MEDICAL CENTER OF AURORA
SURGERY RENOVATIONS PHASES I-III FIRE ALARM SYSTEM

SITE

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

ENGINEER OF RECORD

I.C. THOMASSON ASSOCIATES, INC
2950 KRAFT DRIVE, SUITE 500
NASHVILLE, TN 37204
PHONE: 614-346-3400

INSTALLER

LUDVIK ELECTRIC CO
3900 S TELLER STREET
LAKEWOOD, COLORADO 80235
PHONE: 303-781-9601

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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~~ 2014 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: 03/01/18

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 5/4/15

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Safer. Smarter. Tyco.™

PROJECT MANAGER

JANE LARNED
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City of Aurora Building Division
Project: *Med Cntr of Aurora-FA*
Address: *1501 S Potomac St*
Occupancy Group: *IBC I-2*
Construction Type: *IBC Type IA-SPK*
RSN: *1015415*
Permit: *15-967545-LT*

6240 SMITH ROAD
DENVER, CO 80216

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

City of Aurora Building Division
Reviewed for Code Compliance
Approved as Noted: *L Lallo*
Date: *Jul 17, 2015*
2009 INTERNATIONAL CODES & 2014 NEC
2007 NFPA 72

Approval subject to field test and verification. This approval does not preclude other Healthcare Jurisdictional requirements

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

ISSUE LOG

MARK	DATE	CAD	CHK	DESCRIPTION

Revisions shown with delta symbol

DRAWN BY:	C. P. MADDEN
CHECKED BY:	N. S. WILTSIE
ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419.982434501
SIMPLEXGRINNELL ©	2015
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\South Tower - Node 1\20-MCOA Surgery Renovations FAS-2015-982434501\FIRE\Phase 1-3\FA-001.dwg
LAST SAVED BY: CMADDEN
LAST PRINTED: 5/4/2015 8:23:19 AM
24" x 36" - Arch D Size

FILE PATH: G:\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 1\20-MCOA Surgery Renovations FAS-2015-08\234501\FIRE\Phase1-3\FA-002.dwg
LAST SAVED BY: NVALTSIE
LAST PRINTED: 5/4/2015 8:23:24 AM
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GENERAL NOTES

1. THESE DRAWINGS DEPICT GENERAL LOCATIONS OF LIFE SAFETY EQUIPMENT & FIELD DEVICES. EXACT ROUTING OF CONDUITS TO BE DETERMINED IN THE FIELD BY THE INSTALLING CONTRACTOR TO SUIT CONDITIONS. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
2. SHOULD ANY CONDITIONS EXIST THAT DIFFER FROM WHAT IS INDICATED ON THESE DRAWINGS WHICH CAUSE MAJOR DEVIATIONS IN THE WORK SHOWN, THE CONTRACTOR SHALL CONTACT SIMPLEXGRINNELL IN A TIMELY MANNER SO AS NOT TO IMPAIR THE CONSTRUCTION SCHEDULE.
3. CONTRACTOR IS RESPONSIBLE FOR MAKING AND OBTAINING APPROVAL FOR ALL NECESSARY ADJUSTMENTS IN CIRCUITING AS REQUIRED TO ACCOMMODATE THE RELOCATION OF EQUIPMENT AND/OR DEVICES WHICH ARE AFFECTED BY ANY AUTHORIZED CHANGE. ALL CHANGES SHALL BE CLEARLY INDICATED ON THE RECORD DRAWINGS.
4. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
5. THE POWER CIRCUIT TO THE FACP AND TO THE FIRE ALARM POWER SUPPLIES SHALL BE ON A DEDICATED 120V, 20A BRANCH CIRCUIT BREAKER, AND SHALL HAVE A RED MARKING, LOCK-ON PROVISION AND SHALL BE IDENTIFIED AS "FIRE ALARM CIRCUIT CONTROL." THE LOCATION OF THE CIRCUIT DISCONNECT MEANS (CIRCUIT BREAKER) SHALL BE PERMANENTLY IDENTIFIED AT THE FIRE ALARM CONTROL UNIT.
6. UPDATE THE AS-BUILT DRAWING SET DAILY WITH JOB PROGRESS. RETURN THE AS-BUILT DRAWING SET TO SIMPLEXGRINNELL NO LATER THAN 7 DAYS AFTER FINAL TEST.
7. THE CONTRACTOR WILL MAINTAIN ALL AREAS OF THE BUILDING IN A NEAT AND WORKMAN LIKE MANNER.
8. DO NOT APPLY POWER EXCEPT IN THE PRESENCE OF A FACTORY TRAINED SIMPLEXGRINNELL TECHNICAL REPRESENTATIVE.
9. ANY SMOKE DETECTOR HEAD INSTALLED BEFORE THE BUILDING IS CLEANED AND ACCEPTED SHALL BE COVERED TO PROTECT FROM DUST. ANY FALSE ALARMS DUE TO DIRT CONTAMINATED HEADS SHALL BE THE RESPONSIBILITY OF THE FIRE ALARM INSTALLER.
10. THE FIRE ALARM INSTALLER WILL MAINTAIN THE FIRE RESISTANCE INTEGRITY OF ALL WALL, CEILING, AND ROOF ASSEMBLIES ANY TIME THAT WORK IS NOT ACTIVELY BEING PERFORMED.
11. INSTALLATION OF DEVICES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. POWER LIMITED AND NON-POWER LIMITED FIELD WIRING MUST BE INSTALLED WITHIN THE FACP ENCLOSURE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND NEC.
12. ALL WIRING SHALL BE INSTALLED ACCORDING TO NFPA 70 (NEC).
13. FIRE ALARM CIRCUITS SHALL BE IDENTIFIED IN ACCORDANCE WITH APPROPRIATE SECTION OF NEC 760. MARK ALL FIRE ALARM WIRES IN ACCORDANCE WITH NEC 760 SECTIONS FOR POWER LIMITED AND NON-POWER LIMITED WIRE.
14. FIRE ALARM CABLE INSTALLED IN DUCTS, PLENUM, AND OTHER SPACES USED FOR ENVIRONMENTAL AIR SHALL BE TYPE FPLP.
15. FIRE ALARM CABLE INSTALLED IN THE VERTICAL RUNS AND PENETRATE MORE THAN ONE FLOOR OR CABLES INSTALLED IN VERTICAL RUNS IN SHAFTS SHALL BE TYPE FPLR.
16. FIRE ALARM CABLE INSTALLED IN UNDERGROUND CONDUIT OR OTHER WET LOCATIONS SHALL BE UL LISTED FOR WET LOCATIONS.
17. FIRE ALARM CIRCUITS EXTENDING BEYOND ONE BUILDING AND RUN OUTDOOR SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 70 ARTICLES 760, 770, 725 AND 800 WHERE APPLICABLE.
18. ALL WIRING, INCLUDING SHIELDS MUST BE DRY AND FREE OF SHORTS AND GROUNDS.
19. ALL SHIELDED WIRE MUST HAVE SHIELD CONTINUITY AT FULL LENGTH OF THE WIRE.
20. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
21. 120VAC IS NOT PERMITTED IN THE SAME CONDUIT WITH LOW VOLTAGE WIRING.
22. MAINTAIN 40 PERCENT CONDUIT FILL RATIO AS PER NEC REQUIREMENTS.
23. EXISTING CONDUITS MAY BE USED BY THE INSTALLATION CONTRACTOR AS DEEMED NECESSARY, HOWEVER, ANY EXISTING CONDUIT WILL BE USED ONLY IF CONDUITS MEET CURRENT STANDARDS AND CODES. SIMPLEXGRINNELL MAKES NO STATEMENTS WRITTEN OR VERBAL AS TO THE CONDITION OF EXISTING CONDUITS.

WIRE SCHEDULE

FIRE ALARM WIRE LIST

	CIRCUIT DESCRIPTION	RISER RATED: FPLR	SINGLE CONDUCTOR(THHN,TFFN)	PLENUM RATED: FPLP
A	ADDRESSABLE NOTIFICATION CIRCUIT 14 AWG SOLID UNSHIELDED TWISTED PAIR	SG ANIX./PAIGE 454718ARE AREA=0.0380 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-1N-03-BX		SG ANIX./PAIGE 454719ARE AREA=0.0333 SQ. INCH ANIXTER PART NUMBER FA-1402C-1-2N-03
B	RUI+ COMMUNICATION 1 PAIR 18 AWG UNSHIELDED TWISTED (SUBSCRIPT "u" IF MIXED w/SHIELDED)	SG ANIX./PAIGE 454703ARE AREA=0.0204 SQ. INCH ANIXTER PART NUMBER FA-1802C-1-1N-03-BX		SG ANIX./PAIGE 740132R AREA=0.0141 SQ. INCH ANIXTER PART NUMBER FA-1802C-1-2N-03
K	REMOTE TEST SWITCH/ LED CIRCUIT – (2) 2 CONDUCTOR 18 AWG SOLID	SG ANIX./PAIGE 454703ARE AREA=0.0204 SQ. INCH ANIXTER PART NUMBER FA-1802C-1-1N-03-BX	(4) #18 AWG AREA=0.0055 SQ. INCH (EACH)	SG ANIX./PAIGE 740132R AREA=0.0141 SQ. INCH ANIXTER PART NUMBER FA-1802C-1-2N-03
M	MAPNET/IDNET CIRCUIT 1 PAIR 18 AWG TWISTED OVERALL SHIELD	SG ANIX./PAIGE 740215 AREA=0.0196 SQ. INCH ANIXTER PART NUMBER T740215		SG ANIX./PAIGE 740214L AREA=0.0196 SQ. INCH ANIXTER PART NUMBER FAMC-1802C-1-2S-0365
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

PROVIDE AND INSTALL A NEW AUTOMATIC AND MANUAL FIRE ALARM SYSTEM AS SHOWN ON DRAWINGS.

THIS IS A PARTIAL RENOVATION OF THE FIRST FLOOR OF THE HOSPITAL ENCOMPASSING NEW AND EXISTING OPERATING ROOMS AND RECOVERY AREAS. THE CONSTRUCTION WILL BE COMPLETED UNDER SEVEN PHASES. THIS SUBMITTAL PACKAGE IS FOR PHASES 1–3. THE EXISTING NODE 1 CONTROL PANEL WILL BE FIELD UPGRADED TO A 4100ES PANEL TO CONTROL THE NEW ADDRESSABLE NOTIFICATION AND AN ADDITIONAL BACKBOX IS PROVIDED FOR EXPANSION. BOTH EXISTING NODE 1 AND NODE 2 FIRE ALARM PANELS WILL BE PROVIDED WITH NEW NETWORK CARDS TO ALLOW FUTURE SYNCHRONIZATION ACROSS THE NETWORK.

A NEW REMOTE FIRE ALARM TRANSPONDER WITH NEW ADDRESSABLE IDNET AND NEW ADDRESSABLE IDNAC CIRCUITS WILL BE INSTALLED UNDER PHASE 1 OF THIS PROJECT. THE NEW TRANSPONDER WILL CONNECT TO THE EXISTING NODE 1 FIRE ALARM CONTROL PANEL. THE AREAS IN THE SCOPE OF WORK WILL BE FULLY DETECTED AND NEW PRIVATE MODE CHIME/STROBE AND STROBE ONLY DEVICES WILL BE INSTALLED. OPERATING ROOMS WILL RECEIVE NEW ADDRESSABLE WALL MOUNTED STROBES WITH RED LENS. THESE STROBES WILL ACTIVATE WHEN SMOKE IS DETECTED IN THE SMOKE COMPARTMENT. NEW CONTROL MODULES ARE PROVIDE TO NOTIFY THE DDC SYSTEM OF AN ALARM CONDITION IN THE AREA, SMOKE AT THE FANS OR FIRE/SMOKE DAMPERS AND SMOKE IN EACH OPERATING ROOM. ALL SMOKE CONTROL FOR THE OPERATING ROOMS WILL BE HANDLED BY THE BUILDING DDC.

ALL WIRING TO BE CLASS B. WIRING IS STYLE Y FOR NOTIFICATION APPLIANCE CIRCUITS, STYLE B FOR INITIATING DEVICE CIRCUITS, AND STYLE 4 FOR SIGNALING LINE CIRCUITS.

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

FIRE ALARM APPLICABLE CODES & STANDARDS

INTERNATIONAL FIRE CODE (IFC), ~~2012~~ 2009 EDITION

INTERNATIONAL BUILDING CODE (IBC), ~~2012~~ 2009 EDITION

INTERNATIONAL MECHANICAL CODE (IMC), ~~2012~~ 2009 EDITION

LIFE SAFETY CODE (NFPA 101), ~~2012~~ 2006 EDITION

NATIONAL ELECTRIC CODE (NFPA 70), ~~2011~~ 2014 EDITION

ICC/ANSI A117.1 ACCESSIBLE USABLE BUILDINGS & FACILITIES, 2003 EDITION

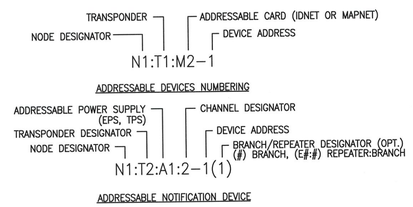
ABBREVIATIONS LEGEND

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 MARSHAL
DET = DETECTOR
DGP = DATA GATHERING PANEL
EOL = END OF LINE
EPO = EMERGENCY POWER OFF
FACP = FIRE ALARM CONTROL PANEL
FATC = FIRE ALARM TERMINAL CABINET
FBO = FURNISHED BY OTHERS
FCC = FIRE COMMAND CENTER
FAA = FIRE ALARM ANNUNCIATOR
FTR = FIRE ALARM TRANSPONDER
FSD = FIRE SMOKE DAMPER

HT = HEIGHT
HVAC = HEATING, VENTILATION, & AIR CONDITIONING
IMS = INFORMATION MANAGEMENT SYSTEM
MAX = MAXIMUM
MIN = MINIMUM
N/A = NOT APPLICABLE
NAC = NOTIFICATION APPLIANCE CIRCUIT EXTENDER
NDU = NETWORK DISPLAY UNIT
NEC = NATIONAL ELECTRICAL CODE
NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
NIC = NOT IN CONTRACT
NPU = NETWORK PROCESSING UNIT
NTS = NOT TO SCALE
PAP = PRE-ACTION PANEL
SCC = STATUS COMMAND CENTER
SLC = SIGNALING LINE CIRCUIT
SMK = SMOKE
SUPV = SUPERVISORY
TAC = TRUEALERT ADDRESSABLE CONTROLLER
TRBL = TROUBLE
TS = TAMPER SWITCH
TYP = TYPICAL
UON = UNLESS OTHERWISE NOTED
VCC = VOICE COMMAND CENTER
VT = VALVE TAMPER
WF = WATER FLOW
W = (eg. 1/2W) WATT
W/ = WITH
W/O = WITH OUT

DEVICE ADDRESSING LEGEND



SYMBOL KEY

FIRE ALARM SYMBOLS LEGEND

SYMBOL	DESCRIPTION	MODEL#	COMMONLY USED BACKBOX, REFER TO DATA SHEET FOR OTHER OPTIONS
FACP	FIRE ALARM CONTROL PANEL W / 50AH BATTERY SET	SIMPLEX 4100-8010 SIMPLEX 2081-9296	EXISTING
XPDR	FIRE ALARM TRANSPONDER PANEL W / 25AH BATTERY SET	SIMPLEX 4100-9600 SIMPLEX 2081-9287	SUPPLIED BY SIMPLEXGRINNELL (REFER TO MOUNTING DETAIL FOR SPECIFIC DIMENSIONS)
NAC#	EXISTING NAC EXTENDER PANEL # DESIGNATES THE NAC PANEL NUMBER W / 10AH BATTERY SET	SIMPLEX 4009-9201 SIMPLEX 2081-9274	SUPPLIED BY SIMPLEXGRINNELL
(2)	SMOKE SENSOR / BASE	SIMPLEX 4098-9714 SIMPLEX 4098-9792 BASE	4" OCTAGONAL BOX 1 1/2" DEEP
D (2) WP	DUCT SMOKE SENSOR REMOTE TEST STATION W/ LED AND KEY SWITCH WEATHERPROOF DUCT HOUSING WP = WEATHERPROOF	SIMPLEX 4098-9755 SIMPLEX 2098-9806 SIMPLEX 4098-9845	MOUNT TO DUCTWORK SINGLE GANG BOX 2 1/2" DEEP
(AM)	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
#	SET FOR PRIVATE MODE CHIME SIGNAL WALL MOUNT 520Hz MULTI-TONE, MULTI-CANDELA A/V RED # =CANDELA RATING	SIMPLEX 49MTV-WRF	4" SQUARE BOX 1 1/2" DEEP
#	WALL MOUNT MULTI-CANDELA STROBE ONLY, RED # = CANDELA RATING	SIMPLEX 49VO-WRF	4" SQUARE BOX 1 1/2" DEEP W/4905-9937 ADAPTER SKIRT WHEN SURFACE MOUNTED
# R	WALL MOUNT MULTI-CANDELA WEATHERPROOF HORN/STROBE W/RED BLANK COVER AND RED LENS # = CANDELA RATING	SIMPLEX 49AV-APPLWE SIMPLEX 49-AVVOWR SIMPLEX 49VOC-WRS	4" SQUARE BOX 1 1/2" DEEP
JB	JUNCTION/PULL BOX	SUPPLIED BY OTHERS	SUPPLIED BY OTHERS
T#	JUNCTION/PULL BOX T# = TAP NUMBER	SUPPLIED BY OTHERS	SUPPLIED BY OTHERS
	EXISTING DOOR HOLDER	SUPPLIED BY OTHERS	SUPPLIED BY OTHERS
(2)	FIRE SMOKE DAMPER	SUPPLIED BY OTHERS	SUPPLIED BY OTHERS
	DIGITAL CLOCK	PRIMEX SNS5X202FQ	
T	DIGITAL TIMER W/REMOTE CONTROL	PRIMEX SNS5X202EFQ	
K	END-OF-LINE RESISTOR 3.3K (EOL) END-OF-LINE RESISTOR 4.7K (EOL) END-OF-LINE RESISTOR 6.8K (EOL) END-OF-LINE RESISTOR 10K (EOL)	SIMPLEX 4081-9002 SIMPLEX 4081-9003 SIMPLEX 4081-9004 SIMPLEX 4081-9008	

SEQUENCE OF OPERATION

Field verify sequence of operations per this matrix. Include all functions of the passive compartmentalization/exhaust system tied to Building FACP.

A minimum of 10% of entire system components and auxiliary functions are required to be tested after each software modification and/or program change.

SYSTEM OUTPUTS: CONTROL UNIT ANNUNCIATION | NOTIFICATION | FIRE SAFETY CONTROL | NEW SURGERY RENOVATIONS

ACTUATE COMMON ALARM SIGNAL INDICATOR AT NODE 1 FACP
ACTUATE AUDIBLE ALARM SIGNAL AT NODE 1 FACP
ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR AT NODE 1 FACP
ACTUATE AUDIBLE SUPERVISORY SIGNAL AT NODE 1 FACP
ACTUATE COMMON TROUBLE SIGNAL INDICATOR AT NODE 1 FACP
ACTUATE AUDIBLE TROUBLE SIGNAL AT NODE 1 FACP
ACTUATE APPROPRIATE LOCATION INDICATOR AT NODE 1 FACP
ACTUATE ALL AUDIBLE EVACUATION SIGNALS
ACTUATE ALL VISIBLE EVACUATION SIGNALS *
ACTUATE SPRINKLER RISER BELL
ACTUATE EXTERIOR GENERAL ALARM HORN/STROBE
DISPLAY CHANGE OF STATUS
TRANSMIT ALARM SIGNAL TO SUPERVISING STATION
TRANSMIT SUPV SIGNAL TO SUPERVISING STATION
TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION
RELEASE ELEVATOR FIRE DOORS
RELEASE MAGNETICALLY HELD SMOKE DOORS
RELEASE ELEVATOR SHUNT TRIP
ELEVATOR MAIN FLOOR RECALL
ELEVATOR ALTERNATE FLOOR RECALL
SHUT DOWN ELEVATOR HAT FLOOR
CLOSE ASSOCIATED DAMPERS
REMOTELY DISPLAY ASSOCIATED FAN**
ACTUATE SMOKE COMPARTMENT DAMPER **
RELEASE NEW DOOR STATUS
RELEASE NEW AUTOMATIC DOOR CONTROLS
ACTUATE RELEASE STROBE
SEND ALARM SIGNALS TO DDC
SEND CFM TO DDC
SEND SUPPLY DUCTWORK SIGNAL TO DDC
SEND RETURN DUCTWORK SIGNAL TO DDC
SEND OUTSIDE AIR SIGNAL TO DDC

SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	REMARKS
1 SMOKE SENSOR/DETECTOR	•	•					•	•	•		•	•	•			•						•	•			•	•							1
2 MANUAL PULL STATION	•	•					•	•	•		•	•	•			•										•	•							2
3 HEAT SENSOR/DETECTOR	•	•					•	•	•		•	•	•			•										•	•							3
4 DUCT SENSOR/DETECTOR			•	•			•					•		•								•	•			•								4
5 MAIN FLR. ELEV. LOBBY SMOKE DETECTOR	•	•					•	•	•		•	•	•		•	•				•						•	•							5
6 ELEVATOR LOBBY SMOKE DETECTORS (EXC. MAIN FLR.)	•	•					•	•	•		•	•	•		•	•			•							•	•							6
7 ELEVATOR MECH. ROOM HEAT DETECTOR	•	•					•	•	•		•	•	•		•	•	•									•	•							7
8 ELEVATOR MECH. ROOM SMOKE DETECTOR	•	•					•	•	•		•	•	•		•	•		•								•	•							8
9 ELEVATOR SHAFT HEAT DETECTOR	•	•					•	•	•		•	•	•			•		•								•	•							9
10 WATERFLOW SWITCH	•	•					•	•	•	•	•	•	•			•										•	•							10
11 TAMPER SWITCH			•	•			•				•	•		•												•								11
12 POST INDICATOR VALVE SWITCH			•	•			•				•	•		•												•								12
13 FIRE ALARM AC POWER FAILURE					•	•					•	•			•	•	•									•								13
14 FIRE ALARM SYSTEM LOW BATTERY					•	•					•	•			•											•								14
15 OPEN CIRCUIT OR GROUND FAULT					•	•					•	•			•											•								15
16 CLASS B NOTIFICATION CIRCUIT (NAC) – SHORT					•	•					•	•			•											•								16
17 SIGNAL SILENCE																																		17
18 SMOKE SENSOR/DETECTOR IN SMOKE COMPARTMENT	•	•					•	•	•		•	•	•			•								•	•	•	•	•						18
19 HEAT SENSOR/DETECTOR IN SMOKE COMPARTMENT	•	•					•	•	•		•	•	•			•								•	•	•	•	•						19
20 MANUAL PULL STATION IN SMOKE COMPARTMENT	•	•					•	•	•		•	•	•			•								•	•	•	•	•						20
21 DUCT SENSOR/DETECTOR AT EXH FSD			•	•			•					•		•										•									21
22 DUCT SENSOR/DETECTOR AT SUP FSD			•	•			•					•		•										•									22
23 DUCT SENSOR/DETECTOR AT RET FSD			•	•			•					•		•										•									23
24 DUCT SENSOR/DETECTOR AT FAN SUPPLY			•	•			•					•		•										•									24
25 DUCT SENSOR/DETECTOR AT FAN RETURN			•	•			•					•		•										•									25
26 DUCT SENSOR/DETECTOR AT FAN OUTSIDE AIR			•	•			•					•		•										•									26
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	27

NOTES:
* NEW OR VISUALS WILL ACTIVATE ONLY ON SMOKE COMPARTMENT ALARM.
** NEW OR SMOKE CONTROL WILL RECIEVE SIGNAL FROM FIRE ALARM CONTROL PANEL.

RSN: *1015415*
Permit #: *15-967545-LT*

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/18

NANCY S. WILTSIE — DATE 5/4/15

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MEDICAL CENTER OF AURORA SURGERY RENOVATIONS PHASES I-III

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

ISSUE LOG: MARK	DATE	CAD	CHK	DESCRIPTION

Revisions shown with ⚠ symbol

DRAWN BY:	C. P. MADDEN
CHECKED BY:	N. S. WILTSIE
ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419:982434501
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SYSTEM: FIRE ALARM SYSTEM

SHEET: GENERAL INFORMATION

FA-002

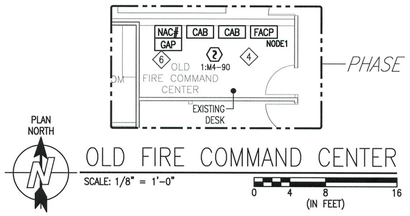
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GENERAL NOTES:

1. ALL CEILINGS ARE ASSUMED TO BE 10' A.F.F., SMOOTH CONSTRUCTION UNLESS NOTED OTHERWISE.
2. ALL NOTIFICATION APPLIANCE CANDELA INTENSITY PLUGS SHALL RETAIN THEIR FACTORY SETTING OF "FACP" UNLESS OTHERWISE DIRECTED BY THE AUTHORITY HAVING JURISDICTION.

KEYNOTES:

1. REPLACE EXISTING NOTIFICATION AND DETECTION WITH NEW AND CONNECT TO NEW CIRCUITS.
2. MOUNT REMOTE TEST STATIONS IN HEATED, CONDITIONED SPACE.
3. CONNECT TO 120VAC DEDICATED CIRCUIT (EALOR-2) AND TO CONNECT TO EXISTING NODE 1 FACP IN FIRE COMMAND CENTER WITH 2B. REFER TO RISER DIAGRAM.
4. EXISTING FACP TO BE UPGRADED TO A 4100ES AND NEW BACKBOX SUPPLIED.
5. TRANSFER EXISTING NAC PANEL TO IDNET CIRCUIT IN ROOM. ABANDON EXISTING HARD WIRE TRIGGER.
6. REMOVE EXISTING GRAPHIC ANNUNCIATOR.

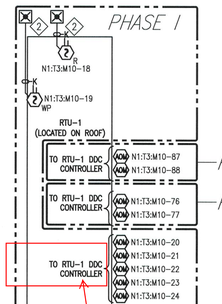


PLAN NORTH

OLD FIRE COMMAND CENTER

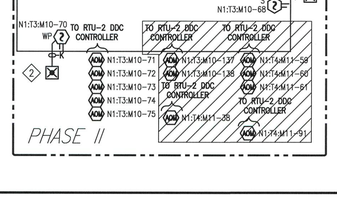
SCALE: 1/8" = 1'-0"

0 4 8 16 (IN FEET)



KEYPLAN

Verify max distance of 200ft between MPS.



PLAN NORTH

PARTIAL 1ST FLOOR – DEVICE PLACEMENT PLAN

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

0 4 8 16 (IN FEET)

RSN: 1015415
Permit #: 15-967545-LT

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/18

NANCY S. WILTSIE — DATE 5/4/15

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MEDICAL CENTER OF AURORA SURGERY RENOVATIONS PHASES I-III

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

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ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419:982434501
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SYSTEM: FIRE ALARM SYSTEM

SHEET: PARTIAL 1ST FLOOR - DEVICE PLACEMENT PLAN

FA-101

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Fire & Security

SimplexGrinnell

RSN: 1015415
Permit #: 15-967545-LT

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July 16, 2015

Public Works Department – Building Division
15151 E. Alameda Parkway, Suite 2400
Aurora, CO 80012

RE: Medical Center of Aurora, 1501 S Potomac
MCOA Surgery Renovations

Attn: Les Lallo, Plans Examiner III Life Safety

Medical Center of Aurora does not have a Smoke Control System for the facility. The OR Smoke Control is simply an interface into the BAS System for each OR for dedicated OR Smoke Exhaust Fans. This is a Smoke Exhaust System which is quite a bit different than a Smoke Control System. The Smoke Exhaust System is typically designed to be autonomous and will operate automatically. Keep in mind that for most I2 Health Care Facilities, Smoke Control is passive using compartmentalization to keep smoke from spreading form one area to another - simple fire/smoke damper control and closing doors. Smoke Exhaust involved opening certain dampers and turning on rated smoke exhaust fans to suck the smoke out of a compartment or in this case an operating room that is ducted and isolated from the other OR's.

With respect to the 2nd part of the plans reviewer comments, they owner has a network. The system works from a single point of reset/command and control and this has always been and always will remain the case. Just because there are nodes on the network, does not mean we have added points of control. All command and control will continue to be from the main NODE #2 Panel in the Cardiac Tower.

If I can be of any further assistance please do not hesitate to give me a call.

Thank you

Nancy S. Wiltsie
SimplexGrinnell Designer
NICET #93727, exp. Date 03/01/18

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PHASE I

PHASE II

PHASE III

1ST FLOOR

XPDR
NODE #1
TRANSPONDER #3
LOCATED IN
ELEC. 1-SS006
120 VOLT AC
(ECLOR-9,11)

4100U
FACP
UPGRADED
TO 4100ES
NODE #1
LOCATED IN
OLD FIRE COMMAND
CENTER
120 VOLT AC

N1:T3:M10

N1:M3 (EXISTING)

N1:M1 (EXISTING)

N1:T3:A1:1(1)

N1:T3:A1:2(1)

RSN: *1015415*
Permit #: *15-967545-LT*

NICET CERTIFICATION

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CERTIFICATE #: 93727
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NANCY S. WILTSIE — DATE: 5/4/15

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MEDICAL CENTER OF AURORA
SURGERY RENOVATIONS PHASES I-III

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1501 S POTOMAC STREET
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PROJECT #:	419.982434501

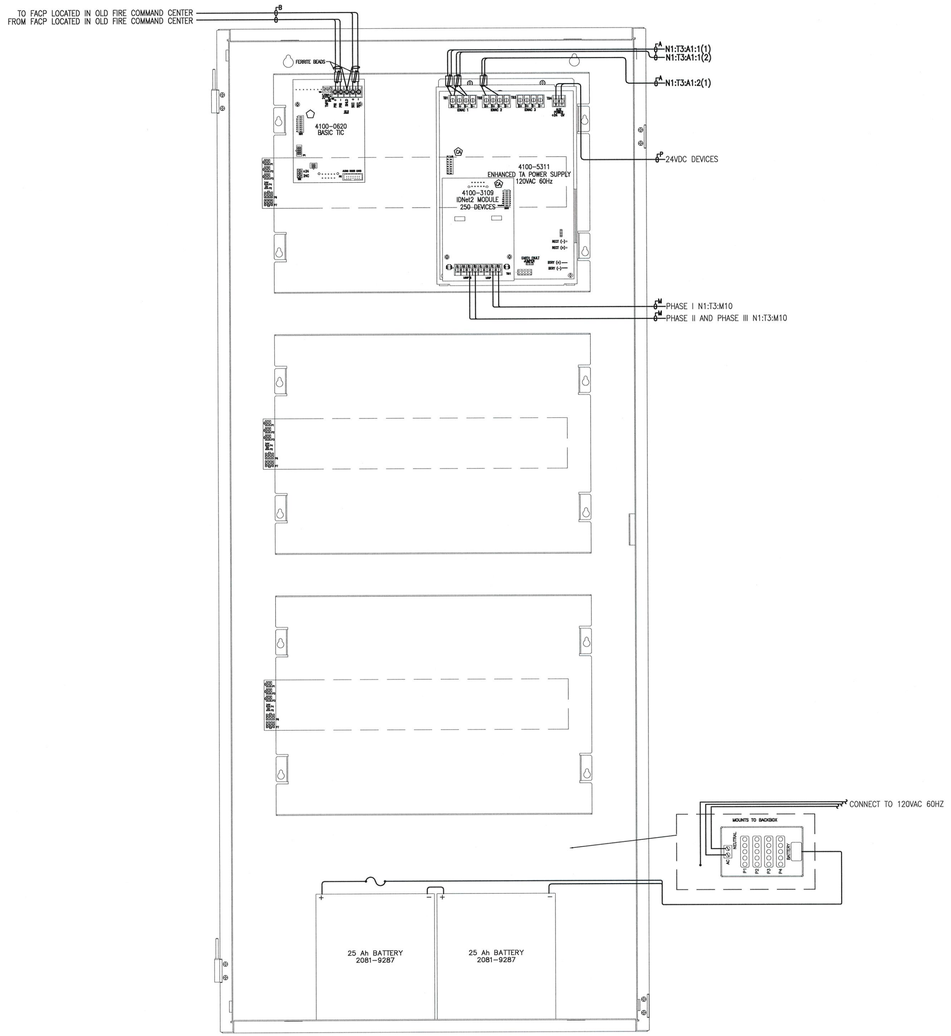
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SYSTEM:
FIRE ALARM SYSTEM

SHEET:
PARTIAL 1ST FLOOR RISER DIAGRAM

FA-201

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TRANSPONDER #3 CONTROL PANEL

1ST FLOOR

LOCATED IN ELEC. 1-SS006

SCALE: NTS

RSN: *1015415*

Permit #: *15-967545-LT*

NICET CERTIFICATION

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CERTIFICATE #: 93727

VALID THROUGH: 03/01/18

NANCY S. WILTSIE — DATE 5/4/15

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ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419.982434501
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SYSTEM: FIRE ALARM SYSTEM

SHEET: TRANSPONDER 3 - PANEL DETAIL

FA-501

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24" x 36" - Arch D Size

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24" x 36" Arch D Size

MAPNET CHANNEL N1:M1

Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1 2 3 4 5 6 7 8	9
N1:M1-1	ADRPUL	PULL	1:M1-1 FLR 1 W – EXIT BY X-RAY WAITING	X	ON
N1:M1-2	ADRPUL	PULL	1:M1-2 FLR 1W – EXIT HALL BY NUCLEAR MED	X	ON
N1:M1-3	ADRPUL	PULL	1:M1-3 FLR 1W – EXIT BY INTERVENTIONAL	X X	ON
N1:M1-4	ADRPUL	PULL	1:M1-4 FLR 1 CENTRAL TWR EXIT BY MRI	X	ON
N1:M1-5	RPHOTO	SDUCT	1:M1-5 X-RAY ROOF – AHU-97-9 DUCT D.	X X	ON
N1:M1-6	RPHOTO	SDUCT	1:M1-6 X-RAY ROOF – AHU-97-9 DUCT D	X X	ON
N1:M1-7	RPHOTO	SDUCT	1:M1-7 X-RAY ROOF – AHU-97-14 DUCT D	X X X	ON
N1:M1-8	RPHOTO	SDUCT	1:M1-8 X-RAY ROOF – AHU-97-14 DUCT D.	X	ON
N1:M1-9	RPHOTO	SDUCT	1:M1-9 X-RAY ROOF – AHU-97-15 DUCT D.	X X	ON
N1:M1-10	RPHOTO	SDUCT	1:M1-10 X-RAY ROOF – AHU-15 DUCT DET.	X X	ON
N1:M1-11	GENMAN	SD	1:M1-11 FLR 1 CENTRAL TWR X-RAY HALL	X X	ON
N1:M1-12	RZAM	RELAY	1:M1-12 X-RAY ROOF – AHU-97-9 DOWN	X X	ON
N1:M1-13	RZAM	RELAY	1:M1-13 X-RAY ROOF AHU 97-14 SHUTDOWN	X X	ON
N1:M1-14	RZAM	RELAY	1:M1-14 X-RAY ROOF AHU 97-15 SHUTDOWN	X X	ON
N1:M1-15	PHOTO	VSMOKE	1:M1-15 FLR 1W – HALL BY X-RAY WAITING	X X X X	ON
N1:M1-16	PHOTO	VSMOKE	1:M1-16 FLR 1W – X-RAY – PET SCAN	X	ON
N1:M1-17	PHOTO	VSMOKE	1:M1-17 FLR 1W – X-RAY – PET SCAN	X X	ON
N1:M1-18	PHOTO	VSMOKE	1:M1-18 FLR 1W – HALL BY X-RAY WAITING	X X	ON
N1:M1-19	PHOTO	VSMOKE	1:M1-19 FLR 1W – HALL BY X-RAY WAITING	X X X	ON
N1:M1-20	PHOTO	VSMOKE	1:M1-20 FLR 1W – X-RAY WAITING RM	X X	ON
N1:M1-21	PHOTO	VSMOKE	1:M1-21 FLR 1W – HALL BY X-RAY WAITING	X X X	ON
N1:M1-22	PHOTO	VSMOKE	1:M1-22 FLR 1W – HALL BY X-RAY WAITING	X X X	ON
N1:M1-23	PHOTO	VSMOKE	1:M1-23 FLR 1W – BY PATHOLOGY STAIRS	X X X X	ON
N1:M1-24	PHOTO	VSMOKE	1:M1-24 FLR 1W – HALL BY PATHOLOGY	X X	ON
N1:M1-25	PHOTO	VSMOKE	1:M1-25 FLR 1W – HALL BY PATHOLOGY	X X	ON
N1:M1-26	PHOTO	VSMOKE	1:M1-26 FLR 1W – HALL BY PATHOLOGY	X X	ON
N1:M1-27	PHOTO	VSMOKE	1:M1-27 FLR 1W – HALL BY O.R. DICTATION	X X X X	ON
N1:M1-28	PHOTO	VSMOKE	1:M1-28 FLR 1W – BY OPERATING RM 4	X X X	ON
N1:M1-29	PHOTO	VSMOKE	1:M1-29 FLR 1W – O.R. BACK STORAGE HALL	X X X X	ON
N1:M1-30	PHOTO	VSMOKE	1:M1-30 FLR 1W – O.R. BACK STORAGE HALL	X X X X	ON
N1:M1-31	PHOTO	VSMOKE	1:M1-31 FLR 1W – O.R. BACK STORAGE HALL	X X X X X	ON
N1:M1-32	PHOTO	VSMOKE	1:M1-32 FLR 1W – O.R. BACK STORAGE HALL	X	ON
N1:M1-33	PHOTO	VSMOKE	1:M1-33 FLR 1W – O.R. BACK STORAGE HALL	X X	ON
N1:M1-34	PHOTO	VSMOKE	1:M1-34 FLR 1W – O.R. BACK STORAGE HALL	X X	ON
N1:M1-35	PHOTO	VSMOKE	1:M1-35 FLR 1W – HALL BY MRI	X X X	ON
N1:M1-36	PHOTO	VSMOKE	1:M1-36 FLR 1W – PATHOLOGY LAB	X X	ON
N1:M1-37	PHOTO	VSMOKE	1:M1-37 FLR 1W – ULTRASOUND SUITE	X X X	ON
N1:M1-38	PHOTO	VSMOKE	1:M1-38 FLR 1W – ULTRASOUND SUITE	X X X	ON
N1:M1-39	PHOTO	VSMOKE	1:M1-39 FLR 1W – HALL BY X-RAY WAITING	X X X	ON
N1:M1-40	PHOTO	VSMOKE	1:M1-40 FLR 1W – HALL BY X-RAY OFFICES	X X	ON
N1:M1-41	PHOTO	VSMOKE	1:M1-41 FLR 1W – X-RAY WAITG RM	X X X	ON
N1:M1-42	PHOTO	VSMOKE	1:M1-42 FLR 1W – X-RAY OFFICE SUITE	X X X	ON
N1:M1-43	PHOTO	VSMOKE	1:M1-43 FLR 1W – X-RAY OFFICE SUITE	X X X X	ON
N1:M1-44	PHOTO	VSMOKE	1:M1-44 FLR 1W – X-RAY OFFICE SUITE	X X X	ON
N1:M1-45	PHOTO	VSMOKE	1:M1-45 FLR 1W – HALL BY X-RAY OFFICES	X X X X	ON
N1:M1-46	PHOTO	VSMOKE	1:M1-46 FLR 1W – HALL BY X-RAY OFFICES	X X X X	ON
N1:M1-47	PHOTO	VSMOKE	1:M1-47 FLR 1W – HALL BY NUCLEAR MED	X X X X	ON
N1:M1-48	PHOTO	VSMOKE	1:M1-48 FLR 1W – HALL BY NUCLEAR MED	X X	ON
N1:M1-49	PHOTO	VSMOKE	1:M1-49 FLR 1W – HALL BY NUCLEAR MED	X X X	ON
N1:M1-50	PHOTO	VSMOKE	1:M1-50 FLR 1W – NUCLEAR MEDICINE	X X X	ON
N1:M1-51	PHOTO	VSMOKE	1:M1-51 FLR 1W – NUCLEAR MEDICINE	X X X	ON
N1:M1-52	PHOTO	VSMOKE	1:M1-52 FLR 1W – NUCLEAR MED HOT LAB	X X X	ON
N1:M1-53	PHOTO	VSMOKE	1:M1-53 FLR 1W – HALL BY NUCLEAR MED	X X X X	ON
N1:M1-54	PHOTO	VSMOKE	1:M1-54 FLR 1W – EXIT HALL BY X-RAY 4	X X X X	ON
N1:M1-55	PHOTO	VSMOKE	1:M1-55 FLR 1W – EXIT HALL BY X-RAY 3	X X X X X	ON
N1:M1-56	PHOTO	VSMOKE	1:M1-56 FLR 1W – INTER-HALL BY X-RAY 3	X X X X	ON
N1:M1-57	PHOTO	VSMOKE	1:M1-57 FLR 1W – INTER-HALL BY X-RAY 3	X X X X	ON
N1:M1-58	PHOTO	VSMOKE	1:M1-58 FLR 1W – INTER-HALL BY X-RAY 3	X X X X	ON
N1:M1-59	PHOTO	VSMOKE	1:M1-59 FLR 1W – INTER-HALL BY X-RAY 4	X X X X	ON
N1:M1-60	PHOTO	VSMOKE	1:M1-60 FLR 1W – HALL BY CAT SCAN	X X X X	ON
N1:M1-61	PHOTO	VSMOKE	1:M1-61 FLR 1W – HALL BY CAT SCAN	X X X X X	ON
N1:M1-62	PHOTO	VSMOKE	1:M1-62 FLR 1W – HALL BY CAT SCAN	X X X X X	ON
N1:M1-63	PHOTO	VSMOKE	1:M1-63 FLR 1W – CAT SCAN SUITE	X X X X X X	ON
N1:M1-64	PHOTO	VSMOKE	1:M1-64 FLR 1W – HALL BY CAT SCAN	X	ON
N1:M1-65	PHOTO	VSMOKE	1:M1-65 FLR 1W – X-RAY RM 5 CHANGING	X	ON
N1:M1-66	PHOTO	VSMOKE	1:M1-66 FLR 1W – X-RAY TECH WORK AREA	X	ON
N1:M1-67	PHOTO	VSMOKE	1:M1-67 FLR 1W – X-RAY OFFICE BY RM 1	X X	ON
N1:M1-68	PHOTO	VSMOKE	1:M1-68 FLR 1W – X-RAY RM 1 CHANGING	X	ON
N1:M1-69	PHOTO	VSMOKE	1:M1-69 FLR 1W – HALL BY X-RAY LOUNGE	X X	ON
N1:M1-70	PHOTO	VSMOKE	1:M1-70 FLR 1W – HALL BY INTERVENTIONAL	X X X	ON
N1:M1-71	ADRPUL	PULL	1:M1-71 FL 1 CENTRL TWR MRI NRS STATION	X X X	ON
N1:M1-72	PHOTO	VSMOKE	1:M1-72 FLR 1 CENTRAL TWR HALL BY MRI	X	ON
N1:M1-73	RZAM	RELAY	1:M1-73 1ST FL ROLL UP DOOR	X X	ON
N1:M1-74	PHOTO	VSMOKE	1:M1-74 FLR 1W – HALL BY INTERVENTIONAL	X X X	ON
N1:M1-75	PHOTO	VSMOKE	1:M1-75 FLR 1W – INTERVENTIONAL X-RAY	X X X	ON
N1:M1-76	PHOTO	VSMOKE	1:M1-76 FLR 1W – HALL BY INTERVENTIONAL	X X	ON
N1:M1-77	PHOTO	VSMOKE	1:M1-77 FLR 1W – HALL BY INTERVENTIONAL	X X X	ON
N1:M1-78	PHOTO	VSMOKE	1:M1-78 FLR 1W – INTERVENTIONAL RM 3	X X X X	ON
N1:M1-79	PHOTO	VSMOKE	1:M1-79 FLR 1 – INTERVENTIONAL EQUIP. RM	X X X X X	ON
N1:M1-80	PHOTO	VSMOKE	1:M1-80 FLR 1W – INTERVENTIONAL X-RAY	X X X	ON
N1:M1-81	PHOTO	VSMOKE	1:M1-81 FLR 1W – INTERVENTIONAL X-RAY	X X X	ON
N1:M1-82	PHOTO	VSMOKE	1:M1-82 FLR 1W – INTERVENTIONAL X-RAY	X X X	ON
N1:M1-83	PHOTO	VSMOKE	1:M1-83 FLR 1W – HALL BY MRI EQUIP. RM	X X X X	ON
N1:M1-84	PHOTO	VSMOKE	1:M1-84 FLR 1W – HALL BY MRI EQUIP. RM	X X X	ON
N1:M1-85			SPARE	X X X X	ON
N1:M1-86			SPARE	X X X X	ON
N1:M1-87			SPARE	X X X X X	ON
N1:M1-88			SPARE	X X X X	ON
N1:M1-89	PHOTO	VSMOKE	1:M1-89 FLR 1W – HALL BY MRI	X X X X	ON
N1:M1-90	PHOTO	VSMOKE	1:M1-90 FLR 1W – HALL BY MRI	X X X X	ON
N1:M1-91	PHOTO	VSMOKE	1:M1-91 FLR 1W – X-RAY – PET SCAN	X X X X X	ON
N1:M1-92	PHOTO	VSMOKE	1:M1-92 FLR 1W – O.R. BACK STORAGE HALL	X X X X	ON
N1:M1-93	GENMAM	SD	1:M1-93 FLR 1W – BLOOD BANK TAMPER	X X X X X	ON
N1:M1-94	GENMAM	WATER	1:M1-94 FLR 1W – BLOOD BANK TAMPER	X X X X X	ON
N1:M1-95	MBZAM	HEAT	1:M1-95 FLR 1W – MRI SCANNER ROOM	X X X X X X	ON
N1:M1-96	PHOTO	VSMOKE	1:M1-96 FLR 1W – MRI CONTROL RM	X X	ON
N1:M1-97	PHOTO	VSMOKE	1:M1-97 FLR 1W – MRI SUITE	X X	ON
N1:M1-98	PHOTO	VSMOKE	1:M1-98 FLR 1W – MRI EQUIPMENT RM	X X	ON
N1:M1-99	PHOTO	VSMOKE	1:M1-99 FLR 1W – INTERVENTIONAL X-RAY	X X X	ON
N1:M1-100	PHOTO	VSMOKE	1:M1-100 FLR 1W – INTERVENTIONAL BAY 2	X X	ON
N1:M1-101	PHOTO	VSMOKE	1:M1-101 FLR 1W – INTERVENTIONAL BAY 1	X X X	ON
N1:M1-102	PHOTO	VSMOKE	1:M1-102 FLR 1W – INTERVENTIONAL N.STAT.	X X X X	ON
N1:M1-103	RPHOTO	SDUCT	1:M1-103 FLR 1W – HALL BY INTERVENTIONAL	X X X X	ON
N1:M1-104			SPARE	X X X	ON
N1:M1-105	PHOTO	VSMOKE	1:M1-105 FLR 1W – ROOM BEHIND PHARMACY	X X X X	ON
N1:M1-106			SPARE	X X X X	ON
N1:M1-107	PHOTO	VSMOKE	1:M1-107 FLR 1 W – OR STORAGE	X X X X X	ON
N1:M1-108			SPARE	X X X X	ON
N1:M1-109			SPARE	X X X X X	ON
N1:M1-110			SPARE	X X X X X	ON
N1:M1-111			SPARE	X X X X X X	ON
N1:M1-112			SPARE	X X X X	ON
N1:M1-113			SPARE	X X X X X	ON
N1:M1-114			SPARE	X X X X	ON
N1:M1-115			SPARE	X X X X X	ON
N1:M1-116			SPARE	X X X X	ON
N1:M1-117			SPARE	X X X X X	ON
N1:M1-118			SPARE	X X X X X	ON
N1:M1-119			SPARE	X X X X X X	ON
N1:M1-120			SPARE	X X X X X	ON
N1:M1-121			SPARE	X X X X X X	ON
N1:M1-122			SPARE	X X X X X	ON
N1:M1-123			SPARE	X X X X X X	ON
N1:M1-124			SPARE	X X X X X	ON
N1:M1-125			SPARE	X X X X X X	ON
N1:M1-126			SPARE	X X X X X X	ON
N1:M1-127			SPARE	X X X X X X X	ON

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POINTS SHOWN IN ITALIC TEXT REFER TO EXISTING DEVICES.

