MEDICAL CENTER OF AURORA
CARDIAC TOWER 3RD FLR REVISIONS FIRE ALARM SYSTEM

SITE

MEDICAL CENTER OF AURORA
CARDIAC TOWER
1501 SOUTH POTOMAC
AURORA, COLORADO 80012

ENGINEER OF RECORD

SIMPLEX GRINNELL
6240 SMITH ROAD
DENVER, COLORADO 80216

INSTALLER

MC2 ELECTRICAL CONTRACTORS
88 LIPAN STREET
DENVER, COLORADO 80223

GENERAL CONTRACTOR

BFC, INC.
6742 GARLAND STREET
ARVADA, COLORADO 80004

City of Aurora Building Division
Project: *The Medical Center of Aurora*
Address: *1501 E Potomac St, 3rd Floor Cardiac (North) Tower*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE IA-SPK*
RSN: *903124*
Permit: *2014-851219-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 6/5/14

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Safer. Smarter. Tyco.™

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City of Aurora Building Division
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MEDICAL CENTER OF AURORA
CARDIAC TOWER 3RD FLR REVISIONS

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

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with ∆ symbol

DRAWN BY:	JMG
CHECKED BY:	NSW
ISSUE DATE:	6/3/14
JOB #:	
PROJECT #:	419:978343308
SIMPLEXGRINNELL ©	2014
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	COVER SHEET

FA-001

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FILE PATH: G:\Medical Center of Aurora\1501 S Potomac - Aurora South\North Tower - Node 2\2D-3rd CT LS Revisions - 2014 - 978343308\File\FA-001.dwg
LAST SAVED BY: JGILDERSLEEVE
LAST PRINTED: 6/5/2014 11:27:01 AM
24" x 36" - Arch D Size

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
D	DOOR HOLDER CIRCUIT 2 CONDUCTOR TWISTED PAIR 14 AWG SOLID	SG ANIX./PAIGE 454718ARE AREA=0.0380 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-1N-03-BX	(2) #14 AWG AREA=0.0097 SQ. INCH (EACH)	SG ANIX./PAIGE 454719ARE AREA=0.0333 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-2N-03
K	REMOTE TEST SWITCH/ LED CIRCUIT – (2) 2 CONDUCTOR 14 AWG SOLID	SG ANIX./PAIGE 454718ARE AREA=0.0380 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-1N-03-BX	(4) #14 AWG AREA=0.0097 SQ. INCH (EACH)	SG ANIX./PAIGE 454719ARE AREA=0.0333 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-2N-03
M	MAPNET/IDNET CIRCUIT 1 PAIR 16 AWG TWISTED OVERALL SHIELD	SG ANIX./PAIGE 740218L AREA=0.0269 SQ. INCH ANIXTER PART NUMBER T740218L		ANIXTER PART NUMBER FA-1602C-1-2S-03 AREA=0.0246 SQ. INCH
P	POWER CIRCUIT 2 CONDUCTOR 14 AWG SOLID (SUBSCRIPT "r" IF RESETTABLE)	SG ANIX./PAIGE 454718ARE AREA=0.0380 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-1N-03-BX	(2) #14 AWG AREA=0.0097 SQ. INCH (EACH)	SG ANIX./PAIGE 454719ARE AREA=0.0333 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-2N-03
R	RELAY CIRCUIT 2 CONDUCTOR 14 AWG SOLID	SG ANIX./PAIGE 454718ARE AREA=0.0380 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-1N-03-BX	(2) #14 AWG AREA=0.0097 SQ. INCH (EACH)	SG ANIX./PAIGE 454719ARE AREA=0.0333 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-2N-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

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 CARDIAC TOWER C, ON THE THIRD FLOOR AS SPECIFIED ON THE DRAWINGS. A NEW FIRE PARTITION WILL BE INSTALLED BETWEEN THE SHELL SPACE AND THE OCCUPIED AREA.

(2) NEW DUCT DETECTORS WILL BE PROVIDED AND INSTALLED AT EACH OF THE NEW FIRE/SMOKE DAMPERS LOCATED IN THE NORTH AND SOUTH CORRIDORS ABOVE EACH PAIR OF DOUBLE DOORS. SMOKE DETECTORS WILL BE PROVIDED AND INSTALLED WITHIN 5' OF EACH SIDE OF THE CORRIDOR DOORWAYS, AND (4) MAGNETIC DOOR HOLDERS WILL BE PROVIDE, ONE FOR EACH DOOR.

(7) ADDITIONAL SMOKE SENSORS AND (1) HEAT SENSOR WILL BE PROVIDED, PER THE SHOP DRAWINGS, IN ORDER TO MEET CUSTOMER REQUEST.

ALL EXISTING AND 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

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

ADDRESSABLE CARD (IDNET OR MAPNET)
NODE DESIGNATOR
DEVICE ADDRESS
N1:M2-1

ADDRESSABLE DEVICES NUMBERING

SYMBOL KEY

FIRE ALARM SYMBOLS LEGEND

SYMBOL	DESCRIPTION	MODEL#	BACKBOX
(2)	SMOKE SENSOR / BASE	SIMPLEX 4098-9714 SIMPLEX 4098-9792 BASE	4" OCTAGONAL BOX 1 1/2" DEEP
(2)	EXISTING SMOKE SENSOR	EXISTING	EXISTING
(2)	HEAT SENSOR / BASE	SIMPLEX 4098-9733 SIMPLEX 4098-9792 BASE	4" OCTAGONAL BOX 1 1/2" DEEP
10K (2) R	DUCT SMOKE SENSOR W/ ENCAPSULATED RELAY PAM-SD W/ REMOTE TEST STATION	SIMPLEX 4098-9756 SIMPLEX 4098-9843 SIMPLEX 2098-9806	MOUNT TO DUCTWORK SINGLE GANG BOX 2 1/8" DEEP W/ COVER SING GANG BOX 2 1/2" DEEP
(2) ID	EXISTING IN-DUCT DETECTOR	EXISTING	EXISTING
AAM	RELAY IAM	SIMPLEX 4090-9002	4" SQUARE BOX 2 1/8" DEEP W/TWO GANG COVER
R	ENCAPSULATED RELAY PAM-1, SPDT W/ LED	SIMPLEX 2088-9021 (APOLLO AMERICA INC PAM-1)	SINGLE GANG BOX 2 1/8" DEEP W\COVER
	EXISTING STROBE ONLY DEVICE	EXISTING	EXISTING
	EXISTING HORN STROBE DEVICE	EXISTING	EXISTING
DH	DOOR HOLDER	DH24120FPC	SINGLE GANG BOX 2 1/2" DEEP
M	EXISTING 2 POINT MONITOR MODULE	EXISTING	EXISTING
FSD	FIRE/SMOKE DAMPER	SUPPLIED BY OTHERS	SUPPLIED BY OTHERS
FSD	EXISTING FIRE/SMOKE DAMPER	SUPPLIED BY OTHERS	SUPPLIED BY OTHERS
10K	END-OF-LINE RESISTOR 10K (EOL)	SIMPLEX 4081-9008	

SEQUENCE OF OPERATION

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

SEQUENCE OF OPERATIONS

SYSTEM INPUTS	SYSTEM OUTPUTS: FACP Annunciation						Notification								Required Controls												Supplementary			
	ACTUATE COMMON ALARM SIGNAL INDICATOR	ACTUATE AUDIBLE ALARM SIGNAL	SILENCE AUDIBLE ALARM SIGNAL	RESET SYSTEM TO NORMAL	RECEIVE AUDIBLE SUPERVISORY SIGNAL	RECEIVE AUDIBLE TROUBLE SIGNAL	ACTUATE EVACUATION SIGNALS (SPEAKERS/STROBES)								DISPLAY CHANGE OF STATUS AT REMOTE ANNUNCIATOR	TRANSMIT FIRE ALARM SIGNAL TO OFF-SITE REPORTING	TRANSMIT TROUBLE SIGNAL TO OFF-SITE REPORTING	TRANSMIT SUPERVISORY SIGNAL TO OFF-SITE REPORTING	RELEASE DOOR HOLDERS	DAMPER SHUT DOWN	RELEASE CORRIDOR FIRE DOORS	RELEASE ELEVATOR FIRE DOORS	RELEASE ASSOCIATED ROLL-UP DOOR	ELEVATOR SHUT DOWN (1)	ELEVATOR RECALL - MAIN FLOOR	ELEVATOR RECALL - ALTERNATE FLOOR	ELEVATOR CAR FLASH	ACTUATE ROOM STROBE	ACTUATE ROOM HORN	STORAGE ALARMS SIGNAL	ACTUATE OUTSIDE HORN/STROBE	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		
1 SMOKE DETECTOR	X	X					X		X	X						X											X	1
2 SMOKE DETECTOR AT 2ND FLR & 3RD FLR CLERK DESK	X	X					X		X	X						X		X									X	2
3 SMOKE DETECTOR AT SMOKE PARTITION	X	X					X		X	X						X											X	3
4 RESERVED																												4
5 HEAT DETECTOR	X	X					X		X	X						X											X	5
6 RESERVED																												6
7 DUCT DETECTOR AT F/S DAMPER	X	X					X		X	X					X	X											X	7
8 MAIN FLR ELEV. LOBBY SMOKE DETECTOR	X	X					X		X	X					X	X		X			X						X	8
9 ELEV. LOBBY SMOKE DETECTORS (EXCL. MAIN FLR.)	X	X					X		X	X									X								X	9
10 ELEV. MECH. ROOM SMOKE DETECTOR	X	X					X		X	X																	X	10
11 ELEV. SHAFT HEAT DETECTOR	X	X					X		X	X										X	X						X	11
12 ELEV. MECH. ROOM HEAT DETECTOR	X	X					X		X	X										X	X						X	12
13 BATTERY LOW SWITCH	X	X					X		X	X																	X	13
14 TAMPER SWITCH			X	X			X		X	X																	X	14
15 "OST INDICATOR VALVE SWITCH			X	X			X		X	X																	X	15
16 FACP AC POWER FAILURE					X	X					X																	16
17 FACP LOW BATTERY					X	X					X																	17
18 OPEN CIRCUIT					X	X					X																	18
19 GROUND FAULT					X	X					X																	19
20 NOTIFICATION APPLIANCE CIRCUIT "A/B/SHT"					X	X																						20
21 ALARM SIGNAL SILENCE																									X			21
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z		

NOTE: Audible Evacuation Signal shall be Temporal Pattern per NFPA 72.
(1) 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.

City of Aurora Building Division
Project: *The Medical Center of Aurora*
Address: *1501 E Potomac St, 3rd Floor Cardiac (North) Tower*
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GENERAL NOTES:
1. SYMBOLS AND INFORMATION IN BOLD LINETYPE ARE .....
2. SYMBOLS AND INFORMATION IN LIGHT LINETYPE ARE EXISTING.

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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DISTRICT - 419
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MEDICAL CENTER OF AURORA CARDIAC TOWER 3RD FLR REVISIONS

MEDICAL CENTER OF AURORA
CARDIAC TOWER
1501 SOUTH POTOMAC
AURORA

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION

Revisions shown with △ symbol

DRAWN BY: JMG
CHECKED BY: NSW
ISSUE DATE: 6/3/14
JOB #:
PROJECT #: 419:978343308
SIMPLEXGRINNELL © 2014
SYSTEM: FIRE ALARM SYSTEM
SHEET: GENERAL INFORMATION

FA-002

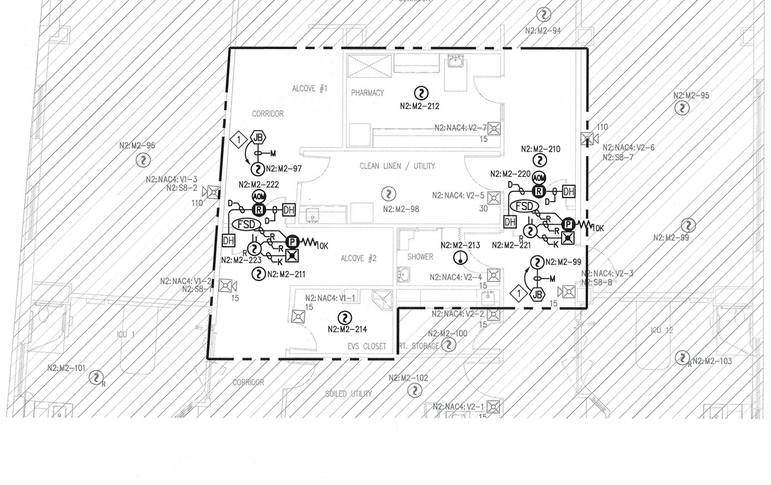
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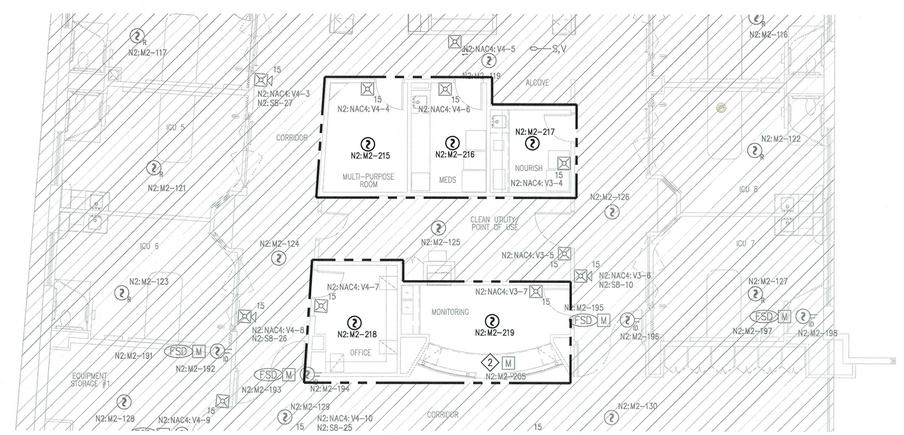
LAST SAVED BY: JGILDERSLEEVE
LAST PRINTED: 6/5/2014 11:27:10 AM
FILE PATH: G:\Medical Center of Aurora\1501 S Potomac - Aurora South\North Tower - Node 2\03-3rd CT L\3 Revisions - 2014 - 978343308\Fire\FA-002.dwg
24" x 36" - Arch D Size

City of Aurora Building Division
Project: *The Medical Center of Aurora*
Address: *1501 E Potomac St, 3rd Floor Cardiac (North) Tower*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE IA-SPK*
RSN: *903124*
Permit: *2014-851219-LT*

GENERAL NOTES:
1. SYMBOLS AND INFORMATION IN BOLD LINETYPE ARE NEW.
2. SYMBOLS AND INFORMATION IN LIGHT LINETYPE ARE EXISTING.
3. HATCHED AREAS ARE OUT OF SCOPE OF THIS PROJECT.

KEYNOTES:
1. RELOCATE WITHIN 5' OF NEW DOOR, EXTEND WIRING.
2. EXISTING FIRE SHUTTER CLOSES ON GENERAL ALARM.





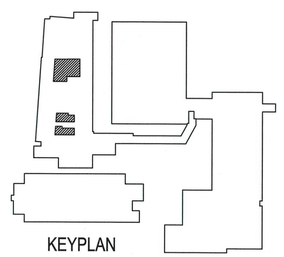
PLAN NORTH

DEVICE PLACEMENT PLAN 3RD FLR CARDIAC TOWER

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

0 4 8 16 (IN FEET)

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *J. Van Essen*
Date: *Jun 06, 2014*
2009 INTERNATIONAL CODES & 2011 NEC
2007 NFPA 72
RSN: *903124*
Permit #: *2014-851219-LT*


KEYPLAN

NICET CERTIFIED

NICET CERTIFICATION

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

NANCY S. WILTSIE — DATE 6/5/14

tyco SimplexGrinnell
Safer. Smarter. Tyco.™

DISTRICT - 419
6240 SMITH ROAD
DENVER, CO 80216
SERVICE: 303-355-3500
PHONE: 303-355-0500
FAX: 303-355-9815

MEDICAL CENTER OF AURORA
CARDIAC TOWER 3RD FLR REVISIONS

MEDICAL CENTER OF AURORA
CARDIAC TOWER
1501 SOUTH POTOMAC

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
Revisions shown with △ symbol				

DRAWN BY:	JMG
CHECKED BY:	NSW
ISSUE DATE:	6/3/14
JOB #:	
PROJECT #:	419:978343308
SIMPLEXGRINNELL ©	2014
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	DEVICE PLACEMENT PLAN 3RD FLR CARDIAC TOWER

FA-101

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FILE PATH: G:\Medical Center of Aurora\1501 S Potomac - Aurora South\North Tower - Node 2\20-3rd CT LS Revisions - 2014 - 978343308\Fire\FA-101.dwg
LAST SAVED BY: JGILDERSLEEVE
LAST PRINTED: 6/5/2014 11:38:30 AM
24" x 36" - Arch D Size

