	*0.589*	*0.000*	*-0.894*	
1	*1:A1:1-6*	*TAP1*	*35*	*49MTV-WRF*	*30cd*	*0.1630*	*0.163*	*0.035*	*25.812*	*0.453*	*0.000*	*-0.894*	
1	*1:A1:1-7*	*TAP1*	*46*	*49MTV-WRF*	*15cd*	*0.1450*	*1.704*	*0.491*	*25.366*	*0.435*	*0.080*	*-0.894*	
1	*1:A1:1-8*	*1:A1:1-7*	*30*	*49MTV-WRF*	*15cd*	*0.1450*	*1.559*	*0.297*	*25.079*	*0.580*	*0.075*	*-0.814*	
1	*TAP2*	*1:A1:1-8*	*21*	*JBOX*		*0.0000*	*1.414*	*0.182*	*24.897*	*0.580*	*0.053*	*-0.739*	
1	*1:A1:1-9*	*TAP2*	*15*	*49MTV-WRF*	*15cd*	*0.1450*	*0.290*	*0.027*	*24.870*	*0.725*	*0.098*	*-0.686*	
1	*1:A1:1-10*	*1:A1:1-9*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.020*	*24.850*	*0.870*	*0.000*	*-0.588*	
1	*1:A1:1-11*	*TAP2*	*20*	*49MTV-WRF*	*30cd*	*0.1630*	*0.163*	*0.020*	*24.877*	*0.743*	*0.000*	*-0.588*	
1	*1:A1:1-12*	*TAP2*	*28*	*49MTV-WRF*	*15cd*	*0.1450*	*0.961*	*0.165*	*24.731*	*0.725*	*0.160*	*-0.588*	
1	*1:A1:1-13*	*1:A1:1-12*	*36*	*49VO-APPLC*	*30cd*	*0.0830*	*0.083*	*0.018*	*24.713*	*0.808*	*0.000*	*-0.428*	
1	*1:A1:1-14*	*1:A1:1-12*	*39*	*49VO-APPLC*	*15cd*	*0.0550*	*0.473*	*0.113*	*24.618*	*0.780*	*0.101*	*-0.428*	
1	*1:A1:1-15*	*1:A1:1-14*	*21*	*49MTV-WRF*	*15cd*	*0.1450*	*0.418*	*0.054*	*24.564*	*0.925*	*0.068*	*-0.327*	
1	*1:A1:1-16*	*1:A1:1-15*	*12*	*49MTV-WRF*	*30cd*	*0.1630*	*0.163*	*0.012*	*24.552*	*1.088*	*0.000*	*-0.259*	
1	*TAP3*	*1:A1:1-15*	*19*	*JBOX*		*0.0000*	*0.110*	*0.013*	*24.551*	*0.925*	*0.131*	*-0.259*	
1	*1:A1:1-17*	*TAP3*	*23*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.008*	*24.544*	*0.980*	*0.000*	*-0.128*	
1	*1:A1:1-18*	*TAP3*	*19*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.006*	*24.545*	*0.980*	*0.000*	*-0.128*	
1	*1:A1:1-19*	*1:A1:1-12*	*82*	*49MTV-WRF*	*15cd*	*0.1450*	*0.260*	*0.131*	*24.600*	*0.870*	*0.128*	*-0.128*	
1	*1:A1:1-20*	*1:A1:1-19*	*24*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.008*	*24.592*	*0.925*	*0.000*	*0.000*	
1	*1:A1:1-21*	*1:A1:1-19*	*22*	*49VO-WRFO*	*15cd*	*0.0600*	*0.060*	*0.008*	*24.592*	*0.930*	*0.000*	*0.000*	

1:A1:2 — **Distributed Load Voltage Drop**

Starting Voltage: 29vdc
Min. Device Voltage: 23.vdc
Allowable % Drop: 20.7%

Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			Class A Return Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*TAP1*	*PANEL*	*194*	*JBOX*		*0.0000*	*0.345*	*0.411*	*28.589*	*0.000*	*0.000*	*-1.170*	*Branch 1: 1.58%*
1	*1:A1:2-1*	*TAP1*	*15*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.013*	*28.576*	*0.145*	*0.000*	*-1.170*	*Length: 299*
1	*1:A1:2-2*	*TAP1*	*37*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.012*	*28.577*	*0.055*	*0.000*	*-1.170*	
1	*1:A1:2-3*	*TAP1*	*52*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.046*	*28.543*	*0.145*	*0.000*	*-1.170*	
2	*1:A1:2-4*	*PANEL*	*110*	*49MTV-WRF*	*15cd*	*0.1450*	*2.255*	*1.523*	*27.477*	*0.145*	*0.028*	*-1.170*	*Branch 2: 12.76%*
2	*1:A1:2-5*	*1:A1:2-4*	*31*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.010*	*27.467*	*0.200*	*0.000*	*-1.142*	*Length: 774*
2	*TAP2*	*1:A1:2-4*	*30*	*JBOX*		*0.0000*	*2.055*	*0.379*	*27.098*	*0.145*	*0.019*	*-1.142*	
2	*1:A1:2-6*	*TAP2*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.007*	*27.091*	*0.200*	*0.000*	*-1.124*	
2	*1:A1:2-7*	*TAP2*	*44*	*49VO-APPLC*	*15cd*	*0.0550*	*0.110*	*0.030*	*27.069*	*0.200*	*0.026*	*-1.124*	
2	*1:A1:2-8*	*1:A1:2-7*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.007*	*27.062*	*0.255*	*0.000*	*-1.098*	
2	*1:A1:2-9*	*TAP3*	*45*	*49MTV-WRF*	*15cd*	*0.1450*	*1.890*	*0.522*	*26.576*	*0.290*	*0.057*	*-1.098*	
2	*1:A1:2-10*	*1:A1:2-9*	*32*	*49MTV-WRF*	*15cd*	*0.1450*	*1.745*	*0.343*	*26.233*	*0.435*	*0.048*	*-1.041*	
2	*1:A1:2-11*	*1:A1:2-10*	*18*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.006*	*26.227*	*0.490*	*0.000*	*-0.993*	
2	*1:A1:2-12*	*1:A1:2-10*	*31*	*49MTV-WRF*	*15cd*	*0.1450*	*1.545*	*0.294*	*25.939*	*0.580*	*0.103*	*-0.993*	
2	*1:A1:2-13*	*1:A1:2-12*	*29*	*49VO-APPLC*	*15cd*	*0.0550*	*0.110*	*0.020*	*25.920*	*0.635*	*0.094*	*-0.890*	
2	*1:A1:2-14*	*1:A1:2-13*	*24*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.008*	*25.912*	*0.690*	*0.000*	*-0.796*	
2	*1:A1:2-15*	*1:A1:2-12*	*14*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.017*	*25.922*	*0.725*	*0.102*	*-0.796*	
2	*1:A1:2-16*	*1:A1:2-15*	*23*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.008*	*25.914*	*0.780*	*0.000*	*-0.694*	
2	*1:A1:2-17*	*1:A1:2-12*	*39*	*49MTV-WRF*	*15cd*	*0.1450*	*1.090*	*0.267*	*25.678*	*0.725*	*0.134*	*-0.694*	
2	*1:A1:2-18*	*1:A1:2-17*	*30*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.010*	*25.668*	*0.780*	*0.000*	*-0.560*	
2	*1:A1:2-19*	*1:A1:2-17*	*23*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.020*	*25.658*	*0.870*	*0.000*	*-0.560*	
2	*1:A1:2-20*	*1:A1:2-17*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.007*	*25.671*	*0.780*	*0.000*	*-0.560*	
2	*1:A1:2-21*	*1:A1:2-17*	*28*	*49MTV-WRF*	*15cd*	*0.1450*	*0.690*	*0.119*	*25.560*	*0.870*	*0.257*	*-0.560*	
2	*1:A1:2-22*	*1:A1:2-21*	*50*	*49MTV-WRF*	*15cd*	*0.1450*	*0.545*	*0.167*	*25.392*	*1.015*	*0.143*	*-0.293*	
2	*1:A1:2-23*	*1:A1:2-22*	*23*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.008*	*25.385*	*1.070*	*0.000*	*-0.150*	
2	*1:A1:2-24*	*1:A1:2-22*	*27*	*49MTV-WRF*	*15cd*	*0.1450*	*0.345*	*0.057*	*25.335*	*1.160*	*0.150*	*-0.150*	
2	*1:A1:2-25*	*1:A1:2-24*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.007*	*25.328*	*1.215*	*0.000*	*0.000*	
2	*1:A1:2-26*	*1:A1:2-24*	*39*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.035*	*25.300*	*1.305*	*0.000*	*0.000*	

1:A1:3 — **Distributed Load Voltage Drop**

Starting Voltage: 29vdc
Min. Device Voltage: 23.478vdc
Allowable % Drop: 19.0%

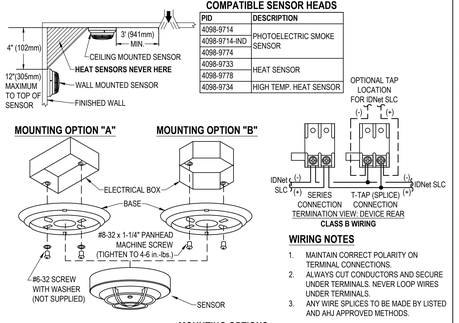
Primary Wire Gauge: 14ga
Home Run Wire Gauge: 14ga

Wire Res. Per Ft. 0.003070 @ 75° Celsius
Wire Res. Per Ft. 0.003070 @ 75° Celsius

							Class B Calculations			Class A Return Calculations			
Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Current at Device	Voltage Drop	Voltage at Device	Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*1:A1:3-1*	*PANEL*	*154*	*4905-9929*		*0.0100*	*0.317*	*0.319*	*28.681*	*0.010*	*0.035*	*-1.420*	*Branch 1: 1.65%*
1	*1:A1:3-2*	*1:A1:3-1*	*53*	*49VO-WRFO*	*15cd*	*0.0600*	*0.307*	*0.100*	*28.581*	*0.070*	*0.009*	*-1.385*	*Length: 294*
1	*1:A1:3-3*	*1:A1:3-2*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.247*	*0.033*	*28.548*	*0.215*	*0.035*	*-1.373*	
1	*1:A1:3-4*	*1:A1:3-3*	*27*	*49VO-APPLC*	*15cd*	*0.0550*	*0.102*	*0.017*	*28.531*	*0.270*	*0.063*	*-1.340*	
1	*1:A1:3-5*	*1:A1:3-4*	*38*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.011*	*28.520*	*0.317*	*0.000*	*-1.277*	
2	*1:A1:3-6*	*PANEL*	*129*	*4905-9929*		*0.0100*	*2.073*	*1.766*	*27.234*	*0.010*	*0.015*	*-1.277*	*Branch 2: 10.9%*
2	*1:A1:3-7*	*1:A1:3-6*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*2.063*	*0.279*	*26.955*	*0.155*	*0.025*	*-1.262*	*Length: 763*
2	*1:A1:3-8*	*1:A1:3-7*	*26*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.009*	*26.946*	*0.210*	*0.000*	*-1.238*	
2	*1:A1:3-9*	*1:A1:3-7*	*22*	*49VO-APPLC*	*15cd*	*0.0550*	*0.110*	*0.015*	*26.940*	*0.210*	*0.027*	*-1.238*	
2	*1:A1:3-10*	*1:A1:3-9*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.007*	*26.933*	*0.265*	*0.000*	*-1.210*	
2	*1:A1:3-11*	*1:A1:3-7*	*32*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.011*	*26.944*	*0.210*	*0.000*	*-1.210*	
2	*1:A1:3-12*	*1:A1:3-7*	*41*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.037*	*26.918*	*0.300*	*0.000*	*-1.210*	
2	*1:A1:3-13*	*1:A1:3-7*	*49*	*49MTV-WRF*	*15cd*	*0.1450*	*1.553*	*0.467*	*26.488*	*0.300*	*0.039*	*-1.210*	
2	*1:A1:3-14*	*1:A1:3-13*	*21*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.007*	*26.480*	*0.355*	*0.000*	*-1.172*	
2	*1:A1:3-15*	*1:A1:3-13*	*29*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.008*	*26.479*	*0.347*	*0.000*	*-1.172*	
2	*1:A1:3-16*	*1:A1:3-13*	*27*	*49MTV-WRF*	*15cd*	*0.1450*	*1.306*	*0.217*	*26.271*	*0.445*	*0.066*	*-1.172*	
2	*1:A1:3-17*	*1:A1:3-16*	*24*	*49MTV-WRF*	*15cd*	*0.1450*	*1.158*	*0.171*	*26.100*	*0.590*	*0.058*	*-1.106*	
2	*1:A1:3-18*	*1:A1:3-17*	*16*	*49VOH-APPLCR*	*75cd*	*0.1280*	*0.128*	*0.013*	*26.088*	*0.718*	*0.000*	*-1.048*	
2	*1:A1:3-19*	*1:A1:3-17*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*26.094*	*0.637*	*0.000*	*-1.048*	
2	*1:A1:3-20*	*1:A1:3-17*	*40*	*49MTV-WRF*	*15cd*	*0.1450*	*0.638*	*0.157*	*25.944*	*0.735*	*0.122*	*-1.048*	
2	*1:A1:3-21*	*1:A1:3-20*	*27*	*49VOH-APPLCR*	*75cd*	*0.1280*	*0.128*	*0.021*	*25.922*	*0.863*	*0.000*	*-0.926*	
2	*1:A1:3-22*	*1:A1:3-20*	*19*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.006*	*25.937*	*0.790*	*0.000*	*-0.926*	
2	*1:A1:3-23*	*1:A1:3-20*	*31*	*49MTV-WRF*	*15cd*	*0.1450*	*0.310*	*0.059*	*25.885*	*0.880*	*0.130*	*-0.926*	
2	*1:A1:3-24*	*1:A1:3-23*	*24*	*49VO-APPLC*	*15cd*	*0.0550*	*0.165*	*0.024*	*25.860*	*0.935*	*0.115*	*-0.797*	
2	*1:A1:3-25*	*1:A1:3-24*	*20*	*49VO-APPLC*	*15cd*	*0.0550*	*0.110*	*0.014*	*25.847*	*0.990*	*0.115*	*-0.682*	
2	*1:A1:3-26*	*1:A1:3-25*	*19*	*49VO-APPLC*	*15cd*	*0.0550*	*0.055*	*0.006*	*25.840*	*1.045*	*0.000*	*-0.568*	
2	*1:A1:3-27*	*1:A1:3-17*	*38*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.047*	*26.054*	*0.735*	*0.153*	*-0.566*

STANDARD SENSOR BASE

SIMPLEX 4098-9792



COMPATIBLE SENSOR HEADS

PID	DESCRIPTION
4098-9714	PHOTOELECTRIC SMOKE SENSOR
4098-9714-IND	
4098-9774	HEAT SENSOR
4098-9733	
4098-9778	
4098-9734	HIGH TEMP. HEAT SENSOR

MOUNTING OPTION "A"

MOUNTING OPTION "B"

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.

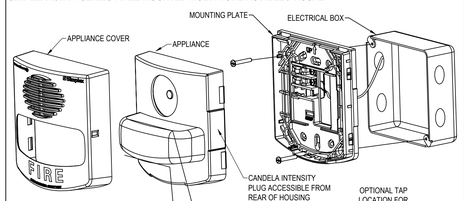
MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/8" (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

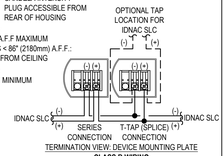
TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49MTV SERIES WALL MOUNTED MULTI-TONE AUDIBLE / VISUAL



MOUNTING OPTION "B"

IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.



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.

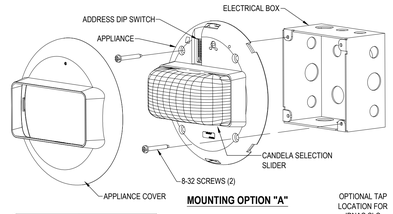
MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	SINGLE GANG OR DOUBLE GANG BOX, 1-1/2" (38mm) MINIMUM DEPTH	BY OTHERS
B	4" (102mm) SQUARE BOX, 1-1/2" (38mm) MINIMUM DEPTH	BY OTHERS
C	SIMPLEX 2975-9145, 7-7/8"H x 5-1/8"W x 2-3/4"D (127mm x 98mm x 56mm) REQUIRES 4905-9931 PLATE	ORDERED SEPARATELY

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49MTV-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

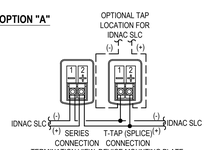
TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49VO / 49VOH SERIES CEILING MOUNTED VISUAL ONLY



MOUNTING OPTION "A"

IMPORTANT
DO NOT BRING THE CONDUIT THROUGH THE REAR OF THE ELECTRICAL BOX. STRIP THE LEAD INSULATION TO 7/16" MAX.



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.

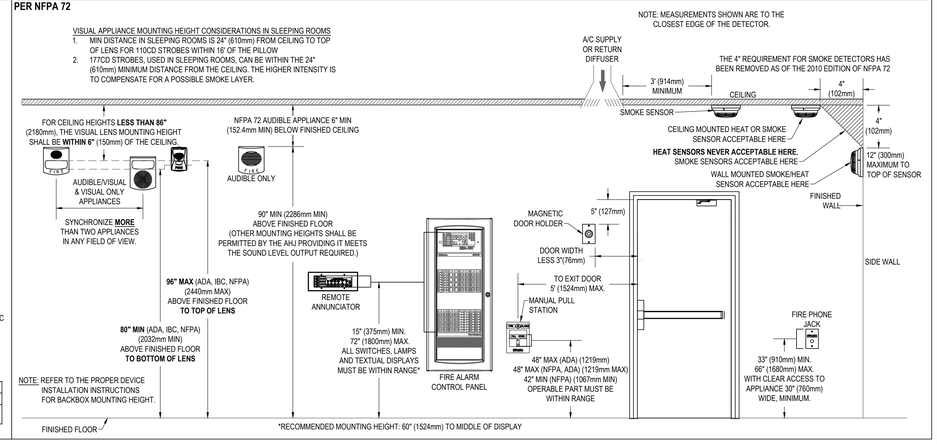
MOUNTING OPTIONS

OPTION [1]	DESCRIPTION	NOTE
A	4" SQUARE ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH	BY OTHERS
B	SINGLE GANG ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH, WITH 49VO-APCS ADAPTER PLATE	BOX BY OTHERS, SIMPLEX ADAPTER PLATE

1. FOR ADDITIONAL MOUNTING OPTIONS, DOWNLOAD DATA SHEET S49VOC-0001 FROM HTTP://WWW.SIMPLEX-FIRE.COM

DEVICE MOUNTING HEIGHT REFERENCE

PER NFPA 72



Johnson Controls
DISTRICT 1-416
10500 E BELLEVIEW AVE
AURORA, CO 80017
PHONE: 303-350-0500
FAX: 303-355-9415
SERVICE: 303-355-5000

NICET CERTIFICATION INFORMATION
CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25
11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH ED CT REPLACEMENT

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:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419:6504469325

JOHNSON CONTROLS © 2024

SYSTEM: FIRE ALARM SYSTEM

SHEET: TYPICAL DEVICE WIRING

FA-701

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: chorst
Date: Jan 27, 2025
2021 INTERNATIONAL CODES & 2023 NEC

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36" x 42" Arch E1 Size | LAST PRINTED: 11/26/2024 4:17:07 PM | LAST SAVED BY: JROJAS87 | FILE PATH: C:\Users\jrojas87\OneDrive - Johnson Controls\150 S Potomac - Aurora South\South Tower - Node 1\4E-1st ED CT Replacement - 2024 - 6504M93326\FireFA-701.dwg

GRAPHIC MAP NOTES:

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

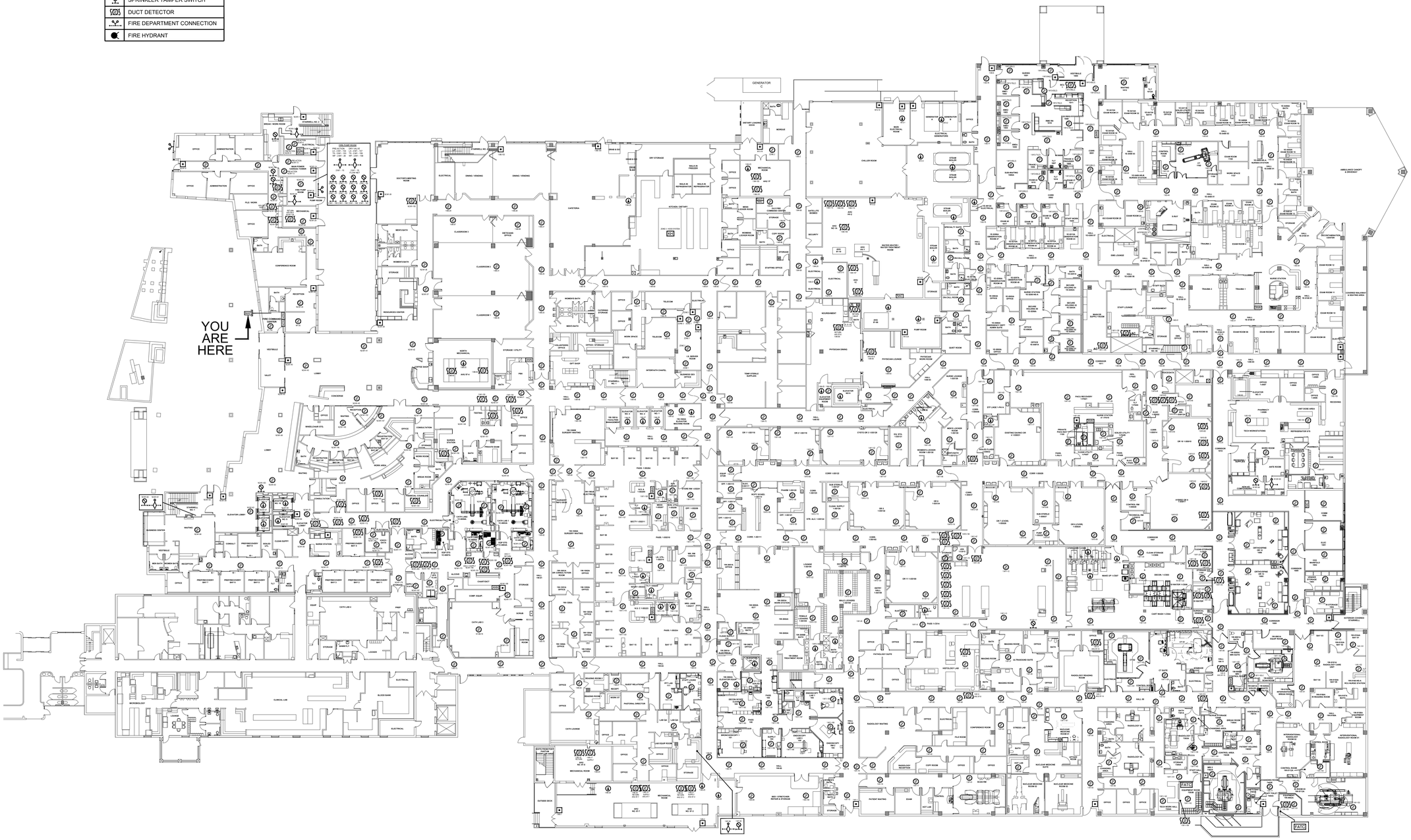
AS OF: 11/19/2024

THE MEDICAL CENTER OF AURORA

1501 S. POTOMAC ST
AURORA, COLORADO 80012

LEGEND:

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



Johnson Controls
AURORA (303) 355-0500

The Medical Center of Aurora
Health ONE

Johnson Controls
DISTRICT: 1-418
14000 E EXPOSITION AVE
AURORA, CO 80017
SERVICE: 303-355-0500
PHONE: 303-355-0500
FAX: 303-355-9415

NICET CERTIFICATION INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/26/2024

THE MEDICAL CENTER OF AURORA - SOUTH ED CT REPLACEMENT

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

Revisions shown with △ symbol

ISSUE LOC	MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	JROJAS
CHECKED BY:	AMW
ISSUE DATE:	11/21/24
JOB #:	
PROJECT #:	419:650469325

JOHNSON CONTROLS © 2024

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
STATIC GRAPHIC MAP AT FACP IN FIRE COMMAND CENTER 1E-2902A

FA-801

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LAST SAVED BY: JROJAS83F
LAST PRINTED: 11/26/2024 4:17:20 PM
30" x 42" Arch E1 Size

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
MRI REPLACEMENT
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

NICET CERTIFICATION
INFORMATION

CALE RAUCH
NICET Fire Alarm, III
Certification #151588
Valid Through: 12/01/25

11/21/2024

Prepared for:

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

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 MRI REPLACEMENT
PREPARED FOR:	E LIGHT ELECTRIC SERVICES, INC.

TYPE:	***DESCRIPTION:***
4009-9601	IDNAC REPEATER 120V PLATINUM UL/ULC
2081-9286	BATTERIES - 7AH (2x)
4098-9714	TRUEALARM PHOTO SMOKE SENSOR
4098-9733	TRUEALARM HEAT SENSOR
4098-9792	TRUEALARM SENSOR BASE
4W-B	SMOKE PHOTO 4W 12/24 VDC
4099-9006	ADDRESSABLE DOUBLE ACTION MANUAL STATION, PUSH
4090-9101	IDNET CLASS B MONITOR ZAM
4090-9801	COVER-ADDRESS MODULE FLUSH
4081-9002	EOL, 3.3K 1/2W
49MTV-WRF	MULTI-TONE A/V, RED, WALL MOUNT
49VO-APPLC	VO APPLIANCE ONLY CEIL MT
49VOC-CRF	VO COVER, CEIL MT, RED, FIRE
49VO-WRF	VO, WALL MT, RED, FIRE LABEL

Simplex

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

TrueAlert Addressable Notification

4009 IDNAC Repeater; Power and Distance Extender

Features

4009 IDNAC Repeaters provide enhanced power delivery to TrueAlert/TrueAlert ES addressable notification appliances controlled by IDNAC SLCs:

- Output voltage in alarm is maintained by an efficient switching regulator at 29 VDC during both AC input and battery backup conditions allowing strobes to operate at lower current
- With lower current strobes and regulated output voltage, wiring distance can be extended 2 to 3 times that of conventional notification, appliance loading can be increased, or smaller wire gauge can be used, all resulting in ***installation savings*** with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions

4009 IDNAC Repeaters receive an IDNAC SLC input and provide a repeated 3 A SLC output to extend SLC distance and power:

- Appliance control and address limit remains with the host IDNAC control panel. Repeater status is communicated to the control panel for system diagnostics and also locally indicated
- Repeater output extends supervisory capacity by up to 139 additional unit loads or 3 A
- Input SLC connection can be Class B or Class A
- Repeater output can be a Class A loop or a Class B output with internal connections for up to four (4) T-tapped output branches (Class A output requires 4009-9814 Class A Adapter)
- Operation requires one IDNAC SLC address; Repeaters can be connected as one in series, or up to five (5) in parallel
- AC power input is 120 VAC or 220-240 VAC, 50/60 Hz, auto-select
- An on-board battery charger is provided with low AC battery disconnect selectable per Repeater (required for ULC listed applications)
- Operation is compatible with TrueAlert ES and TrueAlert addressable notification appliances and accessories
- Available with platinum or red cabinet
- Listed to UL 864 and ULC S527

Multiple wiring options are available:

- Wiring options include Class B multiple branch (up to 4) output, Class A loop extension, and Class A riser to Class B branches or a Class A loop output
- When the Repeater is part of a Class A loop from the IDNAC SLC source panel, up to twice the distance for the loop is available; (Class A loop repeating requires 4009-9814 Class A Adapter)

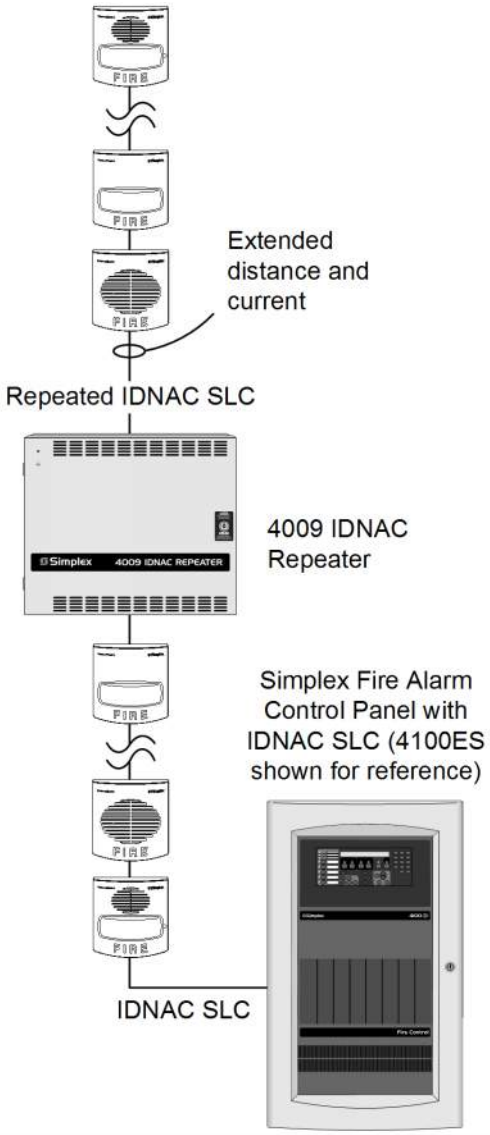


Figure 1: 4009 IDNAC Repeater Extends Distance and Current of IDNAC SLC

Class A Adapter 4009-9814:

- Required when extending a Class A loop or to provide a Class A local loop SLC output
- Operation provides short circuit isolation between input and output terminals for improved IDNAC SLC survivability

Built-in battery Charger

- Power supply charges up to 12.7 Ah batteries for in cabinet mounting and up to 25 Ah batteries with model 4009-9801 external battery cabinet

Available auxiliary output:

- A 200 mA, 29 VDC constant auxiliary output is available; operation is maintained during battery backup

* 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 7165 0026:0378 for allowable values and/or conditions concerning material presented in this document. NYC Fire Dept COA #6151. 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.