MAPNET CHANNEL N1:M2

Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1 2 3 4 5 6 7 8	9
N1:M2-1	GENMAM	SD	1:M2-1 DOCK – FIRE PUMP POWER LOSS	X	ON
N1:M2-2	GENMAM	SD	1:M2-2 DOCK – FIRE PUMP ISOLATION VALVE	X	ON
N1:M2-3	GENMAM	WATER	1:M2-3 DOCK – FIRE PUMP CONTROL #1	X X	ON
N1:M2-4	GENMAM	SD	1:M2-4 DOCK FIRE PUMP BY-PASS TAMPER	X	ON
N1:M2-5	GENMAM	SD	1:M2-5 DOCK PUMP RM TEST HEADER	X	ON
N1:M2-6	GENMAM	SD	1:M2-6 DOCK FIRE PUMP BY-PASS TAMPER	X X	ON
N1:M2-7	GENMAM	SD	1:M2-7 DOCK – FIRE PUMP MANIFOLD	X X X	ON
N1:M2-8	GENMAM	WATER	1:M2-8 DOCK – FIRE PUMP AREA B FLOW	X	ON
N1:M2-9	GENMAM	SD	1:M2-9 DOCK – FIRE PUMP AREA B TAMPER	X X	ON
N1:M2-10	GENMAM	SD	1:M2-10 DOCK – FIRE PUMP ISOLATION VALVE	X X	ON
N1:M2-11	GENMAM	WATER	1:M2-11 DOCK – FIRE PUMP AREA A FLOW	X X	ON
N1:M2-12	GENMAM	SD	1:M2-12 DOCK – FIRE PUMP AREA A TAMPER	X X	ON
N1:M2-13	GENMAM	WATER	1:M2-13 DOCK – FIRE PUMP AREA C FLOW	X X X	ON
N1:M2-14	GENMAM	SD	1:M2-14 DOCK – FIRE PUMP AREA C TAMPER	X X X	ON
N1:M2-15	GENMAM	WATER	1:M2-15 DOCK – FIRE PUMP AREA D FLOW	X X X X	ON
N1:M2-16	GENMAM	SD	1:M2-16 DOCK – FIRE PUMP AREA D TAMPER	X	ON
N1:M2-17	GENMAM	WATER	1:M2-17 DOCK – FIRE PUMP – RAD/ER FLOW	X X	ON
N1:M2-18	GENMAM	SD	1:M2-18 DOCK–FIRE PUMP–RAD/ER TAMPER	X X	ON
N1:M2-19	GENMAM	SD	1:M2-19 DOCK – FIRE PUMP POWER SWITCH	X X X	ON
N1:M2-20	GENMAM	TROUBLE	1:M2-20 DOCK – FIRE PUMP RUN TROUBLE	X X X	ON
N1:M2-21	GENMAM	SD	1:M2-21 DOCK PUMP RM FLOW SWITCH	X X X	ON
N1:M2-22	GENMAM	SD	1:M2-22 BSMT FIRE PUMP POWER LOSS	X X X	ON
N1:M2-23	GENMAM	SD	1:M2-23 DOCK–FIRE PUMP REVERSED PHASE	X X X	ON
N1:M2-24	RZAM	COMPER	1:M2-24 AHU-2 SMK DAMPERS MECH ROOM	X X	ON
N1:M2-25	RZAM	RELAY	1:M2-25 ELEVATOR #5 SHUNT TRIP	X X	ON
N1:M2-26	RZAM	RELAY	1:M2-26 ELEVATOR #5 WON DOOR	X X X	ON
N1:M2-27	RZAM	COMPER	1:M2-27 AHU-1 SMK DAMPERS MECH ROOM	X X X	ON
N1:M2-28	GENMAM	SD	1:M2-28 BSMT ELEV 5 PIT DETECTOR	X X X X	ON
N1:M2-29	RPHOTO	SDUCT	1:M2-29 BSMT – MECH RM AHU-97-1 DUCT	X X X X	ON
N1:M2-30	RPHOTO	SDUCT	1:M2-30 BSMT AHU-1 MECH RM DUCT DETECTOR	X X X X	ON
N1:M2-31	RPHOTO	SDUCT	1:M2-31 BSMT AHU-2 MECH RM DUCT DETECTOR	X X X X X	ON
N1:M2-32	RPHOTO	SDUCT	1:M2-32 BSMT – MECH RM AHU-97-2 DUCT	X	ON
N1:M2-33	ADRPUL	PULL	1:M2-33 BSMT – HALLWAY PULL STATION	X X	ON
N1:M2-34	ADRPUL	PULL	1:M2-34 LOADING DOCK FIRE PUMP RM	X X	ON
N1:M2-35	ADRPUL	PULL	1:M2-35 BSMT – MATERIALS MGMT. PULL	X X X	ON
N1:M2-36	ADRPUL	PULL	1:M2-36 BSMT – MATERIALS MGMT. PULL	X X	ON
N1:M2-37	HEAT	HEAT	1:M2-37 BSMT – MECH RM BY DOCK DOORS	X X X	ON
N1:M2-38	HEAT	HEAT	1:M2-38 BSMT – MECH RM BY DOCK DOORS	X X X	ON
N1:M2-39	PHOTO	VSMOKE	1:M2-39 BSMT CENTRAL TWR HALL	X X X	ON
N1:M2-40	PHOTO	VSMOKE	1:M2-40 BSMT CENTRAL TWR HALL	X X	ON
N1:M2-41	PHOTO	VSMOKE	1:M2-41 BSMT – ELEVATOR LOBBY	X X X	ON
N1:M2-42	PHOTO	VSMOKE	1:M2-42 BSMT – MAIN HALLWAY	X X X	ON
N1:M2-43	PHOTO	VSMOKE	1:M2-43 BSMT – MAIN HALLWAY	X X X X	ON
N1:M2-44	PHOTO	VSMOKE	1:M2-44 BSMT – MAIN HALLWAY	X X X	ON
N1:M2-45	PHOTO	VSMOKE	1:M2-45 BSMT – ELEV.5 EQUIP. RM	X X X	ON
N1:M2-46	HEAT	HEAT	1:M2-46 BSMT – ELEV.5 EQUIP. RM	X X X X	ON
N1:M2-47	PHOTO	VSMOKE	1:M2-47 BSMT – ELEV.5 PIT DETECTOR	X X X X	ON
N1:M2-48	HEAT	HEAT	1:M2-48 BSMT – ELEV.5 PIT DETECTOR	X X	ON
N1:M2-49	PHOTO	VSMOKE	1:M2-49 BSMT CENTRAL TWR MATERIALS MGMT.	X X X	ON
N1:M2-50	PHOTO	VSMOKE	1:M2-50 BSMT CENTRAL TWR MATERIALS MGMT.	X X X	ON
N1:M2-51	PHOTO	VSMOKE	1:M2-51 BSMT CENTRAL TWR MATERIALS MGMT.	X X X	ON
N1:M2-52	PHOTO	VSMOKE	1:M2-52 BSMT LUNCH CART STORAGE RM	X X X X	ON
N1:M2-53	PHOTO	VSMOKE	1:M2-53 LOADING DOCK MEDICAL GAS STORAGE	X X X X	ON
N1:M2-54	HEAT	HEAT	1:M2-54 LOADING DOCK FIRE PUMP RM	X X X X	ON
N1:M2-55	PHOTO	VSMOKE	1:M2-55 BSMT – MAILROOM	X X X X	ON
N1:M2-56	PHOTO	VSMOKE	1:M2-56 BSMT – MATERIALS MGMT. OFFICES	X X X X	ON
N1:M2-57	PHOTO	VSMOKE	1:M2-57 BSMT – MATERIALS MGMT. OFFICES	X X X X	ON
N1:M2-58	PHOTO	VSMOKE	1:M2-58 BSMT – MATERIALS MGMT.	X X X X	ON
N1:M2-59	PHOTO	VSMOKE	1:M2-59 BSMT – MATERIALS MGMT.	X X X X	ON
N1:M2-60	PHOTO	VSMOKE	1:M2-60 BSMT – MATERIALS MGMT.	X X X X	ON
N1:M2-61	PHOTO	VSMOKE	1:M2-61 FLR 1W – ELEV.5 TOP OF SHAFT	X X X X X	ON
N1:M2-62	HEAT	HEAT	1:M2-62 FLR 1W – ELEV.5 TOP OF SHAFT	X X X X X	ON
N1:M2-63	GENMAM	WATER	1:M2-63 DOCK – PUMP ANTI-FREEZE TAMPER	X X X X X	ON
N1:M2-64	GENMAM	SD	1:M2-64 DOCK – PUMP ANTI-FREEZE FLOW	X	ON
N1:M2-65	RZAM	COMPER	1:M2-65 FAN SHUTDOWN FOR AHU A & C	X	ON
N1:M2-66	PHOTO	VSMOKE	1:M2-66 BSMT – EVS TRAINING ROOM	X X	ON
N1:M2-67	PHOTO	VSMOKE	1:M2-67 BSMT CENTRAL TWR EVS OFFICE	X X	ON
N1:M2-68	PHOTO	VSMOKE	1:M2-68 BSMT – O.R. MATERIALS MGMT.	X X	ON
N1:M2-69	PHOTO	VSMOKE	1:M2-69 BSMT CENTRAL TWR O.R. SUPPLY RM	X X X	ON
N1:M2-70	PHOTO	VSMOKE	1:M2-70 BSMT CENTRAL TWR O.R. SUPPLY RM	X X X	ON
N1:M2-71			SPARE	X X X	ON
N1:M2-72	GENMAM	SUPERV	1:M2-72 PARKING GARAGE FIRE ALARM	X	ON
N1:M2-73			SPARE	X X X	ON
N1:M2-74	PHOTO	VSMOKE	1:M2-74 BSMT – O.R. SUPPLY IN CEILING	X X X	ON
N1:M2-75			SPARE	X X X	ON
N1:M2-76	PHOTO	VSMOKE	1:M2-76 BSMT – MATERIAL MGMT STOREROOM	X X X	ON
N1:M2-77			SPARE	X X X X	ON
N1:M2-78	PHOTO	VSMOKE	1:M2-78 BSMT CENTRAL TWR O.R. SUPPLY	X X X X	ON
N1:M2-79			SPARE	X X X X	ON
N1:M2-80			SPARE	X X X	ON
N1:M2-81	PHOTO	VSMOKE	1:M2-81 BSMT – EVS BULK STORAGE AREA	X X X	ON
N1:M2-82	PHOTO	VSMOKE	1:M2-82 BSMT – EVS OFFICE AREA	X X X	ON
N1:M2-83	PHOTO	VSMOKE	1:M2-83 BSMT – EVS OFFICE AREA	X X X	ON
N1:M2-84	PHOTO	VSMOKE	1:M2-84 BSMT – EVS AREA IN CEILING ?	X X X	ON
N1:M2-85	PHOTO	VSMOKE	1:M2-85 BSMT – EVS LOUNGE AREA	X X X	ON
N1:M2-86	PHOTO	VSMOKE	1:M2-86 BSMT – EVS LOUNGE AREA	X X X	ON
N1:M2-87	PHOTO	VSMOKE	1:M2-87 BSMT – EVS BACK HALLWAY	X X X X	ON
N1:M2-88	PHOTO	VSMOKE	1:M2-88 BSMT – EVS BACK HALLWAY	X X X	ON
N1:M2-89	PHOTO	VSMOKE	1:M2-89 BSMT – EVS BACK HALLWAY	X X X X	ON
N1:M2-90	RZAM	COMPER	1:M2-90 BASEMENT MATERIALS MANAGEMENT	X X X X	ON
N1:M2-91			SPARE	X X X X	ON
N1:M2-92			SPARE	X X X	ON
N1:M2-93			SPARE	X X X X X	ON
N1:M2-94			SPARE	X X X X	ON
N1:M2-95			SPARE	X X X X X	ON
N1:M2-96			SPARE	X X	ON
N1:M2-97			SPARE	X X	ON
N1:M2-98			SPARE	X X X	ON
N1:M2-99			SPARE	X X X	ON
N1:M2-100			SPARE	X X	ON
N1:M2-101			SPARE	X X X	ON
N1:M2-102			SPARE	X X X	ON
N1:M2-103			SPARE	X X X X	ON
N1:M2-104			SPARE	X X X	ON
N1:M2-105			SPARE	X X X X	ON
N1:M2-106			SPARE	X X X X	ON
N1:M2-107			SPARE	X X X X	ON
N1:M2-108			SPARE	X X X X	ON
N1:M2-109			SPARE	X X X X X	ON
N1:M2-110			SPARE	X X X X X	ON
N1:M2-111			SPARE	X X X X X	ON
N1:M2-112			SPARE	X X X X	ON
N1:M2-113			SPARE	X X X X X	ON
N1:M2-114			SPARE	X X X X	ON
N1:M2-115			SPARE	X X X X X	ON
N1:M2-116			SPARE	X X X X	ON
N1:M2-117			SPARE	X X X X X	ON
N1:M2-118			SPARE	X X X X X	ON
N1:M2-119			SPARE	X X X X X	ON
N1:M2-120			SPARE	X X X X X	ON
N1:M2-121			SPARE	X X X X X X	ON
N1:M2-122			SPARE	X X X X X	ON
N1:M2-123			SPARE	X X X X X X	ON
N1:M2-124			SPARE	X X X X X	ON
N1:M2-125			SPARE	X X X X X X	ON
N1:M2-126			SPARE	X X X X X X	ON
N1:M2-127			SPARE	X X X X X X X	ON

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MAPNET CHANNEL N1:M3

Address	Device Type	Point Type	Location Description	SWITCH SETTINGS 1 2 3 4 5 6 7 8	9
N1:M3-1	ADRPUL	PULL	1:M3-1 FLR 1E – EXIT BY PHARMACY	X	ON
N1:M3-2	ADRPUL	PULL	1:M3-2 FLR 1E – E.D. DECK ELEC. RM	X	ON
N1:M3-3			SPARE	X X	ON
N1:M3-4			SPARE	X	ON
N1:M3-5	ADRPUL	PULL	1:M3-5 FLR 1E – E.D. WAITING RM	X X	ON
N1:M3-6	ADRPUL	PULL	1:M3-6 FLR 1E – EXIT BY E.D. WAITING RM	X X	ON
N1:M3-7			SPARE	X X X	ON
N1:M3-8	RZAM	RELAY	1:M3-8 1ST FL ELEVATOR #5 WON DOOR	X	ON
N1:M3-9	PHOTO	VSMOKE	1:M3-9 FLR 1E – E.D. SUTURE D/C	X X	ON
N1:M3-10	RZAM	RRELAY	1:M3-10 1ST FL CONTROL FOR AUTO DOORS	X X	ON
N1:M3-11	GENMAM	SD	1:M3-11 FLR 1E–ER GLYCOL LOOP IN CEILING	X X	ON
N1:M3-12	PHOTO	VSMOKE	1:M3-12 FLR 1E – E.D. ORTHO/D/C	X X X	ON
N1:M3-13	GENMAM	SD	1:M3-13 BSMT ELEV 5 SWAT TAMPER SWITCH	X X X	ON
N1:M3-14	PHOTO	VSMOKE	1:M3-14 FLR 1W – HALL BY MRI	X X X	ON
N1:M3-15	PHOTO	VSMOKE	1:M3-15 FLR 1W – HALL BY LAB	X X X X	ON
N1:M3-16			SPARE	X	ON
N1:M3-17			SPARE	X X	ON
N1:M3-18			SPARE	X X	ON
N1:M3-19			SPARE	X X X	ON
N1:M3-20			SPARE	X X X	ON
N1:M3-21	PHOTO	VSMOKE	1:M3-21 FLR 1W – HALL BY PHARMACY	X X X	ON
N1:M3-22			SPARE	X X X	ON
N1:M3-23			SPARE	X X X	ON
N1:M3-24			SPARE	X X X	ON
N1:M3-25	PHOTO	VSMOKE	1:M3-25 FLR 1E – HALL BY PHARMACY	X X X	ON
N1:M3-26	PHOTO	VSMOKE	1:M3-26 FLR 1E – EXIT HALL BY PHARMACY	X X X	ON
N1:M3-27	PHOTO	VSMOKE	1:M3-27 FLR 1E – EXIT HALL BY PHARMACY	X X X	ON
N1:M3-28	PHOTO	VSMOKE	1:M3-28 FLR 1E – EXIT HALL BY PHARMACY	X X X X	ON
N1:M3-29	PHOTO	VSMOKE	1:M3-29 FLR 1E – EXIT HALL BY PHARMACY	X X X X	ON
N1:M3-30	PHOTO	VSMOKE	1:M3-30 FLR 1E – E.D. – WEST ENTRANCE	X X X X	ON
N1:M3-31	PHOTO	VSMOKE	1:M3-31 FLR 1E – E.D. – BY EXAM RM 6	X X X X X	ON
N1:M3-32	PHOTO	VSMOKE	1:M3-32 FLR 1E – E.D. – Q/S FAM CON 5310	X	ON
N1:M3-33	PHOTO	VSMOKE	1:M3-33 FLR 1E – E.D. – BY EXAM RM7	X X	ON
N1:M3-34			SPARE	X X	ON
N1:M3-35	PHOTO	VSMOKE	1:M3-35 FLR 1E – E.D. BY TRAUMA 1–5324	X X X	ON
N1:M3-36			SPARE	X X	ON
N1:M3-37	PHOTO	VSMOKE	1:M3-37 FLR 1E – E.D. HALL BY RM 20	X X X	ON
N1:M3-38	PHOTO	VSMOKE	1:M3-38 FLR 1E – E.D. HALL BY RM 15	X X X	ON
N1:M3-39	PHOTO	VSMOKE	1:M3-39 FLR 1E – E.D. HALL BY RM 17	X X X	ON
N1:M3-40	PHOTO	VSMOKE	1:M3-40 FLR 1E – E.D. HALL BY RM 19	X X	ON
N1:M3-41	PHOTO	VSMOKE	1:M3-41 FLR 1E – E.D. HALL BY RM 32	X X X	ON
N1:M3-42	PHOTO	VSMOKE	1:M3-42 FLR 1E – E.D. HALL BY RM 28	X X X	ON
N1:M3-43	PHOTO	VSMOKE	1:M3-43 FLR 1E – E.D. HALL BY RM 24	X X X X	ON
N1:M3-44	PHOTO	VSMOKE	1:M3-44 FLR 1E – E.D. HALL BY RM 25	X X X	ON
N1:M3-45	PHOTO	VSMOKE	1:M3-45 FLR 1E – E.D. HALL BY RM 25	X X X X	ON
N1:M3-46	PHOTO	VSMOKE	1:M3-46 FLR 1E– E.D. ELEC RM 1E–5902A	X X X X	ON
N1:M3-47

MAPNET CHANNEL N1:M4				SWITCH SETTINGS								
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8	9
N1;M4-1	GENAM	SO	1:M4-1 FLR 1 CENTRAL TWR ELEVATOR 1	X								ON
N1;M4-2	GENAM	SO	1:M4-2 FLR 1 CENTRL TWR O.R. ELEVATOR RM		X							ON
N1;M4-3	RZAM	SUPDET	1:M4-3 FLR 1 KITCHEN HOOD SUPPRESSION	X	X							ON
N1;M4-4	RZAM	RRELAY	1:M4-4 1ST FLR MDF LIEBERT UNIT CONTROL			X						ON
N1;M4-5	RZAM	RRELAY	1:M4-5 1ST FLR MDF LIEBERT UNIT CONTROL	X		X						ON
N1;M4-6	RZAM	RELAY	1:M4-6 SURGERY ROLLUP DOOR IN PHARMACY		X	X						ON
N1;M4-7	RZAM	RELAY	1:M4-7 FLR 1 CENTRAL TOWER ELEVATOR #1	X	X	X						ON
N1;M4-8	RZAM	RELAY	1:M4-8 FLR 1 CENTRAL TOWER ELEVATOR #1				X					ON
N1;M4-9	RZAM	RELAY	1:M4-9 FLR 2 CENTRL B ELEVATOR ROLL DOWN	X			X					ON
N1;M4-10	RZAM	RELAY	1:M4-10 FLR 3 CTRL B ELEVATOR ROLL DOWN		X		X					ON
N1;M4-11	RZAM	RELAY	1:M4-11 FLR 4 CTRL B ELEVATOR ROLL DOWN	X	X		X					ON
N1;M4-12	RZAM	RELAY	1:M4-12 CENTRAL TOWER ELEVATOR 1			X	X					ON
N1;M4-13	RZAM	RELAY	1:M4-13 CENTRAL TOWER ELEVATOR #6 RECALL	X		X	X					ON
N1;M4-14	RZAM	RELAY	1:M4-14 CENTRAL TOWER ELEVATOR #6 RECALL		X	X	X					ON
N1;M4-15	RZAM	RELAY	1:M4-15 CENTRAL TOWER ELEVATOR 1	X	X	X	X					ON
N1;M4-16	RZAM	RELAY	1:M4-16 CENTRAL TOWER ELEV #6 SHUNT TRIP					X				ON
N1;M4-17	RZAM	RELAY	1:M4-17 FLR 1 CENTRAL TOWER GIFT SHOP	X				X				ON
N1;M4-18	RZAM	RELAY	1:M4-18 FLR 1 KITCHEN FIRE DOORS		X			X				ON
N1;M4-19	RZAM	RELAY	1:M4-19 FLR 1 CTRL TWR ELEV 3 SHUNT TRIP	X	X			X				ON
N1;M4-20	RZAM	COMPTR	1:M4-20 FLR 1 CENTRAL PLANT AHU-97-6		X			X				ON
N1;M4-21	GENAM	TROUBLE	1:M4-21 FLR 1 CENTRL TWR HALON IN I.T. R	X		X		X				ON
N1;M4-22	GENAM	FIRE	1:M4-22 FLR 1 CENTRL TWR HALON IN I.T. R		X	X		X				ON
N1;M4-23			SPARE	X	X	X		X				ON
N1;M4-24			SPARE				X	X				ON
N1;M4-25	HEAT	HEAT	1:M4-25 FLR 1E – DINING RM GRILLE AREA	X				X	X			ON
N1;M4-26	HEAT	HEAT	1:M4-26 FLR 1W – ELEVATOR 4 IN PIT		X			X	X			ON
N1;M4-27	HEAT	HEAT	1:M4-27 FLR 1W – ELEVATOR 1 & 2 IN PIT	X	X			X	X			ON
N1;M4-28	HEAT	HEAT	1:M4-28 FLR 1W – ELEVATOR 1 & 2 IN PIT			X	X	X				ON
N1;M4-29	HEAT	HEAT	1:M4-29 FLR 1W – ELEV. 1	X		X	X	X				ON
N1;M4-30	HEAT	HEAT	1:M4-30 FLR 5 CENTRAL A–ELEV. 1&2 SHAFT			X	X	X				ON
N1;M4-31	HEAT	HEAT	1:M4-31 FLR 5W – CENTRAL A–ELEV. 4 SHAFT	X	X	X	X	X				ON
N1;M4-32	PHOTO	VSMOKE	1:M4-32 FLR 1W – ELEV. 1						X			ON
N1;M4-33	PHOTO	VSMOKE	1:M4-33 FLR 1W – ELEV.4 BACK LOBBY	X					X			ON
N1;M4-34	PHOTO	VSMOKE	1:M4-34 FLR 1W – ELEV.4 BACK LOBBY		X				X			ON
N1;M4-35	PHOTO	VSMOKE	1:M4-35 FLR 1E – HALL BESIDE CHAPEL	X	X				X			ON
N1;M4-36	PHOTO	VSMOKE	1:M4-36 FLR 2 CENTRAL TWR A – ELEV. LOB.			X			X			ON
N1;M4-37	PHOTO	VSMOKE	1:M4-37 FLR 2 CENTRAL TWR A – ELEV. LOB.	X		X			X			ON
N1;M4-38	PHOTO	VSMOKE	1:M4-38 FLR 3 CENTRAL TWR A – ELEV. LOB.		X	X			X			ON
N1;M4-39	PHOTO	VSMOKE	1:M4-39 FLR 3 CENTRAL TWR A – ELEV. LOB.	X	X	X			X			ON
N1;M4-40	PHOTO	VSMOKE	1:M4-40 FLR 4 CENTRAL TWR A – ELEV. LOB.				X		X			ON
N1;M4-41	PHOTO	VSMOKE	1:M4-41 FLR 4 CENTRAL TWR A – ELEV. LOB.	X			X		X			ON
N1;M4-42	PHOTO	VSMOKE	1:M4-42 FLR 5 CENTRAL A – ELEV. 1 LOBBY		X	X	X		X			ON
N1;M4-43	PHOTO	VSMOKE	1:M4-43 FLR 5 CENTRAL A–ELEV. 4 LOBBY	X	X		X		X			ON
N1;M4-44	PHOTO	VSMOKE	1:M4-44 FLR 2 CENTRL TWR A LOBBY WAITING			X	X		X			ON
N1;M4-45	PHOTO	VSMOKE	1:M4-45 FLR 1W – HALL BY SURGERY WAITING	X		X	X		X			ON
N1;M4-46	PHOTO	VSMOKE	1:M4-46 FLR 1E – HALL BY GIFT SHOP		X	X	X		X			ON
N1;M4-47	PHOTO	VSMOKE	1:M4-47 FLR 1E – CEILING BY GIFT SHOP	X	X	X	X		X			ON
N1;M4-48	PHOTO	VSMOKE	1:M4-48 FLR 1E – HALL BESIDE CHAPEL					X	X			ON
N1;M4-49	PHOTO	VSMOKE	1:M4-49 FLR 1E – HALL BESIDE CHAPEL	X				X	X			ON
N1;M4-50	PHOTO	VSMOKE	1:M4-50 FLR 1E – BY HUMAN RESOURCES		X			X	X			ON
N1;M4-51			SPARE	X	X			X	X			ON
N1;M4-52	PHOTO	VSMOKE	1:M4-52 FLR 1E – BY HUMAN RESOURCES			X		X	X			ON
N1;M4-53	PHOTO	VSMOKE	1:M4-53 FLR 1W – ELEV.1	X		X		X	X			ON
N1;M4-54	PHOTO	VSMOKE	1:M4-54 FLR 1W – ELEV.6 MACHINE RM		X	X		X	X			ON
N1;M4-55	HEAT	HEAT	1:M4-55 FLR 1W – ELEV.6 EQUIP. RM	X	X	X		X	X			ON
N1;M4-56	HEAT	HEAT	1:M4-56 FLR 1W – ELEV.6 IN ELEVATOR PIT				X	X	X			ON
N1;M4-57	HEAT	HEAT	1:M4-57 FLR 5 CENTRAL TWR A–ELEV.6 SHAFT	X			X	X	X			ON
N1;M4-58	PHOTO	VSMOKE	1:M4-58 FLR 1 CTRL TWR O.R. ELEV. LOBBY		X		X	X	X			ON
N1;M4-59	PHOTO	VSMOKE	1:M4-59 FLR 2 CENTRAL TWR A – BY RM 205	X	X		X	X	X			ON
N1;M4-60	PHOTO	VSMOKE	1:M4-60 FLR 3 CENTRAL TWR A – BY RM 304			X	X	X	X			ON
N1;M4-61	PHOTO	VSMOKE	1:M4-61 FLR 4 CENTRAL TWR A – BY RM 406	X		X	X	X	X			ON
N1;M4-62	PHOTO	VSMOKE	1:M4-62 FLR 5 CENTRAL TWR A–ELEV.6 LOBBY			X	X	X	X			ON
N1;M4-63	PHOTO	VSMOKE	1:M4-63 FLR 1E – MEDICAL STAFF LIBRARY	X	X	X	X	X	X			ON
N1;M4-64	PHOTO	VSMOKE	1:M4-64 FLR 1E – HALL BY ELEVATOR NO.6							X		ON
N1;M4-65	PHOTO	VSMOKE	1:M4-65 FLR 1E – HALL BY ELEVATOR NO.6	X						X		ON
N1;M4-66	PHOTO	VSMOKE	1:M4-66 FLR 1E – HALL BY ELEVATOR NO.6		X					X		ON
N1;M4-67	PHOTO	VSMOKE	1:M4-67 FLR 1E – HALL BY ELEVATOR NO.6	X	X					X		ON
N1;M4-68	PHOTO	VSMOKE	1:M4-68 FLR 1E–HALL WEST OF DOCS DINING			X				X		ON
N1;M4-69	PHOTO	VSMOKE	1:M4-69 FLR 1E – HUMAN RESOURCES	X		X				X		ON
N1;M4-70	PHOTO	VSMOKE	1:M4-70 FLR 1E – HALL BESIDE H.R.		X	X				X		ON
N1;M4-71	PHOTO	VSMOKE	1:M4-71 FLR 1E – HALL BESIDE H.R.	X	X	X				X		ON
N1;M4-72	PHOTO	VSMOKE	1:M4-72 FLR 1E – HALL IN FRONT OF H.R.				X			X		ON
N1;M4-73	PHOTO	VSMOKE	1:M4-73 FLR 1E – HALL IN FRONT OF H.R.	X			X			X		ON
N1;M4-74	PHOTO	VSMOKE	1:M4-74 FLR 1 CTRL TWR HALL BY CAFETERIA		X	X				X		ON
N1;M4-75	PHOTO	VSMOKE	1:M4-75 FLR 1E – INFORMATION SYSTEMS	X	X		X			X		ON
N1;M4-76	PHOTO	VSMOKE	1:M4-76 FLR 1E – INFORMATION SYSTEMS			X	X			X		ON
N1;M4-77	PHOTO	VSMOKE	1:M4-77 FLR 1E – INFORMATION SYSTEMS	X		X	X			X		ON
N1;M4-78	PHOTO	VSMOKE	1:M4-78 FLR 1E – HALL BY DISH ROOM		X	X	X			X		ON
N1;M4-79	PHOTO	VSMOKE	1:M4-79 FLR 1E – HALL BY DISH ROOM	X	X	X	X			X		ON
N1;M4-80	PHOTO	VSMOKE	1:M4-80 FLR 1E – HALL BY DISH ROOM					X		X		ON
N1;M4-81	PHOTO	VSMOKE	1:M4-81 FLR 1 CTRL TWR HALL BY CAFETERIA	X				X		X		ON
N1;M4-82	PHOTO	VSMOKE	1:M4-82 FLR 1E – HALL BY KITCHEN		X			X		X		ON
N1;M4-83	PHOTO	VSMOKE	1:M4-83 FLR 1E – HALL BY KITCHEN	X	X			X		X		ON
N1;M4-84	PHOTO	VSMOKE	1:M4-84 FLR 1E – ENTRY HALL TO H.R.			X		X		X		ON
N1;M4-85	PHOTO	VSMOKE	1:M4-85 FLR 1E – HUMAN RESOURCES	X		X		X		X		ON
N1;M4-86	PHOTO	VSMOKE	1:M4-86 FLR 1E – HALL BY NRSG. OFFICE		X	X		X		X		ON
N1;M4-87	PHOTO	VSMOKE	1:M4-87 FLR 1E – HALL BY NRSG. OFFICE	X	X	X		X		X		ON
N1;M4-88	PHOTO	VSMOKE	1:M4-88 FLR 1E – COPY RM BY STAFFING				X	X		X		ON
N1;M4-89	PHOTO	VSMOKE	1:M4-89 FLR 1E – OFFICE NEXT TO COPY RM	X			X	X		X		ON
N1;M4-90	PHOTO	VSMOKE	1:M4-90 FLR 1E – OLD FIRE COMMAND CTR		X		X	X		X		ON
N1;M4-91	PHOTO	VSMOKE	1:M4-91 FLR 5 CENTRAL A – ELEV.1&2 SHAFT	X	X		X	X		X		ON
N1;M4-92	PHOTO	VSMOKE	1:M4-92 FLR 5W – CENTRAL B ELEV.4 SHAFT			X	X	X		X		ON
N1;M4-93	PHOTO	VSMOKE	1:M4-93 FLR 5 CENTRAL A – ELEV.6 SHAFT	X		X	X	X		X		ON
N1;M4-94	RZAM	COMPTR	1:M4-95 FLR 1E – UTILITY PLANT–AHU 97–6		X	X	X	X		X		ON
N1;M4-95	RPHOTO	SDUCT	1:M4-96 FLR 1E – UTILITY PLANT–AHU 97–6	X	X	X	X	X		X		ON
N1;M4-96	RPHOTO	SDUCT	1:M4-97 FLR 1E – UTILITY PLANT–AHU 97–6					X	X			ON
N1;M4-97	RPHOTO	SDUCT	1:M4-98 FLR 1E – HALL BY STAFFING OFFICE	X				X	X			ON
N1;M4-98	PHOTO	VSMOKE	1:M4-99 FLR 1E – HALL BY STAFFING OFFICE		X			X	X			ON
N1;M4-99	PHOTO	VSMOKE	1:M4-100 FLR 1E – MECH RM BY COPY CTR	X	X			X	X			ON
N1;M4-100	RPHOTO	SDUCT	1:M4-101 FLR 1E – MECH RM BY COPY CTR			X		X	X			ON
N1;M4-101	RPHOTO	SDUCT	1:M4-101 FLR 1 CTRL TWR MECH RM/COPY CTR	X		X		X	X			ON
N1;M4-102	SBZAM	SIGNAL	1:M4-102 FLR 1 CTRL TWR MECH RM/COPY CTR		X	X		X	X			ON
N1;M4-103	SBZAM	SIGNAL	1:M4-103 FLR 1 CTRL TWR MECH RM/COPY CTR	X	X	X		X	X			ON
N1;M4-104	ADRPUL	PULL	1:M4-104 FLR 4 CENTRAL TWR A–BY RM 429				X	X	X			ON
N1;M4-105	RPHOTO	SDUCT	1:M4-105 FLR 1E – UTILITY PLANT – AHU 1A	X			X	X	X			ON
N1;M4-106	RPHOTO	SDUCT	1:M4-106 FLR 1E – UTILITY PLANT – AHU 1A		X		X	X	X			ON
N1;M4-107	RPHOTO	SDUCT	1:M4-107 FLR 1E – UTILITY PLANT – AHU 1C	X	X		X	X	X			ON
N1;M4-108	RPHOTO	SDUCT	1:M4-108 FLR 1E – UTILITY PLANT – AHU 1C				X	X	X			ON
N1;M4-109	PHOTO	VSMOKE	1:M4-109 FLR 4 SOILED UTILITY/HOLDING	X		X	X	X	X			ON
N1;M4-110	SBZAM	RELAY	1:M4-110 AHU 1C FAN SHUTDOWN CONTROL		X	X	X	X	X			ON
N1;M4-111	SBZAM	RELAY	1:M4-111 AHU 1A FAN SHUTDOWN CONTROL	X	X	X	X	X	X			ON
N1;M4-112	PHOTO	VSMOKE	1:M4-112 FLR 4 CENTRAL A – CLEAN STORAGE					X	X			ON
N1;M4-113	SBZAM	RELAY	1:M4-113 HV–1 FAN SHUTDOWN CONTROL	X				X	X			ON
N1;M4-114	RPHOTO	SDUCT	1:M4-114 FLR 1E – BY AHU 1A IN PLANT		X			X	X			ON
N1;M4-115	RPHOTO	SDUCT	1:M4-115 FLR 1E – BY AHU 1A IN PLANT	X	X			X	X			ON
N1;M4-116	SBZAM	RELAY	1:M4-116 HV–2 KITCHEN MAKE–UP SHUTDOWN			X		X	X			ON
N1;M4-117	ADRPUL	PULL	1:M4-117 FLR 4 CENTRAL TWR A–BY RM 435	X		X		X	X			ON
N1;M4-118	RZAM	RELAY	1:M4-118 FLR 2 ELEVATOR #2 SMK CURTAIN		X	X		X	X			ON
N1;M4-119	RZAM	RELAY	1:M4-119 FLR 3 ELEVATOR #2 SMK CURTAIN	X	X	X		X	X			ON
N1;M4-120	RZAM	RELAY	1:M4-120 FLR 4 ELEVATOR #2 SMK CURTAIN				X	X	X			ON
N1;M4-121	RZAM	RELAY	1:M4-121 FLR 2 ELEVATOR #4 SMK CURTAIN	X			X	X	X			ON
N1;M4-122	RZAM	RELAY	1:M4-122 FLR 3 ELEVATOR #4 SMK CURTAIN		X		X	X	X			ON
N1;M4-123	RZAM	RELAY	1:M4-123 FLR 4 ELEVATOR #4 SMK CURTAIN	X	X		X	X	X			ON
N1;M4-124	PHOTO	VSMOKE	1:M4-124 FLR 4 CENTRAL TWR A – ELECT. RM				X	X	X			ON
N1;M4-125	RPHOTO	SDUCT	1:M4-125 FLR 4 DUCT IN CONSULT FSD	X			X	X	X			ON
N1;M4-126	RPHOTO	SDUCT	1:M4-126 FLR 4 DUCT @ CONSULT FSD			X	X	X	X			ON
N1;M4-127	RPHOTO	SDUCT	1:M4-127 FLR 4 DUCT @ FAMILY WAITING	X	X	X	X	X	X			ON

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

MAPNET CHANNEL N1:M5				SWITCH SETTINGS								
Address	Device Type	Point Type	Location Description	1	2	3	4	5	6	7	8	9
N1;M5-1	ADRPUL	PULL	1:M5-1 FLR 1 W – WEST MECHANICAL RM	X							ON	
N1;M5-2	ADRPUL	PULL	1:M5-2 FLR 1W – WEST MECHANICAL PULL		X						ON	
N1;M5-3	PHOTO	VSMOKE	1:M5-3 FLR 1E – HALL BY MORGUE	X	X						ON	
N1;M5-4	ADRPUL	PULL	1:M5-4 FLR 1 CENTRL TWR SUPPORT SERVICES			X					ON	
N1;M5-5	ADRPUL	PULL	1:M5-5 FLR 1W – SAME DAY SURG. POD B	X		X					ON	
N1;M5-6	ADRPUL	PULL	1:M5-6 FLR 1W – DAY SURGERY NRSG. STAT.B		X	X					ON	
N1;M5-7	RZAM	CDAMPER	1:M5-7 AHU 97–5	X	X	X					ON	
N1;M5-8	RZAM	CDAMPER	1:M5-8 SMOKE DAMPER AHU 97–7				X				ON	
N1;M5-9	RZAM	CDAMPER	1:M5-9 SMOKE DAMPER AHU 97–3	X			X				ON	
N1;M5-10	RZAM	DHOLDER	1:M5-10 DAY SURGERY AUTO DOORS		X		X				ON	
N1;M5-11	ADRPUL	PULL	1:M5-11 FLR 1 CENTRAL TWR HALL EAST EXIT	X	X		X				ON	
N1;M5-12	RZAM	RELAY	1:M5-12 ELEVATOR #3 PRIMARY RECALL				X	X			ON	
N1;M5-13	RZAM	RELAY	1:M5-13 ELEVATOR #3 ALTERNATE RECALL	X			X	X			ON	
N1;M5-14	GENAM	SO	1:M5-14 ELEVATOR #3 SHAFT IN PIT		X	X	X	X			ON	
N1;M5-15	PHOTO	VSMOKE	1:M5-15 FLR 4 CENTRAL TWR A EQU STOR	X	X	X	X				ON	
N1;M5-16			SPARE					X			ON	
N1;M5-17	RPHOTO	SDUCT	1:M5-17 FLR 1W – WEST MECH AHU 97–5	X				X			ON	
N1;M5-18	RPHOTO	SDUCT	1:M5-18 FLR 1W – WEST MECH AHU 97–5		X			X			ON	
N1;M5-19	RPHOTO	SDUCT	1:M5-19 FLR 1W – WEST MECH AHU 97–7	X	X			X			ON	
N1;M5-20	RPHOTO	SDUCT	1:M5-20 FLR 1W – WEST MECH. AHU 97–7			X		X			ON	
N1;M5-21	RPHOTO	SDUCT	1:M5-21 FLR 1W – WEST MECH. AHU 97–3	X		X		X			ON	
N1;M5-22	RPHOTO	SDUCT	1:M5-22 FLR 1W – WEST MECH. AHU 97–3		X	X		X			ON	
N1;M5-23	PHOTO	VSMOKE	1:M5-23 FLR 1W – WEST MECH. BACK RM	X	X	X		X			ON	
N1;M5-24	HEAT	HEAT	1:M5-24 FLR 1W – WEST MECHANICAL			X	X	X			ON	
N1;M5-25	HEAT	HEAT	1:M5-25 FLR 1W – WEST MECH. BY ENTRY	X			X	X			ON	
N1;M5-26	HEAT	HEAT	1:M5-26 FLR 1W – WEST MECH. DETECTOR		X	X	X	X			ON	
N1;M5-27	HEAT	HEAT	1:M5-27 FLR 1W – ELEV. NO.3 EQUIP. RM	X	X		X	X			ON	
N1;M5-28	HEAT	HEAT	1:M5-28 FLR 1W – ELEV. NO.3 PIT DETECTOR			X	X	X			ON	
N1;M5-29	HEAT	HEAT	1:M5-29 CTR TWR ELEV.3 TOP OF SHAFT	X		X	X	X			ON	
N1;M5-30	GENAM	UTILITY	1:M5-30 SPARE 2PT I/O MONITOR		X	X	X	X			ON	
N1;M5-31	RZAM	RRELAY	1:M5-31 EAST CORR EMERGENCY EXIT RELAY	X	X	X	X	X			ON	
N1;M5-32	PHOTO	VSMOKE	1:M5-32 FLR 2 CENTRAL TWR A – BY NURSERY						X		ON	
N1;M5-33			SPARE	X					X		ON	
N1;M5-34	PHOTO	VSMOKE	1:M5-34 FLR 3 CENTRAL TWR A – BY RM 315		X				X		ON	
N1;M5-35			SPARE	X	X				X		ON	
N1;M5-36	PHOTO	VSMOKE	1:M5-36 FLR 4 CENTRAL TWR A – BY RM 426			X		X	X		ON	
N1;M5-37			SPARE	X		X		X	X		ON	
N1;M5-38	PHOTO	VSMOKE	1:M5-38 FLR 5 CENTRAL TWR A – BY RM 520		X	X		X	X		ON	
N1;M5-39	PHOTO	VSMOKE	1:M5-39 CTR TWR ELEV.3 TOP OF SHAFT	X	X	X		X	X		ON	
N1;M5-40	PHOTO	VSMOKE	1:M5-40 FLR 1W – ELEV. NO. 3 EQUIP. RM					X	X		ON	
N1;M5-41	PHOTO	VSMOKE	1:M5-41 FLR 1 CENTRAL TWR ELEVATOR LOBBY	X				X	X		ON	
N1;M5-42	PHOTO	VSMOKE	1:M5-42 FLR 1W – SUPPORT SERVICES		X			X	X		ON	
N1;M5-43	PHOTO	VSMOKE	1:M5-43 FLR 1W – SUPPORT SERVICES	X	X			X	X		ON	
N1;M5-44	PHOTO	VSMOKE	1:M5-44 FLR 1W – SUPPORT SERVICES			X	X	X	X		ON	
N1;M5-45	PHOTO	VSMOKE	1:M5-45 FLR 1W – CLASS ROOM NO.4	X		X	X	X	X		ON	
N1;M5-46	PHOTO	VSMOKE	1:M5-46 FLR 1W – SUPPORT SERVICES		X	X	X	X	X		ON	
N1;M5-47	PHOTO	VSMOKE	1:M5-47 FLR 1W – SUPPORT SERVICES	X	X	X	X	X	X		ON	
N1;M5-48	PHOTO	VSMOKE	1:M5-48 FLR 1 CENTRL TWR BY SUPPORT SVCS					X	X		ON	
N1;M5-49	PHOTO	VSMOKE	1:M5-49 FLR 1W – SUPPORT SERVICES	X				X	X		ON	
N1;M5-50	PHOTO	VSMOKE	1:M5-50 FLR 1W – SUPPORT SERVICES		X			X	X		ON	
N1;M5-51	PHOTO	VSMOKE	1:M5-51 FLR 1W – HALL BY MED. STAFF OFF.	X	X			X	X		ON	
N1;M5-52	PHOTO	VSMOKE	1:M5-52 FLR 1W – HALL BY MED. STAFF OFF.			X		X	X		ON	
N1;M5-53	PHOTO	VSMOKE	1:M5-53 FLR 1 CTRL TWR SUPPORT SERVICES	X		X		X	X		ON	
N1;M5-54	PHOTO	VSMOKE	1:M5-54 FLR 1 CENTRL TWR BY SUPPORT SVCS		X	X		X	X		ON	
N1;M5-55	PHOTO	VSMOKE	1:M5-55 FLR 1 CTRL TWR SUPPORT SERVICES	X	X	X		X	X		ON	
N1;M5-56	PHOTO	VSMOKE	1:M5-56 FLR 1W – HALL BY SAME DAY SURG.			X		X	X		ON	
N1;M5-57	PHOTO	VSMOKE	1:M5-57 FLR 1W – HALL BY SAME DAY SURG.	X				X	X		ON	
N1;M5-58	PHOTO	VSMOKE	1:M5-58 FLR 1W – HALL BY SAME DAY SURG.		X			X	X		ON	
N1;M5-59	PHOTO	VSMOKE	1:M5-59 FLR 1W – HALL BY SAME DAY SURG.	X	X			X	X		ON	
N1;M5-60	PHOTO	VSMOKE	1:M5-60 FLR 1W – HALL BY SAME DAY SURG.			X		X	X		ON	
N1;M5-61	PHOTO	VSMOKE	1:M5-61 FLR 1W – SURGERY DOC'S LOUNGE	X		X		X	X		ON	
N1;M5-62	PHOTO	VSMOKE	1:M5-62 FLR 1W – O.R. PRE–OP OVERFLOW			X	X	X	X		ON	
N1;M5-63	PHOTO	VSMOKE	1:M5-63 FLR 1W – O.R. PRE–OP OVERFLOW	X	X	X	X	X		X	ON	
N1;M5-64	PHOTO	VSMOKE	1:M5-64 FLR 1W – O.R. PRE–OP OVERFLOW							X	ON	
N1;M5-65	PHOTO	VSMOKE	1:M5-65 FLR 1W – O.R. PRE–OP OVERFLOW	X						X	ON	
N1;M5-66	PHOTO	VSMOKE	1:M5-66 FLR 1W – ENDOSCOPY SUITE		X					X	ON	
N1;M5-67	PHOTO	VSMOKE	1:M5-67 FLR 1W – ENDOSCOPY SUITE	X	X					X	ON	
N1;M5-68	PHOTO	VSMOKE	1:M5-68 FLR 1W – ENDOSCOPY SUITE			X				X	ON	
N1;M5-69	PHOTO	VSMOKE	1:M5-69 FLR 1W – HALL BY G.I. SUITE	X		X				X	ON	
N1;M5-70	PHOTO	VSMOKE	1:M5-70 FLR 1W – HALL BY BED STORAGE		X	X				X	ON	
N1;M5-71	PHOTO	VSMOKE	1:M5-71 FLR 1W – HALL BY BED STORAGE	X	X	X				X	ON	
N1;M5-72	PHOTO	VSMOKE	1:M5-72 FLR 1W – HALL BY BED STORAGE				X			X	ON	
N1;M5-73	PHOTO	VSMOKE	1:M5-73 FLR 1W – HALL BY MICROBIOLOGY	X			X			X	ON	
N1;M5-74	PHOTO	VSMOKE	1:M5-74 FLR 1 CENTRAL TWR MICROBIOLOGY		X		X			X	ON	
N1;M5-75			SPARE	X	X		X			X	ON	
N1;M5-76	PHOTO	VSMOKE	1:M5-76 FLR 1W – MICROBIOLOGY LAB			X	X			X	ON	
N1;M5-77	PHOTO	VSMOKE	1:M5-77 FLR 1 – CENTRAL TWR A BY RM 402	X		X	X			X	ON	
N1;M5-78	GENAM	WATER	1:M5-78 FLR 1W – BY BED STORAGE – FLOW		X	X	X			X	ON	
N1;M5-79	PHOTO	VSMOKE	1:M5-79 FLR 1 CENTRAL TWR NEW CATH LAB	X	X	X	X			X	ON	
N1;M5-80	PHOTO	VSMOKE	1:M5-80 FLR 1 CENTRAL TWR CATH LAB					X		X	ON	
N1;M5-81	PHOTO	VSMOKE	1:M5-81 FLR 1 CENTRAL TWR CATH LAB	X				X		X	ON	
N1;M5-82	PHOTO	VSMOKE	1:M5-82 FLR 1N – HALL BY SURGERY WAITING		X			X		X	ON	
N1;M5-83	PHOTO	VSMOKE	1:M5-83 FLR 1N – HALL BY SURGERY WAITING	X	X			X		X	ON	
N1;M5-84	PHOTO	VSMOKE	1:M5-84 FLR 1W – SURGERY WAITING AREA			X		X		X	ON	
N1;M5-85	PHOTO	VSMOKE	1:M5-85 FLR 1W – SAME DAY SURG. BAY 5	X		X		X		X	ON	
N1;M5-86	PHOTO	VSMOKE	1:M5-86 FLR 1W – SAME DAY SURG. BAY 4		X	X		X		X	ON	
N1;M5-87	PHOTO	VSMOKE	1:M5-87 FLR 1W – SAME DAY SURG. BAY 1	X	X	X		X		X	ON	
N1;M5-88	PHOTO	VSMOKE	1:M5-88 FLR 1W – HALL BY SAME DAY SURG.				X	X		X	ON	
N1;M5-89	PHOTO	VSMOKE	1:M5-89 FLR 1W – SAME DAY SURG. BAY 6	X			X	X		X	ON	
N1;M5-90	PHOTO	VSMOKE	1:M5-90 FLR 1W – SAME DAY SURG. BAY 8		X	X	X	X		X	ON	
N1;M5-91	PHOTO	VSMOKE	1:M5-91 FLR 1W – SAME DAY SURG. OFFICE	X	X	X	X	X		X	ON	
N1;M5-92	PHOTO	VSMOKE	1:M5-92 FLR 1W – SAME DAY SURG. BAY 11			X	X	X		X	ON	
N1;M5-93	PHOTO	VSMOKE	1:M5-93 FLR 1W – MEDICAL STAFF OFFICE	X		X	X	X		X	ON	
N1;M5-94	PHOTO	VSMOKE	1:M5-94 FLR 1W – MEDICAL STAFF OFFICE		X	X	X	X		X	ON	
N1;M5-95	PHOTO	VSMOKE	1:M5-95 FLR 1W – SAME DAY SURG. BAY 12	X	X	X	X	X		X	ON	
N1;M5-96	PHOTO	VSMOKE	1:M5-96 FLR 1W – SAME DAY SURG. BAY 16						X	X	ON	
N1;M5-97	PHOTO	VSMOKE	1:M5-97 FLR 1W – SAME DAY SURG. BAY 18	X					X	X	ON	
N1;M5-98	PHOTO	VSMOKE	1:M5-98 FLR 4 CENTRAL TWR A – BY RM 435		X			X	X	X	ON	
N1;M5-99	PHOTO	VSMOKE	1:M5-99 FLR 1W – BED STORAGE RM	X	X			X	X	X	ON	
N1;M5-100	PHOTO	VSMOKE	1:M5-100 FLR 1W – BED STORAGE RM			X		X	X	X	ON	
N1;M5-101	PHOTO	VSMOKE	1:M5-101 FLR 4 CENTRAL TWR A –BY RM 401	X		X		X	X	X	ON	
N1;M5-102	GENAM	UTILITY	1:M5-102 FLR 1 SPARE 2 PT I/O		X	X		X	X	X	ON	
N1;M5-103	RZAM	RRELAY	1:M5-103 FLR 1 CTRL TWR N HALL FIRE DOOR	X	X	X		X	X	X	ON	
N1;M