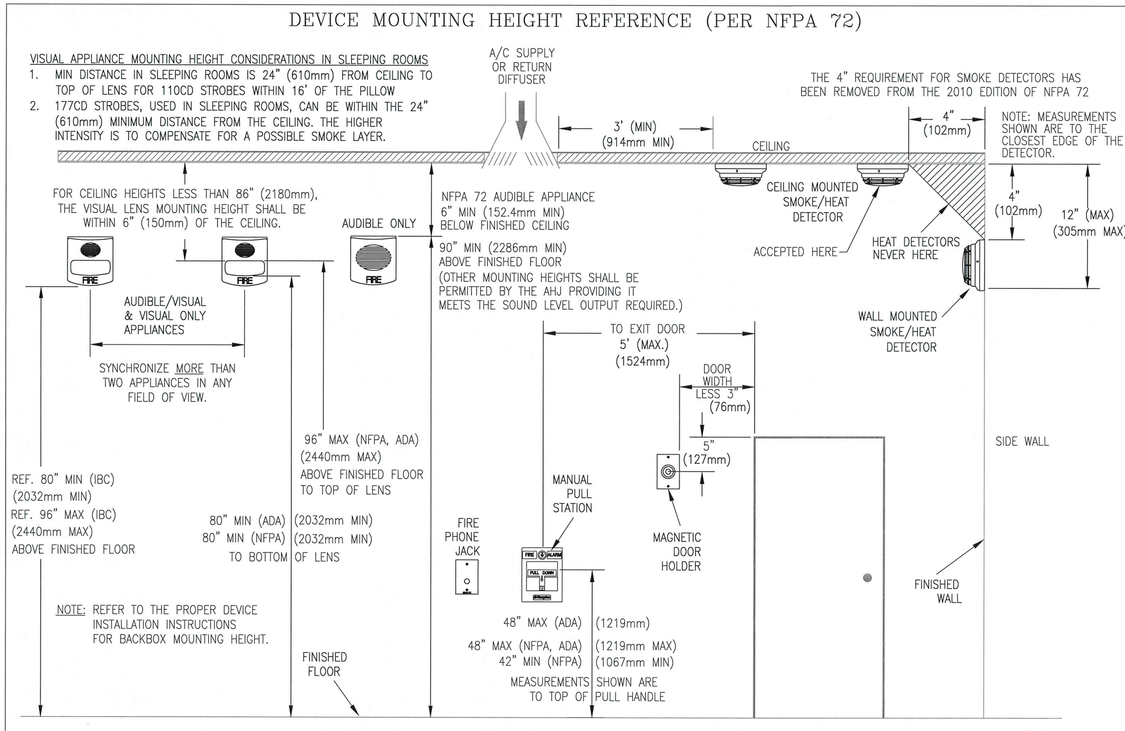
IDNET CHANNEL N2:M2				SWITCH SETTINGS
Address	Device Type	Point Type	Location Description	1 2 3 4 5 6 7 8
N2:M2-1	ADRPUL	PULL	2:M2-1 FLR 2 CARDIAC TWR HALL BY LOUNGE	X X X X X X X X ON
N2:M2-2			SPARE	X X X X X X X X ON
N2:M2-3			SPARE	X X X X X X X X ON
N2:M2-4	PHOTO	SMOKE	2:M2-4 FLR 2 CARDIAC TWR BY RM 245	X X X X X X X X ON
N2:M2-5	RPHOTO	SMOKE	2:M2-5 FLR 2 CARDIAC TWR RM 244	X X X X X X X X ON
N2:M2-6	RPHOTO	SMOKE	2:M2-6 FLR 2 CARDIAC TWR BY RM 244	X X X X X X X X ON
N2:M2-7	RPHOTO	SMOKE	2:M2-7 FLR 2 CARDIAC TWR RM 245	X X X X X X X X ON
N2:M2-8	RPHOTO	SMOKE	2:M2-8 FLR 2 CARDIAC TWR RM 243	X X X X X X X X ON
N2:M2-9	PHOTO	SMOKE	2:M2-9 FLR 2 CARDIAC TWR POINT OF USE	X X X X X X X X ON
N2:M2-10	PHOTO	SMOKE	2:M2-10 FLR 2 CARDIAC TWR BY RM 247	X X X X X X X X ON
N2:M2-11	RPHOTO	SMOKE	2:M2-11 FLR 2 CARDIAC TWR RM 246	X X X X X X X X ON
N2:M2-12	RPHOTO	SMOKE	2:M2-12 FLR 2 CARDIAC TWR RM 247	X X X X X X X X ON
N2:M2-13	PHOTO	SMOKE	2:M2-13 FLR 2 CARDIAC TWR BY RM 242	X X X X X X X X ON
N2:M2-14	PHOTO	SMOKE	2:M2-14 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-15	RPHOTO	SMOKE	2:M2-15 FLR 2 CARDIAC TWR RM 247	X X X X X X X X ON
N2:M2-16	RPHOTO	SMOKE	2:M2-16 FLR 2 CARDIAC TWR RM 241	X X X X X X X X ON
N2:M2-17	ADRPUL	PULL	2:M2-17 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-18	PHOTO	SMOKE	2:M2-18 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-19	PHOTO	SMOKE	2:M2-19 FLR 2 CARDIAC TWR BY RM 248	X X X X X X X X ON
N2:M2-20	RPHOTO	SMOKE	2:M2-20 FLR 2 CARDIAC TWR RM 245	X X X X X X X X ON
N2:M2-21	RPHOTO	SMOKE	2:M2-21 FLR 2 CARDIAC TWR RM 240	X X X X X X X X ON
N2:M2-22	PHOTO	SMOKE	2:M2-22 FLR 2 CARDIAC TWR BY RM 240	X X X X X X X X ON
N2:M2-23	PHOTO	SMOKE	2:M2-23 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-24	RPHOTO	SMOKE	2:M2-24 FLR 2 CARDIAC TWR RM 249	X X X X X X X X ON
N2:M2-25	PHOTO	SMOKE	2:M2-25 FLR 2 CARDIAC TWR RM 239	X X X X X X X X ON
N2:M2-26	PHOTO	SMOKE	2:M2-26 FLR 2 CARDIAC TWR CLEAN UTILITY	X X X X X X X X ON
N2:M2-27	PHOTO	SMOKE	2:M2-26 FLR 2 CARDIAC TWR CLEAN UTILITY	X X X X X X X X ON
N2:M2-28	RPHOTO	SMOKE	2:M2-27 FLR 2 CARDIAC TWR BY RM 250	X X X X X X X X ON
N2:M2-29	RPHOTO	SMOKE	2:M2-29 FLR 2 CARDIAC TWR RM 239	X X X X X X X X ON
N2:M2-30	PHOTO	SMOKE	2:M2-30 FLR 2 CARDIAC TWR SOILED UTILITY	X X X X X X X X ON
N2:M2-31	RPHOTO	SMOKE	2:M2-31 FLR 2 CARDIAC TWR STORAGE RM	X X X X X X X X ON
N2:M2-32	RPHOTO	SMOKE	2:M2-32 FLR 2 CARDIAC TWR RM 251	X X X X X X X X ON
N2:M2-33	RPHOTO	SMOKE	2:M2-33 FLR 2 CARDIAC TWR RM 237	X X X X X X X X ON
N2:M2-34	PHOTO	SMOKE	2:M2-34 FLR 2 CARDIAC TWR BY RM 237	X X X X X X X X ON
N2:M2-35	NACRPT	SIGNAL	2:M2-35 2ND FL AREA A ELECT RM 2084 NAC3	X X X X X X X X ON
N2:M2-36	PHOTO	SMOKE	2:M2-36 FLR 2 CARDIAC TWR ELECTRICAL RM	X X X X X X X X ON
N2:M2-37	PHOTO	SMOKE	2:M2-37 FLR 2 CARDIAC TWR VOICE-DATA RM	X X X X X X X X ON
N2:M2-38	RPHOTO	SMOKE	2:M2-38 FLR 2 CARDIAC TWR RM 252	X X X X X X X X ON
N2:M2-39	RPHOTO	SMOKE	2:M2-39 FLR 2 CARDIAC TWR RM 236	X X X X X X X X ON
N2:M2-40	PHOTO	SMOKE	2:M2-40 FLR 2 CARDIAC TWR POINT OF USE	X X X X X X X X ON
N2:M2-41	PHOTO	SMOKE	2:M2-41 FLR 2 CARDIAC TWR BY RM 253	X X X X X X X X ON
N2:M2-42	RPHOTO	SMOKE	2:M2-42 FLR 2 CARDIAC TWR RM 253	X X X X X X X X ON
N2:M2-43	RPHOTO	SMOKE	2:M2-43 FLR 2 CARDIAC TWR RM 235	X X X X X X X X ON
N2:M2-44	PHOTO	SMOKE	2:M2-44 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-45	RPHOTO	SMOKE	2:M2-45 FLR 2 CARDIAC TWR RM 254	X X X X X X X X ON
N2:M2-46	RPHOTO	SMOKE	2:M2-46 FLR 2 CARDIAC TWR RM 234	X X X X X X X X ON
N2:M2-47	PHOTO	SMOKE	2:M2-47 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-48	ADRPUL	PULL	2:M2-48 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-49	RPHOTO	SMOKE	2:M2-49 FLR 2 CARDIAC TWR RM 255	X X X X X X X X ON
N2:M2-50	RPHOTO	SMOKE	2:M2-50 FLR 2 CARDIAC TWR RM 233	X X X X X X X X ON
N2:M2-51	PHOTO	SMOKE	2:M2-51 FLR 2 CARDIAC TWR BY RM 234	X X X X X X X X ON
N2:M2-52	PHOTO	SMOKE	2:M2-52 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-53	PHOTO	SMOKE	2:M2-53 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-54	PHOTO	SMOKE	2:M2-54 FLR 2 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-55	PHOTO	SMOKE	2:M2-55 FLR 2 CARDIAC TWR BY RM 254	X X X X X X X X ON
N2:M2-56	PHOTO	SMOKE	2:M2-56 FLR 2 CARDIAC TWR BY RM 256	X X X X X X X X ON
N2:M2-57	RPHOTO	SMOKE	2:M2-57 FLR 2 CARDIAC TWR RM 258	X X X X X X X X ON
N2:M2-58	PHOTO	SMOKE	2:M2-58 FLR 2 CARDIAC TWR EQUIP STORAGE	X X X X X X X X ON
N2:M2-59	PHOTO	SMOKE	2:M2-59 FLR 2 CARDIAC TWR BY RM 233	X X X X X X X X ON
N2:M2-60	PHOTO	SMOKE	2:M2-60 FLR 2 CARDIAC TWR HALL BY ELEV.1	X X X X X X X X ON
N2:M2-61	PHOTO	SMOKE	2:M2-61 FLR 2 CARDIAC TWR HALL BY ELEV.1	X X X X X X X X ON
N2:M2-62	PHOTO	SMOKE	2:M2-62 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-63	PHOTO	SMOKE	2:M2-63 FLR 2 CARDIAC TWR MECH. RM 3	X X X X X X X X ON
N2:M2-64	PHOTO	SMOKE	2:M2-64 FLR 2 CARDIAC TWR MECH. RM 2	X X X X X X X X ON
N2:M2-65	PHOTO	SMOKE	2:M2-65 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-66	PHOTO	SMOKE	2:M2-66 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-67	PHOTO	SMOKE	2:M2-67 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-68	ADRPUL	PULL	2:M2-68 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-69	PHOTO	SMOKE	2:M2-69 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-70	PHOTO	SMOKE	2:M2-70 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-71	IAM	SD	2:M2-71 FL 2 CARDIAC TWR FRONT STAIRWELL	X X X X X X X X ON
N2:M2-72	IAM	WATER	2:M2-72 FL 2 CARDIAC TWR FRONT STAIRWELL	X X X X X X X X ON
N2:M2-73	ADRPUL	PULL	2:M2-73 FLR 2 CARDIAC – BY WAITING RM	X X X X X X X X ON
N2:M2-74	PHOTO	SMOKE	2:M2-74 FLR 2 CARDIAC – BY WAITING RM	X X X X X X X X ON
N2:M2-75	PHOTO	SMOKE	2:M2-75 FLR 2 CARDIAC TWR ELEV.1 LOBBY	X X X X X X X X ON
N2:M2-76	PHOTO	SMOKE	2:M2-76 FLR 2 CARDIAC TWR ELEV.5 LOBBY	X X X X X X X X ON
N2:M2-77	PHOTO	SMOKE	2:M2-77 FLR 2 CARDIAC – RESTROOM HALL	X X X X X X X X ON
N2:M2-78	PHOTO	SMOKE	2:M2-78 FLR 2 CARDIAC TWR MECHANIC RM 1	X X X X X X X X ON
N2:M2-79	PHOTO	SMOKE	2:M2-79 FLR 2 CARDIAC TWR MECH. RM 1	X X X X X X X X ON
N2:M2-80	RIAM	RELAY	2:M2-80 2ND FL AREA A CPU, DOOR 2044	X X X X X X X X ON
N2:M2-81	PHOTO	SMOKE	2:M2-81 FLR 2 CARDIAC TWR HALL BY ELEV.1	X X X X X X X X ON
N2:M2-82			SPARE	X X X X X X X X ON
N2:M2-83	TRIAM	UTILITY	2:M2-83 2ND FL MECH ROOM 2042A	X X X X X X X X ON
N2:M2-84	TRIAM	UTILITY	2:M2-84 2ND FL MECH ROOM 2042A	X X X X X X X X ON
N2:M2-85	ADRPUL	PULL	2:M2-85 FLR 3 CARDIAC TWR BY BACK STAIRS	X X X X X X X X ON
N2:M2-86			SPARE	X X X X X X X X ON
N2:M2-87			SPARE	X X X X X X X X ON
N2:M2-88	PHOTO	SMOKE	2:M2-88 FLR 3 CARDIAC TWR BY BACK STAIRS	X X X X X X X X ON
N2:M2-89	PHOTO	SMOKE	2:M2-89 FLR 3 CARDIAC TWR SHELL SPACE 1	X X X X X X X X ON
N2:M2-90	PHOTO	SMOKE	2:M2-90 FLR 3 CARDIAC TWR SHELL SPACE 2	X X X X X X X X ON
N2:M2-91	PHOTO	SMOKE	2:M2-91 FLR 3 CARDIAC TWR BY BACK STAIRS	X X X X X X X X ON
N2:M2-92	PHOTO	SMOKE	2:M2-92 FLR 3 CARDIAC TWR SHELL SPACE 1	X X X X X X X X ON
N2:M2-93	PHOTO	SMOKE	2:M2-93 FLR 3 CARDIAC TWR SHELL SPACE 1	X X X X X X X X ON
N2:M2-94	PHOTO	SMOKE	2:M2-94 FLR 3 CARDIAC TWR BY PHARMACY	X X X X X X X X ON
N2:M2-95	PHOTO	SMOKE	2:M2-95 FLR 3 CARDIAC TWR SHELL SPACE 2	X X X X X X X X ON
N2:M2-96	PHOTO	SMOKE	2:M2-96 FLR 3 CARDIAC TWR SHELL SPACE 1	X X X X X X X X ON
N2:M2-97	PHOTO	SMOKE	2:M2-97 FLR 3 CARDIAC TWR BY RM 40	X X X X X X X X ON
N2:M1-98	PHOTO	SMOKE	2:M2-98 FLR 3 CARDIAC TWR CLEAN UTILITY	X X X X X X X X ON
N2:M2-99	PHOTO	SMOKE	2:M2-99 FLR 3 CARDIAC TWR BY RM 53	X X X X X X X X ON
N2:M2-100	PHOTO	SMOKE	2:M2-100 FLR 3 CARDIAC TWR STORAGE RM	X X X X X X X X ON
N2:M2-101	RPHOTO	SMOKE	2:M2-101 FLR 3 CARDIAC TWR ICU RM 40	X X X X X X X X ON
N2:M2-102	PHOTO	SMOKE	2:M2-102 FL 3 CARDIAC TWR SOILED UTILITY	X X X X X X X X ON
N2:M2-103	RPHOTO	SMOKE	2:M2-103 FLR 3 CARDIAC TWR ICU RM 53	X X X X X X X X ON
N2:M2-104	RPHOTO	SMOKE	2:M2-104 FLR 3 CARDIAC TWR ICU RM 39	X X X X X X X X ON
N2:M1-105	PHOTO	SMOKE	2:M2-105 FLR 3 CARDIAC TWR BY RM 39	X X X X X X X X ON
N2:M2-106	NACRPT	SIGNAL	2:M2-106 FLR 3 CARDIAC TWR ELECTRICAL RM	X X X X X X X X ON
N2:M2-107	PHOTO	SMOKE	2:M2-107 FLR 3 CARDIAC TWR ELECTRICAL RM	X X X X X X X X ON
N2:M2-108	PHOTO	SMOKE	2:M2-108 FLR 3 CARDIAC TWR VOICE-DATA RM	X X X X X X X X ON
N2:M2-109	RPHOTO	SMOKE	2:M2-109 FLR 3 CARDIAC TWR ICU RM 54	X X X X X X X X ON
N2:M2-110	RPHOTO	SMOKE	2:M2-110 FLR 3 CARDIAC TWR ICU RM 38	X X X X X X X X ON
N2:M2-111	PHOTO	SMOKE	2:M2-111 FLR 3 CARDIAC TWR EXTATION RM	X X X X X X X X ON
N2:M2-112	PHOTO	SMOKE	2:M2-112 FLR 3 CARDIAC TWR BY RM 55	X X X X X X X X ON
N2:M2-113	RPHOTO	SMOKE	2:M2-113 FLR 3 CARDIAC TWR ICU RM 55	X X X X X X X X ON
N2:M2-114	PHOTO	SMOKE	2:M2-114 FLR 3 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-115	PHOTO	SMOKE	2:M2-115 FLR 3 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-116	RPHOTO	SMOKE	2:M2-116 FLR 3 CARDIAC TWR ICU RM 56	X X X X X X X X ON
N2:M2-117	RPHOTO	SMOKE	2:M2-117 FLR 3 CARDIAC TWR ICU RM 37	X X X X X X X X ON
N2:M2-118			SPARE	X X X X X X X X ON
N2:M2-119	PHOTO	SMOKE	2:M2-119 FLR 3 CARDIAC TWR BY RM 56	X X X X X X X X ON
N2:M2-120	ADRPUL	PULL	2:M2-120 FLR 3 CARDIAC TWR NRSG STATION	X X X X X X X X ON
N2:M2-121	RPHOTO	SMOKE	2:M2-121 FLR 3 CARDIAC TWR ICU RM 36	X X X X X X X X ON
N2:M2-122	RPHOTO	SMOKE	2:M2-122 FLR 3 CARDIAC TWR ICU RM 57	X X X X X X X X ON
N2:M2-123	RPHOTO	SMOKE	2:M2-123 FLR 3 CARDIAC TWR ICU RM 35	X X X X X X X X ON
N2:M2-124	PHOTO	SMOKE	2:M2-124 FLR 3 CARDIAC TWR BY RM 15	X X X X X X X X ON
N2:M2-125	PHOTO	SMOKE	2:M2-125 FLR 3 CARDIAC TWR POINT OF USE	X X X X X X X X ON

