Permit: 2022-2109206-CT
RSN: 1606709
Sheet 1 of 22

THE MEDICAL CENTER OF AURORA - SOUTH CAMPUS
CATH LAB 4 RENOVATION
MODIFICATION TO EXISTING FIRE ALARM SYSTEM

Items determined to be in violation of code during inspection are required to be corrected; this review does not grant approval of code violations.

City of Aurora Building Division
Counter Permit intake by: TAC
Date: Feb 18, 2022
RSN: 1606709
Permit: 2022-2109206-CT
2015 INTERNATIONAL CODES & 2018 NEC Scope of permit to be field verified

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

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
February 9, 2022

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FIRE DEPT./BLDG 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
		INITIATING DEVICES				
1N	S	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ EXISTING STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	2	EXISTING ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
1N		ADDRESSABLE STANDARD HEAT SENSOR W/ EXISTING STANDARD BASE	SIMPLEX	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
		MODULES AND RELAYS				
2N (1N BRACKETS)	IAM	INDIVIDUAL ADDRESSABLE MODULE	SIMPLEX	4090-9001	4" SQ. 2-1/2" D W/ COVER	M Z
		BRACKET/COVER IAM 2-GANG RED	SPACE AGE	YJ1263		
2N	RIAM	RELAY IAM	SIMPLEX	4090-9002	4" SQ. 2-1/8" D W/ DBL. GANG COVER	M R
		TRIM PLATE FOR SURFACE MOUNTING	SIMPLEX	4090-9802		
		MISCELLANEOUS DEVICES				
2N	6.8K	END-OF-LINE RESISTOR 6.8K (EOL)	SIMPLEX	4081-9004		

GENERAL NOTES:

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

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: FPLR	FPLP	THHN	TFFN	OUTDOOR **	CI.
M	IDNET	UTP SOLID	18 AWG	60µF MAX TOTAL LINE CAPACITANCE	X	X				
R	RELAY	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

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.

AURORA BUILDING 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 2021 IFC AND THE 2020 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 2021 IFC AND THE 2009 ANSI A117.1 STANDARD.
- PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE 2021 IFC, SECTION 907.5 AND THE 2022 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. 2021 IFC SECTION 907.10.2.

APPLICABLE CODES & STANDARDS

International Fire Code (IFC), 2021 Edition

National Electric Code (NFPA 70), 2020 Edition

International Building Code (IBC), 2021 Edition

National Fire Alarm and Signaling Code (NFPA 72), 2022 Edition

Life Safety Code, Healthcare (NFPA 101), 2021 Edition

Division of Fire Prevention and Control 8CCR 1507-31

ICC/ASME A117.1, 2009 Edition

Aurora Adopted Codes Chapter 22 and 66 Amendments

OCCUPANCY TYPE(S):
I-2 INSTITUTIONAL GROUP

SPRINKLER PROTECTION:
BUILDING IS FULLY SPRINKLERED

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

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

CONSTRUCTION:
UNLISTED

SCOPE OF WORK

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

AREA TO RECEIVE WORK INCLUDES APPROXIMATELY 500 SQUARE FEET FEATURING WAITING 1C-0005A ON THE FIRST FLOOR SOUTH TOWER AT 1501 SOUTH POTOMAC STREET, AURORA, COLORADO 80012.

INTERIM HEAT DETECTION TO BE SUPPLIED FOR WAITING ROOM 1-0005A ONLY DURING CONSTRUCTION WITH A STANDARD HEAT SENSOR IN A RE-USED EXISTING BASE. DURING BUILDOUT, THIS SENSOR WILL BE REPLACED WITH A NEW STANDARD SMOKE SENSOR HEAD IN THE SAME EXISTING STANDARD BASES AND REPROGRAMMED BACK TO ITS ORIGINAL DEVICE TYPE.

WAITING 1C-0005A AND CATH LAB #4 1-101 FIRE ALARM ARE FED BY TWO SEPARATE VENDOR'S PANELS. INTERCONNECTION TO BE MADE. TWO INDIVIDUAL ADDRESSABLE MODULES (IAMS) AND TWO RELAY IAMS ARE TO BE INSTALLED AND PROGRAMMED TO MONITOR ALARM AND PANEL RESET. IAMS TO MONITOR SILENT KNIGHT PANEL FOR SIMPLEX PANEL. RELAY IAMS ARE FOR THE SIMPLEX PANEL TO SEND SIGNALS TO THE SILENT KNIGHT PANEL.

SYSTEM RESET AND CATH LAB BUILDING ALARM ADDED TO EXISTING SEQUENCE OF OPERATIONS (SOO). ALL OTHER NEW DEVICES TO FOLLOW EXISTING SOO.

NO UPDATES REQUIRED FOR THE EXISTING STATIC GRAPHIC MAP AT THE FIRE COMMAND CENTER 1C-1013A ON THE FIRST FLOOR.

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.

DESIGN STATEMENT

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

ARCHITECTURAL PLANS DATED:	JULY 22, 2021
MECHANICAL PLANS DATED:	JULY 22, 2021
ELECTRICAL PLANS DATED:	JULY 22, 2021
SPECIFICATIONS DATED:	JULY 22, 2021
ADDENDUM DATED:	

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
AFF = ABOVE FINISHED FLOOR
AHJ = AUTHORITY HAVING JURISDICTION
ALM = ALARM
ANN = ANNUNCIATOR
BMS = BUILDING MANAGEMENT SYSTEM
C = CEILING MOUNTED
CD = CANDELA RATING
DET = DETECTOR
DGP = DATA GATHERING PANEL
E = EXISTING TO REMAIN
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
ER = ELEVATOR RECALL
FAA = FIRE ALARM ANNUNCIATOR
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBO = FURNISHED BY OTHERS
FCC = FIRE COMMAND CENTER
FSD = FIRE SMOKE DAMPER
FTR = FIRE ALARM TRANSPONDER
H = HIGH HUMIDITY
HT = HEIGHT
HVAC = HEATING VENTILATION & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
N = NEW DEVICE
NAC = NOTIFICATION APPLIANCE CIRCUIT
NDU = NETWORK DISPLAY UNIT
NEC = NATIONAL ELECTRIC CODE
NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
NIC = NOT IN CONTRACT
NPU = NETWORK PROCESSING UNIT
NTS = NOT TO SCALE
PAP = PRE-ACTION PANEL
RC = EXISTING TO REMOVE AND COVER
RD = DEVICE TO BE RELOCATED FOR BUILDOUT
RL = RELOCATED DEVICE
RR = REMOVE EXISTING & REPLACE WITH NEW
SK = SILENT KNIGHT (MANUFACTURER)
SLC = SIGNALING LINE CIRCUIT
SS = SYSTEM SENSOR (MANUFACTURER)
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:720-633-0751

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

Drawings Prepared By
CALE RAUCH
CALE.RAUCH@JCI.COM

Drawings Reviewed By
NANCY WILTSIE
NANCY.WILTSIE@JCI.COM

PROJECT DIRECTORY

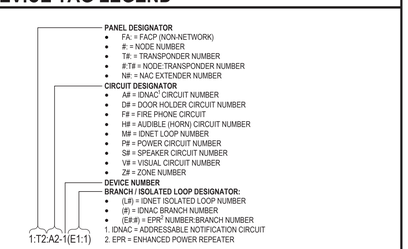
Site
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012
PHONE: 303-695-2600

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
WEIFIELD GROUP CONTRACTING, INC.
6950 JORDAN ROAD
CENTENNIAL, COLORADO 80112
PHONE: 303-428-2011

DEVICE TAG LEGEND



SYSTEM SEQUENCE OF OPERATIONS

M.C.O.A. SOUTH TOWER (NODE 1)	SYSTEM OUTPUTS: FACP Annunciation					Notification					Required Controls								Supplementary				
SEQUENCE OF OPERATIONS	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE EVACUATION SIGNALS (SPEAKERS/STROBES)	ACTUATE SPRINKLER BELL	**ACTUATE ADJ. SMOKE COMPARTMENT'S EVAC SIG. (CATH LAB ALARM ONLY)**	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	FAN SHUT DOWN	DAMPER SHUT DOWN	RELEASE CORRIDOR FIRE DOORS	RELEASE ELEVATOR FIRE DOORS	RELEASE ASSOCIATED ROLL-UP DOOR	ELEVATOR RECALL - MAIN FLOOR	ELEVATOR SHUT DOWN (1)	ELEVATOR RECALL - ALTERNATE FLOOR	ELEVATOR HAT FLASH	CHARGE MUSIC SYSTEM	SILENCE AUDIBLE SIGNAL (EXCLUDING EXTERIOR HNS)	ACTUATE EXTERIOR HORN/STROBE	**RESET PANEL TO "NORMAL" CONDITION**	**PANEL RESET DELAY (LENGTH OF TIME TO WALK BETWEEN JCI AND SK PANEL)**	
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**	**AA**	
1 SMOKE DETECTOR	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			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		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			X	X													7
8 MAIN FLR. ELEV. LOBBY SMOKE DETECTOR	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			9
10 ELEV. MECH. ROOM SMOKE DETECTOR	X	X					X			X	X												X		X			10
11 ELEV. SHAFT HEAT DETECTOR	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			12
13 WATERFLOW SWITCH	X	X					X	X		X	X												X		X			13
14 TAMPER SWITCH			X	X						X																		14
15 POST INDICATOR VALVE SWITCH			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**	**X**	**22**
23 CATH LAB BUILDING ALARM									**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**	**AA**	

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.*

NOTE: System Reset and Cath Lab Building Alarm added to existing Sequence of Operations (SOO). All other new devices to follow existing SOO.

ISSUE LOG

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with ⚠ symbol

THE MEDICAL CENTER OF AURORA - SOUTH CAMPUS
CATH LAB 4 RENOVATION
THE MEDICAL CENTER OF AURORA
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

FOR PERMIT

DRAWN BY:	CBR
CHECKED BY:	NSW
ISSUE DATE:	10/4/21
JOB #:	
PROJECT #:	419:6501141104

JOHNSON CONTROLS © 2022

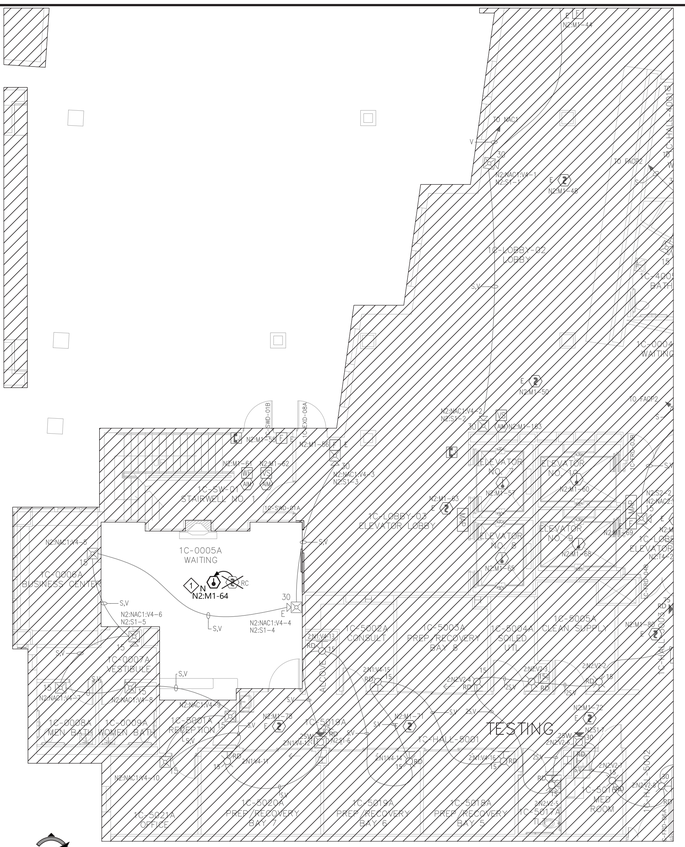
SYSTEM: FIRE ALARM SYSTEM

SHEET: COVER SHEET

FA-001

FILE PATH: C:\Users\jrauch\Johnson Controls\Project Electronics - 1501 S Potomac - Aurora South\South Tower - Node 1\3-Cath Lab 4 Reno - 2021 - 6216598\05\Fire\FA-001.dwg
LAST SAVED BY: JRAUCHC
LAST PRINTED: 2/9/2022 11:19:34 AM
36" x 42" Arch E1 Size
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Sheet 2 of 22



Permit: 2022-2109206-CT
RSN: 1606709
Sheet 3 of 22

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
INITIATING DEVICES						
1N	(S)	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ EXISTING STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	(2)	EXISTING ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
1N	(H)	ADDRESSABLE STANDARD HEAT SENSOR W/ EXISTING STANDARD BASE	SIMPLEX	4098-9733 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
MODULES AND RELAYS						
2N (1N BRACKETS)	(IAM)	INDIVIDUAL ADDRESSABLE MODULE	SIMPLEX	4090-9001	4" SQ. 2-1/2" D W/ COVER	M Z
		BRACKET/COVER IAM 2-GANG RED	SPACE AGE	YJ1263		
2N	(RAM)	RELAY IAM	SIMPLEX	4090-9002	4" SQ. 2-1/8" D W/ DBL. GANG COVER	M R
		TRIM PLATE FOR SURFACE MOUNTING	SIMPLEX	4090-9802		
MISCELLANEOUS DEVICES						
2N	6.8K	END-OF-LINE RESISTOR 6.8K (EOL)	SIMPLEX	4081-9004		

FIRE ALARM WIRE LEGEND

	CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES: IPDR	IPDP	IPNR	TPPR	OUTDOOR *	C.I.
M	IDNET	UTP SOLID	18 AWG	60µF MAX TOTAL LINE CAPACITANCE	X	X				
R	RELAY	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
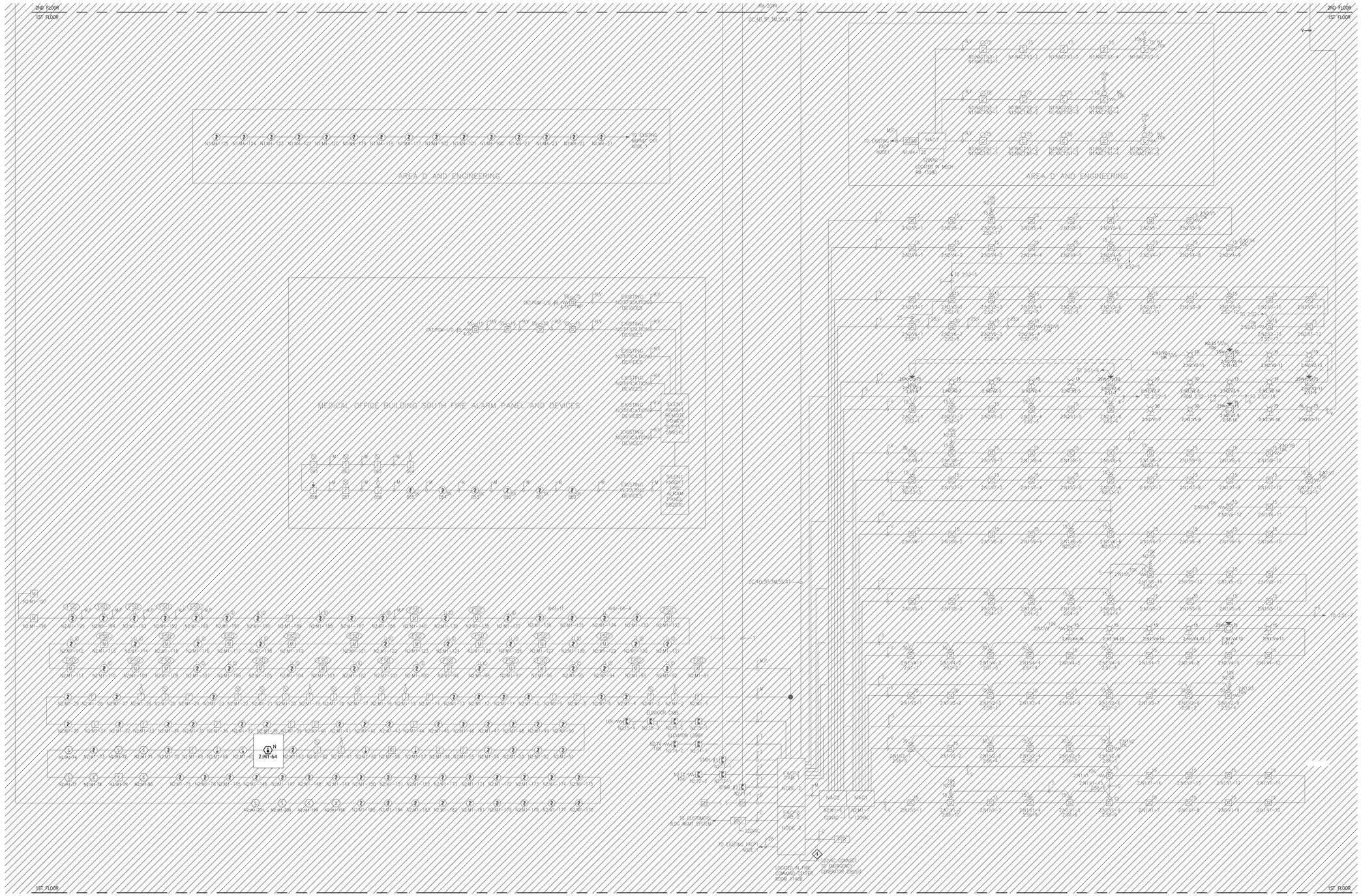
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION. THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS 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.
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3. THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED.
4. THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING TO REMAIN.