MEDICAL CENTER OF AURORA SOUTH TOWER TRANSPONDER 3 4100es XPDR				Standby	Total	Alarm	Total
Module	Qty	Description		Current	Standby	Current	Alarm
Panel Equipment							
4100-9600	1	BASIC TRANSPONDER	*	0.0870	0.0870	0.0870	0.0870
4100-0634	1	POWER DISTRIBUTION MODULE 120V		0.0000	0.0000	0.0000	0.0000
4100-0636	1	BOX TO BOX HARNESS KIT		0.0000	0.0000	0.0000	0.0000
4100-2300	1	EXPANSION BAY (PHASE 10 ONLY)		0.0000	0.0000	0.0000	0.0000
4100-5311	1	ENHANCED POWER SUPPLY, 3 CHANNELS, IDNet, 120V		0.2250	0.2250	0.4900	0.4900
		Panel Totals			0.3120		0.5770
IDNet Addressable Devices (SLC)							
4090-9002	22	IDNET RELAY IAM	*				
4098-9714	42	TRUEALARM PHOTO SMOKE SENSOR					
4098-9755	19	TRUEALARM DUCT SMOKE SENSOR W/O RELAY OUTPUT	*				
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC	*				
4098-9792	42	TRUEALARM SENSOR BASE	*				
Miscellaneous Peripheral Devices That May Require System Power							
2088-9021	8	ENCAPSULATED RELAY PAM-1		0.0000	0.0000	0.0150	0.1200
Notification Appliances							
49MTV-WRF	13	MULTI-TONE A/V, RED, WALL MOUNT	15	0.0016	0.0208	0.1450	1.8850
49MTV-WRF	1	MULTI-TONE A/V, RED, WALL MOUNT	30	0.0016	0.0016	0.1630	0.1630
49MTV-WRF	2	MULTI-TONE A/V, RED, WALL MOUNT	75	0.0016	0.0032	0.1980	0.3960
49VO-APPLW	4	VO APPLIANCE ONLY WALL MT.	30	0.0008	0.0032	0.0570	0.2280
49VO-WRF	11	VO, WALL MT, RED, FIRE LABEL	15	0.0008	0.0088	0.0470	0.5170
49VO-WRF	2	VO, WALL MT, RED, FIRE LABEL	30	0.0008	0.0016	0.0570	0.1140
		Peripheral Totals			0.0392		3.4230
		Added Current for EPS Conversion of 24 to 29 Volt IDNac Devices			0.0000		1.8831
		RUI Totals	0		0.0000		0.0000
		Address Totals	84 Addresses		0.0672		0.0840
		System Totals*:		Standby	0.4184	Alarm	5.9671

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

Battery Set #1 (Cabinet/Charger #1)			Standby Current	Standby Total	Alarm Current	Alarm Total
Select ALL Power Supplies on this battery set:						
EPS-1				0.3512		4.0000
		Sub Total		0.3512		4.0000
Additional Current Draws:						
IDNac Current Boost for 29vdc Regulated Output **				0.0000		1.8831
MAPNET/IDNet Device Address Communication Current	84	x 0.000800		= 0.0672	x 0.001000	= 0.0840
		Sub Total		0.4184		5.9671
Spare addressable point capacity	20%	17 x 0.0008		= 0.0136	x 0.001	= 0.0170
		Total		0.4320		5.9841
Standby Time = 4 Hrs x 0.4320 = 1.7280 Standby Ah						
Alarm Time = 5 Min 0.08333 x 5.9841 = 0.4987 Alarm Ah						
				2.2267		
Additional Spare Battery Capacity = 20%				+ 0.4453		
				2.6720		
Battery Discharge Factor = 20%				+ 0.5344		
Minimum Battery Required 2081-9272 6.2AH (2x)				3.2064		
Battery Supplied 2081-9287 25AH (2x)						

IDNET CHANNEL N1:T3:M10				SWITCH SETTINGS
Address	Device Type	Point Type	Location Description	1 2 3 4 5 6 7 8 9
N1:T3:M10-1	PHOTO	SMOKE	FLR 1W ELEC 1-SS006 M10-1	X ON
N1:T3:M10-2	PHOTO	SMOKE	FLR 1W ELEC 1-SS010 M10-2	X ON
N1:T3:M10-3	PHOTO	SMOKE	FLR 1W CORR 1-SS043 M10-3	X X ON
N1:T3:M10-4	PHOTO	SMOKE	FLR 1W COMM 1-SS007 M10-4	X ON
N1:T3:M10-5	PHOTO	SMOKE	FLR 1W EQ STG 1-SS001 M10-5	X X ON
N1:T3:M10-6	PHOTO	SMOKE	FLR 1W EQ STG 1-SS001 M10-6	X X ON
N1:T3:M10-7	PHOTO	SMOKE	FLR 1W EQ STG 1-SS001 M10-7	X X X ON
N1:T3:M10-8	PHOTO	SMOKE	FLR 1W EQ STG 1-SS001 M10-8	X ON
N1:T3:M10-9	PHOTO	SMOKE	FLR 1W CO2 MANIFOLD 1-SS008 M10-9	X X ON
N1:T3:M10-10	PHOTO	SMOKE	FLR 1W SURGERY VENDOR 1-SS009 M10-10	X X ON
N1:T3:M10-11	PHOTO	SMOKE	FLR 1W IR STOR 1-SS005 M10-11	X X X ON
N1:T3:M10-12	PHOTO	SMOKE	FLR 1W OFFICE 1-SS003 M10-12	X X ON
N1:T3:M10-13	PHOTO	SMOKE	FLR 1W EQUIP 1-SS002 M10-13	X X X ON
N1:T3:M10-14	PHOTO	LSDUCT	FLR 1W EQUIP 1-SS002 EXH FSD M10-14	X X X ON
N1:T3:M10-15	PHOTO	LSDUCT	FLR 1W OFFICE 1-SS003 EXH FSD M10-15	X X X X ON
N1:T3:M10-16	PHOTO	LSDUCT	FLR 1W EQ STG 1-SS001 EXH FSD M10-16	X ON
N1:T3:M10-17	PHOTO	LSDUCT	FLR 1W EQ STG 1-SS001 RTU-1 SUP M10-17	X X ON
N1:T3:M10-18	PHOTO	LSDUCT	ROOF RTU-1 RET M10-18	X X ON
N1:T3:M10-19	PHOTO	LSDUCT	ROOF RTU-1 OUTSIDE AIR M1-19	X X X ON
N1:T3:M10-20	RIAM	RELAY	ROOF RTU-1 RET DET TO DDC M10-20	X X ON
N1:T3:M10-21	RIAM	RELAY	ROOF RTU-1 SUP DET TO DDC M10-21	X X X ON
N1:T3:M10-22	RIAM	RELAY	ROOF RTU-1 OA DET TO DDC M10-22	X X X ON
N1:T3:M10-23	RIAM	RELAY	ROOF RTU-1 EXH FSD TO DDC M10-23	X X X X ON
N1:T3:M10-24	RIAM	RELAY	ROOF RTU-1 ALARM TO DDC M10-24	X X ON
N1:T3:M10-25	NAC4PT	SIGNAL	FLR 1W ELEC 1-SS010 NAC#1 M10-25	X X X ON
N1:T3:M10-26			SPARE	X X X ON
N1:T3:M10-27			SPARE	X X X X ON
N1:T3:M10-28			SPARE	X X X ON
N1:T3:M10-29			SPARE	X X X X ON
N1:T3:M10-30			SPARE	X X X X ON
N1:T3:M10-31	PHOTO	SMOKE	FLR 1W CORR 1-SS041 M10-31	X X X X X ON
N1:T3:M10-32	PHOTO	SMOKE	FLR 1W CORR 1-SS041 M10-32	X ON
N1:T3:M10-33	PHOTO	SMOKE	FLR 1W CORR 1-SS040 M10-33	X X ON
N1:T3:M10-34	PHOTO	SMOKE	FLR 1W CORR 1-SS040 M10-34	X X ON
N1:T3:M10-35	PHOTO	SMOKE	FLR 1W CORR 1-SS040 M10-35	X X X ON
N1:T3:M10-36	PHOTO	SMOKE	FLR 1W CORR 1-SS019A @ CORR 041 M10-36	X X ON
N1:T3:M10-37	PHOTO	SMOKE	FLR 1W CORR 1-SS019A @ CORR 019 M10-37	X X X ON
N1:T3:M10-38	PHOTO	SMOKE	FLR 1W CORR 1-SS019 @ CORR 019A M10-38	X X X ON
N1:T3:M10-39	PHOTO	SMOKE	FLR 1W CORR 1-SS019 @ CORR 014 M10-39	X X X X ON
N1:T3:M10-40	PHOTO	SMOKE	FLR 1W PUMP 1-SS018 M10-40	X X ON
N1:T3:M10-41	PHOTO	SMOKE	FLR 1W SOIL UTIL 1-SS020 M10-41	X X X ON
N1:T3:M10-42	PHOTO	SMOKE	FLR 1W CORR 1-SS014 @ SOIL UTIL M10-42	X X X ON
N1:T3:M10-43	PHOTO	SMOKE	FLR 1W CORR 1-SS014 @ OR 10 M10-43	X X X X ON
N1:T3:M10-44	PHOTO	SMOKE	FLR 1W CORR 1-SS014 @ EQ STG M10-44	X X X ON
N1:T3:M10-45	PHOTO	SMOKE	FLR 1W ISOL1-PA03 M10-45	X X X ON
N1:T3:M10-46	PHOTO	SMOKE	FLR 1W ELEC 1-SS022 M10-46	X X X X ON
N1:T3:M10-47	PHOTO	SMOKE	FLR 1W VOICE/DATA M10-47	X X X X ON
N1:T3:M10-48	PHOTO	SMOKE	FLR 1W EQ STG 1-SS012 M10-48	X X ON
N1:T3:M10-49	PHOTO	SMOKE	FLR 1W EVS M10-49	X X X ON
N1:T3:M10-50	PHOTO	SMOKE	FLR 1W OR 10 1-SS015 NE M10-50	X X X ON
N1:T3:M10-51	PHOTO	SMOKE	FLR 1W OR 10 1-SS015 SW M10-51	X X X ON
N1:T3:M10-52	PHOTO	SMOKE	FLR 1W OR 9 1-SS017 SE M10-52	X X X ON
N1:T3:M10-53	PHOTO	SMOKE	FLR 1W OR 9 1-SS017 NW M10-53	X X X X ON
N1:T3:M10-54	PHOTO	LSDUCT	FLR 1W COR 1-SS041 RTU1 SUP FSD M10-54	X X X X ON
N1:T3:M10-55	PHOTO	LSDUCT	FLR 1W COR 1-SS019A RTU1 RET FSD M10-55	X X X X X ON
N1:T3:M10-56	PHOTO	LSDUCT	FLR 1W OR 9 1-SS017 SUP FSD M10-56	X X X ON
N1:T3:M10-57	PHOTO	LSDUCT	FLR 1W OR 9 1-SS017 SUP FSD M10-57	X X X X ON
N1:T3:M10-58	PHOTO	LSDUCT	FLR 1W ELEC 1-PA05 SUP FSD M10-58	X X X X X ON
N1:T3:M10-59	PHOTO	LSDUCT	FLR 1W OR 10 1-SS015 RET FSD M10-59	X X X X X ON
N1:T3:M10-60	PHOTO	LSDUCT	FLR 1W OR 10 1-SS015 SUP FSD M10-60	X X X X ON
N1:T3:M10-61	PHOTO	LSDUCT	FLR 1W EQ STG 1-SS012 RET FSD M10-61	X X X X X ON
N1:T3:M10-62	PHOTO	LSDUCT	FLR 1W EQ STG 1-SS012 SUP FSD M10-62	X X X X X ON
N1:T3:M10-63	PHOTO	LSDUCT	FLR 1W EVS SUP FSD M10-63	X X X X X X ON
N1:T3:M10-64	RIAM	RRELAY	FLR 1W CORR 1-SS019A ACCESS CNTL M10-64	X ON
N1:T3:M10-65	RIAM	DHOLDER	FLR 1W CORR 1-SS019A DOOR CNTL M10-65	X X ON
N1:T3:M10-66	RIAM	DHOLDER	FLR 1W CORR 1-SS014 DOOR CNTL M10-66	X X ON
N1:T3:M10-67	RIAM	RRELAY	FLR 1W CORR 1-SS014 ACCESS CNTL M10-67	X X X ON
N1:T3:M10-68	PHOTO	LSDUCT	ROOF RTU-2 SUP M10-68 M10-68	X X ON
N1:T3:M10-69	PHOTO	LSDUCT	ROOF RTU-2 SUP M10-69 M10-69	X X X ON
N1:T3:M10-70	PHOTO	LSDUCT	ROOF RTU-2 OUTSIDE AIR M10-70	X X X ON
N1:T3:M10-71	RIAM	RELAY	ROOF RTU-2 RET DET TO DDC M10-71	X X X X ON
N1:T3:M10-72	RIAM	RELAY	ROOF RTU-2 SUP DET TO DDC M10-72	X X X ON
N1:T3:M10-73	RIAM	RELAY	ROOF RTU-2 OA DET TO DDC M10-73	X X X ON
N1:T3:M10-74	RIAM	RELAY	ROOF RTU-2 EXH FSD TO DDC M10-74	X X X ON
N1:T3:M10-75	RIAM	RELAY	ROOF RTU-2 ALARM TO DDC M10-75	X X X X ON
N1:T3:M10-76	RIAM	RELAY	ROOF RTU-1 OR 9 ALARM TO DDC M10-76	X X X ON
N1:T3:M10-77	RIAM	RELAY	ROOF RTU-1 OR 10 ALARM TO DDC M10-77	X X X X ON
N1:T3:M10-78	RIAM	DHOLDER	FLR 1W OR 9 1-SS017 DOOR CNTL M10-78	X X X X ON
N1:T3:M10-79	RIAM	DHOLDER	FLR 1W OR 10 1-SS018 DOOR CNTL M10-79	X X X X X ON
N1:T3:M10-80			SPARE	X X ON
N1:T3:M10-81	PHOTO	SMOKE	FLR 1W OR 8 (CVOR) 1-SS024 SW M10-81	X X X ON
N1:T3:M10-82	PHOTO	SMOKE	FLR 1W OR 8 (CVOR) 1-SS024 NE M10-82	X X X ON
N1:T3:M10-83	PHOTO	SMOKE	FLR 1W SUB STERILE 1-SS027 M10-83	X X X X ON
N1:T3:M10-84	PHOTO	SMOKE	FLR 1W PUMP 1-SS025 M10-84	X X X ON
N1:T3:M10-85	PHOTO	SMOKE	FLR 1W OR 7 (CVOR) 1-SS026 SW M10-85	X X X X ON
N1:T3:M10-86	PHOTO	SMOKE	FLR 1W OR 7 (CVOR) 1-SS026 NE M10-86	X X X X ON
N1:T3:M10-87	RIAM	RELAY	ROOF RTU-1 OR 8 ALARM TO DDC M10-87	X X X X X ON
N1:T3:M10-88	RIAM	RELAY	ROOF RTU-1 OR 7 ALARM TO DDC M10-88	X X X X ON
N1:T3:M10-89	RIAM	DHOLDER	FLR 1W OR 8 1-SS024 DOOR CNTL M10-89	X X X X ON
N1:T3:M10-90	RIAM	DHOLDER	FLR 1W OR 7 1-SS0026 DOOR CNTL M10-90	X X X X ON
N1:T3:M10-91			SPARE	X X X X X ON
THRU				ON
N1:T3:M10-250			SPARE	X X X X X X ON

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

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

Channel	Description	Alarm Current	% Drop	Unit Load*	Wire Length	Spare Current	Spare VoltageDrop
N1:T3:A1:1	FLR 1W OR 7-8, EQ STG	1.794A	2.99%	26	609	40%	86%
N1:T3:A1:2	FLR 1W OR 9-10	1.509A	4.70%	23	553	50%	77%
N1:T3:A1:3	FUTURE	0.000A	0.00%	0	0	100%	100%

N1:T3:A1: ENHANCED POWER SUPPLY – CHANNEL 1					SWITCH SETTINGS
IDNoc Number	Device Type	PID	Candela	Custom Label (Max 40 Characters)	1
N1:T3:A1:1-1	VO	49VO-WRF	30cd	FLR 1W ELEC 1-SS006 A1:1-1	X ON
N1:T3:A1:1-2	VO	49VO-WRF	15cd	FLR 1W ELEC 1-SS010 A1:1-2	X ON
N1:T3:A1:1-3	AV	49MTV-WRF	15cd	FLR 1W CORR 1-SS043 A1:1-3	X X ON
N1:T3:A1:1-4	AV	49MTV-WRF	15cd	FLR 1W COMM 1-SS007 A1:1-4	X ON
N1:T3:A1:1-5	AV	49MTV-WRF	75cd	FLR 1W EQ STG 1-SS001 A1:1-5	X X ON
N1:T3:A1:1-6	AV	49MTV-WRF	30cd	FLR 1W EQ STG 1-SS001 A1:1-6	X X ON
N1:T3:A1:1-7	VO	49VO-WRF	30cd	FLR 1W EQ STG 1-SS001 A1:1-7	X X X ON
N1:T3:A1:1-8	VO	49VO-WRF	15cd	FLR 1W CO2 MANIFOLD 1-SS008 A1:1-8	X ON
N1:T3:A1:1-9	VO	49VO-WRF	15cd	FLR 1W SURGERY VENDOR 1-SS009	X X ON
N1:T3:A1:1-10	AV	49MTV-WRF	75cd	FLR 1W IR STOR 1-SS005 A1:1-10	X X ON
N1:T3:A1:1-11	VO	49VO-WRF	15cd	FLR 1W CORR 1-SS004 A1:1-11	X X X ON
N1:T3:A1:1-12	VO	49VO-WRF	15cd	FLR 1W EQ STG 1-SS001 A1:1-12	X X ON
N1:T3:A1:1-13	AV	49MTV-WRF	15cd	FLR 1W CORR 1-SS004 A1:1-13	X X X ON
N1:T3:A1:1-14	AV	49MTV-WRF	15cd	FLR 1W EQUIP 1-SS002 A1:1-14	X X X ON
N1:T3:A1:1-15				SPARE	X X X X ON
N1:T3:A1:1-16	VO	49VO-WRF	30cd	FLR 1W OR 8 (CVOR) 1-SS024 A1:1-16	X ON
N1:T3:A1:1-17	AV	49MTV-WRF	15cd	FLR 1W SUB STERILE 1-SS027 A1:1-17	X X ON
N1:T3:A1:1-18	VO	49VO-WRF	15cd	FLR 1W PUMP 1-SS025 A1:1-18	X X ON
N1:T3:A1:1-19	VO	49VO-WRF	30cd	FLR 1W OR 7 (CVOR) 1-SS026 A1:1-19	X X X ON

N1:T3:A1: ENHANCED POWER SUPPLY – CHANNEL 2					SWITCH SETTINGS
IDNoc Number	Device Type	PID	Candela	Custom Label (Max 40 Characters)	1
N1:T3:A1:2-1	AV	49MTV-WRF	15cd	FLR 1W CORR. 1-SS041 A1:2-1	X ON
N1:T3:A1:2-2	AV	49MTV-WRF	15cd	FLR 1W CORR. 1-SS040 A1:2-2	X ON
N1:T3:A1:2-3	AV	49MTV-WRF	15cd	FLR 1W CORR 1-SS019A EAST A1:2-3	X X ON
N1:T3:A1:2-4	VO	49VO-WRF	15cd	FLR 1W CORR 1-SS019A WEST A1:2-4	X ON
N1:T3:A1:2-5	VO	49VO-WRF	15cd	FLR 1W CORR 1-SS019 SOUTH A1:2-5	X X ON
N1:T3:A1:2-6	AV	49MTV-WRF	15cd	FLR 1W CORR 1-SS019 NORTH A1:2-6	X X ON
N1:T3:A1:2-7	AV	49MTV-WRF	15cd	FLR 1W CORR 1-SS014 WEST A1:2-7	X X X ON
N1:T3:A1:2-8	AV	49MTV-WRF	15cd	FLR 1W CORR 1-SS014 SOUTH A1:2-8	X ON
N1:T3:A1:2-9	VO	49VO-WRF	30cd	FLR 1W OR 9 1-SS017 A1:2-9	X X ON
N1:T3:A1:2-10	VO	49VO-WRF	30cd	FLR 1W OR 10 1-SS015 A1:2-10	X X ON
N1:T3:A1:2-11	AV	49MTV-WRF	15cd	FLR 1W CORR 1-SS014 NORTH A1:2-11	X X X ON
N1:T3:A1:2-12	AV	49MTV-WRF	15cd	FLR 1W EQ. STG. 1-SS012 A1:2-12	X X ON
N1:T3:A1:2-13	VO	49VO-WRF	15cd	FLR 1W PUMP 1-SS018 A1:2-13	X X X ON
N1:T3:A1:2-14	VO	49VO-WRF	15cd	FLR 1W SOIL UTIL 1-SS020 A1:2-14	X X X ON
N1:T3:A1:2-15	VO	49VO-WRF	15cd	FLR 1W EVS A1:2-15	X X X X ON

N1:T3:A1:1 — Notification SLC Distributed Load Voltage Drop

Allowable % Drop: 20.7%
Wire Gauge: 14ga
Starting Voltage: 29vdc
Wire Res. Per Ft. 0.0031 @ 75° Celsius
Min. Device Voltage: 23.vdc

Branch	Device #	From	Distance (Feet)	PID	Candela	Device Draw	Class B Calculations: Current at Device	Voltage Drop	Voltage at Device	% Vdrop Wire Length
1	N1:T3:A1:1-1	PANEL	22	49VO-WRF	30cd	0.0570	1.080	0.146	28.854	Branch 1: 2.99%
1	N1:T3:A1:1-2	N1:T3:A1:1-1	22	49VO-WRF	15cd	0.0470	0.047	0.006	28.848	Length: 414
1	N1:T3:A1:1-3	N1:T3:A1:1-1	31	49MTV-WRF	15cd	0.1450	0.976	0.186	28.668	
1	N1:T3:A1:1-4	N1:T3:A1:1-3	32	49MTV-WRF	15cd	0.1450	0.831	0.163	28.505	
1	N1:T3:A1:1-5	N1:T3:A1:1-4	20	49MTV-WRF	75cd	0.1980	0.686	0.084	28.421	
1	N1:T3:A1:1-6	N1:T3:A1:1-12	43	49MTV-WRF	30cd	0.1630	0.163	0.043	28.173	
1	N1:T3:A1:1-7	N1:T3:A1:1-5	30	49VO-WRF	30cd	0.0570	0.488	0.090	28.331	
1	TAP1	N1:T3:A1:1-7	6	JBOX		0.0000	0.431	0.016	28.315	
1	N1:T3:A1:1-8	TAP1	23	49VO-WRF	15cd	0.0470	0.094	0.013	28.302	
1	N1:T3:A1:1-9	N1:T3:A1:1-8	14	49VO-WRF	15cd	0.0470	0.047	0.004	28.298	
1	N1:T3:A1:1-10	N1:T3:A1:1-12	47	49MTV-WRF	75cd	0.1980	0.245	0.071	28.145	
1	N1:T3:A1:1-11	N1:T3:A1:1-10	22	49VO-WRF	15cd	0.0470	0.047	0.006	28.139	
1	N1:T3:A1:1-12	TAP1	48	49VO-WRF	15cd	0.0470	0.337	0.099	28.216	
1	N1:T3:A1:1-13	N1:T3:A1:1-12	38	49MTV-WRF	15cd	0.1450	0.290	0.068	28.148	
1	N1:T3:A1:1-14	N1:T3:A1:1-13	16	49MTV-WRF	15cd	0.1450	0.145	0.014	28.134	
2	N1:T3:A1:1-16	PANEL	104	49VO-WRF	30cd	0.0570	0.306	0.195	28.805	Branch 2: 0.88%
2	N1:T3:A1:1-17	N1:T3:A1:1-16	32	49MTV-WRF	15cd	0.1450	0.249	0.049	28.756	Length: 195
2	N1:T3:A1:1-18	N1:T3:A1:1-17	33	49VO-WRF	15cd	0.0470	0.047	0.010	28.746	
2	N1:T3:A1:1-19	N1:T3:A1:1-17	26	49VO-WRF	30cd	0.0570	0.057	0.009	28.747	

N1:T3:A1:2 — Distributed Load Voltage Drop

Allowable % Drop: 20.7%
Wire Gauge: 14ga
Starting Voltage: 29vdc
Wire Res. Per Ft. 0.0031 @ 75° Celsius
Min. Device Voltage: 23.vdc

Branch Branch	Device # Device #	From From	Distance (Feet) (Feet)	PID	Candela	Device Draw	Class B Calculations: Current at Device	Voltage Drop #VALUE!	Voltage at Device #VALUE!	Branch % Drop
1	TAP2	PANEL	11	JBOX		0.0000	1.509	0.102	28.898	Branch 1: 4.7%
1	N1:T3:A1:2-1	TAP2	36	49MTV-WRF	15cd	0.1450	0.145	0.032	28.866	Length: 553
1	N1:T3:A1:2-2	TAP2	84	49MTV-WRF	15cd	0.1450	0.145	0.075	28.823	
1	N1:T3:A1:2-3	TAP2	34	49MTV-WRF	15cd	0.1450	1.219	0.254	28.644	
1	N1:T3:A1:2-4	N1:T3:A1:2-3	31	49VO-WRF	15cd	0.0470	1.074	0.204	28.439	
1	N1:T3:A1:2-5	N1:T3:A1:2-4	23	49VO-WRF	15cd	0.0470	1.027	0.145	28.294	
1	N1:T3:A1:2-6	N1:T3:A1:2-5	38	49MTV-WRF	15cd	0.1450	0.980	0.229	28.065	
1	N1:T3:A1:2-7	N1:T3:A1:2-6	41	49MTV-WRF	15cd	0.1450	0.788	0.198	27.867	
1	N1:T3:A1:2-8	N1:T3:A1:2-7	24	49MTV-WRF	15cd	0.1450	0.596	0.088	27.779	
1	N1:T3:A1:2-9	N1:T3:A1:2-8	29	49VO-APPLW	30cd	0.0570	0.057	0.010	27.769	
1	N1:T3:A1:2-10	N1:T3:A1:2-8	31	49VO-APPLW	30cd	0.0570	0.057	0.011	27.768	
1	N1:T3:A1:2-11	N1:T3:A1:2-8	47	49MTV-WRF	15cd	0.1450	0.337	0.097	27.682	
1	N1:T3:A1:2-12	N1:T3:A1:2-11	28	49MTV-WRF	15cd	0.1450	0.192	0.033	27.649	
1	N1:T3:A1:2-13	N1:T3:A1:2-6	26	49VO-WRF	15cd	0.0470	0.047	0.008	28.058	
1	N1:T3:A1:2-14	N1:T3:A1:2-7	24	49VO-WRF	15cd	0.0470	0.047	0.007	27.860	
1	N1:T3:A1:2-15	N1:T3:A1:2-12	46	49VO-WRF	15cd	0.0470	0.047	0.013	27.636	

RSN: *1015415*
Permit #: *15-967545-LT*

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/18

NANCY S. WILTSIE — DATE 5/4/15

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MEDICAL CENTER OF AURORA SURGERY RENOVATIONS PHASES I-III

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

ISSUE LOG:

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with ⚠ symbol

DRAWN BY:	C. P. MADDEN
CHECKED BY:	N. S. WILTSIE
ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419:982434501
SIMPLEXGRINNELL ©	2015

SYSTEM: FIRE ALARM SYSTEM

SHEET: NODE 1 TRANSPONDER 3 - CALCULATIONS AND SCHEDULES

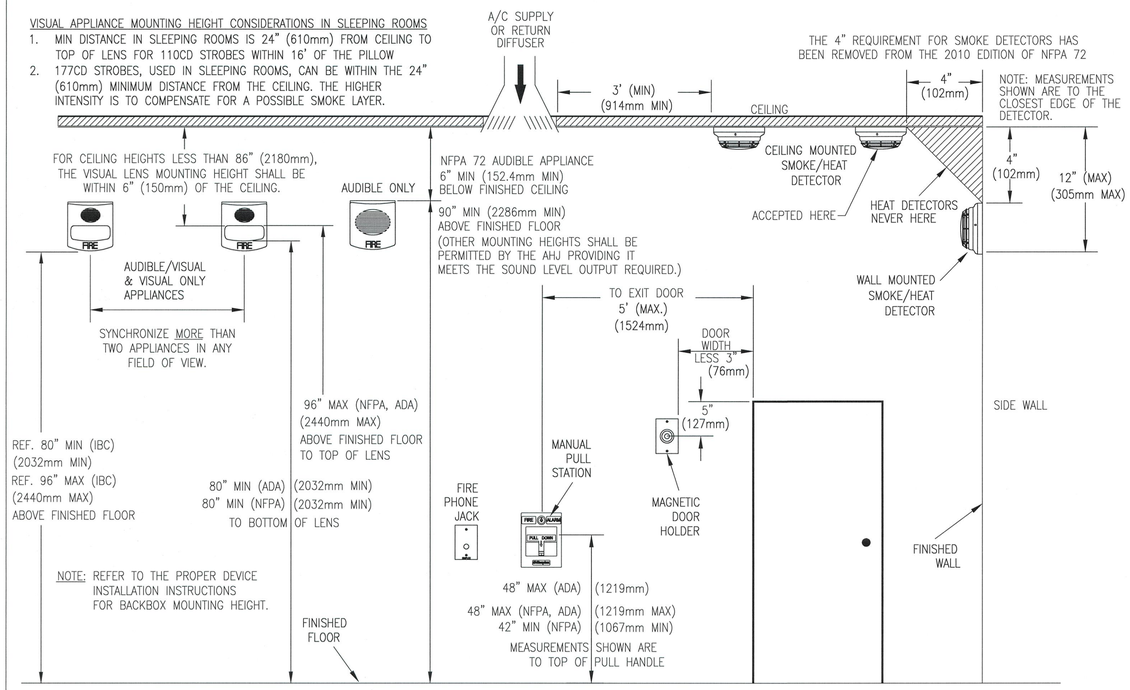
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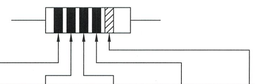
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24" x 36" - Arch D Size

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DEVICE MOUNTING HEIGHT REFERENCE (PER NFPA 72)



END-OF-LINE RESISTOR CODES



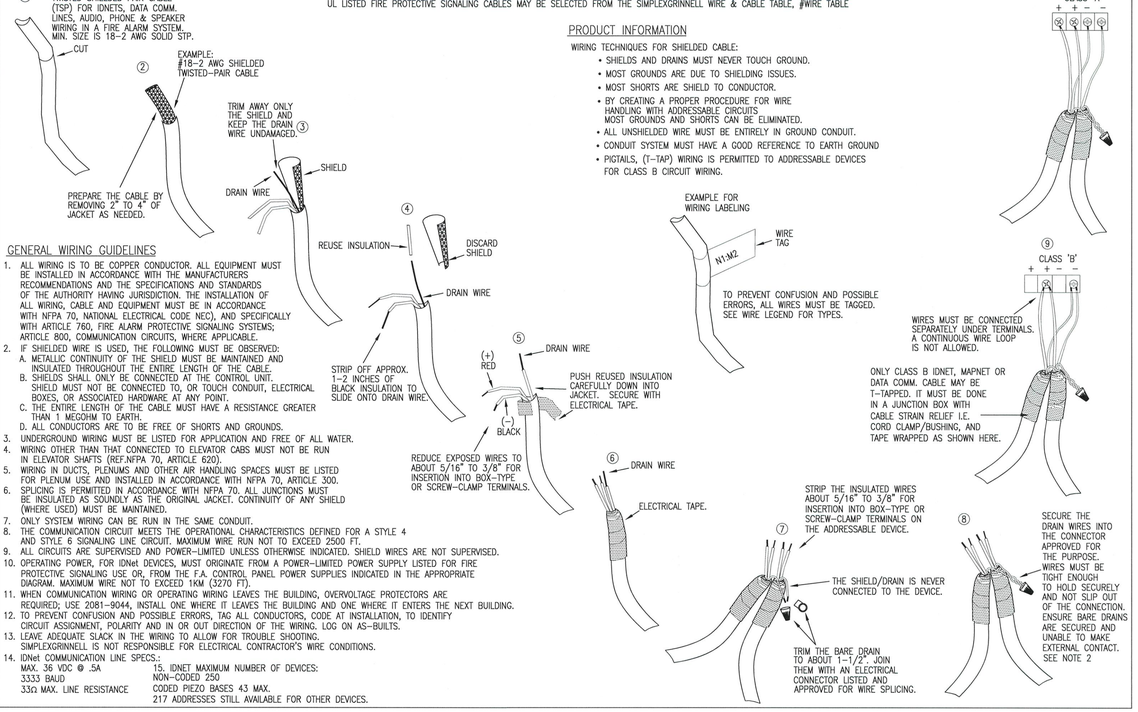
NOTE: REFER TO PANEL/MODULE AND DEVICE INSTALLATION INSTRUCTIONS FOR PROPER TERMINATIONS.

* USE WITH RETROFIT OR HIGH CURRENT MODULE

MODEL	REFERENCE NUMBER	OHMS	1ST BAND	2ND BAND	3RD BAND	4TH BAND	5TH BAND	WATTS	CIRCUIT TYPE	FIRE ALARM PANEL/MODULE
4081-9001	733-892	2.2K	RED	RED	RED	GOLD	N/A	1/2	ANNUNCIATOR (4300)	4004, 4010 (TROUBLE)
4081-9002	733-893	3.3K	ORANGE	ORANGE	RED	GOLD	N/A	1	N.O. INITIATING PULL, SMOKE, HEAT, WATERFLOW, TAMPER, ETC.	4004*, 4004R, 4005*, 4006, 4100, 4120, 4100U, ZAM'S
									24 PT. I/O SWITCH SUPV.	4605-7401, 4100 SERIES
4081-9003	733-896	4.7K	YELLOW	VIOLET	RED	GOLD	N/A	1/2	CURRENT LIMITED N.O. INITIATING	4090-9001 IDNET IAM (EOLR)
									NOTIFICATION (DACT)	2080-9024
4081-9004	733-886	6.8K	BLUE	GREY	RED	GOLD	N/A	1/2	N.O. INITIATING PULL, SMOKE, HEAT, WATERFLOW, TAMPER, ETC.	4004, 4005, 4090-9001 IDNET IAM 2190-9173 MAPNETII 2 PT I/O
										4-20MA ZAM (TROUBLE)
4081-9005	733-984	1.8K	BROWN	GREY	RED	GOLD	N/A	1/2	CURRENT LIMITED N.O. INITIATING (IN LINE)	4090-9001 IDNET IAM
4081-9006	733-890	560Ω	GREEN	BLUE	BROWN	GOLD	N/A	1	N.C. INITIATING (EOLR)	4005*, 4090-9001 IDNET IAM 4100, 4100U
4081-9007	733-891	1.2K	BROWN	RED	RED	GOLD	N/A	1	N.C. INITIATING (EOLR)	4005
4081-9008	733-894	10K	BROWN	BLACK	ORANGE	GOLD	N/A	1/2	NOTIFICATION	4004, 4005, 4006, 4008, 4009, 4010, 4100, 4100U
4081-9009	733-912	20Ω	RED	BLACK	BLACK	GOLD	N/A	1	TO MR-101 RELAY COIL	4005 8 POINT I/O
4081-9010	733-973	1K	BROWN	BLACK	RED	GOLD	N/A	1	N.C. INITIATING (ACROSS CONTACTS)	4005*, 4090-9001 IDNET IAM
									24 PT. I/O (ACROSS CONTACTS)	4605-7401, 4100 SERIES
									CURRENT LIMITED N.O. INITIATING (IN SERIES WITH CONTACT)	4090-9001 IDNET IAM
4081-9011	733-974	100Ω	BROWN	BLACK	BROWN	GOLD	N/A	1/2	ANNUNCIATOR (N2)	4006, 4008, 4010
4081-9012	733-985	22K	RED	RED	ORANGE	GOLD	N/A	1/2	SPEAKER CIRCUIT	4003
4081-9013	734-086	4.99K	YELLOW	WHITE	WHITE	BROWN	BROWN	1/2		
4081-9014	734-092	2.4K	RED	YELLOW	RED	GOLD	N/A	1/2	N.C. INITIATING (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9015	734-093	1.5K	BROWN	GREEN	RED	GOLD	N/A	1/2	CURRENT LIMITED N.O. INITIATING (SECURITY MONITORING EOLR)	4090-9001 IDNET IAM
4081-9016	734-149	150K	BROWN	GREEN	YELLOW	GOLD	N/A	1/2		
4081-9017	734-171	3.9K	ORANGE	WHITE	RED	GOLD	N/A	1		
4081-9018	734-168	10K	BROWN	BLACK	ORANGE	GOLD	N/A	1	70VRMS CONSTANT SUPV. NACS	4100-1260
	378-090	8.2K	GRAY	RED	RED	GOLD	N/A	1/2	SECURITY MONITORING (EOLR)	4100, 4100U
	378-046	5.6K	GREEN	BLUE	RED	GOLD	N/A	1/2	N.O. SECURITY MON. (SERIES)	4100, 4100U
	378-069	12K	BROWN	RED	ORANGE	GOLD	N/A	1/2	N.C. SECURITY MON. (SHUNT)	4100, 4100U

SIGNALING LINE (ADDRESSABLE) CIRCUITS SHIELDING EXAMPLE

UL LISTED FIRE PROTECTIVE SIGNALING CABLES MAY BE SELECTED FROM THE SIMPLEXGRINNELL WIRE & CABLE TABLE, #WIRE TABLE



GENERAL WIRING GUIDELINES

1. ALL WIRING IS TO BE COPPER CONDUCTOR. ALL EQUIPMENT MUST BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND THE SPECIFICATIONS AND STANDARDS OF THE AUTHORITY HAVING JURISDICTION. INSTALLATION OF ALL WIRING, CABLE AND EQUIPMENT MUST BE IN ACCORDANCE WITH NFPA 70, NATIONAL ELECTRICAL CODE NEC), AND SPECIFICALLY WITH ARTICLE 760, FIRE ALARM PROTECTIVE SIGNALING SYSTEMS; ARTICLE 800, COMMUNICATION CIRCUITS, WHERE APPLICABLE.
2. IF SHIELDED WIRE IS USED, THE FOLLOWING MUST BE OBSERVED:
   A. METALLIC CONTINUITY OF THE SHIELD MUST BE MAINTAINED AND INSULATED THROUGHOUT THE ENTIRE LENGTH OF THE CABLE.
   B. SHIELDS SHALL ONLY BE CONNECTED AT THE CONTROL UNIT. SHIELD MUST NOT BE CONNECTED TO, OR TOUCH CONDUIT, ELECTRICAL BOXES, OR ASSOCIATED HARDWARE AT ANY POINT.
   C. THE ENTIRE LENGTH OF THE CABLE MUST HAVE A RESISTANCE GREATER THAN 1 MEGOHM TO EARTH.
   D. ALL CONDUCTORS ARE TO BE FREE OF SHORTS AND GROUNDS.
3. UNDERGROUND WIRING MUST BE LISTED FOR APPLICATION AND FREE OF ALL WATER.
4. WIRING OTHER THAN THAT CONNECTED TO ELEVATOR CABS MUST NOT BE RUN IN ELEVATOR SHAFTS (REF.NFPA 70, ARTICLE 620).
5. WIRING IN DUCTS, PLENUMS AND OTHER AIR HANDLING SPACES MUST BE LISTED FOR PLENUM USE AND INSTALLED IN ACCORDANCE WITH NFPA 70, ARTICLE 300.
6. SPLICING IS PERMITTED IN ACCORDANCE WITH NFPA 70. ALL JUNCTIONS MUST BE INSULATED AS SOUNDLY AS THE ORIGINAL JACKET. CONTINUITY OF ANY SHIELD (WHERE USED) MUST BE MAINTAINED.
7. ONLY SYSTEM WIRING CAN BE RUN IN THE SAME CONDUIT.
8. THE COMMUNICATION CIRCUIT MEETS THE OPERATIONAL CHARACTERISTICS DEFINED FOR A STYLE 4 AND STYLE 6 SIGNALING LINE CIRCUIT. MAXIMUM WIRE RUN NOT TO EXCEED 2500 FT.
9. ALL CIRCUITS ARE SUPERVISED AND POWER-LIMITED UNLESS OTHERWISE INDICATED. SHIELD WIRES ARE NOT SUPERVISED.
10. OPERATING POWER, FOR IDNet DEVICES, MUST ORIGINATE FROM A POWER-LIMITED POWER SUPPLY LISTED FOR FIRE PROTECTIVE SIGNALING USE OR, FROM THE F.A. CONTROL PANEL POWER SUPPLIES INDICATED IN THE APPROPRIATE DIAGRAM. MAXIMUM WIRE NOT TO EXCEED 1KM (3270 FT).
11. WHEN COMMUNICATION WIRING OR OPERATING WIRING LEAVES THE BUILDING, OVERVOLTAGE PROTECTORS ARE REQUIRED; USE 2081-9044, INSTALL ONE WHERE IT LEAVES THE BUILDING AND ONE WHERE IT ENTERS THE NEXT BUILDING.
12. TO PREVENT CONFUSION AND POSSIBLE ERRORS, TAG ALL CONDUCTORS, CODE AT INSTALLATION, TO IDENTIFY CIRCUIT ASSIGNMENT, POLARITY AND IN OR OUT DIRECTION OF THE WIRING. LOG ON AS-BUILTS.
13. LEAVE ADEQUATE SLACK IN THE WIRING TO ALLOW FOR TROUBLE SHOOTING. SIMPLEXGRINNELL IS NOT RESPONSIBLE FOR ELECTRICAL CONTRACTOR'S WIRE CONDITIONS.
14. IDNet COMMUNICATION LINE SPECS.:
    MAX. 36 VDC @ .5A
    3333 BAUD
    33Ω MAX. LINE RESISTANCE
15. IDNET MAXIMUM NUMBER OF DEVICES:
    NON-CODED 250
    CODED PIEZO BASES 43 MAX.
    217 ADDRESSES STILL AVAILABLE FOR OTHER DEVICES.

PRODUCT INFORMATION

WIRING TECHNIQUES FOR SHIELDED CABLE:

- SHIELDS AND DRAINS MUST NEVER TOUCH GROUND.
- MOST GROUNDS ARE DUE TO SHIELDING ISSUES.
- MOST SHORTS ARE SHIELD TO CONDUCTOR.
- BY CREATING A PROPER PROCEDURE FOR WIRE HANDLING WITH ADDRESSABLE CIRCUITS MOST GROUNDS AND SHORTS CAN BE ELIMINATED.
- ALL UNSHIELDED WIRE MUST BE ENTIRELY IN GROUND CONDUIT.
- CONDUIT SYSTEM MUST HAVE A GOOD REFERENCE TO EARTH GROUND
- PIGTAILS, (T-TAP) WIRING IS PERMITTED TO ADDRESSABLE DEVICES FOR CLASS B CIRCUIT WIRING.

RSN: *1015415*
Permit #: *15-967545-LT*

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/18

NANCY S. WILTSIE — DATE: 5/4/15

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MEDICAL CENTER OF AURORA SURGERY RENOVATIONS PHASES I-III

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

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

DRAWN BY:	C. P. MADDEN
CHECKED BY:	N. S. WILTSIE
ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419:982434501
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SYSTEM: FIRE ALARM SYSTEM

SHEET: WIRING TYPICALS

FA-701

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FILE PATH: G:\Medical Center of Aurora\1501 S Potomac - Aurora South\South Tower - Node 120\MCOA Surgery Renovations FAS-2015-982434501\FIRE\Phase 1-3\FA-701.dwg
LAST SAVED BY: CMADDEN
LAST PRINTED: 5/4/2015 8:25:04 AM
24" x 36" - Arch D Size

4098-9792 STANDARD SENSOR BASE

PRODUCT INFORMATION

FEATURES:

- UL LISTED, FM APPROVED
- TRUEALARM ANALOG SENSING PROVIDES DIGITAL TRANSMISSION OF ANALOG SENSOR VALUES VIA MAPNETII, 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:

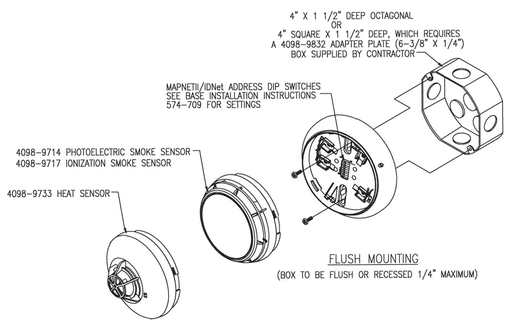
- UL LISTED TEMPERATURE RANGE: 32°F TO 100°F
- OPERATING TEMPERATURE RANGE: 32°F TO 120°F
- HUMIDITY RANGE: 10% TO 95% RH
- PHOTOELECTRIC SENSOR AIR VELOCITY RANGE: 0–2000 FT/MIN
- IONIZATION SENSOR AIR VELOCITY RANGE: 0–300 FT/MIN
- WIRING CONNECTIONS: SCREW TERMINALS FOR IN/OUT WIRING, #18 TO #14 AWG
- COMMUNICATIONS MAPNETII/IDNet SLC: 1 ADDRESS PER BASE
  VOLTAGE (MAPNETII/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.

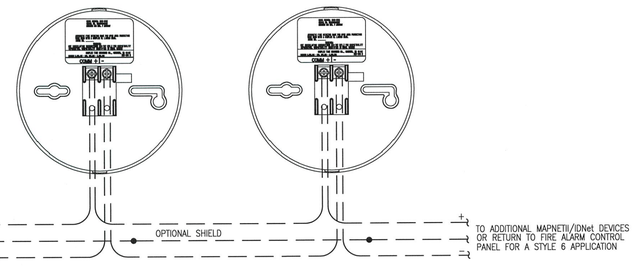
WIRING:

1. ALL WIRING TO COMPLY WITH LOCAL CODE.
2. CONDUCTORS MUST TEST FREE OF ALL GROUNDS.
3. MAINTAIN CORRECT POLARITY
4. MAPNETII/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)



FLUSH MOUNTING

(BOX TO BE FLUSH OR RECESSED 1/4" MAXIMUM)



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

PRODUCT INFORMATION

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:

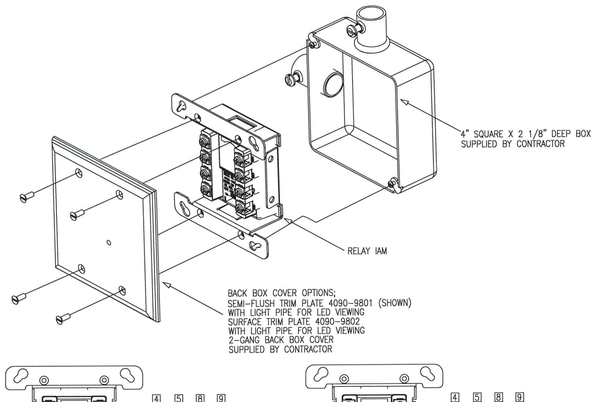
- RELAY IAM POWER: SUPPLIED BY IDNet COMMUNICATIONS
- RELAY IAM CONTACTS (FORM "C", SPDT)
- POWER LIMITED RATING: 2A @ 24VDC, TRANSIENT SUPPRESSED LOADS, 1A @ 24VDC FOR INDUCTIVE LOADS
- NON POWER LIMITED RATING: 1/2A @ 24VAC, TRANSIENT SUPPRESSED LOADS, 1A @ 24 VDC FOR INDUCTIVE LOADS
- WIRE CONNECTIONS: 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 SG 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



4098-9755 ADDRESSABLE ANALOG 2-WIRE DUCT SENSOR MAPNET II/IDNET SLC

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 MAPNETII OR IDNET SLC, 2-WIRE COMMUNICATIONS
- PROGRAMMABLE SENSITIVITY, CONSISTENT ACCURACY, ENVIRONMENTAL COMPENSATION, STATUS TESTING, AND MONITORING OF SENSOR DIRT ACCUMULATION

MODEL:

- BASIC DUCT SENSOR HOUSING (NO RELAY OUTPUT) POWERED BY MAPNETII/IDNET SLC COMMUNICATIONS

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

SAMPLING TUBES (ORDERED SEPARATELY):

- AVAILABLE IN MULTIPLE LENGTHS TO MATCH DUCT SIZE
- INSTALLED AND SERVICED WITH HOUSING IN PLACE

REMOTE MODULE OPTIONS (ORDERED SEPARATELY):

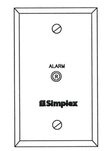
- RED STATUS/ALARM LED (2098-9808)
- TEST STATION WITH LED (2098-9806)

SPECIFICATIONS:

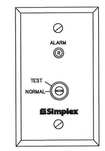
GENERAL SPECIFICATIONS	
AIR VELOCITY RANGE (LINEAR FT/MIN)	300 TO 4000 FT/min (91 TO 1220 m/min)
SENSOR SENSITIVITY RANGE	0.2% TO 3.7% PER FOOT OF OBSCURATION, SELECTABLE AT HOST CONTROL PANEL
UL LISTED TEMPERATURE RANGE	32° F TO 100° F (0° C TO 38° C)
OPERATING TEMPERATURE RANGE	32° F TO 122° F (0° 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 4098-9755

DUCT DETECTOR SELECTION CHART

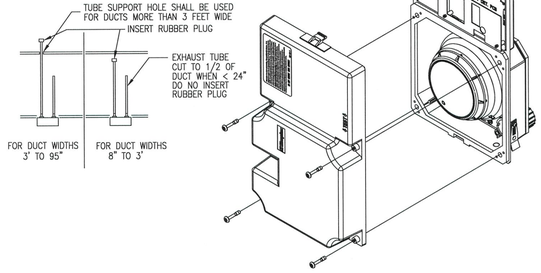
DUCT SMOKE SENSOR HOUSING WITH PHOTOELECTRIC SENSOR		
MODEL	DESCRIPTION	COMPATIBILITY
4098-9755	BASIC DUCT SENSOR HOUSING, OPERATING POWER IS SUPPLIED BY EITHER MAPNETII OR IDNet COMMUNICATIONS (NO RELAY OUTPUT)	SIMPLEX FIRE ALARM CONTROL MODELS 4008, 4010, 4020, 4100, 4120. ALSO 2120 CDT IF CONFIGURED FOR MAPNETII, TRUEALARM OPERATION
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)	

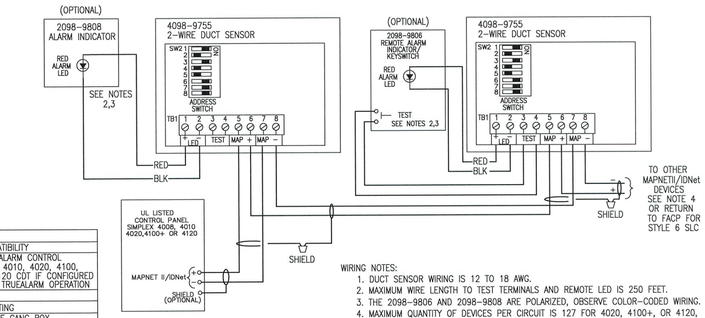


2098-9808
REMOTE STATUS/ALARM
INDICATOR



2098-9806
TEST STATION





WIRING NOTES:

1. DUCT SENSOR WIRING IS 12 TO 18 AWG.
2. MAXIMUM WIRE LENGTH TO TEST TERMINALS AND REMOTE LED IS 250 FEET.
3. THE 2098-9806 AND 2098-9808 ARE POLARIZED, OBSERVE COLOR-CODED WIRING.
4. MAXIMUM QUANTITY OF DEVICES PER CIRCUIT IS 127 FOR 4020, 4100+, OR 4120, 128 FOR THE 2120 CDT PANEL, AND 250 FOR THE 4010 PANEL.

