Permit: 2019-1728824-CT
RSN: 1420286
Page 1 of 11

THE MEDICAL CENTER OF AURORA
PHARMACY RENOVATION
MODIFICATION TO EXISTING FIRE ALARM SYSTEM

Johnson Controls

Johnson Controls
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DRAWING INDEX

Sheet List Table

Sheet Number	Sheet Title
General Information (FA-000 Series)	
FA-001	COVER SHEET
Floorplans (FA-100 Series)	
FA-101	PARTIAL FIRST FLOOR DEVICE PLACEMENT PLAN & TYPICAL DEV WIRING
Risers (FA-200 Series)	
FA-201	PARTIAL RISER DIAGRAM
Calculations (FA-600 Series)	
FA-601	CALCULATIONS AND SCHEDULES
Graphic Panels (800 Series)	
FA-801	GRAPHIC MAP AT FACP

AURORA FIRE DEPARTMENT 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 2015 IFC AND THE 2017 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 2015 IFC AND THE 2009 ANSI A117.1 STANDARD.
- PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE 2015 IFC, SECTION 907.5 AND THE 2013 NFPA 72.
- FIELD INSPECTION CONSULTATION IS AVAILABLE UPON REQUEST. CALL 303-739-7420 TO REQUEST CONSULTATION.
- THE FIRE ALARM CONTRACTOR MUST COMPLETE THE NFPA72 "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. 2015 IFC SECTION 907.10.2.

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

SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
NOTIFICATION APPLIANCES - ** TAP ALL SPEAKERS AT 25 VOLTS **					
	ADDRESSABLE MULTI-CANDELA STROBE ,CEILING MOUNT, APPLIANCE ONLY, CLEAR LENS	SIMPLEX	49VD-APPLC	4" SQ. 1-1/2" D	A

GENERAL NOTES:

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

FIRE ALARM WIRE LEGEND

CIRCUIT DESCRIPTION		CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFPX	OUTDOOR *	CI.
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE; 3 twists/ft. MINIMUM	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

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

City of Aurora Building Division
Counter Permit intake by: JLG
Date: Nov 19, 2019
RSN: 1420286
Permit: 2019-1728824-CT
2021 INTERNATIONAL CODES & 2017 NEC Scope of permit to be field verified.

FIRE DEPT./BLDG DEPT. PLAN REVIEW #:

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

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 Fire Code (IFC), 2015 Edition

National Electric Code (NFPA 70), 2017 Edition

International Building Code (IBC), 2015 Edition

Life Safety Code (NFPA 101), 2012 Edition

ADA Standards for Accessible Design, 2010 Edition

Colorado Dept. of Health and Environment - Hospital Licensing Rules, 2009 Edition

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

OCCUPANCY TYPE(S):	SPRINKLER PROTECTION:	AREA:	STORIES:	CONSTRUCTION:
I-2 INSTITUTIONAL GROUP	BUILDING IS FULLY SPRINKLED	Total Approx: 450,396 SQ. FT. Scope: 1189 Sq. Ft.	Total: 6 Stories Scope: Partial 1st Floor	TYPE: 1B

SCOPE OF WORK

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

ARCHITECTURAL CHANGES ON FIRST FLOOR PHARMACY AREA. ROOM NAME CHANGES FOR RECEIVING AREA OFFICES. NO INTERIM DEVICES BEING INSTALLED. ONE NEW ADDRESSABLE CEILING MOUNTED STROBE BEING INSTALLED IN BREAKROOM / CONFERENCE 1-0502 ONCE CONSTRUCTION IS COMPLETE. UPDATE GRAPHIC MAPS WITH NEW ARCHITECTURE.

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 UL/FX OR UL/US 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.

DESIGN STATEMENT

THIS PROJECT'S DESIGN IS BASED ON THE ENGINEERED PLANS AND SPECIFICATIONS PREPARED BY:
MOODY • NOLAN; HENDERSON ENGINEERS, INCORPORATED

ARCHITECTURAL PLANS DATED:	FEBRUARY 01, 2019
MECHANICAL PLANS DATED:	FEBRUARY 01, 2019
ELECTRICAL PLANS DATED:	FEBRUARY 01, 2019
SPECIFICATIONS DATED:	FEBRUARY 01, 2019
ADDENDUM DATED:	JUNE 18, 2019

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
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/A = NOT APPLICABLE
NAC = NOTIFICATION APPLIANCE CIRCUIT
NDU = NETWORK DISPLAY UNIT
NEC = NATIONAL ELECTRIC CODE
NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
NIC = NOT IN CONTRACT
NPU = NETWORK PROCESSING UNIT
NTS = NOT TO SCALE
PAP = PRE-ACTION PANEL
RC = EXISTING TO REMOVE AND COVER
RD = EXISTING DEVICE TO BE RELOCATED
RL = RELOCATED DEVICE
RR = REMOVE EXISTING & REPLACE WITH NEW
SCC = STATUS COMMAND CENTER
SLC = SIGNALING LINE CIRCUIT
SMK = SMOKE
SUPV = SUPERVISORY
TAC = TRUEALERT ADDRESSABLE CONTROLLER
TRBL = TROUBLE
TS = TAMPER SWITCH
TYP = TYPICAL
UON = UNLESS OTHERWISE NOTED
VCC = VOICE COMMAND CENTER
VT = VALVE TAMPER
W = WATTAGE
WI = WITH
WO = WITHOUT
WF = WATERFLOW
WG = WIRE GUARD
WP = WEATHERPROOF
XP = EXPLOSION PROOF

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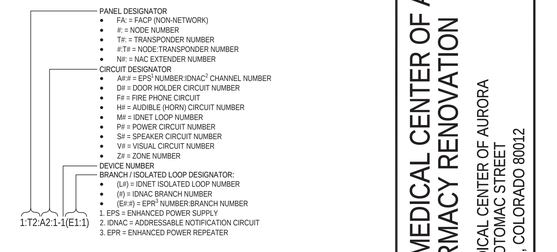
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DENVER, COLORADO 80223-1526
PHONE: 303-921-4939

CONTACT: BULL TAYLOR

Owner
HEALTH ONE
4900 SOUTH MONACO STREET
DENVER, COLORADO 80237
PHONE: 303-788-2500

DEVICE TAG LEGEND



SYSTEM SEQUENCE OF OPERATIONS

M.C.O.A.
NORTH TOWER (NODE 2)