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 INTERIM PARTIAL RISER DIAGRAM

SCALE:N.T.S.

Johnson Controls
PHONE: 303-350-9500
FAX: 303-350-9615
DISTRICT 1-415
10065 E HARVARD AVE
AURORA, CO 80017
SERVICE: 303-350-9500

NICET CERTIFICATION INFORMATION

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

February 9, 2022

THE MEDICAL CENTER OF AURORA - SOUTH CAMPUS CATH LAB 4 RENOVATION

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

Revisions shown with Δ symbol

ISSUE LOC	MARK	DATE	CAD	CHK	DESCRIPTION

FOR PERMIT

DRAWN BY:	CBR
CHECKED BY:	NSW
ISSUE DATE:	10/4/21
JOB #:	
PROJECT #:	419-650141104

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SYSTEM: FIRE ALARM SYSTEM

SHEET: 1ST FLOOR INTERIM PARTIAL RISER DIAGRAM

FA-201

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RSN: 1606709
Sheet 4 of 22

FIRE ALARM SYMBOL LEGEND

QTY	SYMBOL	DESCRIPTION	BRAND	MODEL	BACKBOX	WIRE TYPE
INITIATING DEVICES						
1N	(S)	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ EXISTING STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
	(S)	EXISTING ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR W/ STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4" OCT, 1-1/2" D	M
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MODULES AND RELAYS						
2N (1N BRACKETS)	(CM)	INDIVIDUAL ADDRESSABLE MODULE	SIMPLEX	4090-9001	4" SQ. 2-1/2" D W/ COVER	M Z
		BRACKET/COVER IAM 2-GANG RED	SPACE AGE	YJ1263		
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		TRIM PLATE FOR SURFACE MOUNTING	SIMPLEX	4090-9802		
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R	RELAY	2 COND. SOLID	14 AWG		X	X	X	X		
Z	ZONE CIRCUIT	2 COND. SOLID	14 AWG		X	X	X	X		

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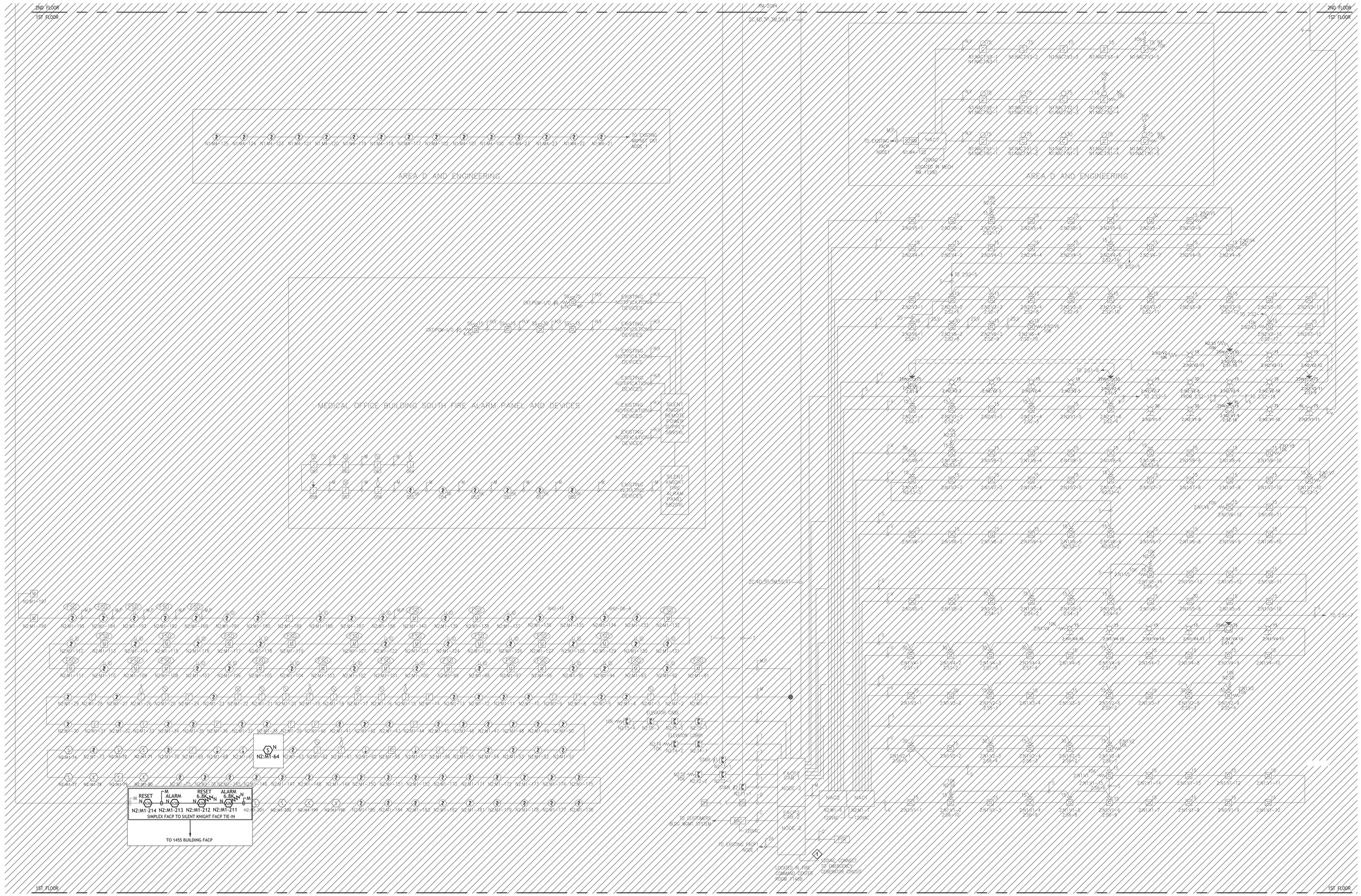
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DRAWN BY:	CBR
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SYSTEM: FIRE ALARM SYSTEM

SHEET: 1ST FLOOR BUILDOUT PARTIAL RISER DIAGRAM

FA-202

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LAST PRINTED: 2/9/2022 11:21:02 AM
30" x 42" - Arch E1 Size

TMCA NODE 2 4100es FACP

Keynote	Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
	Panel Equipment							
	4100-9111	1	4100 CONFIG. DOMESTIC 120V	*	0.3730	0.3730	0.4700	0.4700
	4100-5101	4	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ		0.0500	0.2000	0.0500	0.2000
	4100-9621	1	BASIC AUDIO WITH MICROPHONE - DIGITAL		0.0750	0.0750	0.0820	0.0820
	4100-1326	4	DIGITAL FLEX 50W AMP W/3 NACS - 25V		0.0850	0.3400	2.2700	9.0800
	4100-1240	1	AUXILIARY AUDIO INPUT BOARD		0.0100	0.0100	0.0100	0.0100
	4100-1242	1	MESSAGE EXPANSION BOARD - 32 MINUTES		0.0020	0.0020	0.0170	0.0170
	4100-1270	1	MASTER TELEPHONE, PHONE CONTROL		0.0800	0.0800	0.1400	0.1400
	4100-1272	3	EXPANSION PHONE CONTROLLER		0.0800	0.2400	0.1400	0.4200
	4100-3101	3	IDNET MODULE, UP TO 250 POINTS	*	0.0750	0.2250	0.1150	0.3450
	4100-6014	1	NETWORK IF CARD, WIRED		0.0460	0.0460	0.0460	0.0460
	4100-6056	2	NETWORK MEDIA CARD WIRED		0.0550	0.1100	0.0550	0.1100
	4100-3206	1	8 RELAYS - 3 AMP		0.0150	0.0150	0.1900	0.1900
	4100-1254	1	2 CHANNEL AUDIO OPERATOR INTERFACE		0.0000	0.0000	0.0240	0.0240
	4100-1282	4	8 SW, 16RED/YEL LED MODULE		0.0000	0.0000	0.0240	0.0960
	4100-1284	31	8 SW, 16 RED/GREEN LED MODULE		0.0000	0.0000	0.0240	0.7440
	4100-1288	5	64/64 LED/SWITCH CONTROLLER		0.0200	0.1000	0.0200	0.1000
	4100-1289	4	EXPANSION 64/64 LED/SW MODULE		0.0200	0.0800	0.0200	0.0800
	4009-9601	4	IDNAC REPEATER 120V PLATINUM UL/ULC		0.0700	0.2800	0.0960	0.3840
			Panel Totals			**2.1760**		**12.5380**
	IDNet Addressable Devices (SLC)							
	4099-9004	16	ADDRESSABLE SINGLE ACTION MANUAL STATION	*				
	4090-9001	30	IDNET SUPERVISED IAM	*				
	4090-9002	17	IDNET RELAY IAM	*				
	4090-9006	1	SUP RELEASE PERIPH & ENCLOSURE	*				
	4090-9118	11	RELAY IDNET 2 IAM W/T SENSE	*				
1	**4098-9714**	**69**	**TRUEALARM PHOTO SMOKE SENSOR**					
	4098-9717	3	TRUEALARM ION SMOKE SENSOR					
	4098-9733	**5**	**TRUEALARM HEAT SENSOR**					
	4098-9755	20	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT	*				
	4098-9756	10	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	*				
	4098-9792	76	TRUEALARM SENSOR BASE	*				
	4098-9780	1	TRUEALARM 2 WIRE RELAY SENSOR BASE	*				
			Constant current draw of .8mA standby and 1mA alarm per address used. Devices requiring additional current are accounted for in the section labeled "Miscellaneous Peripheral Devices Requiring Additional System Power".					
	Miscellaneous Peripheral Devices That Require (Additional) System Power							
	4098-9843	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
	4098-9860	1	2-WIRE RELAY FOR USE WITH 4098-9780 SENSOR BASE		0.0000	0.0000	0.0000	0.0000
	4603-9101	1	SERIAL LCD ANNUNCIATOR		0.0650	0.0650	0.1400	0.1400
			Peripheral Totals			**0.0950**		**0.4400**
			Added Current for EPS Conversion of 24 to 29 Volt IDNac Devices			**0.0000**		**0.0000**
			RUI Totals		1	**0.0035**		**0.0035**
			Address Totals		182 Addresses	**0.1456**		**0.1820**
			System Totals*:		**Standby**	**2.4201**	**Alarm**	**13.1635**

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

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

Battery Set #1 (Cabinet/Charger #1)

				Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:							
SPS-1					1.4510		2.4500
				Sub Total	**1.4510**		**2.4500**
Additional Current Draws:							
RUI Connected Peripheral Devices		1		x 0.0035	= 0.0035	x 0.0035	= 0.0035
MAPNET/IDNet Device Address Communication Current		182		x 0.000800	= 0.1456	x 0.001000	= 0.1820
				Sub Total	**1.6001**		**2.6355**
Spare addressable point capacity	**0%**	0		x 0.0008	= 0.0000	x 0.001	= 0.0000
				Total	**1.6001**		**2.6355**
Standby Time =	**24**	Hrs		x 1.6001	= 38.4024	Standby Ah	
Alarm Time =	**5**	Min		0.08333 x 2.6355	= 0.2196	Alarm Ah	
					38.6220		
Additional Spare Battery Capacity =	**0%**			+	0.0000		
					38.6220		
Battery Discharge Factor =	**20%**			+	7.7244		
Minimum Battery Required	**2081-9296 50AH (2x)**				**46.3464**		
Battery Supplied	**2081-9296 50AH (2x)**						

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

Battery Set #2 (Cabinet/Charger #2)

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

Battery Set #3 (Cabinet/Charger #3)

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

Battery Set #4 (Cabinet/Charger #4)

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

Battery Set #5 (Cabinet/Charger #5)

