MEDICAL CENTER OF AURORA
MAIN OR STROBES FIRE ALARM SYSTEM

SITE

MEDICAL CENTER OF AURORA
MAIN HOSPITAL OR
1501 SOUTH POTOMAC STREET
AURORA, COLORADO 80012

ENGINEER OF RECORD

SIMPLEX GRINNELL
6240 SMITH ROAD
DENVER, COLORADO 80216

INSTALLER

MC2 ELECTRICAL CONTRACTORS
88 LIPAN STREET
DENVER, COLORAO 80223

City of Aurora Building Division
Project: *The Medical Center of Aurora; Fire Alarm*
Address: *1501 E Potomac St, 1st Floor Main Operating Rooms*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE IA-SPK*
RSN: *903513*
Permit: *2014-851624-LT*

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AURORA FIRE DEPARTMENT GENERAL NOTES

- FIRE ALARM SYSTEMS CANNOT BE COMBINED WITH BURGLAR ALARM SYSTEMS.
- THE INSTALLER IS REQUIRED TO COORDINATE WITH THE MECHANICAL CONTRACTOR TO DETERMINE INSTALLATION OF SMOKE DETECTORS OR SENSORS (i.e., NOT CLOSER THAN 3 FEET FROM ANY SUPPLY/RETURN DIFFUSER AND THAT ADDITIONAL DETECTION MAY BE REQUIRED DUE TO THE RELOCATION OR SPACING ADJUSTMENT OF DETECTORS, AS A RESULT).
- FIRE ALARM DEVICES MUST BE PLACED IN PROTECTED AREAS WITH AMBIENT TEMPERATURE RANGING FROM 32 DEGREES TO 120 DEGREES F.
- DO NOT PLACE SMOKE DETECTORS WITHIN 3 FEET OF AIR SUPPLY REGISTERS AND DIFFUSERS.
- FIRE ALARM SYSTEM SHALL BE MONITORED BY A CLASS 1 CENTRAL STATION.
- FIRE ALARM CONTROL PANEL WILL BE PLACED IN THE LOCATION SPECIFIED WITHIN THE PLAN SUBMITTAL UNLESS APPROVED BY THE LIFE SAFETY FIELD INSPECTOR.
- CITY OF AURORA BUILDING CODES DIVISION DOES NOT GRANT APPROVAL FOR ANY VIOLATIONS OF ADOPTED FIRE CODE. CODE VIOLATIONS UNCOVERED DURING FIELD INSPECTIONS MUST BE CORRECTED.
- PER THE 2009 IFC AND THE 2011 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 2009 IFC AND THE 2003 ANSI A117.1 STANDARD.
- PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE 2009 IFC, SECTION 907.5 AND THE 2007 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. 2009 IFC SECTION 907.10.2.

CENTRAL STATION MONITORING SERVICE:

SIMPLEXGRINNELL
50 TECHNOLOGY DRIVE
WESTMINSTER, MA 01441
1 (888) 746-7539

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/15

THIS DRAWING SET WAS PREPARED UNDER THE SUPERVISION OF A NICET III PROFESSIONAL. THE DRAWINGS WERE REVIEWED FOR THE INFORMATION CONTAINED UNDER THE SCOPE OF WORK. ALL EQUIPMENT HAS BEEN VERIFIED TO BE COMPATIBLE AND WILL OPERATE AS REQUIRED PER NFPA GUIDELINES.

NANCY S. WILTSIE — DATE

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City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *John J. Van Essen*
Date: *Jun 19, 2014*
2009 INTERNATIONAL CODES & 2011 NEC
2007 NFPA 72
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MEDICAL CENTER OF AURORA
MAIN OR STROBES
MEDICAL CENTER OF AURORA
1501 POTOMAC STREET
AURORA, COLORADO 80012

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION

Revisions shown with △ symbol

DRAWN BY:	JMG
CHECKED BY:	NSW
ISSUE DATE:	6/4/14
JOB #:	
PROJECT #:	419:977179601
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SYSTEM:	FIRE ALARM SYSTEM
SHEET:	COVER SHEET

FA-001

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LAST PRINTED: 6/5/2014 12:23:54 PM
24" x 36" - Arch D Size

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GENERAL NOTES

1. THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS 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 SIMPLEXGRINNELL 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 SIMPLEXGRINNELL NO LATER THAN 7 DAYS AFTER FINAL TEST.
7. THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMAN LIKE MANNER.
8. DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED SIMPLEXGRINNELL 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 NEC.
12. ALL WIRING SHALL BE INSTALLED ACCORDING TO NFPA 70 (NEC).
13. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPROPRIATE SECTION OF NEC 760. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH NEC 760 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 PENETRATE 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 OUTDOOR SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 ARTICLES 760, 770, 725 AND 800 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 40 PERCENT CONDUIT FILL RATIO AS PER NEC 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. SIMPLEXGRINNELL MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

WIRE SCHEDULE

FIRE ALARM WIRE LIST

	CIRCUIT DESCRIPTION	RISER RATED: FPLR	SINGLE CONDUCTOR(THHN,TFFN)	PLENUM RATED: FPLP
V	VISUAL/SIGNAL CIRCUIT – 2 CONDUCTOR 14 AWG STRANDED	ANIXTER PART NUMBER FA-1402C-2-1N-03 AREA=0.0449 SQ. INCH	(2) #14 AWG AREA=0.0097 SQ. INCH (EACH)	SG ANIX./PAIGE 454696ARE AREA=0.0356 SQ. INCH ANIXTER PART NUMBER FA-1402C-2-2N-03

CONDUIT SIZE	CONDUCTOR AREA	CONDUIT SIZE	CONDUCTOR AREA
1/2"	0.12 SQ INCH *	1-1/4"	0.60 SQ INCH *
3/4"	0.21 SQ INCH *	1-1/2"	0.82 SQ INCH *
1"	0.34 SQ INCH *	2"	1.34 SQ INCH *

* 40% FILL PER N.E.C.

THE CABLES SPECIFIED HERE ARE FOR REFERENCE OF REQUIRED ELECTRICAL CHARACTERISTICS AS WELL AS CODE REQUIREMENTS. ALTERNATE SUPPLIERS MAY BE SUBSTITUTED PROVIDING EQUIVALENT CHARACTERISTICS ARE MAINTAINED. ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM INSTALLATION.
REFERENCE https://www.anixter.com/customer/tycofs FOR SG ANIXTER CABLE DATA

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Construction Type: *IBC TYPE IA-SPK*
RSN: *903513*
Permit: *2014-851624-LT*

SYSTEM DESCRIPTION / SCOPE OF WORK

OCCUPANCY TYPE: I-2 INSTITUTIONAL GROUP

SPRINKLER PROTECTION: BUILDING IS FULLY SPRINKLED

THIS IS AN ADDITION TO THE EXISTING FIRE ALARM SYSTEM AT THE MEDICAL CENTER OF AURORA LOCATED IN AURORA, COLORADO. SCOPE OF WORK TO TAKE PLACE IN THE MAIN HOSPITAL FIRST FLOOR OPERATING ROOMS AS SPECIFIED ON THE DRAWINGS.