SYSTEM OUTPUTS

SEQUENCE OF OPERATIONS	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 (SPEAKERS/TRUMPETS)	ACTIVATE SPRINKLER PAGER 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: FAN SHUT DOWN	DAMPER SHUT DOWN	RELEASE ELEVATOR FIRE DOORS	RELEASE ELEVATOR FIRE DOORS	RELEASE ASSOCIATED ROLL UP DOOR	ELEVATOR RECALL - MAIN FLOOR	ELEVATOR SHUT DOWN (1)	ELEVATOR RECALL - ALTERNATE FLOOR	ELEVATOR SHAFT FLASH	OUTSIDE HORN/STROBE	SILENCE AUDIBLE SIGNAL	ACTIVATE OUTSIDE HORN/STROBE	Supplementary	
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		
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		2	
3 SMOKE DETECTOR AT SMOKE PARTITION	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					X		X	X			X										X		6	
7 DUCT DETECTOR AT FS/S DAMPER	X	X					X		X	X			X	X									X		7	
8 MAIN FLR, ELEV. LOBBY SMOKE DETECTOR	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		9	
10 ELEV. MECH. ROOM SMOKE DETECTOR	X	X					X		X	X													X		10	
11 ELEV. SHAFT HEAT DETECTOR	X	X					X		X	X									X	X			X		11	
12 ELEV. MECH. ROOM HEAT DETECTOR	X	X					X		X	X									X	X			X		12	
13 WATERFLOW SWITCH	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	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X		

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

- Disconnect power after a time delay equal to the time it takes for the car to travel from the highest to the lowest level plus 10 seconds. New devices will be added to the existing sequence of operations. No further changes will occur.

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Revisions shown with Δ symbol

ISSUE LOC	DATE	MARK	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	AMW
CHECKED BY:	NSW
ISSUE DATE:	10/14/19
JOB #:	
PROJECT #:	419:615488701

JOHNSON CONTROLS © 2019

SYSTEM: FIRE ALARM SYSTEM

SHEET: COVER SHEET

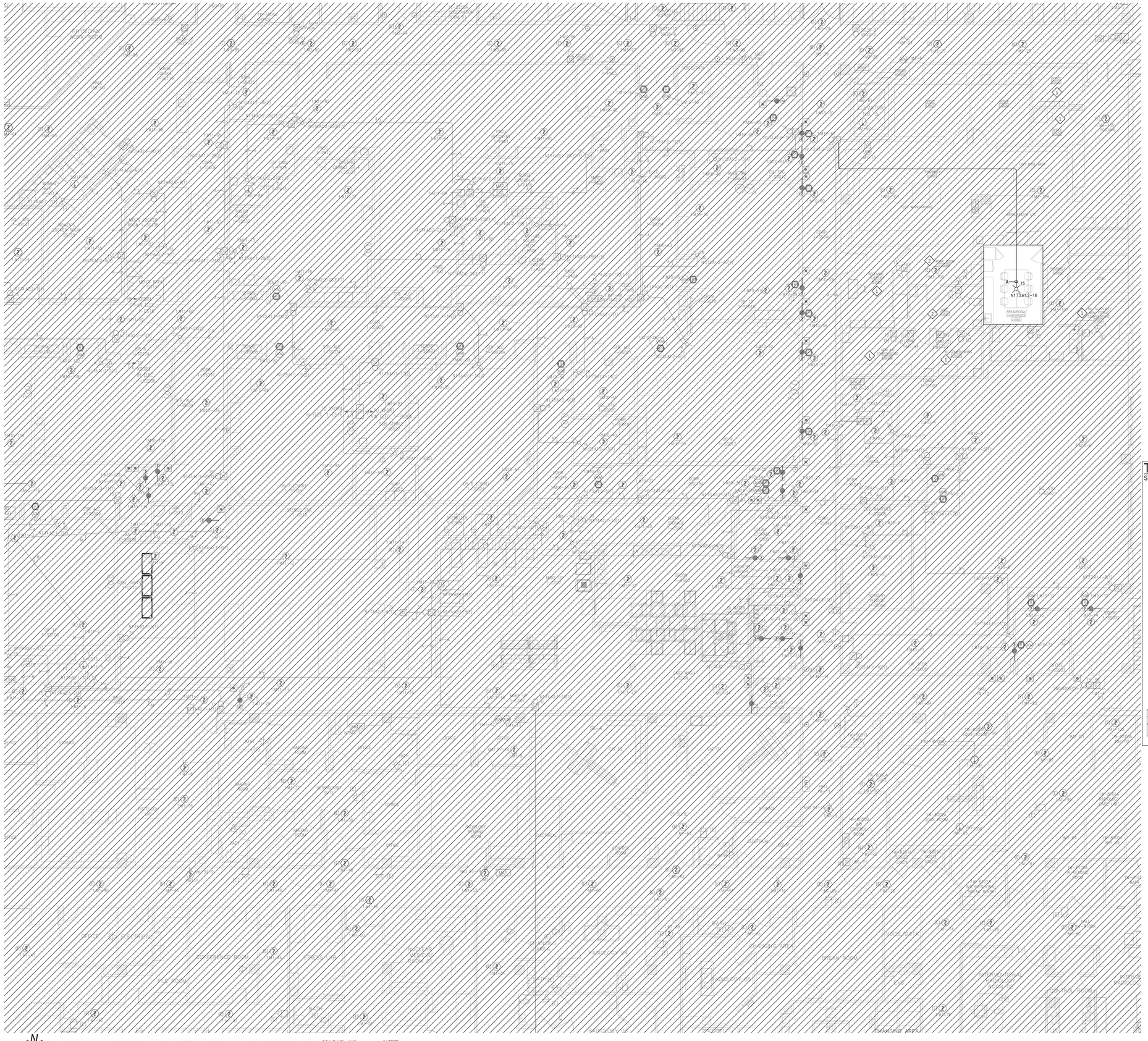
FA-001

THE MEDICAL CENTER OF AURORA
PHARMACY RENOVATION
THE MEDICAL CENTER OF AURORA
1501 S POTOMAC STREET
AURORA, COLORADO 80012

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/21
October 24, 2019

FILE PATH: C:\Users\jsauchi\johnson controls\project electronics - 419-denver\medical center of aurora\1501 s potomac - aurora south\south tower - node 1\25-pharmacy - 2019 - 615488701\Revit\FA-001.dwg
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LAST PRINTED: 10/24/2019 6:14:29 AM
30" x 42" - Arch E1 Size

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LAST SAVED BY: JHAUCHC
LAST PRINTED: 10/24/2019 6:14:49 AM
30" x 42" - Arch E1 Size



PARTIAL FIRST FLOOR DEVICE PLACEMENT PLAN

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

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

GENERAL NOTES:

1. ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
2. ALL NOTIFICATION APPLIANCE CANDELA INTENSITY PLUGS SHALL RETAIN THEIR FACTORY SETTING OF "FACP" UNLESS OTHERWISE DIRECTED BY THE AUTHORITY HAVING JURISDICTION.
3. DO NOT CHANGE DEFAULT APPLIANCE CONFIGURATION SWITCH SETTINGS ON ADDRESSABLE A/V DEVICES (CFIG1). REFER TO DEVICE DETAILS AND INSTALLATION INSTRUCTIONS FOR MORE INFORMATION.
4. THE DEVICE ADDRESSES INDICATED ON THESE DRAWINGS ARE AN ALPHANUMERIC DESCRIPTION OF WHICH CIRCUIT THE DEVICE IS LOCATED ON. DEVICES MAY BE ASSIGNED A DIFFERENT NUMBER WITHIN THE PANEL PROGRAM. CONSULT WITH A JOHNSON CONTROLS TECHNICIAN BEFORE APPLYING A PHYSICAL LABEL TO ANY DEVICES.
5. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
6. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING.