IDNET CHANNEL N2:M2				SWITCH SETTINGS
Address				1 2 3 4 5 6 7 8
N2:M2-126	PHOTO	SMOKE	2:M2-126 FLR 3 CARDIAC TWR BY RM 57	X X X X X X X X ON
N2:M2-127	RPHOTO	SMOKE	2:M2-127 FLR 3 CARDIAC TWR ICU RM 58	X X X X X X X X ON
N2:M2-128	PHOTO	SMOKE	2:M2-128 FLR 3 CARDIAC TWR EQUIP.STORAGE	X X X X X X X X ON
N2:M2-129	PHOTO	SMOKE	2:M2-129 FLR 3 CARDIAC TWR BY WAITING RM	X X X X X X X X ON
N2:M2-130	PHOTO	SMOKE	2:M2-130 FLR 3 CARDIAC TWR BY CROSSWALK	X X X X X X X X ON
N2:M2-131	ADRPUL	PULL	2:M2-131 FLR 3 CARDIAC TWR BY WAITING	X X X X X X X X ON
N2:M2-132	IAM	WATER	2:M2-132 FLR 3 CARDIAC TWR STAIRWELL 1	X X X X X X X X ON
N2:M2-133	IAM	SD	2:M2-133 FLR 3 CARDIAC TWR STAIRWELL 1	X X X X X X X X ON
N2:M2-134	PHOTO	SMOKE	2:M2-134 FLR 3 CARDIAC TWR BY WAITING	X X X X X X X X ON
N2:M2-135	PHOTO	SMOKE	2:M2-135 FLR 3 CARDIAC TWR ELEV. LOBBY	X X X X X X X X ON
N2:M2-136	PHOTO	SMOKE	2:M2-136 FLR 3 CARDIAC TWR ELEV. 3 LOBBY	X X X X X X X X ON
N2:M2-137	PHOTO	SMOKE	2:M2-137 FLR 3 CARDIAC TWR RESTROOM HALL	X X X X X X X X ON
N2:M2-138	PHOTO	SMOKE	2:M2-138 FLR 3 CARDIAC TWR MECHANICAL RM	X X X X X X X X ON
N2:M2-139	PHOTO	SMOKE	2:M2-139 FLR 3 CARDIAC TWR MECHANICAL RM	X X X X X X X X ON
N2:M2-140	PHOTO	SMOKE	2:M2-140 FLR 3 CARDIAC TWR BY CROSSWALK	X X X X X X X X ON
N2:M2-141	PHOTO	SMOKE	2:M2-141 FLR 3 CARDIAC ICU DR SLEEP RM	X X X X X X X X ON
N2:M2-142	PHOTO	SMOKE	2:M2-142 FLR 3 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-143	PHOTO	SMOKE	2:M2-143 FLR 3 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-144	PHOTO	SMOKE	2:M2-144 FLR 3 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-145	ADRPUL	PULL	2:M2-145 FLR 3 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-146	PHOTO	SMOKE	2:M2-146 FLR 3 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-147	PHOTO	SMOKE	2:M2-147 FLR 3 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-148	RIAM	RELAY	2:M2-148 3RD FL AREA A ROOM 3077	X X X X X X X X ON
N2:M2-149	RIAM	RELAY	2:M2-149 3RD FL AREA A ROOM 3077	X X X X X X X X ON
N2:M2-150	RIAM	RELAY	2:M2-150 3RD FL AREA A ROOM 3077	X X X X X X X X ON
N2:M2-151	TRIAM	UTILITY	2:M2-151 3RD FLR SHELL	X X X X X X X X ON
N2:M2-152	PHOTO	SDUCT	2:M2-152 FLR 2 CARDIAC TWR RM 244	X X X X X X X X ON
N2:M2-153	TRIAM	UTILITY	2:M2-153 2ND FL AREA B MEDS 2076	X X X X X X X X ON
N2:M2-154	PHOTO	SDUCT	2:M2-154 FLR 2 CARDIAC TWR MED. RM	X X X X X X X X ON
N2:M2-155	TRIAM	UTILITY	2:M2-155 2ND FL AREA A ALCOVE 2092	X X X X X X X X ON
N2:M2-156	PHOTO	SDUCT	2:M2-156 FLR 2 CARDIAC TWR BY RM 237	X X X X X X X X ON
N2:M2-157	TRIAM	UTILITY	2:M2-157 2ND FL AREA A ALCOVE 2093	X X X X X X X X ON
N2:M2-158	PHOTO	SDUCT	2:M2-158 FLR 2 CARDIAC TWR BY RM 252	X X X X X X X X ON
N2:M2-159			SPARE	X X X X X X X X ON
N2:M2-160	PHOTO	SMOKE	2:M2-160 FLR 3 CARDIAC ICU DR SLEEP RM	X X X X X X X X ON
N2:M2-161	PHOTO	SMOKE	2:M2-161 FLR 3 CARDIAC ICU DR SLEEP RM	X X X X X X X X ON
N2:M2-162			SPARE	X X X X X X X X ON
N2:M2-163	TRIAM	UTILITY	2:M2-163 2ND FL AREA A CONSULTATION 2111	X X X X X X X X ON
N2:M2-164	PHOTO	SDUCT	2:M2-164 FLR 2 CARDIAC TWR CONSULT RM	X X X X X X X X ON
N2:M2-165	TRIAM	UTILITY	2:M2-165 3RD FLR EQUIPMENT STOR 3014	X X X X X X X X ON
N2:M2-166	PHOTO	SDUCT	2:M2-166 FLR 2 CARDIAC TWR EQUIP.STORAGE	X X X X X X X X ON
N2:M2-167	TRIAM	UTILITY	2:M2-167 2ND FL AREA A CORR 2102	X X X X X X X X ON
N2:M2-168	PHOTO	SDUCT	2:M2-168 FLR 2 CARDIAC TWR BY RM 233	X X X X X X X X ON
N2:M2-169	TRIAM	UTILITY	2:M2-169 2ND FL AREA A CORR 2102	X X X X X X X X ON
N2:M2-170	PHOTO	SDUCT	2:M2-170 FLR 2 CARDIAC TWR BY WAITING RM	X X X X X X X X ON
N2:M2-171	TRIAM	UTILITY	2:M2-171 2ND FL AREA A CORR 2112	X X X X X X X X ON
N2:M2-172	PHOTO	SDUCT	2:M2-172 FLR 3 CARDIAC TWR BY RM 255	X X X X X X X X ON
N2:M2-173	TRIAM	UTILITY	2:M2-173 2ND FL AREA A PATIENT RM 2046	X X X X X X X X ON
N2:M2-174	RPHOTO	SDUCT	2:M2-174 FLR 2 CARDIAC TWR BY RM 256	X X X X X X X X ON
N2:M2-175	TRIAM	UTILITY	2:M2-175 2ND FL AREA A CORR 2044B	X X X X X X X X ON
N2:M2-176	PHOTO	SDUCT	2:M2-176 FLR 2 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-177	RPHOTO	SDUCT	2:M2-177 FLR 3 CARDIAC TWR MECH. RM 1	X X X X X X X X ON
N2:M2-178	RPHOTO	SDUCT	2:M2-178 FLR 2 CARDIAC TWR ELEV. 1 LOBBY	X X X X X X X X ON
N2:M2-179	RPHOTO	SDUCT	2:M2-179 FLR 2 CARDIAC TWR MECH. RM 2	X X X X X X X X ON
N2:M2-180			SPARE	X X X X X X X X ON
N2:M2-181			SPARE	X X X X X X X X ON
N2:M2-182			SPARE	X X X X X X X X ON
N2:M2-183	PHOTO	SDUCT	2:M2-183 FLR 3 CARDIAC TWR EQUIP.STORAGE	X X X X X X X X ON
N2:M2-184	TRIAM	UTILITY	2:M2-184 3RD FL AREA A STORAGE 3014	X X X X X X X X ON
N2:M2-185	TRIAM	UTILITY	2:M2-185 3RD FL AREA A ALCOVE 3085A	X X X X X X X X ON
N2:M2-186	PHOTO	SDUCT	2:M2-186 FLR 3 CARDIAC TWR BY RM 30	X X X X X X X X ON
N2:M2-187			SPARE	X X X X X X X X ON
N2:M2-188	PHOTO	SDUCT	2:M2-188 FLR 3 CARDIAC TWR BY RM 40	X X X X X X X X ON
N2:M2-189	TRIAM	UTILITY	2:M2-189 3RD FL AREA A ALCOVE 3084A	X X X X X X X X ON
N2:M2-190	PHOTO	SDUCT	2:M2-190 FLR 3 CARDIAC TWR BY RM 54	X X X X X X X X ON
N2:M2-191	TRIAM	UTILITY	2:M2-191 3RD FL AREA A E2, STORAGE 3014	X X X X X X X X ON
N2:M2-192	PHOTO	SDUCT	2:M2-192 FLR 3 CARDIAC TWR BY RM 35	X X X X X X X X ON
N2:M2-193	TRIAM	UTILITY	2:M2-193 3RD FL AREA A CORR 3028	X X X X X X X X ON
N2:M2-194	PHOTO	SDUCT	2:M2-194 FLR 3 CARDIAC TWR BY RM 35	X X X X X X X X ON
N2:M2-195	TRIAM	UTILITY	2:M2-195 3RD FL AREA A CORR 3064	X X X X X X X X ON
N2:M2-196	PHOTO	SDUCT	2:M2-196 FLR 3 CARDIAC TWR BY RM 58	X X X X X X X X ON
N2:M2-197	RPHOTO	SDUCT	2:M2-197 FLR 3 CARDIAC TWR BY RM 58	X X X X X X X X ON
N2:M2-198	TRIAM	UTILITY	2:M2-198 3RD FL AREA A CU 3059	X X X X X X X X ON
N2:M2-199	TRIAM	UTILITY	2:M2-199 3RD FL AREA A CORR 3080A	X X X X X X X X ON
N2:M2-200	RPHOTO	SDUCT	2:M2-200 FLR 3 CARDIAC TWR CROSSWALK	X X X X X X X X ON
N2:M2-201	RPHOTO	SDUCT	2:M2-201 FLR 3 CARDIAC TWR MECHANICAL RM	X X X X X X X X ON
N2:M2-202	RPHOTO	SDUCT	2:M2-202 FL 3 CARDIAC TWR ELV LOBBY DUCT	X X X X X X X X ON
N2:M2-203			SPARE	X X X X X X X X ON
N2:M2-204	TRIAM	UTILITY	2:M2-204 3RD FLR IS SOCM 3063	X X X X X X X X ON
N2:M2-205	TRIAM	UTILITY	2:M2-205 3RD FLR CORRIDOR 3070	X X X X X X X X ON
N2:M2-206	TRIAM	UTILITY	2:M2-206 3RD FLR CORRIDOR 3064	X X X X X X X X ON
N2:M2-207	TRIAM	UTILITY	2:M2-207 3RD FLR CORRIDOR 3040B	X X X X X X X X ON
N2:M2-208			SPARE	X X X X X X X X ON
N2:M2-210	PHOTO	SMOKE	2:M2-210 FLR 3 CARDIAC TWR BY RM 40 N	X X X X X X X X ON
N2:M2-211	PHOTO	SMOKE	2:M2-211 FLR 3 CARDIAC TWR BY RM 53 S	X X X X X X X X ON
N2:M2-212	PHOTO	SMOKE	2:M2-212 FLR 3 PHARMACY	X X X X X X X X ON
N2:M2-213	HEAT	HEAT	2:M2-213 FLR 3 SHOWER	X X X X X X X X ON
N2:M2-214	PHOTO	SMOKE	2:M2-214 FLR 3 EVS CLOSET	X X X X X X X X ON
N2:M2-215	PHOTO	SMOKE	2:M2-215 FLR 3 MULTIPURPOSE ROOM	X X X X X X X X ON
N2:M2-216	PHOTO	SMOKE	2:M2-216 FLR 3 MEDS	X X X X X X X X ON
N2:M2-217	PHOTO	SMOKE	2:M2-217 FLR 3 NOURISH	X X X X X X X X ON
N2:M2-218	PHOTO	SMOKE	2:M2-218 FLR 3 OFFICE	X X X X X X X X ON
N2:M2-219	PHOTO	SMOKE	2:M2-219 FLR 3 MONITORING	X X X X X X X X ON
N2:M2-220	RIAM	DHOLDER	2:M2-220 FLR3 TWR SHELL CORR SOUTH @ DRS	X X X X X X X X ON
N2:M2-221	RPHOTO	SDUCT	2:M2-221 FLR3 TWR SHELL CORR SOUTH FSD	X X X X X X X X ON
N2:M2-222	RIAM	DHOLDER	2:M2-222 FLR3 TWR SHELL CORR NORTH @ DRS	X X X X X X X X ON
N2:M2-223	RPHOTO	SDUCT	2:M2-223 FLR3 TWR SHELL CORR NORTH FSD	X X X X X X X X ON
N2:M2-224			SPARE	X X X X X X X X ON
N2:M2-225			SPARE	X X X X X X X X ON
N2:M2-226			SPARE	X X X X X X X X ON
N2:M2-227			SPARE	X X X X X X X X ON
N2:M2-228			SPARE	X X X X X X X X ON
N2:M2-229			SPARE	X X X X X X X X ON
N2:M2-230			SPARE	X X X X X X X X ON
N2:M2-231			SPARE	X X X X X X X X ON
N2:M2-232			SPARE	X X X X X X X X ON
N2:M2-233			SPARE	X X X X X X X X ON
N2:M2-234			SPARE	X X X X X X X X ON
N2:M2-235			SPARE	X X X X X X X X ON
N2:M2-236			SPARE	X X X X X X X X ON
N2:M2-237			SPARE	X X X X X X X X ON
N2:M2-238			SPARE	X X X X X X X X ON
N2:M2-239			SPARE	X X X X X X X X ON
N2:M2-240			SPARE	X X X X X X X X ON
N2:M2-241			SPARE	X X X X X X X X ON
N2:M2-242			SPARE	X X X X X X X X ON
N2:M2-243			SPARE	X X X X X X X X ON
N2:M2-244			SPARE	X X X X X X X X ON
N2:M2-245			SPARE	X X X X X X X X ON
N2:M2-246			SPARE	X X X X X X X X ON
N2:M2-247			SPARE	X X X X X X X X ON
N2:M2-248			SPARE	X X X X X X X X ON
N2:M2-249			SPARE	X X X X X X X X ON
N2:M2-250			SPARE	X X X X X X X X ON

MEDICAL CENTER OF AURORA – PATIENT TOWER 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		0.0509	0.2700	0.0569	0.3900
4100-9621	1	BASIC AUDIO WITH MICROPHONE – DIGITAL		0.0753	0.0753	0.0893	0.0893
4100-1328	4	DIGITAL FLEX 50W AMP W/3 NACS – 25V		0.0850	0.3400	2.5700	0.8960
4100-1240	1	AUXILIARY AUDIO INPUT BOARD		0.0100	0.0100	0.0100	0.0100
4100-1243	1	MESSAGE EXPANSION BOARD – 32 MINUTES		0.0093	0.0093	0.0173	0.0173
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
4100-5101	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		0.0153	0.0153	0.1900	0.1900
4100-1254	1	2 CHANNEL AUDIO OPERATOR INTERFACE		0.0093	0.0093	0.0240	0.0240
4100-1262	4	8 SW, 16RED/YEL LED MODULE		0.0093	0.0093	0.0240	0.0960
4100-1264	31	8 SW, 16 RED/GREEN LED MODULE		0.0093	0.0093	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

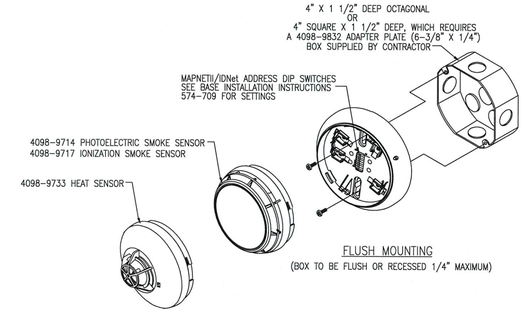
DEVICE MOUNTING HEIGHT REFERENCE (PER NFPA 72)



4098-9792 STANDARD SENSOR BASE

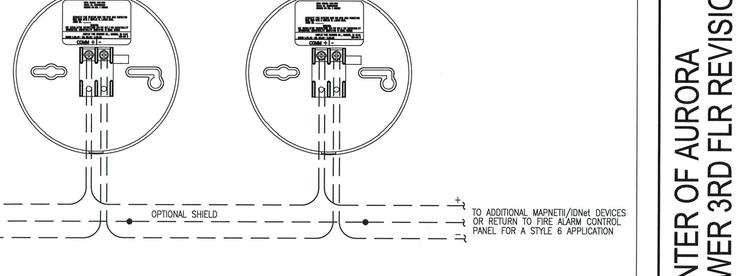
PRODUCT INFORMATION

FEATURES:
- UL LISTED, FM APPROVED
- TRUEALARM ANALOG SENSING PROVIDES DIGITAL TRANSMISSION OF ANALOG SENSOR VALUES VIA MAPNET II, OR IDNet SLC TWO WIRE COMMUNICATIONS
- FIRE ALARM CONTROL PANEL PROVIDES:
  - –INDIVIDUAL SENSITIVITY SELECTION FOR EACH SENSOR
  - –PEAK VALUE LOGGING ALLOWING ACCURATE ANALYSIS FOR SENSITIVITY SELECTION
  - –AUTOMATIC ENVIRONMENTAL COMPENSATION
  - –DISPLAY OF SENSITIVITY IN PERCENT PER FOOT
  - –MULTISTAGE ALARM OPERATION
  - –ABILITY TO DISPLAY AND PRINT DETAILED SENSOR INFORMATION IN PLAIN ENGLISH LANGUAGE
- PHOTOELECTRIC SMOKE SENSOR 4098-9714: SEVEN LEVELS OF SENSITIVITY FROM 0.2% TO 3.7%
- IONIZATION SMOKE SENSOR 4098-9717: FOUR LEVELS OF SENSITIVITY FROM 0.5% TO 1.7%.
- HEAT SENSOR 4098-9733:
  - –RATE-OF-RISE TEMPERATURE DETECTION IS SELECTABLE AT THE CONTROL PANEL FOR EITHER 15°F OR 20°F PER MINUTE
  - –FIXED TEMPERATURE SENSING IS INDEPENDENT OF RATE-OF-RISE AND PROGRAMMABLE TO OPERATE AT 135°F OR 155°F
  - –TRUEALARM HEAT SENSORS CAN BE PROGRAMMED AS A UTILITY DEVICE TO MONITOR FOR TEMPERATURE EXTREMES IN THE RANGE FROM 32° F TO 120° F.
- UL STANDARD SPACING:
  - –60 FT SPACING FOR 135° F
  - –40 FT SPACING FOR 155° F
- INTEGRAL RED LED FOR POWER-ON (PULSING), OR ALARM OR TROUBLE (STEADY ON)
- BASE MOUNTED ADDRESS SELECTION:
  - –ACCESSIBLE FROM FRONT (DIP SWITCH UNDER SENSOR)
  - –ADDRESS REMAINS WITH ITS PROGRAMMED LOCATION
- FOR USE WITH SIMPLEX 4010, 4100, 4020, AND 4120 SERIES CONTROL PANELS.
- MAXIMUM QUANTITY OF DEVICES:
  - –127 FOR 4020, 4100, 4120
  - –250 FOR 4010, 4100
- MOUNTING: CEILING OR WALL
- COLOR : FROST WHITE
- BASE DIMENSIONS: 15/16" X 4-7/8"



SPECIFICATIONS:
- UL LISTED TEMPERATURE RANGE: 32°F TO 100°F
- OPERATING TEMPERATURE RANGE: 32°F TO 120°F
- HUMIDITY RANGE: 10% TO 95% RH
- PHOTOELECTRIC SENSOR AIR VELOCITY RANGE: 0-2000 FT/MIN
- IONIZATION SENSOR AIR VELOCITY RANGE: 0-300 FT/MIN
- WIRING CONNECTIONS: SCREW TERMINALS FOR IN/OUT WIRING, #18 TO #14 AWG
- COMMUNICATIONS: MAPNET II/IDNet SLC: 1 ADDRESS PER BASE
  VOLTAGE (MAPNET II/IDNet SLC): 24-40VDC
  CURRENT: 400uA TYPICAL

DESCRIPTION:
TRUEALARM SENSOR BASES CONTAIN INTEGRAL ADDRESSABLE ELECTRONICS THAT CONSTANTLY MONITOR THE STATUS OF THE DETACHABLE PHOTOELECTRIC, IONIZATION, OR HEAT SENSORS. EACH SENSOR'S OUTPUT IS DIGITIZED AND TRANSMITTED TO THE SYSTEM FIRE ALARM CONTROL PANEL EVERY FOUR SECONDS. SINCE TRUEALARM SENSORS USE THE SAME BASE, DIFFERENT SENSOR TYPES CAN BE EASILY INTERCHANGED TO MEET SPECIFIC LOCATION REQUIREMENTS. THIS FEATURE ALLOWS INTENTIONAL SENSOR SUBSTITUTION DURING BUILDING CONSTRUCTION. WHEN CONDITIONS ARE TEMPORARILY DUSTY, INSTEAD OF COVERING THE SMOKE SENSORS, HEAT SENSORS MAY BE INSTALLED WITHOUT REPROGRAMMING THE CONTROL PANEL. ALTHOUGH THE CONTROL PANEL WILL INDICATE AN INCORRECT SENSOR TYPE, THE HEAT SENSOR WILL OPERATE AS A DEFAULT SENSITIVITY PROVIDING HEAT DETECTION FOR BUILDING PROTECTION AT THAT LOCATION.