(16) NEW STROBE ONLY DEVICES WILL BE PROVIDED AND INSTALLED, ONE FOR EACH OPERATING ROOM AND ADJACENT SUBSTERILE AREAS.

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.

FIRE ALARM APPLICABLE CODES & STANDARDS

INTERNATIONAL BUILDING CODE (IBC), 2009 EDITION

INTERNATIONAL FIRE CODE (IFC), 2009 EDITION

INTERNATIONAL RESIDENTIAL CODE (IRC), 2009 EDITION

NATIONAL ELECTRIC CODE (NEC), 2011 EDITION

NATIONAL FIRE ALARM CODE (NFPA 72), 2007 EDITION

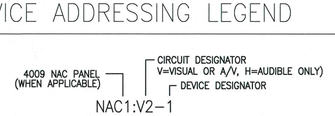
JURISDICTIONS WITHIN THE STATE MAY HAVE AMENDMENTS TO THE STATE ADOPTED CODE.
CHECK WITH THE LOCAL JURISDICTION AUTHORITY FOR MORE DETAILS.

ABBREVIATIONS LEGEND

AC = ABOVE CEILING
C = CEILING MOUNTED
E = EXISTING TO REMAIN
RC = EXISTING TO REMOVE AND COVER
RD = EXISTING DEVICE TO BE RELOCATED
RL = RELOCATED DEVICE
RR = REMOVE EXISTING AND REPLACE W/NEW

WP = WEATHERPROOF
XP = EXPLOSION PROOF
H = HIGH HUMIDITY
AFF = ABOVE FINISHED FLOOR
AHJ = AUTHORITY HAVING JURISDICTION
ALM = ALARM
ANN = ANNUNCIATOR
BMS = BUILDING MANAGEMENT SYSTEM
CBC = CALIFORNIA BUILDING CODE
CD = (eg. 15CD) CANDELA
CSFM = CALIFORNIA STATE FIRE MARSHALL
DET = DETECTOR
DGP = DATA GATHERING PANEL
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBO = FURNISHED BY OTHERS
FCC = FIRE COMMAND CENTER
FAA = FIRE ALARM ANNUNCIATOR
FTR = FIRE ALARM TRANSPONDER
FSD = FIRE SMOKE DAMPER
HT = HEIGHT
HVAC = HEATING, VENTILATION, & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
N/A = NOT APPLICABLE
NAC = NOTIFICATION APPLIANCE CIRCUIT EXTENDER
NDU = NETWORK DISPLAY UNIT
NEC = NATIONAL ELECTRICAL CODE
NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
NIC = NOT IN CONTRACT
NPU = NETWORK PROCESSING UNIT
NTS = NOT TO SCALE
PAP = PRE-ACTION PANEL
SCC = STATUS COMMAND CENTER
SLC = SIGNALING LINE CIRCUIT
SMK = SMOKE
SUPV = SUPERVISORY
TAC = TRUEALERT ADDRESSABLE CONTROLLER
TRBL = TROUBLE
TS = TAMPER SWITCH
TYP = TYPICAL
UON = UNLESS OTHERWISE NOTED
VCC = VOICE COMMAND CENTER
VT = VALVE TAMPER
WF = WATER FLOW
W = (eg. 1/2W) WATT
W/ = WITH
W/O = WITH OUT

DEVICE ADDRESSING LEGEND



SYMBOL KEY

GENERAL NOTES:
1. SYMBOLS AND INFORMATION IN BOLD LINETYPE ARE NEW.
2. SYMBOLS AND INFORMATION IN LIGHT LINETYPE ARE EXISTING.

FIRE ALARM SYMBOLS LEGEND

SYMBOL	DESCRIPTION	MODEL#	BACKBOX
NAC#	EXISTING NAC EXTENDER PANEL TO RECEIVE TWO NEW VISUAL CIRCUIT OUTPUTS	EXISTING	EXISTING
MAP	EXISTING STATIC GRAPHIC MAP	EXISTING	EXISTING
(2)	EXISTING SMOKE SENSOR	EXISTING	EXISTING
(H)	EXISTING HEAT SENSOR	EXISTING	EXISTING
F	EXISTING MANUAL PULL STATION	EXISTING	EXISTING
#	CEILING MOUNT MULTI-CANDELA STROBE ONLY RED # =CANDELA RATING	SIMPLEX 4906-9102	HANDY BOX 1 1/2" DEEP
10K	END-OF-LINE RESISTOR 10K (EOL)	SIMPLEX 4081-9008	

SEQUENCE OF OPERATION

CAUSE	ALARM: ALARM AT FACP	ALARM: ALARM AT ANNUNCIATOR	ALARM: ALARM AT OFF SITE REPORTING	ALARM: ACTIVATE AUDIBLES	ALARM: ACTIVATE VISUALS	ALARM: SPRINKLER RISER BELL	TROUBLE: TROUBLE AT FACP	TROUBLE: TROUBLE AT ANNUNCIATOR	TROUBLE: TROUBLE AT OFF SITE REPORTING	SUPERVISORY: SUPERVISORY AT FACP	SUPERVISORY: SUPERVISORY AT ANNUNCIATOR	SUPERVISORY: SUPERVISORY AT OFF SITE REPORTING	MISC.: FAN SHUT DOWN	MISC.: DAMPER SHUT DOWN	MISC.: RELEASE CORRIDOR FIRE DOORS	MISC.: RELEASE ELEVATOR FIRE DOORS	MISC.: ELEVATOR SHUT DOWN	MISC.: MAIN FLOOR ELEVATOR RECALL	MISC.: ALTERNATE FLOOR ELEVATOR RECALL	MISC.: DISCRETIVE HVAC FLASH	MISC.: DISCRETIVE AUDIBLES	MISC.: DISCRETIVE VISUALS	MISC.: SYSTEM NORMAL	MISC.: OUTSIDE HORN/STROBE	REMARKS
SMOKE DETECTOR	•	•	•	•									•	•	•								•		
MANUAL PULL STATION	•	•	•	•											•								•		
HEAT DETECTOR	•	•	•	•											•								•		
DUCT DETECTOR	•	•	•	•									•	•									•		
MAIN FLR. ELEV. LOBBY SMOKE DETECTOR	•	•	•	•									•	•	•	•		•					•		
ELEVATOR LOBBY SMOKE DETECTORS (EXC. MAIN FLR.)	•	•	•	•									•	•	•		•						•		
ELEVATOR MECH. ROOM SMOKE DETECTOR	•	•	•	•															•				•		
ELEVATOR SHAFT HEAT DETECTOR	•	•	•	•												•							•		
ELEVATOR MECH. ROOM HEAT DETECTOR	•	•	•	•												•							•		
WATERFLOW SWITCH	•	•	•	•	•								•										•		
TAMPER SWITCH										•	•	•													
POST INDICATOR VALVE SWITCH										•	•	•													
SYSTEM RESET																				•	•	•			
SIGNAL SILENCE																				•					
AC POWER FAILURE							•	•	•																
FIRE ALARM WIRING:																									
SIGNALING LINE CIRCUIT (SLC) – CLASS B/STYLE 4:																									
SINGLE OPEN							•	•	•																
SINGLE GROUND							•	•	•																
WIRE-TO-WIRE SHORT							•	•	•																
INITIATING DEVICE CIRCUIT (IDC) – CLASS B/STYLE B:																									
SINGLE OPEN							•	•	•																
SINGLE GROUND							•	•	•																
WIRE-TO-WIRE SHORT	•	•	•	•	•																				
NOTIFICATION APPLIANCE CIRCUIT (NAC) – CLASS B/STYLE Y:																									
SINGLE OPEN							•	•	•																
SINGLE GROUND							•	•	•																
WIRE-TO-WIRE SHORT							•	•	•																

NOTE: DOES NOT CHANGE FROM ORIGINAL SEQUENCE.