KEYNOTES:

1. ROOM NAME AND NUMBER CHANGED.
2. ROOM NUMBER CHANGED.

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 25 VOLTS **					
	ADDRESSABLE MULTI-CANDELA STROBE, CEILING MOUNT, APPLIANCE ONLY, CLEAR LENS	SIMPLEX	49VO-APPLC	4" SQ. 1-1/2" D	A

FIRE ALARM WIRE LEGEND

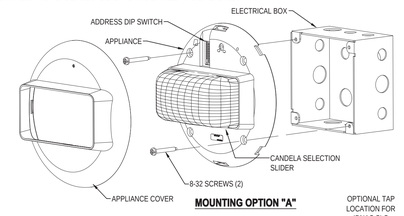
	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: PLK	PLP	THHN	OFNR/OFNG*	CL
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	50pf/ft, MAX CAPACITANCE: 3 batt/nft, MINIMUM	X	X			
CONDUIT SIZE		MAX CONDUCTOR AREA		CONDUIT SIZE			MAX CONDUCTOR AREA		
1/2"		0.122 SQ. INCH*		1-1/4"			0.598 SQ INCH*		
3/4"		0.213 SQ INCH*		1-1/2"			0.853 SQ INCH*		
1"		0.346 SQ INCH*		2"			1.342 SQ INCH*		
* 40% CONDUIT FILL PER N.E.C.				STP = SHIELDED TWISTED PAIR					

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

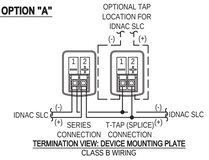
City of Aurora Building Division
Counter Permit intake by: JLG
Date: *Nov 19, 2019*
RSN: *1420286*
Permit: *2019-1728824-CT*
2015 INTERNATIONAL CODES & 2017 NEC Scope of permit to be field verified.

TrueAlert ES ADDRESSABLE APPLIANCES

SIMPLEX 49VO SERIES CEILING MOUNTED VISUAL ONLY



MOUNTING OPTION "A"



TERMINATION VIEW: DEVICE MOUNTING PLATE
CLASS B WIRING

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

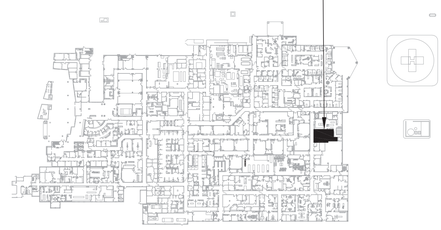
OPTION[1]	DESCRIPTION	NOTE
A	4" SQUARE ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH	BY OTHERS
B	SINGLE GANG ELECTRICAL BOX, 1-1/2" (39mm) MINIMUM DEPTH, WITH 49VO-APCS ADAPTER PLATE	BOX BY OTHERS, SIMPLEX ADAPTER PLATE

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

TYPICAL DEVICE WIRING

SCALE:N.T.S.

SCOPE OF WORK



KEYPLAN
SCALE:N.T.S.

Johnson Controls
DISTRICT 1-435
DISTRICT 1-435
10065 E EXPOSITION AVE
AURORA, CO 80012
SERVICE 303-355-5500
PHONE 303.355.5500
FAX 303.355.5615

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/21
October 24, 2019

THE MEDICAL CENTER OF AURORA PHARMACY RENOVATION

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

ISSUE LOG	DATE	CAD	CHK	DESCRIPTION
MARK				

Revisions shown with △ symbol

FOR PERMIT

DRAWN BY:	AMW
CHECKED BY:	NSW
ISSUE DATE:	10/14/19
JOB #:	
PROJECT #:	419.615488701

JOHNSON CONTROLS © 2019

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
PARTIAL FIRST FLOOR DEVICE PLACEMENT PLAN & TYPICAL DEV WIRING

FA-101

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Permit: 2019-1728824-CT
RSN: 1420286
Page 3 of 11

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
NOTIFICATION APPLIANCES ** TAP ALL SPEAKERS AT 25 VOLTS **					
	ADDRESSABLE MULTI-CANDELA STROBE, CEILING MOUNT. APPLIANCE ONLY, CLEAR LENS	SIMPLEX	4906-9102	4" SQ. 1-1/2" D	A

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: PLTC	PLTC*	THHN	TFFN	OUTDOOR** CL2
A	ADDRESSABLE NOTIFICATION	UTP SOLID	14 AWG	60pf/ft. MAX CAPACITANCE, 3 twists/ft. MINIMUM	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

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.

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.

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
1ST FLOOR
15 A
W-12-2-16(1)
SPEAKER
POWERSPACE 1-0003
4-HOUR RATED
SHAFT WALL
4-HOUR RATED
SHAFT WALL
4-HOUR RATED
SHAFT WALL

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 3 4100es XPDR

Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment							
4100-9600	*1*	*BASIC TRANSPONDER*	*	*0.0870*	*0.0870*	*0.0870*	*0.0870*
4100-0634	*1*	*POWER DISTRIBUTION MODULE 120V*		*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*
		Panel Totals			0.3120		0.5770
IDNet Addressable Devices (SLC)							
4090-9002	*21*	*IDNET RELAY IAM*	*				
4098-9714	*70*	*TRUEALARM PHOTO SMOKE SENSOR*					
4098-9734	*2*	*HIGH TEMP HEAT SENSOR*	*				
4098-9755	*9*	*TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT*	*				
4098-9756	*13*	*TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT*	*				
4009-9201	*1*	*4009 IDNET NAC EXTENDER, 120 VAC*	*				
4098-9792	*72*	*TRUEALARM SENSOR BASE*	*				
4090-9008	*16*	*ADDRESSABLE DUAL CONTACT RELAY IAM*	*				
Miscellaneous Peripheral Devices That Require (Additional) System Power							
4098-9843	*13*	*ENCAPSULATED RELAY PAM-SD*		*0.0000*	*0.0000*	*0.0150*	*0.1950*
4098-9756	*13*	*TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT*		*0.0030*	*0.0390*	*0.0150*	*0.1950*
2088-9021	*18*	*ENCAPSULATED RELAY PAM-1*		*0.0000*	*0.0000*	*0.0150*	*0.2700*
Notification Appliances			Setting				
49MTV-WRF	*21*	*MULTI-TONE A/V, RED, WALL MOUNT*	*15*	*0.0016*	*0.0336*	*0.1450*	*3.0450*
49MTV-WRF	*1*	*MULTI-TONE A/V, RED, WALL MOUNT*	*30*	*0.0016*	*0.0016*	*0.1630*	*0.1630*
49MTV-WRF	*5*	*MULTI-TONE A/V, RED, WALL MOUNT*	*75*	*0.0016*	*0.0080*	*0.1980*	*0.9900*
49VO-APPLC	1	STROBE, APPLIANCE ONLY, CEILING MOUNT	15	0.0008	0.0008	0.0550	0.0550
49VO-APPLW	*6*	*VO, APPLIANCE ONLY, WALL MT*	*30*	*0.0008*	*0.0048*	*0.0570*	*0.3420*
49VO-WRF	*18*	*VO, WALL MT, RED, FIRE LABEL*	*15*	*0.0008*	*0.0144*	*0.0470*	*0.8460*
49VO-WRF	*2*	*VO, WALL MT, RED, FIRE LABEL*	*30*	*0.0008*	*0.0016*	*0.0570*	*0.1140*
		Peripheral Totals			0.1038		6.2150
		Added Current for EPS Conversion of 24 to 29 Volt IDNac Devices			0.0000		3.1670
		RUI Totals	0		0.0000		0.0000
		Address Totals	132 Addresses		0.1056		0.1320
		System Totals*:		Standby	0.5214	Alarm	10.0910