WIRING:
1. ALL WIRING TO COMPLY WITH LOCAL CODE.
2. CONDUCTORS MUST TEST FREE OF ALL GROUNDS.
3. MAINTAIN CORRECT POLARITY
4. MAPNET II/IDNet SLC WIRING TO BE #18 AWG TWISTED SHIELDED PAIR
5. IF SHIELD IS PRESENT, CONNECT TO THE OUTGOING IDNet SLC SHIELD TO PROVIDE A CONTINUOUS SHIELD OVER THE LENGTH OF THE IDNet SLC CHANNEL. METHOD OF SPLICE DETERMINED BY AHJ.
6. REFER TO INSTALLATION INSTRUCTIONS (574-707)
7. REFER TO APPLICATION MANUAL (574-709)

4098-9756 ADDRESSABLE ANALOG 4-WIRE DUCT SENSOR MAPNET II/IDNet SLC WITH 24VDC RELAY

PRODUCT INFORMATION

FEATURES:
COMPACT AIR DUCT SENSOR HOUSING WITH CLEAR COVER TO MONITOR FOR THE PRESENCE OF SMOKE. INCLUDES FACTORY INSTALL TRUEALARM PHOTOELECTRIC SMOKE DETECTOR AND FEATURES:
- INDIVIDUAL SENSOR INFORMATION PROCESSED BY THE HOST CONTROL PANEL TO DETERMINE SENSOR STATUS
- DIGITAL TRANSMISSION OF ANALOG SENSOR VALUES VIA MAPNET II OR IDNET SLC 2-WIRE COMMUNICATIONS
- PROGRAMMABLE SENSITIVITY, CONSISTENT ACCURACY, ENVIRONMENTAL COMPENSATION, STATUS TESTING, AND MONITORING OF SENSOR DIRT ACCUMULATION

MODELS:
- DUCT SENSOR HOUSING WITH SUPERVISED OUTPUT FOR MULTIPLE REMOTE RELAYS, REQUIRES SEPARATE 24 VDC (RELAYS ARE UNDER PANEL CONTROL AND CAN BE ACTIVATED MANUALLY OR BY A SEPARATE ALARM/INPUT)

GENERAL FEATURES:
- UL LISTED TO STANDARD 268A
- CLEAR COVER ALLOWS VISUAL INSPECTION
- TEST PORTS PROVIDE FUNCTIONAL SMOKE TESTING ACCESS WITH COVER IN PLACE
- MOUNTS TO RECTANGULAR DUCTS OR ROUND DUCTS (MINIMUM SIZE 8" SQUARE OR 18" DIAMETER)
- MAGNETIC TEST FEATURE FOR ALARM INITIATION AT HOUSING
- OPTIONAL WEATHERPROOF ENCLOSURE IS AVAILABLE SEPARATELY (REFER TO DATA SHEET S4098-0032)

DIAGNOSTIC LEDS (ON INTERFACE BOARD):
- RED ALARM/TROUBLE LED FOR SENSOR STATUS AND COMMUNICATIONS POLLING DISPLAY
- YELLOW LED FOR OPEN OR SHORTED TROUBLE INDICATION OF SUPERVISED RELAY CONTROL

SAMPLING TUBES (ORDERED SEPARATELY):
- AVAILABLE IN MULTIPLE LENGTHS TO MATCH DUCT SIZE
- INSTALLED AND SERVICED WITH HOUSING IN PLACE

REMOTE MODULE OPTIONS (ORDERED SEPARATELY):
- RED STATUS/ALARM LED (2098-9808)
- TEST STATION WITH LED (2098-9806)
- RELAYS USED (4098-9843)

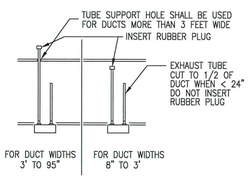
DUCT DETECTOR SELECTION CHART

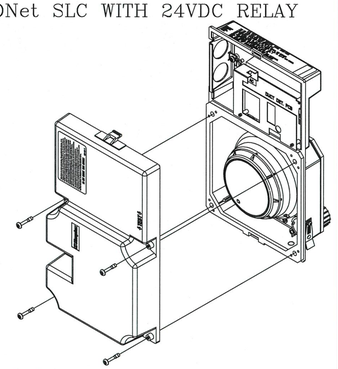
DUCT SMOKE SENSOR HOUSING WITH PHOTOELECTRIC SENSOR		
MODEL	DESCRIPTION	COMPATIBILITY
4098-9756	DUCT HOUSING WITH SUPERVISED MULTIPLE RELAY CONTROL FOR UP TO 15, 4098-9843 RELAYS (ORDERED SEPARATELY), REQUIRES SEPARATE 24 VDC FIRE ALARM POWER AND RELAY END-OF-LINE RESISTOR	SIMPLEX FIRE ALARM CONTROL MODELS 4008, 4010, 4020, 4100, AND 4120.
REMOTE LED INDICATOR AND TEST STATION, SELECT ONE IF REQUIRED		
MODEL	DESCRIPTION	MOUNTING
2098-9808	RED LED STATUS INDICATOR	USE SINGLE GANG BOX, 3" H X 2" W X 2" D (76 mm X 51 mm X 51 mm)
2098-9806	TEST STATION WITH KEYSWITCH AND RED LED STATUS (TURNING SWITCH TO TEST INITIATES ALARM FOR SYSTEM TESTING	



2098-9808 REMOTE STATUS/ALARM INDICATOR

2098-9806 TEST STATION





SPECIFICATIONS:

GENERAL SPECIFICATIONS	
AIR VELOCITY RANGE (LINEAR FT/MIN)	300 TO 4000 FT/min (91 TO 1220 m/min)
SENSOR SENSITIVITY RANGE	0.2% TO 3.7% PER FOOT OF OBSCURATION, SELECTABLE AT HOST CONTROL PANEL
UL LISTED TEMPERATURE RANGE	32° F TO 100° F (0° C TO 38° C)
OPERATING TEMPERATURE RANGE	32° F TO 122° F (0° C TO 50° C)
STORAGE TEMPERATURE RANGE	0° F TO 140° F (–18° C TO 60° C)
HUMIDITY RANGE	10% TO 95% RH, NON-CONDENSING
HOUSING COLOR	BLACK BASE WITH CLEAR COVER
WIRING CONNECTIONS	TERMINAL BLOCKS, 18 TO 12 AWG
REMOTE STATUS/ALARM LED AND TEST STATION WITH REMOTE STATUS/ALARM LED	
REMOTE ALARM LED CURRENT	1.2 mA, NO IMPACT TO ALARM CURRENT (2098-9808 OR 2098-9806)
TEST STATION KEYSWITCH CURRENT	3.3 mA, NO IMPACT TO ALARM CURRENT (2098-9806)
REMOTE ALARM LED AND TEST STATION DISTANCE	250 FT. (76m) MAXIMUM
ADDRESSABLE OPERATION	
DATA COMMUNICATIONS	MAPNET II OR IDNET SLC COMMUNICATION, AUTO-SELECT 1 ADDRESS PER HOUSING, PROVIDES OPERATING POWER TO MODEL 4098-9756
MODEL 4098-9756 WITH SUPERVISED MULTIPLE RELAY CONTROL, REQUIRES SEPARATE FUSED 24 VDC FROM FIRE ALARM POWER SUPPLY	
INPUT VOLTAGE	17–32 VDC (24 VDC NOMINAL)
STANDBY CURRENT	3 mA @ 24 VDC
ALARM CURRENT	15 mA @ 24 VDC, ADD 15 mA ADDITIONAL FOR EACH 4098-9843 RELAY
4098-9843 RELAY OUTPUT RATINGS, SINGLE FORM C	
COIL CURRENT	15 mA @ 24 VDC UP TO 15 MAX. PER RELAY CONTROL OUTPUT
RELAY CONTACTS, RESISTIVE RATINGS	7 A @ 28 VDC & 120 VAC; 250 uA @ 5 VDC
LOCATION DISTANCE	500 FT. (152m) MAX. TO RELAY COILS, RELAY MUST BE WITHIN 3 FT. (1m) OF DEVICE BEING CONTROLLED PER NFPA 72, SECTION 4-9.2.1

WIRING NOTES:
1. DUCT SENSOR WIRING IS 12 TO 18 AWG.
2. MAXIMUM QUANTITY OF DEVICES PER CIRCUIT IS 127 FOR 4020, 4100+, OR 4120, AND 250 FOR THE 4010 PANEL.
3. THE 2098-9806 AND 2098-9808 ARE POLARIZED, OBSERVE COLOR-CODED WIRING.
4. MAXIMUM WIRE LENGTH TO TEST TERMINALS AND REMOTE LED IS 250 FEET.
5. 4098-9843 PAM-SD RELAY (AIR PRODUCTS & CONTROL LIMITED) ARE RATED AT 7 AMPS 28 VDC/10 AMPS @ 115 VAC. MAXIMUM WIRE LENGTH TO PAM-SD RELAYS IS 500 FT. (15 PAM-SD RELAYS MAX.). WIRING FROM THE RELAY TO THE DEVICE IT IS CONTROLLING SHOULD BE NO MORE THAN 3 FT. (PER NFPA 72).

City of Aurora Building Division
Project: *The Medical Center of Aurora*
Address: *1501 E Potomac St, 3rd Floor Cardiac (North) Tower*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE IA-SPK*
RSN: *903124*
Permit: *2014-851219-LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *J. Van Essen*
Date: *Jun 06, 2014*
2009 INTERNATIONAL CODES & 2011 NEC
2007 NFPA 72
RSN: *903124*
Permit #: *2014-851219-LT*

NICET CERTIFICATION

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

NANCY S. WILTSIE — DATE 6/6/14

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DENVER, CO 80216
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PHONE: 303-355-0500
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MEDICAL CENTER OF AURORA
CARDIAC TOWER 3RD FLR REVISIONS

MEDICAL CENTER OF AURORA
CARDIAC TOWER
1501 SOUTH POTOMAC

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with △ symbol

DRAWN BY:	JMG
CHECKED BY:	NSW
ISSUE DATE:	6/3/14
JOB #:	
PROJECT #:	419:97834308
SIMPLEXGRINNELL ©	2014
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	WIRING TYPICALS

FA-701

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LAST PRINTED: 6/5/2014 11:27:58 AM
24" x 36" - Arch D Size

4090-9002 IDNet SLC, INDIVIDUAL ADDRESSABLE OUTPUT MODULE RELAY (AOM)

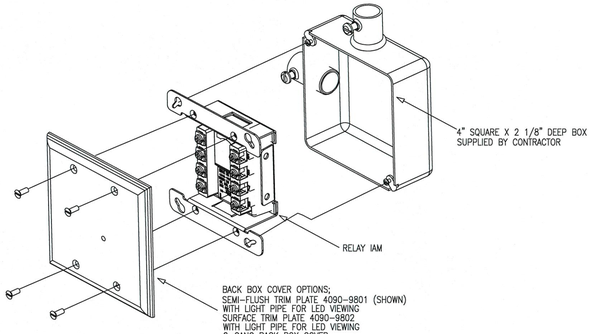
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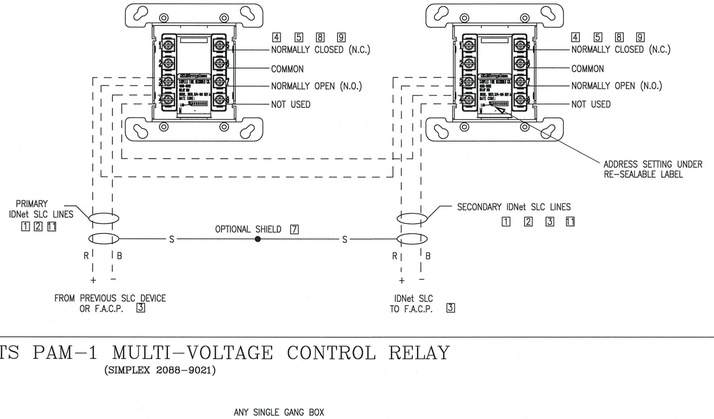
FEATURES:
- UL LISTED
- A SINGLE ADDRESSABLE POINT BOTH CONTROLS A 2A FORM "C" CONTACT AND TRACKS ITS STATUS
- COMPATIBLE WITH SIMPLEX MODEL 4010 AND 4100 ADDRESSABLE FIRE ALARM CONTROL PANEL
- LATCHING RELAY DESIGN ALLOWS DATA AND POWER TO BE BOTH SUPPLIED BY IDNet COMMUNICATIONS
- COMPACT, SEALED CONSTRUCTION:
  - SCREW TERMINALS FOR WIRING CONNECTIONS
  - REDUCES DUST INFILTRATION

SPECIFICATIONS:
- RELAY IAM POWER: SUPPLIED BY IDNet COMMUNICATIONS
- RELAY IAM CONTACTS (FORM "C", SPDT)
- POWER LIMITED RATING: 2A @ 24VDC, TRANSIENT SUPPRESSED LOADS, 1A @ 24VDC FOR INDUCTIVE LOADS
- NON POWER LIMITED RATING: 1/2A @ 24VAC, TRANSIENT SUPPRESSED LOADS, 1A @ 24 VDC FOR INDUCTIVE LOADS
- WIRE CONNECTIONS: SCREW TERMINALS FOR IN/OUT WIRING, #18 TO #14 AWG WIRE
- COMPATIBLE WITH SIMPLEX 2081-9044 OVER VOLTAGE PROTECTORS
- DIMENSIONS: 4 1/8"H x 4 1/8"W x 1 3/8"D (105mm x 105mm x 35mm)
- HOUSING MATERIAL: BLACK THERMOPLASTIC
- MOUNTING PLATE MATERIAL: SHEET METAL, GALVANIZED
- TEMPERATURE RANGE: 32° F TO 120° F (0° C TO 49° C) INTENDED FOR INDOOR OPERATION
- HUMIDITY RANGE UP TO 93% RH AT 100° F (38° C)

DESCRIPTION:
IDNet SLC RELAY MODULES ALLOW THE SIMPLEX FIRE ALARM CONTROL PANEL TO CONTROL A REMOTELY LOCATED FORM "C" CONTACT USING IDNet ADDRESSABLE COMMUNICATIONS FOR BOTH DATA AND 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.

WIRING NOTES:
1. IDNet LINES ARE TO BE #18 AWG TWISTED PAIR (CONSULT SC SALES ENGINEERING FOR EXCEPTIONS).
2. MAXIMUM ALLOWABLE LINE RUN, FROM THE F.A.C.P. TO THE FARTHEST DEVICE, NOT TO EXCEED 2500 FEET.
3. MAXIMUM QUANTITY OF DEVICES PER CIRCUIT: CONTROL PANEL MODULE DEPENDENT
4. CONTRACTOR WIRING TO RELAY CONTACTS IS UNSUPERVISED. USE #14 AWG WIRE TO LOCAL CODE.
5. RELAY CONTACTS RATED 2A, 24VDC (1A FOR INDUCTIVE LOAD) RELAY CONTACTS RATED 0.5A 120VAC (NON POWER LIMITED) FOR POWER-LIMITED OPERATION, POWER MUST BE PROVIDED FROM FACP OR POWER-LIMITED POWER SUPPLY LISTED FOR FIRE PROTECTIVE SIGNALING USE.
6. SEE INSTALLATION INSTRUCTIONS 574-184.
7. IF SHIELD IS PRESENT, CONNECT TO THE OUTGOING IDNet SHIELD TO PROVIDE A CONTINUOUS SHIELD OVER THE LENGTH OF THE IDNet CHANNEL. METHOD OF SPLICE DETERMINED BY AHJ.
8. WHEN CONNECTED TO A NON POWER-LIMITED SOURCE, THE WIRING MUST MAINTAIN A MINIMUM 1/4 INCH SEPARATION FROM IDNet WIRING.
9. WHEN USED WITH NON POWER-LIMITED SOURCE, THE "POWER LIMITED WIRING" INDICATION ON THE DEVICE LABEL MUST BE OBLITERATED.
10. WHEN BOTH POWER-LIMITED AND NON POWER-LIMITED SOURCES ARE PRESENT, USE TYPE FPL, FPLR OR FPLP POWER LIMITED CABLE FOR POWER-LIMITED CIRCUITS.
11. MAXIMUM TOTAL WIRE (INCLUDING ALL T-TAPS) ON CIRCUIT, FROM THE F.A.C.P. NOT TO EXCEED 10,000 FEET OR .58uF. (CLASS B ONLY)
12. REFER TO FIELD WIRING DIAGRAM 842-073





DH24120FPC MAGNETIC DOOR HOLDER

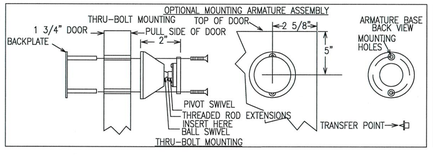
PRODUCT INFORMATION

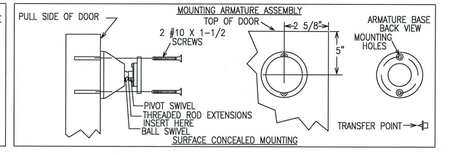
FEATURES:
- UL LISTED
- CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS: DH24120FPC DOOR HOLDERS 3550-1039:0100
- MOUNTING: WALL, SEMI-FLUSH
- FINISH: POWDERCOAT CHROME

SPECIFICATIONS:
- VOLTAGE: OPERATES WITH 24 VDC, 24 VAC, OR 120 VAC
- CURRENT: 20 mA

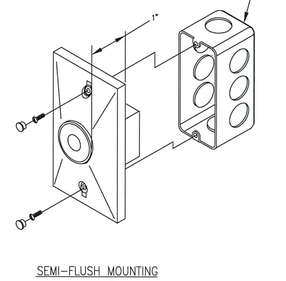
DESCRIPTION:
DH24120FPC MAGNETIC DOOR HOLDERS HAVE A MINIMUM HOLDING FORCE OF 40 LBS. UNDER NORMAL CONDITIONS, THE ELECTROMAGNET IS ENERGIZED TO HOLD OPEN THE DOOR. IN THE EVENT OF A FIRE, THE SIMPLEX FIRE ALARM CONTROL PANEL, OR AN APPROVED PERIPHERAL APPLIANCE, WILL AUTOMATICALLY INTERRUPT THE VOLTAGE TO THE DOOR HOLDER RELEASING THE DOOR TO PREVENT THE SPREAD OF SMOKE. DOORS MAY BE MANUALLY OPENED WHEN THE DOOR HOLDER IS ENERGIZED.