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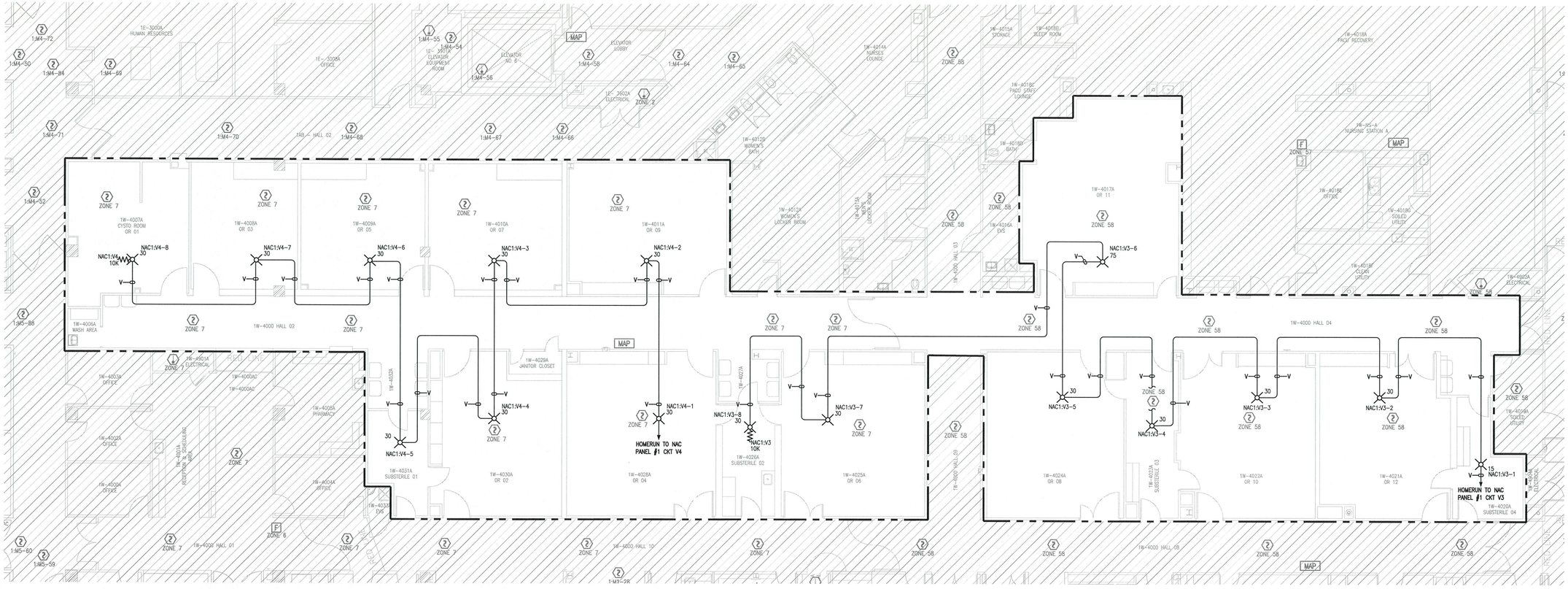
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DRAWN BY: JMG
CHECKED BY: NSW
ISSUE DATE: 6/4/14
JOB #:
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SYSTEM: FIRE ALARM SYSTEM
SHEET: GENERAL INFORMATION

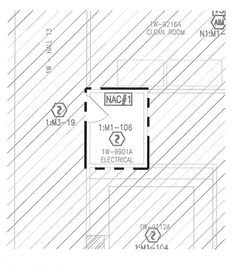
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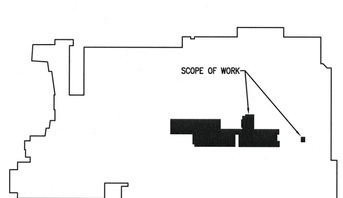


PLAN NORTH

DEVICE PLACEMENT PLAN

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

0 4 8 16 (IN FEET)



KEYPLAN

MEDICAL CENTER OF AURORA – NODE 1 – NAC #1 4009 NAC

Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment							
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC		0.0850	0.0850	0.1850	0.1850
		Panel Totals			0.0850		0.1850
Notification Appliances							
4906-9102	1	V/O MC NON-ADDRESS, RED CEILING	15	0.0000	0.0000	0.0750	0.0750
4906-9102	14	V/O MC NON-ADDRESS, RED CEILING	30	0.0000	0.0000	0.1250	1.7500
4906-9102	1	V/O MC NON-ADDRESS, RED CEILING	75	0.0000	0.0000	0.2330	0.2330
CH7D-24MCW-FR	6	MULTI CD CHIME STROBE, WALL MNT, RED	15	0.0000	0.0600	0.0920	0.5520
CH7D-24MCW-FR	2	MULTI CD CHIME STROBE, WALL MNT, RED	30	0.0000	0.0000	0.0920	0.1840
CH7D-24MCW-FR	1	MULTI CD CHIME STROBE, WALL MNT, RED	75	0.0000	0.0000	0.1650	0.1650
RSS-24MCW-FR	17	MULTI CD STROBE, WALL MNT, RED	15	0.0000	0.0000	0.0600	1.0200
RSS-24MCW-FR	1	MULTI CD STROBE, WALL MNT, RED	30	0.0000	0.0000	0.0920	0.0920
		Peripheral Totals			0.0000		3.8790
				Total Standby	0.0850	Total Alarm	4.0640

Battery Set #1 (Cabinet/Charger #1)	Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:				
4009		0.0850		4.0640
Total		0.0850		4.0640

Standby Time = 4 Hrs x 0.0850 = 0.3400 Standby Ah
Alarm Time = 15 Min 0.25 x 4.064 = 1.0160 Alarm Ah
1.3560
Additional Spare Battery Capacity = 0% + 0.0000
1.3560
Battery Discharge Factor = 20% + 0.2712
Minimum Battery Required 2081-9272 6.2AH (2x) 1.6272
Battery Supplied 2081-9274 10AH (2x)