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

Battery Set #1 (Cabinet/Charger #1)				Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:							
EPS-1					0.4158		6.7920
				Sub Total	0.4158		6.7920
Additional Current Draws:							
IDNac Current Boost for 29vdc Regulated Output **					0.0000		3.1670
MAPNET/IDNet Device Address Communication Current		132	x 0.000800		= 0.1056	x 0.001000	= 0.1320
				Sub Total	0.5214		10.0910
Spare addressable point capacity	20%	27	x 0.0008		= 0.0216	x 0.001	= 0.0270
				Total	0.5430		10.1180
Standby Time = 4 Hrs			x 0.5430		= 2.1720	Standby Ah	
Alarm Time = 15 Min			0.25 x 10.118		= 2.5295	Alarm Ah	
					4.7015		
Additional Spare Battery Capacity =	20%			+	0.9403		
					5.6418		
Battery Discharge Factor =	20%			+	1.1284		
Minimum Battery Required	2081-9274 10AH (2x)				6.7702		
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.

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 3 - EPS-1 CIRCUIT SUMMARY & VOLTAGE DROP

Channel	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
N1:T3:A1:2	*FLR 1W OR 7-8, EQ STO*	*2.323A*	*4.27%*	*34*	*855*	*28%*	*79%*
N1:T3:A1:2	FLR 1W OR 9-10	1.564A	4.79%	24	635	48%	77%
N1:T3:A1:3	*FLR 1W OR 5-6, LOCKERS*	*1.558A*	*7.45%*	*23*	*754*	*44%*	*64%*

N1:T3:A1: ENHANCED POWER SUPPLY - CHANNEL 1

IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	SWITCH SETTINGS 1						
N1:T3:A1:1-1		*VO*	*49VO-WRF*	*30cd*	*FLR 1W ELEC 1-SS006 1:A1:1-1*	X						ON
N1:T3:A1:1-2		*VO*	*49VO-WRF*	*15cd*	*FLR 1W ELEC 1-SS010 1:A1:1-2*		X					ON
N1:T3:A1:1-3		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS043 1:A1:1-3*	X	X					ON
N1:T3:A1:1-4		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W COMM 1-SS007 1:A1:1-4*			X				ON
N1:T3:A1:1-5		*AV*	*49MTV-WRF*	*75cd*	*FLR 1W EQ STG 1-SS001 1:A1:1-5*	X		X				ON
N1:T3:A1:1-6		*AV*	*49MTV-WRF*	*30cd*	*FLR 1W EQ STG 1-SS001 1:A1:1-6*		X	X				ON
N1:T3:A1:1-7		*VO*	*49VO-WRF*	*30cd*	*FLR 1W EQ STG 1-SS001 1:A1:1-7*	X	X	X				ON
N1:T3:A1:1-8		*VO*	*49VO-WRF*	*15cd*	*FLR 1W C02 MANIFOLD 1-SS008 1:A1:1-8*				X			ON
N1:T3:A1:1-9		*VO*	*49VO-WRF*	*15cd*	*FLR 1W SURGERY VENDOR 1-SS009*	X			X			ON
N1:T3:A1:1-10		*AV*	*49MTV-WRF*	*75cd*	*FLR 1W IR STOR 1-SS005 1:A1:1-10*		X		X			ON
N1:T3:A1:1-11		*VO*	*49VO-WRF*	*15cd*	*FLR 1W EQ STG 1-SS001 1:A1:1-11*	X	X		X			ON
N1:T3:A1:1-12					*SPARE*			X	X			ON
N1:T3:A1:1-13					*SPARE*	X		X	X			ON
N1:T3:A1:1-14		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS025 @OR 8 1:A1:1-14*		X	X	X			ON
N1:T3:A1:1-15		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS025 @OR 7 1:A1:1-15*	X	X	X	X			ON
N1:T3:A1:1-16		*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 8 (CVOR) 1-SS024 1:A1:1-16*					X		ON
N1:T3:A1:1-17		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W SUB STERILE 1-SS027 1:A1:1-17*	X				X		ON
N1:T3:A1:1-18		*VO*	*49VO-WRF*	*15cd*	*FLR 1W PUMP 1-SS025 1:A1:1-18*		X			X		ON
N1:T3:A1:1-19		*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 7 (CVOR) 1-SS026 1:A1:1-19*	X	X			X		ON
N1:T3:A1:1-20		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS037 @STER STG 1:A1:1-20*			X		X		ON
N1:T3:A1:1-21					*SPARE*	X		X		X		ON
N1:T3:A1:1-22					*SPARE*		X	X		X		ON
N1:T3:A1:1-23		*VO*	*49VO-WRF*	*15cd*	*FLR 1W CORR 1-SS029 @OR 6 1:A1:1-23*	X	X	X		X		ON
N1:T3:A1:1-24		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS037 @1-SS032 1:A1:1-24*				X	X		ON
N1:T3:A1:1-25		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS036 1:A1:1-25*	X			X	X		ON
N1:T3:A1:1-26					*SPARE*		X		X	X		ON
N1:T3:A1:1-27					*SPARE*	X	X		X	X		ON
N1:T3:A1:1-28					*SPARE*			X	X	X		ON
N1:T3:A1:1-29		*VO*	*49VO-WRF*	*15cd*	*FLR 1W SOILED FLUIDS 1-SS032 1:A1:1-29*	X		X	X	X		ON
N1:T3:A1:1-30		*VO*	*49VO-WRF*	*15cd*	*FLR 1W STOR 1-SS035 1:A1:1-30*		X	X	X	X		ON