WIRING:
- ALL WIRING TO COMPLY WITH LOCAL CODE.
- MAINTAIN CORRECT POLARITY
- CONDUCTORS MUST TEST FREE OF ALL GROUNDS.

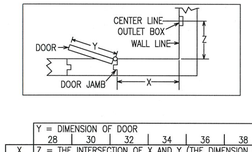




MOUNTING ARMATURE INSTRUCTIONS
1. WITH DOOR MAGNET SECURELY FASTENED, ALIGNED AND ENERGIZED, PROCEED WITH SWIVEL BASE ASSEMBLY.
2. ATTACH SWIVEL PORTION OF MAGNET, BEING CAREFUL TO CENTER CATCH PLATE OVER MAGNET.
3. WITH CATCH PLATE ASSEMBLY ATTACHED MAGNETICALLY TO DOOR MAGNET, PEEL ADHESIVE BACKING OFF MOUNTING TEMPLATE AND SLIDE OVER CATCH PLATE, MAKING SURE ADHESIVE SIDE FACES DOOR.
4. GENTLY CLOSE DOOR AND WITH ONE HAND ADJUST BASE OF CATCH PLATE TO LIE FLAT AGAINST DOOR.
5. WHILE KEEPING SLIGHT PRESSURE ON DOOR, SLIDE MOUNTING TEMPLATE OVER CATCH PLATE TO DOOR SURFACE AND APPLY PRESSURE TO TEMPLATE IN A FEW SPOTS.
6. OPENING DOOR WILL REVEAL MOUNTING TEMPLATE. APPLY FINAL PRESSURE TO INSURE TEMPLATE DOES NOT FALL OFF WHILE ASSEMBLY TAKES PLACE.
7. INSERT ALIGNMENT TEMPLATE INTO CENTER OF MOUNTING TEMPLATE. USE TAB TO ROTATE FOR FINE ADJUSTMENT. WHILE HOLDING ALIGNMENT TEMPLATE WITH ONE HAND, REMOVE ADHESIVE BACKING OF TAB, THEN PUSH FLAT AGAINST DOOR.
8. IF USING OPTIONAL DOOR BACK PLATE, CENTER PUNCH POINTS INDICATED ON ALIGNMENT TEMPLATE FOR EITHER HORIZONTAL OR VERTICAL MOUNTING. FOR BEST RESULTS DRILL 1/8" PILOT HOLE FIRST, THEN FOLLOW WITH 5/16" DIA. DRILL, DRILL STRAIGHT THROUGH DOOR.
9. IF MOUNTING CATCH PLATE ASSEMBLY DIRECTLY TO DOOR, DRILL 1/8" DIA PILOT HOLE APPROXIMATELY 1 TO 1 1/2" DEEP, BEING CAREFUL NOT TO GO THROUGH DOOR.
10. FOR EITHER STYLE OF MOUNTING (THRU DOOR/DIRECT) REMOVE ONLY ALIGNMENT TEMPLATE, THEN PLACE SWIVEL IN CENTER ALIGN HOLES, THEN INSERT SCREWS AND TIGHTEN ASSEMBLY FULLY. LASTLY, REMOVE MOUNTING TEMPLATE.



SEMI-FLUSH MOUNTING

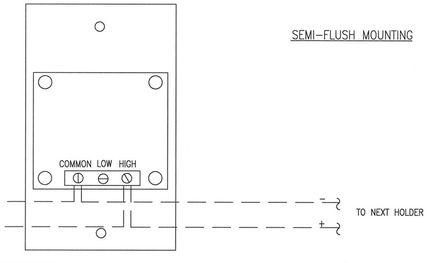


TO LOCATE AND MOUNT OUTLET BOX

	Y = DIMENSION OF DOOR											
	28	30	32	34	36	38	40	42	44	46	48	
X	Z = THE INTERSECTION OF X AND Y (THE DIMENSION BETWEEN WALL AND OUTLET BOX)											
2	26	28	29-7/8	32	34	36	38	40	42	43-7/8	45-5/8	
4	26	28	29-7/8	32	34	36	38	40	42	43-7/8	45-5/8	
6	25-7/8	27-5/8	29-5/8	31-3/4	33-3/4	35-3/4	37-3/4	39-3/4	41-3/4	43-5/8	45-3/8	
8	25-1/4	27-1/4	29-1/4	31-3/8	33-1/2	35-1/2	37-3/8	39-1/2	41-1/2	43-3/8	45-1/4	
10	24-5/8	26-3/4	28-3/4	30-7/8	33	35	37	39-1/8	41-1/8	43	44-7/8	
12	23-3/4	25-7/8	28	30-1/8	32-1/4	34-3/8	36-3/8	38-1/2	40-5/8	42-1/2	44-3/8	
14	23-3/4	25	27-1/4	29-3/8	31-1/2	33-3/4	35-7/8	38	40	42	43-7/8	
16	21-3/4	24	26-1/4	28-1/2	30-3/4	33	35-1/8	37-1/4	39-3/8	41-3/8	43-3/8	
18	20	22-1/2	25	27-3/8	29-3/4	32	34-1/4	36-1/2	38-5/8	40-5/8	42-1/2	
20	18-1/4	21	23-1/2	26	28-1/2	30-7/8	33-1/8	35-1/2	37-5/8	39-5/8	41-5/8	
22		18-3/4	21-5/8	24-3/8	27	29-3/8	31-3/4	34-1/8	36-1/2	38-5/8	40-3/4	
24				22-1/2	25-1/2	28-1/8	30-5/8	33-1/8	35-5/8	37-7/8	40	
26						26-1/4	29	31-5/8	34-1/4	36-1/2	38-5/8	
28								29-3/4	32-1/2	34-7/8	37-1/8	
30								27-3/4	30-5/8	33	35-3/8	
32										31-3/8	33-7/8	

X = DIMENSION OF DOOR JAMB TO WALL

1. REFER TO DRAWING & CHART TO LOCATE OUTLET BOX.
2. INSTALL THE OUTLET BOX ON THE HORIZONTAL CENTER LINE "Y" FROM TOP OF DOOR.

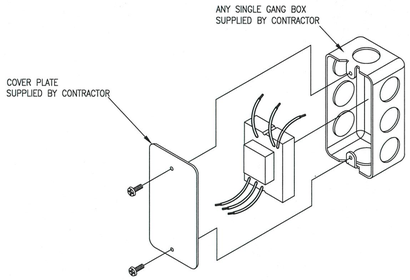


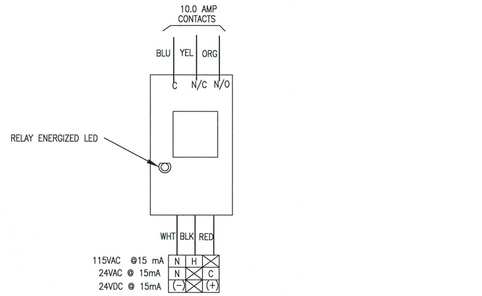
AIR PRODUCTS PAM-1 MULTI-VOLTAGE CONTROL RELAY

(SIMPLEX 2088-9021)

SPECIFICATIONS:
- POWER REQUIREMENTS: 15 mA PER POSITION @ 24 VDC, 24VAC, 115 VAC
- RELAY: U.L. RECOGNIZED SPDT
- CONTACT RATING: 10 AMPS @ 115VAC
- AMBIENT TEMPERATURE: -58° F TO 185 °F (-50°C TO 85°C)
- APPROVALS: U.L. RECOGNIZED COMPONENTS
- DIMENSIONS: 1-1/2"H X 1" W X 7/8" D (38.1mm H X 25.4mm W X 22.225mm D)
- 6" 18 AWG WIRE LEADS

WIRING:
- ALL WIRING TO COMPLY WITH LOCAL CODE.
- MAINTAIN CORRECT POLARITY
- CONDUCTORS MUST TEST FREE OF ALL GROUNDS.





City of Aurora Building Division
Project: *The Medical Center of Aurora*
Address: *1501 E Potomac St, 3rd Floor Cardiac (North) Tower*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE IA-SPK*
RSN: *903124*
Permit: *2014-851219-LT*

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *J. Van Essen*
Date: *Jun 06, 2014*
2009 INTERNATIONAL CODES & 2011 NEC
2007 NFPA 72
RSN: *903124*
Permit #: *2014-851219-LT*

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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FAX: 303.355.9615

MEDICAL CENTER OF AURORA CARDIAC TOWER 3RD FLR REVISIONS

MEDICAL CENTER OF AURORA
CARDIAC TOWER
1501 SOUTH POTOMAC

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

DRAWN BY:	JMG
CHECKED BY:	NSW
ISSUE DATE:	6/3/14
JOB #:	
PROJECT #:	419:978343308
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SYSTEM: FIRE ALARM SYSTEM

SHEET: WIRING TYPICALS

FA-702

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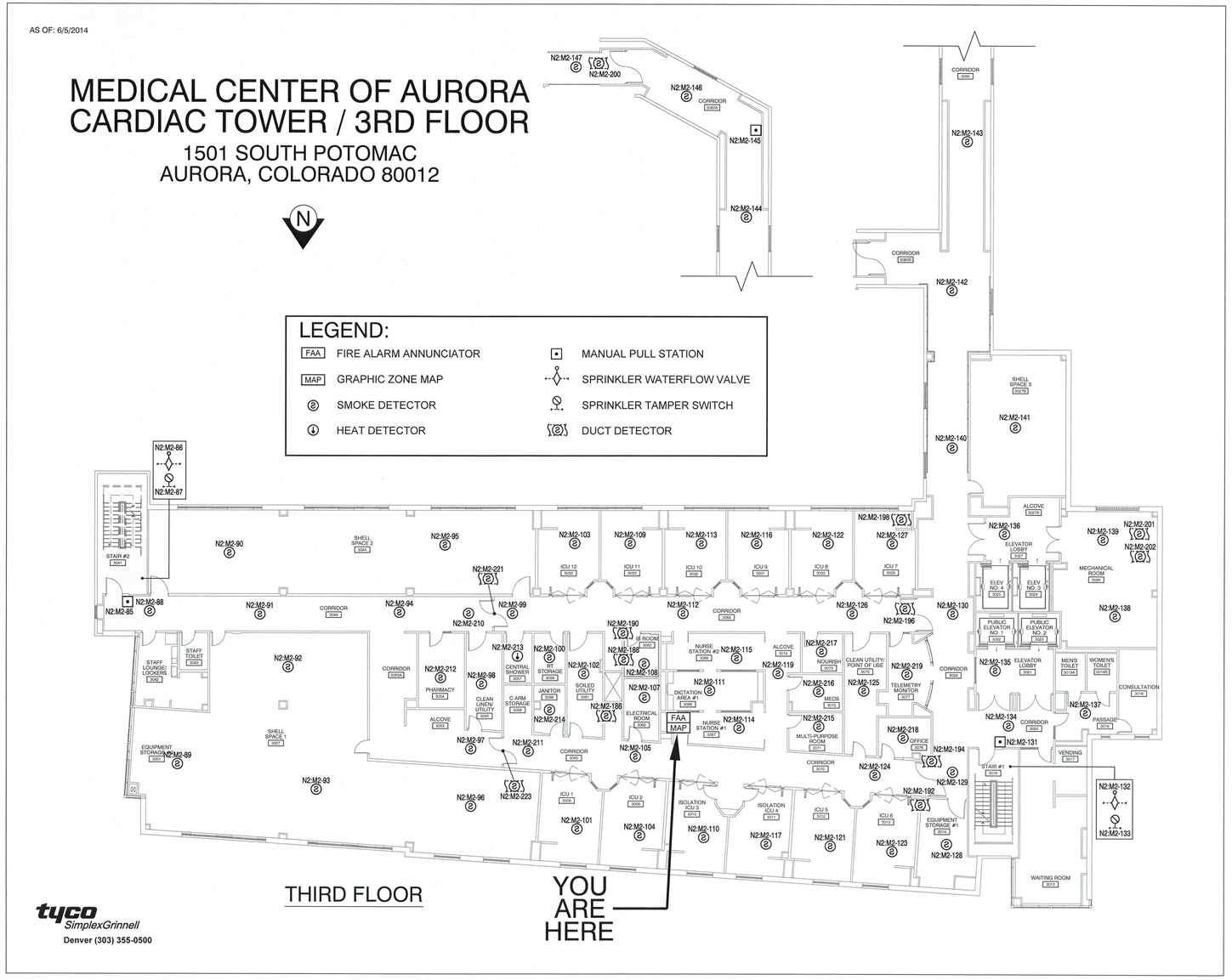
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24" x 36" - Arch D Size

City of Aurora Building Division
Project: *The Medical Center of Aurora*
Address: *1501 E Potomac St, 3rd Floor Cardiac (North) Tower*
Occupancy Group: *IBC I-2*
Construction Type: *IBC TYPE IA-SPK*
RSN: *903124*
Permit: *2014-851219-LT*

AS OF: 6/5/2014

MEDICAL CENTER OF AURORA
CARDIAC TOWER / 3RD FLOOR

1501 SOUTH POTOMAC
AURORA, COLORADO 80012



THIRD FLOOR

tyco SimplexGrinnell
Denver (303) 355-0500

NOTE:
GRAPHIC MAP WILL BE FIELD VERIFIED
PRIOR TO FINAL CONSTRUCTION

PRELIMINARY GRAPHIC MAP
ACTUAL SIZE: 16" x 20"

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *J. Van Essen*
Date: *Jun 06, 2014*
2009 INTERNATIONAL CODES & 2011 NEC
2007 NFPA 72
RSN: *903124*
Permit #: *2014-851219-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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6240 SMITH ROAD
DENVER, CO. 80216
SERVICE: 303-355-0600
PHONE: 303-355-0500
FAX: 303-355-3615

MEDICAL CENTER OF AURORA
CARDIAC TOWER 3RD FLR REVISIONS

MEDICAL CENTER OF AURORA
CARDIAC TOWER
1501 SOUTH POTOMAC

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with △ symbol

DRAWN BY:	JMG
CHECKED BY:	NSW
ISSUE DATE:	6/3/14
JOB #:	
PROJECT #:	419:978343308
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SYSTEM: FIRE ALARM SYSTEM

SHEET: GRAPHIC MAP

FA-801

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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: 2014-851219-LT

Business/Building Name: The Medical Center of Aurora Address of Project: 1501 E Potomac St, 3rd Floor Cardiac (North) Tower

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
			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 #: 2014-851219-LT Date: _____

	Property Protected	System Installer	System Supplier
Business Name:	The Medical Center of Aurora		
Address:	1501 E Potomac St, 3rd 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: ***903124***
Permit #: ***2014-851219-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
Cardiac Tower 3rd Floor Revisions
1501 South Potomac
Aurora, Colorado 80012

City of Aurora Building Division
Project: ***The Medical Center of Aurora***
Address: ***1501 E Potomac St, 3rd Floor Cardiac (North) Tower***
Occupancy Group: ***IBC I-2***
Construction Type: ***IBC TYPE IA-SPK***
RSN: ***903124***
Permit: ***2014-851219-LT***

Prepared for:

MC2 Electrical Contractors
88 Lipan Street
Denver, Colorado 80223

RSN: ***903124***
Permit #: ***2014-851219-LT***

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

PROJECT:	Medical Center of aurora Cardiac Tower 3rd Floor Revisions
PREPARED FOR:	*MC2 Electrical Contractors*

TYPE:	***DESCRIPTION:***
4098-9714	PHOTO SENSOR
4098-9733	HEAT SENSOR
4098-9792	SENSOR BASE
4098-9756	DUCT SENSOR HOUSING-4-WIRE
4098-9855	SAMPLING TUBE 24", PLASTIC
2098-9806	REMOTE TEST STATION
4090-9002	RELAY IAM
2088-9021	ENCAPSULATED RELAY PAM-1
DH24120FPC	DR HLDR, SEMI-FLUSH, CHRM

RSN: *903124*
Permit #: *2014-851219-LT*

Simplex®

True*Alarm* Analog Sensing

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

TrueAlarm Analog Sensors – Photoelectric and Heat; Standard Bases and Accessories

Features

TrueAlarm analog sensing provides:

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

For use with the following Simplex® products:

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

Fire alarm control panel provides:

- Peak value logging allowing accurate analysis of each sensor for individual sensitivity selection
- Sensitivity monitoring satisfying 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 per foot
- Ability to display and print detailed sensor information in plain English language

Photoelectric smoke sensors provide:

- Seven levels of sensitivity from 0.2% to 3.7% (refer to additional information on page 3)

Heat sensors provide:

- Fixed temperature sensing
- Rate-of-rise temperature sensing
- Utility temperature sensing
- Listed to UL 521 and ULC-S530

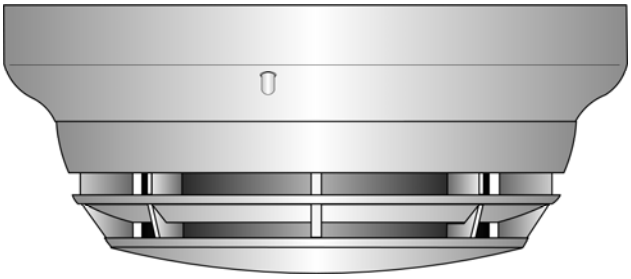
General features:

- Listed to UL 268 and ULC-S529
- 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 test feature is provided
- Different bases are available to support a supervised or unsupervised output relay, and/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)

* 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. 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.



4098-9714 TrueAlarm Photoelectric Sensor Mounted in Base

Description

Digital Communication of Analog Sensing. TrueAlarm analog sensors provide an analog measurement digitally communicated to the host control panel using Simplex addressable communications. At the control panel, the data is analyzed and an average value is determined and stored. An alarm or other abnormal condition is determined by comparing the sensor's present value against its average value and time.

Intelligent Data Evaluation. Monitoring each sensor's average value provides a continuously shifting reference point. This software filtering process compensates for environmental factors (dust, dirt, etc.) and component aging, providing an accurate reference for evaluating new activity. With this filtering, there is a significant reduction in the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

Control Panel Selection. Peak activity per sensor is stored to assist in evaluating specific locations. The alarm set point for each TrueAlarm sensor is determined at the host control panel, selectable as more or less sensitive as the individual application requires.

Timed/Multi-Stage Selection. Sensor alarm set points can be programmed for timed automatic sensitivity selection (such as more sensitive at night, less sensitive during day). Control panel programming can also provide multi-stage operation per sensor. For example, a 0.2% level may cause a warning to prompt investigation while a 2.5% level may initiate an alarm.

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

RSN: *903124*
Permit #: *2014-851219-LT*

True*Alarm* 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

Sensor Bases

4098-9792, Standard Sensor Base

4098-9789, Sensor Base with wired connections for:

- 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 panel
- 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 @ 28 VDC; non-power limited rating of 3 A @ 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 @ 30 VDC, resistive; non-power limited rating of 0.5 A @ 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 @ 28 VDC; non-power limited rating of 1/2 A @ 120 VAC, (requires external 24 VDC coil power)

4098-9832, Adapter plate:

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

2098-9808, Remote red LED Alarm Indicator:

- Mounts on single gang box (shown in illustration to right)



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 panel every four seconds.