Introduction

Repeating IDNAC SLCs

Simplex fire alarm control panels with IDNAC SLC outputs provide individual address and control of TrueAlert and TrueAlert ES addressable notification appliances. When an IDNAC SLC reaches the current limit or the distance limit of the source IDNAC SLC, use of 4009 IDNAC Repeaters extends the IDNAC SLC with an additional 3 A of SLC current and up to 139 unit loads of additional supervisory capacity.

With IDNAC SLCs, a constant 29 VDC source voltage is maintained in alarm, even during battery standby, allowing strobes to operate at higher voltage with lower current and ensuring a consistent current draw and voltage drop margin under both primary power and secondary battery standby. Efficiencies include wiring distances up to 2 to 3 times farther than with conventional notification, or support for more appliances per IDNAC SLC, or use of smaller gauge wiring, or combinations of these benefits, all providing installation and maintenance savings with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions.

Description

Three wiring configurations

Three wiring configurations are available to provide a variety of system solutions: Class B branch extension, Class A loop extension, and Class A riser to Class B branch extension or Class A loop output.

Class B branch input wiring

Class B branch input wiring allows T-tapped connections to up to five (5) parallel connected 4009 IDNAC Repeaters. Each Repeater has on-board output terminal connections for up to four (4) output branch circuits, and additional branch circuits can be externally T-tapped as required. (Refer to Wiring Reference, Class B Input with Class B Branch Circuit Outputs for additional details.)

Class A loop extensions use a single 4009 IDNAC Repeater to extend the current and distance of a single Class A loop allowing the loop distance to be doubled.

The Repeater communicates and repeats bi-directionally allowing Class A loop operation to be maintained in the event of an open circuit. This wiring connection requires use of the 4009-9814 Class A adapter. (Refer to Wiring Reference, Class A Loop Extension for additional details.)

Class A Riser to Class B Branches or Class A Loops

For applications requiring a combination of wiring types, a Class A riser can drive up to five (5) 4009 IDNAC Repeaters with each Repeater capable of driving either single or multiple Class B branch output(s) or a Class A loop output. In this wiring application, the Repeater does not repeat in the Class A riser loop, it is connected as an appliance with Class A in/out wiring. To create a Class A loop output, the Repeater must be equipped with a 4009-9814 Class A Adapter. (Refer to Wiring Reference, Class A Riser Input with Class A Loop and Class B Branch Outputs for additional details.)

Product Selection

Table 1: IDNAC Repeater Selection

Model*	Cabinet Color	Description
4009-9601(BA)	Platinum	4009 IDNAC Repeater with cabinet; provides a single 3 A IDNAC SLC output, 200 mA auxiliary power output, and battery charger; 120/240 VAC, 50/60 Hz input, auto-select
4009-9602(BA)	Red	
* Model numbers ending with BA suffix are assembled in the USA.		

Table 2: Aftermarket Accessories (installed on-site, select per system requirements)

Model	Description	
4009-9814	Class A Adapter Module, mounts on repeater controller board; required for Class A output	
2975-9813	Platinum semi-flush box trim	1 $^{7}/_{16}$" (37 mm) wide, four corners and trim pieces for top, bottom, and sides; (will need to be cut to fit 4009 IDNAC Repeater cabinet)
2975-9812	Red semi-flush box trim	

Table 3: External Accessories (select per system requirements)

Model	Description	Comments
4905-9929	Remote TrueAlert Communications Isolator	Refer to data sheet *S4905-0001* for details
4009-9801	External Battery Cabinet for 25 Ah batteries	16 ¼" W x 13 ½" H x 5 ¾" D (413 mm x 343 mm x 146 mm); refer to data sheet *S2081-0006* for details

Table 4: Battery Selection (select battery size per system requirements; two batteries are required for 24 VDC operation)

Model	Description	
2081-9272	6.2 Ah Battery, 12 VDC	
2081-9274	10 Ah Battery, 12 VDC	
2081-9288	12.7 Ah Battery, 12 VDC	
2081-9275	18 Ah Battery, 12 VDC	Requires 4009-9801 External Battery Cabinet
2081-9287	25 Ah Battery, 12 VDC	

Wiring Reference, Class B Input with Class B Branch Circuit Outputs

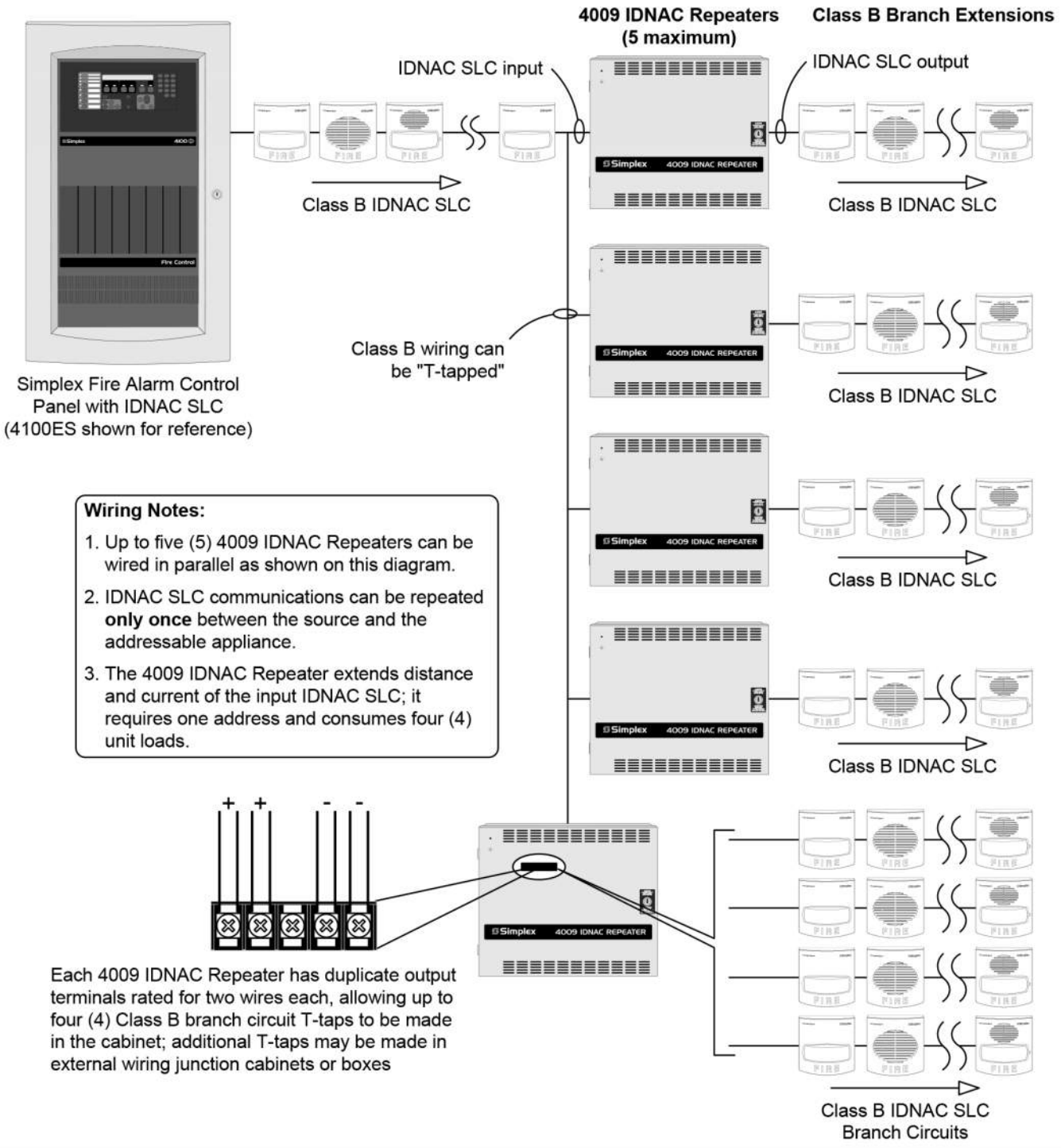
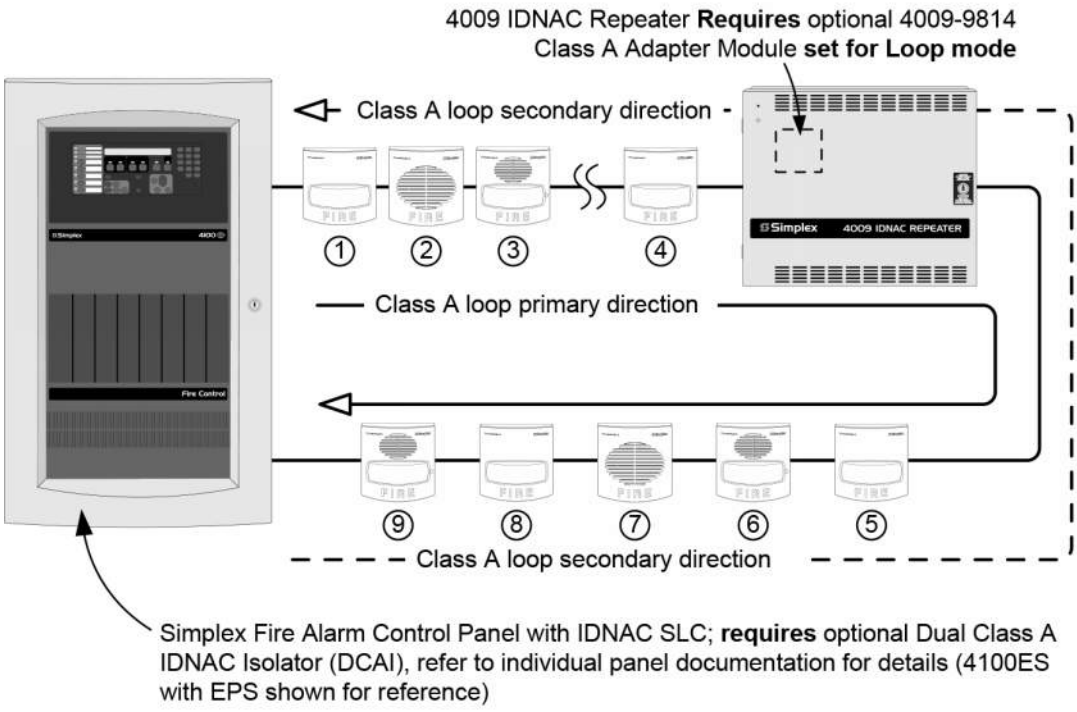


Figure 2: Wiring Reference

Wiring Reference, Class A Loop Extension

Class A IDNAC SLC Loop with 4009 IDNAC Repeater Extending Loop Range and Power



Notes:

1. Only one 4009 IDNAC Repeater can be wired in a Class A loop. (IDNAC SLC communications can be repeated **only once** between the source and the addressable appliance.)
2. The 4009 IDNAC Repeater extends distance and current of the Class A IDNAC SLC loop; it requires one address and consumes four (4) unit loads.
3. Under normal operating conditions (no open circuit wiring), appliances 1 through 4 are powered by the Panel Power Supply and appliances 5 through 9 are powered from the 4009 IDNAC Repeater.
4. Under open circuit conditions, an open circuit in the panel side of the primary path will result in the Panel Power Supply powering appliances 5 through 9 and the 4009 IDNAC Repeater will receive IDNAC SLC input from the return path and then power appliances 1 through 4, or as many as remain connected.

Figure 3: Wiring Reference

Wiring Reference, Class A Riser Input with Class A Loop and Class B Branch Outputs

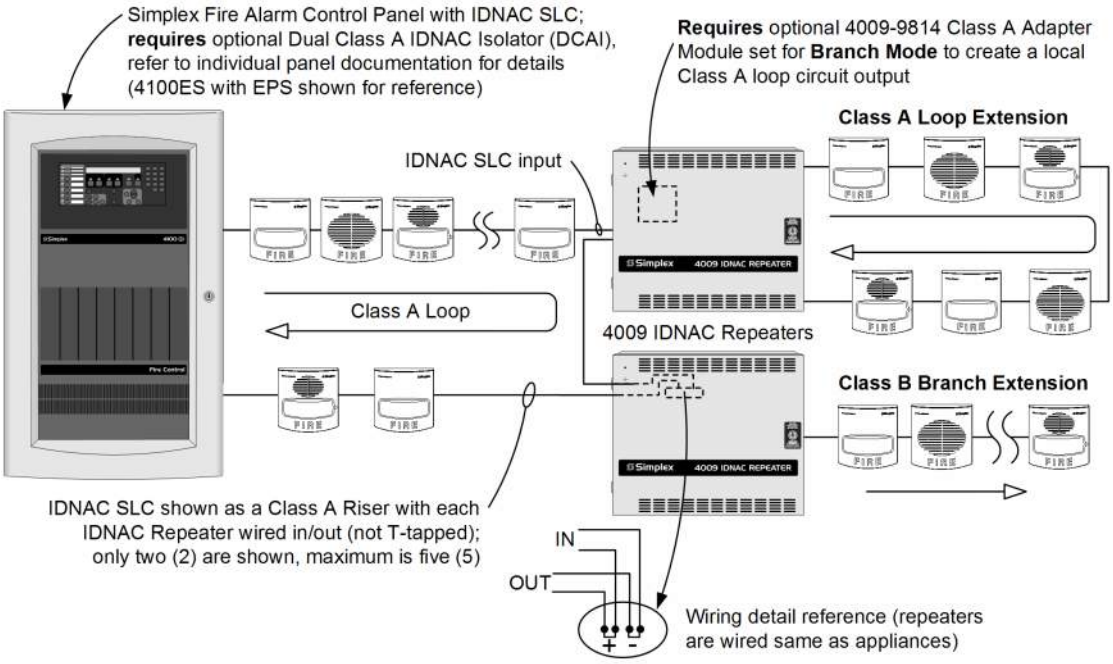


Figure 4: Wiring Reference

4009 IDNAC Repeater Mounting and Module Placement Reference

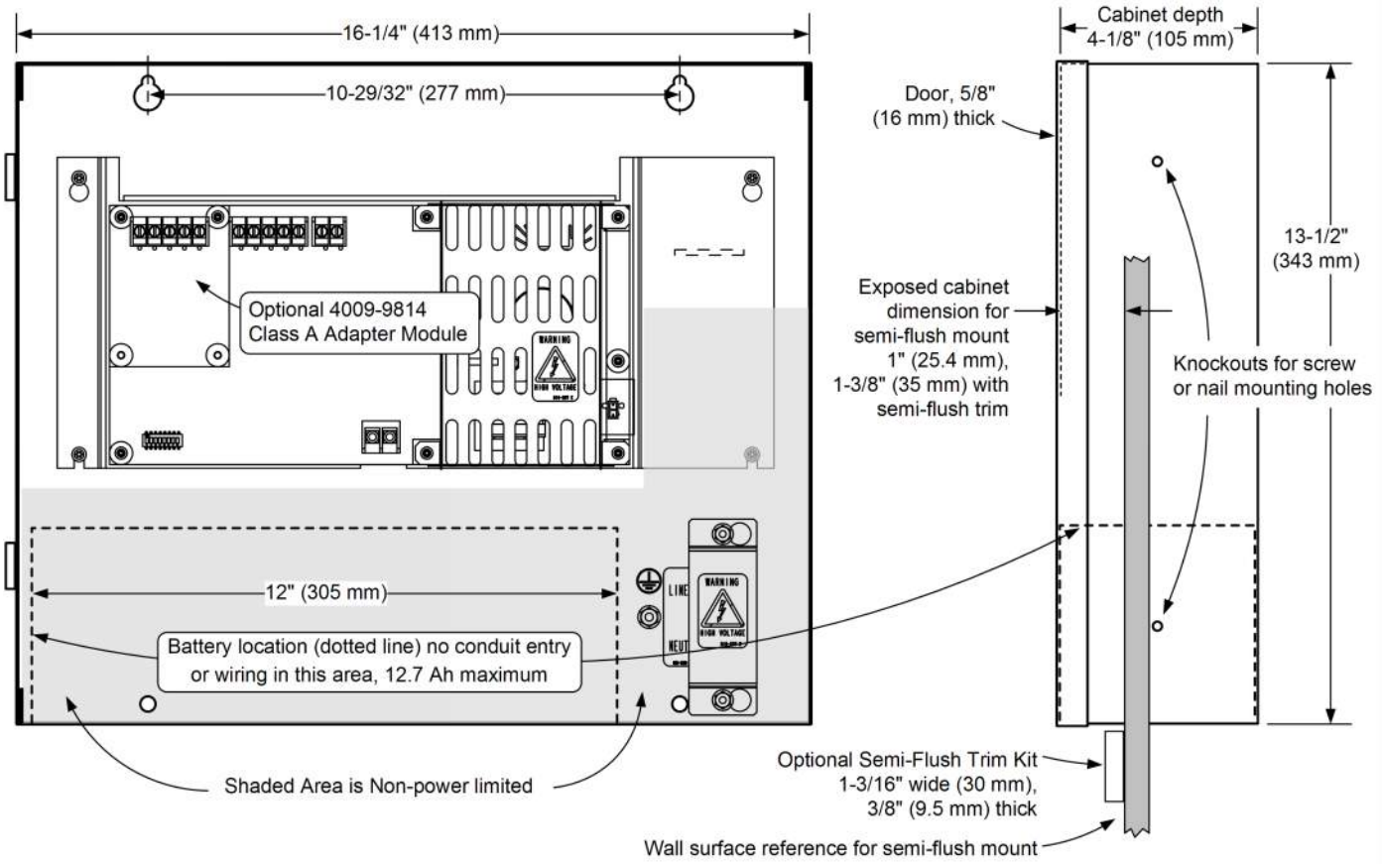


Figure 5: Placement Reference

4009 IDNAC Repeater Specifications

Table 5: Input Ratings

Specification	Rating
Voltage Range	120 VAC, 50/60 Hz, or 220/230/240 VAC, 50/60 Hz, +10%, -15%, auto-select
120 VAC Current	2.5 A
220/230/240 VAC Current	1.25 A
IDNAC Input Ratings	17 VDC minimum
	1 address, 4 unit loads

Table 6: 24 VDC Requirements for Battery Calculations

Specification	Panel	IDNAC Appliances	Auxiliary Load
Standby Currents	70 mA	0.8 mA each	Output current (voltage is from battery)
Alarm Currents	96 mA	4.5 A maximum with 3 A IDNAC SLC load and 200 mA Auxiliary output load (actual alarm current depends on connected and activated appliances and devices)	1.37 x output current (voltage converter is on when in Alarm)

Table 7: Output Ratings

Specification		Rating
IDNAC SLC Output		3 A maximum @ 29 VDC for Special Application appliances
Compatible Special Application Appliances		Simplex TrueAlert ES and TrueAlert addressable notification appliances; contact your Simplex product representative for compatible appliances
IDNAC Repeater Loading and SLC Address Usage		Each repeater uses four unit loads on the IDNAC channel it receives power from and supports up to 139 additional unit loads. Most appliances are 1 unit load; Multi-Tone appliances are 2 unit loads; Repeaters and Isolators are 4 unit loads. Refer to individual appliance and device specifications for unit load requirements and rated SLC loading specifications.
		Each repeater uses one IDNAC SLC device address - the IDNAC Repeater does not increase the IDNAC channel device address capacity. Refer to the Host IDNAC SLC specifications for the device address capacity specifications on the IDNAC channel.
Auxiliary Output	Current	200 mA maximum
	Voltage	29 VDC nominal with AC present or when Repeater is on battery standby and in Alarm
		24 VDC nominal when on battery standby and not in Alarm

Table 8: IDNAC SLC Wiring Specifications (refer to installation instructions for more information)

Specification	Rating
Recommended wire type	UTP, unshielded twisted pair
Maximum wire length allowed with "T-Taps" for class B wiring	10,000 ft (3048 m)
Maximum wire length to any appliance	4000 ft (1219 m)
Wiring Connections	Terminal blocks for 18 to 12 AWG

Table 9: Repeater Status Indicators

Specification	Rating
Green AC Power LED	On with AC present, off during brownout or no AC condition
Red Communications LED (COMM)	Blinks when Repeater is communicating with the host control panel
Yellow System Status LEDs	4 LEDs provide up to 16 different trouble status indications; an on-board trouble scroll button allows review should multiple troubles occur

Table 10: 4009-9814 Class A Adapter Module Option (required for Class A loop extension or for Class A output)

Specifications	Rating
IDNAC SLC Output Voltage	3 A maximum @ 29 VDC for Special Applications appliances
	Two connections, Port A and Port B, function varies by application (loop extension or local loop), Port A and Port B are isolated from each other
Status LEDs	Two yellow trouble LED indicators, one for each port

Table 11: Environmental and Technical Publications Reference

Specification		Rating
Operating Temperature		32 °F to 120 °F (0 °C to 49 °C)
Operating Humidity Range		Up to 93% RH at 90 °F (32 °C)
Installation Instructions	4009 IDNAC Repeater	579-1019
	Class A Adapter Module	579-1080

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Features

Rechargeable, sealed lead-acid batteries

- Lead-calcium grid structure with immobilized electrolyte in absorbent separator
- Low maintenance with no need to add water
- Low self-discharge characteristics
- One-piece, high-impact polystyrene cell cover with high-reliability dual-seal construction
- UL 924 recognized pressure relief valves

Battery sizes

- Batteries for internal mounting from 6.2 Ah to 50 Ah
- Larger batteries, up to 110 Ah, for mounting in external battery cabinets. Models with internal chargers are available.

Battery cabinets with chargers

Battery cabinets with chargers communicate with their connected fire alarm control unit (FACU) and are available for 4100ES/4010ES/4100U Series and 4010 Series FACUs.

Description

Simplex rechargeable sealed-lead acid batteries provide reliable and repeatable discharge and recharge characteristics for use in fire alarm and other systems applications. They feature immobilized electrolyte in an absorbent separator, which provides rated capacity on the first cycle.

Because of their sealed construction, packaging is possible within the system electronics enclosure, see Figure 3. When this is applicable, the quantity of system cabinets and the battery wiring distances are minimized. Where required, external battery cabinets can be close-nippled to the FACU to house larger batteries with battery chargers available in some battery cabinet sizes.

Battery details

Charging: Compatible with Simplex battery chargers.

Series connections: Connect the batteries in series to produce 24 V system voltage. Battery sets must be of identical voltage, model number, appearance, and have approximately the same date of manufacture for optimal operation.

Testing: Test battery capacity with a sealed lead-acid battery tester to withdraw a minimum of battery charge. Testing is available through your local Simplex product supplier.

Shipping: Sealed lead-acid batteries only ship by ground or sea transportation.

Disposal: Battery chemicals and materials can be recycled. Refer to information shipped with the battery or on its case. Return to the manufacturer or to a similarly qualified battery processing facility for proper disposal.

Seismic activity applications: Battery brackets are available for systems tested for compliance with specific batteries. Refer to data sheet *S2081-0019* for details.

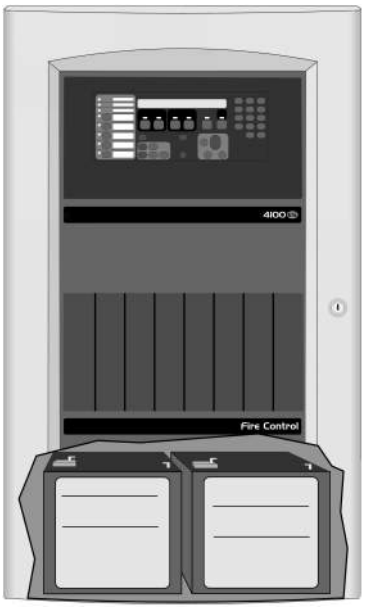


Figure 1: Compatible sealed lead-acid batteries inside an FACU cabinet

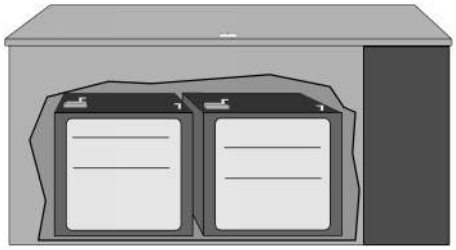


Figure 2: A remote battery cabinet for larger battery requirements

* Refer to page 4 for battery charger and cabinet agency listings. The batteries detailed in this document meet the requirements of UL, ULC, and Factory Mutual for use with respective equipment battery chargers as listed below. Contact your local Simplex product supplier for proper battery selection per system requirements. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

Battery construction reference

Actual appearance varies with battery size.