N1:T3:A1: ENHANCED POWER SUPPLY - CHANNEL 2

IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	SWITCH SETTINGS 1						
N1:T3:A1:2-1		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS041 1:A1:2-1*	X						ON
N1:T3:A1:2-2		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS040 1:A1:2-2*		X					ON
N1:T3:A1:2-3		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS019A SOUTH 1:A1:2-3*	X	X					ON
N1:T3:A1:2-4		*VO*	*49VO-WRF*	*15cd*	*FLR 1W CORR 1-SS019A NORTH 1:A1:2-4*			X				ON
N1:T3:A1:2-5		*VO*	*49VO-WRF*	*15cd*	*FLR 1W CORR 1-SS019 SOUTH 1:A1:2-5*	X		X				ON
N1:T3:A1:2-6		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS019 NORTH 1:A1:2-6*		X	X				ON
N1:T3:A1:2-7		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS014 NORTH 1:A1:2-7*	X	X	X				ON
N1:T3:A1:2-8		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS014 WEST 1:A1:2-8*				X			ON
N1:T3:A1:2-9		*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 9 1-SS017 1:A1:2-9*	X			X			ON
N1:T3:A1:2-10		*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 10 1-SS015 1:A1:2-10*		X		X			ON
N1:T3:A1:2-11		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS014 EAST 1:A1:2-11*	X	X		X			ON
N1:T3:A1:2-12		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W EQ STG 1-SS012 1:A1:2-12*			X	X			ON
N1:T3:A1:2-13		*VO*	*49VO-WRF*	*15cd*	*FLR 1W PUMP 1-SS018 1:A1:2-13*	X		X	X			ON
N1:T3:A1:2-14		*VO*	*49VO-WRF*	*15cd*	*FLR 1W SOIL UTIL 1-SS020 1:A1:2-14*		X	X	X			ON
N1:T3:A1:2-15		*VO*	*49VO-WRF*	*15cd*	*FLR 1W ANES. WK. 1-SS012A 1:A1:2-15*	X	X	X	X			ON
N1:T3:A1:2-16		VO	49VO-APPLC	15cd	BREAKROOM / CONF 1-0502					X		ON

N1:T3:A1: ENHANCED POWER SUPPLY - CHANNEL 3

IDNac Address	Device Type	PID	Setting	Custom Label (Max 40 Characters)	SWITCH SETTINGS 1						
N1:T3:A1:3-1				*SPARE*	X						ON
N1:T3:A1:3-2		*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 6 1-SS134 1:A1:3-2*		X					ON
N1:T3:A1:3-3		*VO*	*49VO-APPLW*	*30cd*	*FLR 1W OR 5 1-SS132 1:A1:3-3*	X	X					ON
N1:T3:A1:3-4		*VO*	*49VO-WRF*	*15cd*	*FLR 1W SUB STERILE 1-SS127 1:A1:3-4*			X				ON
N1:T3:A1:3-5					*SPARE*	X		X				ON
N1:T3:A1:3-6					*SPARE*		X	X				ON
N1:T3:A1:3-7		*VO*	*49VO-WRF*	*15cd*	*FLR 1W PHARM 1-SS120 1:A1:3-7*	X	X	X				ON
N1:T3:A1:3-8		*AV*	*49MTV-WRF*	*75cd*	*FLR 1W CORR 1-SS111 1:A1:3-8*				X			ON
N1:T3:A1:3-9		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS102 1:A1:3-9*	X			X			ON
N1:T3:A1:3-10		*VO*	*49VO-WRF*	*15cd*	*FLR 1W CLEAN SUPPLY 1-SS126 1:A1:3-10*		X		X			ON
N1:T3:A1:3-11		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W CORR 1-SS102 1:A1:3-11*	X	X		X			ON
N1:T3:A1:3-12		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W DICTATION 1-SS110 1:A1:3-12*			X	X			ON
N1:T3:A1:3-13		*AV*	*49MTV-WRF*	*75cd*	*FLR 1W LOUNGE 1-SS104 1:A1:3-13*	X		X	X			ON
N1:T3:A1:3-14		*AV*	*49MTV-WRF*	*75cd*	*FLR 1W MALE LOCKERS 1-SS108 1:A1:3-14*		X	X	X			ON
N1:T3:A1:3-15		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W ENTRY HALL 1-SS109 1:A1:3-15*	X	X	X	X			ON
N1:T3:A1:3-16					*SPARE*					X		ON
N1:T3:A1:3-17					*SPARE*	X				X		ON
N1:T3:A1:3-18		*VO*	*49VO-WRF*	*15cd*	*FLR 1W BATH 1-SS107 1:A1:3-18*		X			X		ON
N1:T3:A1:3-19		*VO*	*49VO-WRF*	*15cd*	*FLR 1W BATH 1-SS106 1:A1:3-19*	X	X			X		ON
N1:T3:A1:3-20		*AV*	*49MTV-WRF*	*15cd*	*FLR 1W FEMALE LOCKERS 1-SS105 1:A1:3-20*			X		X		ON

N1:T3: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

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:T3:A1:1-1*	*PANEL*	*22*	*49VO-WRF*	*30cd*	*0.0570*	*0.700*	*0.107*	*28.893*	*Branch 1: 1.74%*
1	*N1:T3:A1:1-2*	*N1:T3:A1:1-1*	*22*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*28.887*	*Length: 338*
1	*N1:T3:A1:1-3*	*N1:T3:A1:1-1*	*31*	*49MTV-WRF*	*15cd*	*0.1450*	*0.686*	*0.131*	*28.763*	
1	*N1:T3:A1:1-4*	*N1:T3:A1:1-3*	*32*	*49MTV-WRF*	*15cd*	*0.1450*	*0.541*	*0.106*	*28.656*	
1	*N1:T3:A1:1-5*	*N1:T3:A1:1-4*	*20*	*49MTV-WRF*	*75cd*	*0.1980*	*0.396*	*0.049*	*28.608*	
1	*N1:T3:A1:1-6*	*N1:T3:A1:1-11*	*43*	*49MTV-WRF*	*30cd*	*0.1630*	*0.163*	*0.043*	*28.509*	
1	*N1:T3:A1:1-7*	*N1:T3:A1:1-5*	*30*	*49VO-WRF*	*30cd*	*0.0570*	*0.198*	*0.036*	*28.571*	
1	*TAP1*	*N1:T3:A1:1-7*	*6*	*JBOX*		*0.0000*	*0.141*	*0.005*	*28.566*	
1	*N1:T3:A1:1-8*	*TAP1*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*0.094*	*0.013*	*28.553*	
1	*N1:T3:A1:1-9*	*N1:T3:A1:1-8*	*14*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.004*	*28.549*	
1	*N1:T3:A1:1-10*	*N1:T3:A1:1-11*	*47*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.057*	*28.495*	
1	*N1:T3:A1:1-11*	*TAP1*	*48*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.014*	*28.552*	
2	*N1:T3:A1:1-14*	*PANEL*	*139*	*49MTV-WRF*	*15cd*	*0.1450*	*1.172*	*1.000*	*28.000*	*Branch 2: 4.27%*
2	*N1:T3:A1:1-15*	*N1:T3:A1:1-14*	*45*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.040*	*27.960*	*Length: 513*
2	*N1:T3:A1:1-16*	*N1:T3:A1:1-14*	*26*	*49VO-APPLW*	*30cd*	*0.0570*	*0.306*	*0.049*	*27.951*	
2	*N1:T3:A1:1-17*	*N1:T3:A1:1-16*	*32*	*49MTV-WRF*	*15cd*	*0.1450*	*0.249*	*0.049*	*27.902*	
2	*N1:T3:A1:1-18*	*N1:T3:A1:1-17*	*33*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.010*	*27.892*	
2	*N1:T3:A1:1-19*	*N1:T3:A1:1-17*	*26*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.009*	*27.893*	
2	*TAP8*	*N1:T3:A1:1-14*	*32*	*JBOX*		*0.0000*	*0.576*	*0.113*	*27.887*	
2	*N1:T3:A1:1-20*	*TAP8*	*40*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.036*	*27.851*	
2	*N1:T3:A1:1-23*	*TAP8*	*18*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.005*	*27.881*	
2	*N1:T3:A1:1-24*	*TAP8*	*29*	*49MTV-WRF*	*15cd*	*0.1450*	*0.384*	*0.068*	*27.818*	
2	*N1:T3:A1:1-25*	*N1:T3:A1:1-24*	*43*	*49MTV-WRF*	*15cd*	*0.1450*	*0.192*	*0.051*	*27.768*	
2	*N1:T3:A1:1-28*	*N1:T3:A1:1-15*	*18*			*0.0000*	*0.000*	*0.000*	*27.960*	
2	*N1:T3:A1:1-29*	*N1:T3:A1:1-24*	*12*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.003*	*27.816*	
2	*N1:T3:A1:1-30*	*N1:T3:A1:1-25*	*20*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.006*	*27.762*	
						0.0000	*0.000*	*0.000*	*0.000*	
						0.0000	*0.000*	*0.000*	*0.000*	
						0.0000	*0.000*	*0.000*	*0.000*	
						0.0000	*0.000*	*0.000*	*0.000*	