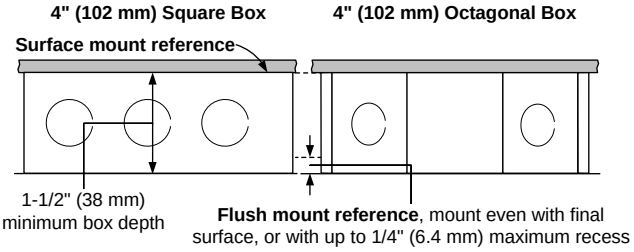
Since TrueAlarm sensors use the same base, different sensor types can be easily interchanged to meet specific location requirements. This feature also allows intentional sensor substitution during building construction. When conditions are temporarily dusty, instead of covering the smoke sensors (causing them to be disabled), heat sensors may be installed without reprogramming the control panel. Although the control panel will indicate an incorrect sensor type, the heat sensor will operate at a default sensitivity providing heat detection for building protection at that location.

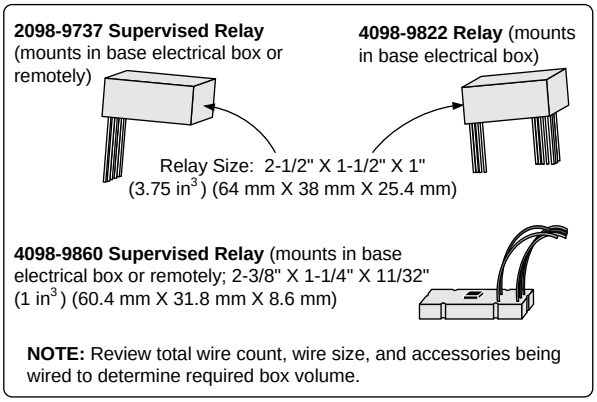
Mounting Reference

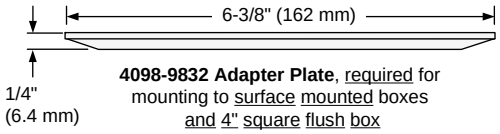
Electrical Box Requirements: (boxes are by others)

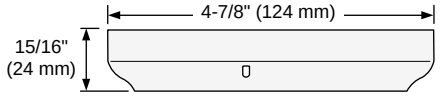
Without relay in the box: 4" octagonal or 4" square, 1-1/2" deep; single gang, 2" deep

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









TrueAlarm Bases
4098-9780, 4098-9789, 4098-9791, & 4098-9792

RSN: *903124*
Permit #: *2014-851219-LT*

True*Alarm* 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 & ULC Spacing	FM Spacing, Either Fixed Temperature Setting
135° F (57.2° 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**

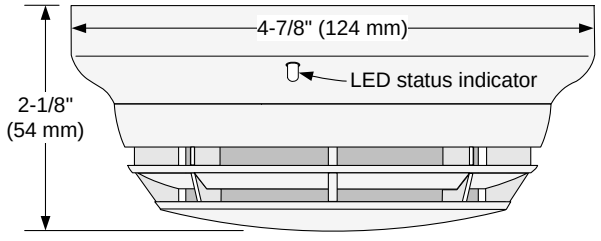
Smoke Sensors:

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

4098-9714 Photoelectric Sensor

TrueAlarm photoelectric sensors use a stable, pulsed infrared LED light source and a silicon photodiode receiver to provide consistent and accurate low power smoke sensing. Seven levels of sensitivity are available for each individual sensor, ranging from 0.2% to 3.7% per foot of smoke obscuration. Sensitivities of 0.2%, 0.5%, and 1% are for special applications in clean areas. Standard sensitivities are 1.5%, 2.0%, 2.5%, 3.0%, and 3.7%. Application type and sensitivity are selected and then monitored at the fire alarm control panel.*

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.



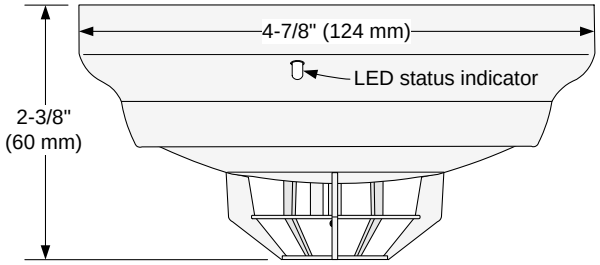
4098-9714 Photoelectric Sensor with Base

4098-9733 Heat Sensor

TrueAlarm heat sensors are self-restoring and provide rate compensated, fixed temperature sensing, selectable 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 panel.

Rate-of-rise temperature detection is selectable at the control panel for either 15° F (8.3° C) or 20° F (11.1° C) per minute. Fixed temperature sensing is independent of rate-of-rise sensing and programmable to operate at 135° F (57.2° C) or 155° F (68° C). In a slow 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.

TrueAlarm heat sensors can be programmed as a utility device to monitor for temperature extremes in the range from 32° F to 155° F (0° C to 68° C). This feature can provide freeze warnings or alert to HVAC system problems. *Refer to specific panels for availability.*



4098-9733 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, smoke sensor spacing of 30 ft (9.1 m) may 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

TrueAlarm Sensor Bases (for use with Sensors 4098-9714 and 4098-9733)

(Refer to Application Manual 574-709 and Installation Instructions 574-707 for additional information)

Model	Description	Compatibility	Mounting Requirements
4098-9792	Standard Sensor Base	No options	4" octagonal or 4" square box, 1-1/2" min. depth; or single gang box, 2" min. depth
4098-9789	Sensor Base with connections for Remote LED Alarm Indicator **or** Unsupervised Relay	2098-9808 Remote Alarm Indicator **or** 4098-9822 Unsupervised Relay	4" octagonal or 4" square box **Note:** Box depth requirements depend on total wire count and wire size, refer to accessories list below for reference. ** **NOTE:** 4098-9791 and 4098-9780 are NOT compatible with the 2120 CDT
4098-9791**	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**	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	

TrueAlarm Sensors

Model	Description	Compatibility	Mounting Requirements
4098-9714	Photoelectric Smoke Sensor	Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Refer to base requirements
4098-9733	Heat Sensor		

TrueAlarm Sensor/Base Accessories

Model	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" octagonal or 4" square box, 1-1/2" minimum depth **Base Mounting** requires 4" octagonal box, 2-1/8" deep with 1-1/2" 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" 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" octagonal box, 2-1/8" deep with 1-1/2" extension ring
4098-9832	Adapter Plate	Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	**Required** for surface or semi-flush mounted 4" square box and for surface mounted 4" octagonal box

Specifications

General Operating Specifications		
Communications and Sensor Supervisory Power		MAPNET II or IDNet, auto-select, 24-40 VDC w/data, 400 μA typical, 1 address per 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° to 100° F (0° to 38° C)
Operating Temperature Range	with 4098-9733 Heat Sensor	32° to 122° F (0° to 50° C)
	with 4098-9714 Smoke Sensor	15° to 122° F (-9° to 50° 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		0-4000 ft/min (0-1220 m/min)
Housing Color		Frost White
4098-9791 Base With Supervised Remote Relay 2098-9737 (see page 2 for contact ratings)		
Externally Supplied Relay Coil Voltage		18-32 VDC (nominal 24 VDC)
Supervisory Current		270 μA, from 24 VDC supply
Alarm Current with 2098-9737 Relay		28 mA, from 24 VDC supply
4098-9780 Base With Supervised Remote Relay 4098-9860 (see page 2 for contact ratings)		
Power		Supplied from communications
4098-9822 Unsupervised Relay, Requirements for Bases 4098-9789. 4098-9791, and 4098-9780 (see page 2 for contact ratings)		
Externally Supplied Relay Coil Voltage		18-32 VDC (nominal 24 VDC)
Supervisory Current		Supplied from communications
Alarm Current		13 mA from separate 24 VDC supply

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RSN: *903124*
Permit #: *2014-851219-LT*

Simplex®

True*Alarm* Analog Sensing

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

Addressable Duct Sensor Housings with TrueAlarm Photoelectric Sensor; Available with Multiple Relay Control

Features

Compact air duct sensor housing with clear cover to monitor for the presence of smoke**

Includes factory installed TrueAlarm photoelectric smoke sensor and features:

- Individual sensor information processed by the host control panel to determine sensor status
- Digital transmission of analog sensor values via IDNet or MAPNET II, 2-wire communications
- Programmable sensitivity, consistent accuracy, environmental compensation, status testing, and monitoring of sensor dirt accumulation

Model 4098-9755:

- Basic duct sensor housing (no relay output) powered by IDNet/MAPNET II communications

Model 4098-9756:

- Duct sensor housing with supervised output for multiple remote relays; requires separate 24 VDC; includes one relay
- Relay output is under panel control
- At the panel, relay output can be activated manually or in response to a separate alarm or other input

General features:

- UL listed to Standard 268A
- Clear cover allows visual inspection
- Test ports provide functional smoke testing access with cover in place
- Mounts to rectangular ducts or round ducts; minimum size is 8" (203 mm) square or 18" (457 mm) diameter
- Magnetic test feature for alarm initiation at housing
- Optional weatherproof enclosure is available separately (refer to data sheet S4098-0032)

Diagnostic LEDs (on interface board):

- Red Alarm/Trouble LED for sensor status and communications polling display
- Yellow LED for open or shorted trouble indication of supervised relay control (4098-9756 only)

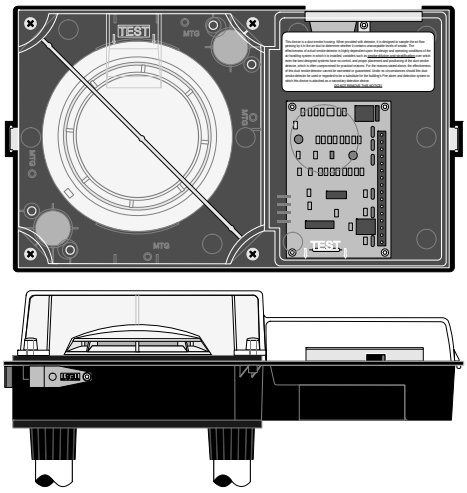
Sampling tubes (ordered separately):

- Available in multiple lengths to match duct size
- Installed and serviced with housing in place

Remote module options (ordered separately):

- Remote red status/alarm LED (2098-9808)
- Remote test station with LED (2098-9806)
- 4098-9843 remote relays (refer to page 2 for details)

* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 3240-0026.241 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. 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.



Duct Sensor Housing, Front and Bottom View



2098-9808



2098-9806

Remote Status/Alarm Indicator and Test Station

Introduction

Operation. Simplex® compact air duct smoke sensor housings provide TrueAlarm operation for the detection of smoke in air conditioning or ventilating ducts. Sampling tubes are installed into the duct allowing air to be directed to the smoke sensor mounted in the housing.

TrueAlarm Sensor Operation

Digital Communication of Analog Sensing. Analog information from the sensor is digitally communicated to the control panel where it is analyzed. Sensor input is stored and tracked as an average value with an alarm or abnormal condition being determined by comparing the sensor's present value against its average.

Intelligent Data Evaluation. Monitoring each photoelectric sensor's average value provides a software filtering process that compensates for environmental factors (dust, dirt, etc.) and component aging, providing an accurate reference for evaluating new activity. The result is a significant reduction in the probability of false or nuisance alarms caused by shifts in sensitivity, either up or down.

** Please note that smoke detection in air ducts is intended to provide notification of the presence of smoke *in the duct*. It is not intended to, and will not, replace smoke detection requirements for open areas or other non-duct applications.

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TrueAlarm Sensor Operation *(Continued)*

Control Panel Selection. Peak activity per sensor is stored to assist in evaluating specific locations. The alarm set point for each sensor is determined at the control panel, selectable as the individual application requires.

Sensor Status LED. Each sensor housing's red status LED (located on the electrical interface board) pulses to indicate communications with the panel. If the control panel determines that a sensor is in alarm, or that it is dirty or has some other type of trouble, the details are annunciated at the control panel and that sensor housing's status LED will be turned on steadily. During a system alarm, the control panel will control the LEDs such that an LED indicating a trouble will return to pulsing to help identify any alarmed sensors. (Remote Status/Alarm LEDs track the operation of the sensor housing LED.)

Photoelectric Sensing

TrueAlarm photoelectric sensors use a stable, pulsed infrared LED light source and a silicon photodiode receiver to provide consistent and accurate low power smoke sensing.

Photoelectric Sensing *(Continued)*

Typically duct sensor applications require less sensitive settings (such as 2.5% per foot obscuration) due to the ducts being a relative dirty environment. However, the standard seven levels of TrueAlarm sensor sensitivity are available for each individual sensor, ranging from 0.2% to 3.7% per foot of smoke obscuration. Sensitivity is selected and monitored at the fire alarm control panel.

Fire Alarm Control Panel Features

- Individual smoke sensitivity selection
- Sensitivity monitoring that satisfies NFPA 72 sensitivity testing requirements
- Peak value logging allows accurate analysis for sensitivity selection
- Automatic, once per minute individual sensor calibration check verifies sensor integrity
- Automatic environmental compensation
- Smoke sensitivity is displayed in percent per foot
- Ability to display and print detailed sensor information in plain English language
- Relays of model 4098-9756 are under panel control for ON, OFF, or override

Duct Sensor Selection Chart

Duct Smoke Sensor Housing with Photoelectric Sensor*

Model	Description	Compatibility
4098-9755	Basic Duct Sensor Housing; operating power is supplied by either IDNet or MAPNET II communications (no relay output)	Simplex fire alarm control panel models: 4100ES, 4010ES, 4008, 4010, 4100U, and legacy products 4020, 4100/4100+, and 4120. Also 2120 CDT if configured for MAPNET II, TrueAlarm operation
4098-9756	Duct Sensor Housing with supervised multiple relay output, requires separate 24 VDC fire alarm power and 4081-9008 end-of-line resistor harness; includes one 4098-9843 relay	Same as above except relay operation is not compatible with 2120 CDT; Relay output is for up to 15 total 4098-9843 Relays (additional relays are ordered separately)

Remote LED Indicator and Test Station, Select One if Required

Model	Description	Compatibility	Mounting
2098-9808	Red LED status indicator on single-gang stainless steel plate	4098-9755 4098-9756	Use single gang box, 3" H x 2" W x 2" D (76 mm x 51 mm x 51 mm)
2098-9806	Test Station with keyswitch and red LED status indicator, on single-gang stainless steel plate; (turning switch to "TEST" initiates alarm for system testing)		

Epoxy Encapsulated Remote Relay and End-of-Line Resistor

Model	Description	Compatibility	Location
4098-9843	Relay; single Form C (7 A @ 120 VAC); refer to pages 3 and 4 for additional relay information; one included with 4098-9756; wiring is 18 AWG (0.82 mm^2) color coded wire leads	4098-9756 only; connect up to 15	Locate relays within 3 ft (1 m) of device being controlled per NFPA 72
4081-9008	End-of-Line Resistor Harness; 10 kΩ, 1/2 W; (ref. 733-894); required to supervise remote relay coil connection	4098-9756	At last relay location

* Each duct housing includes an internally mounted model 4098-9714 TrueAlarm photoelectric sensor and an exhaust tube. A correctly sized sampling tube (ordered per application) is required, refer to chart below.

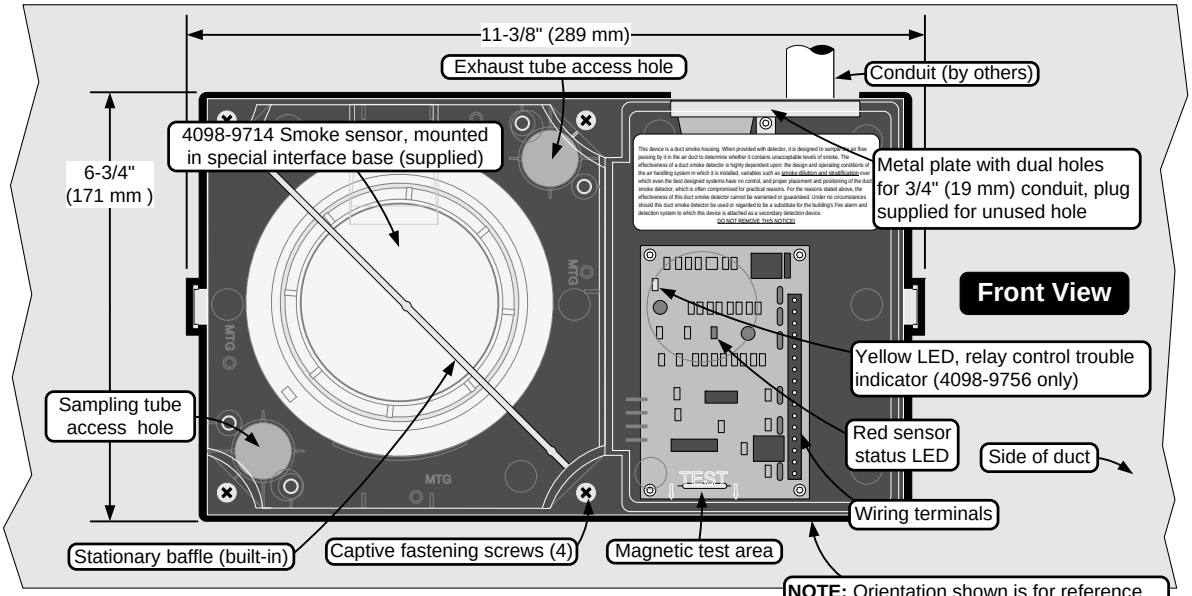
Sampling Tube Selection Chart, Ordered Separately Per Duct Width, Select One

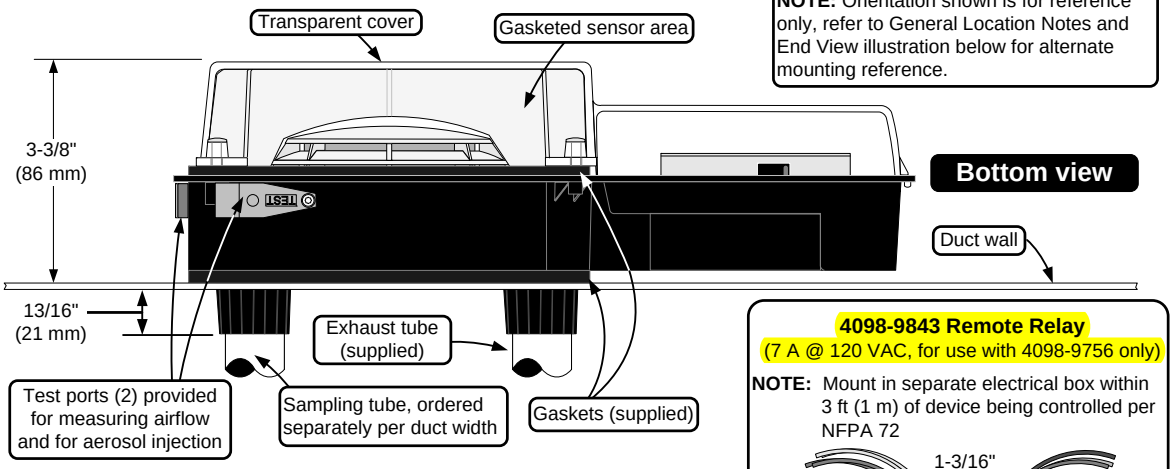
Overall Duct Width	Tube Required	Suggested Cut Length
12" (305 mm)	**4098-9854**	1/2" (12.7 mm) longer than duct width
13" to 23" (330 mm to 584 mm)	**4098-9855**	1/2" (12.7 mm) longer than duct width
24" to 46" (610 mm to 1168 mm)	**4098-9856**	3 in" (76 mm) longer than duct width
46" to 71" (1168 mm to 1803 mm)	**4098-9857**	3 in" (76 mm) longer than duct width
71" to 95" (1803 mm to 2413 mm)	**4098-9858**	3 in" (76 mm) longer than duct width

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Duct Sensor Housing Detail Reference

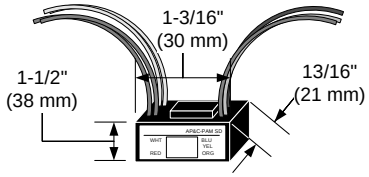
NOTE: Refer to Installation Instructions 574-776 for additional installation detail and maintenance information.