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

IDNET CHANNEL N2:M1 — #N/A — SWITCH SETTINGS

Keynote	Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8		9
	N2:M1-1	ADRPUL	PULL	2:M1-1 1ST FLR AREA A STAIR 1130A	X								ON	
	N2:M1-2			SPARE		X							ON	
	N2:M1-3	IAM	SO	2:M1-3 1ST FLR AREA A STAIR 1130A TAMP	X	X							ON	
	N2:M1-4	PHOTO	SMOKE	2:M1-4 1ST FLR AREA A ELECT RM 1133			X						ON	
	N2:M1-5	ION	SMOKE	2:M1-5 1ST FL AREA A ELECT RM 1133 PRE	X		X						ON	
	N2:M1-6	4009A8	SIGNAL	2:M1-6 1ST FLR AREA ELECT RM 1133 NAC1		X	X						ON	
	N2:M1-7	4009A8	SIGNAL	2:M1-7 1ST FLR AREA ELECT RM 1133 NAC2	X	X	X						ON	
	N2:M1-8	ADRPUL	PULL	2:M1-8 1ST FLR AREA ELECT RM 1133				X					ON	
	N2:M1-9	ADRPUL	PULL	2:M1-9 1ST FLR AREA A CORR 1140	X			X					ON	
	N2:M1-10	PHOTO	SMOKE	2:M1-10 1ST FLR AREA A CORR 1140		X		X					ON	
	N2:M1-11	PHOTO	SMOKE	2:M1-11 1ST FLR AREA A CORR 1140	X	X		X					ON	
	N2:M1-12	PHOTO	SMOKE	2:M1-12 1ST FLR AREA A ELECT RM 1134			X	X					ON	
	N2:M1-13	ION	SMOKE	2:M1-13 1ST FLR AREA A ELECT RM 1134	X		X	X					ON	
	N2:M1-14	ADRPUL	PULL	2:M1-14 1ST FLR AREA A ELECT RM 1134		X	X	X					ON	
	N2:M1-15	IAM	WATER	2:M1-15 1STFLAREA A PUMP 1133B MAIN FLW	X	X	X	X					ON	
	N2:M1-16	IAM	SO	2:M1-16 1STFLAREA A PUMP 1133B TMP MAIN					X				ON	
	N2:M1-17	IAM	SO	2:M1-17 1STFLAREA A PUMP 1133B TMP MAIN	X				X				ON	
	N2:M1-18	IAM	SO	2:M1-18 1STFLAREA A PUMP 1133B TMP MAIN		X			X				ON	
	N2:M1-19	IAM	WATER	2:M1-19 1STFLAREA A PUMP1133B WAT FLW	X	X			X				ON	
	N2:M1-20	IAM	SO	2:M1-20 1STFLAREA A PUMP 1133B TMP MAIN			X		X				ON	
	N2:M1-21	IAM	SO	2:M1-21 1STFLAREA A PUMP 1133B TMP MAIN	X		X		X				ON	
	N2:M1-22	IAM	SO	2:M1-22 1STFLAREA A PUMP 1133B TMP MAIN		X	X		X				ON	
	N2:M1-23	PHOTO	SMOKE	2:M1-23 1ST FL AREA A PUMP RM 1133B	X	X	X		X				ON	
	N2:M1-24	ADRPUL	PULL	2:M1-24 1ST FL AREA A PUMP RM 1133B				X	X				ON	
	N2:M1-25	IAM	SO	2:M1-25 1STFL PUMP RM 1133B TEST HEADER	X			X	X				ON	
	N2:M1-26	IAM	WATER	2:M1-26 1ST FL AREA A PUMP1133B PREACT		X		X	X				ON	
	N2:M1-27	PHOTO	SMOKE	2:M1-27 1ST FL AREA A CORR 1146	X	X		X	X				ON	
	N2:M1-28	ADRPUL	PULL	2:M1-28 1ST FL AREA A MECH RM 1133A			X	X	X				ON	
	N2:M1-29	PHOTO	SMOKE	2:M1-29 1ST FL AREA A MECH RM 1133A	X		X	X	X				ON	
	N2:M1-30	PHOTO	SMOKE	2:M1-30 1ST FL AREA A CORR 1146		X	X	X	X				ON	
	N2:M1-31			SPARE	X	X	X	X	X				ON	
	N2:M1-32	PHOTO	SMOKE	2:M1-32 1ST FL AREA A CORR 1146						X			ON	
	N2:M1-33	ADRPUL	PULL	2:M1-33 1ST FL AREA A CORR 1146	X					X			ON	
	N2:M1-34	PHOTO	SMOKE	2:M1-34 1ST FL AREA A CORR 1146		X				X			ON	
	N2:M1-35	PHOTO	SMOKE	2:M1-35 1ST FL AREA A RECEPTION 1135	X	X				X			ON	
	N2:M1-36	ADRPUL	PULL	2:M1-36 1ST FL AREA A LOBBY 1001			X			X			ON	
	N2:M1-37	PHOTO	SMOKE	2:M1-37 1ST FL AREA A CORR 1007	X		X			X			ON	
	N2:M1-38	PHOTO	SMOKE	2:M1-38 1ST FL AREA A CORR 1007		X	X			X			ON	
	N2:M1-39	ADRPUL	PULL	2:M1-39 1ST FL AREA A DINING 1010	X	X	X			X			ON	
	N2:M1-40	ADRPUL	PULL	2:M1-40 1ST FL AREA A LOBBY 1001				X		X			ON	
	N2:M1-41	PHOTO	SMOKE	2:M1-41 1ST FL AREA A LOBBY 1001	X			X		X			ON	
	N2:M1-42	PHOTO	SMOKE	2:M1-42 1ST FL AREA A LOBBY 1001		X		X		X			ON	
	N2:M1-43	PHOTO	SMOKE	2:M1-43 1ST FL AREA A LOBBY 1001	X	X		X		X			ON	
	N2:M1-44	ADRPUL	PULL	2:M1-44 1ST FL AREA A LOBBY 1001			X	X		X			ON	
	N2:M1-45	PHOTO	SMOKE	2:M1-45 1ST FL AREA A LOBBY 1001	X		X	X		X			ON	
	N2:M1-46	PHOTO	SMOKE	2:M1-46 1ST FL AREA A CORR 1058		X	X	X		X			ON	
	N2:M1-47	PHOTO	SMOKE	2:M1-47 1ST FL AREA A CORR 1058	X	X	X	X		X			ON	
	N2:M1-48	PHOTO	SMOKE	2:M1-48 1ST FL AREA A LOBBY 1001					X	X			ON	
	N2:M1-49	PHOTO	SMOKE	2:M1-49 1ST FL AREA A WORK AREA 1035	X				X	X			ON	
	N2:M1-50	PHOTO	SMOKE	2:M1-50 1ST FL AREA C WAITING AREA 1029		X			X	X			ON	
	N2:M1-51	PHOTO	SMOKE	2:M1-51 1ST FL AREA B WORK AREA 1035	X	X			X	X			ON	
	N2:M1-52	PHOTO	SMOKE	2:M1-52 1ST FL AREA B BY CONSULT 1042			X		X	X			ON	
	N2:M1-53	PHOTO	SMOKE	2:M1-53 1ST FL AREA B CORR 1062	X		X		X	X			ON	
	N2:M1-54	PHOTO	SMOKE	2:M1-54 1ST FL AREA A CORR 1062		X	X		X	X			ON	
	N2:M1-55	ADRPUL	PULL	2:M1-55 1ST FL AREA C STAIR 106BA	X	X	X		X	X			ON	
	N2:M1-56	ADRPUL	PULL	2:M1-56 1ST FL AREA C ELEV LOBBY 1004				X	X	X			ON	
	N2:M1-57	HEAT	HEAT	2:M1-57 BTM OF SHAFT PUB ELEV 1004A	X			X	X	X			ON	
	N2:M1-58	RIAM	RRELAY	2:M1-58 1ST FL AREA C PUB ELEV DR CNTL		X		X	X	X			ON	
	N2:M1-59			SPARE	X	X		X	X	X			ON	
	N2:M1-60	HEAT	HEAT	2:M1-60 BTM OF SHAFT SERV ELEV 1061B			X	X	X	X			ON	
	N2:M1-61			SPARE	X		X	X	X	X			ON	
	N2:M1-62	IAM	SO	2:M1-62 1ST FL AREA C STAIR 106BA TAMP		X	X	X	X	X			ON	
	N2:M1-63	PHOTO	SMOKE	2:M1-63 1ST FL PUBLIC ELEV LOBBY 1004	X	X	X	X	X	X			ON	
2	**N2:M1-64**	**HEAT**	**HEAT**	**2:M1-64 INTERIM**							X		ON	
	N2:M1-65	HEAT	HEAT	2:M1-65 BTM OF SHAFT PUB ELEV 1004B	X						X		ON	
	N2:M1-66			SPARE		X					X		ON	
	N2:M1-67			SPARE	X	X					X		ON	
	N2:M1-68	HEAT	HEAT	2:M1-68 BTM OF SHAFT SERV ELEV 1061A			X				X		ON	
	N2:M1-69	ADRPUL	PULL	2:M1-69 1ST FL AREA C ELEV LOBBY 1061	X		X				X		ON	
	N2:M1-70	PHOTO	SMOKE	2:M1-70 1ST FL SERV ELEV LOBBY 1061		X	X				X		ON	
	N2:M1-71	PHOTO	SMOKE	2:M1-71 1ST FL HALL 1C-5000	X	X	X				X		ON	
	N2:M1-72	PHOTO	SMOKE	2:M1-72 1ST FL HALL 1C-5002				X			X		ON	
	N2:M1-73	PHOTO	SMOKE	2:M1-73 1ST FL AREA C CORR 1062	X			X			X		ON	
	N2:M1-74	PHOTO	SMOKE	2:M1-74 1ST FL HALL 1C-5004		X		X			X		ON	
	N2:M1-75	PHOTO	SMOKE	2:M1-75 1ST FL AREA C IS RM 1090	X	X		X			X		ON	
	N2:M1-76	PHOTO	SMOKE	2:M1-76 1ST FL AREA B CORR 1062			X	X			X		ON	
	N2:M1-77	PHOTO	SMOKE	2:M1-77 1ST FL HALL 1C-5000	X		X	X			X		ON	
	N2:M1-78	PHOTO	SMOKE	2:M1-78 1ST FL ALCOVE 1C-5005		X	X	X			X		ON	
	N2:M1-79	ADRPUL	PULL	2:M1-79 1ST FL NURSE STA 1C-5006A	X	X	X	X			X		ON	
	N2:M1-80	PHOTO	SMOKE	2:M1-80 1ST FL HALL 1C-5004					X		X		ON	
	N2:M1-81			SPARE	X				X		X		ON	
	N2:M1-82			SPARE		X			X		X		ON	
	N2:M1-83	IAM	SUPERV	2:M1-83 1ST FL AREA A RM 1133B PUMP RUN	X	X			X		X		ON	
	N2:M1-84	IAM	SUPERV	2:M1-84 1ST FL AREA A RM 1133B PHA REV			X		X		X		ON	
	N2:M1-85	IAM	SUPERV	2:M1-85 1ST FL AREA A RM 1133B PWR LOSS	X		X		X		X		ON	
	N2:M1-86	IAM	TROUBLE	2:M1-86 1ST FL AREA A RM 1133B PUMP TBL		X	X		X		X		ON	
	N2:M1-87			SPARE	X	X	X		X		X		ON	
	N2:M1-88			SPARE				X	X		X		ON	
	N2:M1-89			SPARE	X			X	X		X		ON	
	N2:M1-90			SPARE		X		X	X		X		ON	
	N2:M1-91	RIAM	RELAY	2:M1-91 1ST FLR AREA A ELEC RM 1133	X	X		X	X		X		ON	
	N2:M1-92			SPARE			X	X	X		X		ON	
	N2:M1-93	TRIAM	UTILITY	2:M1-93 1ST FLR AREA A PUMP RM 1133B	X		X	X	X		X		ON	
	N2:M1-94	PHOTO	SDUCT	2:M1-94 1ST FLR AREA A PUMP RM 1133B		X	X	X	X		X		ON	
	N2:M1-95	PHOTO	SDUCT	2:M1-95 1ST FLR AREA A MECH RM 1133A	X	X	X	X	X		X		ON	
	N2:M1-96	TRIAM	UTILITY	2:M1-96 1ST FLR AREA A MECH RM 1133A						X	X		ON	
	N2:M1-97	TRIAM	UTILITY	2:M1-97 1ST FLR AREA RECEPTION 1135	X					X	X		ON	
	N2:M1-98					X				X	X		ON	
	N2:M1-99	RIAM	RELAY	2:M1-99 1ST FLR AREA A DINING 1010	X	X				X	X		ON	
	N2:M1-100	PHOTO	SDUCT	2:M1-100 1ST FLR AREA A DINING 1010			X			X	X		ON	
	N2:M1-101	RIAM	RELAY	2:M1-101 1ST FL AREA A STRG 1006	X		X			X	X		ON	
	N2:M1-102			SPARE		X	X			X	X		ON	
	N2:M1-103	RIAM	RELAY	2:M1-103 1ST FLR AREA A STRG 1006	X	X	X			X	X		ON	
	N2:M1-104	PHOTO	SMOKE	2:M1-104 1ST FLR AREA A FIRE CMD CNTR				X		X	X		ON	
	N2:M1-105			SPARE	X			X		X	X		ON	
	N2:M1-106	PHOTO	SDUCT	2:M1-106 1ST FLR AREA B CONSULT 1046		X		X		X	X		ON	
	N2:M1-107	PHOTO	SDUCT	2:M1-107 1ST FLR AREA B ELEV LOBBY 1061	X	X		X		X	X		ON	
	N2:M1-108	RIAM	RELAY	2:M1-108 1ST FLR AREA B ELEV LOBBY 1061			X	X		X	X		ON	
	N2:M1-109	RIAM	RELAY	2:M1-109 1ST FLR AREA B CORR 1062	X		X	X		X	X		ON	
	N2:M1-110	PHOTO	SDUCT	2:M1-110 1ST FLR AREA B CORR 1062		X	X	X		X	X		ON	
	N2:M1-111	TRIAM	UTILITY	2:M1-111 1ST FLR AREA B STRSS TEST 1091	X	X	X	X		X	X		ON	
	N2:M1-112	PHOTO	SDUCT	2:M1-112 1ST FLR AREA B STRSS TEST 1091					X	X	X		ON	
	N2:M1-113			SPARE	X				X	X	X		ON	
	N2:M1-114			SPARE		X			X	X	X		ON	
	N2:M1-115	RIAM	RELAY	2:M1-115 1ST FLR AREA STRSS TEST 1091	X	X			X	X	X		ON	
	N2:M1-116	PHOTO	SDUCT	2:M1-116 1ST FLR AREA STRSS TEST 1091			X		X	X	X		ON	
	N2:M1-117	RIAM	RELAY	2:M1-117 1ST FLR AREA B I.S. RM 1090	X		X		X	X	X		ON	
	N2:M1-118	PHOTO	SDUCT	2:M1-118 1ST FLR AREA B I.S. RM 1090		X	X		X	X	X		ON	
	N2:M1-119	RIAM	RELAY	2:M1-119 1ST FLR AREA B LAB 1097	X	X	X		X	X	X		ON	
	N2:M1-120			SPARE				X	X	X	X		ON	
	N2:M1-121	TRIAM	UTILITY	2:M1-121 1ST FLR AREA B SUPR 1044	X			X	X	X	X		ON	
	N2:M1-122	PHOTO	SDUCT	2:M1-122 1ST FLR AREA B SUPR 1044		X		X	X	X	X		ON	
	N2:M1-123	TRIAM	UTILITY	2:M1-123 1ST FL AREA C CONSULT1042	X	X		X	X	X	X		ON	
	N2:M1-124	PHOTO	SDUCT	2:M1-124 1ST FL AREA C CONSULT1042			X	X	X	X	X		ON	
	N2:M1-125	RIAM	RELAY	2:M1-125 1ST FL AREA C PBC RM 1039	X		X	X	X	X	X		ON	