MEDICAL CENTER OF AURORA – NODE 1 – NAC #1 4009 NAC VOLTAGE DROPS

WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE) @ 75 Celsius

PID												CH7D-24MCW-FR	CH7D-24MCW-FR	CH7D-24MCW-FR	RSS-24MCW-FR	RSS-24MCW-FR	4906-9102	4906-9102	4906-9102
Candela												15cd	30cd	75cd	15cd	30cd	15cd	30cd	75cd
Device Type												MC A/V	MC A/V	MC A/V	MC V/O	MC V/O	MC CEIL V/O	MC CEIL V/O	MC CEIL V/O
Supv. Current												0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Alarm Current												0.0600	0.0920	0.1650	0.0600	0.0920	0.0750	0.1250	0.2330
NOTIFICATION CIRCUIT DESCRIPTION	Power Supply	Panel Circuit	Plan Ckt.	Dist. (D) Feet	Wire Gauge	Wire Res. / FL (R)	Total Alarm (A)	V. Drop (A*2D*R)	Volt @ End	% Volt Drop	Min Device Voltage	Max Distance							
1ST FLR DIAGNO ORT & CARDIX SUBS	4009	SIG1	V1	196	14ga	0.0031	0.900	1.131	17.731	10.65%	16vdc	633 FL	5			10			
1ST FLR PHARMACY	4009	SIG2	V2	383	14ga	0.0031	0.921	1.611	17.858	8.265%	16vdc	619 FL	1	2	1	7	1		
1ST FLR EAST OR'S	4009	SIG3	V3	347	14ga	0.0031	1.058	2.254	17.246	11.56%	16vdc	539 FL						1	6	1
1ST FLR WEST OR'S	4009	SIG4	V4	418	14ga	0.0031	1.000	2.567	16.933	13.16%	16vdc	570 FL							8	

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

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *John J. Van Essen*
Date: *Jun 19, 2014*
2009 INTERNATIONAL CODES & 2011 NEC
2007 NFPA 72
RSN: *903513*
Permit #: *2014-851624-LT*

NICET CERTIFIED

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/15

NANCY S. WILTSIE — DATE 6/5/14

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SERVICE: 303-355-0500
PHONE: 303-355-0500
FAX: 303-355-0615

MEDICAL CENTER OF AURORA
MAIN OR STROBES

MEDICAL CENTER OF AURORA
MAIN HOSPITAL OR
1501 SOUTH POTOMAC STREET

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with ⚠ symbol

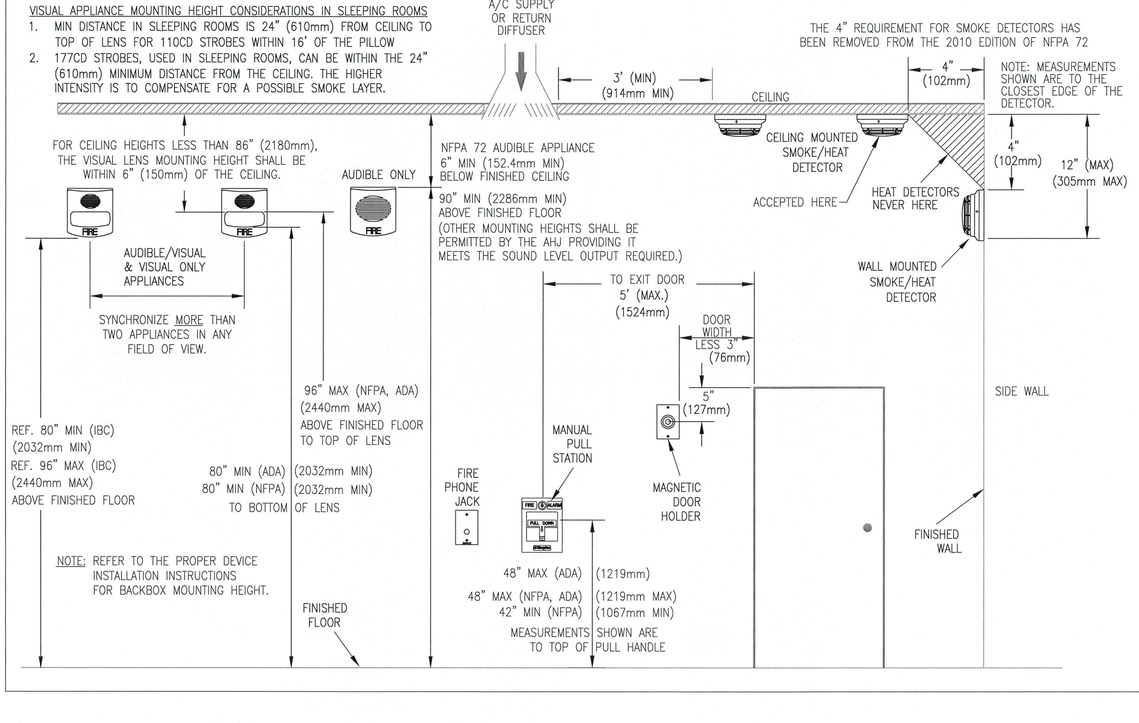
DRAWN BY: JMG
CHECKED BY: NSW
ISSUE DATE: 6/4/14
JOB #:
PROJECT #: 419:977179601
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SYSTEM: FIRE ALARM SYSTEM
SHEET: DEVICE PLACEMENT PLAN & CALCULATIONS

FA-101

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LAST PRINTED: 6/5/2014 12:24:25 PM
24" x 36" - Arch D Size

DEVICE MOUNTING HEIGHT REFERENCE (PER NFPA 72)



TrueAlert™ NON-ADDRESSABLE MULTI-CANDELA VISIBLE NOTIFICATION APPLIANCE (CEILING MOUNT)

PRODUCT INFORMATION

FEATURES:

- UL LISTED TO STANDARD 1971
- ADA COMPATIBLE

SYNCHRONIZATION FLASH RATE MODE FOR USE WITH:

- SEPARATE STROBE SYNCHRONIZATION MODULES THAT ARE AVAILABLE FOR CLASS B OR CLASS A OPERATION
- SEPARATE SMARTSYNC CONTROL MODULES (SCMs) THAT PROVIDE CLASS B OR CLASS A OUTPUT FROM CONVENTIONAL NAC INPUTS

SPECIFICATIONS:

- HOUSING DIMENSIONS: 4-3/4" L X 2-5/16" W X 2-5/8" D (121mm X 75mm X 67mm)
- TEMPERATURE RANGE: 32°F TO 122°F (0 TO 50°C)
- HUMIDITY RANGE: 10% TO 93% NON-CONDENSING AT 100°F (38°C)
- TERMINAL BLOCKS FOR 18AWG TO 12AWG; TWO WIRES PER TERMINAL FOR IN/OUT WIRING.