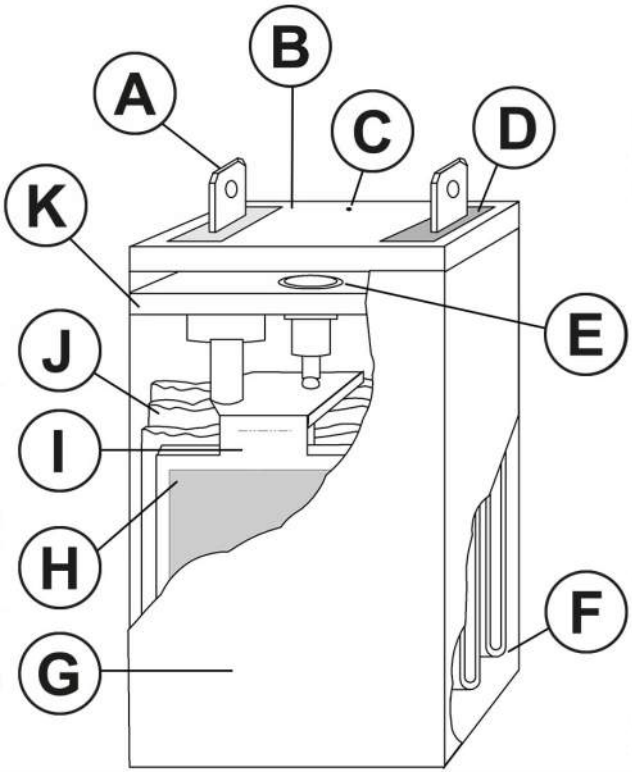


Figure 3: Battery contruction reference

Callout	Description	Callout	Description
A	Quick connect or post type terminal. Type varies with battery size.	B	Sealed outer cover
C	Vent hole	D	Potting material, black for negative, red for positive. Polarity is also clearly marked with + and -.
E	Pressure relief valve	F	Semi-permeable membrane separator
G	Cell case, high impact polystrene	H	Lead-calcium grids
I	Cell group	J	Absorbent separator used to immobilize electrolyte
K	Inner cover	-	-

Battery size specifications

Battery model	Capacity at 20 hour discharge rate	Width*	Depth*	Height with terminals	Approximate weight*
2081-9272	6.2 Ah	6.12 in. (156 mm)	2.65 in. (68 mm)	4 in. (102 mm)	5.75 lb (2.6 kg)
2081-9286	7.0 Ah	6.12 in. (156 mm)	2.65 in. (68 mm)	4 in. (102 mm)	5.75 lb (2.6 kg)
2081-9274	10 Ah	6 in. (153 mm)	4.06 in. (103 mm)	4 in. (102 mm)	9.2 lb (4.2 kg)
2081-9288	12.7 Ah	6 in. (153 mm)	4 in. (102 mm)	4 in. (102 mm)	9 lb (4.1 kg)
2081-9275	18 Ah	7.25 in. (184 mm)	3.38 in. (86 mm)	6.63 in. (168 mm)	14.3 lb (6.5 kg)
2081-9287	25 Ah	6.63 in. (168 mm)	5 in. (127 mm)	7 in. (178 mm)	19.4 lb (8.8 kg)
2081-9271 (rectangular case, typically for service)	33 Ah	12.5 in. (318 mm)	3.38 in. (86 mm)	7.06 in. (179 mm)	26.6 lb (12.1 kg)
2081-9276 (square case, use for new)	33 Ah	7.75 in. (197 mm)	5.25 in. (133 mm)	6.75 in. (171 mm)	26.5 lb (12 kg)
2081-9296	50 Ah	9 in. (229 mm)	5.5 in. (140 mm)	8.88 in. (225 mm)	41.8 lb (19 kg)
2081-9279	110 Ah	11.38 in. (289 mm)	10.5 in. (267 mm)	9 in. (230 mm)	82 lb (37 kg)

* Dimensions and weight are per battery and are for reference only. Exact size may vary. Refer to Battery compatibility for FACU mounting and External battery cabinet compatibility reference for mounting compatibility. Batteries are 12 V each and connected in series for 24 V system use.

Note: When wired in series for 24 V output, these batteries are to be of identical voltage, appearance, model number, and have approximately the same date of manufacture.

General battery specifications

Specifications	
Nominal Voltage Rating	12 V
Discharge Rating	20 hour rate
Typical Charge/Discharge Cycles	100 cycles to 150 cycles
Preferred Charge Temperature Range	60°F to 90°F (15.6°C to 32.2°C)

Battery compatibility for FACU mounting

Note: Refer to individual FACU product data sheets for additional battery application information.

Table 1: Battery compatibility for FACU mounting

Simplex FACU model series										
Battery Model	**Capacity**	**4003EC**	**4004R**	**4007ES & 4005**	**4006 & 4008**	**4009 (all models)**	**4010**	**4010ES**	**4100ES/ 4100U**	**4100 & 4120 (2, 4 or 6-Unit)**
2081-9272	6.2 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9286	7.0 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9274	10 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9288	12.7 Ah	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
2081-9275	18 Ah	Ext	Note 3	Yes	Ext	Ext	Note 2	Yes	Yes	Yes
2081-9287	25 Ah	Ext	Note 3	Ext	Ext	N/A	Yes	Yes	Yes	Yes
2081-9271 rectangular	33 Ah	Ext	Note 3	Ext	N/A	N/A	Note 3	Yes	Yes	Ext
2081-9276 square	33 Ah	Ext	Note 3	N/A	N/A	N/A	Note 3	Yes	Yes	Yes
2081-9296	50 Ah	N/A	Note 3	N/A	N/A	N/A	Note 3	Note 4	2 or 3 bay	Ext
2081-9279	110 Ah	Requires external battery cabinet, compatible with 4100ES, 4010ES, 4100, and 4120 Series only								

Yes = Compatible with included FACU cabinet.

Ext = Requires external battery cabinet, refer to External battery cabinet specification reference.

Note:

1. These batteries meet the requirements of UL, ULC, and Factory Mutual for use with respective equipment battery chargers listed above. Contact your local Simplex product supplier for proper battery selection per system requirements.
2. 4010 Cabinets accommodate 2081-9275, 18 Ah batteries, but do not allow bottom entry conduit.
3. Use 4081 series companion cabinet and charger, refer to External battery cabinet specification reference.
4. For two bay cabinets only, 50 Ah batteries will fit in the cabinet.

External battery cabinet compatibility reference

Table 2: External battery cabinet compatibility reference

Battery cabinets without chargers, connected to FACU charger							
Cabinet	**Panel compatibility**	**Battery**					
		2081-9275 18 Ah*	2081-9287 18 Ah*	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 50 Ah	2081-9279 110 Ah
2081-9280	4100ES, 4010ES, 4100U, and 4100+	N/A	N/A	N/A	N/A	N/A	Yes
2081-9281	multiple	Yes	Yes	Yes	Yes	Yes	N/A
2081-9282							
4009-9801	multiple	Yes	Yes**	N/A	Yes	N/A	N/A

Table 3: External battery cabinet compatibility reference

Battery cabinets with chargers							
Cabinet	**Panel compatibility**	**Battery**					
		2081-9275 18 Ah*	2081-9287 18 Ah*	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 Square 50 Ah	2081-9279 110 Ah
4081-9301 4081-9302	4004R and 4010	Yes	Yes	Yes	Yes	Yes	N/A
4081-9306 4081-9308	4100ES, 4010ES and 4100U	N/A	N/A	N/A	N/A	Yes	Yes

* Batteries smaller than those listed are normally mounted in the product cabinet

** 25 AH capacity is effective as of 7/2005

Yes = Compatible with included FACU cabinet

External battery cabinet specification reference

Table 4: Battery cabinets without chargers, shallow design with front door

Model	Color	Listings	Description		Dimensions
2081-9281	Beige	UL and CSFM	2-Unit, 4100 style cabinet without charger; with locking solid door and battery shelf, primarily for use with 50 Ah batteries		25.75 in. W x 20.75 in. H x 6.75 in. D (654 mm x 527 mm x 171 mm)
2081-9282	Red	UL			
4003-9860*	Beige	FM	For use with 4003EC systems, for batteries up to 33 Ah (refer to 4003EC data sheet S4003-0002)		9.5 in. H x 24 in. W x 9 in. D (241 mm x 610 mm x 229 mm)
4009-9801*	Beige	UL, ULC, and FM	For batteries up to 33 Ah	External battery cabinet without charger, with locking solid door and battery harness; for close-nippled mounting to FACU cabinet	16.25 in. W x 13.5 in. H x 5.75 in. D (413 mm x 343 mm x 146 mm)*
* Depth increased for 2081-9276 square 33 Ah batteries effective 7/2005.					

Table 5: Battery cabinet without charger, deep design with hinged lid

Model	Color	Listings	Description	Dimensions
2081-9270	Red	UL	Battery cabinet without charger; cabinet has vented front, and hinged lid with support rod and lock on top	26.5 in. W x 12 in. H x 12 in. D (673 mm x 305 mm x 305 mm)

Table 6: Chargers for use with 4010 FACUs and 4004R suppression release systems, refer to data sheet S4081-0001

Model	Color	Listings	Input voltage	Description	Dimensions
4081-9301	Beige	UL and FM	120 VAC	Battery cabinet with charger for the 4010 and 4004R FACU, for batteries up to 50 Ah, with front door	22.5 in. W x 16.75 in. H x 8.38 in. D (572 mm x 425 mm x 213 mm)
4081-9302	Red				

Table 7: Battery cabinet without charger for 110 Ah batteries, for use with compatible FACU mounted chargers, refer to data sheet S2081-0012

Model and listing	Color	Listings	Cabinet description	Compatible chargers	Charger description	Dimensions
2081-9280	Red	UL, ULC, CSFM	Battery cabinet without charger for 2081-9279, 110 Ah batteries. Includes 80 A battery fuse, terminals and battery connection cables. See data sheet for details.	4100-9xxx Series	4100ES/4100U Power Supplies for Master Controller/CPU Bays	26.5 in. W x 12 in. H x 12 in. D (673 mm x 305 mm x 305 mm)
				4100-5401	4100ES Additional ES Power Supply (ES-PS)	
				4100-5111 4100-5113	4100ES/4100U Additional SPS	
				4100-5311 4100-5313	4100ES Additional EPS+	
				4100-5325 4100-5327	4100ES Additional EPS	
				4100-5125 4100-5127	4100ES/4100U Remote Power Supply (RPS)	
				4100-5120 4100-5122	4100ES/4100U TrueAlert Addressable Power Supply (TPS)	
				4100-0104 4100-0114 4100-0124	4100 legacy power supplies	

Table 8: Battery cabinet with charger for 110 Ah batteries, for use with compatible FACU mounted chargers, refer to data sheet S2081-0012

Model	Color	Listings	Input voltage	Description	Dimensions
4081-9306	Red	UL, ULC, FM, MEA (NYC)	120 VAC	Battery cabinet with charger for batteries up to 110 Ah	27.88 in. W x 13.5 in. H x 14.63 in. D (708 mm x 343 mm x 371 mm)
4081-9308	Red	UL, ULC, FM	220/230/240 VAC, multi-tapped		
4100-9837	Green LED Power-on Indicator Kit, required for ULC listing, mounts above access panel using knockout provided				

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Features

TrueAlarm analog sensing

You can use TrueAlarm analog sensing to digitally transmit analog sensor values with IDNet or MAPNET II two-wire communications.

You can use True Alarm analog sensing with the following Simplex products:

- 4007ES, 4010, 4010ES, 4100ES, and 4100U series fire alarm control units (FACUs), and 4008 series FACUs with reduced feature set.
- 4020, 4100, and 4120 series FACUs, Universal Transponders, and 2120 TrueAlarm CDTs equipped for MAPNET II operation

Features compatible with the FACU

- Peak value logging with accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring meets NFPA 72 sensitivity testing requirements. The 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 English

Photoelectric smoke sensors features

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

Heat sensors 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 isolator2 bases, refer to data sheet *S4098-0026*
- 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.

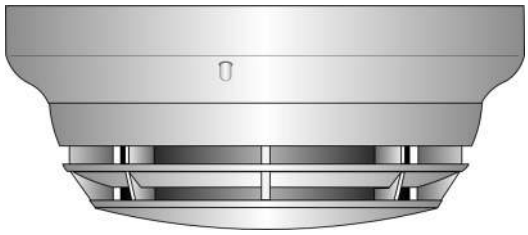
Intelligent data evaluation

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 reduces the probability of false or nuisance alarms caused by shifts in sensitivity.

Control unit selection

The control unit stores peak activity for each sensor for 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 or 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 display at the control unit and the sensor's base LED turn on steadily. During a system alarm, an LED indicating a trouble returns 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.

Sensor bases

4098-9792, standard sensor base

4098-9789, sensor base with wired connections

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

Supervised relay bases not compatible with 2120 CDT:

- **4098-9791, four-wire sensor base,** use with remote or locally mounted 2098-9737 relay, requires separate 24 VDC
- **4098-9780, two-wire sensor base,** use with remote or locally mounted 4098-9860 relay, no separate power required
- You can program supervised relay operation, and manually operate it from the 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 or 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 or 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 a 4 in. octagonal box
- You can use the 4098-9832 adapter plate for cosmetic retrofitting to an 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 monitor the status of the detachable photoelectric or heat sensors. The sensors transmit digitalized output to the system fire alarm control unit every four seconds.

You can change different TrueAlarm sensor types to meet location requirements. You can use this feature to substitute sensors during building construction. When conditions are temporarily dusty, you can install heat sensors without reprogramming the control unit. Although the control unit indicates an incorrect sensor type, the heat sensor operates at a default sensitivity and provides heat detection for building protection at that location.

Mounting reference

Figure 3: Mounting reference

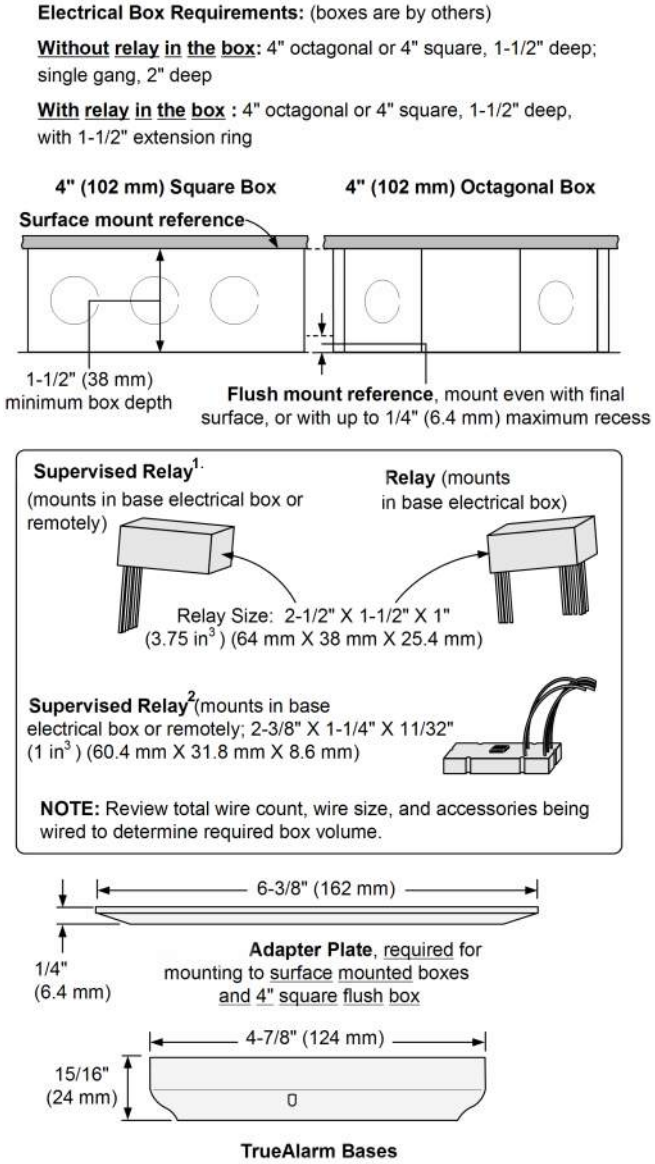


Table 1: Product mounting - SKU reference

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

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

Table 2: 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 only apply to the 4098-9734 sensor.

Smoke sensors

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

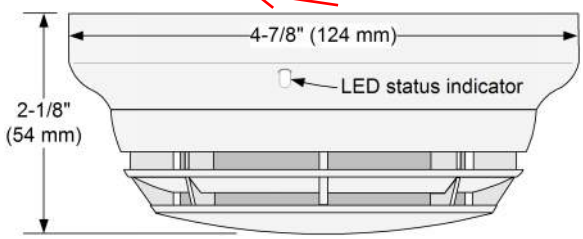
4098-9714 photoelectric sensor

TrueAlarm photoelectric sensors use a stable, pulsed LED light source and a silicon photodiode receiver to deliver 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 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 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 with or without rate-of-rise temperature sensing. The sensor 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, when the temperature reaches the rated fixed temperature setting, it triggers an alarm.

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

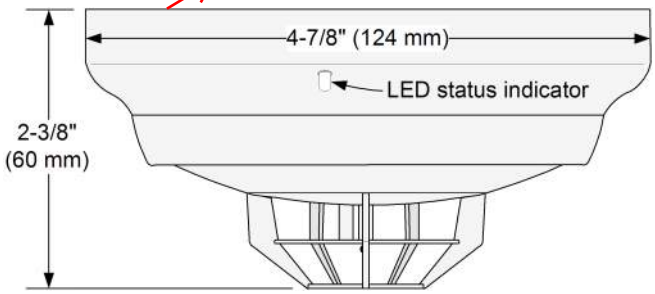
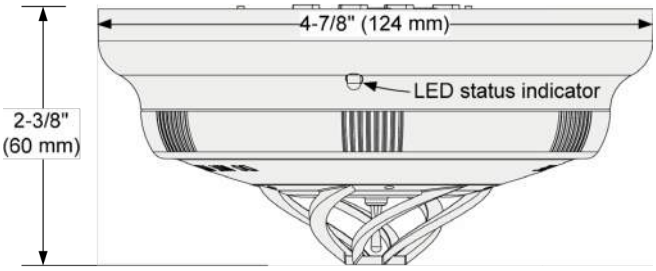


Figure 6: 4098-9734 high temperature heat sensor with base



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

Only choose sensor locations after careful consideration of the physical layout and contents of the area that you want to protect. Refer to NFPA 72, *the National Fire Alarm and Signaling Code*. On smooth ceilings, you can use a smoke sensor spacing of 30 ft (9.1 m) as a guide.

For detailed application information including sensitivity selection, refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)*.

TrueAlarm analog sensing product selection chart

Table 3: TrueAlarm sensor bases, for use with sensors 4098-9714 and 4098-9733

SKU	Color	Description	Compatibility	Mounting requirements
4098-9792	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	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 5
4098-9775	Black			
4098-9791 **Note:** NOT compatible with the 2120 CDT	White	Four-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 **Note:** NOT compatible with the 2120 CDT	White	Two-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.

Refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)* and *4098 Smoke/Heat Sensor Bases Installation Instructions (574-707)* for additional information.

Table 4: TrueAlarm sensors

SKU	Color	Description	Compatibility	Mounting requirements
4098-9714 4098-9714-IND	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	White	Heat sensor		
4098-9778	Black			
4098-9734	White	High temperature heat sensor		

Note:

- SKUs are NEMA 1 rated.
- The 4098-9734 Heat Sensor is only compatible with IDNet on the 4100ES, 4010ES, and 4007ES

Table 5: TrueAlarm sensor and base accessories

SKU	Description	Compatibility	Mounting requirements
2098-9737	Supervised relay, mounts remote or in base electrical box	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	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:** Only mounts 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.

Specifications

Table 6: 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

Table 6: General operating specifications

Specification		Rating
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 7: 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 8: 4098-9780 Base with supervised remote relay 4098-9860

Specification	Rating
Power	Supplied from communications

Table 9: 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.	

Photoelectric Smoke Detectors



System Sensor i3™ series smoke detectors represent significant advancement in conventional detection. The i³ family is founded on three principles: installation ease, intelligence, and instant inspection.

Features

- Plug-in detector line, mounting base included
- Large wire entry port
- In-line terminals with SEMS screws
- Mounts to octagonal and single-gang back boxes, 4-square back boxes, or direct to ceiling
- Stop-Drop 'N Lock attachment to base
- Removable detector cover and chamber
- Built-in remote maintenance signaling
- Drift compensation and smoothing algorithms
- Simplified sensitivity measurement
- Wide-angle, dual-color LED indication
- Loop testing via EZ Walk feature
- Built-in test switch

Installation ease. The i³ line redefines installation ease with its plug-in design. This allows an installer to pre-wire bases (included with heads). The large wire entry port and in-line terminals provide ample room for neatly routing the wiring inside the base. The base accommodates a variety of back box mounting methods as well as direct mounting with drywall anchors. To complete the installation, i³ heads plug into the base with a simple Stop-Drop 'N Lock™ action.

Intelligence. i³ detectors offer a number of intelligent features to simplify testing and maintenance. Drift compensation and smoothing algorithms are standard with the i³ line to minimize nuisance alarms. 2-wire i³ detectors can generate a remote LED-indicated maintenance signal when connected to the 2W-MOD2 loop test/maintenance module or a panel equipped with the i³ protocol. The SENS-RDR, a wireless device, displays the sensitivityof i³ detectors in terms of percent-per-foot obscuration.

Instant inspection. The i³ series provides wide-angle red and green LED indicators for instant inspection of the detector's condition: normal standby, out-of-sensitivity, alarm, or freeze trouble. When connected to the 2W-MOD2 loop test/maintenance module or a panel with the i³ protocol, the EZ Walk loop test feature is available on 2-wire i³ detectors. This feature verifies the initiating loop wiring by providing LED status indication at each detector.

Agency Listings

UL LISTED	FM APPROVED		MEA approved	MSFM approved	ETL LISTED
S911	3011446	7272-1653:152	290-01-E	2093	3180932

Smoke Detector Specifications

Architectural/Engineering Specifications

Smoke detector shall be a System Sensor i³ Series model number_____, listed to Underwriters Laboratories UL 268 for Fire Protection Signaling Systems. The detector shall be a photoelectric type (Model 2W-B, 4W-B) or a combination photoelectric/thermal (Model 2WT-B, 4WT-B) with thermal sensor rated at 135°F (57.2°C). The detector shall include a mounting base for mounting to 3½-inch and 4-inch octagonal, single-gang, and 4-inch square back boxes with a plaster ring, or direct mount to the ceiling using drywall anchors. Wiring connections shall be made by means of SEMS screws. The detector shall allow pre-wiring of the base and the head shall be a plug-in type. The detector shall have a nominal sensitivity of 2.5 percent-per-foot nominal as measured in the UL smoke box. The detector shall be capable of automatically adjusting its sensitivity by means of drift compensation and smoothing algorithms. The detector shall provide dual-color LED indication that blinks to indicate power up, normal standby, out of sensitivity, alarm, and freeze trouble (Model 2WT-B, 4WT-B) conditions. When used in conjunction with the 2W-MOD2 module, 2-wire models shall include a maintenance signal to indicate the need for maintenance at the alarm control panel and shall provide a loop testing capability to verify the circuit without testing each detector individually.

Electrical Specifications

Operating Voltage	Nominal: 12/24 V non-polarized Minimum: 8.5 V Maximum: 35 V
Maximum Ripple Voltage	30% peak to peak of applied voltage
Standby Current	2-wire: 50 µA maximum average; 4-wire: 50 µA maximum average
Maximum Alarm Current	2-wire: 130 mA limited by control panel; 4-wire: 20 mA @12 V, 23 mA @ 24 V
Peak Standby Current	2-wire: 100 µA; 4-wire: n/a
Alarm Contact Ratings	2-wire: n/a; 4-wire: 0.5 A @ 30 V AC/DC

Physical Specifications

Dimensions (including base)	5.3 inches (127 mm) diameter; 2.0 inches (51 mm) height
Weight	6.3 oz (178 g)
Operating Temperature Range	2W-B and 4W-B: 32°F to 120°F (0°C to 49°C); 2WT-B and 4WT-B: 32°F to 100°F (0°C to 37.8°C)
Operating Humidity Range	0 to 95% RH non-condensing
Thermal Sensor	135°F (57.2°C) fixed
Freeze Trouble	2WT-B and 4WT-B only: 41°F (5°C)
Sensitivity	2.5%/ft nominal
Input Terminals	14 to 22 AWG
Mounting	3½-inch octagonal back box 4-inch octagonal back box Single-gang back box 4-inch square back box with a plaster ring Direct mount to ceiling

LED Modes			Power-Up Sequence for LED Indication	
LED Mode	**Green LED**	**Red LED**	**Condition**	**Duration**
Power up	Blink every 10 seconds	Blink every 10 seconds	Initial LED status indication	80 seconds
Normal (standby)	Blink every 5 seconds	off		
Out of sensitivity	off	Blink every 5 seconds		
Freeze trouble	off	Blink every 10 seconds		
Alarm	off	Solid		

Ordering Information

Model	Thermal	Wiring	Alarm Current
2W-B	No	2-wire	130 mA max. limited by control panel
2WT-B	Yes	2-wire	130 mA max. limited by control panel
4W-B	No	4-wire	20 mA @ 12 V, 23 mA @ 24 V
4WT-B	Yes	4-wire	20 mA @ 12 V, 23 mA @ 24 V

Accessories			
2W-MOD2	2-wire loop test / maintenance module	RT	Removal / replacement tool
SENS-RDR	Sensitivity reader	A77-AB2	Retrofit adapter bracket, 6.6 inch (16.76 cm) diameter

SYSTEM SENSOR®

3825 Ohio Avenue • St. Charles, IL 60174
Phone: 800-SENSOR2 • Fax: 630-377-6495

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A05-0318-007 • 6/09 • #2169

Simplex

*UL, ULC, CSFM Listed; FM Approved **

Multi-Application Peripherals

IDNet or MAPNET II Communicating Devices Addressable Manual Stations

Features

Individually addressable manual fire alarm stations with:

- Power and data supplied by IDNet or MAPNET II addressable communications using a single wire pair
- Operation that complies with ADA requirements
- Visible LED indicator that flashes during communications and is on steady when the station has been activated
- The NO GRIP Single Action Station and Retrofit Kit are available with a more easily operated pull lever for applications where anticipated users may find the standard station lever difficult to activate
- Pull lever that protrudes when alarmed
- Break-rod supplied (use is optional)
- Models are available with single or double action (breakglass or push) operation
- UL listed to Standard 38
- NEMA 1 rated. See Addressable manual station product selection for more information.

Compatible with the following Simplex control panels:

- Model Series 4007ES, 4008, 4010, 4010ES, 4100ES, 4100U, 4020, 4100, and 4120 fire alarm control panels equipped with either IDNet or MAPNET II communications
- Model Series 2120 Communicating Device Transponders (CDTs) equipped with MAPNET II communications

Compact construction:

- Electronics module enclosure minimizes dust infiltration
- Allows mounting in standard electrical boxes
- Screw terminals for wiring connections

Tamper resistant reset key lock, keyed same as Simplex fire alarm cabinets.

Multiple mounting options:

- Surface or semi-flush with standard boxes or matching Simplex boxes
- Flush mount adapter kit
- Adapters are available for retrofitting to commonly available existing boxes

Description

The Simplex addressable manual station combines the familiar Simplex manual station housing with a compact communication module that is easily installed to satisfy demanding applications. Its integral individual addressable module (IAM) constantly monitors status and communicates changes to the connected control panel through IDNet or MAPNET II communications wiring.

Operation

Activation of the 4099-9004 single action manual station requires a firm downward pull to activate the alarm switch. Completing the action breaks an internal plastic break-rod which is visible below the pull lever, use is optional. The use of a break-rod can be a deterrent to vandalism without interfering with the minimum pull requirements needed for easy activation. The pull lever latches into the alarm position and remains extended out of the housing to provide a visible indication.

Single Action NO GRIP Station 4099-9021. For applications such as California Building Code, Title 24, which requires "Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching or twisting of the wrist" the model 4099-9021 station provides a more easily operated pull lever compared to standard stations. Retrofit of existing stations is available using the 4099-9805 Retrofit kit.

Double Action Stations (Breakglass) require the operator to strike the front mounted hammer to break the glass and expose the recessed pull lever. The pull lever then operates as a single action station.



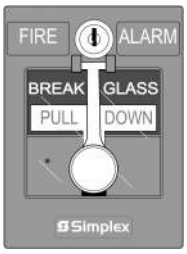
4099-9004
Single action



4099-9021 NO
GRIP Single action



4099-9805 NO
GRIP Retrofit kit



4099-9005 Breakglass



4099-9006 Push



With 2099-9828
Institutional Cover kit

Double Action Stations (Push Type) require that a spring loaded interference plate, marked PUSH, be pushed back to access the pull lever of the single action station.