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

IDNET CHANNEL N2:M1 — #N/A — SWITCH SETTINGS

Address			Location Description	1	2	3	4	5	6	7	8		9
N2:M1-126	PHOTO	SDUCT	2:M1-126 1ST FL AREA C PBC RM 1039		X	X	X	X	X	X		ON	
N2:M1-127	RIAM	RELAY	2:M1-127 1ST FL AREA C PBX 1022A	X	X	X	X	X	X	X		ON	
N2:M1-128	PHOTO	SDUCT	2:M1-128 1ST FL AREA C PBX 1022A								X	ON	
N2:M1-129	RIAM	RELAY	2:M1-129 1ST FL AREAC FAM WAITING1020	X							X	ON	
N2:M1-130	PHOTO	SDUCT	2:M1-130 1ST FL AREAC FAM WAITING1020		X						X	ON	
N2:M1-131			SPARE	X	X						X	ON	
N2:M1-132			SPARE			X					X	ON	
N2:M1-133			SPARE	X		X					X	ON	
N2:M1-134			SPARE		X	X					X	ON	
N2:M1-135	RPHOTO	SDUCT	2:M1-135 1FL AREA A AHU-06-A SUP1133A	X	X	X					X	ON	
N2:M1-136	RPHOTO	SDUCT	2:M1-136 1FL AREA A AHU-06-A RET1133A				X				X	ON	
N2:M1-137	PHOTO	SDUCT	2:M1-137 1ST FL AREA A CORR 1005	X			X				X	ON	
N2:M1-138	RIAM	RELAY	2:M1-138 1ST FL AREA A CORR 1005		X		X				X	ON	
N2:M1-139	PHOTO	SDUCT	2:M1-139 1ST FL AREA A CORR 1005	X	X		X				X	ON	
N2:M1-140	RIAM	RELAY	2:M1-140 1ST FL AREA A CORR 1005			X	X				X	ON	
N2:M1-141	RIAM	RELAY	2:M1-141 1ST FLR AREA A CORR 1007	X		X	X				X	ON	
N2:M1-142	IAM	SO	2:M1-142 1ST FLR AREA A EAST CORR 1140		X	X	X				X	ON	
N2:M1-143	IAM	SO	2:M1-143 1ST FLR AREA A WEST CORR 1140	X	X	X	X				X	ON	
N2:M1-144			SPARE					X			X	ON	
N2:M1-145	PHOTO	SMOKE	2:M1-145 1ST FL AREA A WAITING 1026	X				X			X	ON	
N2:M1-146	PHOTO	SMOKE	2:M1-146 1ST FL AREA A WAITING 1026		X			X			X	ON	
N2:M1-147	PHOTO	SMOKE	2:M1-147 1ST FL AREA A RECEPTION 1025	X	X			X			X	ON	
N2:M1-148	PHOTO	SMOKE	2:M1-148 1ST FL AREA A BY CONSULT 1037			X		X			X	ON	
N2:M1-149	PHOTO	SMOKE	2:M1-149 1ST FL AREA A WAITING 1048	X		X		X			X	ON	
N2:M1-150	PHOTO	SMOKE	2:M1-150 1ST FL AREA A CORR 1057		X	X		X			X	ON	
N2:M1-151	PHOTO	SMOKE	2:M1-151 1ST FL AREA A CORR 1057	X	X	X		X			X	ON	
N2:M1-152	PHOTO	SMOKE	2:M1-152 1ST FL AREA A RECEPTION 1025				X	X			X	ON	
N2:M1-153	IAM	SUPERV	2:M1-153 1STFLAREA A PUMP1133B TMP PRE	X			X	X			X	ON	
N2:M1-154	IAM	SUPERV	2:M1-154 1STFLAREA A PUMP 1133B LOWAIR		X		X	X			X	ON	
N2:M1-155	IAM	SUPERV	2:M1-155 1STFLAREA A PUMP1133B TMP WET	X	X		X	X			X	ON	
N2:M1-156	IAM	SUPERV	2:M1-156 1FL AREA A PUMP 1133B TMP MAIN			X	X	X			X	ON	
N2:M1-157	IAM	SUPERV	2:M1-157 1STFLAREA A PUMP1133B LA DRY	X		X	X	X			X	ON	
N2:M1-158	IAM	WATER	2:M1-158 1STFLAREA A PUMP1133B FLW DRY		X	X	X	X			X	ON	
N2:M1-159	IAM	SUPERV	2:M1-159 1STFLAREA A PUMP 1133B TMP DRY	X	X	X	X	X			X	ON	
N2:M1-160	IAM	SUPERV	2:M1-160 1FL AREA A PUMP 1133B TMP PUMP						X		X	ON	
N2:M1-161	IAM	SUPERV	2:M1-161 1FL AREA A PUMP 1133B TMP PUMP	X					X		X	ON	
N2:M1-162	RELEASE	SUPRELS	2:M1-162 1ST FL PUMP RM PRE ACTION RLSE		X				X		X	ON	
N2:M1-163	IAM	SO	2:M1-163 1ST FLR AREA B WTING AREA 1029	X	X				X		X	ON	
N2:M1-164	ION	SMOKE	2:M1-164 1ST FL AREA C IS RM 1090			X			X		X	ON	
N2:M1-165	TRIAM	UTILITY	2:M1-165 1ST FL AREA C IS RM 1090	X		X			X		X	ON	
N2:M1-166	TRIAM	UTILITY	2:M1-166 1ST FLR SVC ELEV LOBBY		X	X			X		X	ON	
N2:M1-167	TRIAM	UTILITY	2:M1-167 1ST FLR CORR 1062	X	X	X			X		X	ON	
N2:M1-168	RIAM	RRELAY	2:M1-168 1ST LFR AREA B CORR 1105				X		X		X	ON	
N2:M1-169	RPHOTO	SDUCT	2:M1-169 1ST FL AREA B CORR 1105	X			X		X		X	ON	
N2:M1-170	RPHOTO	SMOKE	2:M1-170 1ST FL AREA B CORR 1105		X		X		X		X	ON	
N2:M1-171	PHOTO	SMOKE	2:M1-171 1ST FL AREA B CORR 1105	X	X		X		X		X	ON	
N2:M1-172	PHOTO	SMOKE	2:M1-172 1ST FL AREA B CORR 1105			X	X		X		X	ON	
N2:M1-173	PHOTO	SMOKE	2:M1-173 1ST FL AREA B CORR 1105	X		X	X		X		X	ON	
N2:M1-174	PHOTO	SMOKE	2:M1-174 1ST FL AREA B HALL 1C-6000		X	X	X		X		X	ON	
N2:M1-175	PHOTO	SMOKE	2:M1-175 1ST FL AREA B CORR 1098 NORTH	X	X	X	X		X		X	ON	
N2:M1-176	PHOTO	SMOKE	2:M1-176 1ST FL AREA B CORR 1098 NORTH					X	X		X	ON	
N2:M1-177	PHOTO	SMOKE	2:M1-177 1ST FL AREA B SCRUB 1C-6018A	X				X	X		X	ON	
N2:M1-178	PHOTO	SMOKE	2:M1-178 1FL AREA B CNTRL RM 1C-6017A		X			X	X		X	ON	
N2:M1-179	PHOTO	SMOKE	2:M1-179 1ST FL AREA B EQUIP STOR 1101	X	X			X	X		X	ON	
N2:M1-180	RPHOTO	SDUCT	2:M1-180 2FL AREA A AHU-06-1SUPP RM2042			X		X	X		X	ON	
N2:M1-181	PHOTO	SMOKE	2:M1-181 1ST FL AREA B UPS 1104	X		X		X	X		X	ON	
N2:M1-182	PHOTO	SMOKE	2:M1-182 1ST FL AREA B EQUIP 1097C		X	X		X	X		X	ON	
N2:M1-183	PHOTO	SMOKE	2:M1-183 1ST FL AREA B CATH LAB #1	X	X	X		X	X		X	ON	
N2:M1-184	PHOTO	SMOKE	2:M1-184 1ST FL AREA B CATH LAB #2				X	X	X		X	ON	
N2:M1-185	PHOTO	SMOKE	2:M1-185 1ST FL AREA B EQUIP 1C-6004A	X			X	X	X		X	ON	
N2:M1-186	PHOTO	SDUCT	2:M1-186 1ST FL AREA B CATH LAB SUPPLY		X		X	X	X		X	ON	
N2:M1-187	PHOTO	SMOKE	2:M1-187 1ST FL AREA B UPS 1104	X	X		X	X	X		X	ON	
N2:M1-188	PHOTO	SDUCT	2:M1-188 1ST FL AREA B CATH LAB RETURN			X	X	X	X		X	ON	
N2:M1-189	ADRPUL	PULL	2:M1-189 1ST FL AREA B HALL 1C-6000	X		X	X	X	X		X	ON	
N2:M1-190	PHOTO	SDUCT	2:M1-190 1ST FL AREA B CATH LAB INTAKE		X	X	X	X	X		X	ON	
N2:M1-191	PHOTO	SDUCT	2:M1-191 1ST FL AREA B CATH LAB INTAKE	X	X	X	X	X	X		X	ON	
N2:M1-192	RPHOTO	SDUCT	2:M1-192 1ST FL AREA B CORR 1105							X	X	ON	
N2:M1-193	RPHOTO	SDUCT	2:M1-193 1ST FL AREA B CORR 1105	X						X	X	ON	
N2:M1-194	RPHOTO	SDUCT	2:M1-194 1ST FL AREA B CORR 1105		X					X	X	ON	
N2:M1-195	RPHOTO	SDUCT	2:M1-195 1ST FL AREA B CORR 1105	X	X					X	X	ON	
N2:M1-196	TRIAM	UTILITY	2:M1-196 1ST FL AREA B SMOKE PURGE #1			X				X	X	ON	
N2:M1-197	TRIAM	UTILITY	2:M1-197 1ST FL AREA B SMOKE PURGE #2	X		X				X	X	ON	
N2:M1-198	PHOTO	SMOKE	2:M1-198 1FL AREA B STORAGE 1C-6001A		X	X				X	X	ON	
N2:M1-199	PHOTO	SMOKE	2:M1-199 1FL AREA B COMP EQUIP 1C-6051A	X	X	X				X	X	ON	
N2:M1-200	PHOTO	SMOKE	2:M1-200 1FL AREA B CATH LAB 1C-6016A				X			X	X	ON	
N2:M1-201	PHOTO	SMOKE	2:M1-201 1FL AREA B CATH LAB 1C-6016A	X			X			X	X	ON	
N2:M1-202	IAM	WATER	2:M1-202 2FL MECH PH 1C-6015H WATERFLOW		X		X			X	X	ON	
N2:M1-203	IAM	SO	2:M1-203 2FL MECH PH 1C-6015H TAMPER SW	X	X		X			X	X	ON	
N2:M1-204	PHOTO	SMOKE	2:M1-204 2FL MECH PH 1C-6015H			X	X			X	X	ON	
N2:M1-205	PHOTO	SMOKE	2:M1-205 2FL MECH PH 1C-6015H	X		X	X			X	X	ON	
N2:M1-206	PHOTO	SMOKE	2:M1-206 2FL MECH PH 1C-6015H		X	X	X			X	X	ON	
N2:M1-207	RPHOTO	SDUCT	2:M1-207 2FL MECH PH 1C-6015H	X	X	X	X			X	X	ON	
N2:M1-208	RPHOTO	SDUCT	2:M1-208 2FL MECH PH 1C-6015H					X		X	X	ON	
N2:M1-209			SPARE	X				X		X	X	ON	
THROUGH					X			X		X	X	ON	
N2:M1-250			SPARE		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.

GENERAL NOTES:

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

KEYNOTES:

1. DEVICE REMOVED DURING INTERIM CONSTRUCTION.
2. DEVICE IS INTERIM FOR CONSTRUCTION. TO BE REPLACED DURING BUILDOUT.
3. DEVICE REMOVED DURING BUILDOUT CONSTRUCTION.

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

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
Nancy S Wiltsie
February 9, 2022

THE MEDICAL CENTER OF AURORA - SOUTH CAMPUS CATH LAB 4 RENOVATION

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:	CBR
CHECKED BY:	NSW
ISSUE DATE:	10/4/21
JOB #:	
PROJECT #:	419:650141104

JOHNSON CONTROLS © 2022

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **NODE 2 FIRE ALARM CONTROL PANEL INTERIM CALCS & SCHEDULES**

FA-601

FILE PATH: C:\Users\jrauchc\Johnson Controls\Project Electronics - 1501 S Potomac - Aurora South\South Tower - Node 1\31-Cath Lab 4 Reno - 2021 - 621659806\Fire\FA-601.dwg
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TMCA NODE 2 4100es FACP

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4100-9111	1	4100 CONFIG. DOMESTIC 120V *	0.3730	0.3730	0.4700	0.4700
4100-5101	4	EXPANSION PWR SUPPLY (XPS) - 120VAC 60HZ	0.0500	0.2000	0.0500	0.2000
4100-9621	1	BASIC AUDIO WITH MICROPHONE - DIGITAL	0.0750	0.0750	0.0820	0.0820
4100-1326	4	DIGITAL FLEX 50W AMP W/3 NACS - 25V	0.0850	0.3400	2.2700	9.0800
4100-1240	1	AUXILIARY AUDIO INPUT BOARD	0.0100	0.0100	0.0100	0.0100
4100-1242	1	MESSAGE EXPANSION BOARD - 32 MINUTES	0.0020	0.0020	0.0170	0.0170
4100-1270	1	MASTER TELEPHONE, PHONE CONTROL	0.0800	0.0800	0.1400	0.1400
4100-1272	3	EXPANSION PHONE CONTROLLER	0.0800	0.2400	0.1400	0.4200
4100-3101	3	IDNET MODULE, UP TO 250 POINTS *	0.0750	0.2250	0.1150	0.3450
4100-6014	1	NETWORK IF CARD, WIRED	0.0460	0.0460	0.0460	0.0460
4100-6056	2	NETWORK MEDIA CARD WIRED	0.0550	0.1100	0.0550	0.1100
4100-3206	1	8 RELAYS - 3 AMP	0.0150	0.0150	0.1900	0.1900
4100-1254	1	2 CHANNEL AUDIO OPERATOR INTERFACE	0.0000	0.0000	0.0240	0.0240
4100-1282	4	8 SW, 16RED/YEL LED MODULE	0.0000	0.0000	0.0240	0.0960
4100-1284	31	8 SW, 16 RED/GREEN LED MODULE	0.0000	0.0000	0.0240	0.7440
4100-1288	5	64/64 LED/SWITCH CONTROLLER	0.0200	0.1000	0.0200	0.1000
4100-1289	4	EXPANSION 64/64 LED/SW MODULE	0.0200	0.0800	0.0200	0.0800
4009-9601	4	IDNAC REPEATER 120V PLATINUM UL/ULC	0.0700	0.2800	0.0960	0.3840
		Panel Totals		2.1760		12.5380
IDNet Addressable Devices (SLC)						
4099-9004	16	ADDRESSABLE SINGLE ACTION MANUAL STATION *				
4090-9001	**32**	**IDNET SUPERVISED IAM** *				
4090-9002	**19**	**IDNET RELAY IAM** *				
4090-9006	1	SUP RELEASE PERIPH & ENCLOSURE *				
4090-9118	11	RELAY IDNET 2 IAM W/T SENSE *				
4098-9714	**70**	**TRUEALARM PHOTO SMOKE SENSOR**				
4098-9717	3	TRUEALARM ION SMOKE SENSOR				
(3) **4098-9733**	**4**	**TRUEALARM HEAT SENSOR**				
4098-9755	20	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT *				
4098-9756	10	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT *				
4098-9792	76	TRUEALARM SENSOR BASE *				
4098-9780	1	TRUEALARM 2 WIRE RELAY SENSOR BASE *				
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
4098-9860	1	2-WIRE RELAY FOR USE WITH 4098-9780 SENSOR BASE	0.0000	0.0000	0.0000	0.0000
4603-9101	1	SERIAL LCD ANNUNCIATOR	0.0650	0.0650	0.1400	0.1400
		Peripheral Totals		0.0950		0.4400
		Added Current for EPS Conversion of 24 to 29 Volt IDNac Devices		0.0000		0.0000
	1	RUI Totals		0.0035		0.0035
	186	Address Totals (Addresses)		0.1488		0.1860
		System Totals*:	Standby	2.4233	Alarm	13.1675

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

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

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

Battery Set #1 (Cabinet/Charger #1)
Select ALL Power Supplies on this battery set:

			Standby Current	Standby Total	Alarm Current	Alarm Total
SPS-1				1.4510		2.4500
Sub Total				1.4510		2.4500
Additional Current Draws:						
RUI Connected Peripheral Devices		1	x 0.0035	= 0.0035	x 0.0035	= 0.0035
MAPNET/IDNet Device Address Communication Current		186	x 0.000800	= 0.1488	x 0.001000	= 0.1860
Sub Total				1.6033		2.6395
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
Total				1.6033		2.6395

Standby Time = 24 Hrs x 1.6033 = 38.4792 Standby Ah
Alarm Time = 5 Min 0.08333 x 2.6395 = 0.2200 Alarm Ah
38.6992
Additional Spare Battery Capacity = 0% + 0.0000
38.6992
Battery Discharge Factor = 20% + 7.7398
Minimum Battery Required 2081-9296 50AH (2x) 46.4390
Battery Supplied 2081-9296 50AH (2x)

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

Battery Set #2 (Cabinet/Charger #2)
Select ALL Power Supplies on this battery set:

			Standby Current	Standby Total	Alarm Current	Alarm Total
XPS-2				0.1350		2.4400
Sub Total				0.1350		2.4400
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **				0.0000		0.0000
MAPNET/IDNet Device Address Communication Current		0	x 0.000800	= 0.0000	x 0.001000	= 0.0000
Sub Total				0.1350		2.4400
Spare addressable point capacity	0%	0	x 0.0008	= 0.0000	x 0.001	= 0.0000
Total				0.1350		2.4400

Standby Time = 24 Hrs x 0.1350 = 3.2400 Standby Ah
Alarm Time = 5 Min 0.08333 x 2.44 = 0.2033 Alarm Ah
3.4433
Additional Spare Battery Capacity = 0% + 0.0000
3.4433
Battery Discharge Factor = 20% + 0.6887
Minimum Battery Required 2081-9272 6.2AH (2x) 4.1320
Battery Supplied 2081-9272 6.2AH (2x)

Battery Set #3 (Cabinet/Charger #3)
Select ALL Power Supplies on this battery set:

	Standby Current	Standby Total	Alarm Current	Alarm Total
XPS-3		0.1350		3.0640
Sub Total		0.1350		3.0640
Total		0.1350		3.0640

Standby Time = 24 Hrs x 0.1350 = 3.2400 Standby Ah
Alarm Time = 5 Min 0.08333 x 3.064 = 0.2553 Alarm Ah
3.4953
Additional Spare Battery Capacity = 0% + 0.0000
3.4953
Battery Discharge Factor = 20% + 0.6991
Minimum Battery Required 2081-9272 6.2AH (2x) 4.1944
Battery Supplied 2081-9272 6.2AH (2x)

Battery Set #4 (Cabinet/Charger #4)
Select ALL Power Supplies on this battery set:

	Standby Current	Standby Total	Alarm Current	Alarm Total
XPS-4		0.1350		2.3200
Sub Total		0.1350		2.3200
Total		0.1350		2.3200

Standby Time = 24 Hrs x 0.1350 = 3.2400 Standby Ah
Alarm Time = 5 Min 0.08333 x 2.32 = 0.1933 Alarm Ah
3.4333
Additional Spare Battery Capacity = 0% + 0.0000
3.4333
Battery Discharge Factor = 20% + 0.6867
Minimum Battery Required 2081-9272 6.2AH (2x) 4.1200
Battery Supplied 2081-9272 6.2AH (2x)

Battery Set #5 (Cabinet/Charger #5)
Select ALL Power Supplies on this battery set:

	Standby Current	Standby Total	Alarm Current	Alarm Total
XPS-5		0.1350		2.3200
Sub Total		0.1350		2.3200
Total		0.1350		2.3200

Standby Time = 24 Hrs x 0.1350 = 3.2400 Standby Ah
Alarm Time = 5 Min 0.08333 x 2.32 = 0.1933 Alarm Ah
3.4333
Additional Spare Battery Capacity = 0% + 0.0000
3.4333
Battery Discharge Factor = 20% + 0.6867
Minimum Battery Required 2081-9272 6.2AH (2x) 4.1200
Battery Supplied 2081-9272 6.2AH (2x)

IDNET CHANNEL N2:M1			#N/A	SWITCH SETTINGS									
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8		9
N2:M1-1	ADRPUL	PULL	2:M1-1 1ST FLR AREA A STAIR 1130A	X								ON	
N2:M1-2			SPARE		X							ON	
N2:M1-3	IAM	SO	2:M1-3 1ST FLR AREA A STAIR 1130A TAMP	X	X							ON	
N2:M1-4	PHOTO	SMOKE	2:M1-4 1ST FLR AREA A ELECT RM 1133			X						ON	
N2:M1-5	ION	SMOKE	2:M1-5 1ST FL AREA A ELECT RM 1133 PRE	X		X						ON	
N2:M1-6	4009A8	SIGNAL	2:M1-6 1ST FLR AREA A ELECT RM 1133 NAC1		X	X						ON	
N2:M1-7	4009A8	SIGNAL	2:M1-7 1ST FLR AREA ELECT RM 1133 NAC2	X	X	X						ON	
N2:M1-8	ADRPUL	PULL	2:M1-8 1ST FLR AREA ELECT RM 1133				X					ON	
N2:M1-9	ADRPUL	PULL	2:M1-9 1ST FLR AREA A CORR 1140	X			X					ON	
N2:M1-10	PHOTO	SMOKE	2:M1-10 1ST FLR AREA A CORR 1140		X		X					ON	
N2:M1-11	PHOTO	SMOKE	2:M1-11 1ST FLR AREA A CORR 1140	X	X		X					ON	
N2:M1-12	PHOTO	SMOKE	2:M1-12 1ST FLR AREA A ELECT RM 1134			X	X					ON	
N2:M1-13	ION	SMOKE	2:M1-13 1ST FLR AREA A ELECT RM 1134	X		X	X					ON	
N2:M1-14	ADRPUL	PULL	2:M1-14 1ST FLR AREA A ELECT RM 1134		X	X	X					ON	
N2:M1-15	IAM	WATER	2:M1-15 1STFLAREA A PUMP 1133B MAIN FLW	X	X	X	X					ON	
N2:M1-16	IAM	SO	2:M1-16 1STFLAREA A PUMP 1133B TMP MAIN					X				ON	
N2:M1-17	IAM	SO	2:M1-17 1STFLAREA A PUMP 1133B TMP MAIN	X				X				ON	
N2:M1-18	IAM	SO	2:M1-18 1STFLAREA A PUMP 1133B TMP MAIN		X			X				ON	
N2:M1-19	IAM	WATER	2:M1-19 1STFLAREA A PUMP1133B WAT FLW	X	X			X				ON	
N2:M1-20	IAM	SO	2:M1-20 1STFLAREA A PUMP 1133B TMP MAIN			X		X				ON	
N2:M1-21	IAM	SO	2:M1-21 1STFLAREA A PUMP 1133B TMP MAIN	X		X		X				ON	
N2:M1-22	IAM	SO	2:M1-22 1STFLAREA A PUMP 1133B TMP MAIN		X	X		X				ON	
N2:M1-23	PHOTO	SMOKE	2:M1-23 1ST FL AREA A PUMP RM 1133B	X	X	X		X				ON	
N2:M1-24	ADRPUL	PULL	2:M1-24 1ST FL AREA A PUMP RM 1133B				X	X				ON	
N2:M1-25	IAM	SO	2:M1-25 1STFL PUMP RM 1133B TEST HEADER	X			X	X				ON	
N2:M1-26	IAM	WATER	2:M1-26 1ST FL AREA A PUMP1133B PREACT		X		X	X				ON	
N2:M1-27	PHOTO	SMOKE	2:M1-27 1ST FL AREA A CORR 1146	X	X		X	X				ON	
N2:M1-28	ADRPUL	PULL	2:M1-28 1ST FL AREA A MECH RM 1133A			X	X	X				ON	
N2:M1-29	PHOTO	SMOKE	2:M1-29 1ST FL AREA A MECH RM 1133A	X		X	X	X				ON	
N2:M1-30	PHOTO	SMOKE	2:M1-30 1ST FL AREA A CORR 1146		X	X	X	X				ON	
N2:M1-31			SPARE	X	X	X	X	X				ON	
N2:M1-32	PHOTO	SMOKE	2:M1-32 1ST FL AREA A CORR 1146						X			ON	
N2:M1-33	ADRPUL	PULL	2:M1-33 1ST FL AREA A CORR 1146	X					X			ON	
N2:M1-34	PHOTO	SMOKE	2:M1-34 1ST FL AREA A CORR 1146		X				X			ON	
N2:M1-35	PHOTO	SMOKE	2:M1-35 1ST FL AREA A RECEPTION 1135	X	X				X			ON	
N2:M1-36	ADRPUL	PULL	2:M1-36 1ST FL AREA A LOBBY 1001			X			X			ON	
N2:M1-37	PHOTO	SMOKE	2:M1-37 1ST FL AREA A CORR 1007	X		X			X			ON	
N2:M1-38	PHOTO	SMOKE	2:M1-38 1ST FL AREA A CORR 1007		X	X			X			ON	
N2:M1-39	ADRPUL	PULL	2:M1-39 1ST FL AREA A DINING 1010	X	X	X			X			ON	
N2:M1-40	ADRPUL	PULL	2:M1-40 1ST FL AREA A LOBBY 1001				X		X			ON	
N2:M1-41	PHOTO	SMOKE	2:M1-41 1ST FL AREA A LOBBY 1001	X			X		X			ON	
N2:M1-42	PHOTO	SMOKE	2:M1-42 1ST FL AREA A LOBBY 1001		X		X		X			ON	
N2:M1-43	PHOTO	SMOKE	2:M1-43 1ST FL AREA A LOBBY 1001	X	X		X		X			ON	
N2:M1-44	ADRPUL	PULL	2:M1-44 1ST FL AREA A LOBBY 1001			X	X		X			ON	
N2:M1-45	PHOTO	SMOKE	2:M1-45 1ST FL AREA A LOBBY 1001	X		X	X		X			ON	
N2:M1-46	PHOTO	SMOKE	2:M1-46 1ST FL AREA A CORR 1058		X	X	X		X			ON	
N2:M1-47	PHOTO	SMOKE	2:M1-47 1ST FL AREA A CORR 1058	X	X	X	X		X			ON	
N2:M1-48	PHOTO	SMOKE	2:M1-48 1ST FL AREA A LOBBY 1001					X	X			ON	
N2:M1-49	PHOTO	SMOKE	2:M1-49 1ST FL AREA A WORK AREA 1035	X				X	X			ON	
N2:M1-50	PHOTO	SMOKE	2:M1-50 1ST FL AREA C WAITING AREA 1029		X			X	X			ON	
N2:M1-51	PHOTO	SMOKE	2:M1-51 1ST FL AREA B WORK AREA 1035	X	X			X	X			ON	
N2:M1-52	PHOTO	SMOKE	2:M1-52 1ST FL AREA B BY CONSULT 1042			X		X	X			ON	
N2:M1-53	PHOTO	SMOKE	2:M1-53 1ST FL AREA B CORR 1062	X		X		X	X			ON	
N2:M1-54	PHOTO	SMOKE	2:M1-54 1ST FL AREA A CORR 1062		X	X		X	X			ON	
N2:M1-55	ADRPUL	PULL	2:M1-55 1ST FL AREA C STAIR 106BA	X	X	X		X	X			ON	
N2:M1-56	ADRPUL	PULL	2:M1-56 1ST FL AREA C ELEV LOBBY 1004				X	X	X			ON	
N2:M1-57	HEAT	HEAT	2:M1-57 BTM OF SHAFT PUB ELEV 1004A	X			X	X	X			ON	
N2:M1-58	RIAM	RRELAY	2:M1-58 1ST FL AREA C PUB ELEV DR CNTL		X		X	X	X			ON	
N2:M1-59			SPARE	X	X		X	X	X			ON	
N2:M1-60	HEAT	HEAT	2:M1-60 BTM OF SHAFT SERV ELEV 1061B			X	X	X	X			ON	
N2:M1-61			SPARE	X		X	X	X	X			ON	
N2:M1-62	IAM	SO	2:M1-62 1ST FL AREA C STAIR 106BA TAMP		X	X	X	X	X			ON	
N2:M1-63	PHOTO	SMOKE	2:M1-63 1ST FL PUBLIC ELEV LOBBY 1004	X	X	X	X	X	X			ON	
N2:M1-64	**PHOTO**	**SMOKE**	**2:M1-64 1ST FL AREA C WAITING 1C-0005A**							X		ON	
N2:M1-65	HEAT	HEAT	2:M1-65 BTM OF SHAFT PUB ELEV 1004B	X						X		ON	
N2:M1-66			SPARE		X					X		ON	
N2:M1-67			SPARE	X	X					X		ON	
N2:M1-68	HEAT	HEAT	2:M1-68 BTM OF SHAFT SERV ELEV 1061A			X				X		ON	
N2:M1-69	ADRPUL	PULL	2:M1-69 1ST FL AREA C ELEV LOBBY 1061	X		X				X		ON	
N2:M1-70	PHOTO	SMOKE	2:M1-70 1ST FL SERV ELEV LOBBY 1061		X	X				X		ON	
N2:M1-71	PHOTO	SMOKE	2:M1-71 1ST FL HALL 1C-5000	X	X	X				X		ON	
N2:M1-72	PHOTO	SMOKE	2:M1-72 1ST FL HALL 1C-5002				X			X		ON	
N2:M1-73	PHOTO	SMOKE	2:M1-73 1ST FL AREA C CORR 1062	X			X			X		ON	
N2:M1-74	PHOTO	SMOKE	2:M1-74 1ST FL HALL 1C-5004		X		X			X		ON	
N2:M1-75	PHOTO	SMOKE	2:M1-75 1ST FL AREA C IS RM 1090	X	X		X			X		ON	
N2:M1-76	PHOTO	SMOKE	2:M1-76 1ST FL AREA B CORR 1062			X	X			X		ON	
N2:M1-77	PHOTO	SMOKE	2:M1-77 1ST FL HALL 1C-5000	X		X	X			X		ON	
N2:M1-78	PHOTO	SMOKE	2:M1-78 1ST FL ALCOVE 1C-5005		X	X	X			X		ON	
N2:M1-79	ADRPUL	PULL	2:M1-79 1ST FL NURSE STA 1C-5006A	X	X	X	X			X		ON	
N2:M1-80	PHOTO	SMOKE	2:M1-80 1ST FL HALL 1C-5004					X		X		ON	
N2:M1-81			SPARE	X				X		X		ON	
N2:M1-82			SPARE		X			X		X		ON	
N2:M1-83	IAM	SUPERV	2:M1-83 1ST FL AREA A RM 1133B PUMP RUN	X	X			X		X		ON	
N2:M1-84	IAM	SUPERV	2:M1-84 1ST FL AREA A RM 1133B PHA REV			X		X		X		ON	
N2:M1-85	IAM	SUPERV	2:M1-85 1ST FL AREA A RM 1133B PWR LOSS	X		X		X		X		ON	
N2:M1-86	IAM	TROUBLE	2:M1-86 1ST FL AREA A RM 1133B PUMP TBL		X	X		X		X		ON	
N2:M1-87			SPARE	X	X	X		X		X		ON	
N2:M1-88			SPARE				X	X		X		ON	
N2:M1-89			SPARE	X			X	X		X		ON	
N2:M1-90			SPARE		X		X	X		X		ON	
N2:M1-91	RIAM	RELAY	2:M1-91 1ST FLR AREA A ELEC RM 1133	X	X		X	X		X		ON	
N2:M1-92			SPARE			X	X	X		X		ON	
N2:M1-93	TRIAM	UTILITY	2:M1-93 1ST FLR AREA A PUMP RM 1133B	X		X	X	X		X		ON	
N2:M1-94	PHOTO	SDUCT	2:M1-94 1ST FLR AREA A PUMP RM 1133B		X	X	X	X		X		ON	
N2:M1-95	PHOTO	SDUCT	2:M1-95 1ST FLR AREA A MECH RM 1133A	X	X	X	X	X		X		ON	
N2:M1-96	TRIAM	UTILITY	2:M1-96 1ST FLR AREA A MECH RM 1133A						X	X		ON	
N2:M1-97	TRIAM	UTILITY	2:M1-97 1ST FLR AREA RECEPTION 1135	X					X	X		ON	
N2:M1-98					X				X	X		ON	
N2:M1-99	RIAM	RELAY	2:M1-99 1ST FLR AREA A DINING 1010	X	X				X	X		ON	
N2:M1-100	PHOTO	SDUCT	2:M1-100 1ST FLR AREA A DINING 1010			X			X	X		ON	
N2:M1-101	RIAM	RELAY	2:M1-101 1ST FL AREA A STRG 1006	X		X			X	X		ON	
N2:M1-102			SPARE		X	X			X	X		ON	
N2:M1-103	RIAM	RELAY	2:M1-103 1ST FLR AREA A STRG 1006	X	X	X			X	X		ON	
N2:M1-104	PHOTO	SMOKE	2:M1-104 1ST FLR AREA A FIRE CMD CNTR				X		X	X		ON	
N2:M1-105			SPARE	X			X		X	X		ON	
N2:M1-106	PHOTO	SDUCT	2:M1-106 1ST FLR AREA B CONSULT 1046		X		X		X	X		ON	
N2:M1-107	PHOTO	SDUCT	2:M1-107 1ST FLR AREA B ELEV LOBBY 1061	X	X		X		X	X		ON	
N2:M1-108	RIAM	RELAY	2:M1-108 1ST FLR AREA B ELEV LOBBY 1061			X	X		X	X		ON	
N2:M1-109	RIAM	RELAY	2:M1-109 1ST FLR AREA B CORR 1062	X		X	X		X	X		ON	
N2:M1-110	PHOTO	SDUCT	2:M1-110 1ST FLR AREA B CORR 1062		X	X	X		X	X		ON	
N2:M1-111	TRIAM	UTILITY	2:M1-111 1ST FLR AREA B STRSS TEST 1091	X	X	X	X		X	X		ON	
N2:M1-112	PHOTO	SDUCT	2:M1-112 1ST FLR AREA B STRSS TEST 1091					X	X	X		ON	
N2:M1-113			SPARE	X				X	X	X		ON	
N2:M1-114			SPARE		X			X	X	X		ON	
N2:M1-115	RIAM	RELAY	2:M1-115 1ST FLR AREA STRSS TEST 1091	X	X			X	X	X		ON	
N2:M1-116	PHOTO	SDUCT	2:M1-116 1ST FLR AREA STRSS TEST 1091			X		X	X	X		ON	
N2:M1-117	RIAM	RELAY	2:M1-117 1ST FLR AREA B I.S. RM 1090	X		X		X	X	X		ON	
N2:M1-118	PHOTO	SDUCT	2:M1-118 1ST FLR AREA B I.S. RM 1090		X	X		X	X	X		ON	
N2:M1-119	RIAM	RELAY	2:M1-119 1ST FLR AREA B LAB 1097	X	X	X		X	X	X		ON	
N2:M1-120			SPARE				X	X	X	X		ON	
N2:M1-121	TRIAM	UTILITY	2:M1-121 1ST FLR AREA B SUPR 1044	X			X	X	X	X		ON	
N2:M1-122	PHOTO	SDUCT	2:M1-122 1ST FLR AREA B SUPR 1044		X		X	X	X	X		ON	
N2:M1-123	TRIAM	UTILITY	2:M1-123 1ST FL AREA C CONSULT1042	X	X		X	X	X	X		ON	
N2:M1-124	PHOTO	SDUCT	2:M1-124 1ST FL AREA C CONSULT1042			X	X	X	X	X		ON	
N2:M1-125	RIAM	RELAY	2:M1-125 1ST FL AREA C PBC RM 1039	X		X	X	X	X	X		ON	