AIR PRODUCTS PAM-1 MULTI-VOLTAGE CONTROL RELAY

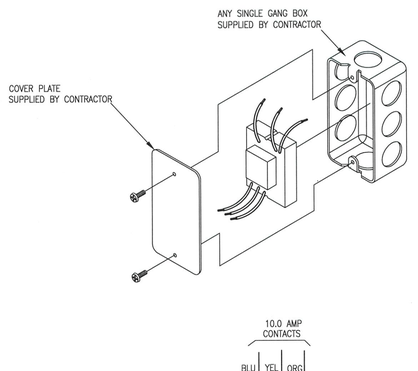
(SIMPLEX 2088-9021)

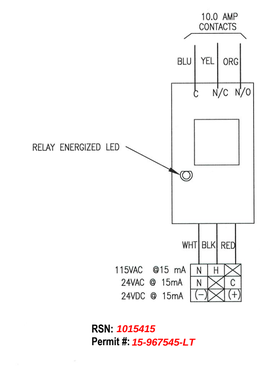
SPECIFICATIONS:

- 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.





RSN: *1015415*
Permit #: *15-967545-LT*

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/18

NANCY S. WILTSIE — DATE 5/4/15

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MEDICAL CENTER OF AURORA SURGERY RENOVATIONS PHASES I-III

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

ISSUE LOG

MARK	DATE	CAD	CHK	DESCRIPTION
				Revisions shown with ⚠ symbol

DRAWN BY:	C. P. MADDEN
CHECKED BY:	N. S. WILTSIE
ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419:982434501
SIMPLEXGRINNELL ©	2015
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	WIRING TYPICALS

FA-702

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PRODUCT INFORMATION

TrueAlert™ ES (STYLE 4 SLC) AUDIBLE/VISIBLE NOTIFICATION APPLIANCES 49MTV SERIES

FEATURES:

INDIVIDUALLY ADDRESSED WALL MOUNT AUDIBLE/VISIBLE NOTIFICATION APPLIANCES WITH EFFICIENT ELECTRONIC HORN AND HIGH INTENSITY XENON STROBE PROVIDES:

- SUPERVISION OF EACH INDIVIDUAL APPLIANCE'S WIRING AND CONNECTIONS
- ABILITY TO CONNECT USING "T" TAPPING FOR CLASS B/STYLE 4 CIRCUITS TO SIMPLIFY WIRING
- HORNS CONTROLLED SEPARATELY FROM STROBES ON THE SAME 2-WIRE CIRCUIT ALLOWING "ON-UNTIL-SILENCED" AND "ON-UNTIL RESET" USING A SINGLE ADDRESS
- XENON STROBE OUTPUT IS MANUALLY SELECTABLE FOR 15, 30, 75, 110, 135 AND 185 CANDELA OR "FACP". THE "FACP" SETTING ALLOWS THE 4100 TO PROGRAM THE CANDELA SETTING.
- IN/OUT WIRING ACCESSIBILITY FROM FRONT OF HOUSING PROVIDES EASY ACCESS FOR INSTALLATION, INSPECTION, AND TESTING
- MAGNETIC TEST DIAGNOSTICS TO ASSIST CHECKOUT AND TESTING OF APPLIANCES AND WIRING
- UL LISTED TO STANDARD 1971 FOR STROBE
- UL LISTED TO STANDARD 464 FOR HORN

LED INDICATOR AND MAGNETIC TEST FEATURE:

- LED INDICTOR CAN BE ELECTED TO DISPLAY EACH POLLING CYCLE TO INDICATE APPLIANCE SUPERVISION
- WHEN THE TrueAlert CONTROLLER IS IN DIAGNOSTIC MODE, THE MAGNETIC TEST PULSES THE LED TO INDICATE APPLIANCE ADDRESS AND IS SELECTABLE TO ALSO BRIEFLY FLASH THE STROBE TO CONFIRM OPERATION

TrueAlert 2-WIRE ADDRESSABLE CONTROL OF VISIBLE AND AUDIBLE NOTIFICATION ACTIVATES APPLIANCES WITH:

- HORNS SOUNDED AS TEMPORAL OR MARCH TIME PATTERN, OR ON CONTINUOUSLY, CONTROLLED SEPARATELY FROM VISIBLE APPLIANCES ON THE SAME TWO-WIRE CIRCUIT

SPECIFICATIONS:

STROBE: RATED VOLTAGE RANGE: 23 TO 29.5 VRMS
SUPERVISORY REQUIREMENTS: 2 UNIT LOADS
STROBE FLASH RATE: 1 Hz

** CURRENT VALUES ARE UL 1971 MAX RATING AT 23 VOLTS															
MODEL NUMBER	HOUSING COLOR	LETTERING COLOR	HORN TONE	15cd		30cd		75cd		110cd		135cd		185cd	
				HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
49MTV-WRF(-BA)	RED	WHITE	520Hz	0.145	0.108	0.163	0.125	0.198	0.158	0.230	0.195	0.262	0.214	0.299	0.257
49MTV-WWF(-BA)	WHITE	RED	HI/LO												
			BELL	0.135	0.099	0.152	0.111	0.185	0.139	0.212	0.172	0.247	0.203	0.284	0.243
			CHIME												
			WHOOP												
			SIREN												
			BROADBAND												

HORN: * UL RATINGS BELOW 75 DBA AND ULC RATINGS BELOW 85 DBA DO NOT MEET THE REQUIREMENTS FOR PUBLIC NOTIFICATION.

SOUND OUTPUT RATINGS (dBA) @ 10 FT. (3 m)								
VOLTAGE	23 VRMS				29.5 VRMS			
SOUND TYPE	REVERBERANT CHAMBER, UL 464 TEST		ULC S525 ANECHOIC CHAMBER		REVERBERANT CHAMBER, UL 464 TEST		ULC S525 ANECHOIC CHAMBER	
SETTING	HIGH	LOW	HIGH	LOW	HIGH	LOW	HIGH	LOW
520 Hz HORN	80	74*	83*	79*	80	75	83*	79*
HIGH/LOW	81	77	87	82*	82	77	87	82*
BROADBAND	84	79	88	84*	81	74*	88	84*
BELL	80	75	85	80*	80	75	85	80*
CHIME	67*	62*	82*	77*	67*	62*	82*	77*
WHOOP	79	74*	85	80*	80	75*	85	80*
SIREN	79	74*	85	80*	80	75*	85	80*

DECIBEL LEVELS SHOWN ARE FOR CONTINUOUS PATTERN. CODED HORN OUTPUT "PEAK" SOUND LEVEL READINGS ARE TYPICALLY THE SAME.

GENERAL SPECIFICATIONS:

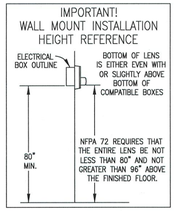
HOUSING DIMENSIONS (INCLUDING LENS): 5 1/8" H X 5" W X 2 5/8" D (130 mm X 127 mm X 67 mm)
TEMPERATURE RANGE: 32° TO 120° F (0° TO 49° C)
HUMIDITY RANGE: 10% TO 93% NON-CONDENSING AT 104° F (40° C)
CONNECTIONS: TERMINAL BLOCKS FOR 18 TO 12 AWG

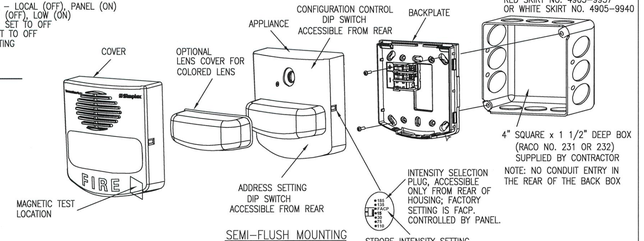
APPLIANCE CONFIGURATION SETTINGS

POSITION 1: CONFIGURATION CONTROL – LOCAL (OFF), PANEL (ON)
POSITION 2: AUDIBLE VOLUME – HIGH (OFF), LOW (ON)
POSITION 3: CANADIAN HORN MODE – SET TO OFF
POSITION 4: LEGACY NAC MODE – SET TO OFF
POSITION 5,6,7: SWITCHES FOR TONE SETTING

TONE	CFIG SWITCH POSITION		
	5	6	7
CHIME	ON	ON	ON
HI/LO	OFF	ON	ON
WHOOP	OFF	OFF	ON
SIREN	ON	OFF	ON
520Hz	OFF	ON	OFF
BELL	ON	ON	OFF
BROADBAND	ON	OFF	OFF

POSITION 8: MUST BE SET TO OFF

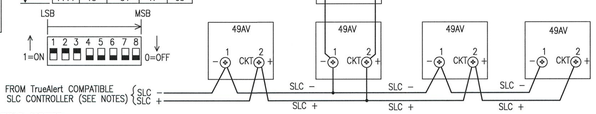




SEMI-FLUSH MOUNTING

TrueAlert A/V UNITS– DIP SWITCH ADDRESS CHART

RESERVED FOR FUTURE USE	DIP SWITCHES 5 & 6 →	0000	1000	0100	1100
DIP SWITCHES 1 THRU 4	0000	0	16	32	48
	1000	1	17	33	49
	0100	2	18	34	50
	1100	3	19	35	51
	0010	4	20	36	52
	1010	5	21	37	53
	0110	6	22	38	54
	1110	7	23	39	55
	0001	8	24	40	56
	1001	9	25	41	57
	0101	10	26	42	58
	1101	11	27	43	59
	0011	12	28	44	60
	1011	13	29	45	61
	0111	14	30	46	62
	1111	15	31	47	63



MOUNTING INSTRUCTIONS:

1. BRING THE BUILDING WIRING THROUGH THE RECTANGULAR OPENING IN THE BACKPLATE.
2. CONNECT THE BUILDING WIRES TO THE BACKPLATE.
3. SECURE THE BACKPLATE TO THE ELECTRICAL BOX BY USING THE PROVIDED HARDWARE. INSTALLED WITH THE WRITING "INSTALL THIS SIDE UP" AT THE TOP.
4. ATTACH THE COVER TO THE APPLIANCE.
5. SET THE APPLIANCE ADDRESS AND CONFIGURATION SETTINGS.
6. ATTACH THE ASSEMBLED APPLIANCE ONTO THE BACKPLATE.

WIRING NOTES:

1. REFER TO FIELD WIRING DIAGRAMS OF THE DRIVING TrueAlert COMPATIBLE CONTROLLER FOR ADDITIONAL SLC WIRING INFORMATION.
2. NOTIFICATION APPLIANCES ARE RATED PER INDIVIDUAL NAMEPLATE LABEL.
3. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS. DO NOT LOOP WIRES UNDER TERMINALS.
4. ALL TrueAlert SLC WIRING CONNECTIONS ARE SUPERVISED AND POWER-LIMITED.
5. POWERING THE A/V FROM AN APPLIANCE POWER SOURCE LESS THAN 23 VDC OR GREATER THAN 31 VDC MAY CAUSE PERMANENT DAMAGE. TO THE A/V UNIT.
6. THE TrueAlert A/V UNIT CAN ONLY BE OPERATED THROUGH A 4100ES ENHANCED POWER SUPPLY (EPS, EPS+ OR 4009 IDNAC REPEATER).

PRODUCT INFORMATION

TrueAlert™ ES (STYLE 4 SLC) VISIBLE ONLY NOTIFICATION APPLIANCES 49VO SERIES

FEATURES:

INDIVIDUALLY ADDRESSED WALL MOUNT VISIBLE NOTIFICATION APPLIANCES WITH EFFICIENT ELECTRONIC HIGH INTENSITY XENON STROBE PROVIDES:

- SUPERVISION OF EACH INDIVIDUAL APPLIANCE'S WIRING AND CONNECTIONS
- ABILITY TO CONNECT USING "T" TAPPING FOR CLASS B/STYLE 4 CIRCUITS TO SIMPLIFY WIRING
- HORNS CONTROLLED SEPARATELY FROM STROBES ON THE SAME 2-WIRE CIRCUIT ALLOWING "ON-UNTIL-SILENCED" AND "ON-UNTIL RESET".
- XENON STROBE OUTPUT IS MANUALLY SELECTABLE FOR 15, 30, 75, 110, 135 AND 185 CANDELA OR "FACP". THE "FACP" SETTING ALLOWS THE 4100 TO PROGRAM THE CANDELA SETTING.
- IN/OUT WIRING ACCESSIBILITY FROM FRONT OF HOUSING PROVIDES EASY ACCESS FOR INSTALLATION, INSPECTION, AND TESTING
- MAGNETIC TEST DIAGNOSTICS TO ASSIST CHECKOUT AND TESTING OF APPLIANCES AND WIRING
- UL LISTED TO STANDARD 1971

LED INDICATOR AND MAGNETIC TEST FEATURE:

- LED INDICATOR CAN BE ELECTED TO DISPLAY EACH POLLING CYCLE TO INDICATE APPLIANCE SUPERVISION
- WHEN THE TrueAlert CONTROLLER IS IN DIAGNOSTIC MODE, THE MAGNETIC TEST PULSES THE LED TO INDICATE APPLIANCE ADDRESS AND IS SELECTABLE TO ALSO BRIEFLY FLASH THE STROBE TO CONFIRM OPERATION

TrueAlert 2-WIRE ADDRESSABLE CONTROL OF VISIBLE AND AUDIBLE NOTIFICATION ACTIVATES APPLIANCES WITH:

- HORNS SOUNDED AS TEMPORAL OR MARCH TIME PATTERN, OR ON CONTINUOUSLY, CONTROLLED SEPARATELY FROM VISIBLE APPLIANCES ON THE SAME TWO-WIRE CIRCUIT

SPECIFICATIONS:

STROBE:
RATED VOLTAGE RANGE: 17 TO 31 VRMS
SUPERVISORY REQUIREMENTS: 1 UNIT LOAD
STROBE FLASH RATE: 1 Hz

MODEL NUMBER	COVER COLOR	LETTERING COLOR	LENS COLOR	CURRENT VALUES ARE UL 1971 MAX RATING FOR THE GIVEN VOLTAGE LEVEL						
				VOLTAGE	15cd	30cd	75cd	110cd	135cd	185cd
49VO-WRF(-BA)	RED	WHITE	CLEAR	23 VRMS	0.047	0.057	0.100	0.132	0.160	0.208
				17 VRMS	0.062	0.075	0.133	0.178	**0.214	**0.281
			AMBER/ BLUE	23 VRMS	0.054	0.078	0.128	0.184	0.211	
				17 VRMS	0.067	0.103	0.171	0.250	**0.282	
49VO-WWF(-BA)	WHITE	RED	GREEN	23 VRMS	0.054	0.078	0.128	0.184	0.211	
				17 VRMS	0.067	0.103	0.171	0.250	**0.282	
					*10cd	*20cd	*45cd	*75cd	*95cd	NOT SUPPORTED
					*15cd	*30cd	*37cd			
			RED	23 VRMS	0.054	0.078	0.128	0.184	0.211	
				17 VRMS	0.067	0.103	0.171	0.250	**0.282	

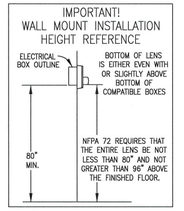
* VISIBLE OUTPUT RATING FOR THE GIVEN LENS COVER COLOR AT THE APPLIANCE SETTING.
** 17 VOLT CURRENT SHOWN AT THE HIGH CANDELA SETTINGS IS FOR USE WITH 4009T ONLY.

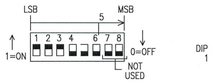
GENERAL SPECIFICATIONS:

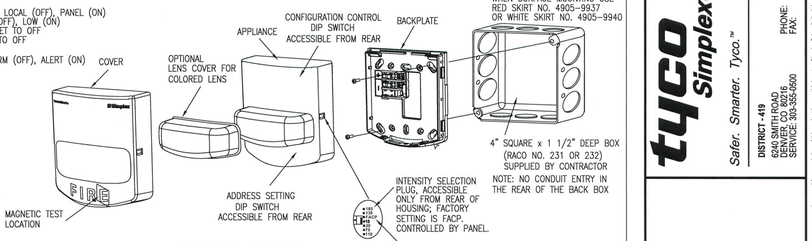
HOUSING DIMENSIONS (INCLUDING LENS): 5 1/8" H X 5" W X 2 5/8" D (130 mm X 127 mm X 67 mm)
TEMPERATURE RANGE: 32° TO 120° F (0° TO 49° C)
HUMIDITY RANGE: 10% TO 93% NON-CONDENSING AT 104° F (40° C)
CONNECTIONS: TERMINAL BLOCKS FOR 18 TO 12 AWG

APPLIANCE CONFIGURATION SETTINGS

POSITION 1: CONFIGURATION CONTROL – LOCAL (OFF), PANEL (ON)
POSITION 2: AUDIBLE VOLUME – HIGH (OFF), LOW (ON)
POSITION 3: CANADIAN HORN MODE – SET TO OFF
POSITION 4: LEGACY NAC MODE – SET TO OFF
POSITION 5,6,7: UNUSED – SET TO OFF
POSITION 8: CLEAR/COLOR LENS – ALARM (OFF), ALERT (ON)



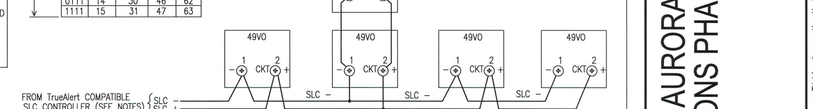




SEMI-FLUSH MOUNTING

TrueAlert V/O UNITS– DIP SWITCH ADDRESS CHART

RESERVED FOR FUTURE USE	DIP SWITCHES 5 & 6 →	0000	1000	0100	1100
DIP SWITCHES 1 THRU 4	0000	0	16	32	48
	1000	1	17	33	49
	0100	2	18	34	50
	1100	3	19	35	51
	0010	4	20	36	52
	1010	5	21	37	53
	0110	6	22	38	54
	1110	7	23	39	55
	0001	8	24	40	56
	1001	9	25	41	57
	0101	10	26	42	58
	1101	11	27	43	59
	0011	12	28	44	60
	1011	13	29	45	61
	0111	14	30	46	62
	1111	15	31	47	63



MOUNTING INSTRUCTIONS:

1. BRING THE BUILDING WIRING THROUGH THE RECTANGULAR OPENING IN THE BACKPLATE.
2. CONNECT THE BUILDING WIRES TO THE BACKPLATE.
3. SECURE THE BACKPLATE TO THE ELECTRICAL BOX BY USING THE PROVIDED HARDWARE. INSTALLED WITH THE WRITING "INSTALL THIS SIDE UP" AT THE TOP.
4. ATTACH THE COVER TO THE APPLIANCE.
5. SET THE APPLIANCE ADDRESS AND CONFIGURATION SETTINGS.
6. ATTACH THE ASSEMBLED APPLIANCE ONTO THE BACKPLATE.

WIRING NOTES:

1. REFER TO FIELD WIRING DIAGRAMS OF THE DRIVING TrueAlert COMPATIBLE CONTROLLER FOR ADDITIONAL SLC WIRING INFORMATION.
2. NOTIFICATION APPLIANCES ARE RATED PER INDIVIDUAL NAMEPLATE LABEL.
3. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS. DO NOT LOOP WIRES UNDER TERMINALS.
4. ALL TrueAlert SLC WIRING CONNECTIONS ARE SUPERVISED AND POWER-LIMITED.
5. POWERING THE V/O FROM AN APPLIANCE POWER SOURCE LESS THAN 17 VDC OR GREATER THAN 32 VDC MAY CAUSE PERMANENT DAMAGE. TO THE V/O UNIT.
6. THE TrueAlert V/O CAN ONLY BE OPERATED THROUGH A 4009 TrueAlert ADDRESSABLE CONTROLLER OR TrueAlert COMPATIBLE FACP.

PRODUCT INFORMATION

TrueAlert™ ES (STYLE 4) VISIBLE NOTIFICATION APPLIANCES 49VO SERIES

FEATURES:

INDIVIDUALLY ADDRESSED WALL MOUNT VISIBLE NOTIFICATION APPLIANCES WITH EFFICIENT ELECTRONIC HORN AND HIGH INTENSITY XENON STROBE PROVIDES:

- SUPERVISION OF EACH INDIVIDUAL APPLIANCE'S WIRING AND CONNECTIONS
- ABILITY TO CONNECT USING "T" TAPPING FOR CLASS B/STYLE 4 CIRCUITS TO SIMPLIFY WIRING
- HORNS CONTROLLED SEPARATELY FROM STROBES ON THE SAME 2-WIRE CIRCUIT ALLOWING "ON-UNTIL-SILENCED" AND "ON-UNTIL RESET" USING A SINGLE ADDRESS
- XENON STROBE OUTPUT IS MANUALLY SELECTABLE FOR 15, 30, 75, 110, 135 AND 185 CANDELA OR "FACP". THE "FACP" SETTING ALLOWS THE 4100 TO PROGRAM THE CANDELA SETTING.
- IN/OUT WIRING ACCESSIBILITY FROM FRONT OF HOUSING PROVIDES EASY ACCESS FOR INSTALLATION, INSPECTION, AND TESTING
- MAGNETIC TEST DIAGNOSTICS TO ASSIST CHECKOUT AND TESTING OF APPLIANCES AND WIRING
- UL LISTED TO STANDARD 1971 FOR STROBE

LED INDICATOR AND MAGNETIC TEST FEATURE:

- LED INDICATOR CAN BE ELECTED TO DISPLAY EACH POLLING CYCLE TO INDICATE APPLIANCE SUPERVISION
- WHEN THE TrueAlert CONTROLLER IS IN DIAGNOSTIC MODE, THE MAGNETIC TEST PULSES THE LED TO INDICATE APPLIANCE ADDRESS AND IS SELECTABLE TO ALSO BRIEFLY FLASH THE STROBE TO CONFIRM OPERATION

TrueAlert 2-WIRE ADDRESSABLE CONTROL OF VISIBLE AND AUDIBLE NOTIFICATION ACTIVATES APPLIANCES WITH:

- HORNS SOUNDED AS TEMPORAL OR MARCH TIME PATTERN, OR ON CONTINUOUSLY

TrueAlert NOTIFICATION APPLIANCE DESIGN PROVIDES FLEXIBLE, EASY, AND CONVENIENT FLUSH OR SURFACE WALL BOX MOUNTING

SPECIFICATIONS:

STROBE:
RATED VOLTAGE RANGE: 17 TO 31 VRMS
SUPERVISORY REQUIREMENTS: 1 UNIT LOAD
STROBE FLASH RATE: 1 Hz

MODEL NUMBER	HOUSING	LENS COLOR	CURRENT VALUES ARE UL 1971 MAX RATING FOR THE GIVEN VOLTAGE LEVEL						
			VOLTAGE	15cd	30cd	75cd	110cd	135cd	185cd
49VO-APPLWE	ORDERED SEPARATELY	CLEAR	23 VRMS	0.059	0.068	0.117	0.148	0.172	0.224
			17 VRMS	0.074	0.085	0.140	0.185	NOT SUPPORTED	
	ORDERED SEPARATELY	AMBER/ BLUE	23 VRMS	0.066	0.088	0.137	0.192	0.219	
			17 VRMS	0.079	0.113	0.180	0.258	NOT SUPPORTED	
		GREEN		*10cd	*20cd	*45cd	*75cd	*95cd	
			23 VRMS	0.066	0.088	0.137	0.192	0.219	
			17 VRMS	0.079	0.113	0.180	0.258	NOT SUPPORTED	
				*3cd	*7cd	*15cd	*30cd	*37cd	
		RED	23 VRMS	0.066	0.088	0.137	0.192	0.219	
			17 VRMS	0.079	0.113	0.180	0.258	NOT SUPPORTED	

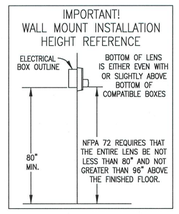
*VISIBLE OUTPUT RATING FOR THE GIVEN LENS COVER COLOR AT THE APPLIANCE SETTING.

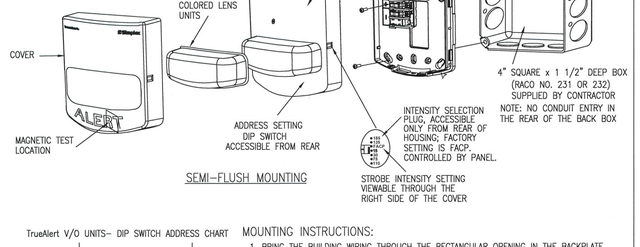
GENERAL SPECIFICATIONS:

HOUSING DIMENSIONS (INCLUDING LENS): 5 1/8" H X 5" W X 2 5/8" D (130 mm X 127 mm X 67 mm)
TEMPERATURE RANGE: 32° TO 120° F (0° TO 49° C)
HUMIDITY RANGE: 10% TO 93% NON-CONDENSING AT 104° F (40° C)
CONNECTIONS: TERMINAL BLOCKS FOR 18 TO 12 AWG

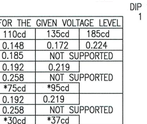
APPLIANCE CONFIGURATION SETTINGS

POSITION 1: CONFIGURATION CONTROL – LOCAL (OFF), PANEL (ON)
POSITION 2: AUDIBLE VOLUME – HIGH (OFF), LOW (ON)
POSITION 3: CANADIAN HORN MODE – SET TO OFF
POSITION 4: LEGACY NAC MODE – SET TO OFF
POSITION 5,6,7: UNUSED – SET TO OFF
POSITION 8: CLEAR/COLOR LENS – ALARM (OFF), ALERT (ON)



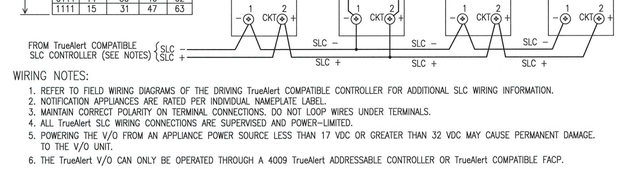


SEMI-FLUSH MOUNTING



TrueAlert V/O UNITS– DIP SWITCH ADDRESS CHART

RESERVED FOR FUTURE USE	DIP SWITCHES 5 & 6 →	0000	1000	0100	1100
DIP SWITCHES 1 THRU 4	0000	0	16	32	48
	1000	1	17	33	49
	0100	2	18	34	50
	1100	3	19	35	51
	0010	4	20	36	52
	1010	5	21	37	53
	0110	6	22	38	54
	1110	7	23	39	55
	0001	8	24	40	56
	1001	9	25	41	57
	0101	10	26	42	58
	1101	11	27	43	59
	0011	12	28	44	60
	1011	13	29	45	61
	0111	14	30	46	62
	1111	15	31	47	63



MOUNTING INSTRUCTIONS:

1. BRING THE BUILDING WIRING THROUGH THE RECTANGULAR OPENING IN THE BACKPLATE.
2. CONNECT THE BUILDING WIRES TO THE BACKPLATE.
3. SECURE THE BACKPLATE TO THE ELECTRICAL BOX BY USING THE PROVIDED HARDWARE. INSTALLED WITH THE WRITING "INSTALL THIS SIDE UP" AT THE TOP.
4. ATTACH THE COVER TO THE APPLIANCE.
5. SET THE APPLIANCE ADDRESS AND CONFIGURATION SETTINGS.
6. ATTACH THE ASSEMBLED APPLIANCE ONTO THE BACKPLATE.

WIRING NOTES:

1. REFER TO FIELD WIRING DIAGRAMS OF THE DRIVING TrueAlert COMPATIBLE CONTROLLER FOR ADDITIONAL SLC WIRING INFORMATION.
2. NOTIFICATION APPLIANCES ARE RATED PER INDIVIDUAL NAMEPLATE LABEL.
3. MAINTAIN CORRECT POLARITY ON TERMINAL CONNECTIONS. DO NOT LOOP WIRES UNDER TERMINALS.
4. ALL TrueAlert SLC WIRING CONNECTIONS ARE SUPERVISED AND POWER-LIMITED.
5. POWERING THE V/O FROM AN APPLIANCE POWER SOURCE LESS THAN 17 VDC OR GREATER THAN 32 VDC MAY CAUSE PERMANENT DAMAGE. TO THE V/O UNIT.
6. THE TrueAlert V/O CAN ONLY BE OPERATED THROUGH A 4009 TrueAlert ADDRESSABLE CONTROLLER OR TrueAlert COMPATIBLE FACP.

PRIMEX ANALOG/DIGITAL CLOCK AND TIMER

Installation Requirements

- Primex Wireless digital clock/timers can be installed anywhere indoors within range of an 802.11 b/g wireless access point.
- Digital clocks must have adequate signal to support wireless operation. Clocks will work in areas where a wireless laptop can connect to the network or where signal to noise level measures 20 dB or greater. If wireless signal is inadequate, a wireless Access Point may be added in proximity to improve local signal strength.

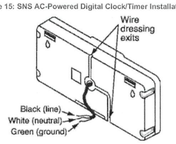
Note: Any damage to the clock or timer due to improper wiring voids the warranty.

Power Specifications

AC-Powered Digital Clocks/Timers

Primex Wireless SNS digital clock/timers and timers are shipped from the factory with either a three-prong grounded plug or pigtail for permanent installation. Pigtail installations require a 120V~ power line in a 4" x 4" junction box installed by a licensed electrician.

Figure 15: SNS AC-Powered Digital Clock/Timer Installation



Note: Please be sure to leave a minimum of 6" of pigtail inside the junction box

Timer Control Switch Installation

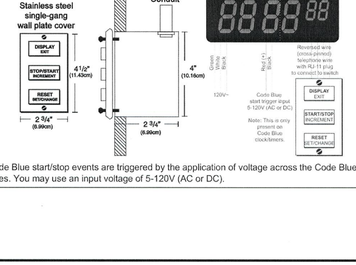
SNS Elapsed timers and Code Blue timers include a control switch that must be mounted in a single-gang junction box (not included). These boxes are typically 2¼" x 2¾" x 4" (5.72cm x 6.99cm x 10.16cm).

The switch's wall plate cover is stainless steel. The switch's buttons and wall plate cover may be cleaned with water and/or most common disinfectant

Note: Be sure to test any cleaning solutions on a small area of the switch before using it on the entire switch.

The switch is not connected to the clock/timer for shipping. Because of this, the cable, which is attached to the back of the clock/timer, needs to be connected to the switch. The cable is a 15-ft (4.6m) reversed wire (cross-pinned) telephone cable with an RJ-11 connector for connection to the switch. It can be extended up to 100 feet (30.48m).

Figure 34: Timer Control Switch Installation



Code Blue start/stop events are triggered by the application of voltage across the Code Blue input wires. You may use an input voltage of 5-120V (AC or DC).

Direct Wall-Mount Clock/Timer Installation

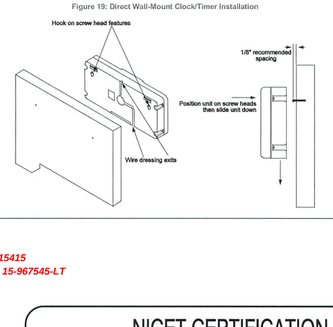
Mounting the clock

Follow these steps to install a wall-mount clock/timer:

Mount the clock/timer directly to the wall with two #10 screws and anchors (supplied). See dimension **D** in Table 10: SNS Single Digital Clock/Timer Table of Dimensions on page 47 for the spacing of the screws.

Note: Most building codes prohibit the use of hard-wired power connections for devices that can be removed without tools. Clock/timers mounted directly to a wall must have standard power plugs.

Figure 19: Direct Wall-Mount Clock/Timer Installation



RSN: *1015415*
Permit #: *15-967545-LT*

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL 3
CERTIFICATE #: 93727
VALID THROUGH: 03/01/18

NANCY S. WILTSIE — DATE 5/4/15

tyco SimplexGrinnell
Safer. Smarter. Tyco.™
DISTRICT - 419
6240 SMITH ROAD
DENVER, CO 80216
SERVICE 303-355-0500
PHONE: 303-355-0800
FAX: 303-355-0815

MEDICAL CENTER OF AURORA
SURGERY RENOVATIONS PHASES I-III

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

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

DRAWN BY:	C. P. MADDEN
CHECKED BY:	N. S. WILTSIE
ISSUE DATE:	4/27/15
JOB #:	419435597
PROJECT #:	419:982434501
SIMPLEXGRINNELL ©	2015
SYSTEM:	FIRE ALARM SYSTEM
SHEET:	WIRING TYPICALS

FA-703

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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
MCOA Surgery Renovations FAS Phase I-II
1501 S Potomac ST
Aurora, CO 80012

RSN: ***1015415***
Permit #: ***15-967545-LT***

Prepared for:

Ludvik Electric Co.
3900 S Teller St
Lakewood, CO 80235

RSN: ***1015415***
Permit #: ***15-967545-LT***

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

PROJECT:	Medical Center of Aurora MCOA Surgery Renovations FAS F26Phases I-III
PREPARED FOR:	*Ludvik Electric Co.*

TYPE:	***DESCRIPTION:***
4100-7150	4100+ MCTLR UPGD TO ES 2X40
4100-6078	NETWORK IFC CARD, MODULAR
4100-6056	NETWORK MEDIA CARD WIRED
4100-2300	EXPANSION BAY (PHASE 10 ONLY)
4100-9600	BASIC TRANSPONDER
4100-5311	EPS+ POWER SUPPLY 120V
4100-0636	BOX TO BOX HARNESS KIT
2975-9452	3 BAY BOX& SOLID DOOR PLATINUM
4100-0634	POWER DISTRIBUTION MODULE 120V
2081-9287	BATTERY 25AH
4098-9792	SENSOR BASE
4098-9714	PHOTO SENSOR
4098-9733	HEAT SENSOR
4098-9755	DUCT SENSOR HOUSING
2098-9806	REMOTE TEST STATION
4098-9855	SAMPLING TUBE 24", PLASTIC
4098-9856	SAMPLING TUBE 49", PLASTIC
4098-9857	SAMPLING TUBE 73", PLASTIC
4098-9845	DUCT WEATHERPROOF ENCLOSURE
4099-9006	MANUAL STATION - PUSH W/LED
4090-9008	DUAL RELAY IAM, IDNET
4090-9002	RELAY IAM
2088-9021	ENCAPSULATED RELAY PAM-1
49MTV-WRF	MTV, WALL RED FIRE
49VO-WRF	VO Wall Red FIRE
49VO-APPLW	VO Appliance Only Wall
49MP-AVVOWR	Mounting Plate AVVOAO Wall Red
49VOC-WRS	VO Cover Wall Red Logo Only
SNS5202EFQ	PRIMEX ELASPED TIMER
SNS5X202FQ	PRIMEX OR CLOCKS

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Permit #: *15-967545-LT*

Simplex®

4100ES Fire Control Panels

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

Addressable Fire Detection and Control
Basic Panel Modules and Accessories

Features

Master Controller (top) bay:

- 32-Bit Master Controller with color-coded operator interface including raised switches for high confidence feedback
- Dual configuration program CPU, convenient service port access, and capacity for up to 2500 addressable points
- CPU assembly includes 2 GB dedicated compact flash memory for on-site system programming and information storage
- System power supply (SPS) and charger (9 A total) with on-board: NACs, IDNet addressable device interface, programmable auxiliary output and alarm relay
- Available with InfoAlarm Command Center expanded content user interface (see data sheet S4100-0045)
- Upgrade kits are available for existing control panels

Standard addressable interfaces include:

- IDNet addressable device interface with 250 points that support TrueAlarm analog sensing and operate with *either shielded or unshielded* twisted pair wiring
- Remote annunciator module support via RUI (remote unit interface) communications port

Optional modules include:

- Building Network Interface Module (BNIC) for Ethernet connectivity options (see data sheet S4100-0061)
- Electrically isolated output IDNet 2 (two loop) and IDNet 2+2 (four loop) modules with short circuit isolation output loops allowing use with either shielded or unshielded, twisted or untwisted single pair wiring
- Fire Alarm Network Interfaces, DACTs, city connections, and up to five (5) RS-232 ports for printers and terminals
- IP communicator compatibility
- MAPNET II addressable device modules and MAPNET II quad isolator modules
- Alarm relays, auxiliary relays, additional power supplies, IDC modules, NAC expansion modules
- Service modems, VESDA Air Aspiration Systems interface, ASHRAE BACnet Interface, TCP/IP Bridges
- LED/switch modules and panel mount printers
- Emergency communications systems (ECS) equipment; 8 channel digital audio or 2 channel analog audio
- Battery brackets for seismic area protection (see page 2)

Compatible with Simplex® remotely located 4009 IDNet NAC Extenders, up to ten per IDNet SLC

4100ES and upgrade kits are UL Listed to:

- UL 864, Fire Detection and Control (UOJZ), and Smoke Control Service (UUKL)
- UL 2017, Process Management Equipment (QVAX)
- UL 1076, Proprietary Alarm Units-Burglar (APOU)
- UL 1730, Smoke Detector Monitor (UULH)
- UL 2572, Mass Notification Systems (PGWM)); refer to data sheet S4100-0034 for audio equipment
- ULC S527, Control Units for Fire Alarm Systems



4100ES Cabinets are Available with
One, Two or Three Bays

Software Feature Summary

CPU provides dual configuration programs:

- Two programs allow for optimal system protection and commissioning efficiency with one active program and one reserve
- Downtime is reduced because the system stays running during download

PC based programmer features:

- Convenient front panel accessed Ethernet port for quick and easy ***download*** of site-specific programming
- Modifications can be ***uploaded*** as well as downloaded for greater service flexibility
- ***AND***, firmware enhancements are made via software downloads to the on-board flash memory

Introduction

4100ES Series Fire Detection and Control Panels provide extensive installation, operator, and service features with point and module capacities suitable for a wide range of system applications. An on-board Ethernet port provides fast external system communications to expedite installation and service activity. Dedicated compact flash memory archiving provides secure on-site system information storage of electronic job configuration files to meet NFPA 72 (*National Fire Alarm and Signaling Code*) requirements.

Modular design. A wide variety of functional modules are available to meet specific system requirements. Selections allow panels to be configured for either Stand-Alone or Networked fire control operation. InfoAlarm Command Center options provide convenient expanded display content (detailed on data sheet S4100-0045).

* See pages 5 and 6 for product that is UL or ULC listed and additional listing information. This product has been listed by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:251(4100ES) 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.

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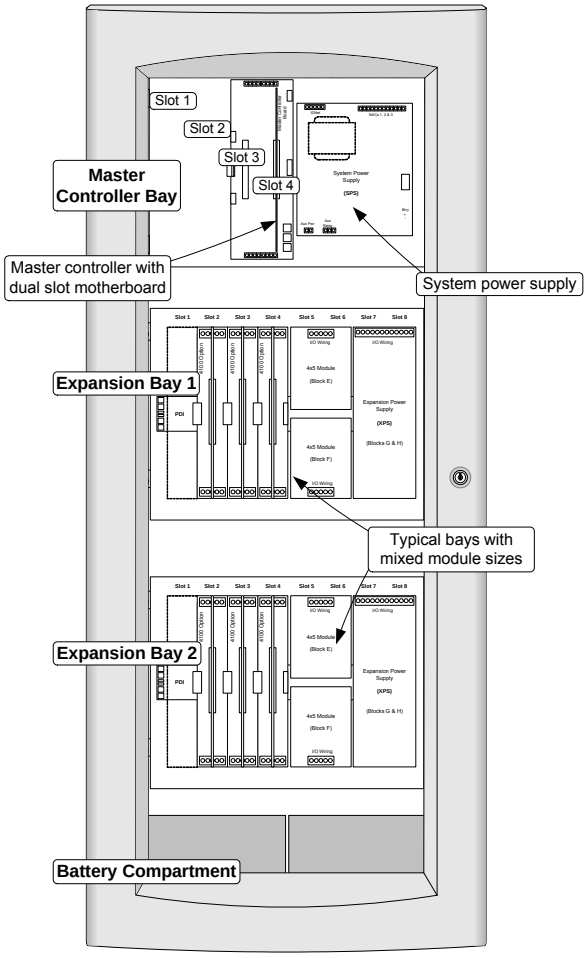
Module Bay Description

The Master Controller Bay (top) includes a standard multi-featured system power supply, the master controller board, and operator interface equipment.

The Expansion Bays include a Power Distribution Interface (PDI) for new 4" x 5" flat design option modules and also accommodate 4100-style modules.

The Battery Compartment (bottom) accepts two batteries, up to 50 Ah, to be mounted within the cabinet without interfering with module space.

The following illustration identifies bay locations using a three bay cabinet for reference.



4100ES Module Bay Reference

Mechanical Description

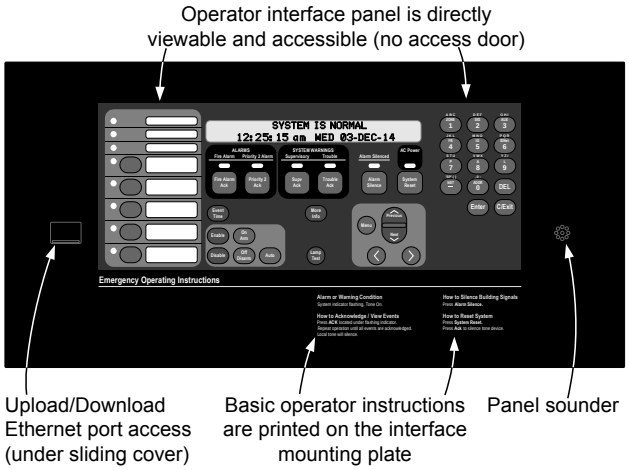
- Boxes can be close-nippled; each box provides convenient stud markers for drywall thickness and nail-hole knockouts for quicker mounting
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- Cabinet assembly design has been seismic tested and is certified to IBC and CBC standards as well as to ASCE 7 categories A through F, requires battery brackets as detailed on data sheet S2081-0019

Mechanical Description *(Continued)*

- The latching dress panel (retainer) assembly easily lifts off for internal access
- NACs are mounted directly on power supply assemblies providing minimized wiring loss, compact size, and readily accessible terminations
- Packaging supports traditional 4100-style motherboard with daughter cards
- Modules are power-limited (except as noted, such as relay modules)
- The NEMA 1/IP30 box is ordered separately and available for early installation
- Doors are available with tempered glass inserts or solid; boxes and doors are available in platinum or red
- Boxes and door/retainer assemblies are ordered separately per system requirements; refer to data sheet S4100-0037 for details

Operator Interface Detail Reference

The following illustration identifies the primary functions of the operator interface.



Software Feature Summary

- TrueAlarm individual analog sensing with front panel information and selection access
- "Dirty" TrueAlarm sensor maintenance alerts, service and status reports including "almost dirty"
- TrueAlarm magnet test indication appears as distinct "test abnormal" message on display when in test mode
- TrueAlarm sensor peak value performance report
- ***"Install Mode"*** allows grouping of multiple troubles for uninstalled modules and devices into a single trouble condition (typical with future phased expansion); with future equipment and devices grouped into a single trouble, operators can more clearly identify events from the commissioned and occupied areas
- Module level ground fault searching assists installation and service by locating and isolating modules with grounded wiring
- ***"Recurring Trouble Filtering"*** allows the panel to recognize, process, and log recurring intermittent troubles (such as external wiring ground faults), but only sends a single outbound system trouble to avoid nuisance communications
- WALKTEST silent or audible system test performs an automatic self-resetting test cycle

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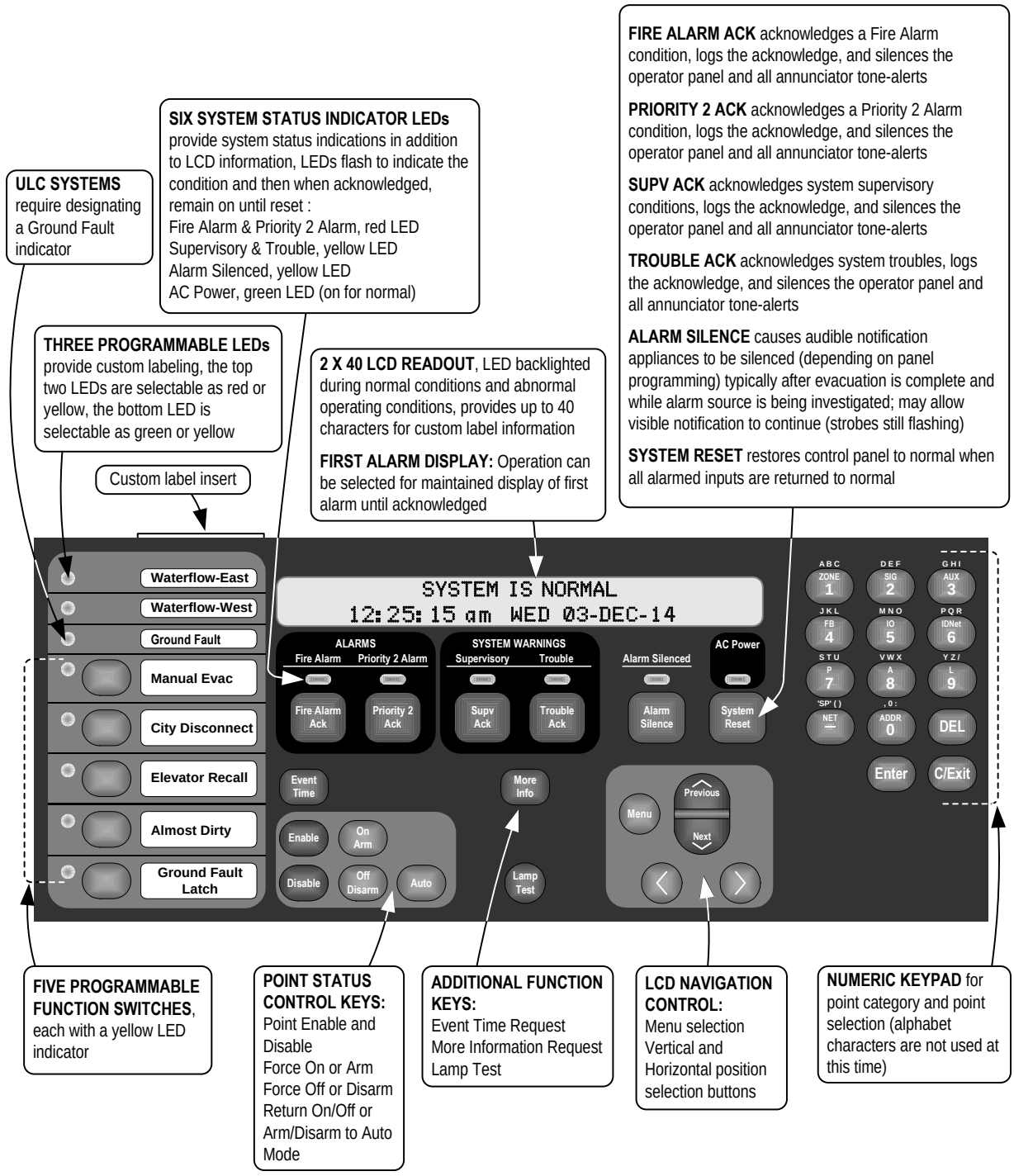
Operator Interface

Convenient Status Information. With the locking door closed, the glass window allows viewing of the display, status LEDs, and available operator switches. Features include a two-line by 40-character, wide viewing angle (super-twist) LCD with status LEDs and switches as shown in the illustration below.

LED indicators describe the general category of activity being displayed with the LCD providing more detail. For the authorized user, unlocking the door provides access to the control switches and allows further inquiry by scrolling the display for additional detail.

Operator Interface Features

- Convenient and extensive operator information is provided using a logical, menu-driven display
- Multiple automatic and manual diagnostics for maintenance reduction
- Alarm and Trouble History Logs (up to 1250 entries for each, 2500 total events) are available for viewing from the LCD, or capable of being printed to a connected printer, or downloaded to a service computer
- Convenient PC programmer label editing
- Password access control



Compatible Peripheral Devices

The 4100ES is compatible with an extensive list of remote peripheral devices including printers, CRT/keyboards (up to five total), and both conventional and addressable devices including TrueAlarm analog sensors.

Addressable Device Control

Overview. The 4100ES provides standard addressable device communications for IDNet compatible devices and accepts optional modules for communications with MAPNET II compatible devices. Using a two wire communications circuit, individual devices such as manual fire alarm stations, TrueAlarm sensors, conventional IDC zones, and sprinkler waterflow switches can be interfaced to the addressable controller to communicate their identity and status.

Addressability allows the location and condition of the connected device to be displayed on the operator interface LCD and on remote system annunciators. Additionally, control circuits (fans, dampers, etc.) may be individually controlled and monitored with addressable devices.

Addressable Operation. Each addressable device on the communication channel is continuously interrogated for status condition such as: normal, off-normal, alarm, supervisory, or trouble. Both Class B and Class A operation are available. Sophisticated poll and response communication techniques ensure supervision integrity and allow for "T-tapping" of the circuit for Class B operation. Devices with LEDs pulse the LED to indicate receipt of a communications poll and can be turned on steady from the panel.

IDNet Channel Capacity. The CPU bay system power supply (SPS) provides an IDNet signaling line circuit (SLC) that supports up to 250 addressable monitor and control points intermixed on the same pair of wires. Additional 250 point IDNet circuit modules are available, refer to IDNet 2 and IDNet 2+2 modules on page 7.