Station reset requires the use of a key to reset the manual station lever and deactivate the alarm switch. If you use the break-rod, you must replace it.

Station testing is performed by physical activation of the pull lever. You can also perform electrical testing by unlocking the station housing to activate the alarm switch.

Specifications

Refer to *4099 MAPNET II/ IDNet Addressable Manual Pull Station with LED Installation Instructions 579-1135* for additional information.

Table 1: Specifications

Specification	Rating
Power and communications	IDNet or MAPNET II communications, 1 address for each station
Address means	DIP switch, 8 position
Wire connections	Screw terminal for in/out wiring, for 18 AWG to 14 AWG wire (0.82 mm^2 to 2.08 mm^2)
UL listed temperature range	32°F to 120°F (0°C to 49°C) intended for indoor operation
Humidity range	Up to 93% RH at 100°F (38°C)
Housing color	Red with white raised lettering
Material	Housing and pull lever are Lexan polycarbonate or equal
Pull lever color	White with red raised lettering
Housing dimensions	5 in. H x 3 3/4 in. W x 1 in. D (127 mm x 95 mm x 25 mm)

Addressable manual station semi-flush mounting

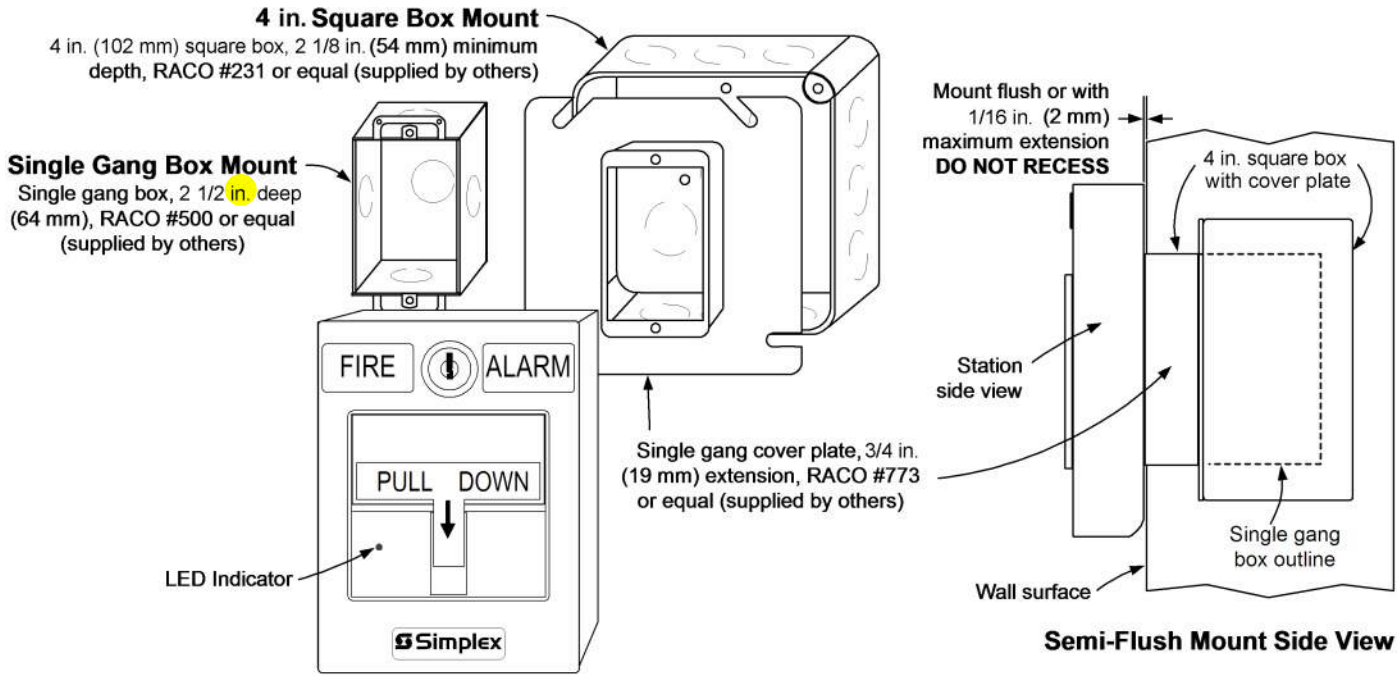


Figure 1: Addressable manual station semi-flush mounting

Addressable manual stations surface mounting

Preferred mounting. For surface mounting of these addressable manual stations, the preferred electrical boxes are shown in Figure 2.

Additional mounting reference. See Addressable manual station, additional mounting information for Wiremold box mounting compatibility.

Figure 2 shows the 2975-9178 box and the 2975-9022 cast box.

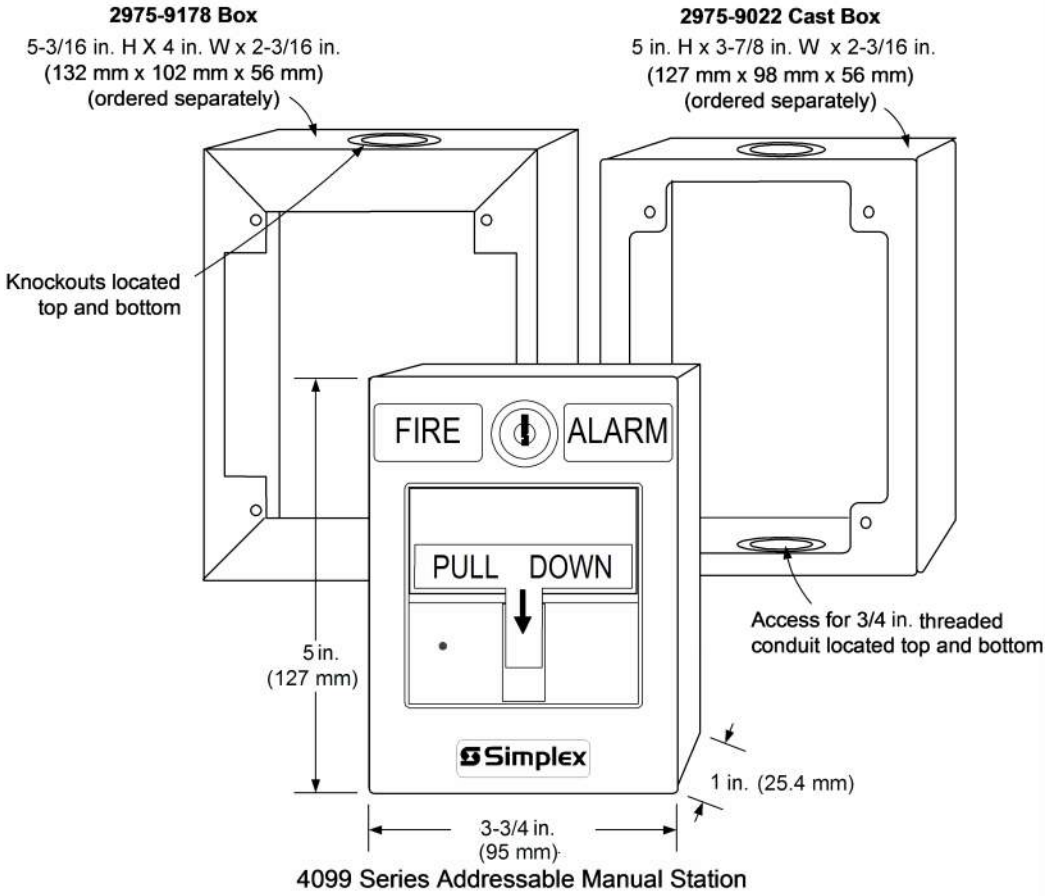


Figure 2: 4099 Series addressable manual station

Surface mount side view with internal detail

Figure 3 shows the 2975-9178 box.

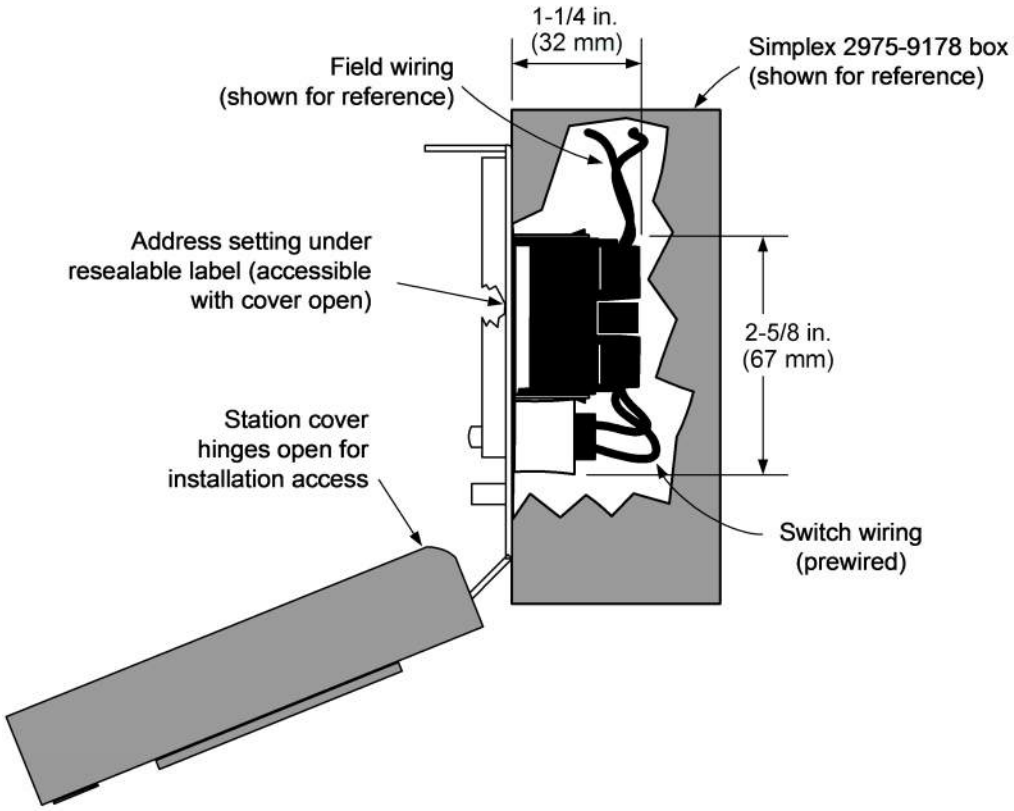


Figure 3: Surface mount side view with internal detail

Application reference

Refer to NFPA 72, the *National Fire Alarm and Signaling Code*, and all applicable local codes for complete requirements for manual stations. The following summarizes the basic requirements:

1. Stations shall be located in the normal path of exit and distributed in the protected area such that they are unobstructed and readily accessible.
2. Mounting shall be with the operable part not less than 42 in. (1.07 m) and not more than 48 in. (1.22 m) above floor level.
3. At least one station shall be provided on each floor. Additional stations shall be provided to obtain a travel distance not more than 200 ft (61 m) to the nearest station from any point in the building.
4. When manual station coverage appears limited in any way, additional stations should be installed.

Addressable manual station, additional mounting information

For retrofit and new installations, additional compatible mounting boxes and the required adapter plates are shown in Figure 4. Figure 4 shows the 2099-9814 surface trim for Wiremold boxes and the 2099-9813 semi-flush trim for 2 gang switch boxes.

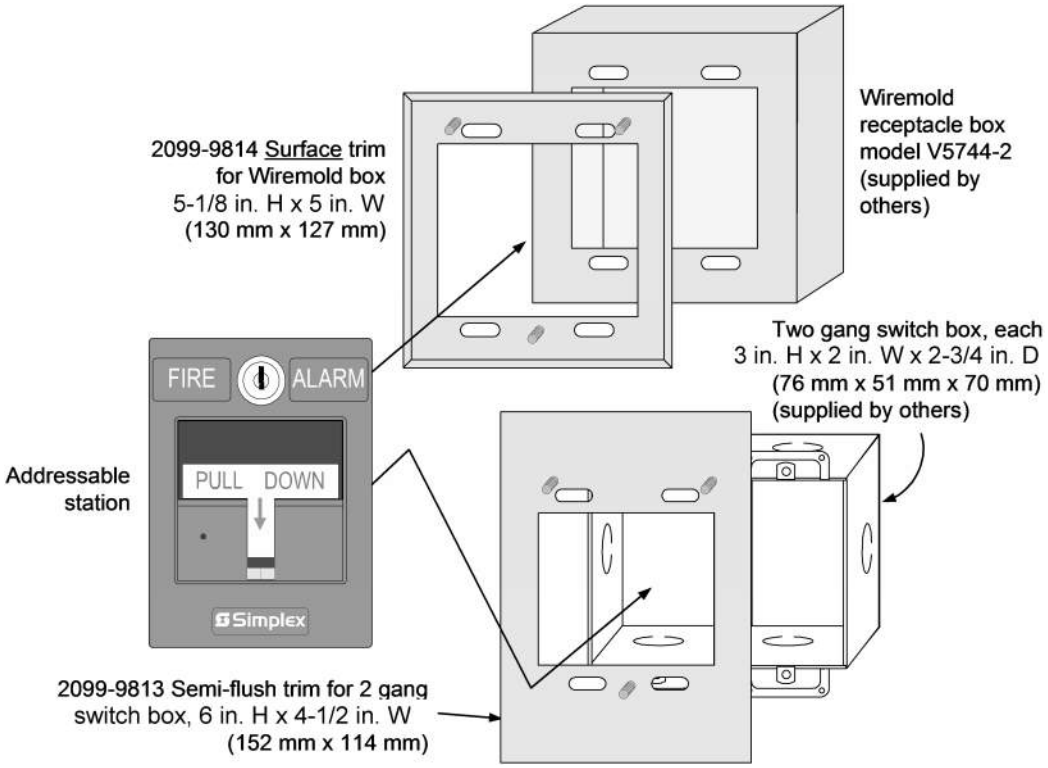


Figure 4: Addressable manual station, additional mounting information

Addressable manual station, flush mounting information

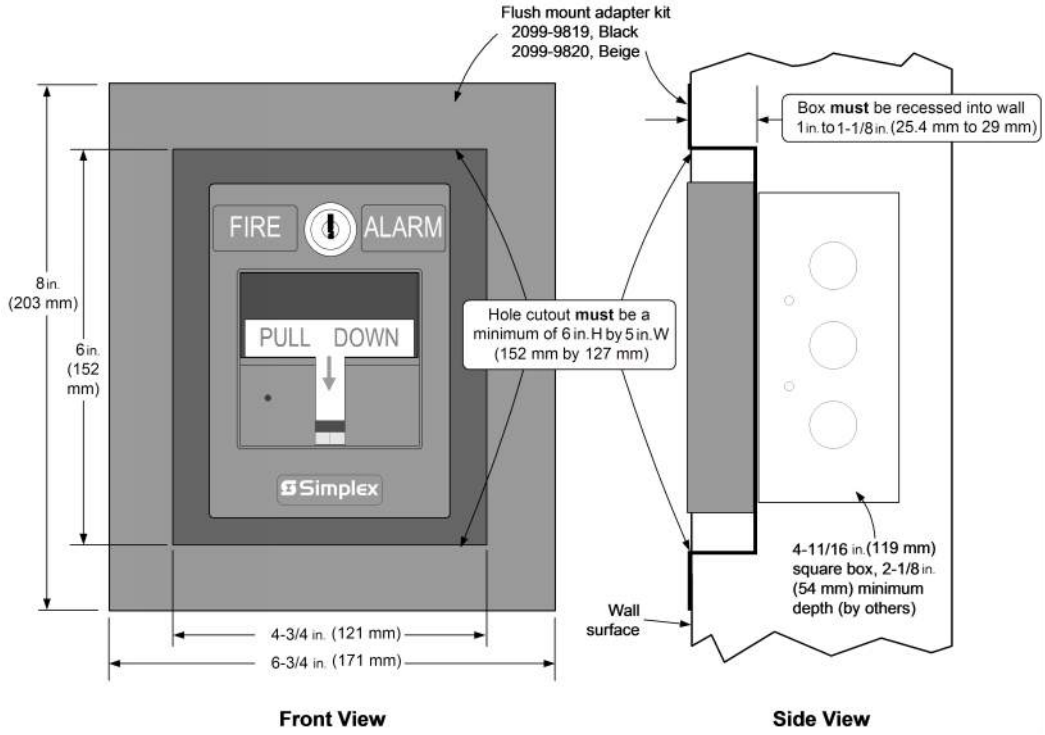


Figure 5: Addressable manual station, flush mounting information

The flush mount adapter kit is available in beige (2099-9820) or black (2099-9819).

Addressable manual station product selection

Table 2: Addressable manual station product selection red housing with white letters and white pull lever

Model	Description	Housing	Pull lever	Listings
4099-9004, see note	Single Action, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM
4099-9004CB, see note	Single Action, Bilingual English and French	FEU FIRE	TIREZ PULL	ULC
4099-9004CF, see note	Single Action, French	ALARME FEU	ABAISSEZ	
4099-9004PO, see note	Single Action, Portuguese	FOGO ALARME	PUXE	UL, FM
4099-9004SP, see note	Single Action, Spanish	ALARMA FUEGO	JALE	
4099-9005, see note	Double Action, Breakglass operation, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM
4099-9005PO, see note	Double Action, Breakglass operation, Portuguese	FOGO ALARME	PUXE	UL, FM
4099-9005SP, see note	Double Action, Breakglass operation, Spanish	ALARMA FUEGO	JALE	
4099-9006, see note	Double Action, Push operation, English	FIRE ALARM	PUSH PULL DOWN	UL, ULC, FM, CSFM
4099-9006PO, see note	Double Action, Push operation, Portuguese	FOGO ALARME	EMPURRE PUXE	UL, FM
4099-9006SP, see note	Double Action, Push operation, Spanish	ALARMA FUEGO	EMPUJE JALE	
4099-9021, see note	Single Action NO GRIP operation, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM

Note: NEMA 1 rated when used with 2975-9178 back box.

Table 3: Accessories

Model	Description
2975-9022	Cast aluminum surface mount box, red
2975-9178	Surface mount steel box, red
2099-9813	Semi-flush trim plate for double gang switch box, red
2099-9819	Flush mount adapter kit, black
2099-9820	Flush mount adapter kit, beige
4099-9805	Retrofit Kit for field conversion of a single action station to a NO GRIP station; refer to the ***NO GRIP Actuator (4099-9805) Installation Instructions 579-1007*** for details
2099-9803	Replacement breakglass
2099-9804	Replacement break-rod
2099-9828	Institutional cover kit for field installation on 4099-9004; **Note:** Covers LED indicator
2099-9814	Surface trim plate for Wiremold box V5744-2, red
2099-9822	Replacement retaining clip for breakglass
252-019	B key for manual station reset.

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Simplex

Multi-Application Peripherals

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

IDNet or MAPNET II Communicating Devices 4090-9101 and 4090-9106, Zone Adapter Modules

Features

IDNet or MAPNET II communications compatible Monitor ZAMs (Zone Adapter Modules) provide an addressable interface to a conventional initiating device circuit (IDC)

Available for Class B or Class A IDCs:

- 4090-9101, Class B monitoring for 2-wire or 4-wire initiating devices, with power reset connections for 4-wire devices
- 4090-9106, Class A monitoring for 2-wire initiating devices
- Zone device power is supplied separately (typically from fire alarm control panel)
- Refer to device compatibility list on page 2

For use with the following Simplex® fire alarm control panels:

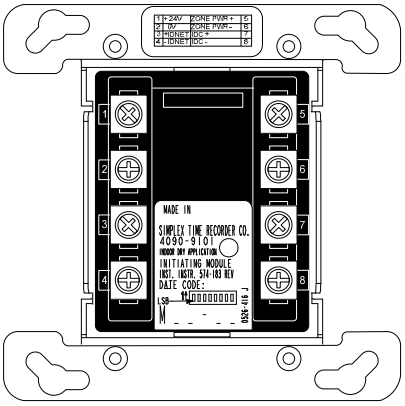
- Model Series 4007ES, 4008, 4010, 4010ES, 4100ES, and 4100U fire alarm control panels using IDNet communications
- Model Series 4100/4100U, 4120, 4020, and 2120 Communicating Device Transponders (CDTs) equipped with MAPNET II communications

Compact, sealed construction:

- Enclosed design minimizes dust infiltration
- Mounts in standard 4" (102 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/MAPNET II Monitor ZAMs allow a single addressable point to monitor a conventional initiating device circuit (IDC) populated with 2-wire or 4-wire initiating devices. Refer to page two for compatible devices.



4090 Series ZAM Package
(shown approximately 1/2 size)

Specifications

Communications	IDNet or MAPNET II, 1 address per device
ZAM Input Voltage	18.9 to 32 VDC (nominal 24 VDC)
ZAM Current @ 24 VDC	Supervisory = 16 mA maximum Alarm = 72 mA maximum (actual current is determined by total device requirements)
4090-9101 ZAM, Zone Supervision Resistor	3.3 kΩ, 1 W
Wire Connections	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 to 2.08 mm^2)
IDNet or MAPNET II Wiring	Up to 2500 ft (762 m) from fire alarm 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 Material	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)

* 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.

Product Selection

ZAM Modules

Model	Description
4090-9101	Zone Adapter Module for Class B monitoring of 2-wire or 4-wire initiating devices; with power reset connections for 4-wire devices
4090-9106	Zone Adapter Module for Class A monitoring of 2-wire initiating devices

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 with LED viewing window, includes mounting screws; galvanized steel
4090-9802	For surface mounted box	

End-of-Line Resistor Harness

Model	Reference No.	Description
4081-9002	733-893	3.3 kΩ, 1 End-of-Line Resistor Harness for 4090-9101, Class B zone monitoring

Monitor ZAM Two-Wire Initiating Device Compatibility Reference Chart

Description	Model	Compatible Bases	Maximum Quantity
Direct connect photoelectric smoke detector	2098-9209	No base required	20
Electronic heat detectors	4098-9401 4098-9402 4098-9403 4098-9404		
	4098-9612 4098-9613 4098-9614 4098-9615	4098-9788	20
		4098-9684	
		4098-9683	1
Photoelectric smoke detectors	4098-9601 4098-9602 4098-9605	4098-9788	20
		4098-9683	1
Ionization smoke detector	4098-9603	4098-9788	20
		4098-9683	1
Duct detector housing with 4098-9601 detector	4098-9685	N.A.	20

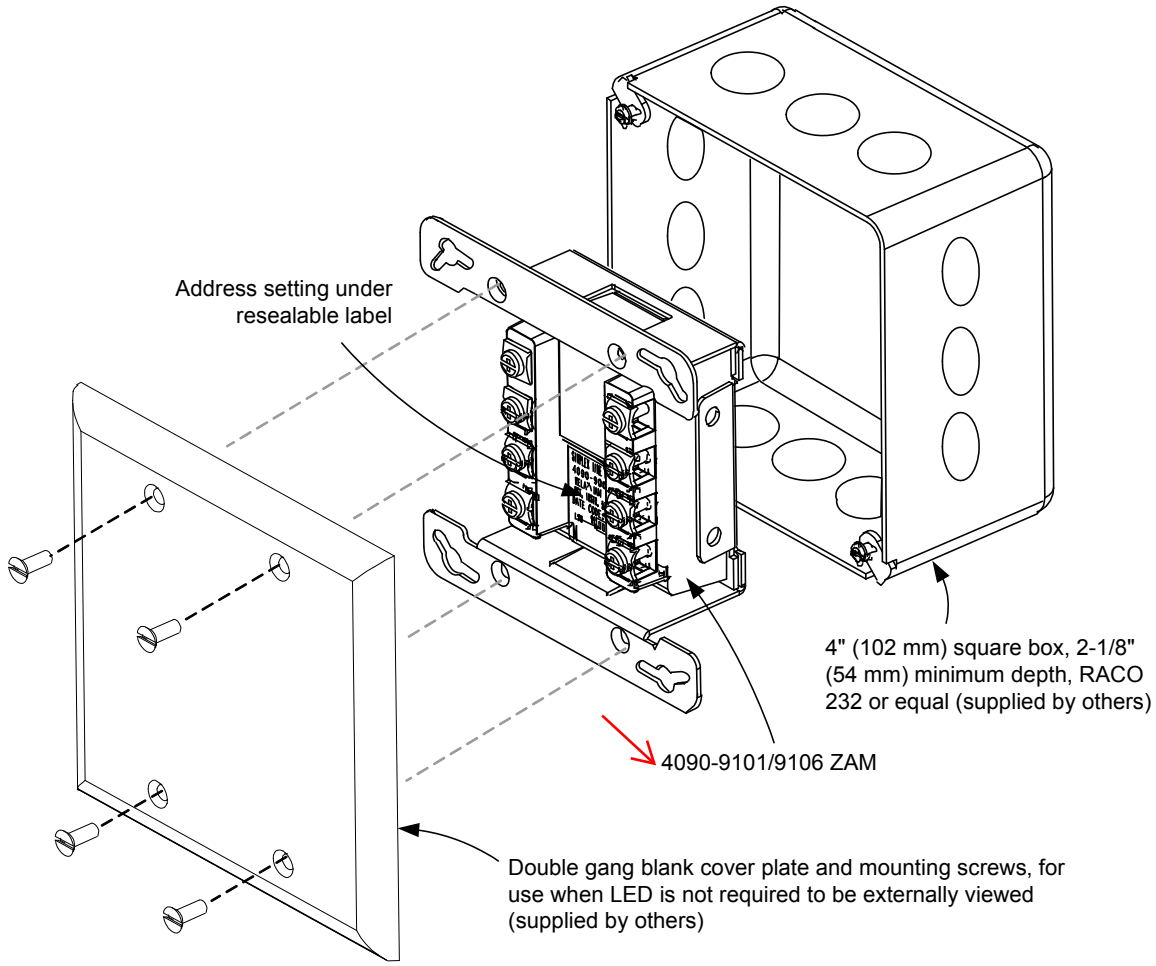
Reference for Existing Equipment

Description	Model	Compatible Bases	Maximum Quantity
Smoke detectors	2098-9201 2098-9202 2098-9203 2098-9576	2098-9211	20
		2098-9637	1
Electronic heat detectors	4098-9407 4098-9408 4098-9409 4098-9410	2098-9211	20

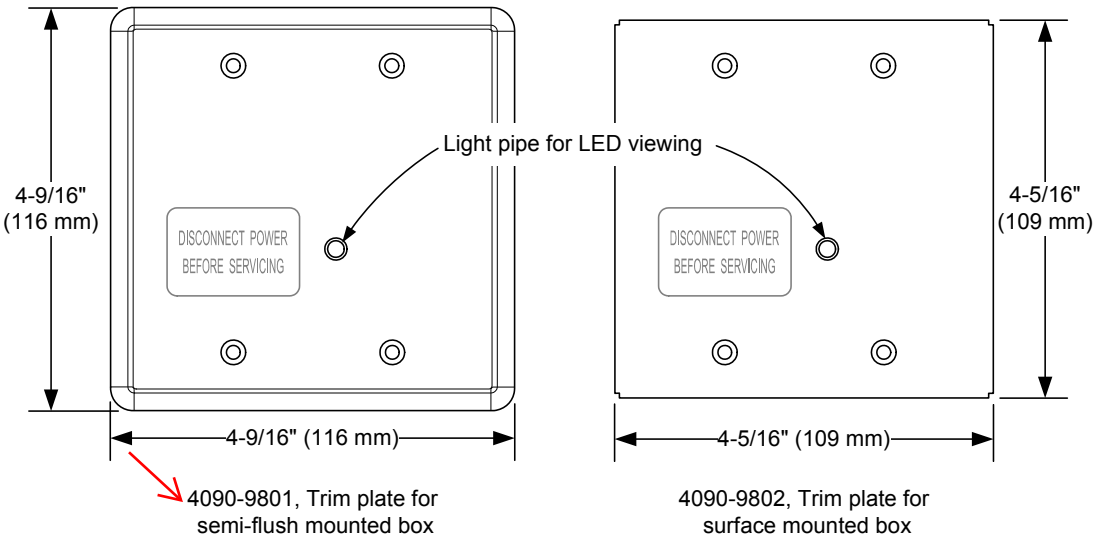
NOTES:

1. Four-wire detector operation is compatible with conventional listed contact closure initiating devices.
2. Four-wire detectors require detector voltage to be connected to resettable power terminals.
3. Refer to installation instructions 574-183 and field wiring diagram 842-073 for additional information.
4. Contact your local Simplex product supplier for additional compatible devices.