WIRING NOTES:

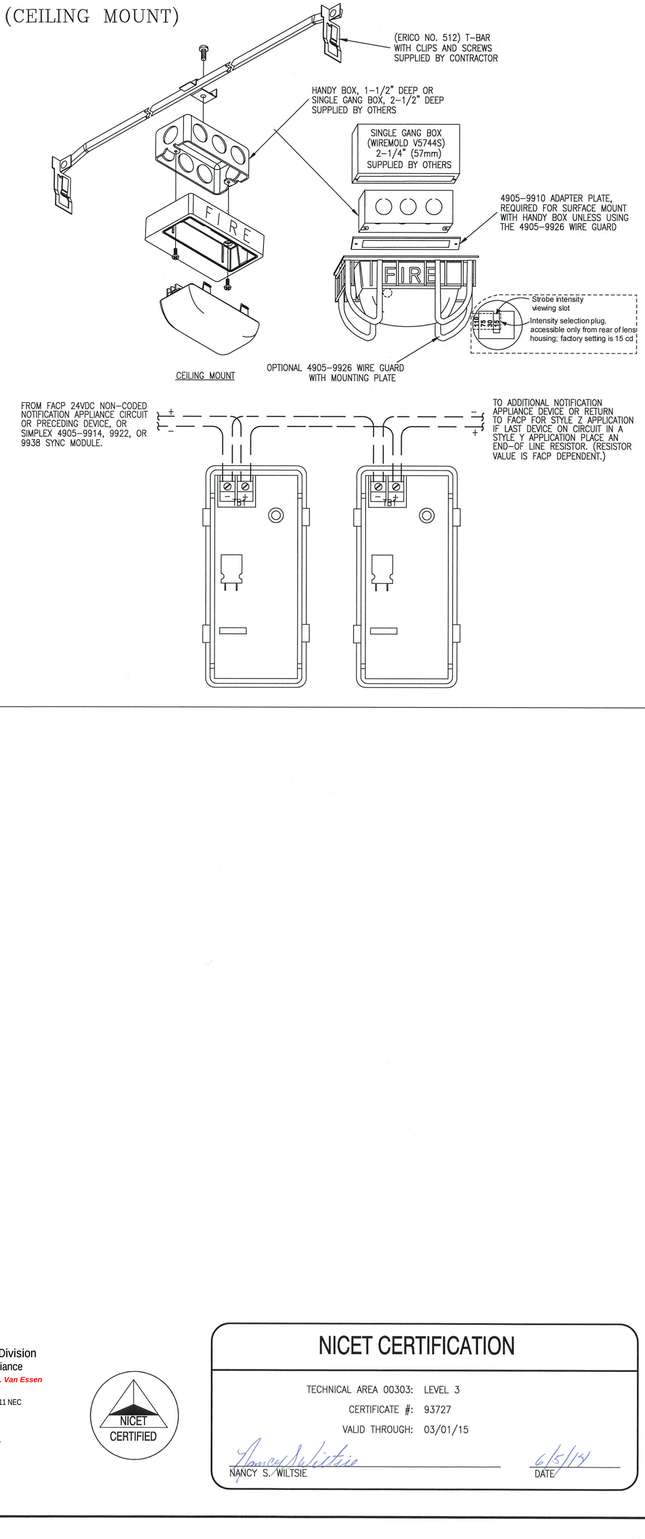
1. NOTIFICATION APPLIANCES ARE RATED PER INDIVIDUAL NAMEPLATE LABEL.
2. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS. DO NOT LOOP WIRES UNDER TERMINALS.
3. ALL NAC WIRING CONNECTIONS ARE SUPERVISED AND POWER-LIMITED.
4. SEE INSTALLATION INSTRUCTIONS (579-548) FOR ADDITIONAL INFORMATION.

STROBE:

- RATED VOLTAGE RANGE: UL LISTED: 16 VDC TO 33 VDC PER UL 1971
  ULC LISTED: 20 VDC TO 30 VDC PER ULC S526-M878
- FLASH RATE: 1Hz
- SYNCHRONIZED MODE NAC LOADING: MAXIMUM OF 35 SYNCHRONIZED STROBES PER NAC CIRCUIT.

*CURRENT DRAWS REFLECT STROBE FLASHING

MODEL NUMBER	HOUSING COLOR	LETTERING COLOR	STROBE RATING	RMS CURRENT @ 16 VDC	18 VDC	24 VDC
4906-9102	RED	WHITE	15cd	75 mA	67 mA	50 mA
			30cd	125 mA	111 mA	83 mA
			75cd	233 mA	207 mA	155 mA
			110cd	316 mA	281 mA	211 mA
4906-9104	WHITE	RED	15cd	75 mA	67 mA	50 mA
			30cd	125 mA	111 mA	83 mA
			75cd	233 mA	207 mA	155 mA
			110cd	316 mA	281 mA	211 mA



City of Aurora Building Division
Project: *The Medical Center of Aurora; Fire Alarm*
Address: *1501 E Potomac St, 1st Floor Main Operating Rooms*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE IA-SPK*
RSN: *903513*
Permit: *2014-851624-LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *John J. Van Essen*
Date: *Jun 19, 2014*
2009 INTERNATIONAL CODES & 2011 NEC
2007 NFPA 72
RSN: *903513*
Permit #: *2014-851624-LT*

NICET CERTIFIED

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TECHNICAL AREA 00303: LEVEL 3
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NANCY S. WILTSIE — DATE 6/5/14

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MEDICAL CENTER OF AURORA
MAIN OR STROBES

MEDICAL CENTER OF AURORA
MAIN HOSPITAL OR
1501 SOUTH POTOMAC STREET

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with △ symbol

DRAWN BY:	JMG
CHECKED BY:	NSW
ISSUE DATE:	6/4/14
JOB #:	
PROJECT #:	419:977179601
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SYSTEM: FIRE ALARM SYSTEM

SHEET: WIRING TYPICALS

FA-701

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LAST PRINTED: 6/5/2014 12:24:29 PM
24" x 36" - Arch D Size

Fire Alarm System Acceptance Inspection

2009 IFC and 2007 NFPA 72

This worksheet is for jurisdictions that permit the use of 2007 NFPA 72 in lieu of IFC's referenced 2002 NFPA 72.

Date of Inspection: _____ Permit Number: 2014-851624-LT

Business/Building Name: The Medical Center of Aurora Address of Project: 1501 E Potomac St, 1st Floor Main Operating Rooms

Contractor: Simplex Grinnell LP Contractor's Phone: 561-981-4327

Reference numbers following worksheet statements represent an NFPA code section unless otherwise specified.