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POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

IDNET CHANNEL N2:M1			#N/A	SWITCH SETTINGS									
Address			Location Description	1	2	3	4	5	6	7	8		9
N2:M1-126	PHOTO	SDUCT	2:M1-126 1ST FL AREA C PBC RM 1039		X	X	X	X	X	X		ON	
N2:M1-127	RIAM	RELAY	2:M1-127 1ST FL AREA C PBX 1022A	X	X	X	X	X	X	X		ON	
N2:M1-128	PHOTO	SDUCT	2:M1-128 1ST FL AREA C PBX 1022A								X	ON	
N2:M1-129	RIAM	RELAY	2:M1-129 1ST FL AREAC FAM WAITING1020	X							X	ON	
N2:M1-130	PHOTO	SDUCT	2:M1-130 1ST FL AREAC FAM WAITING1020		X						X	ON	
N2:M1-131			SPARE	X	X						X	ON	
N2:M1-132			SPARE			X					X	ON	
N2:M1-133			SPARE	X		X					X	ON	
N2:M1-134			SPARE		X	X					X	ON	
N2:M1-135	RPHOTO	SDUCT	2:M1-135 1FL AREA A AHU-06-A SUP1133A	X	X	X					X	ON	
N2:M1-136	RPHOTO	SDUCT	2:M1-136 1FL AREA A AHU-06-A RET1133A				X				X	ON	
N2:M1-137	PHOTO	SDUCT	2:M1-137 1ST FL AREA A CORR 1005	X			X				X	ON	
N2:M1-138	RIAM	RELAY	2:M1-138 1ST FL AREA A CORR 1005		X		X				X	ON	
N2:M1-139	PHOTO	SDUCT	2:M1-139 1ST FL AREA A CORR 1005	X	X		X				X	ON	
N2:M1-140	RIAM	RELAY	2:M1-140 1ST FL AREA A CORR 1005			X	X				X	ON	
N2:M1-141	RIAM	RELAY	2:M1-141 1ST FLR AREA A CORR 1007	X		X	X				X	ON	
N2:M1-142	IAM	SO	2:M1-142 1ST FLR AREA A EAST CORR 1140		X	X	X				X	ON	
N2:M1-143	IAM	SO	2:M1-143 1ST FLR AREA A WEST CORR 1140	X	X	X	X				X	ON	
N2:M1-144			SPARE					X			X	ON	
N2:M1-145	PHOTO	SMOKE	2:M1-145 1ST FL AREA A WAITING 1026	X				X			X	ON	
N2:M1-146	PHOTO	SMOKE	2:M1-146 1ST FL AREA A WAITING 1026		X			X			X	ON	
N2:M1-147	PHOTO	SMOKE	2:M1-147 1ST FL AREA A RECEPTION 1025	X	X			X			X	ON	
N2:M1-148	PHOTO	SMOKE	2:M1-148 1ST FL AREA A BY CONSULT 1037			X		X			X	ON	
N2:M1-149	PHOTO	SMOKE	2:M1-149 1ST FL AREA A WAITING 1048	X		X		X			X	ON	
N2:M1-150	PHOTO	SMOKE	2:M1-150 1ST FL AREA A CORR 1057		X	X		X			X	ON	
N2:M1-151	PHOTO	SMOKE	2:M1-151 1ST FL AREA A CORR 1057	X	X	X		X			X	ON	
N2:M1-152	PHOTO	SMOKE	2:M1-152 1ST FL AREA A RECEPTION 1025				X	X			X	ON	
N2:M1-153	IAM	SUPERV	2:M1-153 1STFLAREA A PUMP1133B TMP PRE	X			X	X			X	ON	
N2:M1-154	IAM	SUPERV	2:M1-154 1STFLAREA A PUMP 1133B LOWAIR		X		X	X			X	ON	
N2:M1-155	IAM	SUPERV	2:M1-155 1STFLAREA A PUMP1133B TMP WET	X	X		X	X			X	ON	
N2:M1-156	IAM	SUPERV	2:M1-156 1FL AREA A PUMP 1133B TMP MAIN			X	X	X			X	ON	
N2:M1-157	IAM	SUPERV	2:M1-157 1STFLAREA A PUMP1133B LA DRY	X		X	X	X			X	ON	
N2:M1-158	IAM	WATER	2:M1-158 1STFLAREA A PUMP1133B FLW DRY		X	X	X	X			X	ON	
N2:M1-159	IAM	SUPERV	2:M1-159 1STFLAREA A PUMP 1133B TMP DRY	X	X	X	X	X			X	ON	
N2:M1-160	IAM	SUPERV	2:M1-160 1FL AREA A PUMP 1133B TMP PUMP						X		X	ON	
N2:M1-161	IAM	SUPERV	2:M1-161 1FL AREA A PUMP 1133B TMP PUMP	X					X		X	ON	
N2:M1-162	RELEASE	SUPRELS	2:M1-162 1ST FL PUMP RM PRE ACTION RLSE		X				X		X	ON	
N2:M1-163	IAM	SO	2:M1-163 1ST FLR AREA B WTING AREA 1029	X	X				X		X	ON	
N2:M1-164	ION	SMOKE	2:M1-164 1ST FL AREA C IS RM 1090			X			X		X	ON	
N2:M1-165	TRIAM	UTILITY	2:M1-165 1ST FL AREA C IS RM 1090	X		X			X		X	ON	
N2:M1-166	TRIAM	UTILITY	2:M1-166 1ST FLR SVC ELEV LOBBY		X	X			X		X	ON	
N2:M1-167	TRIAM	UTILITY	2:M1-167 1ST FLR CORR 1062	X	X	X			X		X	ON	
N2:M1-168	RIAM	RRELAY	2:M1-168 1ST LFR AREA B CORR 1105				X		X		X	ON	
N2:M1-169	RPHOTO	SDUCT	2:M1-169 1ST FL AREA B CORR 1105	X			X		X		X	ON	
N2:M1-170	RPHOTO	SMOKE	2:M1-170 1ST FL AREA B CORR 1105		X		X		X		X	ON	
N2:M1-171	PHOTO	SMOKE	2:M1-171 1ST FL AREA B CORR 1105	X	X		X		X		X	ON	
N2:M1-172	PHOTO	SMOKE	2:M1-172 1ST FL AREA B CORR 1105			X	X		X		X	ON	
N2:M1-173	PHOTO	SMOKE	2:M1-173 1ST FL AREA B CORR 1105	X		X	X		X		X	ON	
N2:M1-174	PHOTO	SMOKE	2:M1-174 1ST FL AREA B HALL 1C-6000		X	X	X		X		X	ON	
N2:M1-175	PHOTO	SMOKE	2:M1-175 1ST FL AREA B CORR 1098 NORTH	X	X	X	X		X		X	ON	
N2:M1-176	PHOTO	SMOKE	2:M1-176 1ST FL AREA B CORR 1098 NORTH					X	X		X	ON	
N2:M1-177	PHOTO	SMOKE	2:M1-177 1ST FL AREA B SCRUB 1C-6018A	X				X	X		X	ON	
N2:M1-178	PHOTO	SMOKE	2:M1-178 1FL AREA B CNTRL RM 1C-6017A		X			X	X		X	ON	
N2:M1-179	PHOTO	SMOKE	2:M1-179 1ST FL AREA B EQUIP STOR 1101	X	X			X	X		X	ON	
N2:M1-180	RPHOTO	SDUCT	2:M1-180 2FL AREA A AHU-06-1SUPP RM2042			X		X	X		X	ON	
N2:M1-181	PHOTO	SMOKE	2:M1-181 1ST FL AREA B UPS 1104	X		X		X	X		X	ON	
N2:M1-182	PHOTO	SMOKE	2:M1-182 1ST FL AREA B EQUIP 1097C		X	X		X	X		X	ON	
N2:M1-183	PHOTO	SMOKE	2:M1-183 1ST FL AREA B CATH LAB #1	X	X	X		X	X		X	ON	
N2:M1-184	PHOTO	SMOKE	2:M1-184 1ST FL AREA B CATH LAB #2				X	X	X		X	ON	
N2:M1-185	PHOTO	SMOKE	2:M1-185 1ST FL AREA B EQUIP 1C-6004A	X			X	X	X		X	ON	
N2:M1-186	PHOTO	SDUCT	2:M1-186 1ST FL AREA B CATH LAB SUPPLY		X		X	X	X		X	ON	
N2:M1-187	PHOTO	SMOKE	2:M1-187 1ST FL AREA B UPS 1104	X	X		X	X	X		X	ON	
N2:M1-188	PHOTO	SDUCT	2:M1-188 1ST FL AREA B CATH LAB RETURN			X	X	X	X		X	ON	
N2:M1-189	ADRPUL	PULL	2:M1-189 1ST FL AREA B HALL 1C-6000	X		X	X	X	X		X	ON	
N2:M1-190	PHOTO	SDUCT	2:M1-190 1ST FL AREA B CATH LAB INTAKE		X	X	X	X	X		X	ON	
N2:M1-191	PHOTO	SDUCT	2:M1-191 1ST FL AREA B CATH LAB INTAKE	X	X	X	X	X	X		X	ON	
N2:M1-192	RPHOTO	SDUCT	2:M1-192 1ST FL AREA B CORR 1105							X	X	ON	
N2:M1-193	RPHOTO	SDUCT	2:M1-193 1ST FL AREA B CORR 1105	X						X	X	ON	
N2:M1-194	RPHOTO	SDUCT	2:M1-194 1ST FL AREA B CORR 1105		X					X	X	ON	
N2:M1-195	RPHOTO	SDUCT	2:M1-195 1ST FL AREA B CORR 1105	X	X					X	X	ON	
N2:M1-196	TRIAM	UTILITY	2:M1-196 1ST FL AREA B SMOKE PURGE #1			X				X	X	ON	
N2:M1-197	TRIAM	UTILITY	2:M1-197 1ST FL AREA B SMOKE PURGE #2	X		X				X	X	ON	
N2:M1-198	PHOTO	SMOKE	2:M1-198 1FL AREA B STORAGE 1C-6001A		X	X				X	X	ON	
N2:M1-199	PHOTO	SMOKE	2:M1-199 1FL AREA B COMP EQUIP 1C-6051A	X	X	X				X	X	ON	
N2:M1-200	PHOTO	SMOKE	2:M1-200 1FL AREA B CATH LAB 1C-6016A				X			X	X	ON	
N2:M1-201	PHOTO	SMOKE	2:M1-201 1FL AREA B CATH LAB 1C-6016A	X			X			X	X	ON	
N2:M1-202	IAM	WATER	2:M1-202 2FL MECH PH 1C-6015H WATERFLOW		X		X			X	X	ON	
N2:M1-203	IAM	SO	2:M1-203 2FL MECH PH 1C-6015H TAMPER SW	X	X		X			X	X	ON	
N2:M1-204	PHOTO	SMOKE	2:M1-204 2FL MECH PH 1C-6015H			X	X			X	X	ON	
N2:M1-205	PHOTO	SMOKE	2:M1-205 2FL MECH PH 1C-6015H	X		X	X			X	X	ON	
N2:M1-206	PHOTO	SMOKE	2:M1-206 2FL MECH PH 1C-6015H		X	X	X			X	X	ON	
N2:M1-207	RPHOTO	SDUCT	2:M1-207 2FL MECH PH 1C-6015H	X	X	X	X			X	X	ON	
N2:M1-208	RPHOTO	SDUCT	2:M1-208 2FL MECH PH 1C-6015H					X		X	X	ON	
N2:M1-209			SPARE	X				X		X	X	ON	
N2:M1-210			SPARE		X			X		X	X	ON	
N2:M1-211	**IAM**	**FIRE**	**2:M1-211 1ST FL SMPLX-SK FACP ALRM MON**	X	X			X		X	X	ON	
N2:M1-212	**IAM**	**UTILITY**	**2:M1-212 1ST FL SMPLX-SK FACP RESET MON**			X		X		X	X	ON	
N2:M1-213	**RIAM**	**RELAY**	**2:M1-214 1ST FL SMPLX-SK FACP ALRM SIG**	X		X		X		X	X	ON	
N2:M1-214	**RIAM**	**RELAY**	**2:M1-215 1ST FL SMPLX-SK FACP RESET SIG**		X	X		X		X	X	ON	
N2:M1-215			SPARE	X	X	X		X		X	X	ON	
THRU												ON	
N2:M1-250			SPARE		X		X	X	X	X	X	ON	

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GENERAL NOTES:

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

KEYNOTES:

(1) DEVICE REMOVED DURING INTERIM CONSTRUCTION.
(2) DEVICE IS INTERIM FOR CONSTRUCTION. TO BE REPLACED DURING BUILDOUT.
(3) DEVICE REMOVED DURING BUILDOUT CONSTRUCTION.