ZAM Mounting Information



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

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%

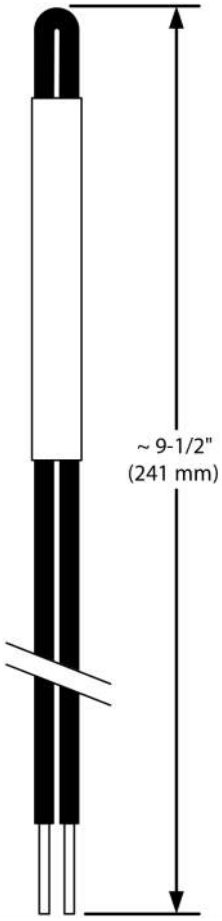


Figure 1: Typical 4081 Series Resistor Harness Assembly (full size except for lead length)

* 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.

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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Simplex

TrueAlert ES Addressable Notification Appliances

*UL, ULC, CSFM Listed**
*FM Approved**

Audible/Visible Notification Appliances;
Multi-Tone Horn/Strobe with 520 Hz Output

Features

Individually addressed and controlled multi-tone and multi-candela TrueAlert ES A/V (audible/visible) notification appliances provide:

- Multi-candela xenon strobe with synchronized 1 Hz flash rate and with intensity ***programmable from the control panel*** or jumper selected as 15, 30, 75, 110, 135, or 185 cd
- Advanced addressable notification controlled by ***IDNAC SLCs*** providing ***regulated 29 VDC*** allowing strobes to operate with lower current even under battery backup
- Wiring supervision to each appliance allowing "T-tapped" connections for Class B circuits to simplify wiring (Class A circuits require in/out wiring)
- ***Self-Test Mode*** allows on-board sensors to detect the strobe and horn output and then report their status to the control panel
- Per appliance tone selection of: 520 Hz Horn, Broadband Horn, Bell, Chime, High/Low, Slow Whoop, or Siren; *programmable from the control panel*, or selected using an on-board DIP Switch (refer to sound output details on page 4)
- 520 Hz tone is compliant with NFPA 72 Low Frequency Signal Requirements for Sleeping Areas
- Horn, Bell, and High/Low tones can be controlled as: Temporal Code 3, Temporal Code 4, March Time (selectable as 20, 60, or 120 bpm), or Continuous
- Slow Whoop, Siren, and Chime tone selections are controlled as synchronized continuous operation
- Output of "high" or "low" (~6 dBA difference) selectable at the appliance or from the controller with FACP mode selected at the appliance
- ***TrueAlert Device Reports*** at the control panel detailing appliance point ID, custom label, type, and candela setting (see sample on page 3)
- ***Magnet Test diagnostics*** to assist checkout and testing of appliances and wiring
- ***Electrical test point access*** without removing cover
- Compatibility with ADA requirements; (refer to important installation information on page 3)
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526; Horn operation is listed to UL Standard 464 and ULC Standard S525

LED Indicator and Magnet Test feature:

- Appliance LED can be selected to display each polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the Magnet Test pulses the LED to indicate appliance address and can be set to also briefly flash the strobe and sound the horn



TrueAlert ES Multi-Tone Addressable A/Vs are Available in Red with White Lettering and White with Red Lettering

Features *(Continued)*

Mechanical design features include:

- Rugged, high impact, flame retardant thermoplastic housing in red with white letters or white with red letters, with clear lens, available with FIRE, FEU, ALERT, FEU/FIRE, or blank lettering
- Separate covers are available to change application type on-site or for replacement; covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- A separate mounting plate allows wiring to be completed before appliance is mounted; use with single gang, double gang, or 4-inch square box, flush or surface mount
- In/out wiring terminals for 18 AWG to 12 AWG
- Optional mounting adapters are available to cover surface mounted electrical boxes and to adapt to Simplex 2975-9145 boxes

Description

TrueAlert ES addressable multi-tone A/Vs are individually addressed audible/visible notification appliances that receive power, supervision, and control signals from a Simplex fire alarm control panel providing **IDNAC** Signaling Line Circuits (SLCs). (See compatibility list on page 4.)

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).

* 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 7135-0026:0380 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.

TrueAlert ES Operation Advantage

TrueAlert ES addressable appliances on IDNAC SLCs provide separate visible and audible notification using a single two-wire circuit that also *confirms connection to the individual notification appliance's electronic circuit*. This operation increases circuit supervision integrity by providing supervision that extends beyond the appliance wiring connections.

Reduced current allows efficient IDNAC SLC operation. With ***IDNAC SLCs***, a ***constant*** 29 VDC source voltage is maintained, even during battery standby, allowing strobes to operate at higher voltage with lower current and ensuring a consistent current draw and voltage drop margin under both primary power and secondary battery standby. Efficiencies include wiring distances up to 2 to 3 times farther than with conventional notification, or support for more appliances per IDNAC SLC, or use of smaller gauge wiring, or combinations of these benefits, all providing installation and maintenance savings with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions.

Reducing Installation and Testing Time. With separate controls on the same two-wire SLC, installation time and expense for both retrofit and new construction can be significantly reduced. When Class B wiring is used, *wiring can be "T" tapped*, allowing more savings in distance, wire, conduit (size and utilization), and overall installation efficiency. Use of Self-Test and Magnet Test features improve installation efficiency. TrueAlert device reports conveniently identify information about each connected appliance.

TrueAlert ES Diagnostics

Test Features. When IDNAC SLCs are in diagnostic mode, *Self-Test* and *Magnet Test* features provide individual appliance testing. With the *Self-Test* feature, *appliance operation can be confirmed without leaving the control panel*. Additionally, each appliance's LED can be selected to pulse when it receives a supervision poll during normal operation.

***Self-Test* Details.** Selecting Self-Test Mode from the control panel allows on-board sensors, depending on the device type, to detect its own strobe and/or horn output and then report their status to the control panel. Operation is by selected VNAC appliance groups and is either automatic (all briefly simultaneously activated) or individually activated by applying a magnet. (Refer to control panel data sheet for more Self-Test information, see list on page 4.)

Silent Appliance Magnet Test. In this test mode, in response to application of a magnet, the appliance LED pulses sequentially to conveniently indicate the appliance's address.

Operational Appliance Magnet Test. In this test mode, after the address is indicated by pulsing the appliance LED, the strobe will briefly flash and the horn will briefly sound to indicate proper operation.

TrueStart Instrument Two (TSIT). The 2nd generation of the Simplex TrueStart Test Instrument adds testing of IDNAC SLC wiring and TrueAlert ES appliances to its ability to test IDCs, NACs, and IDNet communications *before connection to the control panel*. Please contact your local Simplex representative for additional information.

TrueAlert Addressable Wiring Isolator

Isolator Model 4905-9929 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. (See data sheet S4905-0001.)

Product Selection

TrueAlert ES Wall Mount Multi-Tone Addressable Audible/Visible Appliances

TrueAlert ES multi-tone addressable A/V appliances include cover and matching mounting plate except as noted;
Dimensions with Cover = 5 ⅛" H x 5" W x 2 ⅝" D (130 mm x 127 mm x 67 mm)

Model*	Cover Color	Wording	Lens Color	Model*	Cover Color	Wording	Lens Color
49MTV-WRF(-BA)	Red	FIRE	Clear	49MTV-WRS-BA	Red	Blank	Clear
49MTV-WWF(-BA)	White			49MTV-WWS-BA	White		
49MTV-APPLW(-BA)	Select cover and mounting plate separately						

Separate Mounting Plate (Required when ordering model 49MTV-APPLW(-BA))

Model*	Color	Model	Color	Note
49MP-AVVOWR	Red	49MP-AVVOWW	White	Mounting Plate, select color to match cover

*** Note:** (-BA) indicates model is available either with or without the -BA suffix. Model numbers ending in -BA, APPLW models, and separate mounting plates are assembled in the USA.

Separate Covers (Required when ordering model 49MTV-APPLW(-BA), uses same covers as 49AV Series fixed tone A/Vs)

Model	Color	Wording	Model	Color	Wording
49AVC-WRFIRE	Red	FIRE	49AVC-WRFEU	Red	FEU
49AVC-WWFIRE	White		49AVC-WWFEU	White	
49AVC-WRALT	Red	ALERT	49AVC-WRBLNG	Red	FEU/FIRE
49AVC-WWALT	White		49AVC-WWBLNG	White	
49AVC-WRS	Red	Logos Only	49AVC-WWS	White	Logos Only

Mounting Adapters

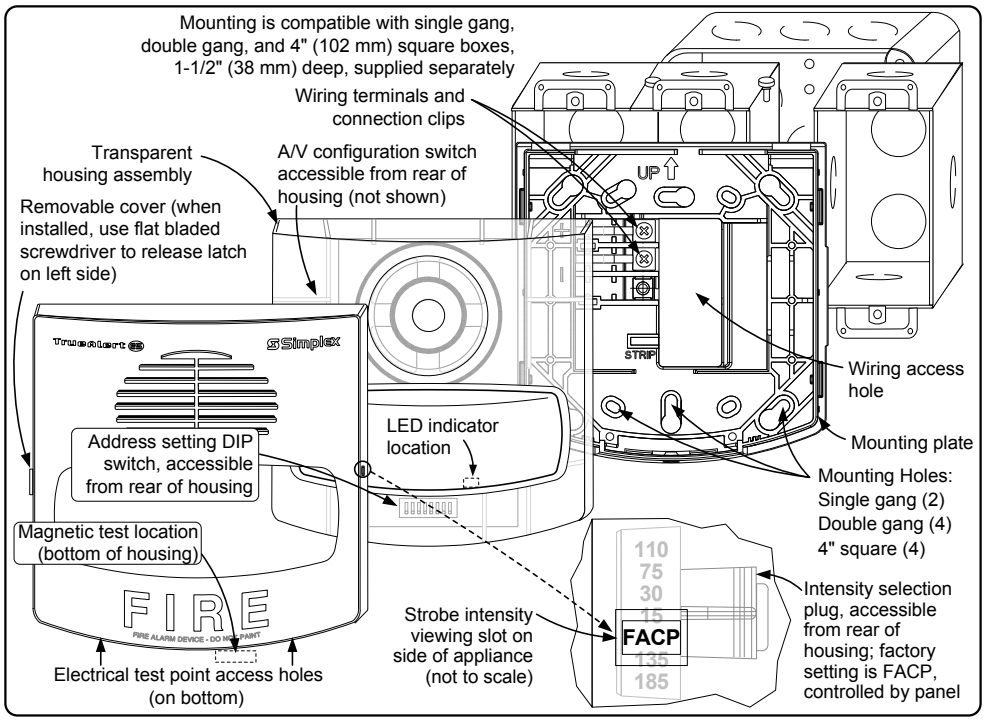
Model	Color	Description	Dimensions
4905-9937	Red	Surface Mount Adapter Skirt	5 ⅜" H x 5 ¼" W x 1 ⅝" D (136 mm x 133 mm x 41 mm) Total depth with strobe = 4 ⅜" (111 mm)
4905-9940	White		
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 Box (typically for retrofit, mount vertical or horizontal)		8 $\frac{5}{16}$" x 5 ¾" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red Mounting Box, requires 4905-9931 Adapter Plate		7 ⅞" x 5 ⅛" x 2 ¾" D (200 mm x 130 mm x 70 mm)

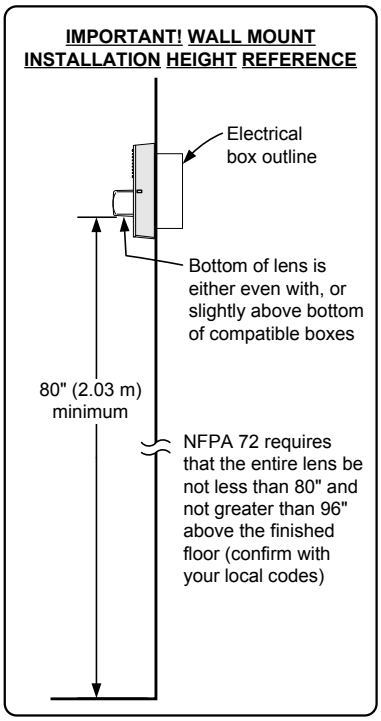
TrueAlert Device Reports Reference

Service Port — Page 1
REPORT 5 : TrueAlert Device Report — 12:34:56am TUE 10-Mar-15

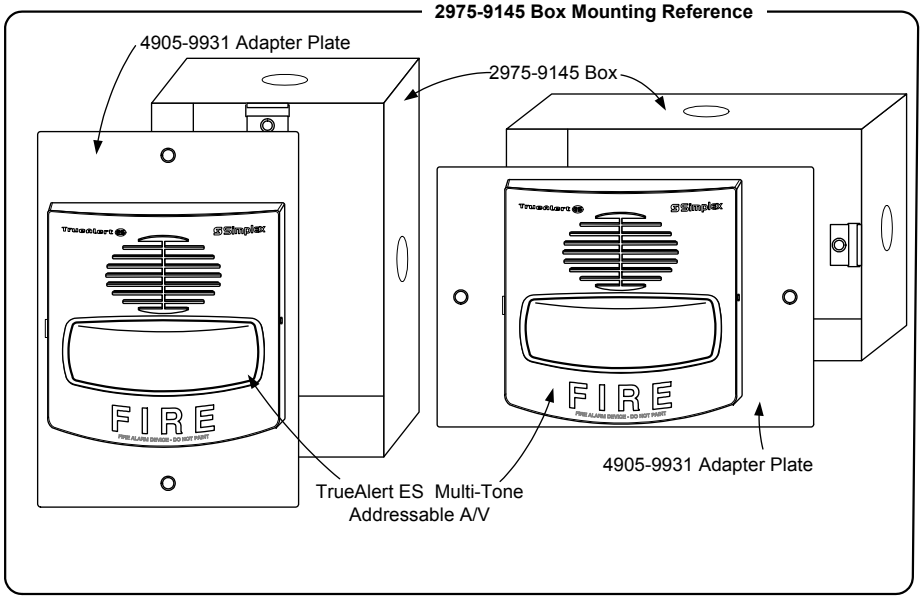
POINT ID	CUSTOM LABEL	DEVICE TYPE	CANDELA
T14-1-1	Location Label . . . up to 40 characters	MT AV	15
T14-1-2	Break Room 5	MT AV	110
T14-1-3	Boiler Room	VO	75
T14-1-4	Elec. Room 7	AV	135

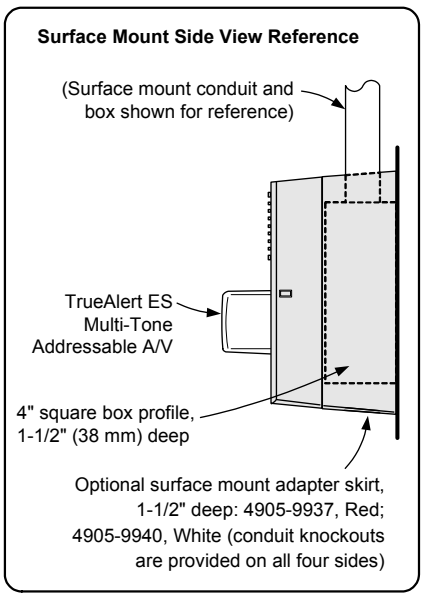
Installation Reference





Adapter Plate and Surface Mount Installation Reference





IDNAC SLC Controller Compatibility Reference

Compatible Controllers	Data Sheet Reference	Controller Output	IDNAC SLC Output Voltage	Appliance Voltage Design Reference
4100ES with EPS+ or EPS Power Supply	S4100-0100	IDNAC SLC	29 VDC (regulated)	23 VDC (with 6 VDC drop)
4009 IDNAC Repeater	S4009-0004			
4007ES with IDNAC Notification	S4007-0002			
4010ES with ESS Enhanced System Supply	S4010-0011			

TrueAlert ES A/V Specifications

Electrical Ratings	Typical Operating Voltage Range	23 VDC to 29.5 VDC, Special Application
	Supervisory Requirements	2 unit loads (1 unit load = 0.8 mA control panel current)
	49MTV Series SLC Loading	Up to 21 appliances can connect directly to the panel IDNAC SLC or to a 4009 IDNAC Repeater output, to a maximum of 127 addresses and 139 unit loads per SLC
IDNAC SLC Wiring Specifications (refer to control panel or power supply installation instructions for more information)		UTP, unshielded twisted pair recommended
		Maximum wire length allowed with "T-Taps" for Class B wiring per SLC = 10,000 ft (3048 m)
		Maximum wire length to any appliance = 4000 ft (1219 m)

Tone Characteristics

520 Hz Horn	520 Hz tone	These tones are compatible with control panel IDNAC commands for operation as Temporal Code 3, Temporal Code 4, March Time at 20, 60, or 120 bpm, or Continuous operation
Broadband Horn	Combination 600/3000 Hz signal	
Bell	Synthesized Bell tone	
High/Low	Alternating modulated tones with fundamentals of 1000 Hz and 800 Hz, 250 ms duration each	
Slow Whoop	Modulated 520 Hz to 1200 Hz sweep with 2 s duration	These tones operate as Continuous with synchronization
Siren	Modulated 600 Hz to 1200 Hz to 600 Hz sweep, with 2 s duration	
Chime	Multi-phase signal with a peak and decay time of 1 s	

TrueAlert ES Multi-Tone Horn/Strobe Current Ratings

	RMS Current Ratings @ 23 VDC, in mA											
	15 cd		30 cd		75 cd		110 cd		135 cd		185 cd	
Tone	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**
520 Hz Horn and High/Low	145	108	163	125	198	158	230	195	262	214	299	257
Broadband Horn, Bell, Chime, Slow Whoop, and Siren	135	99	152	111	185	139	212	172	247	203	284	243

TrueAlert ES Multi-Tone Horn/Strobe Horn Output

		UL 464 Output Ratings @ 23 VDC and 29.5 VDC (dBA)*								ULC S525 Output Ratings @ 23 VDC and 29.5 VDC (dBA)*							
		Steady High		Steady Low		Coded High		Coded Low		Steady High		Steady Low		Coded High		Coded Low	
Tone	**Voltage**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**
520 Hz Horn		80	80	74**	75	76	76	70**	71**	83†		79†		83†		78†	
High/Low		81	82	77	77	75	76	70**	71**	87		82†		86†		82†	
Broadband Horn		84	84	79	79	81	81	74**	75	88		84†		87†		83†	
Bell		80	80	75	75	76	76	71**	71**	85		80†		85†		80†	
Slow Whoop		79	80	74**	75	these tones are not used for coded operation				85		80†		these tones are not used for coded operation			
Siren		79	80	74**	75					85		80†					
Chime**		67**	67**	62**	62**					82†		77†					

* Output ratings are at 10 ft (3 m); UL 464 ratings are per UL Reverberant Chamber testing; ULC S525 ratings are per ULC Anechoic Chamber testing. The tone generator circuit is DC-DC converter powered and provides essentially constant output over the rated voltage range.

** UL output ratings below 75 dBA are for NFPA 72 Private Mode applications.

† ULC output ratings below 85 dBA are for use in applications per applicable local codes.

Sound Output Dispersion per ULC S541 Anechoic Testing	Horizontal	-3 dBA @ ±37°	-6 dBA @ ±40°	-9.4 dBA @ ±90°
	Vertical	-3 dBA @ -24°, +42°	-6 dBA @ -59°, +50°	-8.6 dBA @ ±90°

General Specifications

Temperature Range	32° to 122° F (0° to 50° C)
Humidity Range	10% to 93%, non-condensing @ 104° F (40° C)
Connections	Terminal blocks on mounting plate for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2); two wires per terminal for in/out wiring
Installation Instructions	579-1156 for 49MTV Series A/V appliances 579-1100 for 49MP Series mounting plates

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Simplex

*UL, ULC, CSFM Listed; FM Approved**

TrueAlert ES Addressable Notification Appliances

Visible Notification Appliances, Wall Mount Multi-Candela Strobes, Model Series 49VO

Features

Individually addressed and controlled multi-candela TrueAlert ES V/O (visible only) notification appliances provide:

- Multi-candela xenon strobe with synchronized 1 Hz flash rate and with intensity ***programmable from the control panel*** or jumper selected as 15, 30, 75, 110, 135, or 185 cd
- Advanced addressable notification controlled by **IDNAC SLCs** providing *regulated 29 VDC* allowing strobes to operate with lower current even under battery backup
- Wiring supervision to each appliance allowing "T-tapped" connections for Class B circuits to simplify wiring (Class A circuits require in/out wiring)
- *Self-Test Mode* allows an on-board sensor to detect the strobe output and then report its status to the control panel
- *TrueAlert Device Reports* at the control panel detailing appliance point ID, custom label, type, and candela setting
- *Magnet Test diagnostics* to assist checkout and testing of appliances and wiring and *Electrical test point access* without removing cover
- Compatibility with ADA requirements; (refer to Installation Reference)
- Compatibility with legacy TrueAlert addressable systems for upgrade and replacement (see TrueAlert ES Strobe LEGACY Compatibility Reference)
- Listed to UL Standard 1971 and ULC Standard S526

LED Indicator and Magnet Test feature:

- Appliance LED can be selected to display each polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the Magnet Test pulses the LED to indicate appliance address and can be set to also briefly flash the strobe

Mechanical design features include:

- Rugged, high impact, flame retardant thermoplastic housing in red with white letters or white with red letters, with clear lens, available with FIRE, ALERT, FEU, FEU/FIRE, or blank lettering
- Separate covers are available to change appliance type on-site or for replacement; covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- A separate mounting plate allows wiring to be completed before appliance is mounted; use with single gang, double gang, or 4-inch square box, flush or surface mount
- In/out wiring terminals for 18 AWG to 12 AWG
- Optional mounting adapters are available to cover surface mounted electrical boxes and to adapt to Simplex, 2975-9145 boxes
- Optional red wire guards (see Product Selection)

Description

TrueAlert ES addressable strobes

TrueAlert ES addressable strobes are individually addressed visible notification appliances that receive power, supervision, and control signals from the Simplex fire alarm control panel providing **IDNAC** Signaling Line Circuits (SLCs). (See IDNAC SLC Controller Compatibility Reference.)

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).



Figure 1: TrueAlert ES Addressable Strobes are Available in Red with White Lettering and White with Red Lettering

TrueAlert ES Operation Advantage

TrueAlert ES addressable appliances on IDNAC SLCs provide separate visible (and audible) notification using a single two-wire circuit that also *confirms connection to the individual notification appliance's electronic circuit*. This operation increases circuit supervision integrity by providing supervision that extends beyond the appliance wiring connections.

Reduced current allows efficient IDNAC SLC operation. With *IDNAC SLCs*, a *constant* 29 VDC source voltage is maintained, even during battery standby, allowing strobes to operate at higher voltage with lower current and ensuring a consistent current draw and voltage drop margin under both primary power and secondary battery standby. Efficiencies include wiring distances up to 2 to 3 times farther than with conventional notification, or support for more appliances per IDNAC SLC, or use of smaller gauge wiring, or combinations of these benefits, all providing installation and maintenance savings with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions.

Reducing Installation and Testing Time. With separate controls on the same two-wire SLC, installation time and expense for both retrofit and new construction can be significantly reduced. When Class B wiring is used, *wiring can be "T" tapped*, allowing more savings in distance, wire, conduit (size and utilization), and overall installation efficiency. Use of Self-Test and Magnet Test features improves installation efficiency. TrueAlert device reports conveniently identify information about each connected appliance.

* 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 Listing 7125-0026:0373 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.

TrueAlert ES Diagnostics

Test Features. When IDNAC SLCs are in diagnostic mode, ***Self-Test*** and ***Magnet Test*** features provide individual appliance testing. With the ***Self-Test*** feature, ***appliance operation can be confirmed without leaving the control panel***. Additionally, each appliance's LED can be selected to pulse when it receives a supervision poll during normal operation.

Self-Test Details. Selecting Self-Test Mode from the control panel allows on-board sensors, depending on the device type, to detect its own strobe and/or horn output and then report their status to the control panel. Operation is by selected VNAC appliance groups and is either automatic (all briefly simultaneously activated) or individually activated by applying a magnet (Refer to control panel data sheet for more Self-Test information, see IDNAC SLC Controller Compatibility Reference).

Silent Appliance Magnet Test. In this test mode, in response to application of a magnet, the appliance LED pulses sequentially to conveniently indicate the appliance's address.

Operational Appliance Magnet Test. In this test mode, after the address is indicated by pulsing the appliance LED, the strobe will briefly flash to indicate proper operation.

TrueStart Instrument Two (TSIT). The 2nd generation of the Simplex TrueStart Test Instrument adds testing of IDNAC SLC wiring and TrueAlert ES appliances to its ability to test IDCs, NACs, and IDNet communications ***before connection to the control panel***. Please contact your local Simplex representative for additional information.

TrueAlert Addressable Wiring Isolator

Isolator Model 4905-9929 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. (See data sheet *S4905-0001* .)