IDNet, MAPNET II, IDNet 2, and IDNet 2+2 SLC Wiring Common Specifications

Maximum Distance from Control Panel per Device Load	1 to 125	4000 ft (1219 m); 50 ohms
	126-250	2500 feet (762 m); 35 ohms
Connections		Terminals for 18 to 12 AWG (0.82 mm^2 to 3.31 mm^2)
IDNet and MAPNET II Specifications		
Wire Type	Preferred	Shielded twisted pair (STP)
	Acceptable*	Unshielded twisted pair (UTP)
IDNet and MAPNET II Wiring, Total Wire Length Allowed With "T" Taps for Class B Wiring		Up to 10,000 ft (3 km); 0.58 µF
IDNet 2 and IDNet 2+2 Wiring Specifications		
Wire Type		Shielded or unshielded, twisted or untwisted wire*
Total Wire Length Allowed With "T" Taps for Class B Wiring		Up to 12,500 ft (3.8 km); 0.60 µF
Maximum Capacitance Between IDNet 2 Channels		1 µF
IDNet 2 and IDNet 2+2 Module Compatibility: IDNet communicating devices and TrueAlarm sensors *including* QuickConnect and QuickConnect2 sensors		

* Some applications may require shielded wiring. Review your system with your local Simplex product supplier.

True*Alarm* System Operation

Addressable device communications include operation of TrueAlarm smoke and temperature sensors. Smoke sensors transmit an output value based on their smoke chamber condition and the CPU maintains a current value, peak value, and an average value for each sensor. Status is determined by comparing the current sensor value to its average value. Tracking this average value as a continuously shifting reference point filters out environmental factors that cause shifts in sensitivity.

Programmable sensitivity of each sensor can be selected at the control panel for different levels of smoke obscuration (shown directly in percent) or for specific heat detection levels. To evaluate whether the sensitivity should be revised, the peak value is stored in memory and can be easily read and compared to the alarm threshold directly in percent.

CO sensor bases combine an electrolytic CO sensing module with a TrueAlarm analog sensor to provide a single multiple sensing assembly using one system address. The CO sensor can be enabled/disabled, used in LED/Switch modes and custom control, and can be made public for communication across a fire alarm Network. (refer to data sheet S4098-0052 for details)

TrueAlarm heat sensors can be selected for fixed temperature detection, with or without rate-of-rise detection. Utility temperature sensing is also available, typically to provide freeze warnings or alert to HVAC system problems. Readings can selected as either Fahrenheit or Celsius.

TrueSense Early Fire Detection. Multi-sensor 4098-9754 provides photoelectric and heat sensor data using a single 4100ES IDNet address. The panel evaluates smoke activity, heat activity, ***and their combination***, to provide TrueSense early detection. For more details on this operation, refer to data sheet S4098-0024.

Diagnostics and Default Device Type

Sensor Status. TrueAlarm operation allows the control panel to automatically indicate when a sensor is almost dirty, dirty, and excessively dirty. The NFPA 72 requirement for a test of the sensitivity range of the sensors is fulfilled by the ability of TrueAlarm operation to maintain the sensitivity level of each sensor. CO Sensors track their 10 year active life status providing indicators to assist with service planning. Indicators occur at: 1 year, 6 months, and when end of life is reached.

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

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CPU Bay Module Details

Master Controller and Motherboard:

- Mounts in Slot 4 of a two slot motherboard (Slots 3 and 4 of the Master Controller Bay) and provides one Class B or Class A, RUI communications channel, available at Slot 4
- RUI communications controls up to 31 devices per master controller (on one or multiple RUI channels); devices include: MINIPLEX transponders, 4603-9101 LCD Annunciators, 4602-9101 Status Command Units (SCU), 4602-9102 Remote Command Units (RCU), 4602 Series LED Annunciator Panels, and 4100 Series 24 I/O and LED/Switch modules
- Up to four RUI channels are supported; use up to three 4100-1291 RUI expansion modules as required
- Optional Service Modem 4100-6030 mounts onto the master controller board with its own on-board connections
- Slot 3 of the motherboard is primarily for the 4100-6078 Network Interface Board with media modules, and secondarily for the 4100-6038 Dual RS-232 Board (4100-6038 is required for 2120 System connections)

System Power Supply: (see page 9 for more detail)

- Rating is 9 A total with "Special Application" appliances; 4 A total for "Regulated 24 DC" appliance power
- Outputs are power-limited, except for the battery charger
- Provides system power, battery charging, auxiliary power, auxiliary relay, earth detection, on-board IDNet communications channel for 250 points, three on-board NACs, and provisions for either an optional City Connect Module or an optional Alarm Relay Module
- **IDNet SLC Output** provides Class B or Class A communications for up to 250 addressable devices (as described on page 4)

System Power Supply *(Continued)*:

- **Three, 3 A On-Board NACs**, conventional reverse polarity operation; rated 3 A for Special Application appliances and 2 A for Regulated 24 DC power, with electronic control and overcurrent protection; selectable as Class B or Class A, and for synchronized strobe or SmartSync horn/strobe operation over two wires
- **NACs can be selected** as auxiliary power outputs derated to 2 A for continuous duty; the total auxiliary power output per SPS is limited to 5 A
- **Battery Charger** is dual rate, temperature compensated, and charges up to 50 Ah sealed lead-acid batteries mounted in the battery compartment (33 Ah for single bay cabinets); also is UL listed for charging up to 110 Ah batteries mounted in an external cabinet (see data sheet S2081-0012 for details)
- **Battery and Charger Monitoring** includes battery charger status and low or depleted battery conditions; status information provided to the master controller includes analog values for: battery voltage, charger voltage and current, actual system voltage and current, and individual NAC currents
- **2 A Auxiliary Power Output** is selectable for detector reset, door holder, or coded output operation
- **Auxiliary Relay** is selectable as N.O. or N.C., rated 2 A @ 32 VDC, and is programmable as a trouble relay, either normally energized or normally de-energized, or as an auxiliary control
- **Optional City Connect Module** (4100-6031, with disconnect switches, or 4100-6032, without disconnect switches) can be selected for conventional dual circuit city connections
- **Optional Alarm Relay Module** (4100-6033) provides three Form C relays that are used for Alarm, Trouble, and Supervisory, rated 2 A resistive @ 32 VDC

Master Controller Selection Information

4100ES Master Controller and Expansion Bay Selection* (Canadian models have low battery cutout)

Model	Model Type and Listing			Description	Supv.**	Alarm**
4100-9111	120 VAC Input		UL	4100ES Master Controller Assembly **with LCD and operator interface**, 9 A system power supply/battery charger (SPS), 250 point IDNet interface, 3 NACs, auxiliary relay, and external RUI communications interface	373 mA	470 mA
4100-9112	English	120 VAC, Canadian	ULC			
4100-9113	French					
4100-9211	220-240 VAC Input		UL			
4100-9131	120 VAC Input		UL	4100ES Master Controller Assembly, **no display, no operator interface**, 9 A system power supply/battery charger (SPS), 250 point IDNet interface, 3 NACs, auxiliary relay, and external RUI communications interface	363 mA	425 mA
4100-9132	English, 120 VAC, Canadian		ULC			
4100-9230	220-240 VAC Input		UL			
4100-9121 (not ULC listed)	Redundant Master Controller with a two bay assembly, one for each of the primary and backup master controllers. Both bays have an LCD and operator interface, CPU card assembly, and 9 A system power supply (SPS) 120 VAC, 60 Hz input. Active SPS battery charger in Bay 1 only. External RUI connections require 4100-1291 RUI expansion modules. **Do not use circuit connections (IDNet, NACs, etc.) on primary and secondary SPS power supplies.**				718 mA	937 mA

4100ES Master Controller Upgrades for Existing 4100 Series Fire Alarm Control Panels*

Model	Panel Type	Includes
4100-7150	1000 pt 4100 (4100+)	New Master Controller CPU card, 4100ES door assembly with LCD and user interface, and Ethernet connection
4100-7152	512 pt 4100	Same as 4100-7150 plus a Universal Power Supply
4100-7158	4100U **or** 1000 pt 4100 (4100+) **previously upgraded** to 4100U	New Master Controller CPU card with Ethernet Connection Upgrade Kit **(door assembly with LCD and user interface are not included)** for: • 4100U **with or without** LCD and operator interface, **or** • 4100+ **without** LCD and operator interface, **or** • An existing 4100 (512 pt) or 4100+ (1000 pt) panel that was previously **upgraded** to a 4100U Master Controller and Display

* For InfoAlarm Command Center expanded content display products, refer to data sheet S4100-0045.
(Continued on next page)
** Note: Master Controller current does not subtract from 9 A output rating.

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Master Controller Selection Information *(Continued)*

Master Controller Accessories

4100-2300	Expansion Bay Assembly; **order for each required expansion bay** (not required for 4100-9121)
4100-2303	Legacy Module Stabilizer Bracket, used when expansion bays have legacy slot style modules
4100-2301	Expansion Bay Upgrade Kit for mounting 4100ES style (4" x 5" modules) in existing 4100 style panels; **Note:** When using this kit to upgrade a 4100+ transponder, a **4100-0620 Transponder Interface Card (TIC)** is also required for communications to the 4100ES module

Master Controller Upgrades for Existing 4020 Series Fire Alarm Control Panel

Model	Description
4100-9833	4020 Master Controller Upgrade to 4100ES; Includes New Master Controller with LCD & operator interface assembly, 8 VDC Converter and RUI Interface in a single bay cabinet with locking glass door and retainer; mounts as an adjunct panel close-nippled to existing 4020 cabinet; also includes 8 VDC box-to-box power and communications harness and solid filler panel for the existing 4020 Master Controller bay

Module Selection Information

Communication Modules

Model	Description		Size	Supv.	Alarm
4100-6078	For Master Controller; mounts in Slot 3	Modular Network Interface; each requires two media modules (below)	1 Slot	46 mA	46 mA
4100-6061	For Redundant Master Controller		1 Slot	46 mA	46 mA
4100-6056	Wired Media Module	Select two media cards as required; mounts on 4100-6078 or 4100-6061; Class B or Class X operation	N.A.	55 mA	55 mA
4100-6057	Fiber Optic Media Module		N.A.	25 mA	25 mA
4100-6047	Building Network Interface Card (BNIC), refer to data sheet S4100-0061 for details		2 Blocks	291 mA	291 mA
4100-6055	Network Access Dial-in Service Modem, mounts to 4100-6078 or 4100-6061 Network Interface Card, requires telephone line connection		N.A.	60 mA	60 mA
4100-1291	Remote Unit Interface Module (RUI); up to three maximum per control panel		1 Slot	85 mA	85 mA
4100-6030	Service Port Modem, local panel access only, mounts to Master Controller Module, requires telephone line connection, accesses same information as front panel port		N.A.	70 mA	70 mA
4100-6031	**Select one per SPS** (fits on SPS)	City Circuit, with disconnect switches	N.A.	20 mA	36 mA
4100-6032		City Circuit, w/o disconnect switches	N.A.	20 mA	36 mA
4100-6033		Alarm Relay, 3 Form C relays, 2 A @ 32 VDC; for SPS or RPS	N.A.	15 mA	37 mA
4100-6101	Physical Bridge, Class B, includes 1 modem module and 2 wired modules		1 Slot	210 mA	210 mA
4100-6102	Physical Bridge, Class X, includes 2 modem and 2 wired modules		2 Slots	300 mA	300 mA
4100-6038	Dual Port RS-232 with 2120 interface (slot module)	3 maximum of RS-232 type modules per panel	1 Slot	132 mA	132 mA
4100-6046	Dual Port RS-232 standard interface (4 x 5 module)		1 Block	60 mA	60 mA
4100-6045	Decoder Module		3 Slots	85 mA	163 mA
4100-6048	VESDA Aspiration System Interface		1 Slot	132 mA	132 mA
4100-6052	DACT, Point or Event Reporting; 1 shipped unless 4100-7908 is selected; 2 max. per system; includes 2, 2080-9047 cables, 14 ft (4.3 m) long, RJ45 plug and spade lugs		1 Slot	30 mA	40 mA

Expansion, System and Remote Power Supplies and Accessories (Canadian models have low battery cutout)

Model	Voltage/Listing		Description	Size	Supv.	Alarm
4100-5101	120 VAC	UL	**Expansion Power Supply (XPS)**; 9 A output, 3 built-in Class A/B NACs; NAC operation is same as SPS, see page 5 for details	2 Blocks	50 mA	50 mA
4100-5103	120 VAC, Canadian	ULC				
4100-5102	220-240 VAC	UL				
4100-5115	NAC Expansion Module, 3 NACs, Class A/B, **mounts on XPS only**			N.A.	25 mA	25 mA
4100-5111	120 VAC	UL	**Additional System Power Supply (SPS)**; 9 A power supply/charger with 250 point IDNet channel, 3 Class A/B NACs, add IDNet device currents separately	4 Blocks	175 mA	185 mA
4100-5112	120 VAC, Canadian	ULC				
4100-5113	220-240 VAC	UL				
4100-5125	120 VAC	UL	**Remote Power Supply (RPS)**; 9 A power supply/charger similar to SPS except no IDNet channel or City Circuits; will accept one 4100-6033	4 Blocks	150 mA	185 mA
4100-5126	120 VAC, Canadian	ULC				
4100-5127	220-240 VAC	UL				

Continued on next page

Module Selection Information *(Continued)*

Expansion, System and Remote Power Supplies and Accessories *(Continued)*

Model	Description	Size	Current
4100-5152	12 VDC Power Option, 2 A maximum	1 Block	1.5 A maximum
4100-0156	8 VDC Converter, required for multiple Physical Bridge Modules, 3 A maximum	1 Block	included w/loads
4100-0636	Box Interconnection Harness Kit (non-audio); **order one for each close-nippled cabinet**		
4100-0638	4100 Slot Module Additional 24 VDC Harness; **need when 4100 Slot module requirements exceed 2 A from SPS**		

8 Zone Initiating Device Circuits*

Model	Type	Supv.	Alarm
4100-5005	Class B	75 mA	195 mA
4100-5015	Class A	75 mA	195 mA

* IDC Modules are 1 Slot size

Expansion Signal Module and Options (1.5 A Class B except as noted)

Model	Description		Supv.	Alarm
4100-5116	Converts 1 NAC in to 3 NACs out; 1 Block size		18 mA	80 mA
4100-1266	Expands 3 NACs to 6	select one; mounts on 4100-5116	0.6 mA	60 mA
4100-1267	Converts 3 NACs to Class A		0.6 mA	30 mA

Addressable Interface Modules (refer to location reference on pages 8 and 9)

Model	Description		Supv.	Alarm
4100-3109*	**IDNet 2 Module**, 250 point capacity; electrically isolated output with **two** short circuit isolating Class B or Class A output loops, 1 block; standard on EPS with IDNet 2 Module; alarm currents for 50 and above devices includes 20 device LEDs in alarm	no devices	50 mA	60 mA
		50 devices	90 mA	150 mA
		125 devices	150 mA	225 mA
		250 devices	250 mA	350 mA
4100-3110*	**IDNet 2+2 Module,** 250 point capacity; electrically isolated output with **four** short circuit isolating Class B or Class A output loops, 1 block; mounts in expansion bay or available master controller bay module locations only, not applicable for EPS mounting; alarm currents for 50 and above devices includes 20 device LEDs in alarm	no devices	50 mA	60 mA
		50 devices	90 mA	150 mA
		125 devices	150 mA	225 mA
		250 devices	250 mA	350 mA
4100-3111*	**IDNet Short Circuit Isolating Loop Output Module**; mount up to two on a 4100-3109 module; for use with 4100-3109 modules; this option is for aftermarket field installation only			

***Note:** Loading per IDNet device (no LEDs on) = 0.8 mA supervisory and 1 mA alarm.
Each IDNet 2 and IDNet 2+2 Short Circuit Isolating Loop Output can be individually controlled for system diagnostics and can be assigned a public point for Fire Alarm Network annunciation.

Model	Description		Supv.	Alarm
4100-3102	MAPNET II Module, 127 point capacity, add devices separately; Module size = 2 Slots; Loading per MAPNET II device = 1.7 mA	Module without devices	255 mA	275 mA
		Fully loaded module, total	471 mA	491 mA
4100-3103	Isolator Module **for MAPNET II communications**; converts a single connected SLC into four isolated outputs selectable as Class A or Class B; up to two Isolator Modules can be connected to one SLC; Module size = 1 Slot; **NOTE:** Compatible with MAPNET II Remote Isolators only		50 mA	50 mA

Relay Modules; Nonpower-limited (for mounting in expansion bay only, refer to location reference on pages 8 and 9)

Model	Description	Resistive Ratings		Inductive Ratings		Size	Supv.	Alarm
4100-3202	4 DPDT w/feedback	10 A	250 VAC	10 A	250 VAC	2 Slots	15 mA	175 mA
4100-3204	4 DPDT w/feedback	2 A	30 VDC/VAC	1/2 A	30 VDC/120 VAC	1 Block	15 mA	60 mA
4100-3206	8 SPDT	3 A	30 VDC/120 VAC	1-1/2 A	30 VDC/120 VAC	1 Block	15 mA	190 mA

Current Calculation Notes:

1. To determine total supervisory current, add currents of modules in panel to base system value **and** all external loads powered by panel power supplies.
2. To determine total alarm current, add currents of modules in panel to base system alarm current **and** add all panel NAC loads **and** all external loads powered from panel power supplies.

Continued on next page

Module Selection Information *(Continued)*

End User Programming Software (requires 4100-8802)

Model	Description
4100-8802	Programming Software (select)

End User Programming Software Selection (select maximum of one each from below)

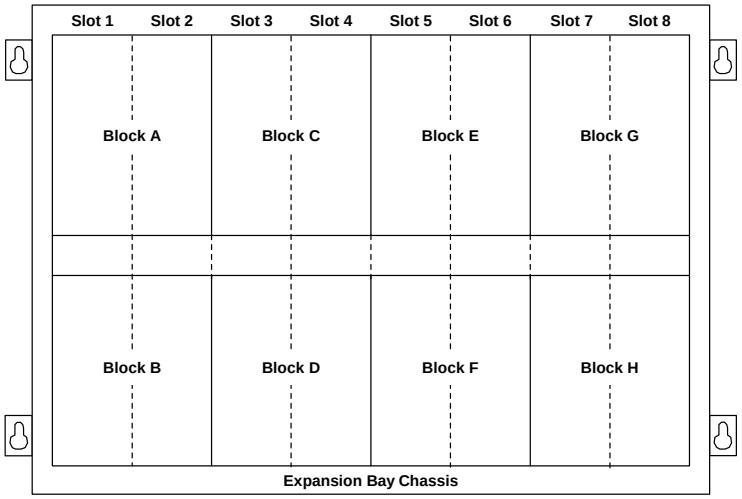
Model	Description
4100-0292	Custom Labels Editing; allows editing of 40 Character Custom Labels for non-system user points
4100-0296	Access Level/Passcode Editing; allows user to re-assign Access Levels and Passcodes for each display function; Acknowledge, Alarm Silence, System Reset, Point Enable/Disable, WALKTEST Enable/Disable, Clear History Logs, Change Time & Date, etc.
4100-0295	Port Vectoring Setup and Control; Allows vectoring of events to PC Annunciator, Printers, LCD Annunciators, etc.
4100-0298	WALKTEST Configuration Setup and Control; Allows user to create or edit WALKTEST groups used to test system initiating devices and signals by a single person, these groups allow an inspector to conduct a one-person WALKTEST in a specific area of a building (or different buildings), and limit the activation of the building signals to only the intended area; up to 8 WALKTEST groups are supported

Miscellaneous Accessories

Model	Description
4100-1279	Single blank 2" display cover; **4100-2302** provides a single plate for a full bay
4100-9856*	4100ES Canadian French Appliqué Kit; Simplex, 4100ES, Contrôle Incendie
4100-9857*	4100ES English Appliqué Kit; Simplex, 4100ES, Fire Control
4100-9858*	4100ES InfoAlarm Remote Display English Appliqué Kit; Simplex, Operator Interface, 4100ES
4100-9859*	4100ES InfoAlarm Remote Display Canadian French Appliqué Kit; Simplex, Interface de l'operateur, 4100ES
4100-9868	Special Purpose Appliqué Kit: Simplex, Elevator Recall Control and Supervisory Control Unit, 4100ES
4100-9869	Special Purpose Appliqué Kit: Simplex, Sprinkler Waterflow and Supervisory Station, 4100ES
4100-9835	Termination and Address Label Kit (for module marking); provides additional labels for field installed modules
4100-6029	Smoke Management Application Guide; **required for UUKL listing**
4100-6034	Tamper Switch, one per cabinet assembly if required; monitors solid door for panels with solid door; monitors the internal retainer panel for panels with glass door (not the glass door); has a built-in addressable IDNet IAM
2081-9031	Series resistor for WSO, IDCs (N.O. water flow and tamper on same circuit, wires after water flow and before tamper) 470 Ω, 1 W, encapsulated, two 18 AWG leads (0.82 mm^2), 2-1/2" L x 1-3/8" W x 1" H (64 mm x 35 mm x 25 mm)

*** Note:** 4100ES **English** Appliqués are included with 4100ES Upgrade and Retrofit Kits for mounting 4100ES in 4100, 2120, 2001, and Autocall back boxes so that upgrades can be easily identified as 4100ES. 4100ES Appliqué Kits are available for applications such as to update Remote InfoAlarm Displays connected to a panel that was upgraded to 4100ES or for an existing 4100U when the New Master Controller is upgraded to 4100ES and only a software upgrade is required. **When required, French appliqués are ordered separately.**

Expansion Bay Module Loading Reference



Size Definitions: Block = 4" W x 5" H (102 mm x 127 mm) card area
Slot = 2" W x 8" H (51 mm x 203 mm) motherboard with daughter card

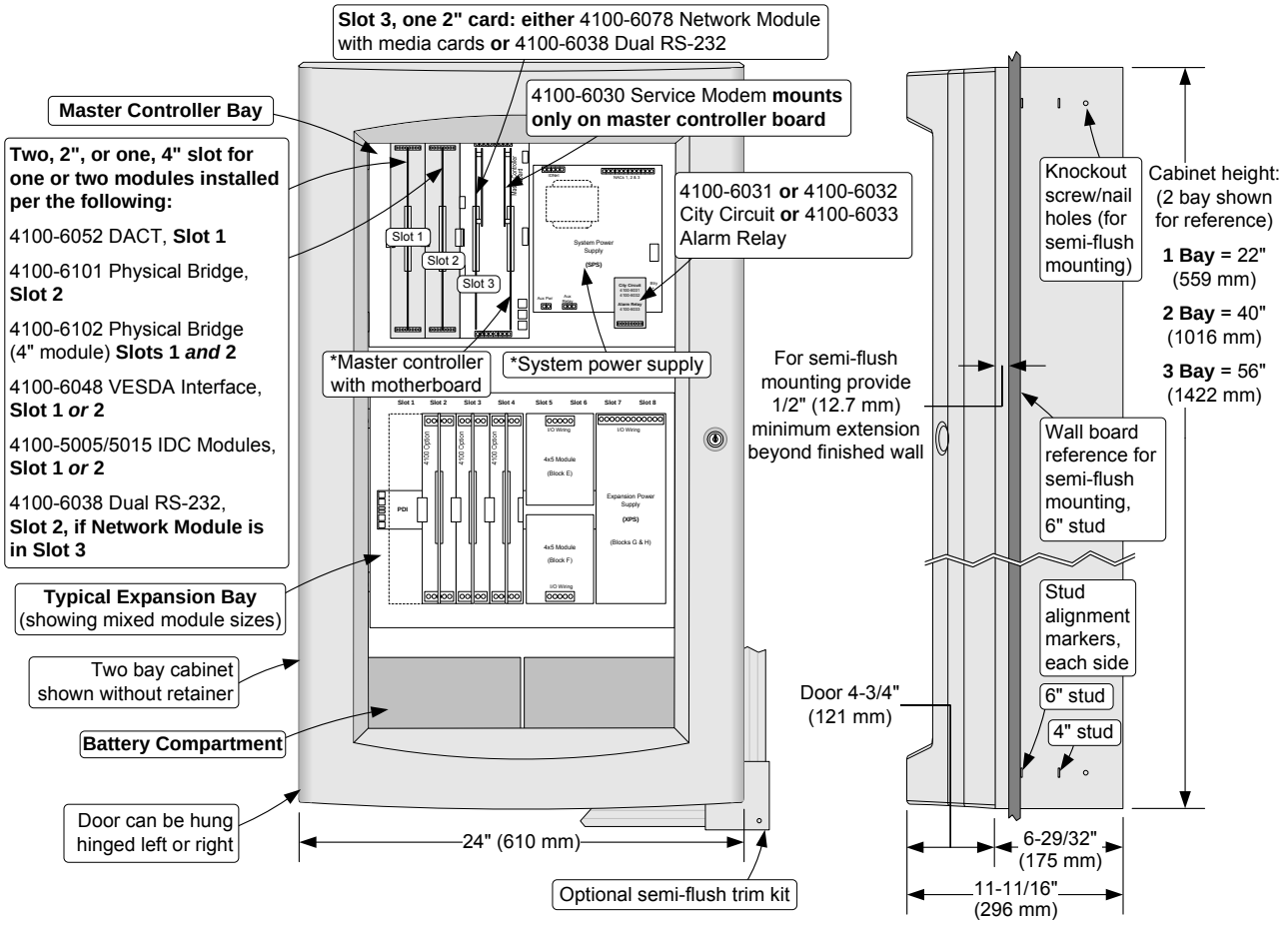
Description		Mounting
IDNet 2, IDNet 2+2 Modules		1 Block
4, 2 A Relays	**NON Power-limited**	1 block
4, 10 A Relays		4", 2 slots
8, 3 A Relays		1 block
VESDA Interface		2", 1 Slot
Class B IDC		2", 1 Slot
Class A IDC		2", 1 Slot
MAPNET II Module		4", 2 Slots
MAPNET II/IDNet Isolator		2", 1 Slot
Class B Physical Bridge		2", 1 Slot
Class X Physical Bridge		4", 2 Slots
Decoder Module		6", 3 Slots
System or Remote Power Supply		Blocks E, F, G & H ONLY
Expansion Power Supply		Blocks G & H ONLY
NAC Expansion Module		On XPS ONLY

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General Specifications

Input Power	System Power Supplies (SPS) Expansion Power Supplies (XPS) Remote Power Supplies (RPS)	120 VAC Models	4 A maximum @ 102 to 132 VAC, 60 Hz	
		220-240 VAC Models	2 A maximum @ 204 to 264 VAC, 50/60 Hz; separate taps for 220/230/240 VAC	
Power Supply Output Ratings for SPS, XPS, and RPS (nominal 28 VDC on AC; 24 VDC on battery backup)	Total Power Supply Output Rating	**Including module currents and auxiliary power outputs;** 9 A total for "Special Application" appliances; 4 A total for "Regulated 24 DC" power (see below for details)		Output switches to battery backup during mains AC failure or brownout conditions
	Auxiliary Power Tap	2 A maximum	Rated 19.1 to 31.1 VDC	
	NACs Programmed for Auxiliary Power	2 A maximum per NAC; 5 A maximum total		
Special Application Appliances	Simplex horns, strobes, and combination horn/strobes and speaker/strobes (contact your Simplex product representative for compatible appliances)			
Regulated 24 DC Appliances	Power for other UL listed appliances; use associated external synchronization modules where required			
Battery Charger Ratings for SPS and RPS (sealed lead-acid batteries)	Battery capacity range	UL listed for battery charging of 6.2 Ah up to 110 Ah (batteries larger than 50 Ah require a remote battery cabinet); ULC listed for charging up to 50 Ah batteries		
	Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours per UL Standard 864; to 70% capacity in 12 hours per ULC Standard S527		
Environmental	Operating Temperature	32° to 120°F (0° to 49° C)		
	Operating Humidity	Up to 93% RH, non-condensing @ 90° F (32° C) maximum		
Additional Technical Reference	Installation Instructions	574-848		
	Operating Instructions	579-197		

Mounting and CPU Bay Module Reference (* indicates supplied modules)



NOTE: A system ground must be provided for Earth Detection and transient protection devices. This connection shall be made to an approved, dedicated Earth connection per NFPA 70, Article 250, and NFPA 780.

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Additional 4100ES Data Sheet Reference

Subject	Data Sheet	Subject	Data Sheet
Introducing the 4100ES	S4100-0060	SafeLINC Internet Interface	S4100-0062
4100ES Enclosures	S4100-0037	Agent Release Applications	S4100-0040
4100ES Control Panels with EPS+ Power Supplies for TrueAlert Addressable Notification	S4100-0100	Fire Alarm Network Overview	S4100-0055
		Network Communications	S4100-0056
4100ES Audio and Firefighter Phone Modules	S4100-0034	Network Display Unit (NDU)	S4100-0036
LED/Switch Modules & Printer	S4100-0032	Addressable Device Compatibility	S4090-0011
Remote Annunciators	S4100-0038	Remote Battery Charger	S4081-0002
MINIPLEX Transponders	S4100-0035	TFX Interface Module	S4100-0042
Building Network Interface (BNIC)	S4100-0061	Master Clock Interface	S4100-0033
InfoAlarm Command Center	S4100-0045	2120 BMUX Module	S4100-0048
Graphic I/O Modules	S4100-0005	TrueInsight Remote Service	S4100-0063

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Simplex®

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

4100ES Fire Control Panels

Addressable Fire Detection and Control
MINIPLEX Transponders

Features

4100ES Series MINIPLEX transponders allow remotely located initiating and notification functions:

- Transponder operation is available as standard or with local mode operation
- Communications with the host fire alarm control panel use the Remote Unit Interface (RUI/RUI+) format

Initiating functions include:

- Addressable device support including TrueAlarm analog sensor compatibility
- Conventional initiating device circuit (IDC) support

Notification functions include:

- Addressable strobe and horn notification using ***enhanced power delivery*** **IDNAC SLCs**
- Emergency voice/alarm communications
- Conventional DC notification appliance circuits (NACs)

Local mode operation provides:

- Default local initiating and notification operation in the event of a communications loss with the host control panel
- Enabling of an optional Local Mode Controller with a local alarm sounder, LED status indicators, and keyswitch enabled control switches
- Support for IDNet addressable devices, addressable and conventional notification appliances, and default output tones from local amplifiers

Optional modules include:

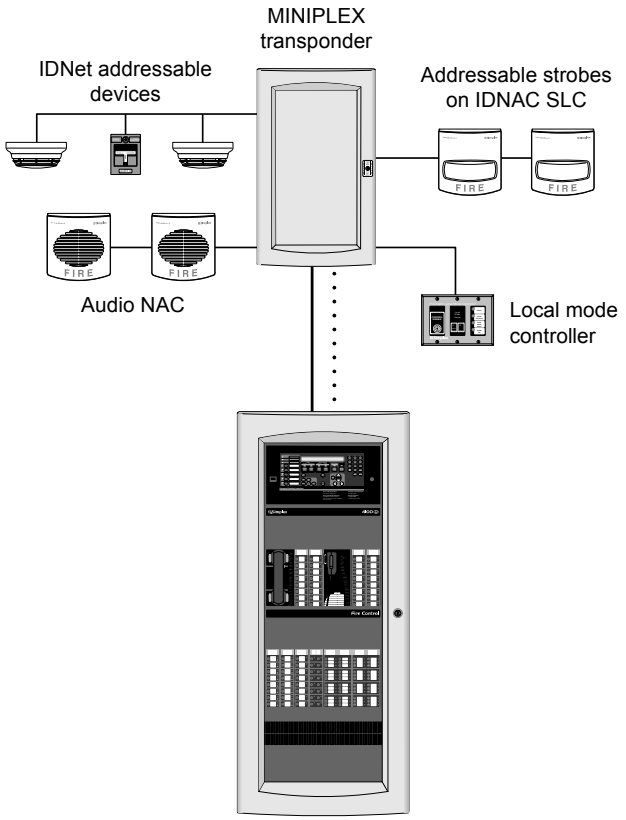
- Digital or Analog audio riser modules for connection to system audio signals
- Digital or analog input audio amplifiers with integral on-board NACs
- Power supplies with or without battery chargers
- City Connect modules and RS-232 ports for printers or maintenance terminals
- Alarm relays, auxiliary relays, additional IDC modules, and NAC expansion modules

NEMA 1/IP30 cabinets are equipped with solid doors (platinum or red) and in one, two, or three bay sizes

Listed to:

- UL 864, Fire Detection and Control (UOJZ), and Smoke Control Service (UUKL)
- UL 2017, Process Management Equipment (QVAX)
- UL 1076, Proprietary Alarm Units-Burglar (APOU)
- UL 1730, Smoke Detector Monitor (UULH)
- UL 2572, Mass Notification Systems (PGWM)
- ULC S527, Control Units for Fire Alarm Systems

* See pages 4 and 5 for product that is listed as UL or ULC. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:0251 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



Typical 4100ES MINIPLEX System One-Line Drawing

Introduction

4100ES MINIPLEX transponders connect to a host 4100ES Fire Alarm Control Panel using Simplex® remote unit interface (RUI) communications. At the transponder, RUI communications are received by the transponder interface module and translated into the same internal communications format that is used in the host control panel.

Remotely located modules. With RUI communications, the transponder can remotely provide the same initiating and notification functions that occur at the host control panel without requiring multiple long distance wiring runs. Connections to the host panel are low current communications and audio wiring with distances up to 2500 ft (762 m).

Additional Reference. Refer to document S4100-0100 and the other documents listed on page 3 for additional information concerning the extensive initiating and notification features of the 4100ES fire alarm control panels.

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Module Bay Description

Transponder model 4100-9600 includes a bay assembly, a power distribution interface module (PDI), a Basic Transponder Interface Module, and an interconnect harness. Communications with the host fire alarm control panel are via a Remote Unit Interface (RUI) connection that allows for up to 2500 ft (762 m) distance. RUI can communicate with up to a total of 31 remote devices and can be either Style 4 or Style 7 communications.

Transponder model 4100-9601 substitutes a Local Mode Transponder Module for the Basic Transponder Module.

RUI and RUI+. RUI+ provides isolated Remote Unit Interface communications for improved noise immunity. For additional information including detailed module compatibility, refer to data sheet S4100-0100.

Optional Expansion Bays each include a PDI and accept a variety of optional modules (refer to list starting on page 4).

The Battery Compartment (bottom) accepts two batteries, up to 50 Ah, that can be mounted within the cabinet. Battery mounting does not interfere with available module space. A power supply with battery charger is required for each battery set.

Packaging Availability

- Modules are power-limited (except as noted, such as relay modules)
- Enclosure are available for one, two, or three bay sizes or for cabinet rack mounting
- NEMA 1/IP30 boxes and solid doors are available in platinum or red (ordered separately)
- Up to eight close-nippled cabinets can be connected at one transponder location (close-nippled is mounted within 20 ft (6 m) and with interconnecting wiring enclosed in conduit)
- Refer to document S4100-0037 for enclosure details

Local Mode Control Operation

Default Stand-Alone Operation. In the event of a communications loss with the host fire alarm control panel, model 4100-9601 MINIPLEX Local Mode Transponders provide fire alarm response default operation for its connected devices and appliances per the following.

Input Operation. During local mode operation, TrueAlarm initiating devices connected to the transponder will cause an alarm at their least sensitive alarm threshold.

- Photoelectric sensors will alarm at 3.7%/ft smoke obscuration
- Ionization sensors will alarm at 1.3%/ft obscuration
- Heat sensors will alarm at a fixed temperature of 135° F (57° C)
- TrueAlarm device LEDs will be activated to indicate a device in alarm

Local Mode Control Operation *(Continued)*

Notification Operation. Fire alarm conditions reported against a fire alarm point type within a transponder in local mode will cause all notification appliance circuits in that transponder to:

- Sound a general alarm temporal pattern horn tone
- Activate visible notification appliance circuits

Local Mode Module Support. Local mode operation provides support for the following 4100ES modules:

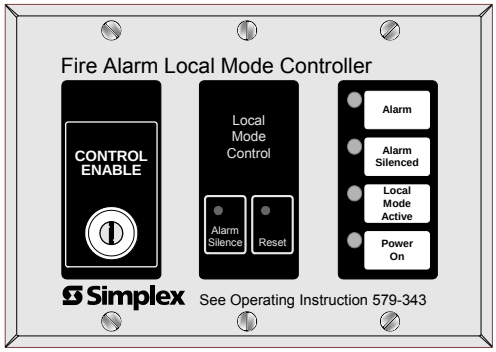
- Enhanced Power Supplies (EPS+/EPS) including on-board IDNAC SLCs
- IDNet addressable device communications from IDNet 2 and IDNet 2+2 modules
- Expansion Power Supplies (XPS) including on-board NACs and expansion signal modules, operated at a temporal pattern
- 4100ES amplifiers will provide their on-board horn tones (500 Hz) at a temporal pattern through their on-board amplifier NACs
- Firefighter Telephone control modules in local mode

Local Mode Operation Module Exclusion. Modules not listed above but that are listed as compatible with MINIPLEX transponders per this document, do not interfere with local mode operation but **are not supported** during local mode operation.

Local Mode Controller

Operation. During local mode operation, an optional Local Mode Controller will indicate status (see illustration below) and can be enabled using a keyswitch to perform local alarm silence or reset. If alarms occurring during local mode are reset using a Local Mode Controller, upon restoration of communications, **those alarms will not be sent to the master controller**. If alarms are still present upon restoration of communications, then the alarm condition will be reported and host fire alarm control panel programmed alarm functions will occur. When communications are re-established, the local mode transponder restores automatically.

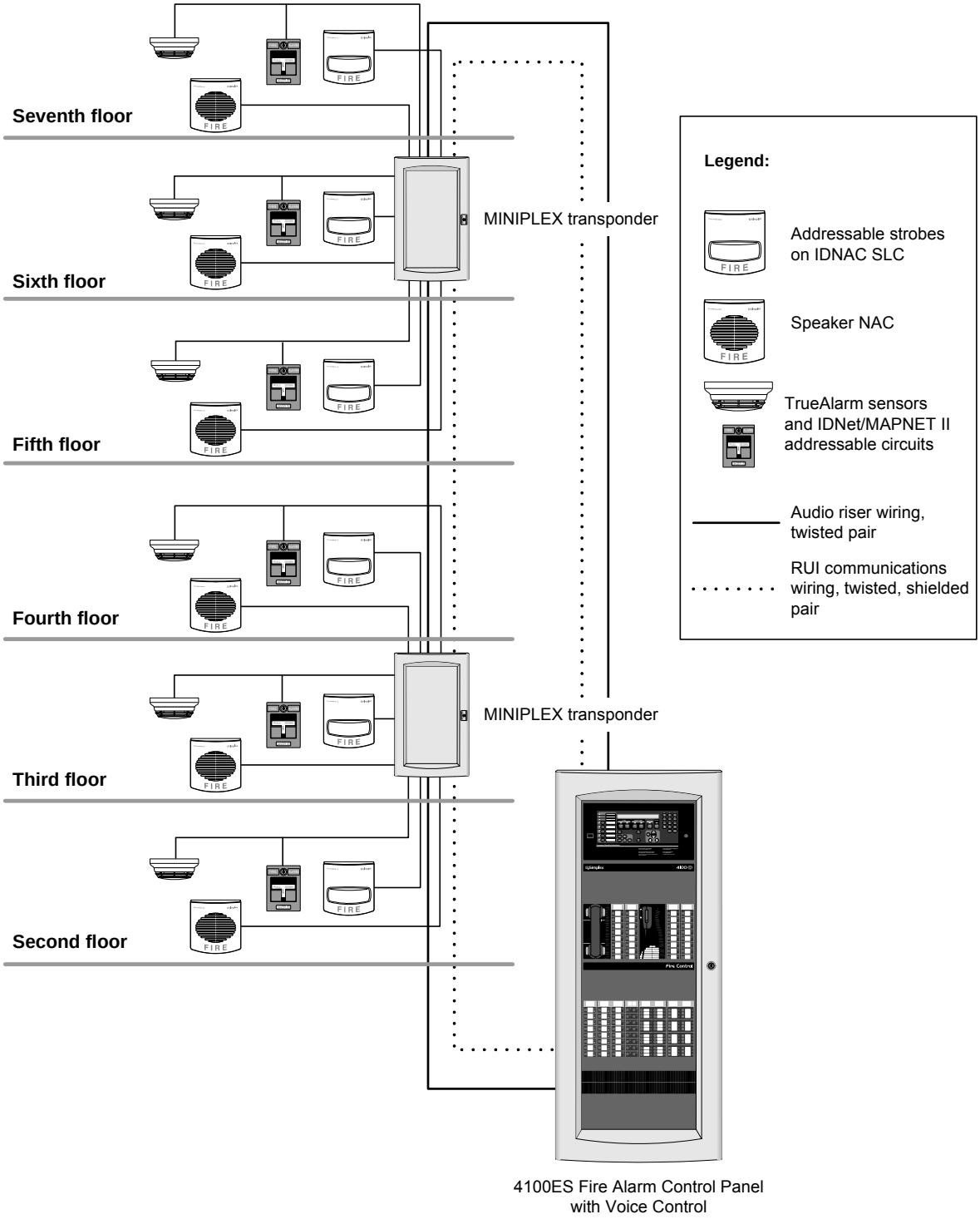
Mounting. Local Mode Controllers are mounted on three-gang plates, are available in beige or red, and for either flush or semi-flush mounting. (See page 7 for details).



Local Mode Controller Module

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Typical Multi-Floor MINIPLEX Audio System



Additional 4100ES Data Sheet Reference

Subject	Data Sheet	Subject	Data Sheet
MINIPLEX Transponders for conventional (non-addressable) notification applications	S4100-0035	Basic Panel Modules and Accessories	S4100-0100
		Network Display Unit (NDU)	S4100-0102
Enclosures	S4100-0037	Remote Annunciators	S4100-0038
LED/Switch Modules	S4100-0032	Remote Battery Charger	S4081-0002
4100ES Audio/Phone Modules	S4100-0034	Addressable Device Compatibility	S4090-0011

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MINIPLEX Transponder Product Selection

Transponder Type

Model	Description		Supv.	Alarm
4100-9600	Basic Transponder, includes bay equipment with power distribution interface, and 4100-0620 Basic Transponder Interface Module mounted in Block A		87 mA	87 mA
4100-9601	Local Mode Transponder, includes bay equipment with power distribution interface, and 4100-0625 Local Mode Transponder Interface Module mounted in Block A	normal	87 mA	87 mA
		in local mode	112 mA	112 mA

Local Mode Controller Selection

Model	Description				Supv.	Alarm
4601-9108	Flush mount	Red with white lettering	Local Mode Controller, 3-gang plate mounted; flush mount requires a 1 ½" (38 mm) deep 3-gang box; surface mount controllers include a matching mounting box; see p. 7 for details	normal	12 mA	12 mA
4601-9109	Surface mount					
4601-9110	Flush mount	Beige with black lettering		in local mode	20 mA	60 mA
4601-9111	Surface mount					

Communication Modules

Model	Description			Size	Supv.	Alarm
4100-1291	Remote Unit Interface Module (RUI, unisolated); up to 3 maximum per control panel; **for use with 4100-9600 only**			1 Slot	85 mA	85 mA
4100-6031	**Select one per EPS/EPS+ or RPS**	City Circuit, with disconnect switches	For use with EPS/EPS+ only, not RPS	N.A.	20 mA	36 mA
4100-6032		City Circuit, without disconnect switches		N.A.	20 mA	36 mA
4100-6033		Alarm Relay, 3 Form C relays, 2 A @ 32 VDC; for EPS/EPS+ or RPS		N.A.	15 mA	37 mA
4100-6038	Dual RS-232 Interface			1 Slot	132 mA	132 mA
4100-6045	Decoder Module			3 Slots	85 mA	163 mA
4100-6048	VESDA Aspiration System Interface (refer to data sheet S4100-0026 for details)			1 Slot	132 mA	132 mA
4100-9816	Master Clock Interface Module with one standard RS-232 port (see S4100-0033)			1 Slot	132 mA	132 mA

Enhanced, Expansion, and Remote Power Supplies and Accessories (see specification details on page 6)

Model	Voltage/Listing		Description	Size	Supv.	Alarm
4100-5311	120 VAC	UL & ULC	**Expansion EPS with IDNet 2 Module;** 9 A Enhanced Power Supply/battery charger with 250 point IDNet 2 Module, 3 Class B IDNAC SLCs, and RUI+ isolated output communications interface; 120 VAC model has selectable low battery cutout	4 Blocks Right Side	225 mA	490 mA
4100-5313	220-240 VAC	UL			add IDNet device currents separately	
4100-5325	120 VAC	UL & ULC	**Enhanced Power Supply (EPS);** 9 A Enhanced Power Supply/battery charger with 3 Class B IDNAC SLCs, and RUI+ isolated output communications interface; 120 VAC model has selectable low battery cutout	4 Blocks Right Side	125 mA	220 mA
4100-5327	220-240 VAC	UL				
4100-6103	**Dual Class A IDNAC Isolator (DCAI)**, converts a single Class B IDNAC SLC input to two Class A or two Class B SLC outputs; provides short circuit isolation between each Class A or B output circuit; connect up to two DCAI modules per IDNAC SLC input up to a maximum of 6 DCAI modules per EPS; each isolated output SLC used requires one IDNAC address; the total current remains controlled by the Class B input source SLC at 3 A maximum			1 Block	8.3 mA	18.5 mA

Model	Voltage/Listing		Description	Size	Supv.	Alarm
4100-5101	120 VAC	UL	**Expansion Power Supply (XPS)**; 9 A output, 3 built-in Class A/B NACs, rated 3 A for Special Application appliances (2 A for Regulated DC); NACs can be selected as auxiliary power outputs, derated to 2 A for continuous duty, total per XPS is 5 A; 4100-5103 has low battery cutout; use to power Flex series amplifiers (page 5)*	2 Blocks	50 mA	50 mA
4100-5103	120 VAC, Canadian	ULC				
4100-5102	220-240 VAC	UL				
4100-5115	NAC Expansion Module, 3 NACs, Class A/B, **mounts on XPS only**			N.A.	25 mA	25 mA

Model	Voltage/Listing		Description	Size	Supv.	Alarm
4100-5125	120 VAC	UL	**Remote Power Supply (RPS);** 9 A power supply/charger similar to XPS except with battery charger; will accept one 4100-6033; Canadian model has low battery cutout; use to power Flex series amplifiers (page 5)*	4 Blocks	150 mA	185 mA
4100-5126	120 VAC, Canadian	ULC				
4100-5127	220-240 VAC	UL				
4100-5152	12 VDC Power Option, 2 A maximum			1 Block	1.5 A maximum	
4100-0636	Box Interconnection Harness Kit (non-audio); **order one for each close-nippled cabinet**					

* RPS and XPS power supply NACs can provide synchronized strobe or SmartSync, two-wire non-addressable operation only.

Miscellaneous Options and Accessories

Model	Description
4100-1290	24 Point I/O Module for external connections, select each point as either a switch input (momentary or maintained) or an output (for lamp/LED/relay); requires 1 Slot (refer to data sheet S4100-0032 for additional information)
4100-0632	Terminal Block Utility Module with 2, 16 position terminal blocks on 4" x 5" single block, for of up to 12 AWG wire (3.31 mm^2)
4100-0633	Door Tamper Switch, connects into Transponder Interface Module, one per cabinet assembly if required
4100-9837	Green LED Power-on Indicator Kit, **required for ULC listing of MINIPLEX transponder;** mounts on solid door knockout

Continued on next page

MINIPLEX Transponder Product Selection *(Continued)*

Miscellaneous Options and Accessories *(Continued)*

4100-0634	120 VAC	Power Distribution Module (PDM) select per system voltage; **one required per box**
4100-0635	220/230/240 VAC	
2081-9031	Series resistor for WSO, IDCs (N.O. water flow and tamper on same circuit, wires after water flow and before tamper) 470 Ω, 1 W, encapsulated, two 18 AWG leads (0.82 mm^2), 2 ½" L x 1 ⅜" W x 1" H (64 mm x 35 mm x 25 mm)	

Audio Riser Modules

Model	Description	Size	Supv.	Alarm
4100-0621	Dual Channel *Analog* Audio Riser Module; accepts one or two separate audio signals from host control panel; mounts in Block B, is controlled by Transponder Interface Module	1 Block	0 mA	15 mA
4100-0622	3-8 Channel *Digital* Audio Riser Module; similar to analog module, except receives and decodes a digital input signal with up to eight audio channels; with Non-Alarm Audio input	1 Block	70 mA	70 mA

Analog Emergency Voice/Alarm Communications Equipment, Constant Supervision Compatible*

Model	Description		Details		
4100-1361	25 VRMS output	Flex-35, 35 W Amplifier, constant supervision compatible	Includes three on-board Class B audio NACs; power is supplied from an RPS or XPS	NAC rating = 1.4 A	35 W, or 100 speakers
4100-1362	70.07 VRMS output			NAC rating = 0.5 A	
4100-1312	25 VRMS output	Flex-50, 50 W Amplifier, constant supervision compatible		NAC rating = 2 A	50 W, or 100 speakers
4100-1313	70.7 VRMS output			NAC rating = 0.707 A	

100 W *Analog* Amplifiers with Power Supply, Constant Supervision Compatible

Model/Output Voltage		Power Supply Input/Listing		Description	Details	
25 VRMS	70.7 VRMS					
4100-1314	4100-1315	120 VAC, 60 Hz	UL	Primary 100 W Amplifier	Includes six, Class B audio NACs; NAC rating = 50 W or 100 speakers maximum; 2 A @ 25 VRMS; 1.4 A @ 70.7 VRMS	ULC models have low battery dropout circuit
4100-1316	4100-1317	120 VAC, 60 Hz	ULC			
4100-1318	4100-1319	220/230/240 VAC, 50/60 Hz	UL			
4100-1320	4100-1321	120 VAC, 60 Hz	UL	Backup 100 W Amplifier	Uses the six Class B NACs of primary amplifier	
4100-1322	4100-1323	120 VAC, 60 Hz	ULC			
4100-1324	4100-1325	220/230/240 VAC, 50/60 Hz	UL			

Digital Emergency Voice/Alarm Communications Equipment*

Model	Description		Details		
4100-1363	25 VRMS output	Flex-35, 35 W Amplifier, constant supervision compatible	Includes three on-board Class B audio NACs; power is supplied from an RPS or XPS	NAC rating = 1.4 A	35 W, or 100 speakers
4100-1364	70.07 VRMS output			NAC rating = 0.5 A	
4100-1326	25 VRMS output	Flex-50, 50 W Amplifier, constant supervision compatible		NAC rating = 2 A	50 W, or 100 speakers
4100-1327	70.7 VRMS output			NAC rating = 0.707 A	

100 W *Digital* Amplifiers with Power Supply, Constant Supervision Compatible

Model/Output Voltage		Power Supply Input/Listing		Description	Details	
25 VRMS	70.7 VRMS					
4100-1328	4100-1329	120 VAC, 60 Hz	UL	Primary 100 W Amplifier	Includes six, Class B audio NACs; NAC rating = 50 W or 100 speakers maximum; 2 A @ 25 VRMS; 1.4 A @ 70.7 VRMS	ULC models have low battery dropout circuit
4100-1330	4100-1331	120 VAC, 60 Hz	ULC			
4100-1332	4100-1333	220/230/240 VAC, 50/60 Hz	UL			
4100-1334	4100-1335	120 VAC, 60 Hz	UL	Backup 100 W Amplifier	Uses the six Class B NACs of primary amplifier	
4100-1336	4100-1337	120 VAC, 60 Hz	ULC			
4100-1338	4100-1339	220/230/240 VAC, 50/60 Hz	UL			

Options for use with either Analog or Digital Amplifiers

Model	Description		Details and Mounting Reference	
4100-1245	Flex-35/50 Expansion NAC Module; adds three Class B audio NACs	Choose one per amplifier	Mounts on Flex-35/50 assembly; NAC ratings = 1.5 A, 35/50 W, or 100 speakers maximum; *Supv = 8 mA, Alarm = 60 mA*	
4100-1246	Flex-35/50 Class A Adapter Module; converts three on-board NACS to Class A operation		Mounts on Flex-35/50 assembly; NAC ratings = 2 A, 50 W, or 100 speakers maximum; *Supv =10 mA, Alarm = 30 mA*	
4100-1248	100 W Amplifier Expansion NAC Module; NAC ratings = 1.5 A, 50 W, or 100 speakers max.	Choose one per amplifier	Provides six additional Class B audio NACs, mounts on 100 W amplifier assembly; *Supv = 17 mA, Alarm = 60 mA*	
4100-1249	100 W Class A Adapter Module; NAC ratings = 2 A, 50 W, or 100 speakers max.		Converts six on-board NACs to Class A operation, mounts on 100 W amplifier assembly; *Supv = 1 mA, Alarm = 60 mA*	
4100-1259	25 VRMS Output; NAC rating = 2 A, 50 W, or 100 speakers max.	Constant Supervision Adapter for three NACs; select per amplifier output; not compatible with amplifier NAC expansion modules; deactivated when on batteries	*Supv = 10 mA on batteries; Alarm = 35 mA*	Converts three Class B audio NACS to Class A or Class B Constant Supervision NACs; mounts on Flex-35/50 or 100 W amplifier assembly; use two for the six NACs on 100 W amplifiers
4100-1260	70.7 VRMS Output; NAC rating = 0.707 A, 50 W, or 100 speakers max.		*Supv = 38 mA on batteries; Alarm = 70 mA*	

Continued on next page

MINIPLEX Transponder Product Selection *(Continued)*

Firefighters Telephone Options*

Model	Description	Size	Supv.	In Use
4100-1272	Expansion Telephone Control Module with three Class B telephone NACS; required when telephone circuits are mounted in transponder;	1 Block	80 mA	130 mA
4100-1273	Telephone Class A Adapter Module; mounts on 4100-1272; no additional current required			

* Refer to document S4100-0034 for additional audio information.