	Pass	Fail	NA	
General				
1.	____	____	____	Obtained a copy of the fire alarm installation certification and a Record of Completion from installer, 4.5.2.1.
2.	____	____	____	Approved plans are on site.
3.	____	____	____	Fire alarm control unit (FACU) and remote annunciator (RA) are installed consistent with approved plans, 4.4.6.1.1. and 7.10.
4.	____	____	____	A zone and legend map is provided at the RA or an approved location.
5.	____	____	____	Fire alarm zones are properly identified on the FACU and RA panels.
6.	____	____	____	The fire alarm system power supply is a dedicated 120 AC branch circuit, which is labeled, 4.4.1.4.2.2.
7.	____	____	____	Type and gauge of wire or cable(s) for each circuit are consistent with the plans.
8.	____	____	____	Device location and installation are consistent with the plans.
9.	____	____	____	Pull stations are installed at the proper height and location, 42 in. to 48 in. and within the 200 ft. maximum travel distance, 5.13 and IFC 907.5.2.1 and 907.5.2.2.
10.	____	____	____	A Contractor Sound Pressure Level (dBA) Pretest Room Log is provided and verified with the use of a sound meter during a sound pressure test.
Operational				
11.	____	____	____	Fire alarm audible notification devices sound throughout the occupancy providing a sound pressure level at least a minimum of 15 dBA above the average ambient noise level or 5 dBA above the maximum noise level. For bedrooms with closed door provide at least 75 dBA at the pillow, 7.4.4.1, IFC 907.6.2.1.1.
12.	____	____	____	Fire alarm audible devices are a three-pulse temporal pattern unless they were permitted to match existing audible devices, 6.8.6.5.1.
13.	____	____	____	Fire alarm visual notification device intensity (cd) ratings and settings, mounting height (80 in. to 96 in.), and location, are consistent with the plans, 7.5.4.1.
14.	____	____	____	Emergency voice/ alarm communications systems is tested and documentation is provided documenting the verbal statement(s) are distinguishable and understandable, Table 10.4.2.2.15(b).
15.	____	____	____	In sprinklered buildings, the fire alarm notification devices will activate by operation of the sprinkler flow alarm.
16.	___	____	____	HVAC duct detectors are supervised by the fire alarm system, detectors are all tested to verify if they can sample the air stream, fans shut down upon activation and visual and audible status alarm functions, Table 10.4.2.2.14(g).
17.	____	____	____	A central, remote or proprietary monitoring service received various signals during system tests.
18.	____	____	____	Verify that the correct and distinctive signals are received (alarm, trouble, and supervisory alarms), 4.4.3.3, 10.4.1.1
19.	____	____	____	Two monitoring circuits are provided, both circuits send correct signals to monitoring company within 90 seconds, Table 10.4.2.2.16.
20.	____	____	____	Verify proper operation of magnetic door-releasing hardware and/or ventilation shutdown.
21.	____	____	____	Sprinkler tamper switch activation transmits a trouble signal at the annunciator panel.
22.	____	____	____	Fire department communications system, if provided, is operational.
23.	____	____	____	For air sampling and flame detectors, test the device in accordance with the manufacturer's instructions.
24.	____	____	____	Restoreable heat and smoke detectors, and pull stations are tested.
25.	____	____	____	Trouble condition is created for each circuit and the FACU responds appropriately.
26.	____	____	____	Remote annunciator displays the correct zone and device information.

27. ____|____ | ____ Battery load test: the system is switched to battery operation 24 hours before the test and in the presence of the inspector the notification devices are activated and operate for 5 minutes or 15 minutes for emergency voice alarms.
28. ____|____ | ____ Check battery charger, measure load voltage, and open circuit voltage.
29. ____|____ | ____ Test ground-fault monitoring circuit, if provided.
30. ____|____ | ____ Under primary and secondary power, perform these tests:
    - ____|____ | ____ A. power light on and in normal condition, trouble signal when on secondary power.
    - ____|____ | ____ B. supervisory signals: fire pump power loss or phase reversal, water level/temp, pressure switches, control valves, etc.
    - ____|____ | ____ C. silence switch functions.
    - ____|____ | ____ D. a 2nd alarm initiating zone overrides silence switch.
    - ____|____ | ____ E. trouble signals and FACU panel lights operate for each circuit tested; disconnect .wires from devices and primary power supply to simulate trouble conditions.
    - ____|____ | ____ F. on secondary power, measure standby and alarm current demand.
    - ____|____ | ____ G. trouble and alarm reset switches operate.
    - ____|____ | ____ H. emergency voice alarms: the message is clear and distinct.
    - ____|____ | ____ I. initiating devices tested, audible sound pressure levels, and visuals operate.
    - ____|____ | ____ J. panel lamp test switch operates: if provided.
    - ____|____ | ____ K. field zones and device address signals corresponded with panel zones and addresses.
    - ____|____ | ____ L. elevator(s) recall to designated floor and alternate floor in accordance with 6.16.3.
31. ____|____ | ____ Other systems activate fire alarm: kitchen hood suppression system, clean agent, etc.
32. ____|____ | ____ As-builts are required when system installation is not consistent with the plans.
33. ____|____ | ____ Circuit loop resistance is within specifications and a test may be required if the system wiring has changed from the plans.
34. ____|____ | ____ Heat and spot smoke detectors are not within 4 in. of the sidewall, or if on the sidewall, the detector is 4 in. to 12 in. from the ceiling, 5.6.3.1, 5.7.3.2.1.
35. ____|____ | ____ Visual devices in a room or adjacent space with more than 2 devices within the field of view the flash are synchronized, 7.5.4.1.2(3). Devices in a corridor with more than 2 devices within the field of view and a maximum spacing of 100 ft., are synchronized, 7.5.4.2.5 and 7.5.4.2.7.
36. ____|____ | ____ Visual devices are wall mounted 80 in. to 96 in. above the floor level unless otherwise permitted by the approved plans and the fire code official, 7.5.4.1.
37. ____|____ | ____ Supplemental (extra) visual devices are permitted to be mounted less than 80 in. above the floor, 7.7.2.
38. ____|____ | ____ Ceiling-mounted devices are listed for use and spaced in accordance with Table 7.5.4.1.1(b) and the approved plans.

*Note: additional testing criteria is found in NFPA 72: Chapter 10.

Additional Comments:

Inspection Date: _____ Approved or Disapproved FD Inspector: _____

Inspection Date: _____ Approved or Disapproved FD Inspector: _____

Fire Alarm Installation Certification

Permit #: 2014-851624-LT Date: _____

	Property Protected	System Installer	System Supplier
Business Name:	The Medical Center of Aurora		
Address:	1501 E Potomac St, 1st Flo		
	Aurora, CO 80012		
Representative:			
Telephone:			

Location of Plans: _____

Location of Owner's Manual: _____

1. Certification of System Installation: Complete this section after system is installed, but prior to conducting operational acceptance tests. Check wiring for opens, ground faults, and improper branching.