Installation Reference

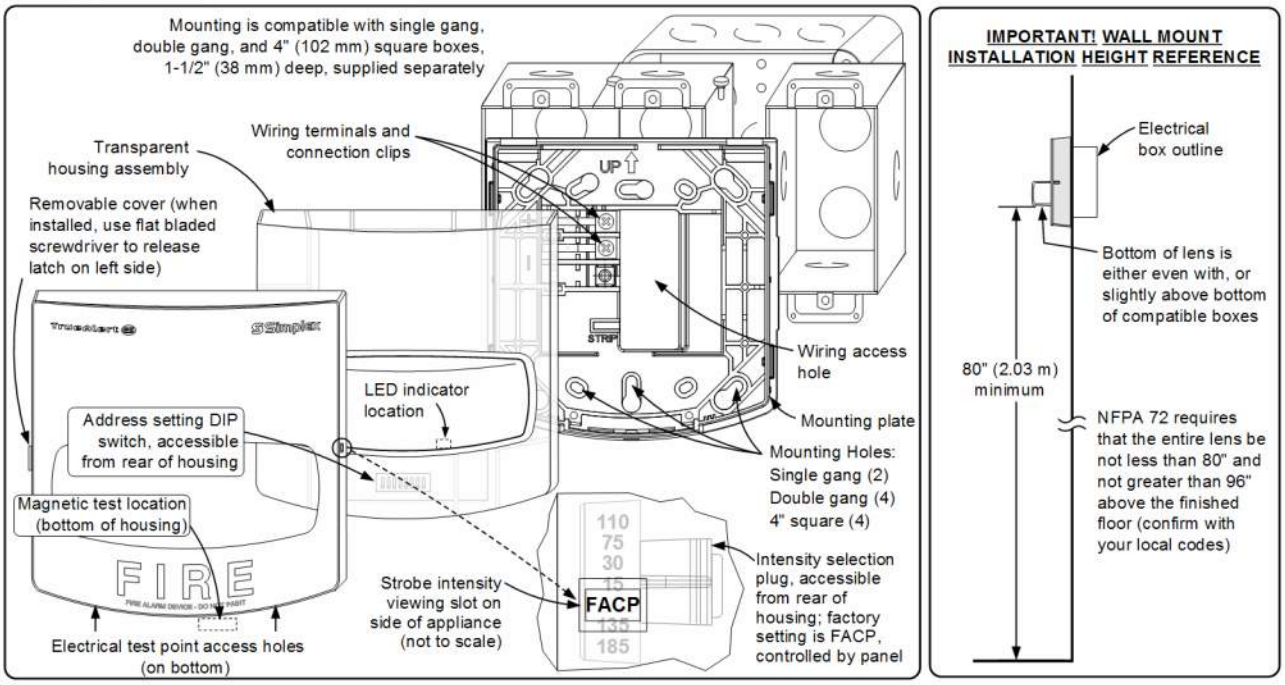


Figure 2: Installation Reference

Adapter Plate and Surface Mount Installation Reference

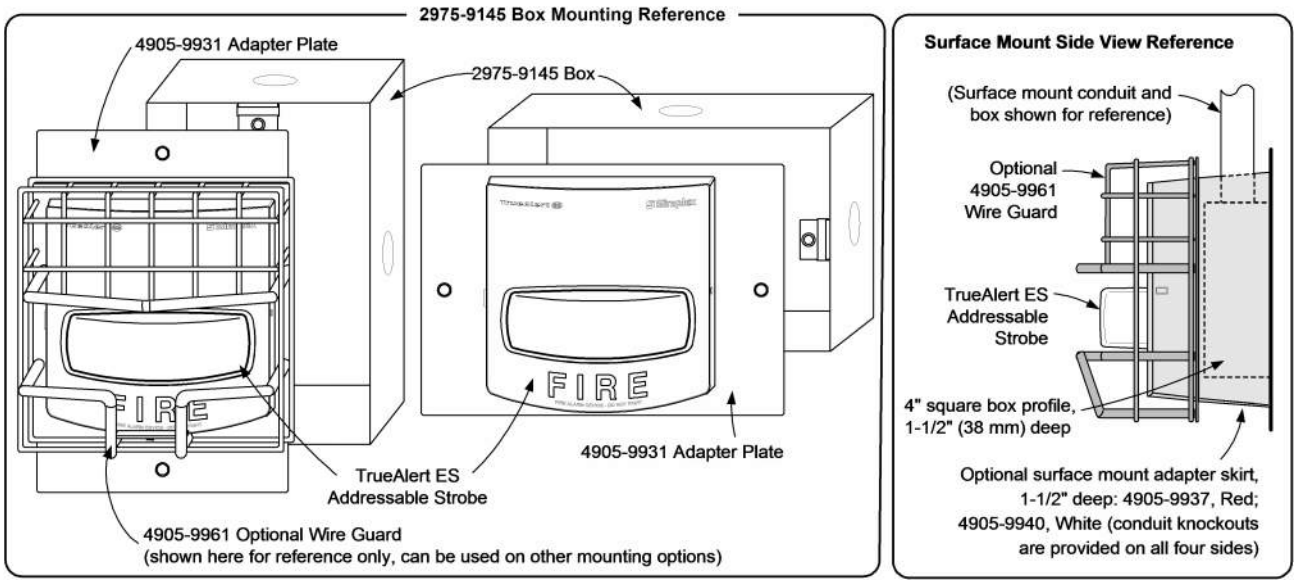


Figure 3: Adapter Plate and Surface Mount Installation Reference

The 2975-9145 box is shown mounted to the 4905-9931 Adapter Plates. Also shown is the optional surface mount adapter skirt (available in red 4905-9937 or white 4905-9940)., as well as the 4905-9961 optional wire guard.

Product Selection

Table 1: TrueAlert ES Wall Mount Addressable Strobes

SKU*	Cover Color	Wording	Lens Color
49VO-WRF 49VO-WRF-BA	Red	FIRE	Clear
49VO-WWF 49VO-WWF-BA	White		
49VO-WRA 49VO-WRA-BA	Red	ALERT	
49VO-WWA 49VO-WWA-BA	White		
49VO-WRQ	Red	FEU	
49VO-WWQ	White		
49VO-WRS 49VO-WRS-BA	Red	Simplex logo only	
49VO-WWS 49VO-WWS-BA	White		
49VO-APPLW 49VO-APPLW-BA	Select cover and mounting plate separately		
TrueAlert ES addressable VO (strobe) appliances include cover and matching mounting plate except as noted; Dimensions with Cover = 5 ⅛" H x 5" W x 2 ⅝" D (130 mm x 127 mm x 67 mm)			

Table 2: Separate Mounting Plate

Model	Color	Note
49MP-AVVOWR	Red	Mounting Plate **is required** when ordering model 49VO-APPLW(-BA)
49MP-AVVOWW	White	

Table 3: Separate Covers (Required when ordering model 49VO-APPLW(-BA))

SKU*	Color	Wording
49VOC-WRFIRE	Red	FIRE
49VOC-WWFIRE	White	
49VOC-WRALT	Red	ALERT
49VOC-WWALT	White	
49VOC-WRFEU	Red	FEU
49VOC-WWFEU	White	
49VOC-WRBLNG	Red	FEU/FIRE
49VOC-WWBLNG	White	
49VOC-WRS	Red	Simplex logo only
49VOC-WWS	White	

Table 4: Mounting Adapters and Wire Guard

Model	Color	Description	Dimensions
4905-9937	Red	Surface Mount Adapter Skirt	5 ⅜" H x 5 ¼" W x 1 ⅝" D (136 mm x 133 mm x 41 mm) Total depth with strobe = 4 ⅜" (111 mm)
4905-9940	White		
4905-9931	Red Adapter Plate for mounting to Simplex, 2975-9145 Box (typically for retrofit, mount vertical or horizontal)		8 5/16" x 5 ¾" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red Mounting Box, requires 4905-9931 Adapter Plate		7 ⅞" x 5 ⅛" x 2 ¾" D (200 mm x 130 mm x 70 mm)
4905-9961	Red wire guard with mounting plate, compatible with semi-flush or surface mount boxes		6 1/16" H x 6 1/16" W x 3 ⅛" D (154 mm x 154 mm x 79 mm)

IDNAC SLC Controller Compatibility Reference

Compatible Controllers	Data Sheet Reference	Controller Output	IDNAC SLC Output Voltage	Appliance Voltage Design Reference
4100ES with EPS+ or EPS Power Supply	*S4100-0100*	IDNAC SLC	29 VDC (regulated)	23 VDC (with 6 VDC drop)
4009 IDNAC Repeater	*S4009-0004*			
4007ES with IDNAC Notification	*S4007-0002*			
4010ES with ESS Enhanced System Supply	*S4010-0011*			

TrueAlert ES Strobe Specifications

Table 5: Electrical Ratings

Specification	Rating
Typical Operating Voltage Range	23 VDC to 31 VDC, Special Application (see below for 17 VDC rating)
Supervisory Requirements	1 unit load (= 0.8 mA control panel current)
IDNAC SLC Loading	Maximum of 127 addresses per SLC, 139 unit loads

Table 6: Candela Setting

Candela	15 cd	30 cd	75 cd	110 cd	135 cd	185 cd
23 VDC RMS Current Ratings, for typical design of IDNAC Addressable SLCs (6 VDC drop)	47 mA	57 mA	100 mA	132 mA	160 mA	208 mA

Table 7: General Specifications

Temperature Range	32° to 122° F (0° to 50° C)
Humidity Range	10% to 93%, non-condensing @ 104° F (40° C)
IDNAC SLC Wiring Specifications (refer to control panel installation instructions for more information)	UTP, unshielded twisted pair recommended
	Maximum wire length allowed with "T-Taps" for Class B wiring per SLC = 10,000 ft (3048 m)
	Maximum wire length to any appliance = 4000 ft (1219 m)
Connections	Terminal blocks on mounting plate for 18 AWG to 12 AWG (0.82 mm2 to 3.31 mm2); two wires per terminal for in/out wiring
Installation Instructions	579-1031
Note: Refer to compatibility table above for fire alarm control panel and power supply operation type.	

TrueAlert ES Strobe LEGACY Compatibility Reference

Table 8: Compatibility Reference

Compatible Controller	Data Sheet Reference	Controller Output	Available Strobe Intensity	Appliance Voltage Minimum
4100ES or 4100U with TrueAlert Power Supply	*S4100-0031*	TrueAlert Addressable SLC	15, 30, 75, and 110 cd	17 VDC
4009 TPS, Remote TrueAlert Power Supply	*S4100-0037*			
TrueAlert Addressable Controller (4009T)	*S4009-0003*			

Table 9: Electrical Ratings Reference for Retrofit Applications

Voltage Range	**17 VDC to 31 VDC, Special Application**			
Candela Setting	**15 cd**	**30 cd**	**75 cd**	**110 cd**
17 VDC RMS Current Ratings, use when connected to TrueAlert Addressable SLCs per above	62 mA	75 mA	133 mA	178 mA

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Simplex

*UL, ULC, CSFM Listed; FM Approved**

Datasheet

TrueAlert ES Addressable Notification Appliances

Visual Only Notification Appliances, Indoor Ceiling Mount Strobe, Model Series 49VO

Description

Ceiling mount addressable visible only (V/O) notification appliances

are individually powered, addressed, and controlled from a Simplex fire alarm control unit (FACU) IDNAC Signaling Line Circuit (SLC). V/O notification appliances use a multi-candela strobe with synchronized 1 Hz flash rate and selectable candela rating. Xenon tube strobes devices are interoperable on the same IDNAC channel. Separate appliance and cover selection simplifies the ordering and installation process.

Figure 1: Indoor ceiling mount strobe



Features

Individually addressed visible only (V/O) notification appliances

General features:

- Multi-candela Xenon strobe available in low: 15 cd, 30 cd, 75 cd, and 110 cd; and high: 110 cd , 135 cd, and 185 cd range candela models
- Small compact design and low current draw due to energy efficient Xenon tube strobes, with LED indicators
- Advanced addressable notification controlled by IDNAC SLCs.
- IDNAC SLCs provide regulated 29 VDC for options to operate horns with lower current
- Removable cover for access to electrical test point
- Strobe intensity programming from the FACU or the device
- Wiring supervision to each appliance with T-tapped connections for Class B circuits simplifies wiring. Class A circuits require in/out wiring
- Self-Test Mode with onboard sensors to detect the strobe output and then report their status to the FACU
- TrueAlert Device Reports at the FACU detail appliance point ID, custom label, type, and candela setting
- Magnet test diagnostics for checkout and testing of appliances and wiring
- Compatibile with ADA requirements
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526
- Synchronized strobe operation on the IDNAC channel

LED indicator and magnet test feature:

- LED indicates successful magnet test, 3-digit IDNAC address, and candela rating
- Option for LED to blink every polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the magnet test blinks the LED to indicate appliance address and can be set to flash the strobe LEDs

Mechanical design features

- Rugged, high-impact, flame retardant thermoplastic housing in red and white colors
- Various covers and lettering options available
- Covers can be removed without disturbing the connected housing or causing trouble conditions
- In/out wiring terminals for 18 AWG to 12 AWG
- Mounts on 4 in. square or single gang USA electrical boxes.

  Note: Adapter plate required for mounting on single gang electrical boxes

- Optional wire guards

Strobe application reference

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).

TrueAlert addressable wiring isolator

Isolator model 4905-9929

Isolator model 4905-9929 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. Refer to data sheet *TrueAlert Addressable Isolator+ Module, Model 4905-9929 S4905-0001* for additional information.

TrueAlert ES diagnostics

Test features

Controllers can be selected to pulse each appliance's LED when it receives a supervision poll. When the controller is in diagnostic mode, the appliance magnet test feature provides a response at the individual test appliance.

Silent appliance magnet test

The appliance LED pulses to indicate the appliance's address when performing a magnet test.

Operational appliance magnet test

In this test mode the appliance LED indicates the address, then the strobe will briefly flash to indicate proper operation.

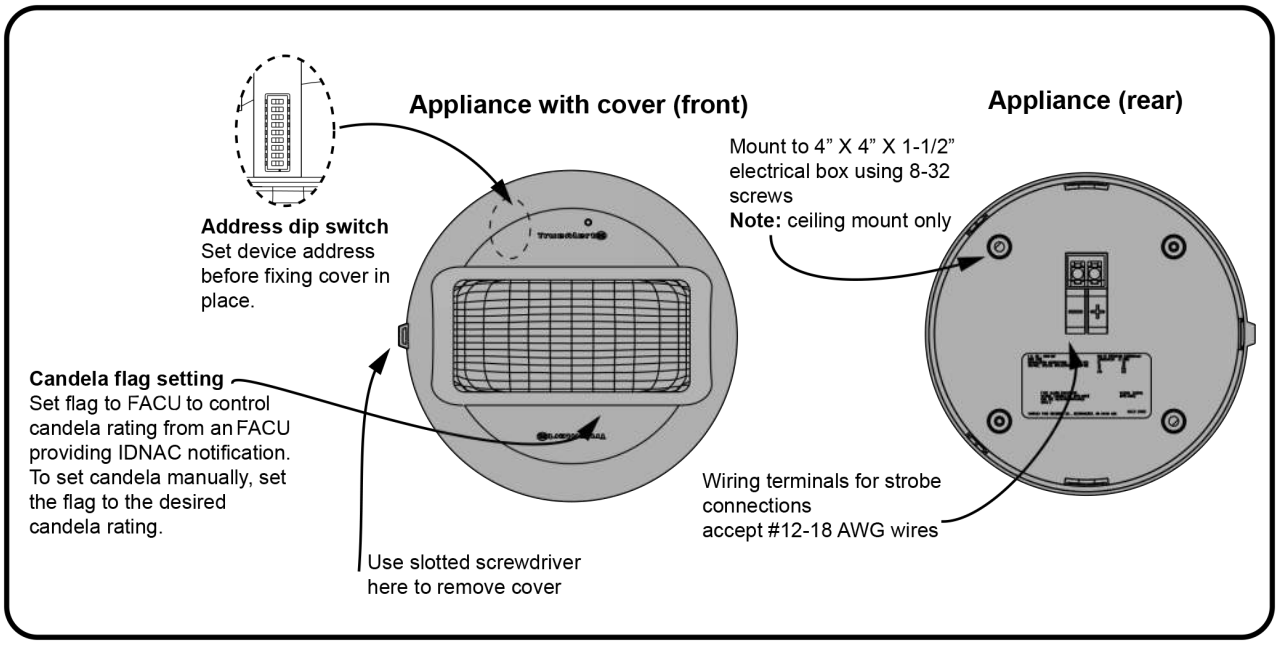
TrueStart instrument two (TSIT)

The 2nd generation of the Simplex TrueStart Test Instrument adds testing of IDNAC SLC wiring and TrueAlert ES appliances to its ability to test IDCs, NACs, and IDNet communications before connection to the FACU. Contact your local Simplex representative for additional information.

* Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co.

Installation reference

Figure 2: Indoor Ceiling Mount Strobe installation



IDNAC SLC operation advantage

TrueAlert Addressable visible appliances on IDNAC SLCs

TrueAlert Addressable visible appliances on IDNAC SLCs provide visible notification with a two-wire circuit. The circuit also confirms connection to the individual notification appliance's electronic circuit. This increases circuit supervision integrity by providing supervision that extends beyond the appliance wiring connections.

Reduced current usage on IDNAC SLCs

The system maintains a constant 29 VDC source voltage, even during battery standby. Appliances can operate at higher voltage with lower current. This ensures a consistent current draw and voltage drop margin under both primary power and secondary battery standby. This gives the option for wiring distances up to 3 times farther than with conventional notification, support for more appliances for each IDNAC SLC, and options to use smaller gauge wiring.

Reducing Installation and Testing Time

Separate controls on the same two-wire SLC reduces installation time and expense for both retrofit and new construction. When Class B wiring is used, wiring can be T-tapped for more optimisation of distance, wire, conduit size and utilization, and installation. Use of the magnet test feature improves installation efficiency. TrueAlert device reports identify information about each connected appliance.

Product selection

Table 1: Ceiling mount addressable visual only V/O appliances

Model*	Lens color	Description	Installation Instructions
49VO-APPLC 49VO-APPLC-BA	Clear	V/O appliance only. Select cover separately.	579-1227
49VOH-APPLC 49VOH-APPLC-BA			
49VOH-APPLCA-BA	Amber		
49VOH-APPLCB-BA	Blue		
49VOH-APPLCG	Green		579-1280
49VOH-APPLCR	Red		

Table 2: Surface/WP back boxes

Model	Color	Description	Installation instructions
49WPBB-VOCR	Red	Surface/WP back box in red	579-1270
49WPBB-VOCW	White	Surface/WP back box in white	

Note: Use WP back boxes for surface mounting only. Using weatherproof back boxes does not make an appliance weatherproof.

Table 3: Adapter plates

Model	Description	Installation Instructions
49VO-APCS	V/O Ceiling Mount Adapter Plate. Required for mounting on a single gang electrical box.	579-1227

Table 4: V/O covers (required when ordering APPLC models)

Model*	Color	Wording
49VOC-CRFBL	Red	FUEGO/FOGO
49VOC-CRALT	Red	ALERT
49VOC-CRBF		FEU/FIRE
49VOC-CRFEU		FEU
49VOC-CRF		FIRE
49VOC-CRS		Simplex logo only
49VOC-CRBCF	Red	إنذار/ALERT 火警/FIRE حريق/FIRE
49VOC-CK	Black	Blank
49VOC-CWALT	White	ALERT
49VOC-CWBF		FEU/FIRE
49VOC-CWFEU		FEU
49VOC-CWF		FIRE
49VOC-CWS		Simplex logo only
		إنذار/ALERT
49VOC-CWBCF	White	火警/FIRE حريق/FIRE

Table 5: Wire guards

Model	Description
49WG-VOCR	VO Ceiling Mount Red Wire Guard
49WGBB-VOCR	VO Ceiling Mount Wire Guard Back Box

Note: * (-BA) indicates model is available either with or without the -BA suffix. Model numbers ending in –BA are assembled in the USA

IDNAC SLC controller compatibility reference

Table 6: Compatibility reference

Compatible Controllers	Data Sheet Reference	Controller Output	IDNAC SLC Output Voltage	Appliance Voltage Design Reference
4100ES with EPS+ or EPS Power Supply	S4100-0100	IDNAC SLC	29 VDC (regulated)	23 VDC (with 6 VDC drop)
4009 IDNAC Repeater	S4009-0004			
4007ES Fire Alarm Control Unit with IDNAC	S4007-0002			
Note: See TrueAlert ES V/O LEGACY compatibility reference for 17 VDC ratings				

Ceiling mount V/O specifications

Table 7: Specifications

Specification	Rating
Environmental	32°F to 120°F (0°C to 49°C); 10% to 93%, non-condensing at 104°F (40°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. Use Unshielded Twisted Pair (UTP) for IDNAC.
IDNAC SLC Loading	Maximum of 127 addresses per SLC, 139 unit loads. See device and compatible FACU Installation Instructions for circuit current load limits.

Table 8: Percentage of rated light output at room temperature

Angle	On-Axis	Vertical, Below Axis		Horizontal, Left/Right of Axis	
	0°	45°	90°	45°	90°
UL required output	100%	45%	25%	45%	25%
Typical output	327%	134%	83%	129%	47%

Table 9: Appliance specifications

Specification		Rating						
Operating Voltage Range		23 VDC to 30 VDC, Special Application						
Supervisory Requirements		1 unit load (= 0.8 mA FACU current)						
Flash Rate and Synchronized SLC Loading		1 Hz; with up to 63 synchronized strobes maximum per powered circuit, max 127 S/V appliances per IDNAC channel						
Current consumption, see note	**Candela Setting**	**15 cd**	**30 cd**	**75 cd**	**90/95 cd**	**110 cd**	**135 cd**	**185 cd**
	49VO model	55 mA	83 mA	153 mA	N/A	199 mA	N/A	N/A
	49VOH model	N/A	N/A	N/A	N/A	253 mA	296 mA	377 mA
	49VOH amber lens	N/A	N/A	N/A	253 mA (90 cd)	296 mA	377 mA	N/A
	49VOH blue lens	N/A	N/A	253 mA	296 mA (95 cd)	377 mA	N/A	N/A
Note: Measured at 23 VDC on IDNAC Addressable SLC								

TrueAlert ES V/O LEGACY compatibility reference

Table 10: Compatibility reference

Compatible Controller	Data Sheet Reference	Controller Output	Available Strobe Intensity	Appliance Voltage Minimum
4100ES or 4100U with TrueAlert Power Supply	S4100-0031	TrueAlert Addressable SLC	15 cd, 30 cd, 75 cd, and 110 cd	17 VDC
4009 TPS, Remote TrueAlert 17 VDC Power Supply, see note.	S4100-0037			
TrueAlert Addressable Controller (4009T)	S4009-0003			
Electrical ratings differences for legacy applications, see IDNAC SLC controller compatibility reference for 29 VDC ratings				
Voltage Range		17 VDC to 31 VDC, Special Application		
Candela Setting	**15 cd**	**30 cd**	**75 cd**	**110 cd**
17 VDC RMS Current Ratings, with horn on continuous at high setting, use when connected to TrueAlertAddressable SLCs per above	73 mA	114 mA	210 mA	269 mA

Note: * For connection to legacy fire panel models Simplex 4009T and 4100/TPS. High candela (49VOH) appliances are not compatible with Simplex models 4009T and TPS, see the fire panel compatibility charts.

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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
IMAGING CT REPLACEMENT
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012



Prepared for:

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

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 IMAGING CT REPLACEMENT
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
49VO-APPLC	VO APPLIANCE ONLY CEIL MT (FOR REFERENCE ONLY)
49VOC-CRF	VO COVER, CEIL MT, RED, FIRE (FOR REFERENCE ONLY)

Features

TrueAlarm analog sensing

You can use TrueAlarm analog sensing to digitally transmit analog sensor values with IDNet or MAPNET II two-wire communications.

You can use True Alarm analog sensing with the following Simplex products:

- 4007ES, 4010, 4010ES, 4100ES, and 4100U series fire alarm control units (FACUs), and 4008 series FACUs with reduced feature set.
- 4020, 4100, and 4120 series FACUs, Universal Transponders, and 2120 TrueAlarm CDTs equipped for MAPNET II operation

Features compatible with the FACU

- Peak value logging with accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring meets NFPA 72 sensitivity testing requirements. The 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 English

Photoelectric smoke sensors features

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

Heat sensors 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 isolator2 bases, refer to data sheet *S4098-0026*
- 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.

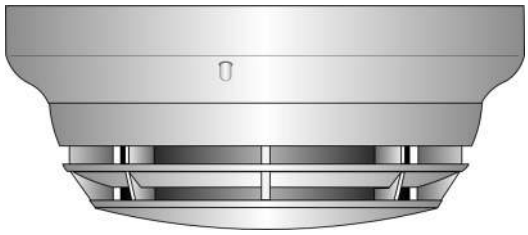
Intelligent data evaluation

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 reduces the probability of false or nuisance alarms caused by shifts in sensitivity.

Control unit selection

The control unit stores peak activity for each sensor for 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 or 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 display at the control unit and the sensor's base LED turn on steadily. During a system alarm, an LED indicating a trouble returns 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.

Sensor bases

4098-9792, standard sensor base

4098-9789, sensor base with wired connections

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

Supervised relay bases not compatible with 2120 CDT:

- **4098-9791, four-wire sensor base,** use with remote or locally mounted 2098-9737 relay, requires separate 24 VDC
- **4098-9780, two-wire sensor base,** use with remote or locally mounted 4098-9860 relay, no separate power required
- You can program supervised relay operation, and manually operate it from the 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 or 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 or 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 a 4 in. octagonal box
- You can use the 4098-9832 adapter plate for cosmetic retrofitting to an 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 monitor the status of the detachable photoelectric or heat sensors. The sensors transmit digitalized output to the system fire alarm control unit every four seconds.

You can change different TrueAlarm sensor types to meet location requirements. You can use this feature to substitute sensors during building construction. When conditions are temporarily dusty, you can install heat sensors without reprogramming the control unit. Although the control unit indicates an incorrect sensor type, the heat sensor operates at a default sensitivity and provides heat detection for building protection at that location.

Mounting reference

Figure 3: Mounting reference

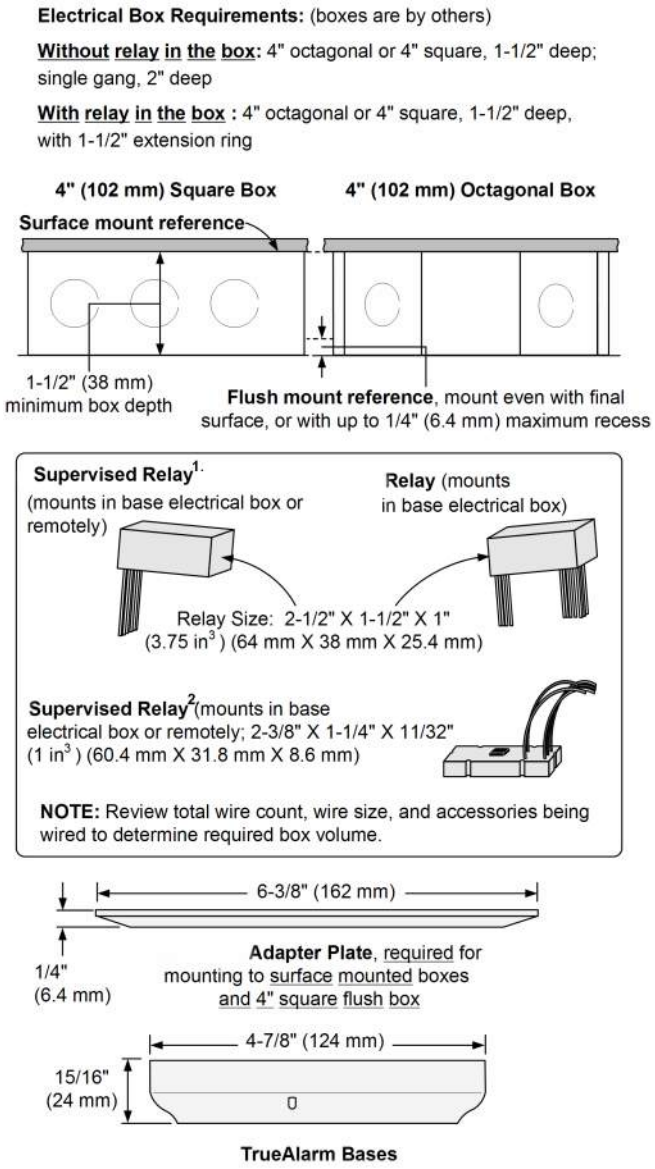


Table 1: Product mounting - SKU reference

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

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

Table 2: 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 only apply to the 4098-9734 sensor.

Smoke sensors

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

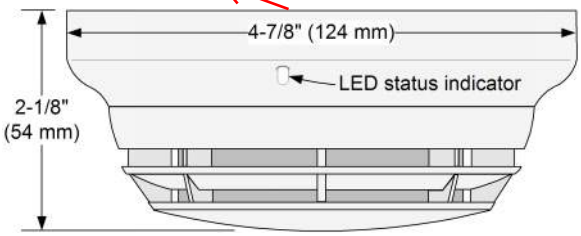
4098-9714 photoelectric sensor

TrueAlarm photoelectric sensors use a stable, pulsed LED light source and a silicon photodiode receiver to deliver 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 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 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 with or without rate-of-rise temperature sensing. The sensor 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, when the temperature reaches the rated fixed temperature setting, it triggers an alarm.