Audio Expansion Signal Module and Options

Model	Description	Details and Mounting Reference	
4100-5116	Expansion Signal Module; three, 1.5 A Class B NACs for Audio applications; up to five maximum per amplifier; NAC rating = 1.5 A, 50 W, or 100 speakers maximum	Converts one NAC input to three NAC outputs; selects between two inputs; for Flex-35/50 amplifiers only, two input NACs are required; Single Block module mounts in expansion bay; *Supv = 20 mA; Alarm = 80 mA*	
4100-1266	Expansion Signal Module NAC Expander; NAC rating = 1.5 A, 50 W, or 100 speakers max.	Expands module capacity to six, Class B NACs; *Supv = 0.84 mA; Alarm = 60 mA*	These modules mount on the 4100-5116; select one max. per 4100-5116 as required
4100-1267	Expansion Signal Module Class A Adapter; NAC rating = 1.5 A, 50 W, or 100 speakers maximum	Converts 3 Class B, NACs to Class A; *Supv = 0 mA; Alarm = 30 mA*	
4100-1268	Expansion Signal Module Constant Supervision Adapter; Converts 3 Class B NACs to Constant Supervision Class B or Class A NACs; for 25 or 70.7 VRMS audio	NAC rating = 1.4 A, 50 W, or 100 speakers max.; *Supv = 38 mA on batteries (constant supervision deactivated); Alarm = 70 mA*	

General Audio Options

Model	Description
4081-9018	End-of-line resistor harness for 70.7 VRMS NACs; 10 kΩ, 1 W
4100-2320	Audio Bay-to-Bay Interconnection Harness Kit; **order one for each audio bay addition**
4100-0637	Audio Box Interconnection Harness Kit; **order one for each close-nippled audio cabinet**

Addressable Interface Modules (Note: Total of *initiating* SLCs per CPU, including VESDA Interface, is 30)

Model	Description		Supv.	Alarm
4100-3109†	**IDNet 2 Module**, 250 point capacity; electrically isolated output with **two** short circuit isolating Class B or Class A output loops, 1 block; standard on EPS with IDNet 2 Module; alarm currents for 50 and above devices includes 20 device LEDs in alarm	no devices	50 mA	60 mA
		50 devices	90 mA	150 mA
		125 devices	150 mA	225 mA
		250 devices	250 mA	350 mA
4100-3110†	**IDNet 2+2 Module,** 250 point capacity; electrically isolated output with **four** short circuit isolating Class B or Class A output loops, 1 block; mounts in expansion bay or available master controller bay module locations only, not applicable for EPS mounting; alarm currents for 50 and above devices includes 20 device LEDs in alarm	no devices	50 mA	60 mA
		50 devices	90 mA	150 mA
		125 devices	150 mA	225 mA
		250 devices	250 mA	350 mA
4100-3111†	**IDNet Short Circuit Isolating Loop Output Module**; *for Aftermarket Field Installation Only*; mount up to two on a 4100-3109 module; for use with 4100-3109 modules in expansion bays or available master controller bay module locations only; not applicable for mounting on a 4100-3109 mounted on an EPS			

† **Note:** Loading per IDNet device (no LEDs on) = 0.8 mA supervisory and 1 m A alarm.
Each IDNet 2 and IDNet 2+2 Short Circuit Isolating Loop Output can be individually controlled for system diagnostics and can be assigned a public point for Fire Alarm Network annunciation.

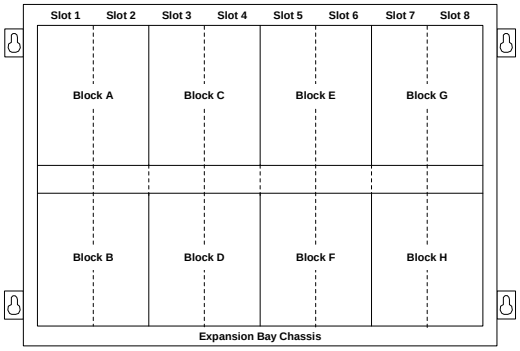
Relay Modules; Nonpower-Limited

Model	Description	Resistive Ratings		Inductive Ratings		Size	Supv.	Alarm
4100-3202	4 DPDT w/feedback	10 A	250 VAC	10 A	250 VAC	2 Slots	15 mA	175 mA
4100-3204	4 DPDT w/feedback	2 A	30 VDC/VAC	½ A	30 VDC/120 VAC	1 Block	15 mA	60 mA
4100-3206	8 SPDT	3 A	30 VDC/120 VAC	1 ½ A	30 VDC/120 VAC	1 Block	15 mA	190 mA

Current Calculation Notes:

1. For total supervisory current, add panel module currents to base system value **and** add all external panel-powered loads.
2. For total alarm current, add panel module currents to base system alarm current **and** add all panel SLC/NAC loads **and** all external loads powered from panel power supplies.

Expansion Bay Module Loading Reference



Size Definitions:

1 Block = 4” W x 5.65” H (102 mm x 144 mm); (often called 4 x 5 modules)

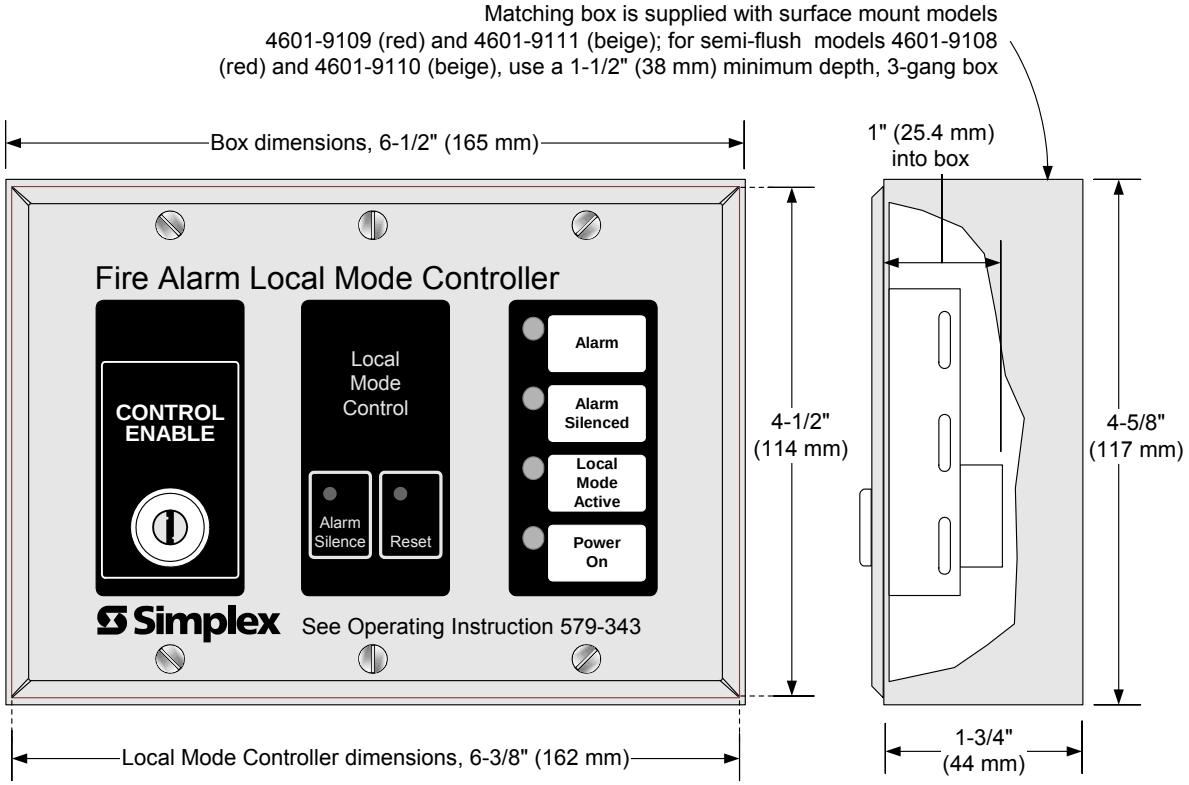
1 Slot = 2” W x 11.3” H (51 mm x 287 mm), typically a motherboard with daughter card

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General Specifications

Input Power	Enhanced Power Supplies, EPS/EPS+	120 VAC Models	4.6 A maximum @ 102 to 132 VAC, 50/60 Hz	
		220-240 VAC Models	2.3 A maximum @ 204 to 264 VAC, 50/60 Hz; separate taps for 220/230/240 VAC	
	Expansion Power Supply (XPS), Remote Power Supply (RPS), and 100 W Amplifiers	120 VAC Models	4 A maximum @ 102 to 132 VAC, 60 Hz	
		220-240 VAC Models	2 A maximum @ 204 to 264 VAC, 50/60 Hz; separate taps for 220/230/240 VAC	
Power Supply Output Ratings for EPS/EPS+	Total Power Supply Output Rating	**Including module currents and auxiliary power outputs;** 9 A total for "Special Application" appliances		Output switches to battery backup during mains AC failure or brownout conditions
	IDNAC Output Voltage	Regulated 29 VRMS		
	Auxiliary Power Tap	2 A maximum		
Power Supply Output Ratings for XPS and RPS (nominal 28 VDC on AC; 24 VDC on battery backup)	Total Power Supply Output Rating	9 A total including module currents and auxiliary power outputs		
	Auxiliary Power Tap	2 A maximum	Rated 19.1 to 31.1 VDC	
	NACs Programmed for Auxiliary Power	2 A maximum per NAC; 5 A maximum total		
Compatible Special Application Appliances		Simplex TrueAlert ES and TrueAlert addressable notification appliances; contact your Simplex product representative for compatible appliances		
Battery Charger Ratings for EPS/EPS+ and RPS (sealed lead-acid batteries)	Battery capacity range	UL listed for battery charging of 6.2 Ah up to 115 Ah with EPS/EPS+, 110 Ah with RPS (batteries larger than 50 Ah require a remote battery cabinet); ULC listed for charging up to 50 Ah batteries		
	Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours per UL Standard 864, to 70% capacity in 12 hours per ULC Standard S527		
Environmental	Operating Temp. Range	32° to 120°F (0° to 49° C)		
	Operating Humidity Range	Up to 93% RH, non-condensing @ 90° F (32° C) maximum		
Installation Instruction Reference		574-844, Transponder Interface Cards	579-343, Local Mode Controller	

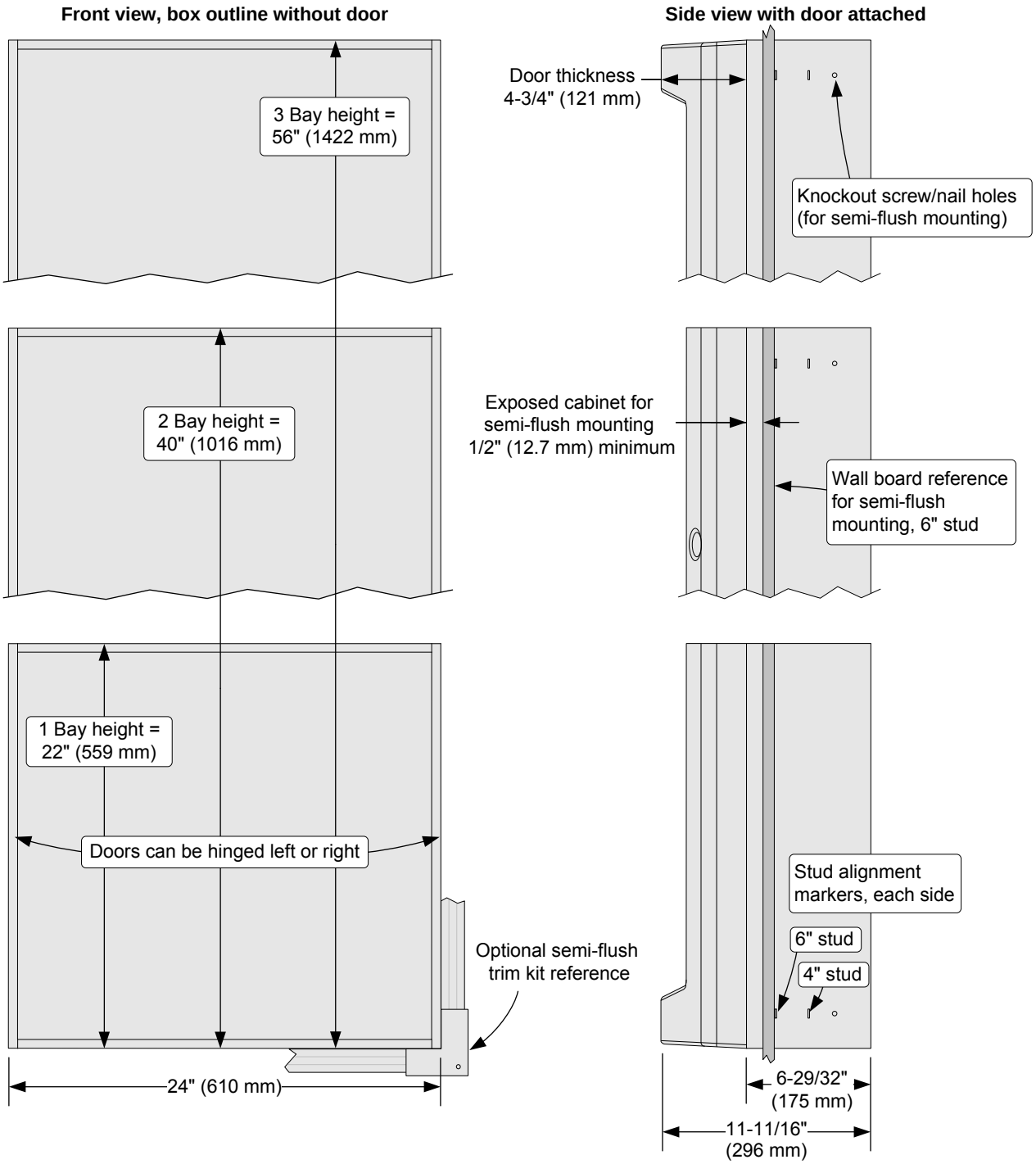
Local Mode Controller Detail



Local Mode Controller to Transponder Wiring:

1. Wire close-nippled to transponder, maximum distance = 20 ft (6.1 m).
2. Nine wires required: 24 VDC (2), one per LED indicator (4), and one per switch (3).
3. Wire size, 18 AWG (0.82 mm²).

Enclosure Installation Reference



NOTE: A system ground must be provided for Earth Detection and transient protection devices. This connection shall be made to an approved, dedicated Earth connection per NFPA 70, Article 250, and NFPA 780.

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RSN: *1015415*
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Simplex®

4100ES Fire Control Panels

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

Cabinet Reference; Boxes, Doors, Dress Panels, Rack Mounting, and Accessories

Features

Simplex® 4100ES Box and door options:

- Boxes are available sized for one, two, or three equipment bays, each with a battery bay located at the bottom
- Colors include platinum or red
- Doors are glass front with modular dress panels, or solid
- Models are available with box and door combined for single package shipping, or packaged separately
- Enclosures are NEMA 1 rated; wall mount enclosures are also IP30 rated
- Refer to individual 4100ES data sheets for product application listings (see list on page 2)

Door and dress panel selection is coordinated with cabinet function:

- Glass doors with modular dress panels provide visibility of annunciation and interface modules for Control Panels, Network Display Units (NDU), and Remote Annunciators
- Solid doors are for MINIPLEX Transponders and utility function cabinets where module visibility is not required

4100ES Enclosure details:

- Latching dress panels easily lift off for internal access
- Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
- Alignment markers are provided at the top and bottom of each box side for 6” (152 mm) or 4” (102 mm) wall studs
- Knockout screw/nail holes are supplied for semi-flush mounting

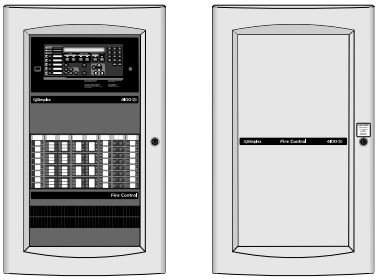
Upright cabinet rack packaging reference:

- For use with Bud Industries Inc. special cabinet rack model number 45964
- Refer to page 2 for cabinet rack listing

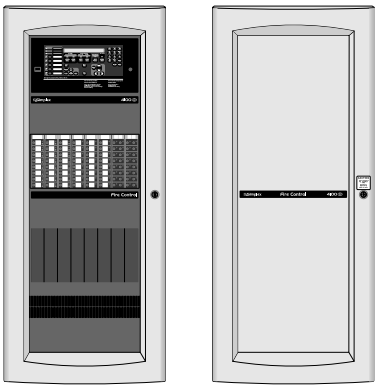
* For 4100ES one, two, and three bay cabinets with associated equipment: Products are listed by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7165-0026:251 for allowable values and/or conditions concerning material presented 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.



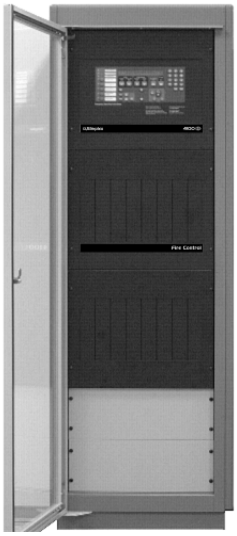
4100ES One Bay Cabinets



4100ES Two Bay Cabinets



4100ES Three Bay Cabinets



Cabinet Rack Enclosure (shown with door open)

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Enclosure Selection Chart (refer to pages 3 and 4 for dimensions)

Note: *Door keys are shipped with system Master Controller, see Miscellaneous Accessories below for additional keys*

Combined Box and Door Selection (select if box and door are to be shipped together)

Description	Platinum 1 Bay	Platinum 2 Bay	Platinum 3 Bay	Red 1 Bay	Red 2 Bay	Red 3 Bay
Box with Glass Door and Dress Panel	2975-9444	2975-9445	2975-9446	2975-9441	2975-9442	2975-9443
Box with Solid Door	2975-9450	2975-9451	2975-9452	2975-9447	2975-9448	2975-9449

Separate Box and Door Selection (select if boxes and doors are required to be shipped separately)

Description	Platinum 1 Bay	Platinum 2 Bay	Platinum 3 Bay	Red 1 Bay	Red 2 Bay	Red 3 Bay
Box	2975-9438	2975-9439	2975-9440	2975-9407	2975-9408	2975-9409
Glass Door and Dress Panel	4100-2104	4100-2105	4100-2106	4100-2124	4100-2125	4100-2126
Solid Door	4100-2114	4100-2115	4100-2116	4100-2134	4100-2135	4100-2136

Cabinet Rack Mounting (refer to page 4 for additional details)

Model	Description	#45964 Listings
#45964, from Bud Industries Inc.	Special upright cabinet rack for 4100ES; 19" (483 mm) E.I.A.; gray texture; includes front polycarbonate door and rear louvered door, both keyed with Simplex "B" keys	UL and ULC listed only as of document revision date; cabinets are listed with the Simplex 4100ES product line
4100-2140	Master Controller Rack Mount Kit, **one required per master controller**	Master Controller and Option Bays each require 9 Rack Units; 15.75" height (400 mm)
4100-2145	Option Bay Rack Mounting Kit, **one required per expansion bay**	
4100-2144	Power Distribution Module (PDM) Rack Mount Kit, order PDM separately per system voltage, **one required per cabinet rack**	

Power Distribution Modules

Model	Voltage	Description
4100-0634	120 VAC	Power Distribution Module (PDM); select per system voltage; **one required per 4100ES box or cabinet rack**
4100-0635	220/230/240 VAC	

Miscellaneous Accessories

Model	Description	
252-019	Door key, one is shipped with system Master Controller, order for replacement or when extra keys are needed; (Simplex "B" key)	
4100-9856	Canadian French Appliqué Kit, for 1, 2, or 3 bay sizes	
4100-9857	4100ES Appliqué Retrofit Kit, for 1, 2, or 3 bay sizes; use to identify 4100ES features when new door is not used; included with Master Controller Upgrade kits as detailed on data sheet S4100-0031	
4100-9868	Special Purpose Appliqué Kit: Simplex, Elevator Recall Control and Supervisory Control Unit, 4100ES	
4100-9869	Special Purpose Appliqué Kit: Simplex, Sprinkler Waterflow and Supervisory Station, 4100ES	
4100-9835	Termination and Address Label Kit, for module marking	**NOTE:** One kit is supplied for each cabinet; order this if required for additional field module installation
4100-9837	Green LED Power-on Indicator Kit, **required for ULC listing of MINIPLEX transponder**	Mounts using knockout provided in solid door
2975-9813	Platinum semi-flush box trim	1 $^{7}/_{16}$" (37 mm) wide, four corners and trim pieces for top, bottom, and sides
2975-9812	Red semi-flush box trim	

Battery Reference

Model	Capacity	Model	Capacity	Battery Notes
2081-9272	6.2 Ah	2081-9287	25 Ah	1. Sealed lead-acid batteries, 12 VDC each; two required per battery location. 2. Battery selection is required if batteries are internal. 3. Select one size per battery set 4. Refer to data sheet S2081-0006 for battery details.
2081-9274	10 Ah	2081-9276	33 Ah	
2081-9288	12.7 Ah	2081-9296	50 Ah	
2081-9275	18 Ah			

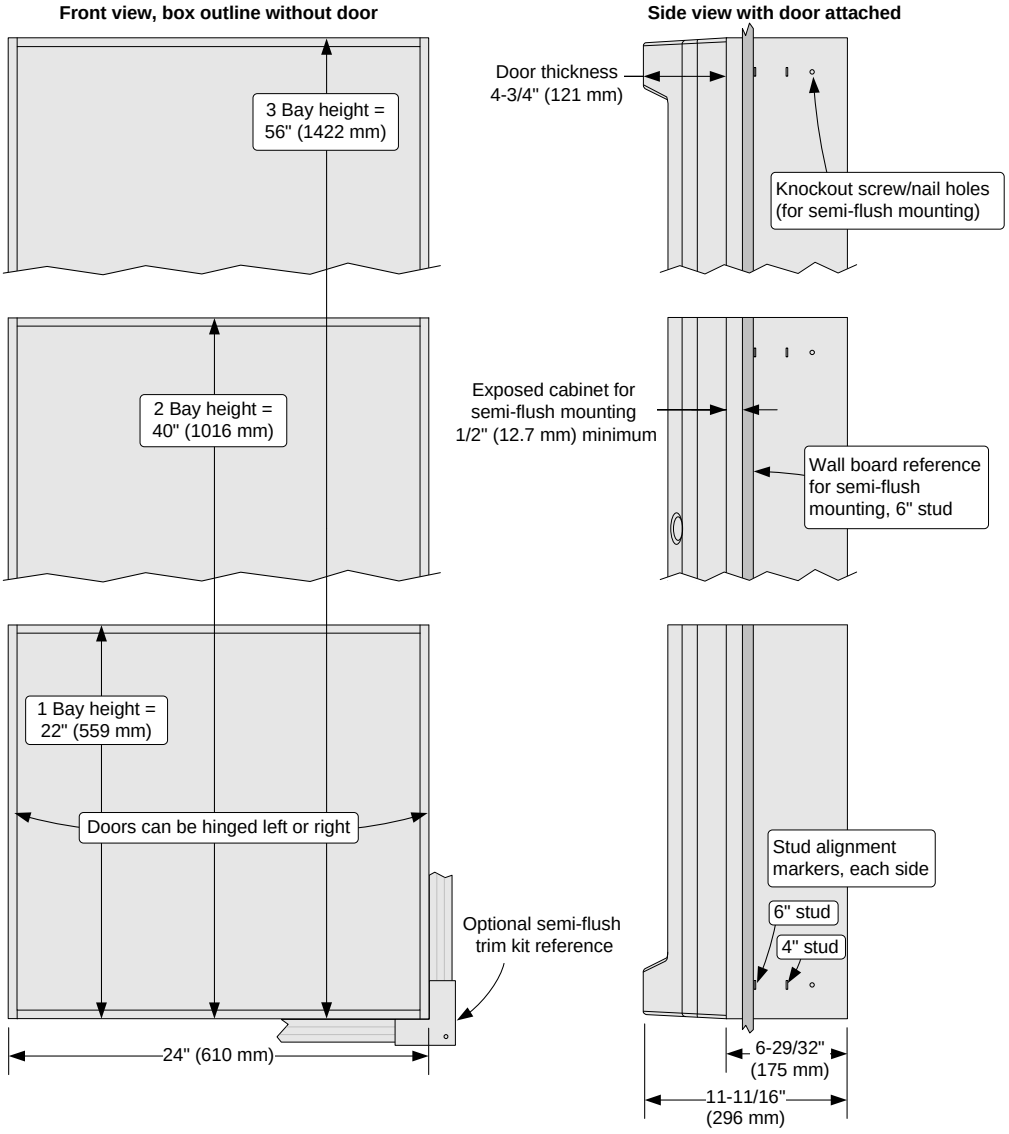
Battery Accessories

Model	Description
4100-0650	Battery Shelf, **required for 50 Ah batteries**
4100-5128	Battery Distribution Terminal Block, mounts to side of box, required for all close-nippled cabinets unless cabinet receives all power from power supplies and batteries located in the adjacent cabinet

Wall Mounted Enclosure Installation Reference

NOTE:
A system ground must be provided for Earth Detection and transient protection devices. This connection shall be made to an approved, dedicated Earth connection per NFPA 70, Article 250, and NFPA 780.

For additional installation information refer to Installation Instructions 579-117.

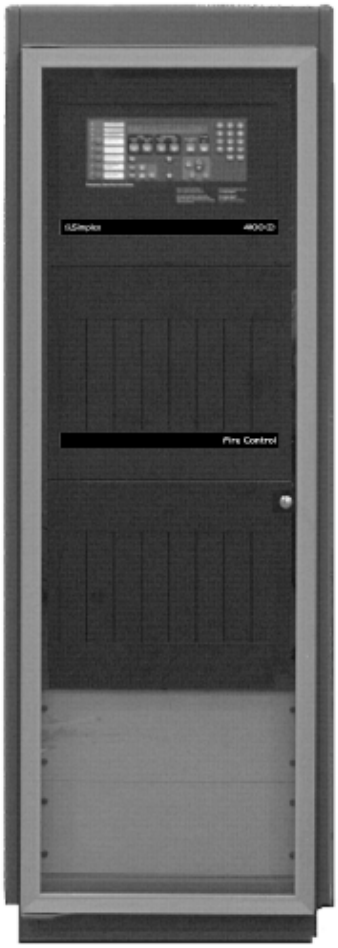


Additional Data Sheet Reference

Subject	Data Sheet	Subject	Data Sheet
4100ES Panels with EPS Power Supplies	S4100-0100	Network Display Unit (NDU) with EPS Power Supplies	S4100-0102
4100ES Basic Panel Modules and Accessories	S4100-0031		
MINIPLEX Transponders with EPS Power Supplies	S4100-0103	Network Display Unit (NDU)	S4100-0036
MINIPLEX Transponders	S4100-0035	Remote Annunciators	S4100-0038
LED/Switch Modules	S4100-0032	InfoAlarm Command Center	S4100-0045
4100ES Audio/Phone Modules	S4100-0034	Remote Battery Charger	S4081-0002

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Console Package Reference



Front View



Side View



Rear View

Cabinet Rack Specifications

Type		Upright cabinet rack for exclusive use with Simplex 4100ES Fire Alarm Products
Supplier		Order from Bud Industries Inc. (www.budind.com)
Model Number		45964
Outside Dimensions	Height	69-7/8” (1775 mm)
	Width	24-1/16” (611 mm)
	Depth	22” (559 mm)
Color		Gray texture
Panel Space Width		19” E.I.A. (483 mm)
Front Door		Surface mount with 1/8” thick (3.18 mm) smoke gray polycarbonate, locked with Simplex “B” key, hinged on left of cabinet
Rear Door		Ventilated top and bottom, locked with Simplex “B” key
Sides		Side panels are removable from the inside for rack-to-rack mounting
Bottom		Pan attached for battery mounting
Levelers		Includes 4 stem levelers on bottom
Installation Instructions		579-229

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Simplex®

Fire Alarm Control Panel Accessories

*Listings**

System Batteries, Sealed Lead-Acid; with Applications Reference for Battery Cabinets, and Battery Cabinets with Charger

Features

Rechargeable, sealed lead-acid batteries:

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

Available in a variety of capacities:

- Batteries for internal mounting range from 6.2 Ah up to 50 Ah, depending on control panel cabinet size
- Larger batteries, up to 110 Ah, mount in external battery cabinets with models available with internal chargers

Battery cabinets with chargers:

- Battery cabinets with charger communicate with their connected fire alarm control panel and are available for 4100ES/4010ES/4100U Series and 4010 Series panels

Description

Simplex® rechargeable sealed-lead acid batteries provide reliable and repeatable discharge and recharge characteristics for use in fire alarm and other systems applications. They are designed with immobilized electrolyte in an absorbent separator, allowing them to provide rated capacity on the first cycle.

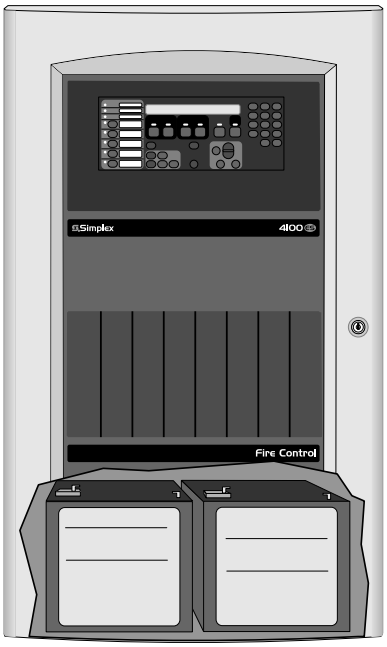
Because of their sealed construction, packaging is allowed within the system electronics enclosure (see illustration on page 2). When this is applicable, the quantity of system cabinets and the battery wiring distances are both minimized. Where required, external battery cabinets can be close-nippled to the control panel to house larger batteries with battery chargers available in some battery cabinet sizes.

Battery Details

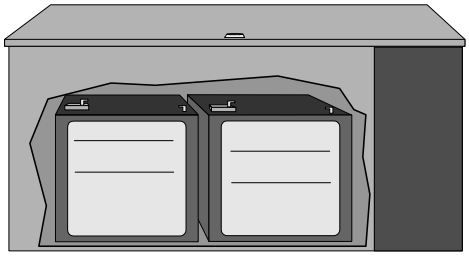
Charging. These batteries are intended to be used with compatible Simplex battery chargers.

Series Connections. These batteries are required to be connected in series to produce 24 V system voltage. Battery sets must be of identical voltage, model number, appearance, and approximately the same date of manufacture for proper operation.

Testing. Battery capacity testing is recommended to be performed by using a sealed lead-acid battery tester designed to withdraw a minimum of battery charge. The preferred tester applies a variety of amplitude and duration controlled test pulses that compares terminal voltage against those predicted for the specific battery size. (Testing is available through your local Simplex product supplier.)



Compatible Sealed Lead-Acid Batteries can be Installed Inside Fire Alarm Control Panel Cabinets



Remote Battery Cabinets are Available for Larger Battery Requirements

Battery Details *(Continued)*

Shipping. Sealed lead-acid batteries are shipped via ground or sea transportation only. They are not shipped via air.

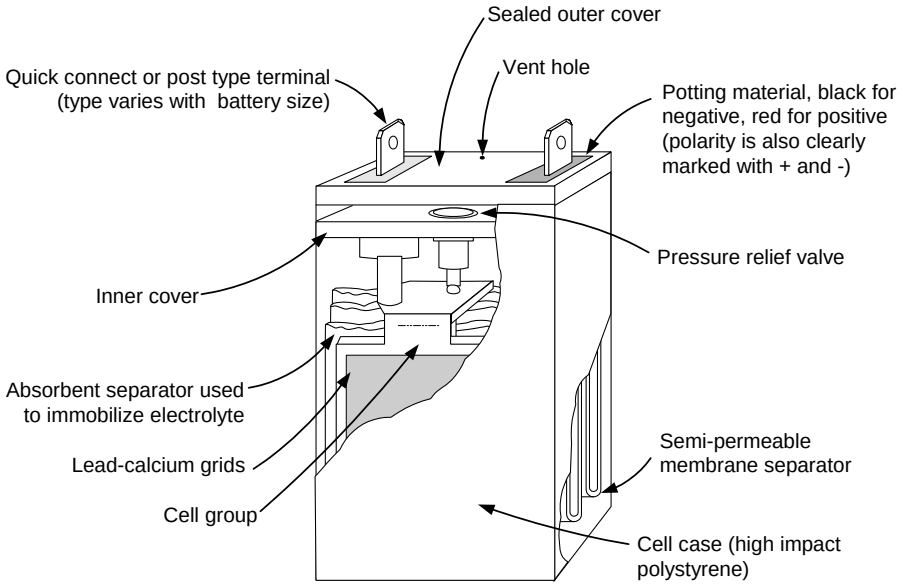
Disposal. Battery chemicals and materials can be recycled. Refer to information shipped with the battery or on its case. Return to the battery manufacturer or to a similarly qualified battery processing facility for proper disposal.

Seismic Activity Applications. Battery brackets are available for systems tested for compliance with specific batteries. Please refer to data sheet S2081-0019 for details.

* Refer to details on page 4 and to the referenced individual product data sheets for agency listing status of battery cabinets and chargers. The batteries detailed in this document meet the requirements of UL, ULC, and Factory Mutual for use with respective equipment battery chargers as listed on page 3. Contact your local Simplex product supplier for proper battery selection per system requirements. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

Battery Construction Reference

Actual appearance will vary with battery size.



Battery Size Specifications

Battery Model	Capacity @ 20 Hour Discharge Rate	Width*	Depth*	Height with Terminals	Approximate Weight*
2081-9272	**6.2 Ah**	6-1/8” (156 mm)	2-5/8” (67 mm)	4” (102 mm)	5.75 lbs (2.6 kg)
2081-9274	**10 Ah**	6” (153 mm)	4-1/16” (103 mm)	4” (102 mm)	9.2 lbs (4.2 kg)
2081-9288	**12.7 Ah**	6” (153 mm)	4” (102 mm)	4” (102 mm)	9 lbs (4.1 kg)
2081-9275	**18 Ah**	7-1/4” (184 mm)	3-3/8” (86 mm)	6-5/8” (168 mm)	14.3 lbs (6.5 kg)
2081-9287	**25 Ah**	6-5/8” (168 mm)	5” (127 mm)	7” (178 mm)	19.4 lbs (8.8 kg)
2081-9271 (rectangular case, typically for service)	**33 Ah**	12-1/2” (318 mm)	3-3/8” (86 mm)	7-1/16” (179 mm)	26.6 lbs (12.1 kg)
2081-9276 (“square” case, use for new)	**33 Ah**	7-3/4” (197 mm)	5-1/4” (133 mm)	6-3/4” (171 mm)	26.5 lbs (12 kg)
2081-9296	**50 Ah**	9” (229 mm)	5-1/2” (140 mm)	8-7/8” (225 mm)	41.8 lbs (19 kg)
2081-9279	**110 Ah**	11-3/16” (284 mm)	10-1/2” (267 mm)	9” (230 mm)	82 Lbs (37 kg)

* Dimensions and weight are per battery and are for reference only. Exact size may vary. Refer to the tables on page 3 for mounting compatibility. These batteries are 12 V each and series connected for 24 V system use.

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

General Battery Specifications

Nominal Voltage Rating	12 Volts per battery
Discharge Rating	20 Hour Rate
Typical Charge/Discharge Cycles	100 to 150
Preferred Charge Temperature Range	60° F to 90° F (15.6°C to 32.2° C)

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Battery Compatibility for Fire Alarm Control Panel Mounting

NOTE: Refer to individual fire alarm control panel product data sheets for additional battery application information

Battery Model	Capacity	Simplex Control Panel Model Series (see legend and notes below)								
		4003EC	4004R	4007ES & 4005	4006 & 4008	4009 (all models)	4010	4010ES	4100ES/ 4100U	4100 & 4120 (2, 4 or 6-Unit)
2081-9272	6.2 Ah	✓	✓	✓	✓	✓	✓	✓	✓	✓
2081-9274	10 Ah	✓	✓	✓	✓	✓	✓	✓	✓	✓
2081-9288	12.7 Ah	✓	✓	✓	✓	✓	✓	✓	✓	✓
2081-9275	18 Ah	**Ext**	Note 3	✓	**Ext**	**Ext**	Note 2	✓	✓	✓
2081-9287	25 Ah	**Ext**	Note 3	**Ext**	**Ext**	**NA**	✓	✓	✓	✓
2081-9271 rectangular	33 Ah	**Ext**	Note 3	**Ext**	**NA**	**NA**	Note 3	✓	✓	**Ext**
2081-9276 "square"	33 Ah	**Ext**	Note 3	**Ext**	**NA**	**NA**	Note 3	✓	✓	✓
2081-9296	50 Ah	**NA**	Note 3	**NA**	**NA**	**NA**	Note 3	Note 6	**2 or 3 bay**	**Ext**
2081-9279	110 Ah	Requires external battery cabinet, compatible with 4100ES, 4010ES, 4100, and 4120 Series only								

✓ **=** Can be placed in the respective equipment cabinet

Ext = External battery cabinet is required, refer to selection chart on page 4

NA = Not applicable/not compatible

NOTES:

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

External Battery Cabinet Compatibility Reference

Battery Cabinets without Chargers (connects to charger in panel)

Cabinet	Panel Compatibility	Battery					
		2081-9275 18 Ah*	2081-9287 25 Ah	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 50 Ah	2081-9279 110 Ah
2081-9280	4100ES, 4010ES, 4100U, and 4100+	**NA**	**NA**	**NA**	**NA**	**NA**	✓
2081-9281 2081-9282	multiple	✓	✓	✓	✓	✓	**NA**
4009-9801	multiple	✓	✓**	**NA**	**NA**	**NA**	**NA**
4009-9802	multiple	✓	**NA**	✓	**NA**	**NA**	**NA**

Battery Cabinets with Chargers

Cabinet	Panel Compatibility	2081-9275 18 Ah*	2081-9287 25 Ah	2081-9271 Rectangular 33 Ah	2081-9276 Square 33 Ah	2081-9296 50 Ah	2081-9279 110 Ah
4081-9301 4081-9302	4004R and 4010	✓	✓	✓	✓	✓	**NA**
4081-9306 4081-9308	4100ES, 4010ES, and 4100U	**NA**	**NA**	**NA**	**NA**	✓	✓

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

** 25 Ah capacity was effective as of 7/2005.

✓ = Can be placed in the respective equipment cabinet

NA = Not applicable/not compatible

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External Battery Cabinet Specification Reference

Battery Cabinets Without Chargers; Shallow Design with Front Door

Model	Color	Listings	Description		Dimensions
2081-9281	Beige	UL and FM	2-Unit, 4100 style cabinet **without** charger; with locking solid door and battery shelf, primarily for use with 50 Ah batteries		25-3/4" W x 20-3/4" H x 6-3/4" D (654 mm x 527 mm x 171 mm)
2081-9282	Red				
4003-9860	Beige	Multiple	Intended for use with 4003EC systems, for up to 33 Ah batteries (refer to 4003EC data sheet S4003-0002)		9-1/2" H x 24" W x 9" D (241 mm x 610 mm x 229 mm)
4009-9801*	Beige	UL and FM	For up to 25 Ah batteries*	External battery cabinet **without** charger, with locking solid door and battery harness; for close-nippled mounting to fire alarm control panel cabinet	16-1/4" W x 13-1/2" H x 5-3/4" D (413 mm x 343 mm x 146 mm)*
4009-9802	Beige	UL	For up to 33 Ah batteries		25-3/4" W x 20-3/4" H x 4-1/8" D (654 mm x 527 mm x 105 mm)

* Depth increased for 25 Ah batteries effective 7/2005.

Chargers for use with 4010 Fire Alarm Control Panels and 4004R Suppression Release Systems

(refer to data sheet S4081-0001)

Model	Color	Input Voltage	Description	Dimensions
4081-9301	Beige	120 VAC	Battery cabinet **with** charger for the 4010 and 4004R fire alarm control panel; **for up to 50 Ah batteries**; with front door *Listings include: UL, ULC, FM, CSFM, and MEA (NYC), see data sheet for details*	22-1/2" W x16-3/4" H x 8-3/8" D (572 mm x 425 mm x 213 mm)
4081-9302	Red			

Battery Cabinet Without Charger for 110 Ah Batteries; for use with compatible panel mounted chargers

(refer to data sheet S2081-0012)

Model & Listings	Color	Cabinet Description	Compatible Chargers	Charger Description	Dimensions
2081-9280 *Listings include: UL and CSFM*	Red	Battery cabinet for 2081-9279, 110 Ah batteries; includes 80 A battery fuse, terminals and battery connection cables; see data sheet for details	4010-9xxx Series	4010ES Main System Supply (MSS)	26-1/2" W x 12" H x 12" D (673 mm x 305 mm x 305 mm)
			4100-9xxx Series	4100ES/4100U System Power Supplies (SPS)	
			4100-5111 4100-5112 4100-5113	4100ES/4100U Additional SPS	
			4100-5125 4100-5126 4100-5127	4100ES/4100U Remote Power Supply (RPS)	
			4100-5120 4100-5121 4100-5122	4100ES/4100U TrueAlert Addressable Power Supply (TPS)	
			4100-0104 4100-0114 4100-0124	4100 Legacy power supplies	

4100ES/4010ES/4100U Compatible Battery Cabinet With Charger for 110 Ah Batteries (for ULC listed systems and for other applications unable to use panel mounted power supply charger; *refer to data sheet S4081-0002*)

Model	Color	Input Voltage	Description	Dimensions
4081-9306	Red	120 VAC	Battery cabinet with charger for up to 110 Ah batteries; **NOTE:** Required for ULC listed charging of 110 Ah batteries*; Listings include: UL, ULC, FM, CSFM, and MEA (NYC), see data sheet for details*	27-7/8" W x 13-1/2" H x 14-5/8" D (708 mm x 343 mm x 371 mm)
4081-9308	Red	220/230/240 VAC, multi-tapped		
4100-9837	Green LED Power-on Indicator Kit, **required for ULC listing,** mounts above access panel using knockout provided			

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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:

- 4007ES, 4010, 4010ES, 4100ES, and 4100U 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

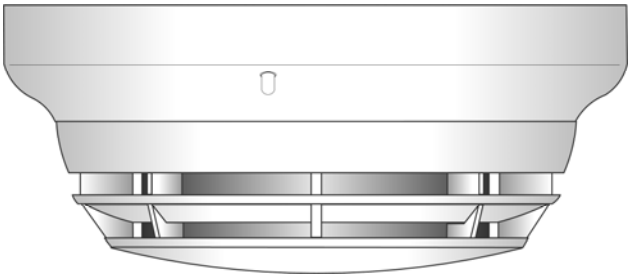
General features:

- Operation is for ceiling or wall mounting
- 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.

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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.

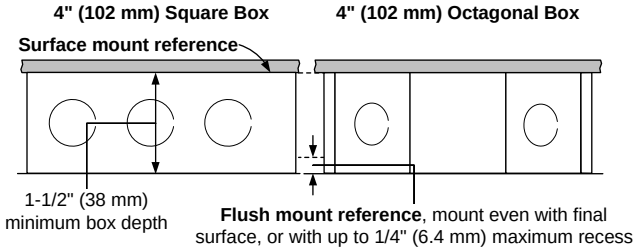
Since TrueAlarm sensors use the same base, different sensor types can be easily interchanged to meet specific location requirements. This feature also allows intentional sensor substitution during building construction. When conditions are temporarily dusty, instead of covering the smoke sensors (causing 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.

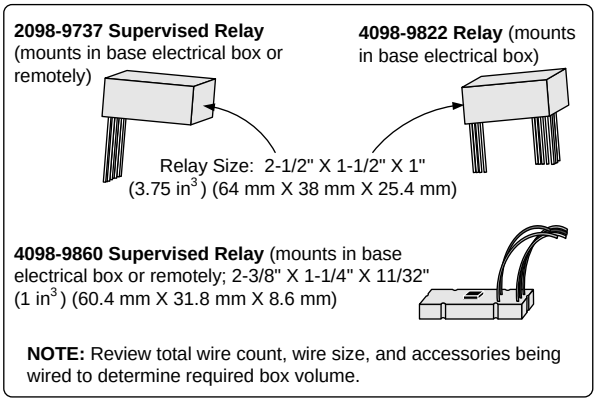
Mounting Reference

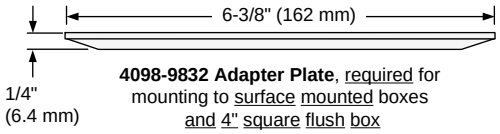
Electrical Box Requirements: (boxes are by others)

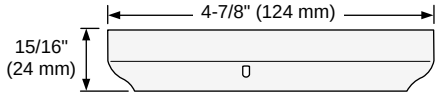
Without relay in the box: 4" octagonal or 4" square, 1-1/2" deep; single gang, 2" deep

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

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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**

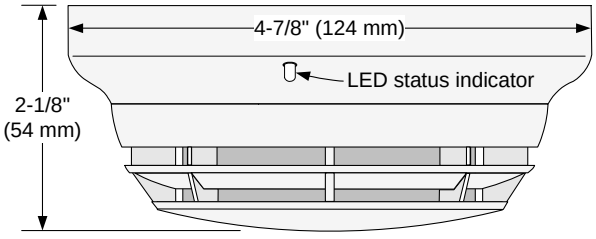
Smoke Sensors:

- 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.



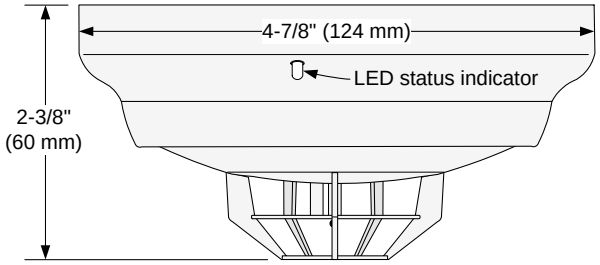
4098-9714 Photoelectric Sensor with Base

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	IDNet or MAPNET II communications, auto-selected, 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)
Operating Temperature Range 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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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)

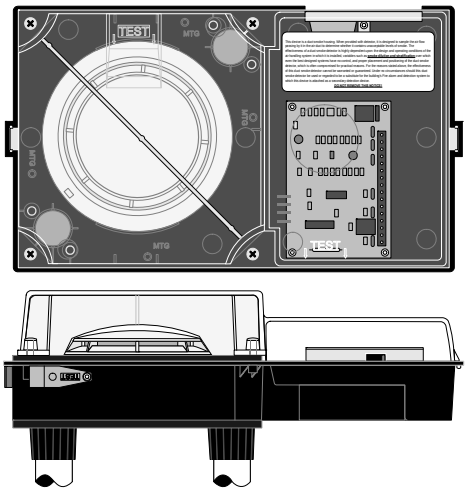
Sampling tubes (ordered separately):

- 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. 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)	4007ES, 4008, 4010, 4010ES, 4020, 4100, 4100ES, 4100E, 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.