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

NICET CERTIFICATION INFORMATION
NANCY S. WILTSIE
NICET Fire Alarm, III
Certification #93727
Valid Through: 03/01/24
Nancy S Wiltsie
February 9, 2022

THE MEDICAL CENTER OF AURORA - SOUTH CAMPUS CATH LAB 4 RENOVATION

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:	CBR
CHECKED BY:	NSW
ISSUE DATE:	10/4/21
JOB #:	
PROJECT #:	419:650141104

JOHNSON CONTROLS © 2022

SYSTEM: **FIRE ALARM SYSTEM**

SHEET: **NODE 2 FIRE ALARM CONTROL PANEL BUILDOUT CALCS & SCHEDULES**

FA-602

FILE PATH: C:\Users\jrauchc\Johnson Controls\Project Electronics - 1501 S Potomac - Aurora South\South Tower - Node 1\31-Cath Lab 4 Reno - 2021 - 621659806\Fire\FA-601.dwg
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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
Cath Lab 4 Renovation
1455 South Potomac Street
Aurora, Colorado 80012

Prepared for:

Weifield Group Contracting, Inc.
6950 Jordan Road
Centennial, 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 Cath Lab 4 Renovation
PREPARED FOR:	Weifield Group Contracting, Inc.

TYPE:	***DESCRIPTION:***
4098-9714	TRUEALARM PHOTO SMOKE SENSOR
4098-9733	TRUEALARM HEAT SENSOR
4098-9792	TRUEALARM SENSOR BASE (FOR REFERENCE ONLY)
4090-9001	IDNET SUPERVISED IAM
YJ1263	BRACKET/COVR IAM 2-GANG RED
4081-9004	EOL, 6.8K 1/2W
4090-9002	IDNET RELAY IAM
4090-9802	COVER-ADDRESS MODULE SURFACE

Simplex

UL, ULC, CSFM Listed;FM Approved*

Features

TrueAlarm analog sensing provides the following features

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

For use with the following Simplex products

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

Fire alarm control unit provides the folloing features

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

Photoelectric smoke sensors provide the following features

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

Heat sensors have these features

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

General features

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

Additional base reference

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

Description

Digital communication of analog sensing

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

Intelligent data evaluation

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

Control unit selection

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

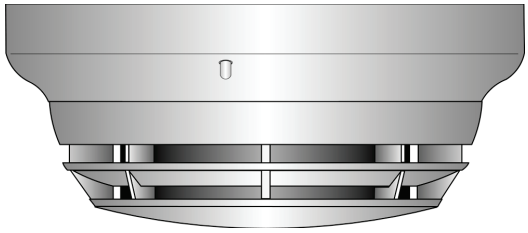


Figure 1: 4098-9714 TrueAlarm photoelectric sensor mounted in base

Timed/multi-stage selection

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

Sensor alarm and trouble LED indication

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

TrueAlarm sensor bases and accessories

Sensor base features

Base mounted address selection

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

General features

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

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

Permit: 2022-2109206-CT
RSN: 1606709
Sheet: 10.6.12

Sensor bases

4098-9792, standard sensor base

4098-9789, sensor base with wired connections

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

Supervised relay bases not compatible with 2120 CDT:

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

Sensor base options

2098-9737, remote or local mount supervised relay

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

4098-9860, remote or local mount supervised relay

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

4098-9822, LED annunciation relay

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

4098-9832, adapter plate

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

2098-9808, remote red LED alarm indicator

- Mounts on single gang box

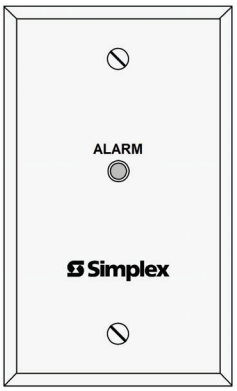


Figure 2: Remote red LED alarm indicator

Description

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

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

Mounting reference

Electrical Box Requirements: (boxes are by others)

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

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

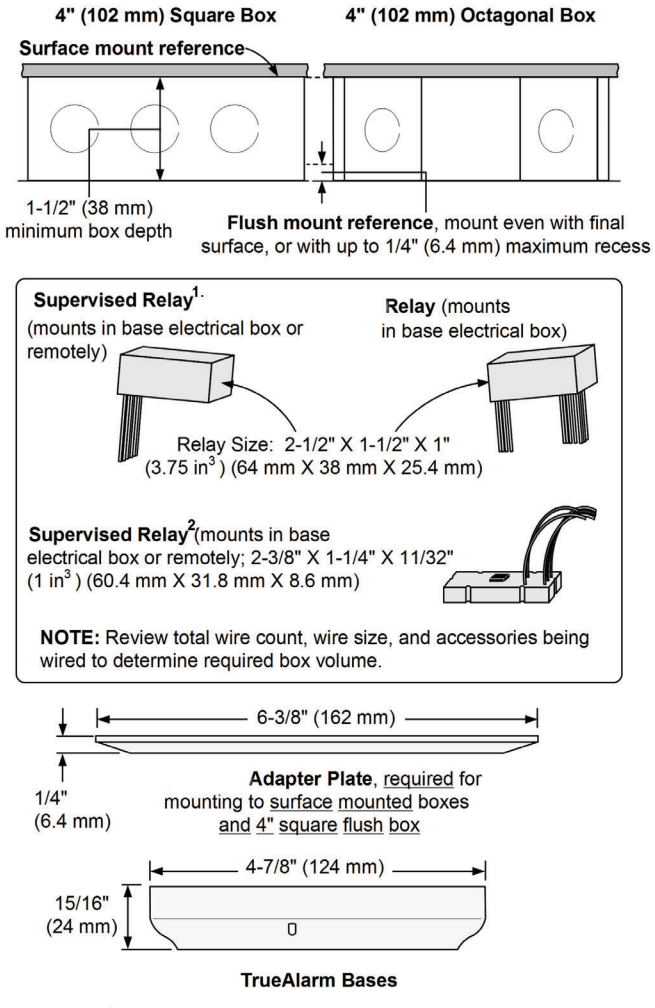


Figure 3: Mounting reference

Table 1: Product mounting - SKU reference

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

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TrueAlarm sensors

Features

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

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

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

Smoke sensors

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

4098-9714 photoelectric sensor

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

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

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

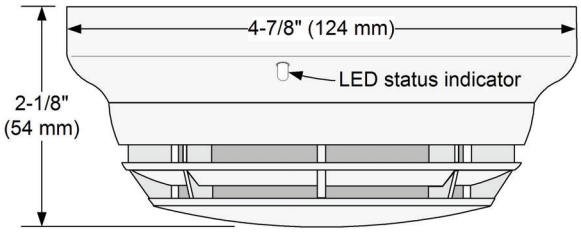


Figure 4: 4098-9714 photoelectric sensor with base

4098-9733 and 4098-9734 heat sensors

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

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

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

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

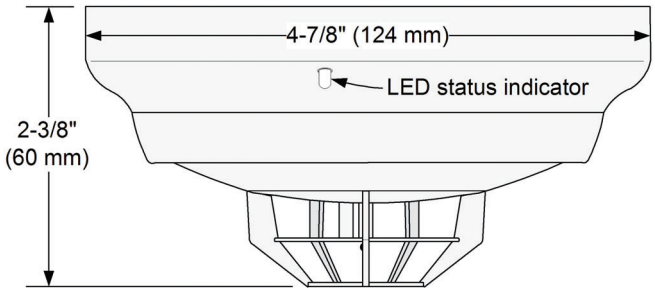


Figure 5: 4098-9733 heat sensor with base

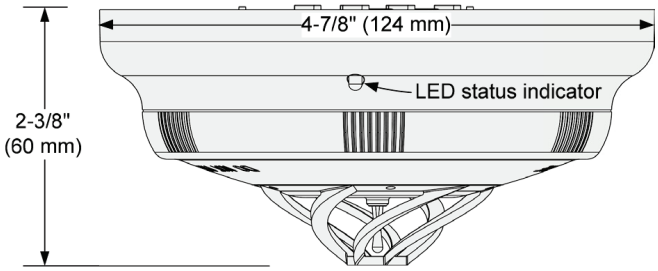


Figure 6: 4098-9734 high temperature heat sensor with base

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

Application reference

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

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

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TrueAlarm analog sensing product selection chart

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

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

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

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

Table 3: TrueAlarm sensors

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

Note:

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

Table 4: TrueAlarm sensor/base accessories

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

Note: 2098-9808 is NEMA 1 rated.

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Specifications

Table 5: General operating specifications

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

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

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

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

Specification	Rating
Power	Supplied from communications

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

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

Simplex®

Multi-Application Peripherals

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

IDNet and MAPNET II Communicating Devices, Individual Addressable Modules (IAMs)

Features

IDNet or MAPNET II addressable communications supply both data and power over a single wire pair to provide:**

- Supervised Class B monitoring of normally open, dry contacts
- Total wiring distance from IAM to supervision resistor(s) of up to 500 ft (152 m)
- Monitored connection is compatible with Simplex® 2081-9044 Overvoltage Protectors for outdoor wiring or electrically noisy applications
- For use in indoor locations up to 158° F (70° C) such as attic spaces or similar applications

For use with following Simplex control panels:

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

Model 4090-9001:

- Enclosed design minimizes dust infiltration
- Mounts in standard single gang 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 (requires mounting bracket, ordered separately)

Model 4090-9051:

- Encapsulated design for extended exposure to high humidity (LED is not present on this model)
- Color coded 18 AWG leads for wiring

IDNet communications provides current limited monitoring:

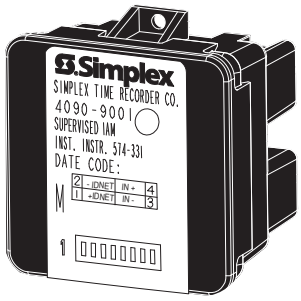
- Provides monitoring of tamper switch (supervisory) and waterflow switch (alarm) on same circuit using one point
- Available with IDNet communications only

Multiple operation modes are available and are selectable at the control panel:

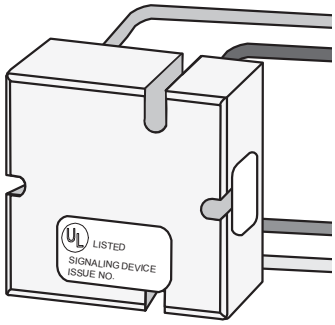
- Contact closure status can be tracked
- Momentary contact closure conditions can be selected at the panel to be latched or tracked (not available with the 2120 CDT)

UL listed to Standard 864

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4090-9001 Supervised IAM
(shown approximately 3/4 size)



4090-9051 Supervised IAM
(shown approximately 3/4 size)

Description

Individual addressable modules (IAMs) receive both power and communications from a two-wire MAPNET II or IDNet circuit. They provide location specific addressability to a single initiating device (such as single station smoke detector alarm contacts or heat detector contacts) or multiple devices at the same location by monitoring normally open dry contacts and the wiring to an end-of-line resistor.

Model 4090-9001 is packaged in a thermoplastic housing and provides screw terminal connections and a status indicating LED.

Model 4090-9051 is an encapsulated package with wire leads. It does not provide a status indicating LED.

Operation

Contact Closure. Closure of the monitored contact(s) initiates an alarm or other response as programmed at the fire alarm control panel. An open in the monitored circuit wiring will cause a trouble to be reported.

Panel Selections. Selections can be made at the control panel to maintain the alarm condition if the initiating device contacts are momentary, such as from a rate-of-rise heat detector, or to track the device contact status (not available with the 2120 CDT).

Current Limited Operation Applications

For use with IDNet communications only, these IAMs can provide quad-state sensing of normal, open circuit, short circuit, and current limited conditions. (Program type is "T-sense.") With the proper end-of-line and current limiting resistors, dual functions such as tamper switch and waterflow switch monitoring can be determined and communicated by a single addressable point.

IAM Product Selection

Model	Description
4090-9001	Supervised IAM, mounted in thermoplastic housing with screw terminals; see applicable options below
4090-9051	Supervised IAM, encapsulated with wire leads

Optional Trim Plates and Mounting Bracket for Model 4090-9001

Model	Description
4090-9806	For semi-flush mounted box — Trim plate with LED viewing window, requires 4090-9810 mounting bracket, includes mounting screws; galvanized steel
4090-9807	For surface mounted box
4090-9810	Mounting bracket, mounts IAM to electrical box and provides screw holes for trim plate, **required for optional trim plates**

End-of-Line Resistor Harnesses (ordered separately as required)

Model	Reference No.	Description
4081-9004	733-886	6.8 kΩ, 1/2 W; Standard end-of-line resistor harness for N.O. contact supervision
4081-9003	733-896	4.7 kΩ, 1/2 W — Use for current limited monitoring applications
4081-9005	733-984	1.8 kΩ, 1/2 W

Specifications

Electrical

Power and Communications		MAPNET II or IDNet, auto selected, 1 address per IAM
Input Requirements		Normally open, dry contacts
Wire Connections	4090-9001	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 mm^2 to 2.08 mm^2)
	4090-9051	Color coded wire leads, 18 AWG (0.82 mm^2), 8" long (203 mm)
Reference Documents	Installation Instructions	574-331 for 4090-9001; 579-572 for 4090-9051
	Field Wiring Diagrams	842-073 for IDNet operation; 841-804 for MAPNET II operation

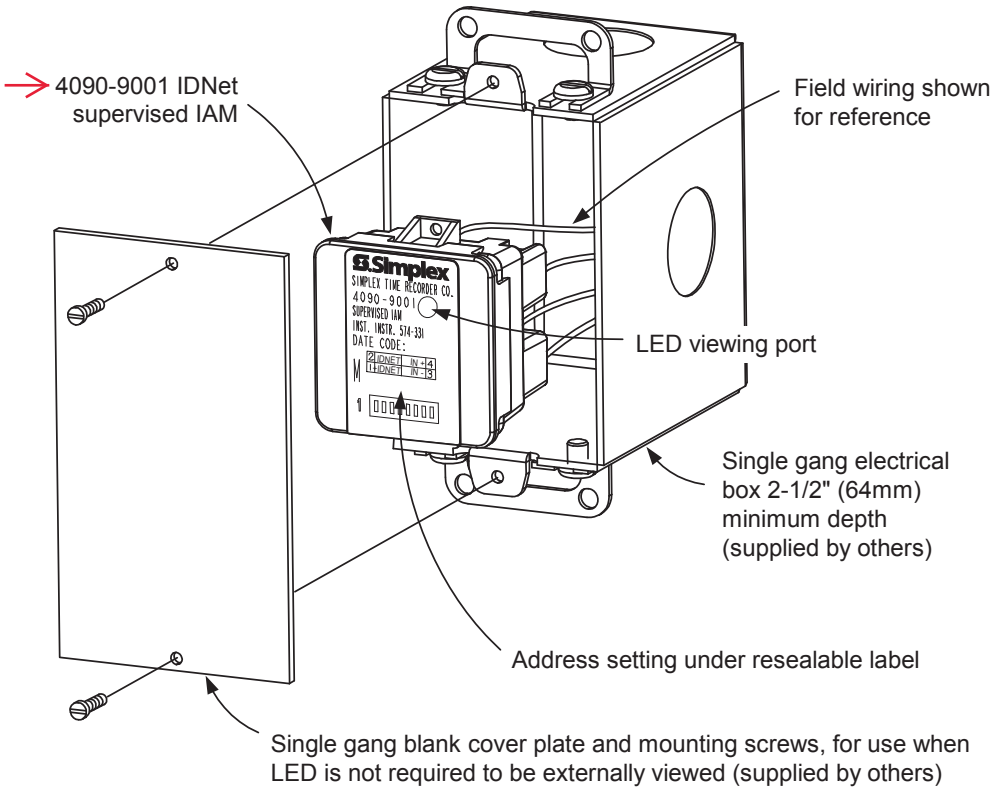
Wiring Distances

Distance from IAM to Contacts	500 ft (152 m) maximum without protectors
	400 ft (122 m) maximum with 2081-9044 Overvoltage Protectors
Wiring Distance Reference per channel, MAPNET II or IDNet Communications	2500 ft (762 m) maximum from fire alarm control panel
	10,000 ft (3048 m) maximum total wiring distance (including T-Taps)