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

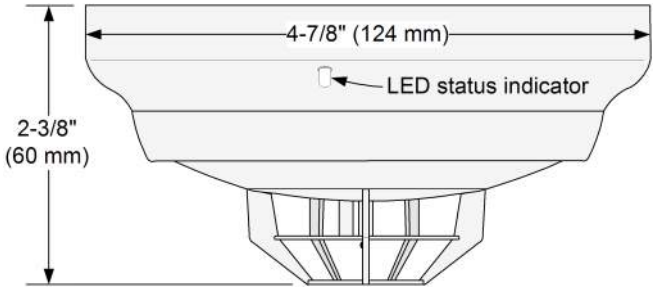
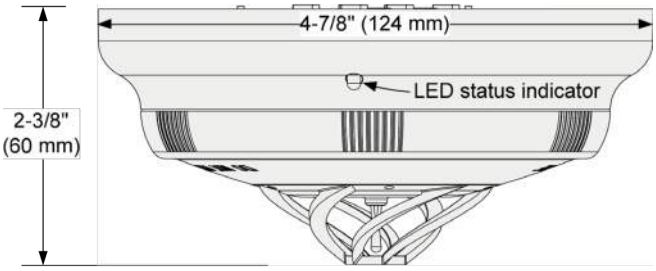


Figure 6: 4098-9734 high temperature heat sensor with base



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

Only choose sensor locations after careful consideration of the physical layout and contents of the area that you want to protect. Refer to NFPA 72, *the National Fire Alarm and Signaling Code*. On smooth ceilings, you can use a smoke sensor spacing of 30 ft (9.1 m) as a guide.

For detailed application information including sensitivity selection, refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)*.

TrueAlarm analog sensing product selection chart

Table 3: TrueAlarm sensor bases, for use with sensors 4098-9714 and 4098-9733

SKU	Color	Description	Compatibility	Mounting requirements
4098-9792	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	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 5
4098-9775	Black			
4098-9791 **Note:** NOT compatible with the 2120 CDT	White	Four-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 **Note:** NOT compatible with the 2120 CDT	White	Two-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.

Refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)* and *4098 Smoke/Heat Sensor Bases Installation Instructions (574-707)* for additional information.

Table 4: TrueAlarm sensors

SKU	Color	Description	Compatibility	Mounting requirements
4098-9714 4098-9714-IND	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	White	Heat sensor		
4098-9778	Black			
4098-9734	White	High temperature heat sensor		

Note:

- SKUs are NEMA 1 rated.
- The 4098-9734 Heat Sensor is only compatible with IDNet on the 4100ES, 4010ES, and 4007ES

Table 5: TrueAlarm sensor and base accessories

SKU	Description	Compatibility	Mounting requirements
2098-9737	Supervised relay, mounts remote or in base electrical box	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	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:** Only mounts 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.

Specifications

Table 6: 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

Table 6: General operating specifications

Specification		Rating
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 7: 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 8: 4098-9780 Base with supervised remote relay 4098-9860

Specification	Rating
Power	Supplied from communications

Table 9: 4098-9822 Unsupervised relay, requirements for bases 4098-9789, 4098-9791, and 4098-9780

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

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Simplex

*UL, ULC, CSFM Listed; FM Approved**

Datasheet

TrueAlert ES Addressable Notification Appliances

Visual Only Notification Appliances, Indoor Ceiling Mount Strobe, Model Series 49VO

Description

Ceiling mount addressable visible only (V/O) notification appliances

are individually powered, addressed, and controlled from a Simplex fire alarm control unit (FACU) IDNAC Signaling Line Circuit (SLC). V/O notification appliances use a multi-candela strobe with synchronized 1 Hz flash rate and selectable candela rating. Xenon tube strobes devices are interoperable on the same IDNAC channel. Separate appliance and cover selection simplifies the ordering and installation process.

Features

Individually addressed visible only (V/O) notification appliances

General features:

- Multi-candela Xenon strobe available in low: 15 cd, 30 cd, 75 cd, and 110 cd; and high: 110 cd , 135 cd, and 185 cd range candela models
- Small compact design and low current draw due to energy efficient Xenon tube strobes, with LED indicators
- Advanced addressable notification controlled by IDNAC SLCs.
- IDNAC SLCs provide regulated 29 VDC for options to operate horns with lower current
- Removable cover for access to electrical test point
- Strobe intensity programming from the FACU or the device
- Wiring supervision to each appliance with T-tapped connections for Class B circuits simplifies wiring. Class A circuits require in/out wiring
- Self-Test Mode with onboard sensors to detect the strobe output and then report their status to the FACU
- TrueAlert Device Reports at the FACU detail appliance point ID, custom label, type, and candela setting
- Magnet test diagnostics for checkout and testing of appliances and wiring
- Compatibile with ADA requirements
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526
- Synchronized strobe operation on the IDNAC channel

LED indicator and magnet test feature:

- LED indicates successful magnet test, 3-digit IDNAC address, and candela rating
- Option for LED to blink every polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the magnet test blinks the LED to indicate appliance address and can be set to flash the strobe LEDs

Mechanical design features

- Rugged, high-impact, flame retardant thermoplastic housing in red and white colors
- Various covers and lettering options available
- Covers can be removed without disturbing the connected housing or causing trouble conditions
- In/out wiring terminals for 18 AWG to 12 AWG
- Mounts on 4 in. square or single gang USA electrical boxes.

  Note: Adapter plate required for mounting on single gang electrical boxes

- Optional wire guards

Figure 1: Indoor ceiling mount strobe



Strobe application reference

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).

TrueAlert addressable wiring isolator

Isolator model 4905-9929

Isolator model 4905-9929 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. Refer to data sheet *TrueAlert Addressable Isolator+ Module, Model 4905-9929 S4905-0001* for additional information.

TrueAlert ES diagnostics

Test features

Controllers can be selected to pulse each appliance's LED when it receives a supervision poll. When the controller is in diagnostic mode, the appliance magnet test feature provides a response at the individual test appliance.

Silent appliance magnet test

The appliance LED pulses to indicate the appliance's address when performing a magnet test.

Operational appliance magnet test

In this test mode the appliance LED indicates the address, then the strobe will briefly flash to indicate proper operation.

TrueStart instrument two (TSIT)

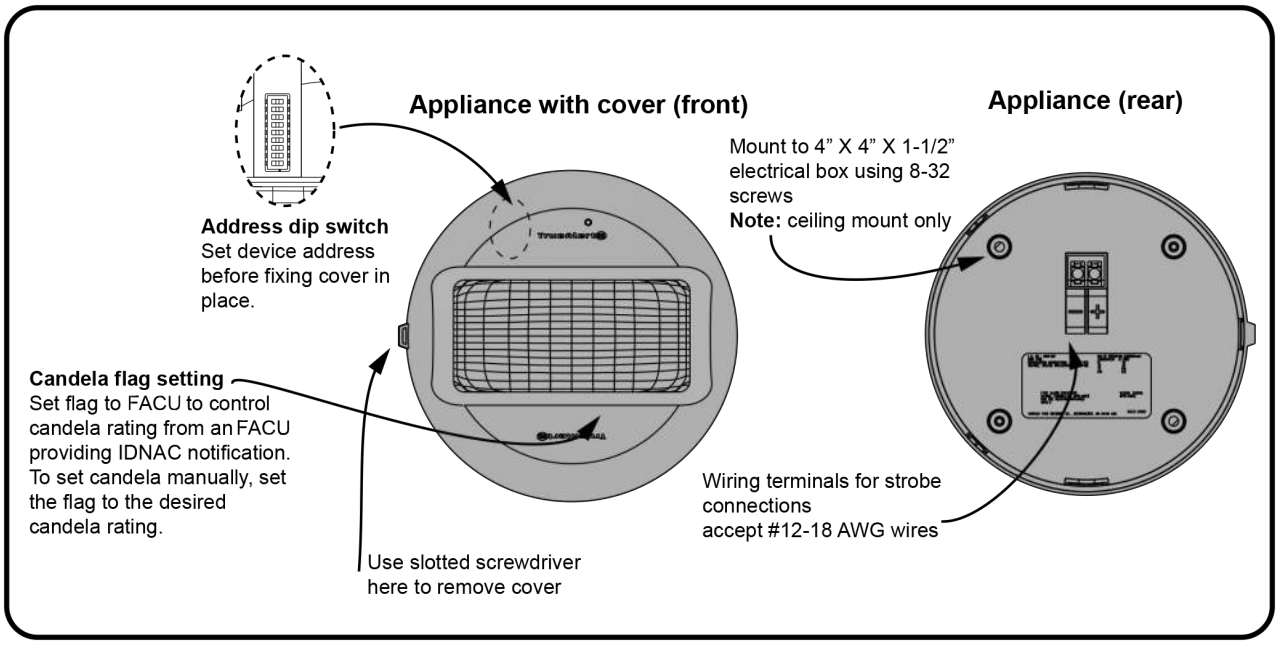
The 2nd generation of the Simplex TrueStart Test Instrument adds testing of IDNAC SLC wiring and TrueAlert ES appliances to its ability to test IDCs, NACs, and IDNet communications before connection to the FACU. Contact your local Simplex representative for additional information.

* Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co.

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Installation reference

Figure 2: Indoor Ceiling Mount Strobe installation



IDNAC SLC operation advantage

TrueAlert Addressable visible appliances on IDNAC SLCs

TrueAlert Addressable visible appliances on IDNAC SLCs provide visible notification with a two-wire circuit. The circuit also confirms connection to the individual notification appliance's electronic circuit. This increases circuit supervision integrity by providing supervision that extends beyond the appliance wiring connections.

Reduced current usage on IDNAC SLCs

The system maintains a constant 29 VDC source voltage, even during battery standby. Appliances can operate at higher voltage with lower current. This ensures a consistent current draw and voltage drop margin under both primary power and secondary battery standby. This gives the option for wiring distances up to 3 times farther than with conventional notification, support for more appliances for each IDNAC SLC, and options to use smaller gauge wiring.

Reducing Installation and Testing Time

Separate controls on the same two-wire SLC reduces installation time and expense for both retrofit and new construction. When Class B wiring is used, wiring can be T-tapped for more optimisation of distance, wire, conduit size and utilization, and installation. Use of the magnet test feature improves installation efficiency. TrueAlert device reports identify information about each connected appliance.

Product selection

Table 1: Ceiling mount addressable visual only V/O appliances

Model*	Lens color	Description	Installation Instructions
49VO-APPLC	Clear	V/O appliance only. Select cover separately.	579-1227
49VO-APPLC-BA			
49VOH-APPLC			
49VOH-APPLC-BA			
49VOH-APPLCA-BA	Amber		
49VOH-APPLCB-BA	Blue		
49VOH-APPLCG	Green		579-1280
49VOH-APPLCR	Red		

Table 2: Surface/WP back boxes

Model	Color	Description	Installation instructions
49WPBB-VOCR	Red	Surface/WP back box in red	579-1270
49WPBB-VOCW	White	Surface/WP back box in white	

Note: Use WP back boxes for surface mounting only. Using weatherproof back boxes does not make an appliance weatherproof.

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Table 3: Adapter plates

Model	Description	Installation Instructions
49VO-APCS	V/O Ceiling Mount Adapter Plate. Required for mounting on a single gang electrical box.	579-1227

Table 4: V/O covers (required when ordering APPLC models)

Model*	Color	Wording
49VOC-CRFBL	Red	FUEGO/FOGO
49VOC-CRALT	Red	ALERT
49VOC-CRBF		FEU/FIRE
49VOC-CRFEU		FEU
49VOC-CRF		FIRE
49VOC-CRS		Simplex logo only
49VOC-CRBCF	Red	إنذار/ALERT 火警/FIRE حريق/FIRE
49VOC-CK	Black	Blank
49VOC-CWALT	White	ALERT
49VOC-CWBF		FEU/FIRE
49VOC-CWFEU		FEU
49VOC-CWF		FIRE
49VOC-CWS		Simplex logo only
		إنذار/ALERT
49VOC-CWBCF	White	火警/FIRE حريق/FIRE

Table 5: Wire guards

Model	Description
49WG-VOCR	VO Ceiling Mount Red Wire Guard
49WGBB-VOCR	VO Ceiling Mount Wire Guard Back Box

Note: * (-BA) indicates model is available either with or without the -BA suffix. Model numbers ending in –BA are assembled in the USA

IDNAC SLC controller compatibility reference

Table 6: Compatibility reference

Compatible Controllers	Data Sheet Reference	Controller Output	IDNAC SLC Output Voltage	Appliance Voltage Design Reference
4100ES with EPS+ or EPS Power Supply	S4100-0100	IDNAC SLC	29 VDC (regulated)	23 VDC (with 6 VDC drop)
4009 IDNAC Repeater	S4009-0004			
4007ES Fire Alarm Control Unit with IDNAC	S4007-0002			
Note: See TrueAlert ES V/O LEGACY compatibility reference for 17 VDC ratings				

Ceiling mount V/O specifications

Table 7: Specifications

Specification	Rating
Environmental	32°F to 120°F (0°C to 49°C); 10% to 93%, non-condensing at 104°F (40°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. Use Unshielded Twisted Pair (UTP) for IDNAC.
IDNAC SLC Loading	Maximum of 127 addresses per SLC, 139 unit loads. See device and compatible FACU Installation Instructions for circuit current load limits.

Table 8: Percentage of rated light output at room temperature

Angle	On-Axis	Vertical, Below Axis		Horizontal, Left/Right of Axis	
	0°	45°	90°	45°	90°
UL required output	100%	45%	25%	45%	25%
Typical output	327%	134%	83%	129%	47%

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Table 9: Appliance specifications

Specification		Rating						
Operating Voltage Range		23 VDC to 30 VDC, Special Application						
Supervisory Requirements		1 unit load (= 0.8 mA FACU current)						
Flash Rate and Synchronized SLC Loading		1 Hz; with up to 63 synchronized strobes maximum per powered circuit, max 127 S/V appliances per IDNAC channel						
Current consumption, see note	**Candela Setting**	**15 cd**	**30 cd**	**75 cd**	**90/95 cd**	**110 cd**	**135 cd**	**185 cd**
	49VO model	55 mA	83 mA	153 mA	N/A	199 mA	N/A	N/A
	49VOH model	N/A	N/A	N/A	N/A	253 mA	296 mA	377 mA
	49VOH amber lens	N/A	N/A	N/A	253 mA (90 cd)	296 mA	377 mA	N/A
	49VOH blue lens	N/A	N/A	253 mA	296 mA (95 cd)	377 mA	N/A	N/A
Note: Measured at 23 VDC on IDNAC Addressable SLC								

TrueAlert ES V/O LEGACY compatibility reference

Table 10: Compatibility reference

Compatible Controller	Data Sheet Reference	Controller Output	Available Strobe Intensity	Appliance Voltage Minimum
4100ES or 4100U with TrueAlert Power Supply	S4100-0031	TrueAlert Addressable SLC	15 cd, 30 cd, 75 cd, and 110 cd	17 VDC
4009 TPS, Remote TrueAlert 17 VDC Power Supply, see note.	S4100-0037			
TrueAlert Addressable Controller (4009T)	S4009-0003			
Electrical ratings differences for legacy applications, see IDNAC SLC controller compatibility reference for 29 VDC ratings				
Voltage Range		17 VDC to 31 VDC, Special Application		
Candela Setting	**15 cd**	**30 cd**	**75 cd**	**110 cd**
17 VDC RMS Current Ratings, with horn on continuous at high setting, use when connected to TrueAlertAddressable SLCs per above	73 mA	114 mA	210 mA	269 mA

Note: * For connection to legacy fire panel models Simplex 4009T and 4100/TPS. High candela (49VOH) appliances are not compatible with Simplex models 4009T and TPS, see the fire panel compatibility charts.

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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 ED CT REPLACEMENT
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012



Prepared for:

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

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 ED CT REPLACEMENT
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
49MTV-WRF	MULTI-TONE A/V, RED, WALL MOUNT
49VO-APPLC	VO APPLIANCE ONLY CEIL MT
49VOC-CRF	VO COVER, CEIL MT, RED, FIRE

Features

TrueAlarm analog sensing

You can use TrueAlarm analog sensing to digitally transmit analog sensor values with IDNet or MAPNET II two-wire communications.

You can use True Alarm analog sensing with the following Simplex products:

- 4007ES, 4010, 4010ES, 4100ES, and 4100U series fire alarm control units (FACUs), and 4008 series FACUs with reduced feature set.
- 4020, 4100, and 4120 series FACUs, Universal Transponders, and 2120 TrueAlarm CDTs equipped for MAPNET II operation

Features compatible with the FACU

- Peak value logging with accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring meets NFPA 72 sensitivity testing requirements. The 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 English

Photoelectric smoke sensors features

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

Heat sensors 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 isolator2 bases, refer to data sheet *S4098-0026*
- 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.

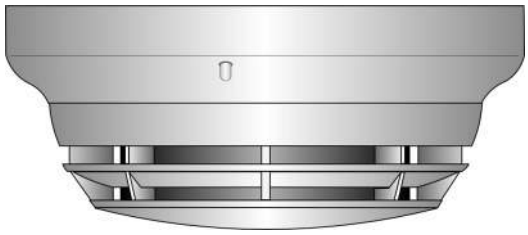
Intelligent data evaluation

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 reduces the probability of false or nuisance alarms caused by shifts in sensitivity.

Control unit selection

The control unit stores peak activity for each sensor for 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 or 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 display at the control unit and the sensor's base LED turn on steadily. During a system alarm, an LED indicating a trouble returns 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.

Sensor bases

4098-9792, standard sensor base

4098-9789, sensor base with wired connections

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

Supervised relay bases not compatible with 2120 CDT:

- **4098-9791, four-wire sensor base,** use with remote or locally mounted 2098-9737 relay, requires separate 24 VDC
- **4098-9780, two-wire sensor base,** use with remote or locally mounted 4098-9860 relay, no separate power required
- You can program supervised relay operation, and manually operate it from the 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 or 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 or 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 a 4 in. octagonal box
- You can use the 4098-9832 adapter plate for cosmetic retrofitting to an 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 monitor the status of the detachable photoelectric or heat sensors. The sensors transmit digitalized output to the system fire alarm control unit every four seconds.

You can change different TrueAlarm sensor types to meet location requirements. You can use this feature to substitute sensors during building construction. When conditions are temporarily dusty, you can install heat sensors without reprogramming the control unit. Although the control unit indicates an incorrect sensor type, the heat sensor operates at a default sensitivity and provides heat detection for building protection at that location.

Mounting reference

Figure 3: Mounting reference

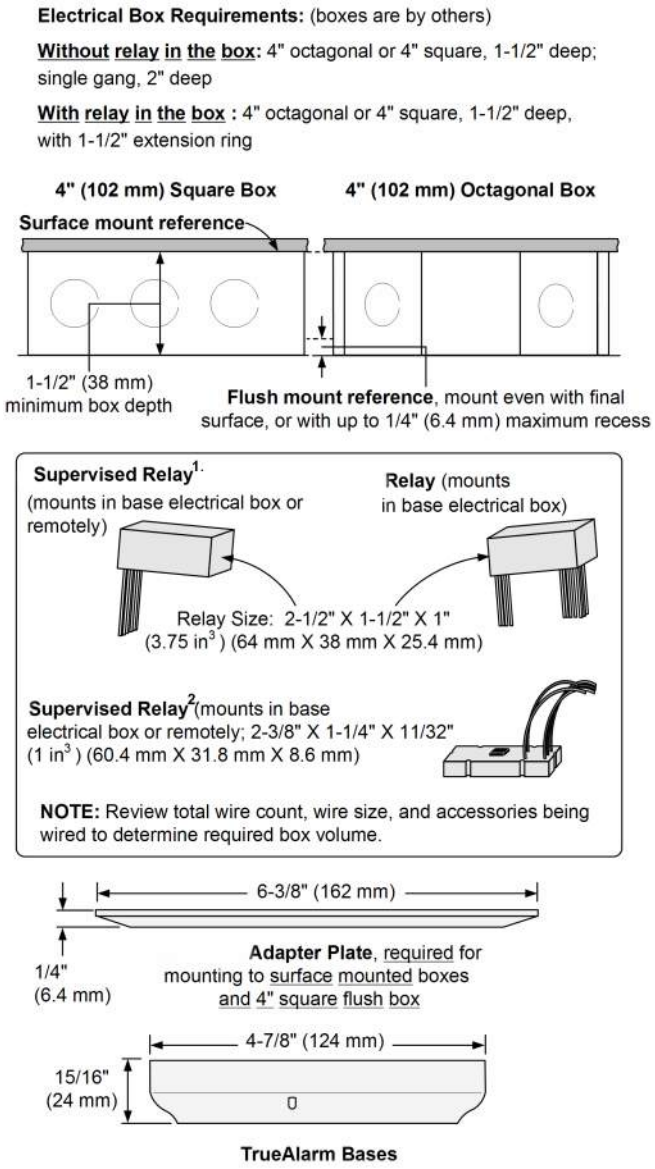


Table 1: Product mounting - SKU reference

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

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

Table 2: 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 only apply to the 4098-9734 sensor.

Smoke sensors

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

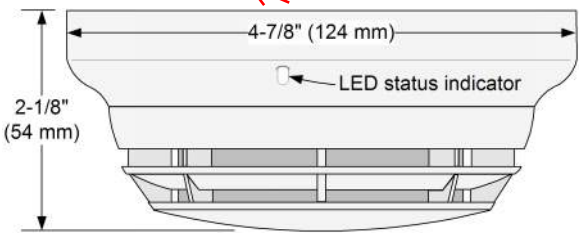
4098-9714 photoelectric sensor

TrueAlarm photoelectric sensors use a stable, pulsed LED light source and a silicon photodiode receiver to deliver 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 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 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 with or without rate-of-rise temperature sensing. The sensor 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, when the temperature reaches the rated fixed temperature setting, it triggers an alarm.

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

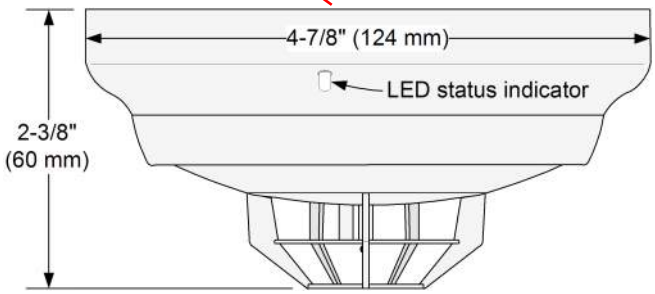
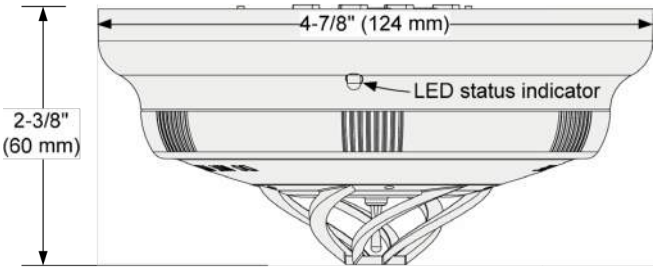


Figure 6: 4098-9734 high temperature heat sensor with base



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

Only choose sensor locations after careful consideration of the physical layout and contents of the area that you want to protect. Refer to NFPA 72, *the National Fire Alarm and Signaling Code*. On smooth ceilings, you can use a smoke sensor spacing of 30 ft (9.1 m) as a guide.

For detailed application information including sensitivity selection, refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)*.

TrueAlarm analog sensing product selection chart

Table 3: TrueAlarm sensor bases, for use with sensors 4098-9714 and 4098-9733

SKU	Color	Description	Compatibility	Mounting requirements
4098-9792	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	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 5
4098-9775	Black			
4098-9791 **Note:** NOT compatible with the 2120 CDT	White	Four-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 **Note:** NOT compatible with the 2120 CDT	White	Two-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.

Refer to *4098 Detectors, Sensors, and Bases Application Manual (574-709)* and *4098 Smoke/Heat Sensor Bases Installation Instructions (574-707)* for additional information.

Table 4: TrueAlarm sensors

SKU	Color	Description	Compatibility	Mounting requirements
4098-9714 4098-9714-IND	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	White	Heat sensor		
4098-9778	Black			
4098-9734	White	High temperature heat sensor		

Note:

- SKUs are NEMA 1 rated.
- The 4098-9734 Heat Sensor is only compatible with IDNet on the 4100ES, 4010ES, and 4007ES

Table 5: TrueAlarm sensor and base accessories

SKU	Description	Compatibility	Mounting requirements
2098-9737	Supervised relay, mounts remote or in base electrical box	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	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:** Only mounts 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.

Specifications

Table 6: 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

Table 6: General operating specifications

Specification		Rating
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 7: 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 8: 4098-9780 Base with supervised remote relay 4098-9860

Specification	Rating
Power	Supplied from communications

Table 9: 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

TrueAlert ES Addressable Notification Appliances

*UL, ULC, CSFM Listed**
*FM Approved**

Audible/Visible Notification Appliances;
Multi-Tone Horn/Strobe with 520 Hz Output

Features

Individually addressed and controlled multi-tone and multi-candela TrueAlert ES A/V (audible/visible) notification appliances provide:

- Multi-candela xenon strobe with synchronized 1 Hz flash rate and with intensity ***programmable from the control panel*** or jumper selected as 15, 30, 75, 110, 135, or 185 cd
- Advanced addressable notification controlled by ***IDNAC SLCs*** providing ***regulated 29 VDC*** allowing strobes to operate with lower current even under battery backup
- Wiring supervision to each appliance allowing "T-tapped" connections for Class B circuits to simplify wiring (Class A circuits require in/out wiring)
- ***Self-Test Mode*** allows on-board sensors to detect the strobe and horn output and then report their status to the control panel
- Per appliance tone selection of: 520 Hz Horn, Broadband Horn, Bell, Chime, High/Low, Slow Whoop, or Siren; *programmable from the control panel*, or selected using an on-board DIP Switch (refer to sound output details on page 4)
- 520 Hz tone is compliant with NFPA 72 Low Frequency Signal Requirements for Sleeping Areas
- Horn, Bell, and High/Low tones can be controlled as: Temporal Code 3, Temporal Code 4, March Time (selectable as 20, 60, or 120 bpm), or Continuous
- Slow Whoop, Siren, and Chime tone selections are controlled as synchronized continuous operation
- Output of "high" or "low" (~6 dBA difference) selectable at the appliance or from the controller with FACP mode selected at the appliance
- ***TrueAlert Device Reports*** at the control panel detailing appliance point ID, custom label, type, and candela setting (see sample on page 3)
- ***Magnet Test diagnostics*** to assist checkout and testing of appliances and wiring
- ***Electrical test point access*** without removing cover
- Compatibility with ADA requirements; (refer to important installation information on page 3)
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526; Horn operation is listed to UL Standard 464 and ULC Standard S525

LED Indicator and Magnet Test feature:

- Appliance LED can be selected to display each polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the Magnet Test pulses the LED to indicate appliance address and can be set to also briefly flash the strobe and sound the horn



TrueAlert ES Multi-Tone Addressable A/Vs are Available in Red with White Lettering and White with Red Lettering

Features *(Continued)*

Mechanical design features include:

- Rugged, high impact, flame retardant thermoplastic housing in red with white letters or white with red letters, with clear lens, available with FIRE, FEU, ALERT, FEU/FIRE, or blank lettering
- Separate covers are available to change application type on-site or for replacement; covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- A separate mounting plate allows wiring to be completed before appliance is mounted; use with single gang, double gang, or 4-inch square box, flush or surface mount
- In/out wiring terminals for 18 AWG to 12 AWG
- Optional mounting adapters are available to cover surface mounted electrical boxes and to adapt to Simplex 2975-9145 boxes

Description

TrueAlert ES addressable multi-tone A/Vs are individually addressed audible/visible notification appliances that receive power, supervision, and control signals from a Simplex fire alarm control panel providing **IDNAC** Signaling Line Circuits (SLCs). (See compatibility list on page 4.)

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).

* 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 7135-0026:0380 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.

TrueAlert ES Operation Advantage

TrueAlert ES addressable appliances on IDNAC SLCs provide separate visible and audible notification using a single two-wire circuit that also *confirms connection to the individual notification appliance's electronic circuit*. This operation increases circuit supervision integrity by providing supervision that extends beyond the appliance wiring connections.