N1:T3: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

Branch	Device #	From	Distance (Feet)	PID	Setting	Device Draw	Class B Calculations: Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	*TAP2*	*PANEL*	*11*	*JBOX*		*0.0000*	*1.564*	*0.106*	*28.894*	*Branch 1: 4.79%*
1	*N1:T3:A1:2-1*	*TAP2*	*36*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.032*	*28.862*	*Length: 594*
1	*N1:T3:A1:2-2*	*TAP2*	*84*	*49MTV-WRF*	*15cd*	*0.1450*	*0.200*	*0.103*	*28.791*	
1	*N1:T3:A1:2-3*	*TAP2*	*34*	*49MTV-WRF*	*15cd*	*0.1450*	*1.219*	*0.254*	*28.640*	
1	*N1:T3:A1:2-4*	*N1:T3:A1:2-3*	*31*	*49VO-WRF*	*15cd*	*0.0470*	*1.074*	*0.204*	*28.435*	
1	*N1:T3:A1:2-5*	*N1:T3:A1:2-4*	*23*	*49VO-WRF*	*15cd*	*0.0470*	*1.027*	*0.145*	*28.290*	
1	*N1:T3:A1:2-6*	*N1:T3:A1:2-5*	*38*	*49MTV-WRF*	*15cd*	*0.1450*	*0.980*	*0.229*	*28.062*	
1	*N1:T3:A1:2-7*	*N1:T3:A1:2-6*	*41*	*49MTV-WRF*	*15cd*	*0.1450*	*0.788*	*0.198*	*27.863*	
1	*N1:T3:A1:2-8*	*N1:T3:A1:2-7*	*24*	*49MTV-WRF*	*15cd*	*0.1450*	*0.596*	*0.088*	*27.776*	
1	*N1:T3:A1:2-9*	*N1:T3:A1:2-8*	*29*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.010*	*27.765*	
1	*N1:T3:A1:2-10*	*N1:T3:A1:2-8*	*31*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.011*	*27.765*	
1	*N1:T3:A1:2-11*	*N1:T3:A1:2-8*	*47*	*49MTV-WRF*	*15cd*	*0.1450*	*0.337*	*0.097*	*27.678*	
1	*N1:T3:A1:2-15*	*N1:T3:A1:2-11*	*35*	*49VO-WRF*	*15cd*	*0.0470*	*0.192*	*0.041*	*27.637*	
1	*N1:T3:A1:2-12*	*N1:T3:A1:2-15*	*31*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.028*	*27.609*	
1	*N1:T3:A1:2-13*	*N1:T3:A1:2-6*	*26*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.008*	*28.054*	
1	*N1:T3:A1:2-14*	*N1:T3:A1:2-*	*24*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.007*	*27.856*	
1	N1:T3:A1:2-16	N1:T3:A1:2-2	49	49VO-APPLC	15cd	0.0550	0.055	0.017	28.775	

N1:T3:A1:3 — 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	*TAP3*	*PANEL*	*186*	*JBOX*		*0.0000*	*1.086*	*1.340*	*27.760*	*Branch 1: 7.46%*
1	*N1:T3:A1:3-2*	*TAP3*	*18*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.006*	*27.753*	*Length: 754*
1	*TAP4*	*TAP3*	*32*	*JBOX*		*0.0000*	*1.029*	*0.202*	*27.558*	
1	*N1:T3:A1:3-3*	*TAP4*	*16*	*49VO-APPLW*	*30cd*	*0.0570*	*0.057*	*0.006*	*27.552*	
1	*N1:T3:A1:3-4*	*TAP4*	*33*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.010*	*27.548*	
1	*TAP5*	*TAP4*	*35*	*JBOX*		*0.0000*	*0.925*	*0.199*	*27.359*	
1	*N1:T3:A1:3-7*	*TAP5*	*27*	*49VO-WRF*	*15cd*	*0.0470*	*0.925*	*0.153*	*27.205*	
1	*N1:T3:A1:3-9*	*N1:T3:A1:3-7*	*44*	*49MTV-WRF*	*15cd*	*0.1450*	*0.878*	*0.237*	*26.968*	
1	*N1:T3:A1:3-8*	*N1:T3:A1:3-9*	*39*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.047*	*26.921*	
1	*TAP6*	*N1:T3:A1:3-9*	*14*	*JBOX*		*0.0000*	*0.337*	*0.029*	*26.939*	
1	*N1:T3:A1:3-10*	*TAP6*	*19*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.005*	*26.934*	
1	*N1:T3:A1:3-11*	*TAP6*	*64*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.057*	*26.882*	
1	*TAP7*	*N1:T3:A1:3-13*	*18*	*JBOX*		*0.0000*	*0.582*	*0.064*	*26.888*	
1	*N1:T3:A1:3-12*	*TAP7*	*22*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.020*	*26.869*	
1	*N1:T3:A1:3-13*	*N1:T3:A1:3-9*	*13*	*49MTV-WRF*	*75cd*	*0.1980*	*0.198*	*0.016*	*26.952*	
1	*N1:T3:A1:3-14*	*TAP7*	*24*	*49MTV-WRF*	*75cd*	*0.1980*	*0.245*	*0.036*	*26.852*	
1	*N1:T3:A1:3-16*	*TAP8*	*47*	*49MTV-WRF*	*15cd*	*0.1450*	*0.145*	*0.042*	*26.897*	
1	*N1:T3:A1:3-18*	*N1:T3:A1:3-14*	*39*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.011*	*26.841*	
1	*N1:T3:A1:3-20*	*TAP7*	*38*	*49MTV-WRF*	*15cd*	*0.1450*	*0.192*	*0.045*	*26.843*	
1	*N1:T3:A1:3-19*	*N1:T3:A1:3-20*	*26*	*49VO-WRF*	*15cd*	*0.0470*	*0.047*	*0.008*	*26.835*	