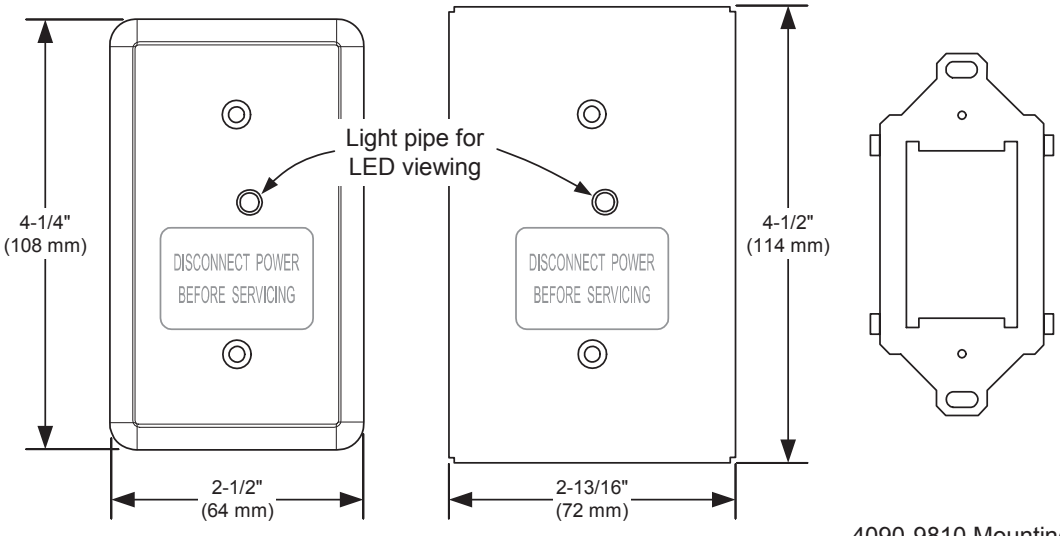
Mechanical

Dimensions	4090-9001	1-9/16" W x 1-3/4" H x 1-1/4" D (40 mm x 44 mm x 32 mm)
	4090-9051	1-9/16" W x 1-9/16" H x 9/16" D (40 mm x 40 mm x 14 mm)
Housing Material, 4090-9001		Black thermoplastic
Encapsulation Material, 4090-9051		Epoxy, beige
Temperature Range		32° to 158° F (0° to 70° C); intended for indoor operation
Humidity Range		Up to 93% RH at 100° F (38° C)

Mounting Information



Mounting Reference, Single Gang Blank Cover Plate



4090-9806, Trim plate for semi-flush mounted box

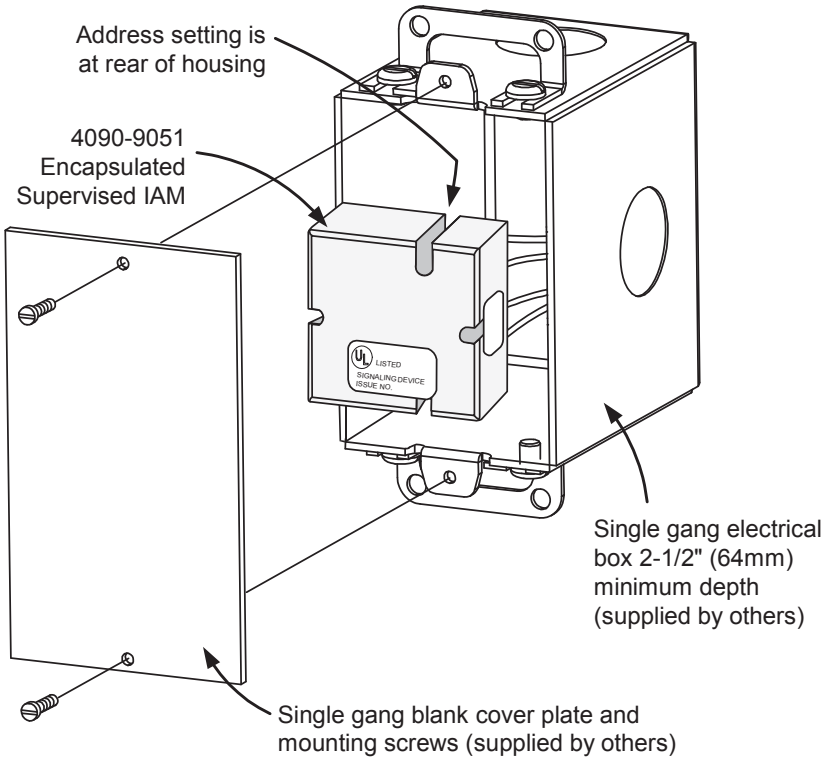
4090-9807, Trim plate for surface mounted box

4090-9810 Mounting bracket, ordered separately

NOTE: These mounting plates require mounting bracket 4090-9810.

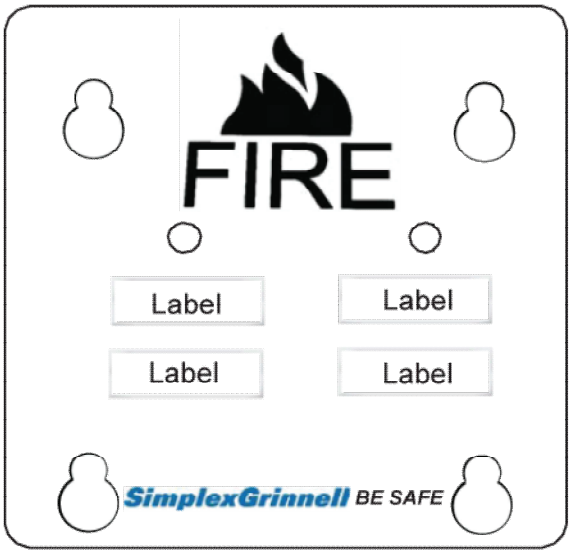
Optional Trim Plates and Mounting Bracket for Visible LED

4090-9051 Mounting Information

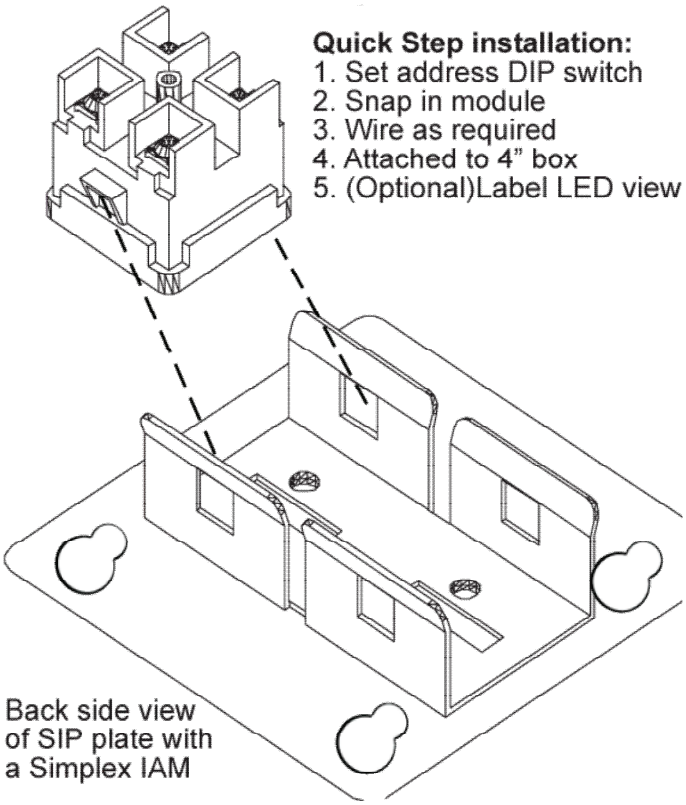


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Standard 4" square mounting plate



→YJ1263

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*UL Listed**

System Accessories

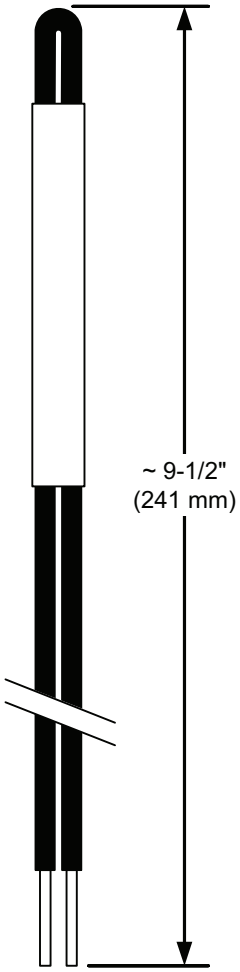
4081 Series End-of-Line Resistor Harnesses

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



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

Product Selection

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

** ± 5% tolerance except as noted.

Specifications

Overall Length	Approximately 9-1/2” (241 mm)
Wire Length	7” (178 mm) ± 1” (25 mm)
Wire Size	18 AWG (0.82 mm^2)
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®

Multi-Application Peripherals

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

IDNet Communicating Devices
→ Model 4090-9002 Relay IAM

Features

Individual Addressable Relay Module (Relay IAM):

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

Compact, sealed construction:

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

UL listed to Standard 864

Description

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

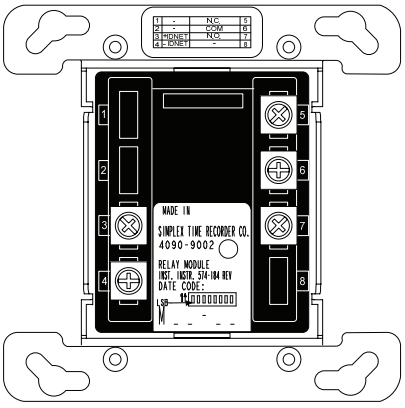
Product Selection

Model	Description
→ 4090-9002	Relay IAM

Optional Adapter and Trim Plates

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

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7300-0026:223 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

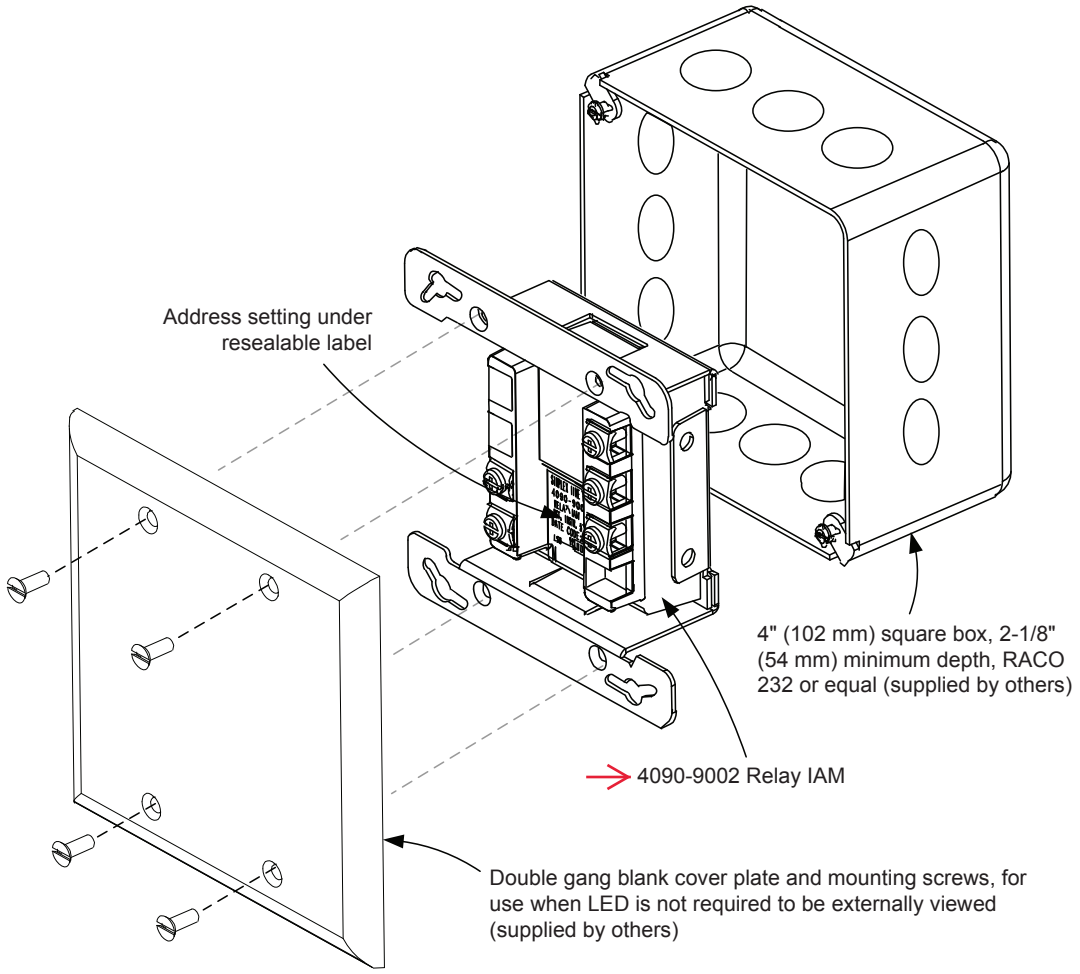


→ 4090-9002 IDNet Relay IAM Package
(shown approximately 1/2 size)

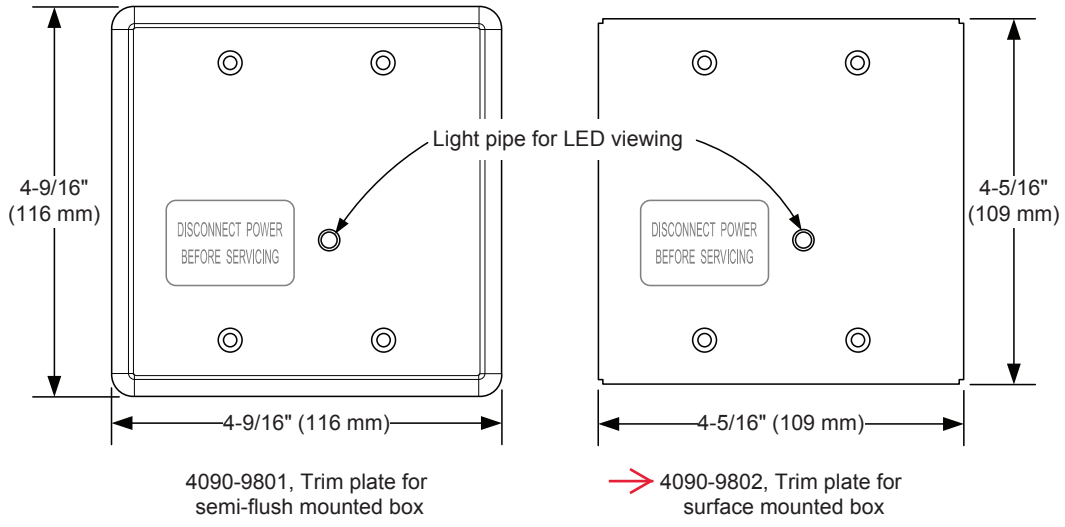
→ Specifications

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

Relay IAM Mounting Information



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

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