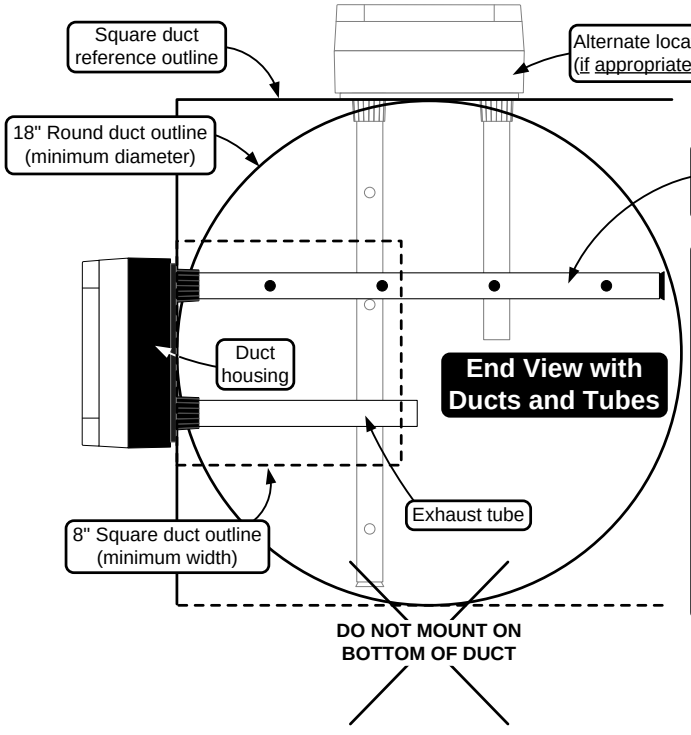




4098-9843 Remote Relay
(7 A @ 120 VAC, for use with 4098-9756 only)

NOTE: Mount in separate electrical box within 3 ft (1 m) of device being controlled per NFPA 72

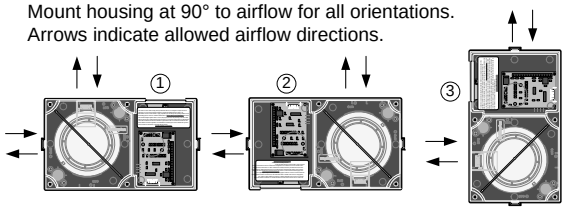




Sampling tube, keyed for proper hole alignment **with holes facing into airflow** (template is provided for proper tube installation). (Housing is shown as position 2 per note 2 below.)

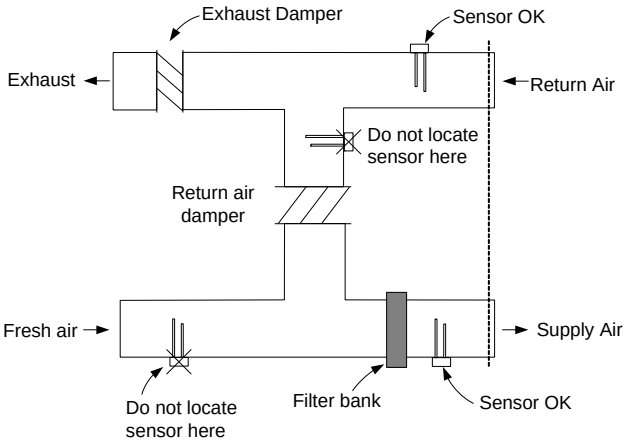
General Location Notes:

1. Testing performed under the auspices of the Fire Detection Institute (FDI) recommended when sampling tubes are not located vertically, that they be positioned horizontally in the upper half of the duct to account for possible stratification.
2. Three duct side mounting options are available as shown below. Mount housing at 90° to airflow for all orientations. Arrows indicate allowed airflow directions.



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Duct Sensor Location Reference



Additional Information. Refer to NFPA 90A, *Standard for the Installation of Air Conditioning and Ventilating Systems*; NFPA 72, the *National Fire Alarm and Signaling Code*; and the *NEMA Guide for Proper Use of Smoke Detectors in Duct Applications*, and Installation Instructions 574-776.

Duct Sensor Location Considerations:

1. Proper duct smoke detection location must ensure adequate airflow within the duct housing.
2. Duct air velocity rating is 300 to 4000 ft/min (91 to 1220 m/min). Pressure differential between intake and exhaust tubes is required to be between 0.015 to 1.55 inches of water (0.381 to 39.37 mm).
3. Ensure accessibility for test and service.
4. Proper Locations: downstream side of filters to detect fires in the filters; in return ducts, ahead of mixing areas; upstream of air humidifier and cooling coil.
5. Other locations and orientations may be required for proper duct smoke detection depending on duct access, system design, and duct airflow testing. Contact your local Simplex product supplier for assistance.

Locations to Avoid:

1. Where dampers closed for comfort control would interfere with airflow.
2. Next to outside air inlets (unless the intent is to monitor smoke entry from that area).
3. In return air damper branch ducts and mixing areas where airflow may be restricted.

Specifications

General Mechanical and Environmental	
Air Velocity Range (linear ft/min)	300 to 4000 ft/min (91 to 1220 m/min)
Sensor Sensitivity Range	0.2% to 3.7% per foot of obscuration, selectable at host control panel
UL Listed Temperature Range	32° F to 100° F (0° C to 38° C)
Operating Temperature Range	32° F to 122° F (0° C to 50° C)
Storage Temperature Range	0° F to 140° F (-18° C to 60° C)
Humidity Range	10% to 95% RH, non-condensing
Wiring Connections	Terminal blocks, 18 to 12 AWG (0.82 mm^2 to 3.31 mm^2)
Housing Color	Black base with clear cover
Remote Status/Alarm LED and Test Station with Remote Status/Alarm LED	
Remote Alarm LED Current	1.2 mA, no impact to 24 VDC alarm current (2098-9808 or 2098-9806)
Test Station Keyswitch Current	3.3 mA, no impact to 24 VDC alarm current (2098-9806)
Remote Alarm LED and Test Station Distance	250 ft (76 m) maximum
Addressable Operation	
Data Communications	IDNet or MAPNET II communications, auto-select, one address per housing; provides operating power to model 4098-9755
Model 4098-9756 with Supervised Multiple Relay Control, Requires Separate Fused 24 VDC from Fire Alarm Power Supply	
Input Voltage	18-32 VDC (24 VDC nominal)
Standby Current	3 mA @ 24 VDC
Alarm Current	15 mA @ 24 VDC; add 15 mA for each 4098-9843 relay
Supervised Remote Relay Control Output	For use with 4098-9843 relay only, quantity of 15 maximum; distance of 500 ft (152 m) maximum; requires 4081-9008 (ref. 733-894) 10 kΩ, 1/2 W end-of-line resistor
4098-9843 Relay Output Ratings, Single Form C, use with Model 4098-9756 Only	
Coil Current	15 mA @ 24 VDC, up to 15 maximum per relay control output
Relay Contacts	7 A at 0.35 PF @ 28 VDC & 120 VAC; 250 μA @ 5 VDC
Location Distance	500 ft (152 m) maximum to relay coils; locate relays within 3 ft (1 m) of device being controlled per NFPA 72

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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 4100ES, 4010ES, 4100U, 4008, and 4010
- 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.

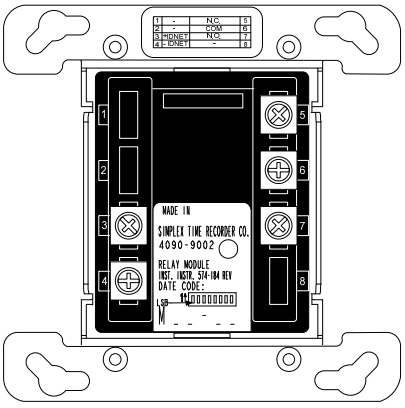
Product Selection

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.



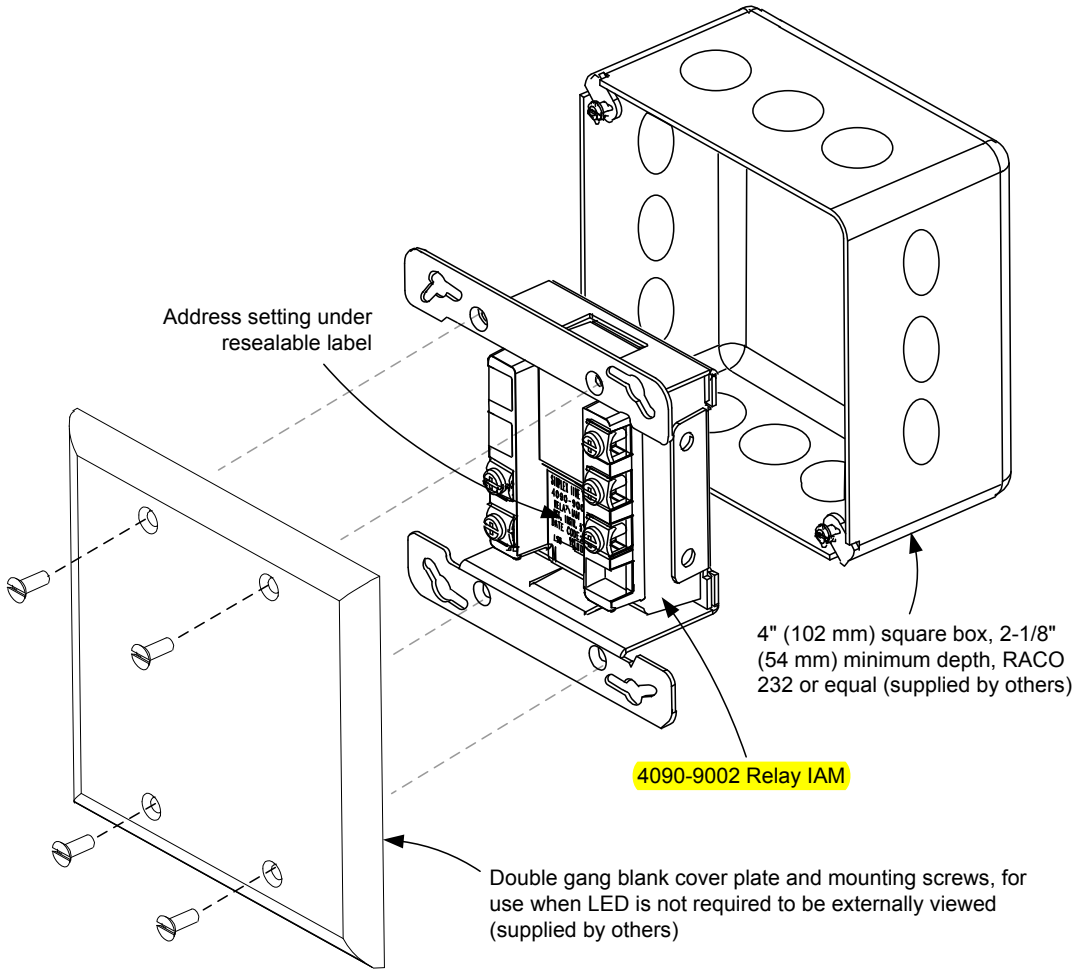
4090-9002 IDNet Relay IAM Package
(shown approximately 1/2 size)

Specifications

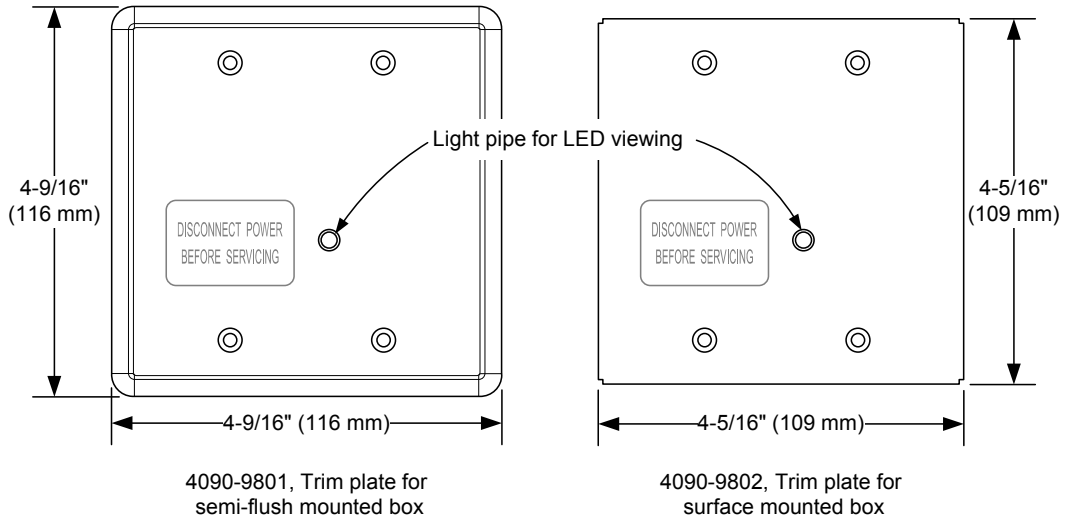
Communications	IDNet communications, 1 address per device	
Relay IAM Power	Supplied by IDNet communications	
Contact Ratings* (not rated for incandescent switching)		
Type	Form C, SPDT	
Power-Limited	2 A @ 24 VDC, resistive	from listed fire alarm supply
	1 A @ 24 VDC, inductive	
Nonpower-Limited	0.5 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	

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Relay IAM Mounting Information



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

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Simplex

System Accessories

UL, CSFM Listed;
*MEA (NYC) Acceptance**

Fire Alarm Control Relays, Track Mount and Encapsulated; Model 4098-9843 and 2088 Series

Features

UL listed under Standard 864 as Control Unit Accessory (UOXX)

Track mount package availability:

- Single relay module or four relay module, with or without cover, with SPDT or DPDT contacts
- LED indicates relay module status
- Cover provide status LED viewing ports
- Multiple coil voltage inputs, diode polarized for DC
- Modules are track mounted with snap-apart feature design allowing the four relay module to be separated

Single encapsulated SPDT relay package with color coded 18 AWG wire leads, available in two versions:

- 2088-9021 (PAM-1) Provides diode polarized multiple input voltage ability and LED indication
- 4098-9843 (PAM-SD) Provides a diode polarized 24 VDC coil with in/out wiring

Description

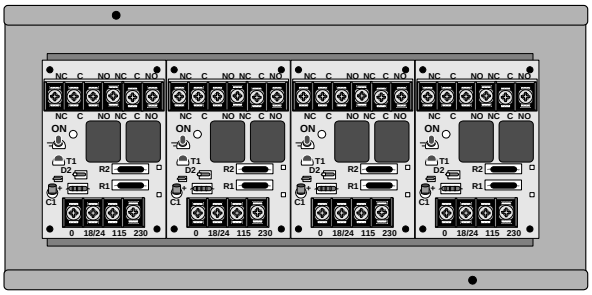
These multi-purpose control relays offer SPDT or DPDT, 10 A (or 7 A) contacts in a variety of mechanical packages. Models are available for coil operation by one of four input voltages allowing a single relay to be energized from a voltage source of 18-35 VDC or VAC, 120 VAC, or 230 VAC (not available with 4098-9843). Voltage selection is made by wiring to the appropriate input terminals or wire leads.

Each relay model (except model 4098-9843) contains a red LED which indicates that the relay is energized.

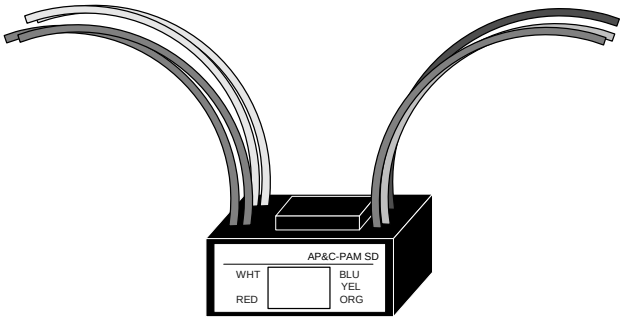
Mounting options are varied for application flexibility. Track mounted relays may be "snapped apart" from a standard four-module assembly and used independently if desired.