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PHONE: 303.355.5500
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NICET CERTIFICATION INFORMATION

NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/21

October 24, 2019

THE MEDICAL CENTER OF AURORA PHARMACY RENOVATION

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

Revisions shown with A symbol

ISSUE LOG					
MARK	DATE	CAD	CHK	DESCRIPTION	

FOR PERMIT

DRAWN BY:	AMW
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ISSUE DATE:	10/14/19
JOB #:	
PROJECT #:	419:615488701

JOHNSON CONTROLS © 2019

SYSTEM: FIRE ALARM SYSTEM

SHEET: CALCULATIONS AND SCHEDULES

FA-601

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30" x 42" Arch E1 Size

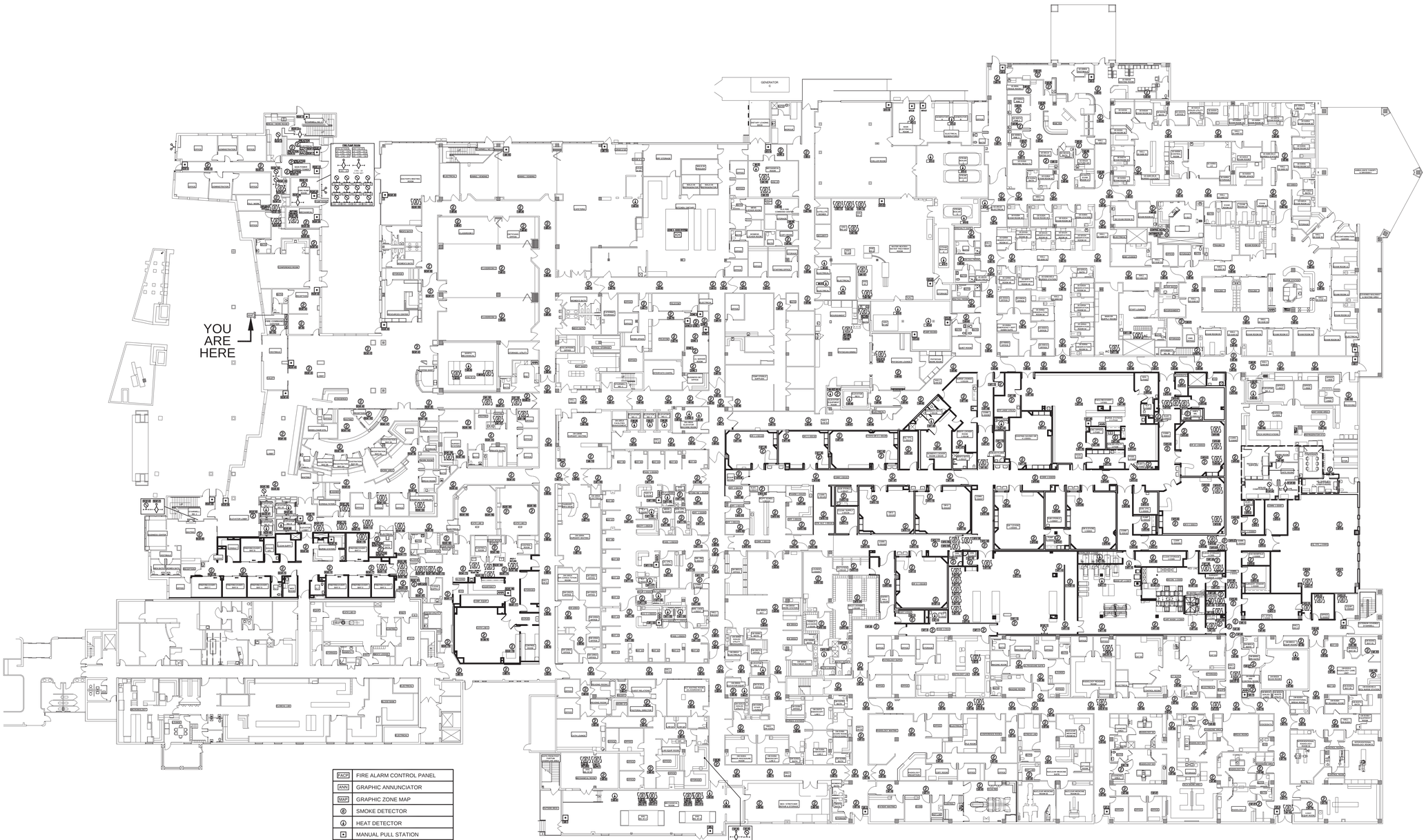
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Page 5 of 11

GENERAL NOTES:

1. THIS 36" X 48" GRAPHIC MAP IS NOT SHOWN TO SCALE.

AS OF: 10/16/2019

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



FACP	FIRE ALARM CONTROL PANEL
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
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SERVICE: 303-355-0500
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FAX: 303-355-0511

NICET CERTIFICATION INFORMATION

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NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/21

October 24, 2019

THE MEDICAL CENTER OF AURORA
PHARMACY RENOVATION

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

Revisions shown with Δ symbol

ISSUE, DOC MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	AMW
CHECKED BY:	NSW
ISSUE DATE:	10/14/19
JOB #:	
PROJECT #:	419:615488701

JOHNSON CONTROLS © 2019

SYSTEM:
FIRE ALARM SYSTEM

SHEET:
GRAPHIC MAP AT FACP

FA-801

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Fire Alarm
Product Data Submittal for:

THE MEDICAL CENTER OF AURORA
TMCA USP800 PHARMACY FA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

Prepared for:

MC2 ELECTRIC CONTRACTOR
88 LIPAN STREET
DENVER, COLORADO 80223

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

PROJECT: THE MEDICAL CENTER OF AURORA
TMCA USP800 PHARMACY FA
MC2 ELECTRIC CONTRACTOR

TYPE:	***DESCRIPTION:***
49VO-APPLC	VO APPLIANCE ONLY, CEILING, CLEAR LENS

Simplex

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

TrueAlert ES Addressable Notification Appliances

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

Description

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

Features

Individually addressed Visible Only (V/O) notification appliances

- Multi-candela LED strobe available in low (15, 30 75 and 110 cd) and high (110 , 135 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*** allowing horns to operate with lower current
- Electrical test point access by removing the cover
- Strobe intensity can be programmed from the control panel or the device
- Wiring supervision to each appliance allows 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 output and then report their status to the control panel
- TrueAlert Device Reports at the control panel detail appliance point ID, custom label, type, and candela setting
- Magnet test diagnostics assist checkout and testing of appliances and wiring
- Compatibility with ADA requirements
- Strobe operation is listed to UL Standard 1971 and ULC Standard S526
- Synchronized strobe operation on its IDNAC channel.