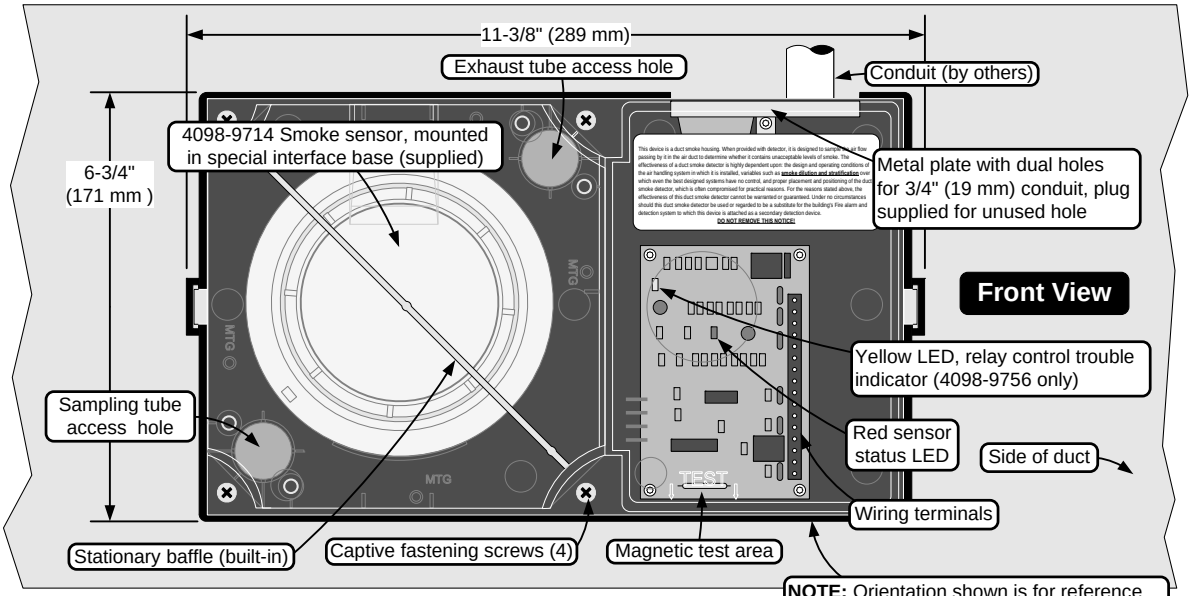
Sampling Tube Selection Chart, Ordered Separately Per Duct Width, Select One

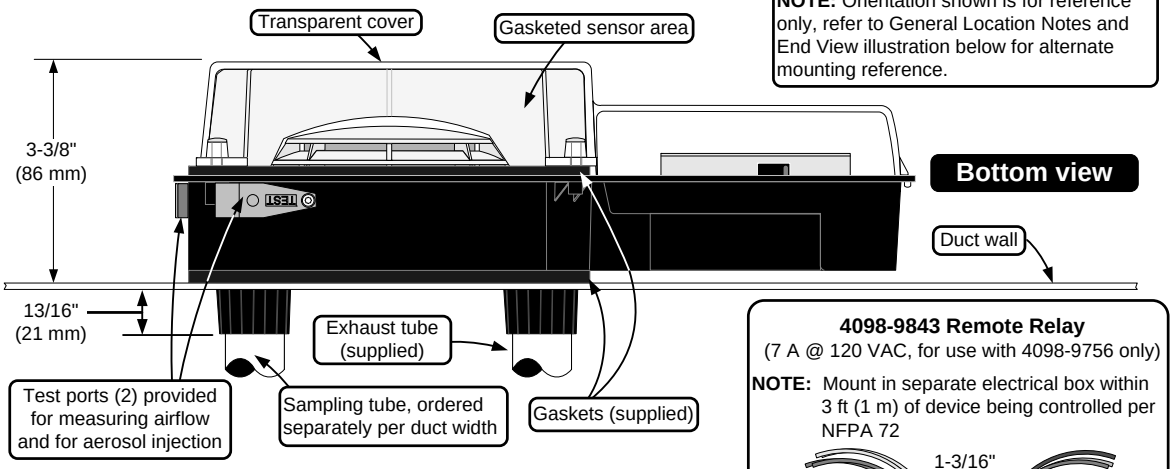
Overall Duct Width	Tube Required	Suggested Cut Length
12" (305 mm)	**4098-9854**	1/2" (12.7 mm) longer than duct width
13" to 23" (330 mm to 584 mm)	**4098-9855**	1/2" (12.7 mm) longer than duct width
24" to 46" (610 mm to 1168 mm)	**4098-9856**	3 in" (76 mm) longer than duct width
46" to 71" (1168 mm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

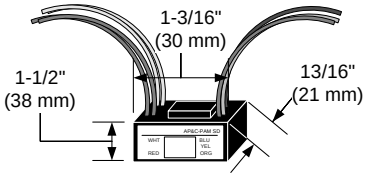
NOTE: Refer to Installation Instructions 574-776 for additional installation detail and maintenance information.

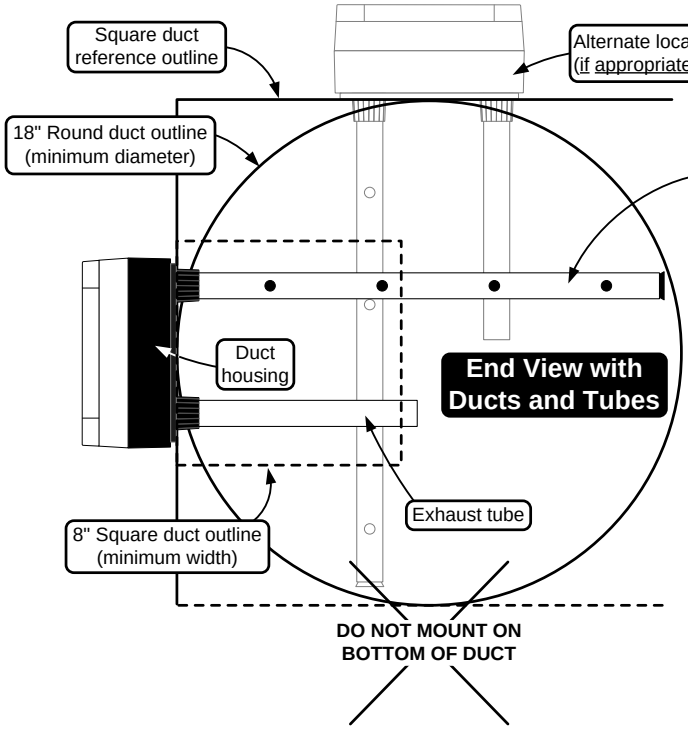




4098-9843 Remote Relay
(7 A @ 120 VAC, for use with 4098-9756 only)

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

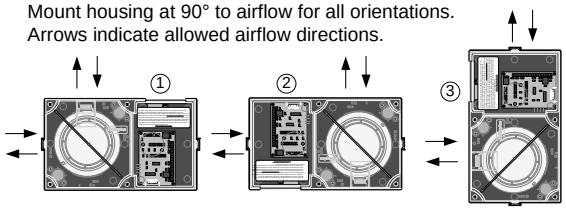




Sampling tube, keyed for proper hole alignment **with holes facing into airflow** (template is provided for proper tube installation). (Housing is shown as position 2 per note 2 below.)

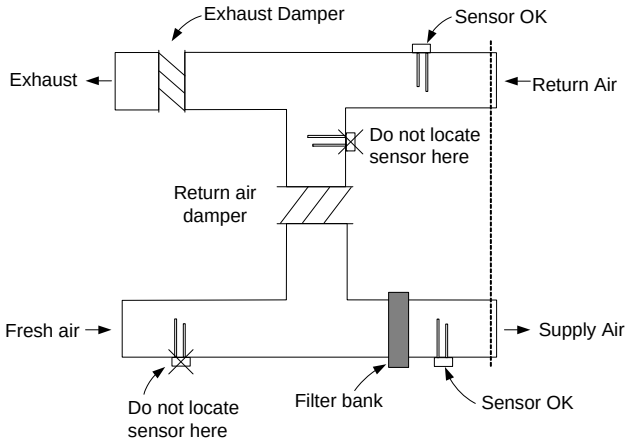
General Location Notes:

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 and Material	Black ABS base with clear polycarbonate cover
Sampling and Exhaust Tube Material	Black CPVC, custom extrusion; sampling tubes are pre-drilled
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®

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

TrueAlarm Analog Sensing

Weatherproof Duct Housing Enclosure 4098-9845

Features

Weatherproof duct housing enclosure for use with the following TrueAlarm addressable duct sensor housings (ordered separately)**:**

- 4098-9755, Standard Duct Sensor Housing
- 4098-9756, Duct Sensor Housing with Relay Output

Addressable duct sensor housing details:

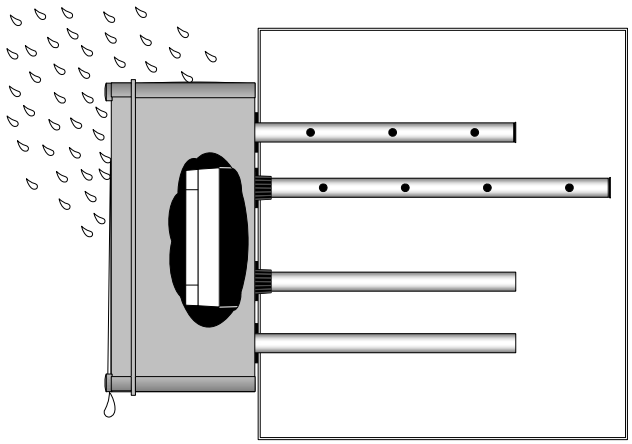
- Photoelectric sensor and exhaust tube are supplied
- Sampling tube is ordered separately per duct size
- Continuous communications actively monitors status of electronic circuits
- Refer to Simplex data sheet S4098-0030 for additional duct sensor housing details

Weatherproof duct housing enclosure features:

- Circulation of conditioned air from the air duct helps maintain the sensor housing at its rated temperature range
- Nonmetallic material does not require painting
- Captive cover screws
- Intake and exhaust tubes for weatherproof duct housing enclosure are supplied
- Internal mounting plate is removable to provide a convenient drilling template
- Includes required gaskets
- UL listed to Standard 268A
- NEMA 4X rating

Description

Smoke detection system designs that require smoke detection monitoring of an HVAC duct that is exposed to environmental extremes must provide protection against the anticipated temperatures and total weather conditions. The 4098-9845 Weatherproof Duct Housing Enclosure provides for the circulation of conditioned air around the internally mounted addressable duct sensor housing to maintain the sensor housing at its rated temperature range and provide protection from ambient environmental extremes.



Side View of Weatherproof Duct Housing Enclosure 4098-9845 with Duct Tube Detail and Cutaway Showing Sensor Housing (refer to page two for details)

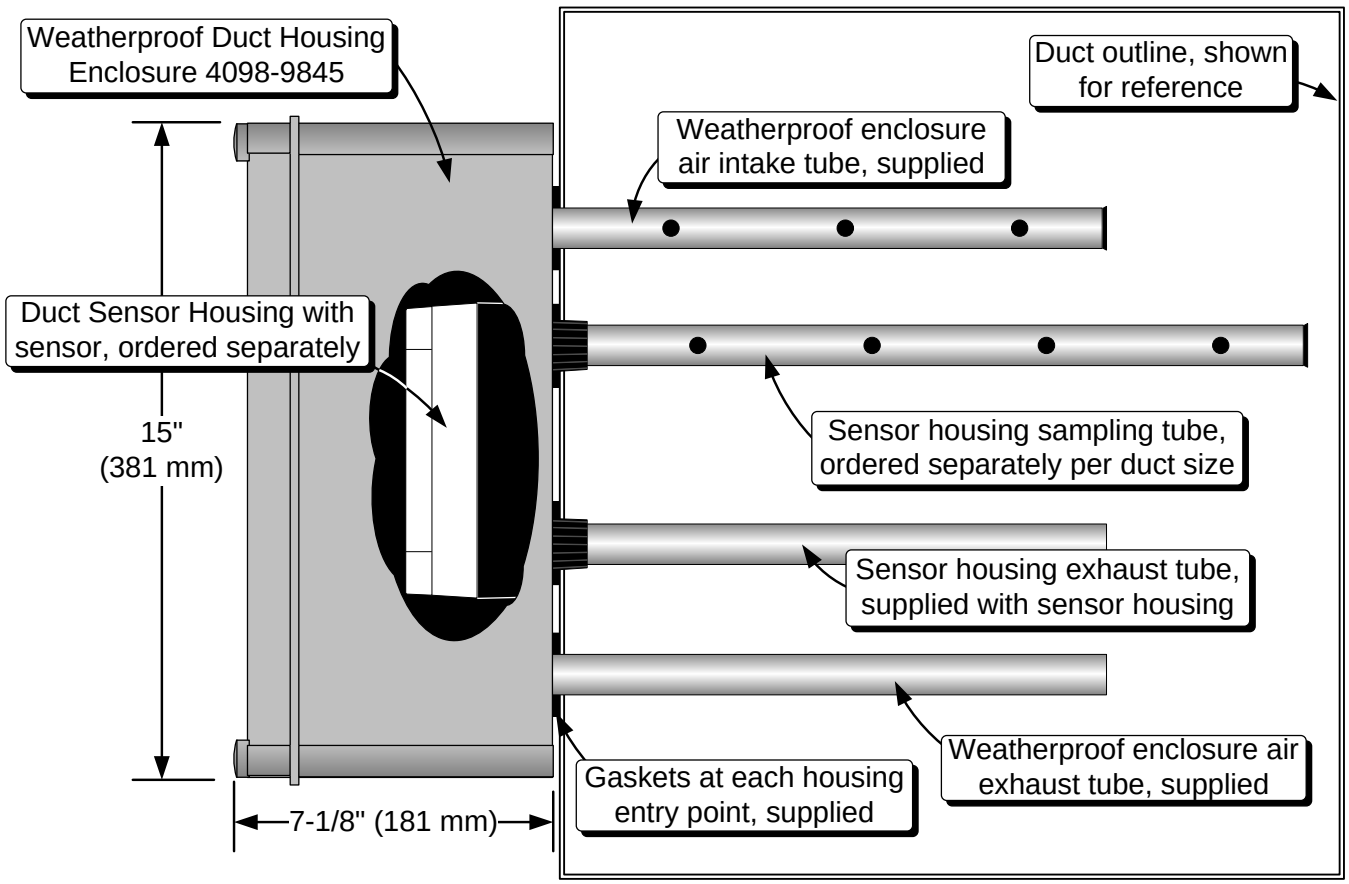
Specifications

4098-9845 Weatherproof Duct Housing Enclosure		
Air Velocity Range (linear ft/min)	300 to 4000 ft/min (91 to 1220 m/min)	Refer to graph on page 4 for additional information
UL Listed External Temperature Range	-40° to 158° F (-40° to 70° C)	
UL Listed External Humidity Conditions	Up to 100% RH	
NEMA Enclosure Category	4X	
Construction	Solid body and door, light gray, PBT/PC blended plastic, UL94-5VA flammability rating, UV stabilized	
Dimensions	22-1/8" W x 15" H x 7-1/8" D (562 mm x 381 mm x 181 mm)	
Addressable Duct Sensor Housing 4098-9755/9756		
UL Listed Temperature Range	32° to 100° F (0° to 38° C)	
Operating Temperature Range	32° to 122° F (0° to 50° C)	
Storage Temperature Range	0° to 140° F (-18° to 60° C)	
Humidity Range	10% to 90% RH, non-condensing	

* 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 7300-0026:245 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. This product was not FM approved as of document revision date. Additional listings may be applicable, contact your local Simplex® product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

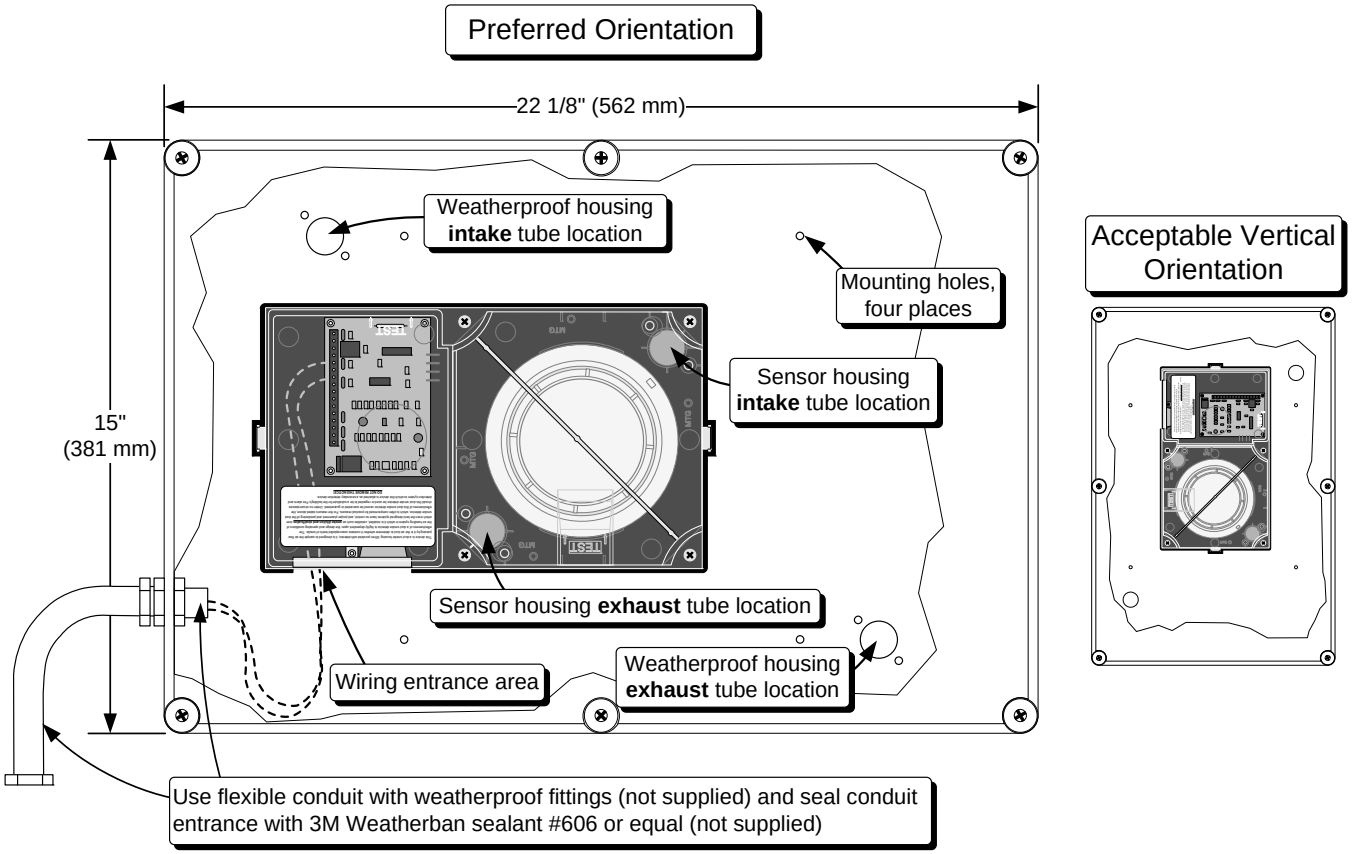
Installation Reference, Side View

NOTE: Refer to Installation Instructions 574-922 for additional information.



Installation Reference, Front View Showing Preferred and Alternate Orientations

NOTE: Refer to Installation Instructions 574-922 for additional information.

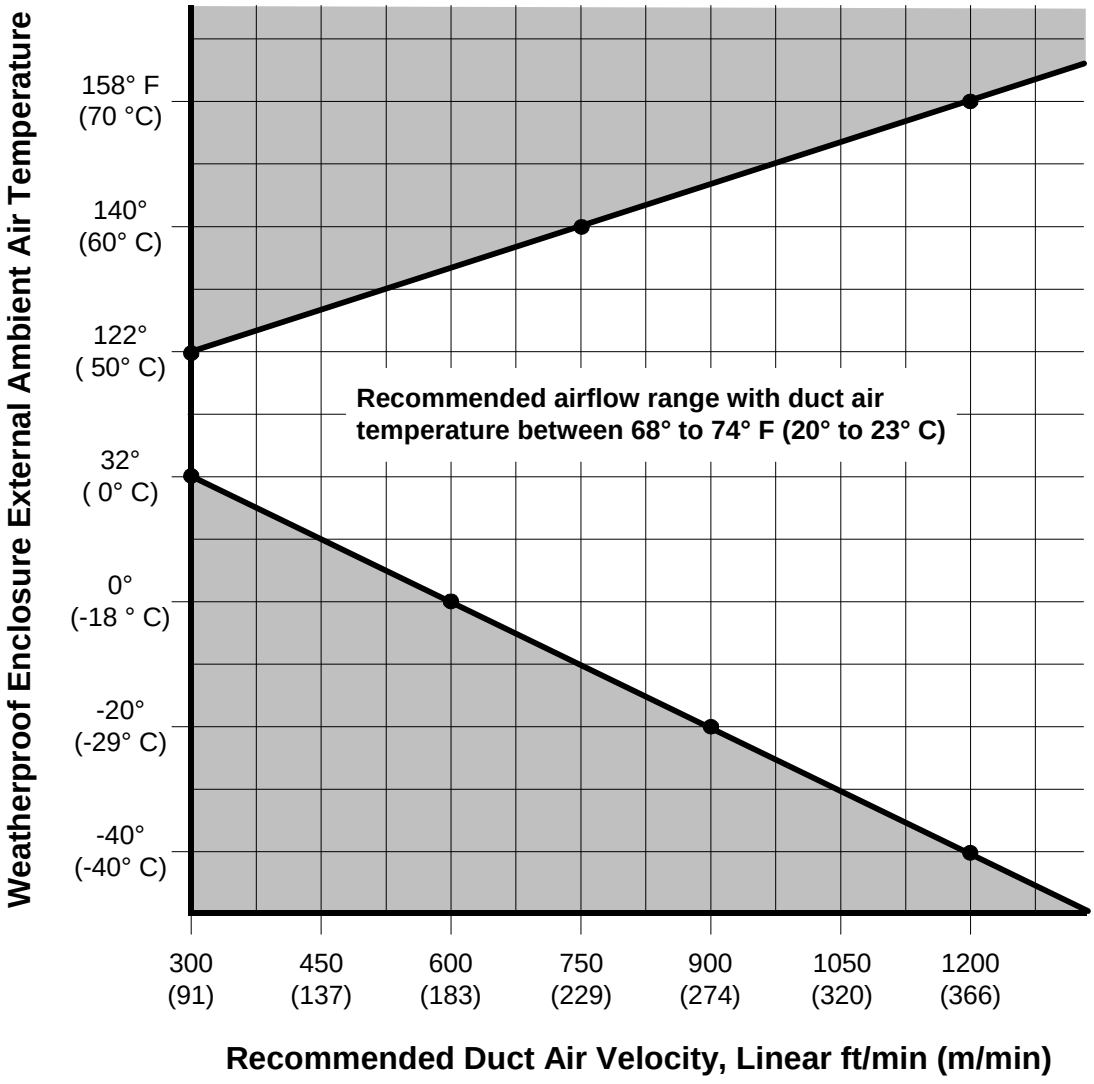


Application Reference, Ambient Temperature vs. Recommended Airflow Graph

The graph shown below presents the results of controlled laboratory testing performed on a typical 4098-9845 Weatherproof Enclosure protecting an internally mounted duct sensor housing. The external ambient air temperature of the 4098-9845 Weatherproof Enclosure was varied throughout its UL listed operating temperature range. Temperatures were recorded within the protected duct sensor housing with varying duct air velocities of air maintained between 68° and 74° F (20° to 23° C).

This graph illustrates how an increase in the test airflow velocity allows the airflow through the weatherproof enclosure to maintain the duct sensor housing at its rated range as the ambient temperature of the weatherproof enclosure is varied throughout temperatures anticipated for exterior air duct locations.

PLEASE NOTE that for typical external air duct applications, heating air would be hotter than 74° F and cooling air would be lower than 68° F, extending the acceptable airflow range accordingly.



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Permit #: *15-967545-LT*

Simplex®

Multi-Application Peripherals

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

IDNet or MAPNET II Communicating Devices
Addressable Manual Stations

Features

Individually addressable manual fire alarm stations with:

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

Compatible with the following Simplex® control panels:

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

Compact construction:

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

Tamper resistant reset key lock (keyed same as Simplex fire alarm cabinets)

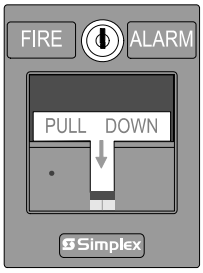
Multiple mounting options:

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

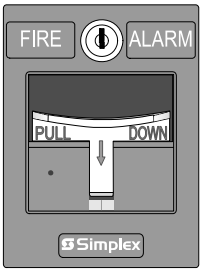
Description

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

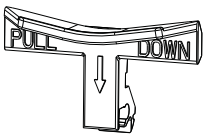
* Refer to page 2 for specific model listings. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7150-0026:224 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



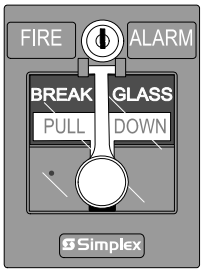
4099-9004
Single action



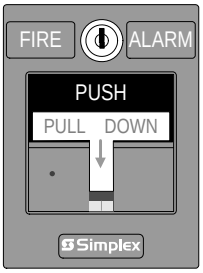
4099-9021
NO GRIP
Single action



4099-9805
NO GRIP
Retrofit kit



4099-9005
Breakglass



4099-9006
Push



With 2099-9828
Institutional
Cover kit

Operation

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

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

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

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

Station reset requires the use of a key to reset the manual station lever and deactivate the alarm switch. (If the break-rod is used, it must be replaced.)

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

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Addressable Manual Station Product Selection

Addressable Manual Stations, Red Housing with White Letters and White Pull Lever

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

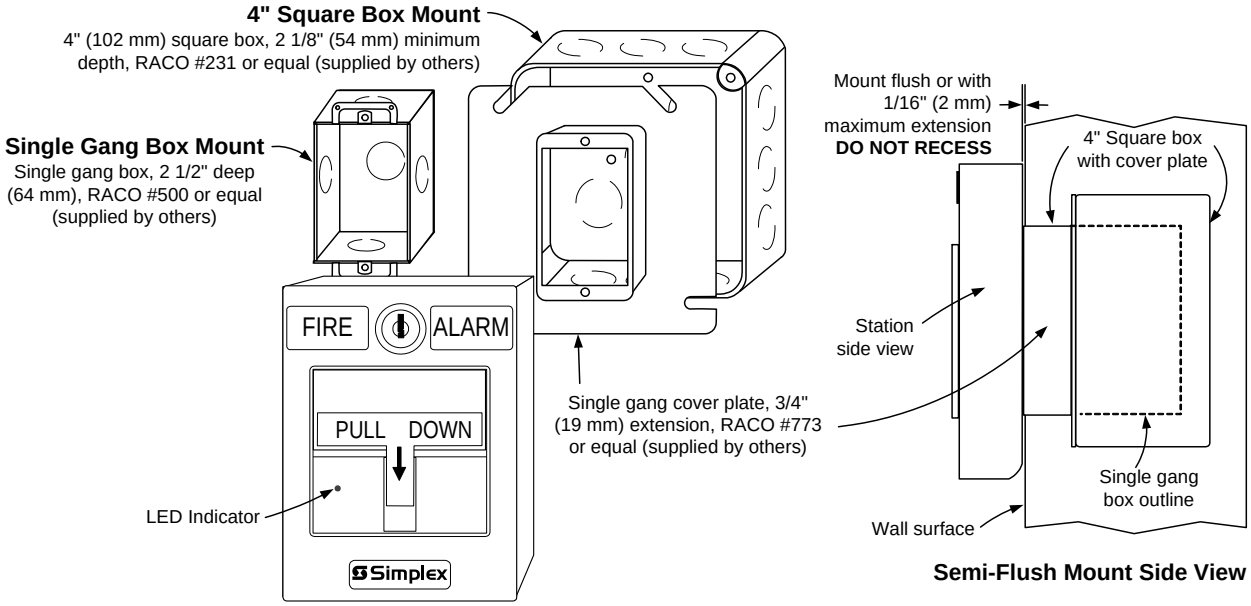
Accessories (refer to pages 3 and 4 for details)

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

Specifications (refer to Installation Instructions 579-1135 for additional information)

Power and Communications	IDNet or MAPNET II communications, 1 address per station
Address Means	DIP switch, 8 position
Wire Connections	Screw terminal for in/out wiring, for 18 to 14 AWG wire (0.82 mm^2 to 2.08 mm^2)
UL Listed Temperature Range	32° to 120° F (0° to 49° C) intended for indoor operation
Humidity Range	Up to 93% RH at 100° F (38° F)
Housing Color	Red with white raised lettering
Material	Housing and pull lever are Lexan polycarbonate or equal
Pull Lever Color	White with red raised lettering
Housing Dimensions	5" H x 3 ¾" W x 1" D (127 mm x 95 mm x 25 mm)

Addressable Manual Station Semi-Flush Mounting

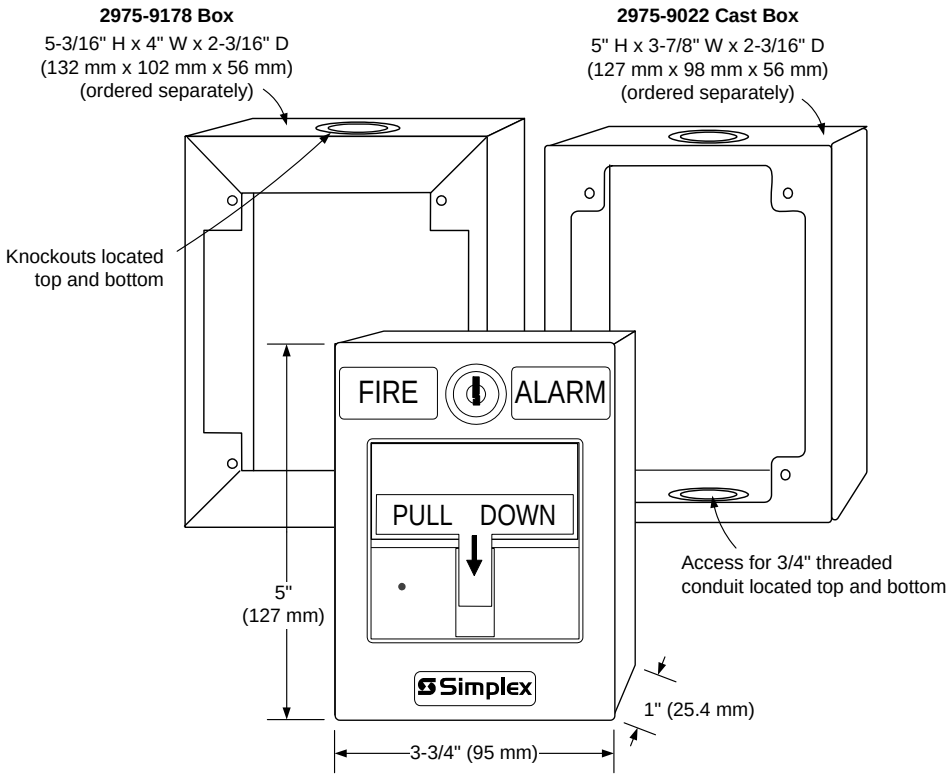


Semi-Flush Mount Side View

Addressable Manual Stations Surface Mounting

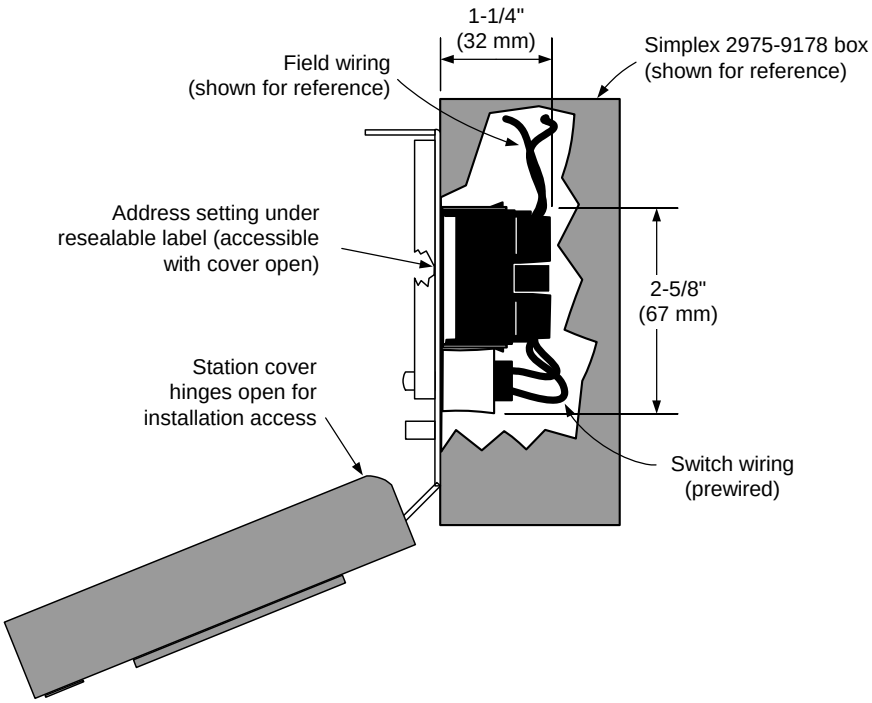
Preferred Mounting. For surface mounting of these addressable manual stations, the preferred electrical boxes are shown in the illustration to the right.

Additional Mounting Reference. Refer to page 4 for Wiremold box mounting compatibility.



4099 Series Addressable Manual Station

Surface Mount Side View with Internal Detail



Application Reference

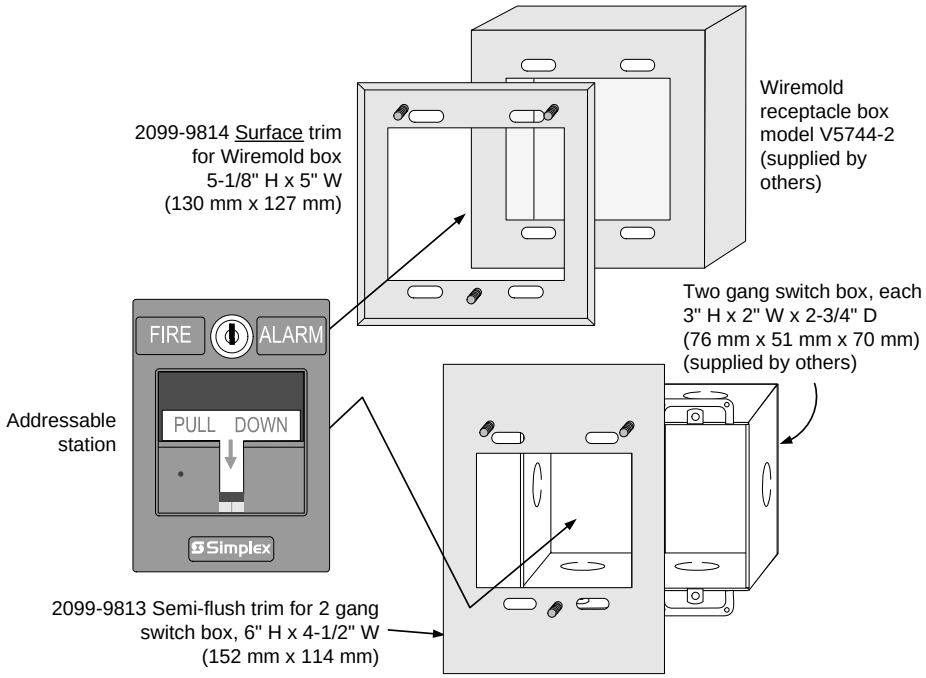
Refer to NFPA 72, the *National Fire Alarm and Signaling Code*, and all applicable local codes for complete requirements for manual stations. The following summarizes the basic requirements.

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

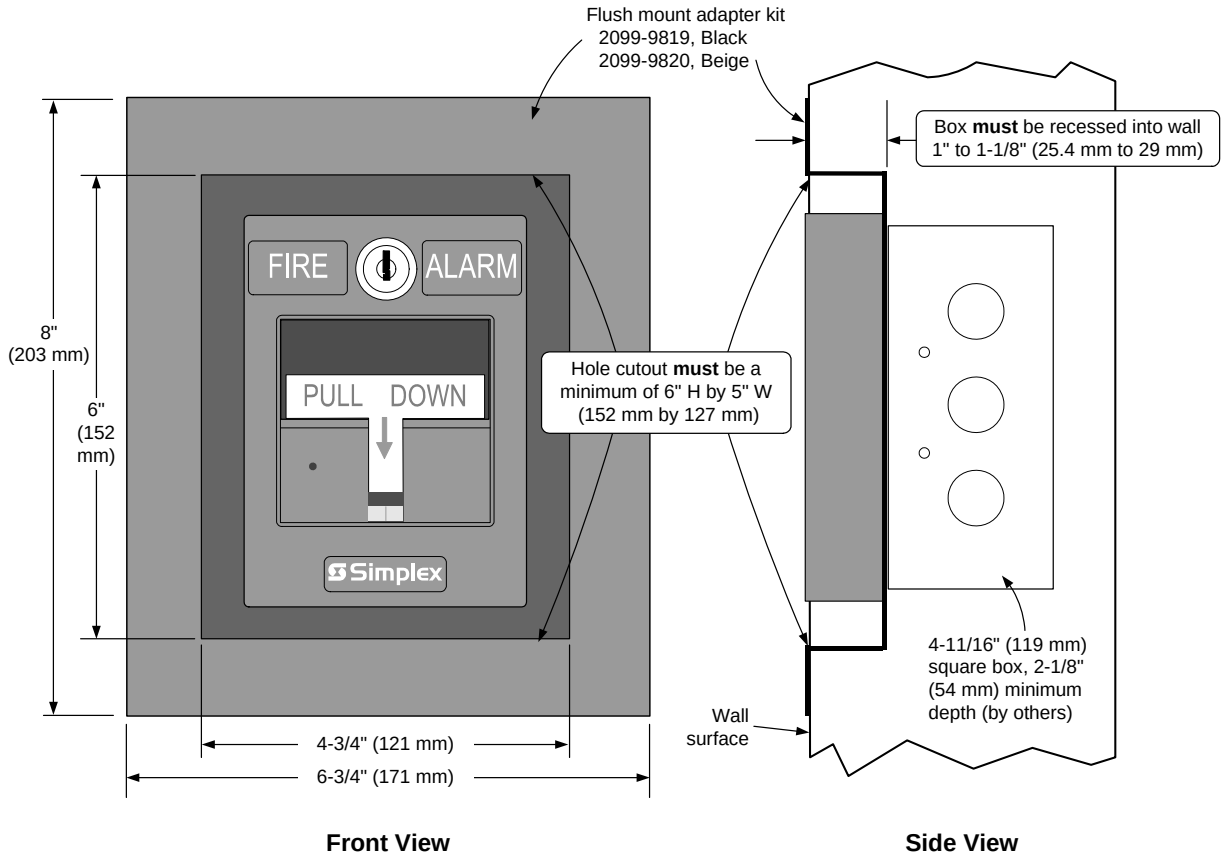
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Addressable Manual Station, Additional Mounting Information

For retrofit and new installations, additional compatible mounting boxes and the required adapter plates are shown in the illustration to the right.



Addressable Manual Station, Flush Mounting Information



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Simplex

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

Addressable Initiation Peripherals

IDNet and MAPNET II Communicating Devices
Model 4090-9008 Dual Contact Relay IAM

Features

Dual Contact Relay IAM (Individual Addressable Module):

- A single addressable point provides control and status tracking of two, 2 A Form "C" contacts
- Low power latching relay design allows IDNet or MAPNET II communications to supply both data and module power
- Relay is set to OFF on initial power up and upon loss of IDNet or MAPNET II communications

For use with following Simplex control panels:

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

Compact construction:

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

UL listed to Standard 864

Description

Dual Contact Relay IAMs allow fire alarm control panels to control two remotely located Form "C" contact using IDNet or MAPNET II 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.

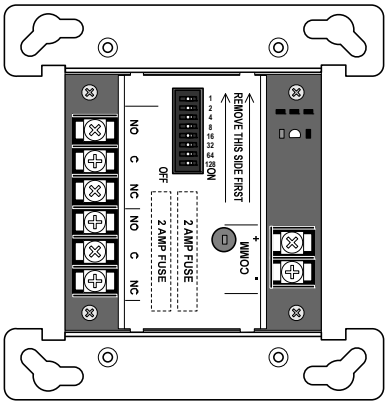
Product Selection

Model	Description
4090-9008	Dual Contact Relay IAM

Optional Adapter Plates

Model	Description	
4090-9813	Adapter plate to fit 4 $^{11}/_{16}$" (119 mm) square electrical box	
4090-9801	For semi-flush mounted box	Optional trim plate for 4" boxes with LED viewing window, includes mounting screws; galvanized steel
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 7300-0026:0311 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



4090-9008 Dual Contact Relay IAM
(shown approximately 1/2 size)

Specifications

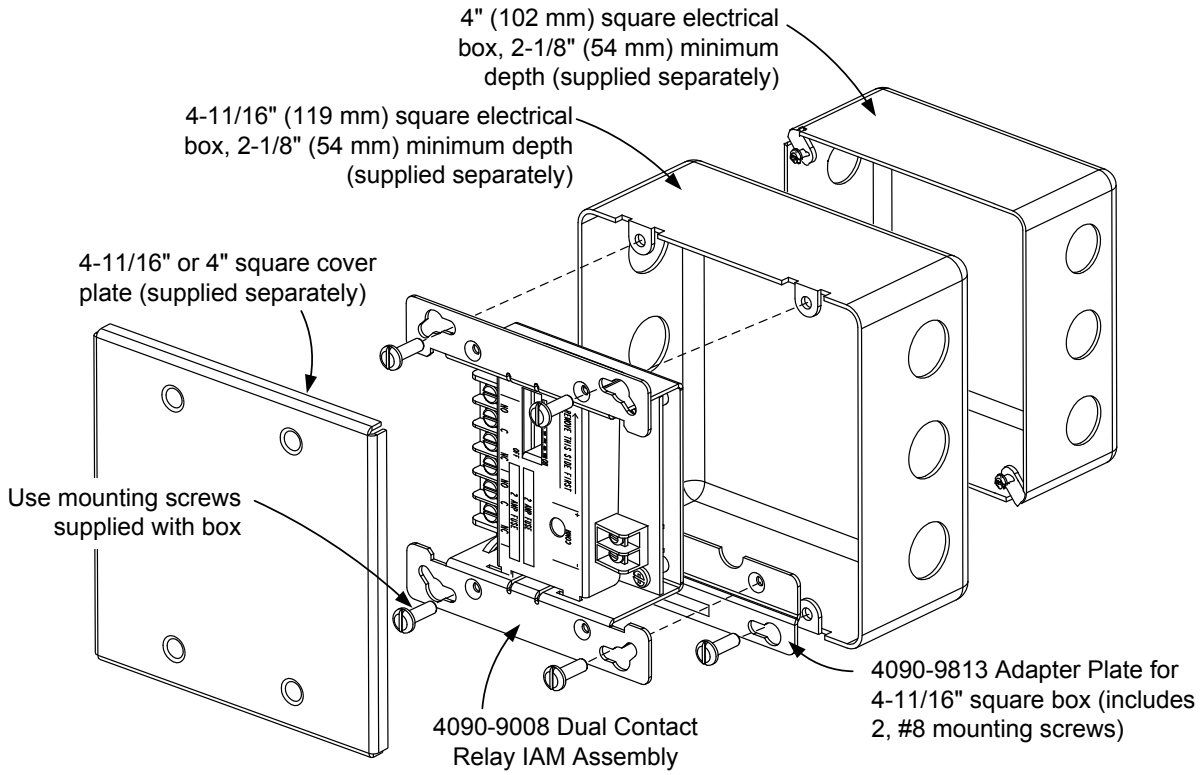
Communications	IDNet or MAPNET II communications, 1 address per device	
Power	Supplied by communications	
Installation Instructions	579-1040	
IDNet Firmware	Requires 3.12.04 or higher	
Contact Ratings* (not rated for incandescent switching)		
Type	Dual Form C contacts (DPDT) with terminal block access to Common, N.O., and N.C for each contact	
Power-Limited	2 A @ 30 VDC, resistive	from listed fire alarm supply
	1 A @ 30 VDC, inductive	
Nonpower-Limited	0.5 A @ 125 VAC, resistive	
Relay Fusing	Each contact common is fused with a 2 A fast acting non-time delay fuse	

* Provide external 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 Installation Instructions for additional information.

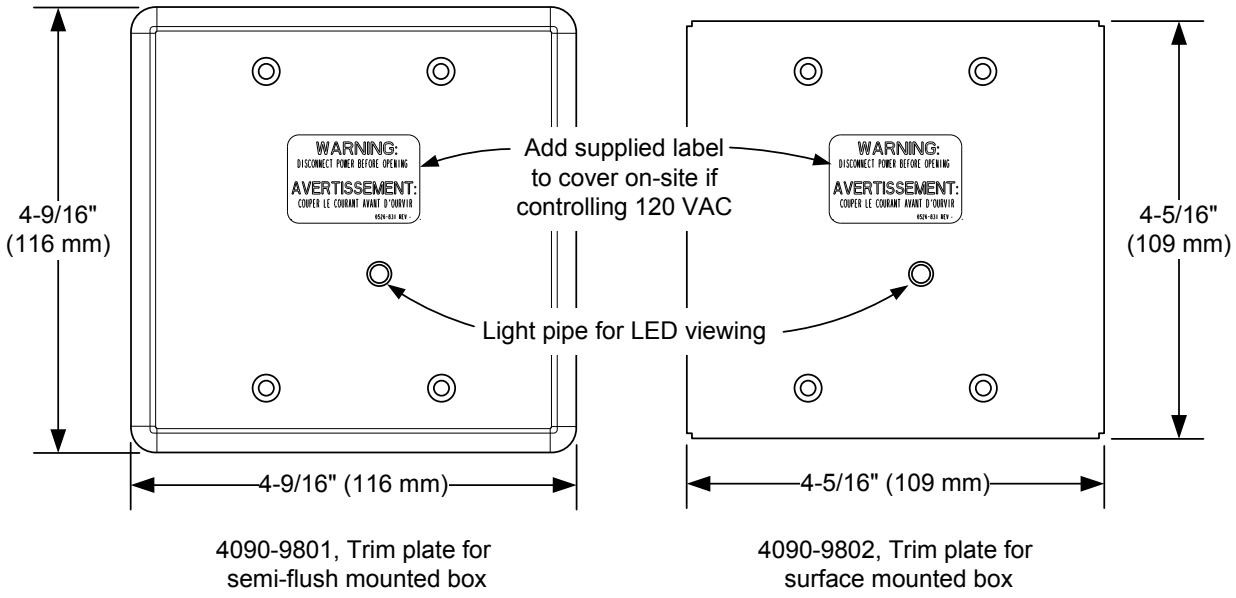
Wire Connections	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 to 2.08 mm^2)	
IDNet or MAPNET II Communications Wiring Reference	Up to 2500 ft (762 m) from control panel	
	Up to 10,000 ft (3048 m) total wiring distance (including T-Taps)	
	Compatible with Simplex 2081-9044 Overvoltage Protectors	
Dimensions	4 ⅛" H x 4" W x 1 ⅜" D (105 mm x 102 mm x 35 mm)	
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)	

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Permit #: *15-967545-LT*

Dual Contact Relay IAM Mounting Information



Mounting Reference with 4-11/16" Square and 4" Square Boxes



4090-9801, Trim plate for semi-flush mounted box

4090-9802, Trim plate for surface mounted box

Optional Trim Plates for 4" Square Boxes with Visible LED

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Simplex®

Multi-Application Peripherals

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

IDNet Communicating Devices
Model 4090-9002 Relay IAM

Features

Individual Addressable Relay Module (Relay IAM):

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

Compact, sealed construction:

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

UL listed to Standard 864

Description

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

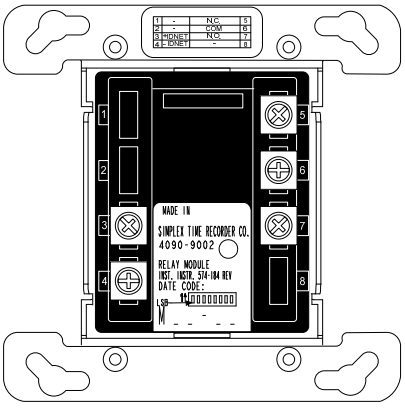
Product Selection

Model	Description
4090-9002	Relay IAM

Optional Adapter and Trim Plates

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

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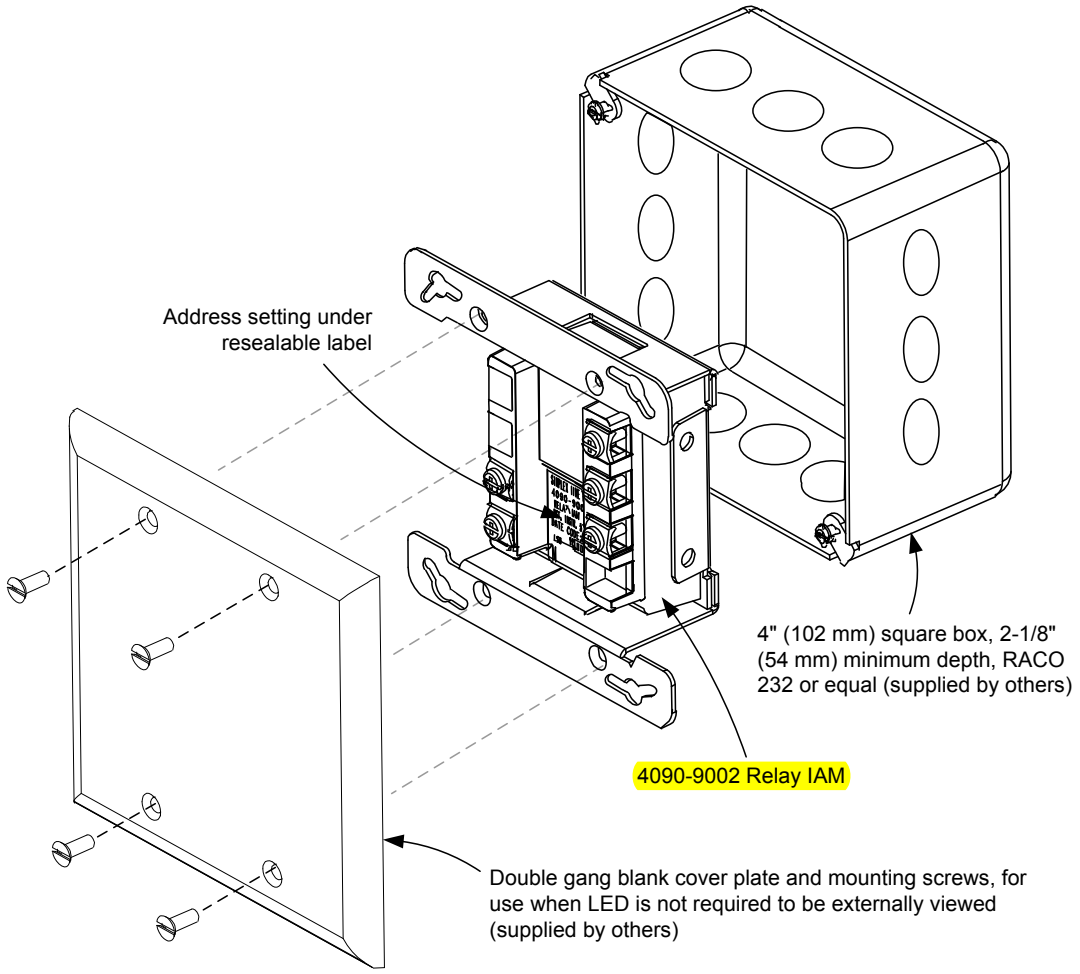


4090-9002 IDNet Relay IAM Package
(shown approximately 1/2 size)

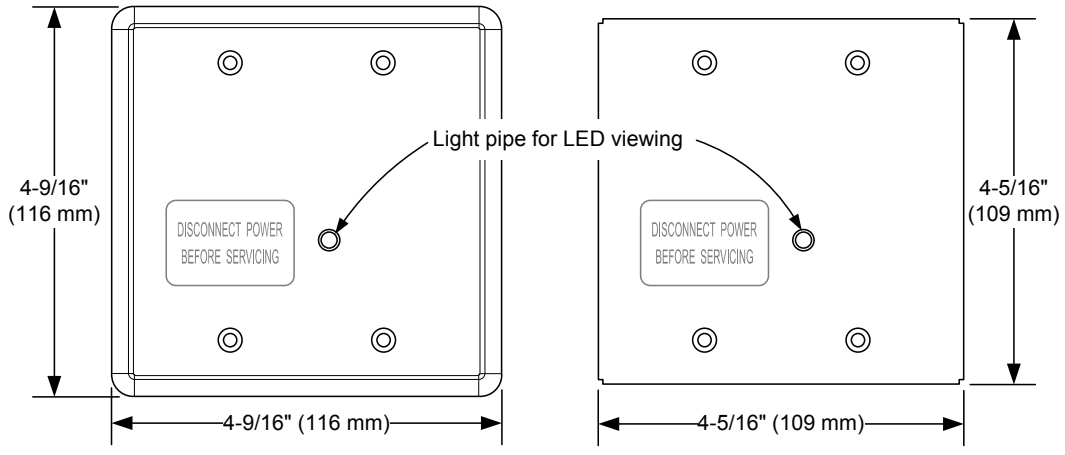
Specifications

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

Relay IAM Mounting Information



Mounting Reference, Double Gang Blank Cover Plate



Optional Trim Plates for Visible LED

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Permit #: *15-967545-LT*

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

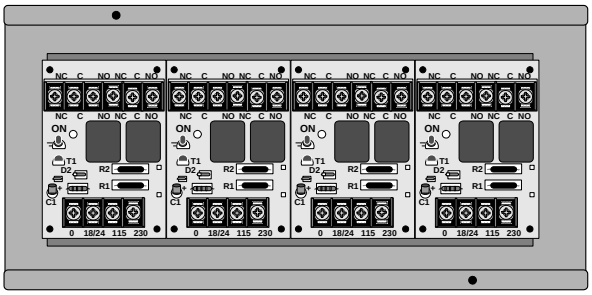
These multi-purpose control relays offer SPDT or DPDT, 10 A (or 7 A) contacts in a variety of mechanical packages. Models are available for coil operation by one of four input voltages allowing a single relay to be energized from a voltage source of 18-35 VDC or VAC, 120 VAC, or 230 VAC (not available 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.