Specifications

Track Mount Relays, see page 2 for dimensions	
Coil Voltage	18-35 VAC/VDC, 120, or 230 VAC
Coil Current	SPDT models = 18 mA DPDT models = 40 mA
Terminal Blocks	Up to 14 AWG (2.08 mm^2)
Contact Ratings	10 A @ 120 VAC
	N.O. rated 1/6 HP, N.C. rated 1/8 HP
	7A @ 28 VDC and @ 230 VAC
Temperature Ratings	
UL Listed Range	32° F to 120° F (0° C to 49° C)
Operating Range	-58° F to 185° F (-50° C to 85° C)
Humidity	85% RH Non-condensing



2088-9020, MR204/C, Four DPDT Relay Package with Enclosure (shown with cover removed)



Encapsulated Relay Package
(typical of 2088-9021, PAM-1 and 4098-9843, PAM-SD)

Specifications *Continued*

Encapsulated Relays, see page 2 for dimensions		
Connections		18 AWG (0.82 mm^2) color-coded wire leads
Relay 2088-9021		
Contact Ratings		10 A @ 120 VAC, resistive
Coil Ratings	Voltage	18-35 VAC/VDC, 120, or 240 VAC
	Current	15 mA @ 24 VAC/VDC, & @ 120 or 230 VAC
Relay 4098-9843		
Coil Ratings		18-32 VDC input, polarized, 15 mA @ 24 VDC
Contact Ratings		7 A at 0.35 p.f @ 28 VDC & 120 VAC
		250 µA @ 5 VDC
Temperature Ratings		
UL Listed Range		32° F to 120° F (0° C to 49° C)
Operating Range		-58° F to 185° F (-50° C to 85° C)
Humidity		85% RH Non-condensing

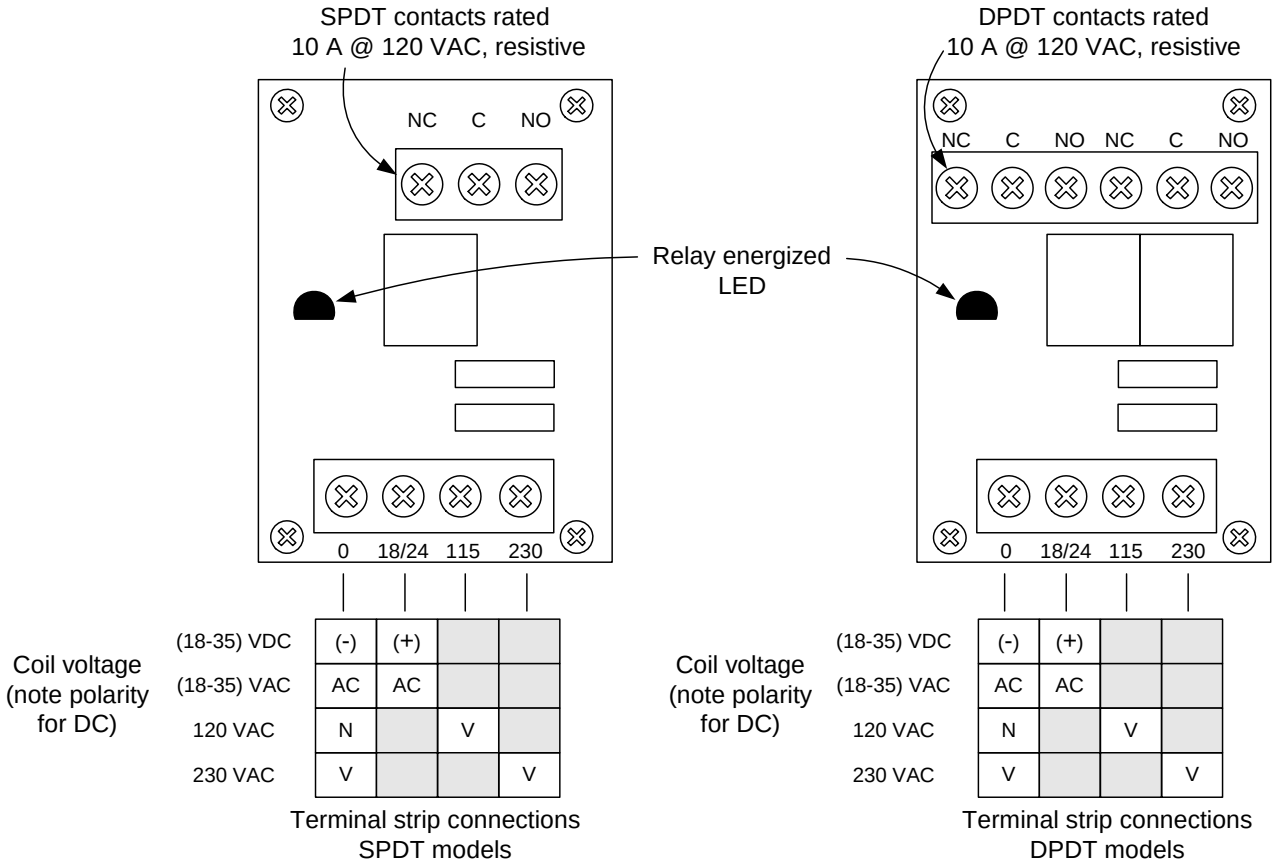
* Listings are under Apollo America Inc. per model numbers shown on page 2. See CSFM Listing 7300-1004:0101 for allowable values and/or conditions concerning material presented in this document.

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Relay Selection Chart

Module Positions	Reference Number	Model Number	Relay Type	Packaging	Dimensions
One	2088-9007	MR-101/T	SPDT	Track mount, without cover	3-1/4" H x 2-1/8" W x 1-1/2" D (83 mm x 54 mm x 38 mm)
	2088-9009	MR-201/T	DPDT		
	2088-9008	MR-101/C	SPDT	Track mount with cover	5-1/8" H x 3-1/8" W x 2-1/2" D (131 mm x 79 mm x 64 mm)
	2088-9010	MR-201/C	DPDT		
Four	2088-9017	MR-104/T	SPDT	Track mount, without cover	3-1/4" H x 8-1/2" W x 1-1/2" D (83 mm x 216 mm x 38 mm)
	2088-9019	MR-204/T	DPDT		
	2088-9018	MR-104/C	SPDT	Track mount with cover	5-1/8" H x 9-1/2" W x 2-1/2" D (131 mm x 241 mm x 64 mm)
	2088-9020	MR-204/C	DPDT		
NA	2088-9021	PAM-1	SPDT	Encapsulated, multi-voltage coil, color coded 18 AWG (0.82 mm^2) wire leads, with coil status LED	1-1/2" H x 1" W x 7/8" D (38 mm x 25.4 mm x 22 mm)
	4098-9843	PAM-SD		Encapsulated, 24 VDC coil, color coded 18 AWG (0.82 mm^2) wire leads (no LED)	1-1/2" H x 1-3/16" W x 13/16" D (38 mm x 30 mm x 21 mm)

Track Mount Relay Wiring Reference



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Simplex®

Fire Alarm System Accessories

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

RSG Electromagnetic Door Holders;
Wall Mounted or Floor Mounted

Features

Electromagnetic door holders from RSG (Reliable Security Group) with four mounting types:

- Semi-flush wall mount for shallow box applications
- Surface wall mount with matching box
- Flush wall mount with recessed magnet for low profile applications
- Floor mount, for single or double doors

Multiple finish options:

- High luster plating of chrome, brass, or dark bronze
- Powdercoated in chrome or dark bronze

Low current, multi-voltage design reduces power supply and battery demands:

- Models are available for operation with 24 VDC, 24 VAC, or 120 VAC
- Internal full wave rectifier allows AC or DC operation and provides switching transient suppression
- Low residual magnetism allows easy door release for compatibility with low pressure door closers
- Rated holding force ranges from 20 lbs (9 kg) minimum; to up to 110 lbs (49.8 kg)

Quick and easy installation:

- Self-adjusting swivel catch plate adjusts to door alignment changes
- Adhesive mounting templates assure alignment
- Required mounting hardware is supplied with each door holder
- Magnet catch plates can be screwed to wooden doors or drilled through and attached to a mounting bracket
- Floor mount door holders include drills and anchors for mounting to concrete floors and hardware for mounting to wooden floors
- Front plates provide convenient grounding screw location

Optional accessories:

- Extension rods are available in multiple lengths to allow proper alignment, including a 4” (102 mm) long pivoting rod
- Drilling fixture for accurate repetitive installation

UL listed to Standard 228

Description

Door holders are normally energized to magnetically hold doors open. In the event of a fire emergency, the fire alarm control panel or other compatible control means will release the magnet allowing the door to close to prevent the spread of smoke. Doors may be manually closed or opened when the door holder is energized.

Product Reference Images
(shown without screw hole caps in place)



Semi-Flush Wall Mount Door Holder Magnet and Catch Plate Assembly



Surface Wall Mount Door Holder Magnet with Supplied Box



Floor Mount Door Holder Magnet with Supplied Bracket and Box
(Single door model shown, available for double doors)

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Product Selection (see specifications on page 4 and part number selection below)

Mounting Type	Hardware Included	Electrical Box Requirement
Semi-flush Mount (partially recessed magnet)	Magnet assembly, catch plate with bracket, screw hole caps, and required mounting hardware	Single gang box, 1 ½" deep minimum (supplied separately)
Flush Mount (fully recessed magnet)	Magnet assembly, catch plate with bracket, screw hole caps, and required mounting hardware (not shown on page 1, refer to illustration on page 3)	Single gang box, 2 ¼" deep minimum (supplied separately)
Surface Mount	Magnet assembly, catch plate with bracket, screw hole caps, matching electrical box, and required mounting hardware	Box is supplied with door holder: 4 ¾" H x 2 ¾" W x 1 ½" D (117 mm x 70 mm x 54 mm)
Floor (ground) Mount for single door with single magnet	Magnet assembly with electrical box, catch plate with bracket, floor mounting bracket, screw hole caps, and required mounting hardware including drills and anchors for concrete floors	
Floor (ground) Mount for double door with double magnets	Two surface mount magnet assemblies with electrical box, each with electrical box; two catch plates with brackets, screw hole caps, and required mounting hardware including drills and anchors for concrete floors	

Optional Door Holder Accessories

Model		Description	
Powdercoat Chrome	Brass		
DHE1PC	DHE1B	Catch plate extender rod, 1" (25.4 mm) long	Each extender rod includes two DHW extension wrenches
DHE1.5PC	DHE1.5B	Catch plate extender rod, 1 ½ " (38 mm) long	
DHE2PC	DHE2B	Catch plate extender rod, 2" (51 mm) long	
DHE3PC	DHE3B	Catch plate extender rod, 3" (76 mm) long	
DHE4APC	DHE4AB	Catch plate with adjustable extender rod, 4" (102 mm) long with center pivot	

Model	Description
DHDF	Drilling Fixture, provides convenient alignment for repetitive installation
DHW	Extension Wrench for adding extender rod to catch plate (two are needed, two are shipped with each extension)

Door Holder Part Number Selection

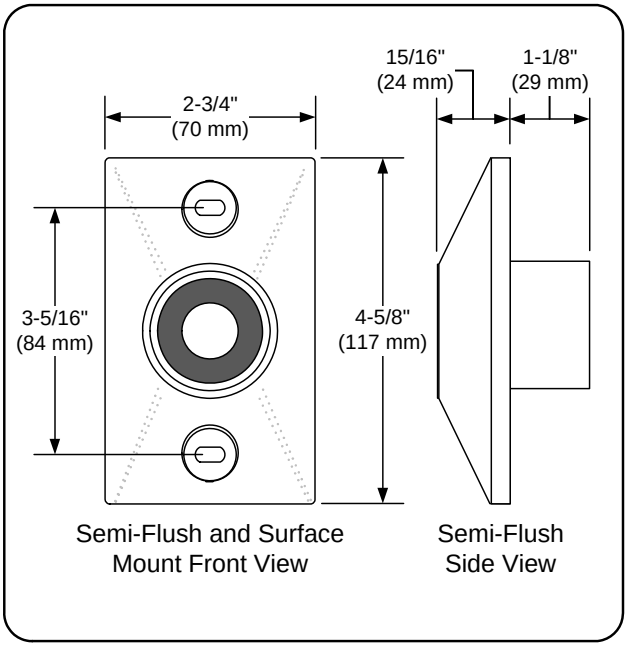
1	2		3		4		5		6	
Door Holder	Model/Voltage		Mounting Style		Powdercoated		Finish		Coils	
Select	*Select*	Operation	*Select*	Style	*Select*	If	*Select*	If	*Select*	If
DH	***1224***	12 VDC 12 VAC 24 VDC 24 VAC	***S***	Surface Mount	***P***	Powdercoated	***C***	Chrome	***1***	Floor mount single door
			F	Semi-Flush Mount	***blank***	High luster plated	***B***	Brass	***2***	Floor mount double door
	24120	24 VDC 24 VAC 120 VAC	***G***	Floor (Ground) Mount			***DBR***	Dark Bronze		
	24220	24 VDC 24 VAC 220 VAC	***R***	Flush Mount (Recessed Magnet)						

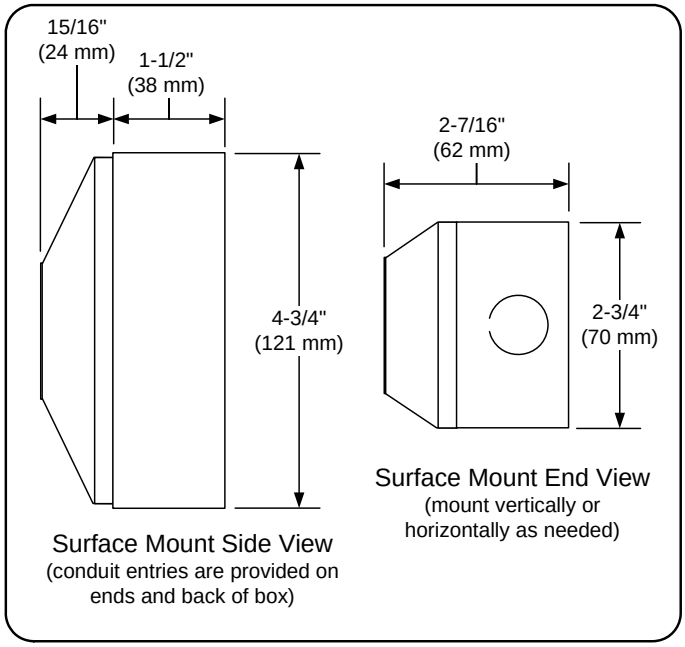
Examples:

1. **DH24120RPC**: Door holder; 24 VDC/VAC, or 120 VAC operation; Recessed magnet, flush mount; Powdercoated Chrome finish
2. **DH24120GB2**; Door holder; 24 VDC/VAC, or 120 VAC operation; Ground/floor mount; Brass finish, high luster; Double door
3. **DH1224SPC**; Door holder; 12 or 24 VDC/VAC operation; Surface mount; Powdercoated Chrome finish

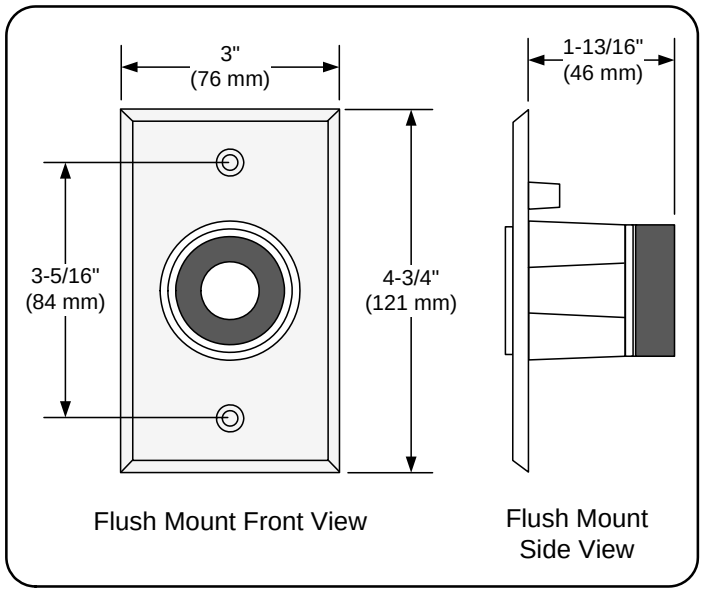
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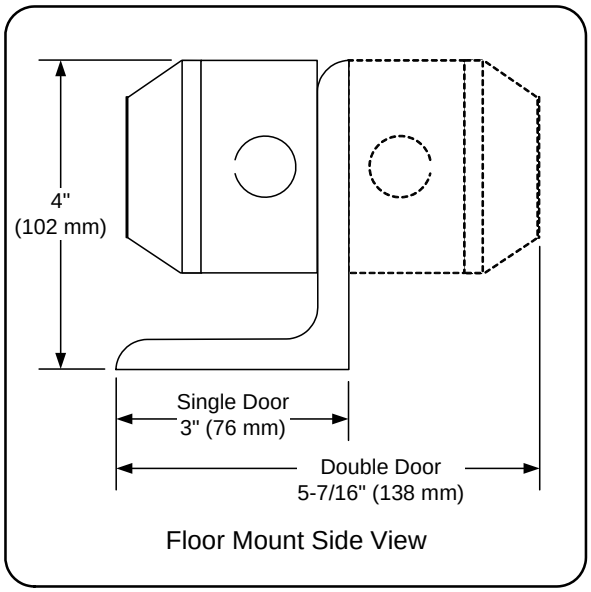
Semi-Flush and Surface Mount Dimensions





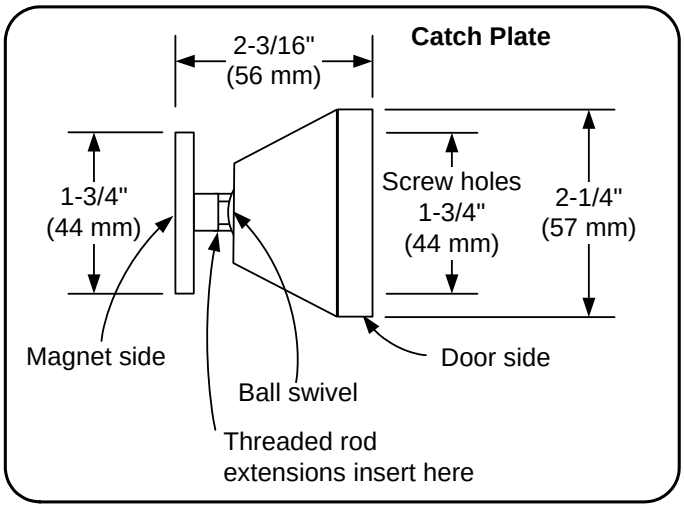
Flush and Floor Mount Dimensions

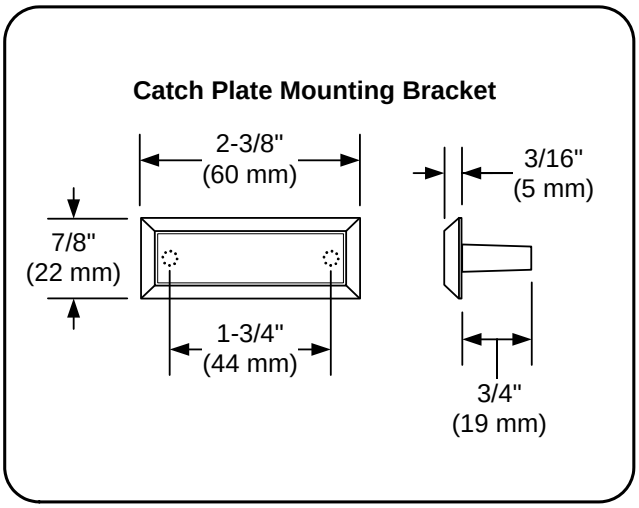




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Catch Plate and Mounting Bracket Dimensions





Specifications

Mechanical Specifications

Material	Durable die-cast metal
Wiring Connections	Three position terminal block with provisions for in/out wiring; common (C), low voltage, high voltage); 22 to 12 AWG (0.5 to 3.31 mm^2)

Electrical Specifications and Performance

Model	Voltage	Current DC	Current AC	Terminals	Holding
1224	12 V	40 mA	38 mA	C & L	30 lbs (13.6 kg)
	24 V	40 mA	36 mA	C & H	
1224 High Holding Force	24 V	85 mA	81 mA	C & L	75 lbs (34 kg)
24120	24 V	20 mA	19 mA	C & L	40 lbs (18.1 kg)
	120 VAC	–	20 mA	C & H	35 lbs (15.8 kg)
24120 High Holding Force	120 VAC	–	100 mA	C & L	110 lbs (49.8 kg)
24220	24 V	20 mA	19 mA	C & L	20 lbs (9 kg)
	220 VAC	–	15 mA	C & H	22 lbs (9.8 kg)

For additional information, visit the RSG website: http://www.rsgsecurity.com/

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