This system installation was inspected and found to comply with the installation requirements of:

_____ NFPA 72
_____ Article 760 of NEC
_____ Manufacturer's Instructions
_____ Other (specify; FM, UL, etc.) _____

Print Name: _____

Signed: _____ Date: _____

Organization: _____

2. Certification of System Operation: All operational features and functions of this system were tested and found to be operating properly in accordance with the requirements of:

_____ NFPA 72
_____ Design Specifications
_____ Manufacturer's Instructions
_____ Other (specify) _____

Print Name: _____

Signed: _____ Date: _____

Organization: _____

RSN: ***903513***
Permit #: ***2014-851624-LT***

SIMPLEXGRINNELL
6240 Smith Road
Denver, Colorado 80216

www.simplexgrinnell.com

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

Fire Alarm
Product Data Submittal for:

Medical Center of Aurora
Main OR Strobes
1501 South Potomac Street
Aurora, Colorado 80012

City of Aurora Building Division
Project: ***The Medical Center of Aurora; Fire Alarm***
Address: ***1501 E Potomac St, 1st Floor Main Operating Rooms***
Occupancy Group: ***IBC I-2***
Construction Type: ***IBC TYPE IA-SPK***
RSN: ***903513***
Permit: ***2014-851624-LT***

Prepared for:

Simplex Grinnell
6240 Smith Road
Denver, Colorado 80216

RSN: ***903513***
Permit #: ***2014-851624-LT***

6240 Smith Road
Denver, Colorado 80401
Sales: (303) 355-0500
Service: (303) 355-0500
Fax: (303) 355-0615

PROJECT:	Medical Center of Aurora Main OR Strobes
PREPARED FOR:	*Simplex Grinnell*

TYPE:	***DESCRIPTION:***
4906-9102	STROBE MC RED CEILING
4081-9008	EOL, 10K 1/2W

RSN: *903513*
Permit #: *2014-851624-LT*

TrueAlert® Multi-Candela Notification Appliances

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

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

Features

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

- Intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- Operation is compatible with ADA requirements (refer to important installation information on page 3)
- Polarized input allows connection to compatible reverse polarity, supervised notification appliance circuit (NAC)
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens
- Listed to UL 1971 and ULC S526

Strobes provide synchronized flash for use with:

- 4006, 4008, 4010, and 4100U Series fire alarm control panels with NACs selected to provide strobe synchronization or SmartSync two-wire control**
- 4009 IDNet™ NAC Extenders
- Separate strobe Synchronization Modules that are available for Class B or Class A operation
- Separate SmartSync Control Modules (SCMs) that provide Class B or Class A output from conventional NAC inputs

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

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

Wall mount strobe features:

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

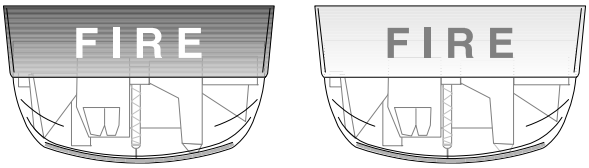
Optional adapters and wire guards:

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

* Refer to page 2 for guard listing. 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 7125-0026:316 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Refer to page 2 for listing status of wire guards. 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 Safety Products Westminster.



Wall Mount Strobes



Ceiling Mount Strobes

Description

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

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

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

Strobe Intensity Selection

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

Strobe Application Reference

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

** Simplex multi-candela SmartSync two-wire horn/strobe appliance operation is protected under one or more of the following U.S. Patent Numbers: 5,559,492; 5,622,427; 5,865,527; 5,886,620; 6,281,789; 6,954,137; 7,005,971; and 7,006,003.

RSN: ***903513***
Permit #: ***2014-851624-LT***

Synchronized Strobes

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

SmartSync Two-Wire Control

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

SmartSync Control Sources

SmartSync two-wire control is available from:

- 4006, 4008, 4100U, and 4010 Fire Alarm Control Panels (refer to individual product data sheets for more information)
- 4009 IDNet NAC Extenders (refer to data sheet S4009-0002)
- SmartSync Control Module (SCM) Model 4905-9938 (refer to data sheet S4905-0003)

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

Product Selection

Multi-Candela Visible Notification Appliances (Strobes)

Model	Mounting	Housing Color	"FIRE" Lettering	Description
4906-9101	Wall	Red	White	Multi-candela strobe with intensity selectable as: 15, 30, 75, or 110 candela; synchronized flash rate; SmartSync two-wire control compatible
4906-9103		White	Red	
4906-9102	Ceiling	Red	White	
4906-9104		White	Red	

Wall Mount Strobe Adapters

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

Ceiling Mount Strobe Adapter

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

Synchronization Modules (refer to data sheet S4905-0003 for additional information)

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

Replacement Covers and Guards

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

* UL listed by Space Age Electronics Inc.

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Strobe Specifications

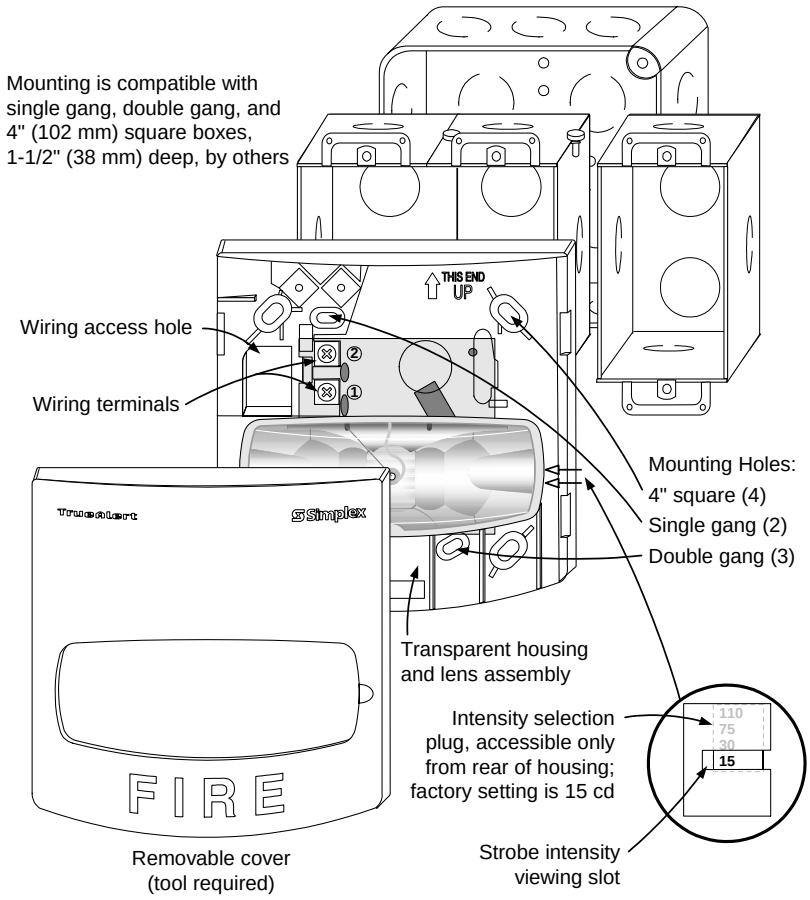
Wall Mount or Ceiling Mount, Common Specifications