LED Indicator and Magnet Test feature:

- Indicator LED indicates magnet test acknowledgment, 3 digit IDNAC address, and candela rating
- Indicator LED can be configured to blink every polling cycle to indicate appliance supervision
- When the controller is in diagnostic mode, the magnet test pulses the Indicator LED to indicate appliance address and can be set to also briefly 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 – Red with white letters or white with red letters
- Covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- In/out wiring terminals for 18 AWG to 12 AWG
- Mounts on 4" square or single gang USA electrical boxes. Adapter plate required for mounting on single gang electrical boxes.
- Optional wire guards
- Weatherproof back boxes are required for surface mounting.



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 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 selected for diagnostic mode, the appliance magnet test feature provides a response at the individual appliance being tested.

Silent Appliance Magnet Test

The appliance LED pulses sequentially to conveniently indicate the appliance's address when a magnet is applied.

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.

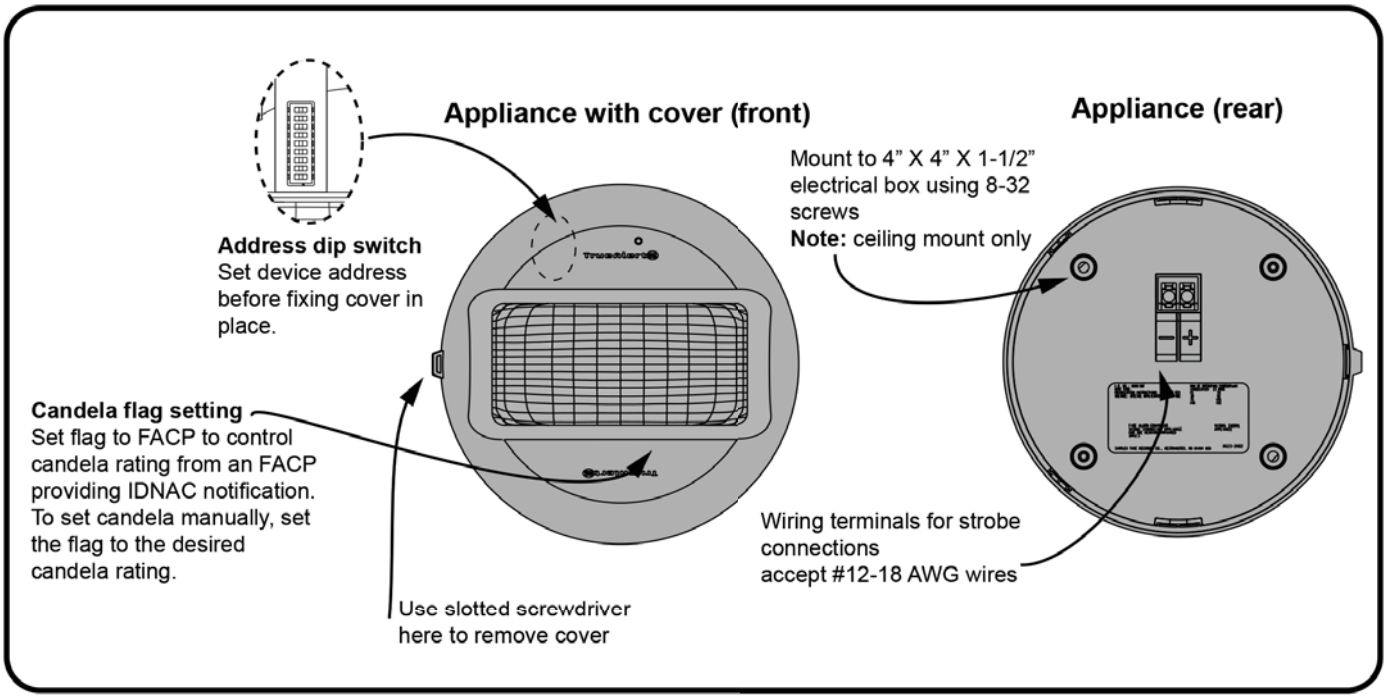
TrueStart Instrument Two (TSIT)

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.

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

Permit: 2019-1728824-CT
RSN: 1420286
Page 9 of 11

Installation Reference



IDNAC SLC Operation Advantage

TrueAlert Addressable visible appliances on IDNAC SLCs

TrueAlert Addressable visible appliances on IDNAC SLCs provide visible notification using one 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 usage on IDNAC SLCs

A constant 29 VDC source voltage is maintained, even during battery standby. This allows appliances 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, support for more appliances per IDNAC SLC, use of smaller gauge wiring, or combinations of these benefits.

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 the magnet test feature improves installation efficiency. TrueAlert device reports conveniently 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	VO appliance only. Select cover separately.	579-1227
49VOH-APPLC 49VOH-APPLC-BA			
49VOH-APPLCA	Amber		
49VOH-APPLCB	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.

Permit: 2019-1728824-CT
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Page 10 of 11

Table 3: Adapter plates

Model	Description	Installation Instructions
49VO-APCS	VO 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-CRALT	Red	ALERT
49VOC-CRBF		FEU/FIRE
49VOC-CRFEU		FEU
49VOC-CRF		FIRE
49VOC-CRS		Simplex logo only
49VOC-CRBAA		إنذار/ALERT
49VOC-CRBCF		火警/FIRE
49VOC-CRBAF		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
49VOC-CWBAA		إنذار/ALERT
49VOC-CWBCF		火警/FIRE
49VOC-CWBAF		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			
4100ES Flex 35, 50, and 100 Amplifiers	S4100-0034			
4100ES Constant Supervision and Signal Cards				

Permit: 2019-1728824-CT
RSN: 1420286
Page 11 of 11

TrueAlert ES V/O LEGACY Compatibility Reference

Table 7: 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 17 VDC Power Supply*	S4100-0037			
TrueAlert Addressable Controller (4009T)	S4009-0003			
Electrical Ratings Differences for Legacy Applications (refer to above specifications for other 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 continuousat high setting, use when connected to TrueAlertAddressable SLCs per above	73 mA	114 mA	210 mA	269 mA

* 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.

Ceiling Mount V/O Specifications

Table 8: Specifications

Specification	Rating
Environmental	32° to 120° F (0° 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 Fire Panel Installation Instructions for circuit current load limits.

Table 9: 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 10: Appliance Specifications

Specification		Rating						
Operating Voltage Range		23 VDC to 30 VDC, Special Application						
Supervisory Requirements		1 unit load (= 0.8 mA control panel 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**	**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
** Measured at 23VDC on IDNAC Addressable SLC								