Reduced current allows efficient IDNAC SLC operation. With ***IDNAC SLCs***, a ***constant*** 29 VDC source voltage is maintained, even during battery standby, allowing strobes to operate at higher voltage with lower current and ensuring a consistent current draw and voltage drop margin under both primary power and secondary battery standby. Efficiencies include wiring distances up to 2 to 3 times farther than with conventional notification, or support for more appliances per IDNAC SLC, or use of smaller gauge wiring, or combinations of these benefits, all providing installation and maintenance savings with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions.

Reducing Installation and Testing Time. With separate controls on the same two-wire SLC, installation time and expense for both retrofit and new construction can be significantly reduced. When Class B wiring is used, *wiring can be "T" tapped*, allowing more savings in distance, wire, conduit (size and utilization), and overall installation efficiency. Use of Self-Test and Magnet Test features improve installation efficiency. TrueAlert device reports conveniently identify information about each connected appliance.

TrueAlert ES Diagnostics

Test Features. When IDNAC SLCs are in diagnostic mode, *Self-Test* and *Magnet Test* features provide individual appliance testing. With the *Self-Test* feature, *appliance operation can be confirmed without leaving the control panel*. Additionally, each appliance's LED can be selected to pulse when it receives a supervision poll during normal operation.

***Self-Test* Details.** Selecting Self-Test Mode from the control panel allows on-board sensors, depending on the device type, to detect its own strobe and/or horn output and then report their status to the control panel. Operation is by selected VNAC appliance groups and is either automatic (all briefly simultaneously activated) or individually activated by applying a magnet. (Refer to control panel data sheet for more Self-Test information, see list on page 4.)

Silent Appliance Magnet Test. In this test mode, in response to application of a magnet, the appliance LED pulses sequentially to conveniently indicate the appliance's address.

Operational Appliance Magnet Test. In this test mode, after the address is indicated by pulsing the appliance LED, the strobe will briefly flash and the horn will briefly sound to indicate proper operation.

TrueStart Instrument Two (TSIT). The 2nd generation of the Simplex TrueStart Test Instrument adds testing of IDNAC SLC wiring and TrueAlert ES appliances to its ability to test IDCs, NACs, and IDNet communications *before connection to the control panel*. Please contact your local Simplex representative for additional information.

TrueAlert Addressable Wiring Isolator

Isolator Model 4905-9929 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. (See data sheet S4905-0001.)

Product Selection

TrueAlert ES Wall Mount Multi-Tone Addressable Audible/Visible Appliances

TrueAlert ES multi-tone addressable A/V appliances include cover and matching mounting plate except as noted;
Dimensions with Cover = 5 ⅛" H x 5" W x 2 ⅝" D (130 mm x 127 mm x 67 mm)

Model*	Cover Color	Wording	Lens Color	Model*	Cover Color	Wording	Lens Color
49MTV-WRF(-BA)	Red	FIRE	Clear	49MTV-WRS-BA	Red	Blank	Clear
49MTV-WWF(-BA)	White			49MTV-WWS-BA	White		
49MTV-APPLW(-BA)	Select cover and mounting plate separately						

Separate Mounting Plate (Required when ordering model 49MTV-APPLW(-BA))

Model*	Color	Model	Color	Note
49MP-AVVOWR	Red	49MP-AVVOWW	White	Mounting Plate, select color to match cover

*** Note:** (-BA) indicates model is available either with or without the -BA suffix. Model numbers ending in -BA, APPLW models, and separate mounting plates are assembled in the USA.

Separate Covers (Required when ordering model 49MTV-APPLW(-BA), uses same covers as 49AV Series fixed tone A/Vs)

Model	Color	Wording	Model	Color	Wording
49AVC-WRFIRE	Red	FIRE	49AVC-WRFEU	Red	FEU
49AVC-WWFIRE	White		49AVC-WWFEU	White	
49AVC-WRALT	Red	ALERT	49AVC-WRBLNG	Red	FEU/FIRE
49AVC-WWALT	White		49AVC-WWBLNG	White	
49AVC-WRS	Red	Logos Only	49AVC-WWS	White	Logos Only

Mounting Adapters

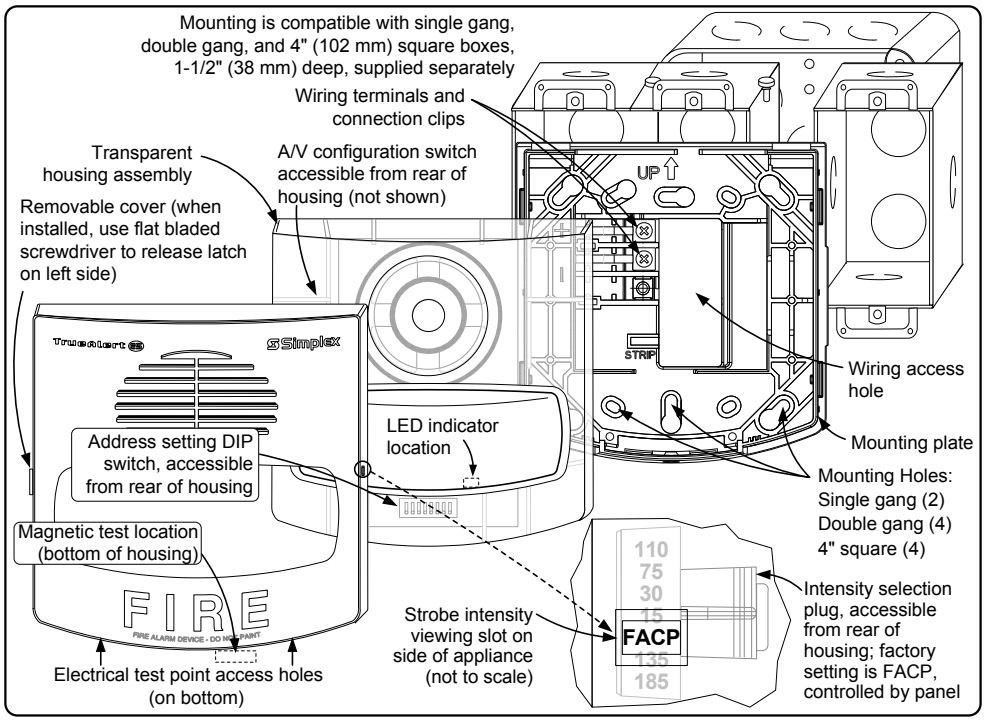
Model	Color	Description	Dimensions
4905-9937	Red	Surface Mount Adapter Skirt	5 ⅜" H x 5 ¼" W x 1 ⅝" D (136 mm x 133 mm x 41 mm) Total depth with strobe = 4 ⅜" (111 mm)
4905-9940	White		
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 Box (typically for retrofit, mount vertical or horizontal)		8 $\frac{5}{16}$" x 5 ¾" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red Mounting Box, requires 4905-9931 Adapter Plate		7 ⅞" x 5 ⅛" x 2 ¾" D (200 mm x 130 mm x 70 mm)

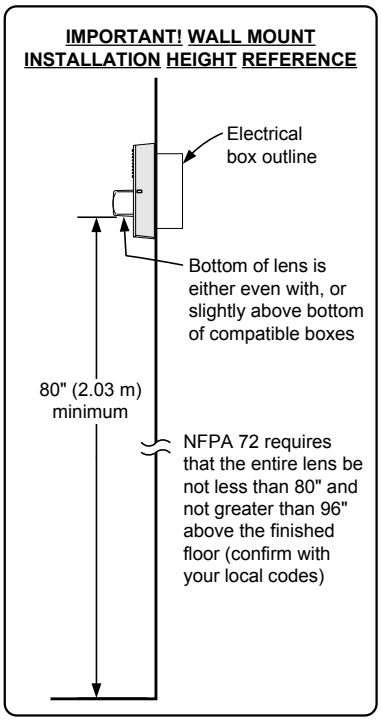
TrueAlert Device Reports Reference

Service Port — Page 1
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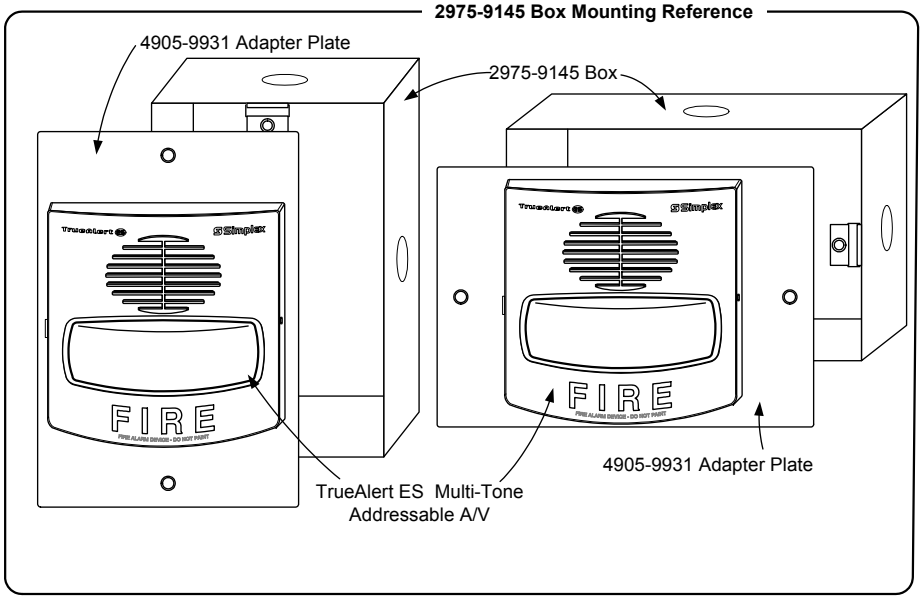
POINT ID	CUSTOM LABEL	DEVICE TYPE	CANDELA
T14-1-1	Location Label . . . up to 40 characters	MT AV	15
T14-1-2	Break Room 5	MT AV	110
T14-1-3	Boiler Room	VO	75
T14-1-4	Elec. Room 7	AV	135

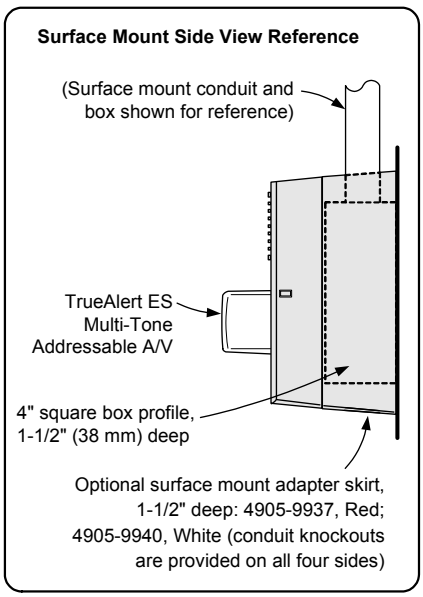
Installation Reference





Adapter Plate and Surface Mount Installation Reference





IDNAC SLC Controller Compatibility Reference

Compatible Controllers	Data Sheet Reference	Controller Output	IDNAC SLC Output Voltage	Appliance Voltage Design Reference
4100ES with EPS+ or EPS Power Supply	S4100-0100	IDNAC SLC	29 VDC (regulated)	23 VDC (with 6 VDC drop)
4009 IDNAC Repeater	S4009-0004			
4007ES with IDNAC Notification	S4007-0002			
4010ES with ESS Enhanced System Supply	S4010-0011			

TrueAlert ES A/V Specifications

Electrical Ratings	Typical Operating Voltage Range	23 VDC to 29.5 VDC, Special Application
	Supervisory Requirements	2 unit loads (1 unit load = 0.8 mA control panel current)
	49MTV Series SLC Loading	Up to 21 appliances can connect directly to the panel IDNAC SLC or to a 4009 IDNAC Repeater output, to a maximum of 127 addresses and 139 unit loads per SLC
IDNAC SLC Wiring Specifications (refer to control panel or power supply installation instructions for more information)		UTP, unshielded twisted pair recommended
		Maximum wire length allowed with "T-Taps" for Class B wiring per SLC = 10,000 ft (3048 m)
		Maximum wire length to any appliance = 4000 ft (1219 m)

Tone Characteristics

520 Hz Horn	520 Hz tone	These tones are compatible with control panel IDNAC commands for operation as Temporal Code 3, Temporal Code 4, March Time at 20, 60, or 120 bpm, or Continuous operation
Broadband Horn	Combination 600/3000 Hz signal	
Bell	Synthesized Bell tone	
High/Low	Alternating modulated tones with fundamentals of 1000 Hz and 800 Hz, 250 ms duration each	
Slow Whoop	Modulated 520 Hz to 1200 Hz sweep with 2 s duration	These tones operate as Continuous with synchronization
Siren	Modulated 600 Hz to 1200 Hz to 600 Hz sweep, with 2 s duration	
Chime	Multi-phase signal with a peak and decay time of 1 s	

TrueAlert ES Multi-Tone Horn/Strobe Current Ratings

	RMS Current Ratings @ 23 VDC, in mA											
	15 cd		30 cd		75 cd		110 cd		135 cd		185 cd	
Tone	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**	**High**	**Low**
520 Hz Horn and High/Low	145	108	163	125	198	158	230	195	262	214	299	257
Broadband Horn, Bell, Chime, Slow Whoop, and Siren	135	99	152	111	185	139	212	172	247	203	284	243

TrueAlert ES Multi-Tone Horn/Strobe Horn Output

		UL 464 Output Ratings @ 23 VDC and 29.5 VDC (dBA)*								ULC S525 Output Ratings @ 23 VDC and 29.5 VDC (dBA)*							
		Steady High		Steady Low		Coded High		Coded Low		Steady High		Steady Low		Coded High		Coded Low	
Tone	**Voltage**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**	**23**	**29.5**
520 Hz Horn		80	80	74**	75	76	76	70**	71**	83†		79†		83†		78†	
High/Low		81	82	77	77	75	76	70**	71**	87		82†		86†		82†	
Broadband Horn		84	84	79	79	81	81	74**	75	88		84†		87†		83†	
Bell		80	80	75	75	76	76	71**	71**	85		80†		85†		80†	
Slow Whoop		79	80	74**	75	these tones are not used for coded operation				85		80†		these tones are not used for coded operation			
Siren		79	80	74**	75					85		80†					
Chime**		67**	67**	62**	62**					82†		77†					

* Output ratings are at 10 ft (3 m); UL 464 ratings are per UL Reverberant Chamber testing; ULC S525 ratings are per ULC Anechoic Chamber testing. The tone generator circuit is DC-DC converter powered and provides essentially constant output over the rated voltage range.

** UL output ratings below 75 dBA are for NFPA 72 Private Mode applications.

† ULC output ratings below 85 dBA are for use in applications per applicable local codes.

Sound Output Dispersion per ULC S541 Anechoic Testing	Horizontal	-3 dBA @ ±37°	-6 dBA @ ±40°	-9.4 dBA @ ±90°
	Vertical	-3 dBA @ -24°, +42°	-6 dBA @ -59°, +50°	-8.6 dBA @ ±90°

General Specifications

Temperature Range	32° to 122° F (0° to 50° C)
Humidity Range	10% to 93%, non-condensing @ 104° F (40° C)
Connections	Terminal blocks on mounting plate for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2); two wires per terminal for in/out wiring
Installation Instructions	579-1156 for 49MTV Series A/V appliances 579-1100 for 49MP Series mounting plates

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Simplex

UL, ULC, CSFM Listed; FM Approved*

Datasheet

TrueAlert ES Addressable Notification Appliances

Visual Only Notification Appliances, Indoor Ceiling Mount Strobe, Model Series 49VO

Description

Ceiling mount addressable visible only (V/O) notification appliances

are individually powered, addressed, and controlled from a Simplex fire alarm control unit (FACU) IDNAC Signaling Line Circuit (SLC). V/O notification appliances use a multi-candela strobe with synchronized 1 Hz flash rate and selectable candela rating. Xenon tube strobes devices are interoperable on the same IDNAC channel. Separate appliance and cover selection simplifies the ordering and installation process.

Features

Individually addressed visible only (V/O) notification appliances

General features:

- Multi-candela Xenon strobe available in low: 15 cd, 30 cd, 75 cd, and 110 cd; and high: 110 cd , 135 cd, and 185 cd range candela models
- Small compact design and low current draw due to energy efficient Xenon tube strobes, with LED indicators
- Advanced addressable notification controlled by IDNAC SLCs.
- IDNAC SLCs provide regulated 29 VDC for options to operate horns with lower current
- Removable cover for access to electrical test point
- Strobe intensity programming from the FACU or the device
- Wiring supervision to each appliance with T-tapped connections for Class B circuits simplifies wiring. Class A circuits require in/out wiring
- Self-Test Mode with onboard sensors to detect the strobe output and then report their status to the FACU
- TrueAlert Device Reports at the FACU detail appliance point ID, custom label, type, and candela setting
- Magnet test diagnostics for checkout and testing of appliances and wiring
- Compatibile with ADA requirements
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526
- Synchronized strobe operation on the IDNAC channel

LED indicator and magnet test feature:

- LED indicates successful magnet test, 3-digit IDNAC address, and candela rating
- Option for LED to blink every polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the magnet test blinks the LED to indicate appliance address and can be set to flash the strobe LEDs

Mechanical design features

- Rugged, high-impact, flame retardant thermoplastic housing in red and white colors
- Various covers and lettering options available
- Covers can be removed without disturbing the connected housing or causing trouble conditions
- In/out wiring terminals for 18 AWG to 12 AWG
- Mounts on 4 in. square or single gang USA electrical boxes.

  Note: Adapter plate required for mounting on single gang electrical boxes

- Optional wire guards

Figure 1: Indoor ceiling mount strobe



Strobe application reference

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).

TrueAlert addressable wiring isolator

Isolator model 4905-9929

Isolator model 4905-9929 is available for remote mounting on TrueAlert addressable circuits to isolate short circuited wiring from functioning wiring. Refer to data sheet *TrueAlert Addressable Isolator+ Module, Model 4905-9929 S4905-0001* for additional information.

TrueAlert ES diagnostics

Test features

Controllers can be selected to pulse each appliance's LED when it receives a supervision poll. When the controller is in diagnostic mode, the appliance magnet test feature provides a response at the individual test appliance.

Silent appliance magnet test

The appliance LED pulses to indicate the appliance's address when performing a magnet test.

Operational appliance magnet test

In this test mode the appliance LED indicates the address, then the strobe will briefly flash to indicate proper operation.

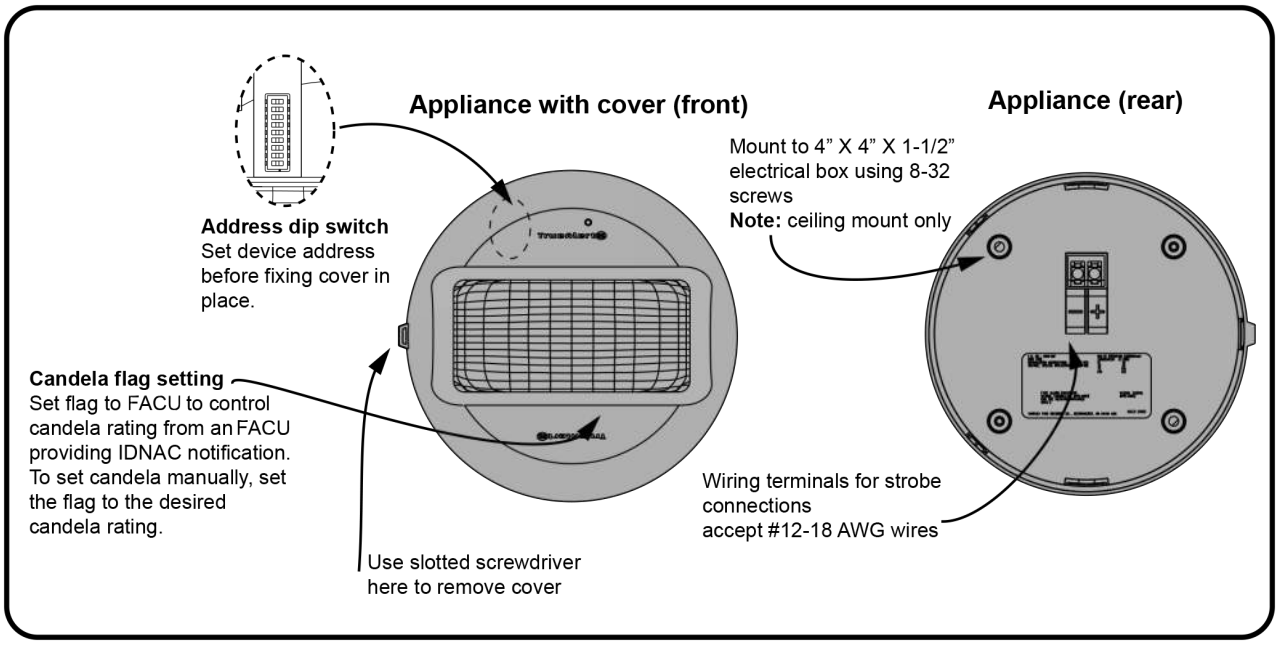
TrueStart instrument two (TSIT)

The 2nd generation of the Simplex TrueStart Test Instrument adds testing of IDNAC SLC wiring and TrueAlert ES appliances to its ability to test IDCs, NACs, and IDNet communications before connection to the FACU. Contact your local Simplex representative for additional information.

* Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co.

Installation reference

Figure 2: Indoor Ceiling Mount Strobe installation



IDNAC SLC operation advantage

TrueAlert Addressable visible appliances on IDNAC SLCs

TrueAlert Addressable visible appliances on IDNAC SLCs provide visible notification with a two-wire circuit. The circuit also confirms connection to the individual notification appliance's electronic circuit. This increases circuit supervision integrity by providing supervision that extends beyond the appliance wiring connections.

Reduced current usage on IDNAC SLCs

The system maintains a constant 29 VDC source voltage, even during battery standby. Appliances can operate at higher voltage with lower current. This ensures a consistent current draw and voltage drop margin under both primary power and secondary battery standby. This gives the option for wiring distances up to 3 times farther than with conventional notification, support for more appliances for each IDNAC SLC, and options to use smaller gauge wiring.

Reducing Installation and Testing Time

Separate controls on the same two-wire SLC reduces installation time and expense for both retrofit and new construction. When Class B wiring is used, wiring can be T-tapped for more optimisation of distance, wire, conduit size and utilization, and installation. Use of the magnet test feature improves installation efficiency. TrueAlert device reports identify information about each connected appliance.

Product selection

Table 1: Ceiling mount addressable visual only V/O appliances

Model*	Lens color	Description	Installation Instructions
49VO-APPLC 49VO-APPLC-BA	Clear	V/O appliance only. Select cover separately.	579-1227
49VOH-APPLC 49VOH-APPLC-BA			
49VOH-APPLCA-BA	Amber		
49VOH-APPLCB-BA	Blue		
49VOH-APPLCG	Green		579-1280
49VOH-APPLCR	Red		

Table 2: Surface/WP back boxes

Model	Color	Description	Installation instructions
49WPBB-VOCR	Red	Surface/WP back box in red	579-1270
49WPBB-VOCW	White	Surface/WP back box in white	

Note: Use WP back boxes for surface mounting only. Using weatherproof back boxes does not make an appliance weatherproof.

Table 3: Adapter plates

Model	Description	Installation Instructions
49VO-APCS	V/O Ceiling Mount Adapter Plate. Required for mounting on a single gang electrical box.	579-1227

Table 4: V/O covers (required when ordering APPLC models)

Model*	Color	Wording
49VOC-CRFBL	Red	FUEGO/FOGO
49VOC-CRALT	Red	ALERT
49VOC-CRBF		FEU/FIRE
49VOC-CRFEU		FEU
49VOC-CRF		FIRE
49VOC-CRS		Simplex logo only
49VOC-CRBCF	Red	إنذار/ALERT 火警/FIRE حريق/FIRE
49VOC-CK	Black	Blank
49VOC-CWALT	White	ALERT
49VOC-CWBF		FEU/FIRE
49VOC-CWFEU		FEU
49VOC-CWF		FIRE
49VOC-CWS		Simplex logo only
		إنذار/ALERT
49VOC-CWBCF	White	火警/FIRE حريق/FIRE

Table 5: Wire guards

Model	Description
49WG-VOCR	VO Ceiling Mount Red Wire Guard
49WGBB-VOCR	VO Ceiling Mount Wire Guard Back Box

Note: * (-BA) indicates model is available either with or without the -BA suffix. Model numbers ending in –BA are assembled in the USA

IDNAC SLC controller compatibility reference

Table 6: Compatibility reference

Compatible Controllers	Data Sheet Reference	Controller Output	IDNAC SLC Output Voltage	Appliance Voltage Design Reference
4100ES with EPS+ or EPS Power Supply	S4100-0100	IDNAC SLC	29 VDC (regulated)	23 VDC (with 6 VDC drop)
4009 IDNAC Repeater	S4009-0004			
4007ES Fire Alarm Control Unit with IDNAC	S4007-0002			
Note: See TrueAlert ES V/O LEGACY compatibility reference for 17 VDC ratings				

Ceiling mount V/O specifications

Table 7: Specifications

Specification	Rating
Environmental	32°F to 120°F (0°C to 49°C); 10% to 93%, non-condensing at 104°F (40°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. Use Unshielded Twisted Pair (UTP) for IDNAC.
IDNAC SLC Loading	Maximum of 127 addresses per SLC, 139 unit loads. See device and compatible FACU Installation Instructions for circuit current load limits.

Table 8: Percentage of rated light output at room temperature

Angle	On-Axis	Vertical, Below Axis		Horizontal, Left/Right of Axis	
	0°	45°	90°	45°	90°
UL required output	100%	45%	25%	45%	25%
Typical output	327%	134%	83%	129%	47%

Table 9: Appliance specifications

Specification		Rating						
Operating Voltage Range		23 VDC to 30 VDC, Special Application						
Supervisory Requirements		1 unit load (= 0.8 mA FACU current)						
Flash Rate and Synchronized SLC Loading		1 Hz; with up to 63 synchronized strobes maximum per powered circuit, max 127 S/V appliances per IDNAC channel						
Current consumption, see note	**Candela Setting**	**15 cd**	**30 cd**	**75 cd**	**90/95 cd**	**110 cd**	**135 cd**	**185 cd**
	49VO model	55 mA	83 mA	153 mA	N/A	199 mA	N/A	N/A
	49VOH model	N/A	N/A	N/A	N/A	253 mA	296 mA	377 mA
	49VOH amber lens	N/A	N/A	N/A	253 mA (90 cd)	296 mA	377 mA	N/A
	49VOH blue lens	N/A	N/A	253 mA	296 mA (95 cd)	377 mA	N/A	N/A
Note: Measured at 23 VDC on IDNAC Addressable SLC								

TrueAlert ES V/O LEGACY compatibility reference

Table 10: Compatibility reference

Compatible Controller	Data Sheet Reference	Controller Output	Available Strobe Intensity	Appliance Voltage Minimum
4100ES or 4100U with TrueAlert Power Supply	S4100-0031	TrueAlert Addressable SLC	15 cd, 30 cd, 75 cd, and 110 cd	17 VDC
4009 TPS, Remote TrueAlert 17 VDC Power Supply, see note.	S4100-0037			
TrueAlert Addressable Controller (4009T)	S4009-0003			
Electrical ratings differences for legacy applications, see IDNAC SLC controller compatibility reference for 29 VDC ratings				
Voltage Range		17 VDC to 31 VDC, Special Application		
Candela Setting	**15 cd**	**30 cd**	**75 cd**	**110 cd**
17 VDC RMS Current Ratings, with horn on continuous at high setting, use when connected to TrueAlertAddressable SLCs per above	73 mA	114 mA	210 mA	269 mA

Note: * For connection to legacy fire panel models Simplex 4009T and 4100/TPS. High candela (49VOH) appliances are not compatible with Simplex models 4009T and TPS, see the fire panel compatibility charts.

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