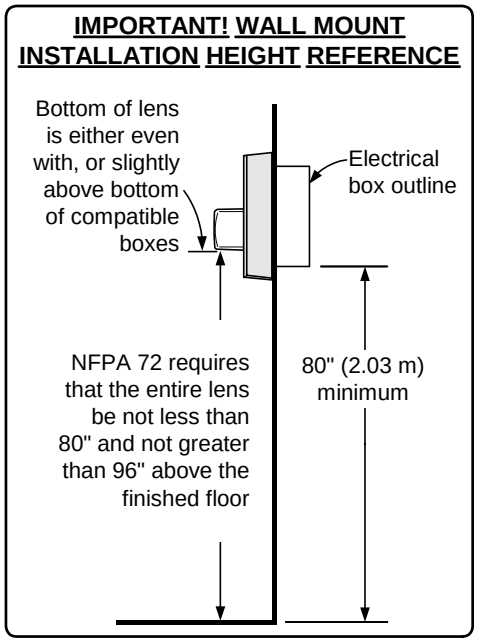
Rated Voltage Range			Regulated 24 VDC; see Note 1 below			
Flash Rate			1 Hz			
Synchronized NAC Loading			Up to 35 synchronized strobes maximum per NAC			
Temperature Range			32° to 122° F (0° to 50° C)			
Humidity Range			10% to 93%, non-condensing at 100° F (38° C)			
Connections			Terminal blocks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

NOTES:

1. "Regulated 24 VDC" refers to the voltage range of 16 to 33 VDC per UL Standard 1971, *Signaling Devices for the Hearing Impaired*, changes effective May 1, 2004. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the strobe. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the NAC under worst case conditions.
2. The maximum RMS current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. (RMS is root mean square and refers to the effective value of a varying current waveform.)

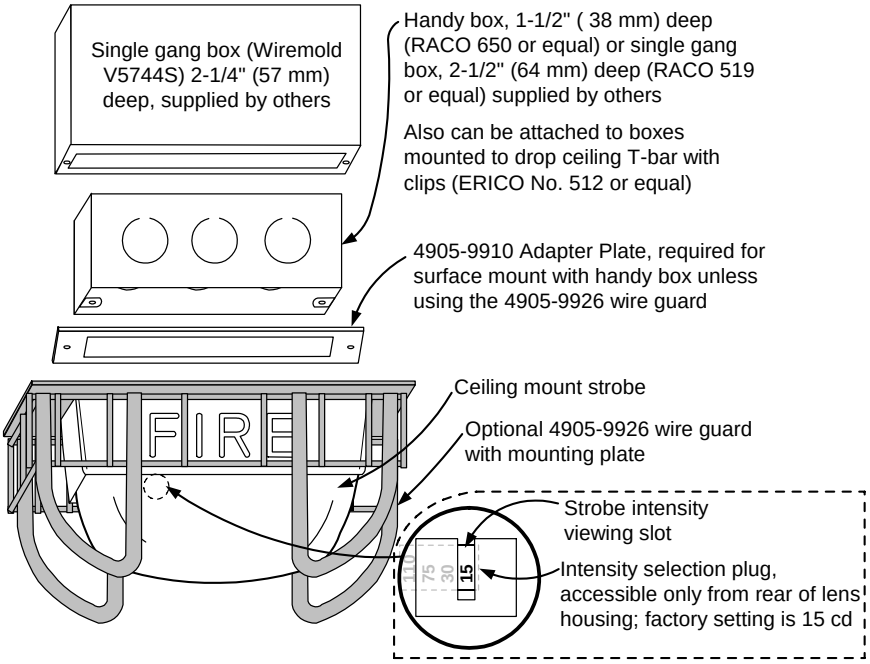
Installation Reference, Surface or Semi-Flush Wall Mounting



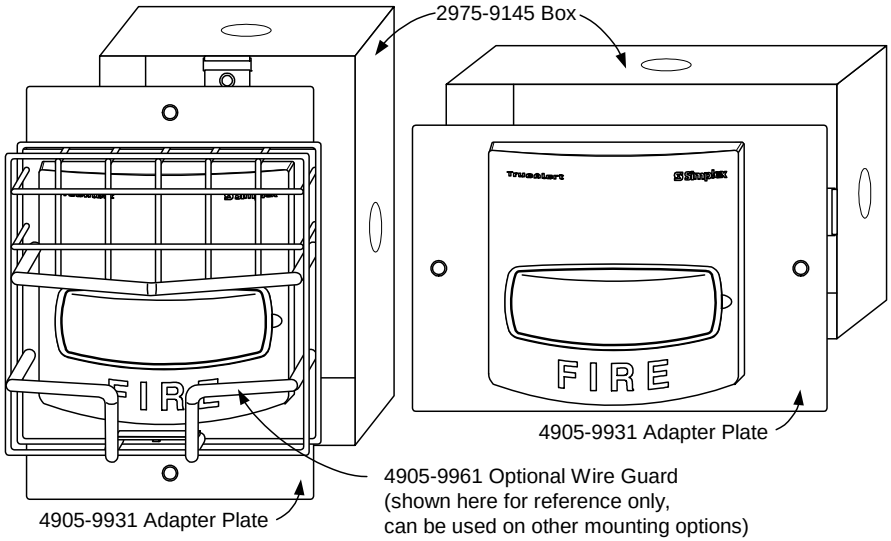


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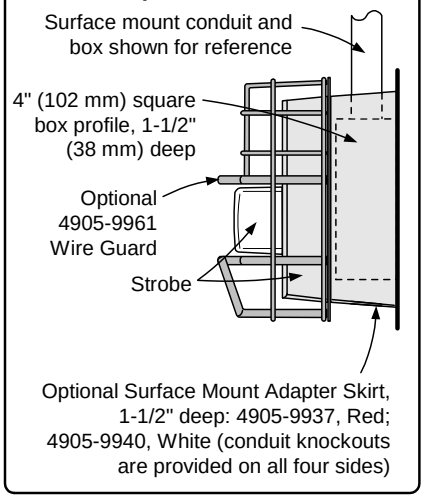
Ceiling Mount Strobe Installation Reference



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



Surface Mounting Reference with Optional Adapter Skirt and Optional Wire Guard



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System Accessories

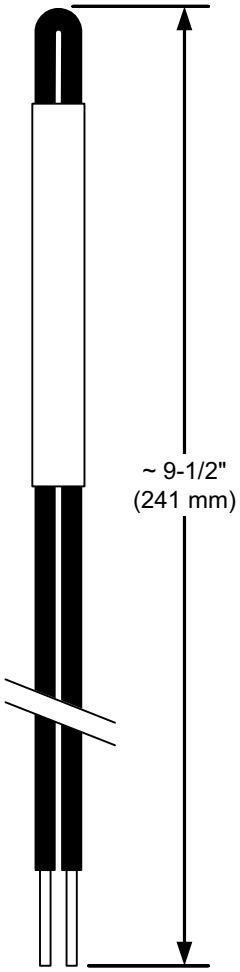
4081 Series End-of-Line Resistor Harnesses

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

* This product was not approved by ULC, FM, MEA (NYC), or CSFM as of document revision date. Additional listings may be applicable, contact your local Simplex® product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

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