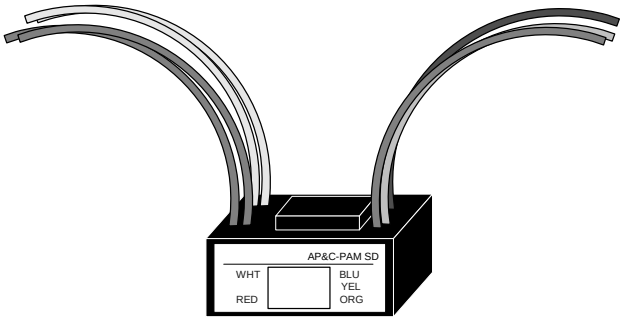
Mounting options are varied for application flexibility. Track mounted relays may be "snapped apart" from a standard four-module assembly and used independently if desired.

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)
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)
Humidity		100% RH, condensing

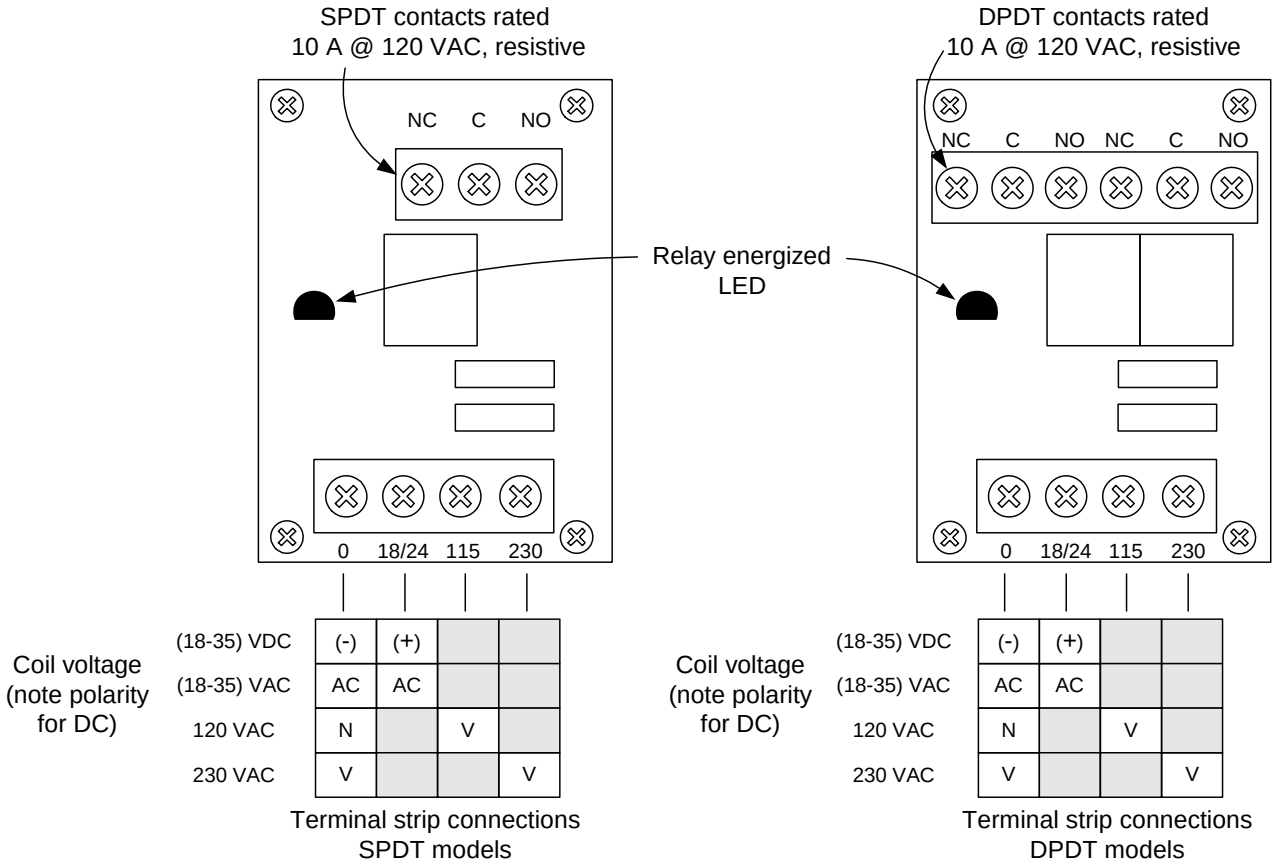
* Listings are under Apollo America Inc. per model numbers shown on page 2. See CSFM Listing 7300-1004:0101 for allowable values and/or conditions concerning material presented in this document.

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Permit #: *15-967545-LT*

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

TrueAlert ES Addressable Notification Appliances

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

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

Features

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

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

LED Indicator and Magnet Test feature:

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



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

Features *(Continued)*

Mechanical design features include:

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

Description

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

Strobe Application Reference

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

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7135-0026:0380 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

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Permit #: *15-967545-LT*

TrueAlert ES Operation Advantage

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

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

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

TrueAlert ES Diagnostics

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

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

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

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

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

TrueAlert Addressable Wiring Isolator

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

Product Selection

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

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

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

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

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

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

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

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

Mounting Adapters

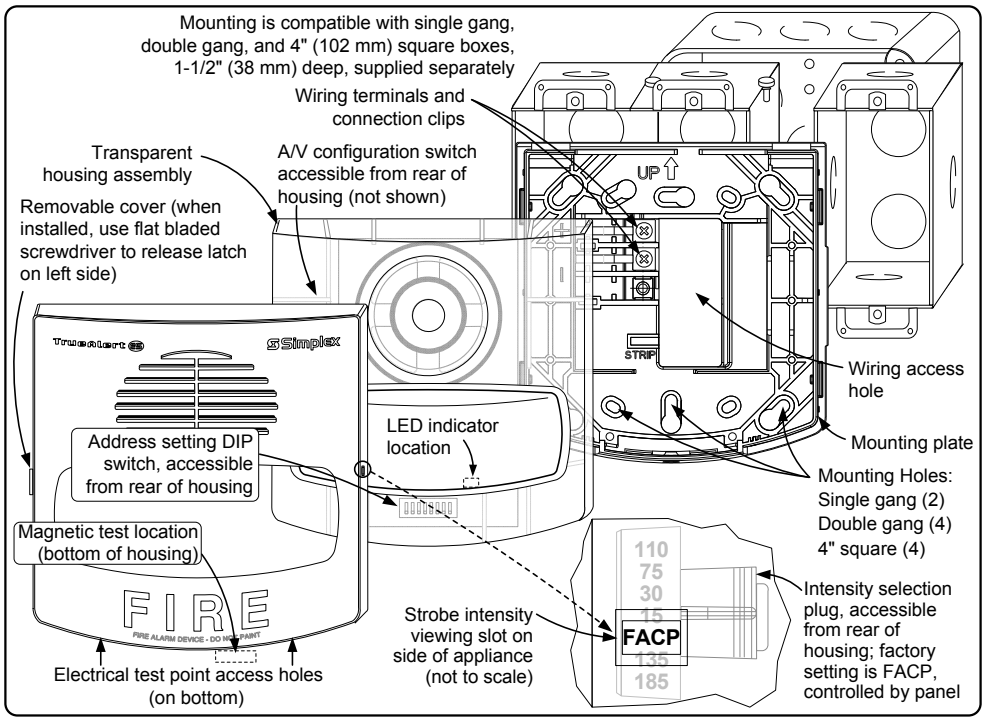
Model	Color	Description	Dimensions
4905-9937	Red	Surface Mount Adapter Skirt	5 ⅜" H x 5 ¼" W x 1 ⅝" D (136 mm x 133 mm x 41 mm) Total depth with strobe = 4 ⅜" (111 mm)
4905-9940	White		
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 Box (typically for retrofit, mount vertical or horizontal)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

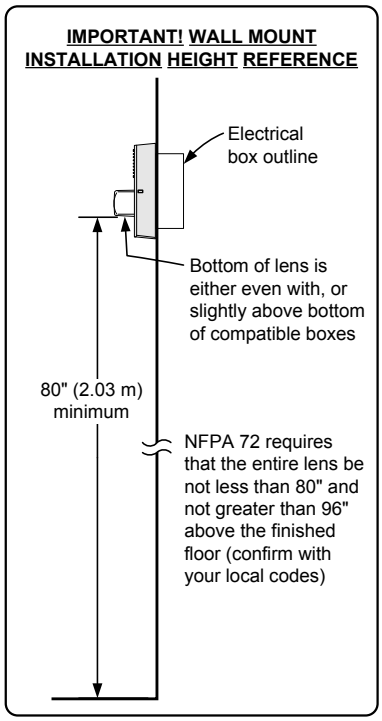
RSN: *1015415*
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TrueAlert Device Reports Reference

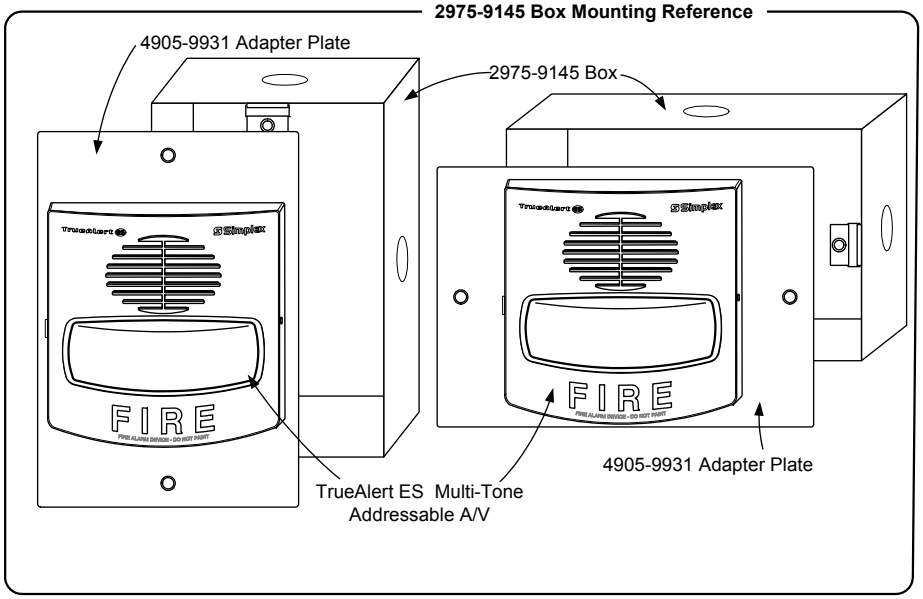
Service Port			Page 1
REPORT 5 : TrueAlert Device Report			12:34:56am TUE 10-Mar-15
POINT ID	CUSTOM LABEL	DEVICE TYPE	CANDELA
T14-1-1	Location Label . . . up to 40 characters	MT AV	15
T14-1-2	Break Room 5	MT AV	110
T14-1-3	Boiler Room	VO	75
T14-1-4	Elec. Room 7	AV	135

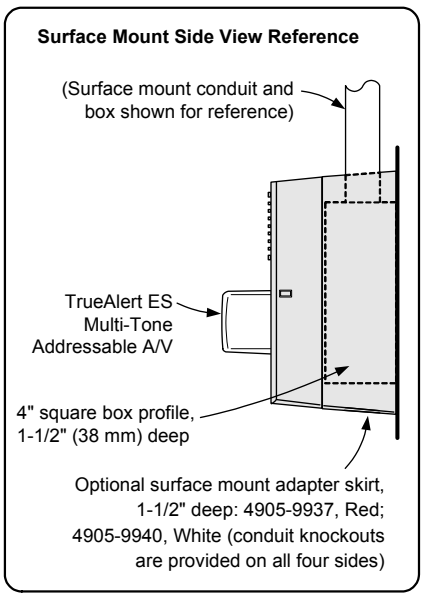
Installation Reference





Adapter Plate and Surface Mount Installation Reference





RSN: *1015415*
Permit #: *15-967545-LT*

IDNAC SLC Controller Compatibility Reference

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

TrueAlert ES A/V Specifications

Electrical Ratings	Typical Operating Voltage Range	23 VDC to 29.5 VDC, Special Application
	Supervisory Requirements	2 unit loads (1 unit load = 0.8 mA control panel current)
	49MTV Series SLC Loading	Up to 21 appliances can connect directly to the panel SLC or to a 4009 IDNAC Repeater output, up to a maximum per SLC of 63 addresses and 75 unit loads
IDNAC SLC Wiring Specifications (refer to control panel or power supply installation instructions for more information)		UTP, unshielded twisted pair recommended
		Maximum wire length allowed with "T-Taps" for Class B wiring per SLC = 10,000 ft (3048 m)
		Maximum wire length to any appliance = 4000 ft (1219 m)

Tone Characteristics

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

TrueAlert ES Multi-Tone Horn/Strobe Current Ratings

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

TrueAlert ES Multi-Tone Horn/Strobe Horn Output

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

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

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

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

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

General Specifications

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

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RSN: *1015415*
Permit #: *15-967545-LT*

Simplex

TrueAlert ES Addressable Notification Appliances

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

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

Features

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

- Multi-candela xenon strobe with synchronized 1 Hz flash rate and with intensity ***programmable from the control panel*** or jumper selected as 15, 30, 75, 110, 135, or 185 cd
- Advanced addressable notification controlled by ***IDNAC SLCs*** providing ***regulated 29 VDC*** allowing strobes to operate with lower current even under battery backup
- Wiring supervision to each appliance allowing "T-tapped" connections for Class B circuits to simplify wiring (Class A circuits require in/out wiring)
- ***Self-Test Mode*** allows an on-board sensor to detect the strobe output and then report its status to the control panel
- ***TrueAlert Device Reports*** at the control panel detailing appliance point ID, custom label, type, and candela setting (see sample on page 3)
- ***Magnet Test diagnostics*** to assist checkout and testing of appliances and wiring and ***Electrical test point access*** without removing cover
- Compatibility with ADA requirements; (refer to important installation information on page 3)
- Compatibility with legacy TrueAlert addressable systems for upgrade and replacement (see page 4)
- Listed to UL Standard 1971 and ULC Standard S526

LED Indicator and Magnet Test feature:

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

Mechanical design features include:

- Rugged, high impact, flame retardant thermoplastic housing in red with white letters or white with red letters, with clear lens, available with FIRE, ALERT, FEU, FEU/FIRE, or blank lettering
- Separate covers are available to change appliance type on-site or for replacement; covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- A separate mounting plate allows wiring to be completed before appliance is mounted; use with single gang, double gang, or 4-inch square box, flush or surface mount
- In/out wiring terminals for 18 AWG to 12 AWG
- Optional mounting adapters are available to cover surface mounted electrical boxes and to adapt to Simplex 2975-9145 boxes
- Optional red wire guards (see 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 7125-0026:0373 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



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

Description

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

Strobe Application Reference

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

TrueAlert ES Operation Advantage

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

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

TrueAlert ES Operation Advantage *(Cont'd)*

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

TrueAlert ES Diagnostics

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

***Self-Test* Details.** Selecting Self-Test Mode from the control panel allows on-board sensors, depending on the device type, to detect its own strobe and/or horn output and then report their status to the control panel.

TrueAlert ES Diagnostics *(Continued)*

***Self-Test* Details *(Continued)*.** Operation is by selected VNAC appliance groups and is either automatic (all briefly simultaneously activated) or individually activated by applying a magnet. (Refer to control panel data sheet for more Self-Test information, see list on page 4.)

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

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

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

TrueAlert Addressable Wiring Isolator

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

Product Selection

TrueAlert ES Wall Mount Addressable Strobes

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

Model*	Cover Color	Wording	Lens Color	Model*	Cover Color	Wording	Lens Color
49VO-WRF(-BA)	Red	FIRE	Clear	49VO-WRQ	Red	FEU	Clear
49VO-WWF(-BA)	White			49VO-WWQ	White		
49VO-WRA(-BA)	Red	ALERT		49VO-WRS(-BA)	Red	Blank	
49VO-WWA(-BA)	White			49VO-WWS(-BA)	White		
49VO-APPLW	Select cover and mounting plate separately						

Separate Mounting Plate

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

Separate Covers (Required when ordering model 49VO-APPLW)

Model*	Color	Wording	Model*	Color	Wording
49VOC-WRFIRE	Red	FIRE	49VOC-WRFEU	Red	FEU
49VOC-WWFIRE	White		49VOC-WWFEU	White	
49VOC-WRALT	Red	ALERT	49VOC-WRBLNG	Red	FEU/FIRE
49VOC-WWALT	White		49VOC-WWBLNG	White	
49VOC-WRS	Red	Blank	49VOC-WWS	White	Blank

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

Mounting Adapters and Wire Guard

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

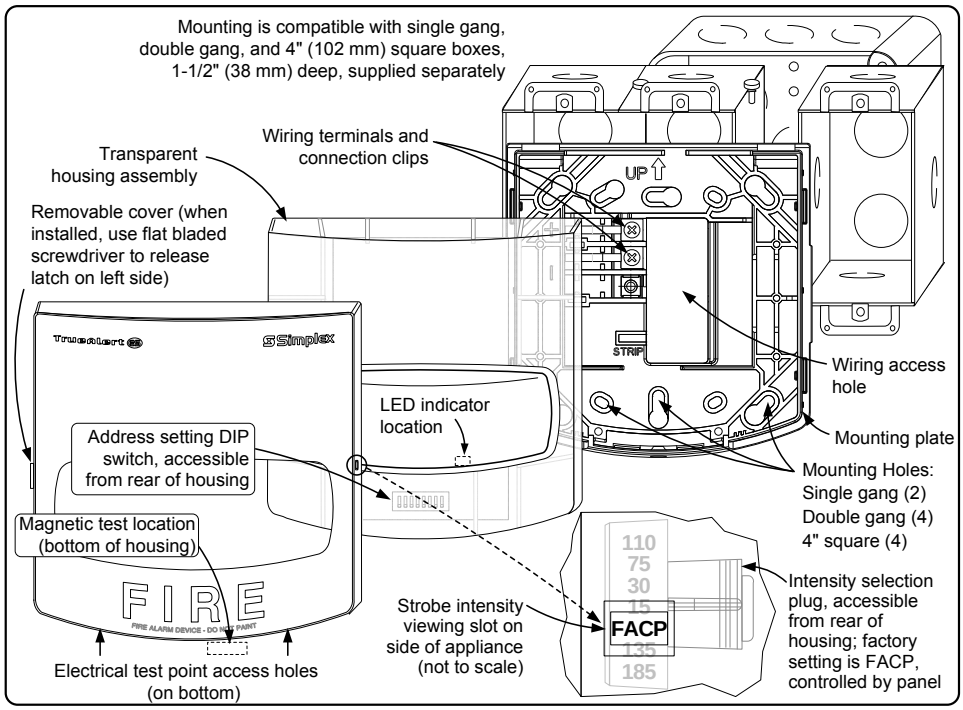
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Permit #: *15-967545-LT*

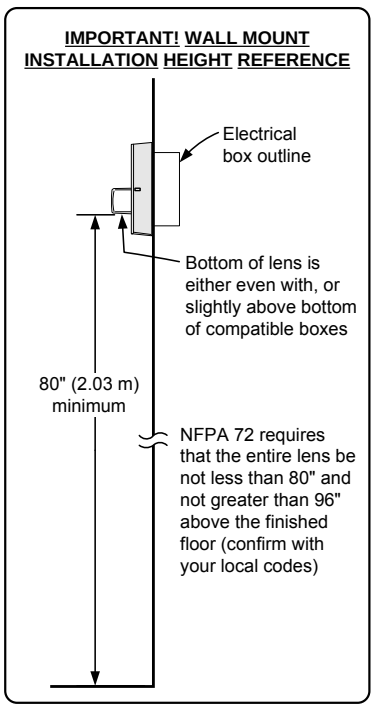
TrueAlert Device Reports Reference

Service Port — Page 1
REPORT 5 : TrueAlert Device Report — 12:34:56am TUE 27-Jan-15

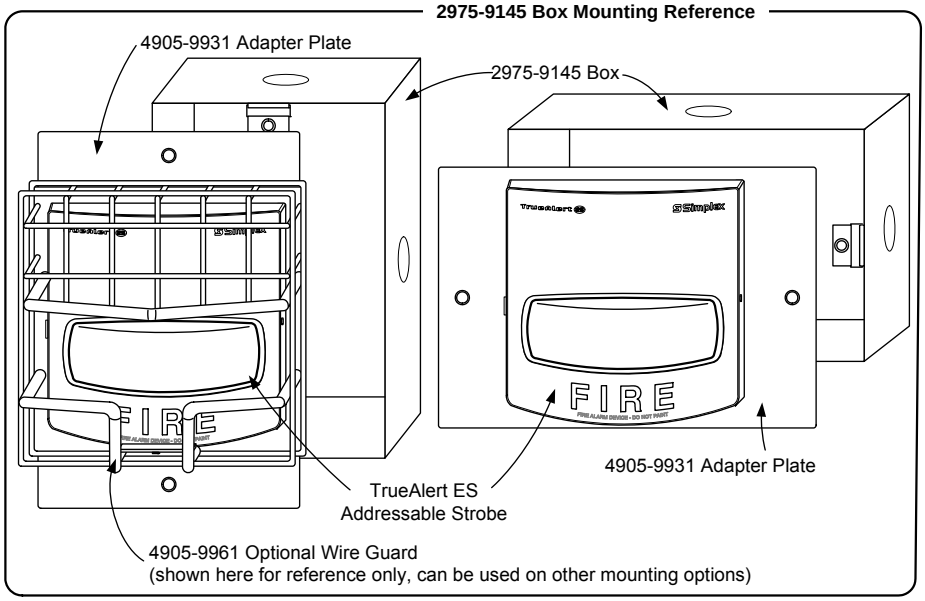
POINT ID	CUSTOM LABEL	DEVICE TYPE	CANDELA
T14-1-1	Location Label . . . up to 40 characters	V/O	15
T14-1-2	Break Room 5	A/V	110
T14-1-3	Boiler Room	A/V	75
T14-1-4	Elec. Room 7	A/V	135

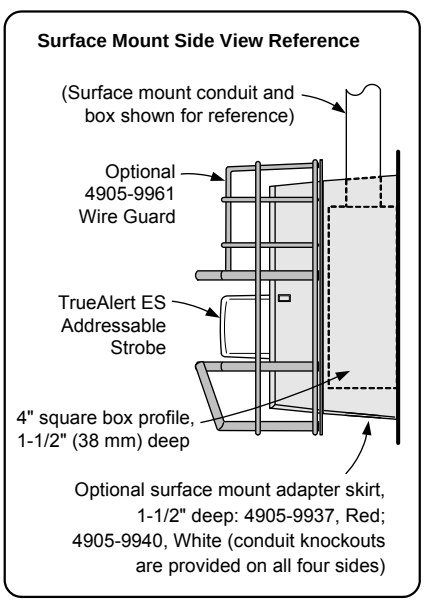
Installation Reference





Adapter Plate and Surface Mount Installation Reference





RSN: *1015415*
Permit #: *15-967545-LT*

IDNAC SLC Controller Compatibility Reference

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

TrueAlert ES Strobe Specifications

Electrical Ratings

Typical Operating Voltage Range	23 VDC to 31 VDC, Special Application (see below for 17 VDC rating)					
Supervisory Requirements	1 unit load (= 0.8 mA control panel current)					
IDNAC SLC Loading	Maximum of 63 addresses per SLC, 75 unit loads					
Candela Setting	**15 cd**	**30 cd**	**75 cd**	**110 cd**	**135 cd**	**185 cd**
23 VDC RMS Current Ratings, for typical design of IDNAC Addressable SLCs (6 VDC drop)	47 mA	57 mA	100 mA	132 mA	160 mA	208 mA

General Specifications

Temperature Range	32° to 122° F (0° to 50° C)
Humidity Range	10% to 93%, non-condensing @ 104° F (40° C)
IDNAC SLC Wiring Specifications (refer to control panel installation instructions for more information)	UTP, unshielded twisted pair recommended
	Maximum wire length allowed with "T-Taps" for Class B wiring per SLC = 10,000 ft (3048 m)
	Maximum wire length to any appliance = 4000 ft (1219 m)
Connections	Terminal blocks on mounting plate for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2); two wires per terminal for in/out wiring
Installation Instructions	579-1031

Notes: Refer to compatibility table above for fire alarm control panel and power supply operation type.

TrueAlert ES Strobe LEGACY Compatibility Reference

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

Electrical Ratings Reference for Retrofit Applications

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

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Permit #: *15-967545-LT*

Simplex

TrueAlert ES Addressable Notification Appliances

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

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

Features

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

- Multi-candela xenon strobe with synchronized 1 Hz flash rate and with intensity ***programmable from the control panel*** or jumper selected as 15, 30, 75, 110, 135, or 185 cd
- Advanced addressable notification controlled by ***IDNAC SLCs*** providing ***regulated 29 VDC*** allowing strobes to operate with lower current even under battery backup
- Wiring supervision to each appliance allowing "T-tapped" connections for Class B circuits to simplify wiring (Class A circuits require in/out wiring)
- ***Self-Test Mode*** allows an on-board sensor to detect the strobe output and then report its status to the control panel
- ***TrueAlert Device Reports*** at the control panel detailing appliance point ID, custom label, type, and candela setting (see sample on page 3)
- ***Magnet Test diagnostics*** to assist checkout and testing of appliances and wiring and ***Electrical test point access*** without removing cover
- Compatibility with ADA requirements; (refer to important installation information on page 3)
- Compatibility with legacy TrueAlert addressable systems for upgrade and replacement (see page 4)
- Listed to UL Standard 1971 and ULC Standard S526

LED Indicator and Magnet Test feature:

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

Mechanical design features include:

- Rugged, high impact, flame retardant thermoplastic housing in red with white letters or white with red letters, with clear lens, available with FIRE, ALERT, FEU, FEU/FIRE, or blank lettering
- Separate covers are available to change appliance type on-site or for replacement; covers can be easily removed without disturbing the connected housing and avoiding trouble conditions
- A separate mounting plate allows wiring to be completed before appliance is mounted; use with single gang, double gang, or 4-inch square box, flush or surface mount
- In/out wiring terminals for 18 AWG to 12 AWG
- Optional mounting adapters are available to cover surface mounted electrical boxes and to adapt to Simplex 2975-9145 boxes
- Optional red wire guards (see 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 7125-0026:0373 for allowable values and/or conditions concerning material presented in this document. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



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

Description

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

Strobe Application Reference

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

TrueAlert ES Operation Advantage

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

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

TrueAlert ES Operation Advantage *(Cont'd)*

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

TrueAlert ES Diagnostics

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

***Self-Test* Details.** Selecting Self-Test Mode from the control panel allows on-board sensors, depending on the device type, to detect its own strobe and/or horn output and then report their status to the control panel.

TrueAlert ES Diagnostics *(Continued)*

***Self-Test* Details *(Continued)*.** Operation is by selected VNAC appliance groups and is either automatic (all briefly simultaneously activated) or individually activated by applying a magnet. (Refer to control panel data sheet for more Self-Test information, see list on page 4.)

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

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

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

TrueAlert Addressable Wiring Isolator

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

Product Selection

TrueAlert ES Wall Mount Addressable Strobes

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

Model*	Cover Color	Wording	Lens Color	Model*	Cover Color	Wording	Lens Color
49VO-WRF(-BA)	Red	FIRE	Clear	49VO-WRQ	Red	FEU	Clear
49VO-WWF(-BA)	White			49VO-WWQ	White		
49VO-WRA(-BA)	Red	ALERT		49VO-WRS(-BA)	Red	Blank	
49VO-WWA(-BA)	White			49VO-WWS(-BA)	White		
49VO-APPLW	Select cover and mounting plate separately						

Separate Mounting Plate

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

Separate Covers (Required when ordering model 49VO-APPLW)

Model*	Color	Wording	Model*	Color	Wording
49VOC-WRFIRE	Red	FIRE	49VOC-WRFEU	Red	FEU
49VOC-WWFIRE	White		49VOC-WWFEU	White	
49VOC-WRALT	Red	ALERT	49VOC-WRBLNG	Red	FEU/FIRE
49VOC-WWALT	White		49VOC-WWBLNG	White	
49VOC-WRS	Red	Blank	49VOC-WWS	White	Blank

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

Mounting Adapters and Wire Guard

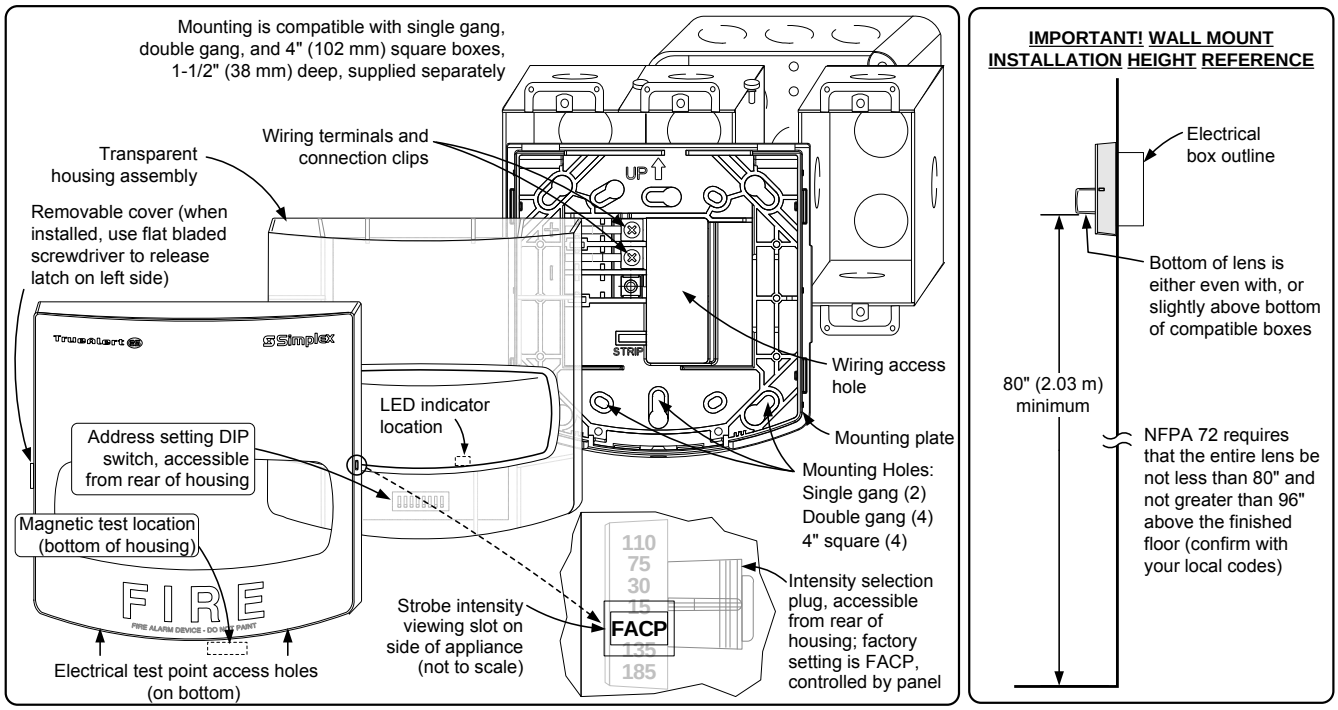
Model	Color	Description	Dimensions
4905-9937	Red	Surface Mount Adapter Skirt	5 ⅜" H x 5 ¼" W x 1 ⅝" D (136 mm x 133 mm x 41 mm) Total depth with strobe = 4 ⅜" (111 mm)
4905-9940	White		
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 Box (typically for retrofit, mount vertical or horizontal)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

RSN: *1015415*
Permit #: *15-967545-LT*

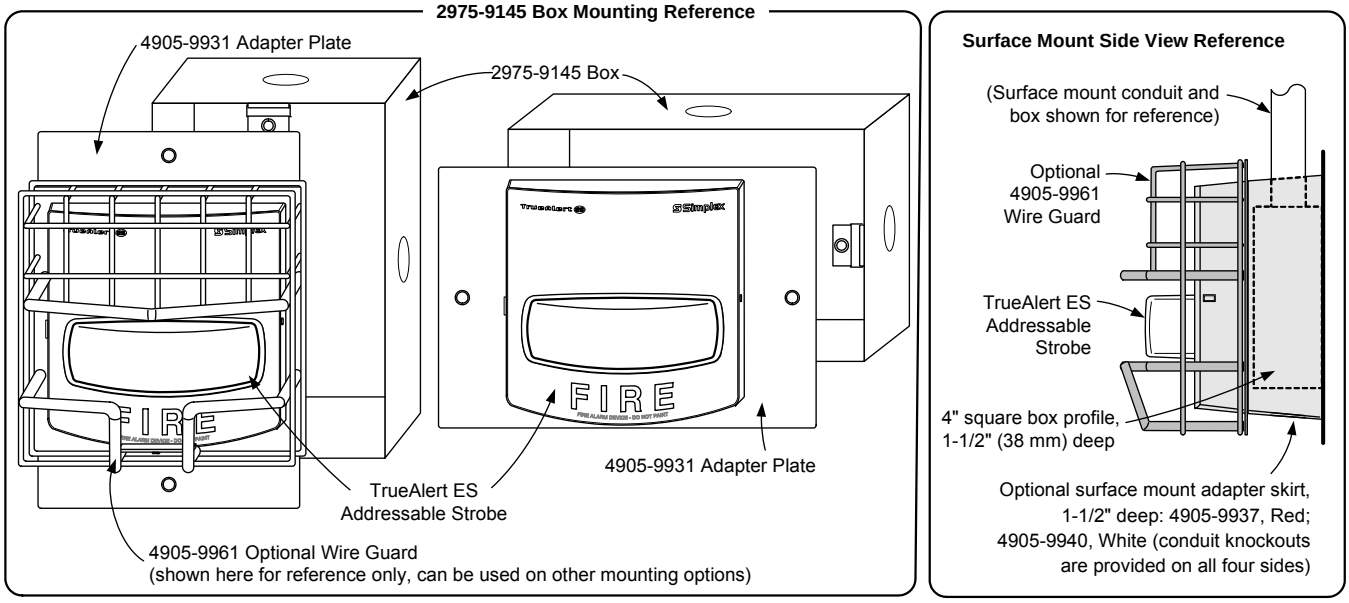
TrueAlert Device Reports Reference

Service Port			Page 1
REPORT 5 : TrueAlert Device Report			12:34:56am TUE 27-Jan-15
POINT ID	CUSTOM LABEL	DEVICE TYPE	CANDELA
T14-1-1	Location Label . . . up to 40 characters	V/O	15
T14-1-2	Break Room 5	A/V	110
T14-1-3	Boiler Room	A/V	75
T14-1-4	Elec. Room 7	A/V	135

Installation Reference



Adapter Plate and Surface Mount Installation Reference



RSN: *1015415*
Permit #: *15-967545-LT*

IDNAC SLC Controller Compatibility Reference

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

TrueAlert ES Strobe Specifications

Electrical Ratings

Typical Operating Voltage Range	23 VDC to 31 VDC, Special Application (see below for 17 VDC rating)					
Supervisory Requirements	1 unit load (= 0.8 mA control panel current)					
IDNAC SLC Loading	Maximum of 63 addresses per SLC, 75 unit loads					
Candela Setting	**15 cd**	**30 cd**	**75 cd**	**110 cd**	**135 cd**	**185 cd**
23 VDC RMS Current Ratings, for typical design of IDNAC Addressable SLCs (6 VDC drop)	47 mA	57 mA	100 mA	132 mA	160 mA	208 mA

General Specifications

Temperature Range	32° to 122° F (0° to 50° C)
Humidity Range	10% to 93%, non-condensing @ 104° F (40° C)
IDNAC SLC Wiring Specifications (refer to control panel installation instructions for more information)	UTP, unshielded twisted pair recommended
	Maximum wire length allowed with "T-Taps" for Class B wiring per SLC = 10,000 ft (3048 m)
	Maximum wire length to any appliance = 4000 ft (1219 m)
Connections	Terminal blocks on mounting plate for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2); two wires per terminal for in/out wiring
Installation Instructions	579-1031

Notes: Refer to compatibility table above for fire alarm control panel and power supply operation type.

TrueAlert ES Strobe LEGACY Compatibility Reference

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

Electrical Ratings Reference for Retrofit Applications

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

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SNS™ Digital Timers

SYNCHRONOUS NETWORK SYSTEM

SNS Digital Elapsed Timers

Create accuracy and efficiency across an entire facility when every second counts. Deploy SNS Elapsed Timers to count up or count down the seconds, and then capture and store event data for report generation. Primex Wireless Elapsed Timers leverage your existing IT network (Ethernet or 802.11 b/g wireless) to synchronize to the exact second and communicate with the Applications Management Platform (AMP), where the start, stop and elapsed time for each event is stored. The Web-based AMP allows easy data retrieval with accurate, authoritative time stamps for each event or time-sensitive procedure.

When Timing is Critical, Rely on Primex Wireless

SNS Digital Elapsed Timers accurately count up or count down up to a maximum of 99 hours, 59 minutes, and 59 seconds. A switch control lets you to run, hold or reset the timer when in elapsed or count-down timer mode.

Product Features:

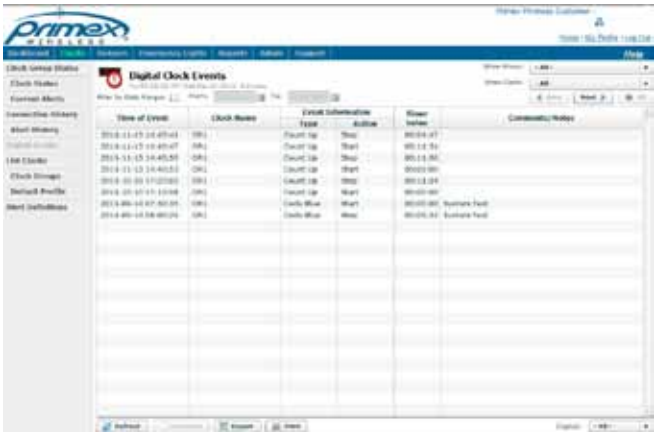
- Highly visible, 7-segment LED digits
- Three display dimmer options: 75%, 50% and 25%
- Power outage memory backup for up to 8 hours
- Choose Red or Green LED digits
- Available in AC or Power over Ethernet (PoE)

SNS SURFACE-MOUNT MODELS WITH 2.5" (6.35cm) DIGITS

Model	Description
SNS7B202E	4˚ Slope Bracket, 9' (2.74m) cord with plug
SNS7Y202E-1	4˚ Slope Bracket, 18" (45.72cm) cord with pigtail
SNS7B419E	18˚ Slope Bracket, 9' (2.74m) cord with plug
SNS7Y419E-1	18˚ Slope Bracket, 18" (45.72cm) cord with pigtail
SNS5X202E	4˚ Slope Bracket, PoE
SNS5X419E	18˚ Slope Bracket, PoE

SNS SURFACE-MOUNT MODELS WITH 4" (10.16cm) DIGITS

Model	Description
SNS7B203E	4˚ Slope Bracket, 9' (2.74m) cord with plug
SNS7Y203E-1	4˚ Slope Bracket, 18" (45.72cm) cord with pigtail
SNS5X203E	4˚ Slope Bracket, PoE



Digital Clock Events Recorded in the AMP

SNS FLUSH-MOUNT MODELS WITH 2.5" (6.35cm) DIGITS

Model	Description
SNS7Y202EF-1	18" (45.72cm) Cord with pigtail
SNS5X202EF	PoE

- Add a "G" after the item number for green LED models
  Example: SNS7B202EG or SNS7Y202EG-1



Surface Mount



Flush Mount

RSN: ***1015415***
Permit #: ***15-967545-LT***

SNS Digital Timers

SYNCHRONOUS NETWORK SYSTEM

Elapsed Timer Specifications:

- 12- or 24-hour time display
- PM indicator light
- Alternating time and date display option
- LED dimmer option (75%, 50%, 25%)
- Power outage memory backup for up to eight hours
- Operating temperature range: 32°- 95°F (0°- 35°C)
- Storage temperature range: -20°-185°F (-29°- 85°C)

Power Supply

- 120 VAC/ 50–60 cycle, with either 9' (2.74m) cord with plug or 18" (45.72cm) cord with pigtail

Network Connectivity

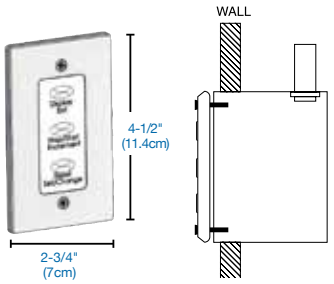
- 802.11 b/g Wireless or Ethernet communication
- Security Encryption: WEP, WPA, WPA2
- Authentication: LEAP, EAP-FAST, PEAP

Audible Tone Option

- Only on the count-up and count-down timer function
- Frequency: 3KHz +/-0.5KHz

Switch Control for Elapsed Timers Specifications:

- Allows the user to run, hold or reset the Elapsed Timer
- Designed to fit inside a single gang box (not included)
- Membrane switch and wall plate clean easily and resist common cleaners and disinfectants

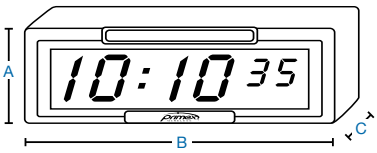


PoE Digital Clock Specifications:

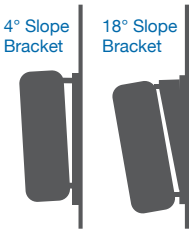
- PoE IEEE 802.3af compliant
- Certification: FCC/IC/CE marked
- Actual power consumption: 12 watts (class 3)

SURFACE MOUNT

Digit Height	No. of Digits	Weight	Max. Current Draw	Height	Width	Depth
				A	B	C
2.5" (6.35cm)	6	2.82 lbs. (1.28 kg)	260 mA	5" (12.7cm)	13.75" (34.93cm)	2.5" (6.35cm)
4" (10.16cm)	6	7.31 lbs. (3.3 kg)	260mA	8" (20.32cm)	23.25" (59.05cm)	3" (7.62cm)



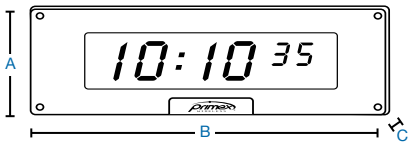
Surface-Mount Digital Clock



FLUSH MOUNT

Digit Height	No. of Digits	Weight	Max. Current Draw	Height	Width	Depth	Overall Depth through Wall
				A	B	C	D
2.5" (6.35cm)	6	2.88 lbs. (1.31 kg)	260 mA	6.3" (16cm)	17" (43.18cm)	.3" (.76cm)	2.6" (6.6cm)

Flush-Mount Digital Clock



To Learn More:

Call 800.537.0464 (U.S.)
800.330.1459 (Canada)
Email: info@primexwireless.com

primexwireless.com

RSN: ***1015415***
Permit #: ***15-967545-LT***

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2011.053 12.12

SNS™ Digital Clocks

SYNCHRONOUS NETWORK SYSTEM

RSN: ***1015415***
Permit #: ***15-967545-LT***

SNS Digital Clocks

Primex Wireless Digital Clocks are equipped with both an 802.11 (b/g) radio and an Ethernet port to synchronize via Network Time Protocol (NTP) from an authoritative time source. Part of the Synchronous Network System (SNS), the clocks use a facility's existing IT network to communicate with the SNS Applications Management Platform (AMP) to log and document synchronization status and wireless connection strength. SNS Digital Clocks may also be used as NTP-only units to be individually managed and synchronized with a network time server.

SNS SURFACE-MOUNT MODELS WITH 2.5" DIGITS

4-Digit	6-Digit	Description
SNS7B200	SNS7B202	4˚ Slope Bracket, 9' (2.74m) cord with plug
SNS7Y200-1	SNS7Y202-1	4˚ Slope Bracket, 18" (45.72cm) cord with pigtail
SNS7B212	SNS7B419	18˚ Slope Bracket, 9' (2.74m) cord with plug
SNS7Y212-1	SNS7Y419-1	18˚ Slope Bracket, 18" (45.72cm) cord with pigtail
SNS5X200	SNS5X202	4˚ Slope Bracket, PoE
SNS5X212	SNS5X419	18˚ Slope Bracket, PoE

SNS SURFACE-MOUNT MODELS WITH 4" DIGITS

4-Digit	6-Digit	Description
SNS7B201	SNS7B203	4˚ Slope Bracket, 9' (2.74m) cord with plug
SNS7Y201-1	SNS7Y203-1	4˚ Slope Bracket, 18" (45.72cm) cord with pigtail
SNS5X201	SNS5X203	4˚ Slope Bracket, PoE

SNS FLUSH-MOUNT MODELS WITH 2.5" DIGITS

6-Digit	Description
SNS7Y202F-1	18" (45.72cm) Cord with pigtail
SNS5X202F	PoE

SNS DUAL-MOUNT MODELS WITH 2.5" DIGITS

4-Digit	6-Digit	Mount	Description
SNS7B425	SNS7B431	Wall	9' (2.74m) cord with plug
SNS7Y425-1	SNS7B431-1	Wall	18" (45.72cm) cord with pigtail
SNS7B426	SNS7B432	Ceiling	9' (2.74m) cord with plug
SNS7Y426-1	SNS7B432-1	Ceiling	18" (45.72cm) cord with pigtail
SNS5X425	SNS5X431	Wall	PoE
SNS5X426	SNS5X432	Ceiling	PoE

SNS DUAL-MOUNT MODELS WITH 4" DIGITS

4-Digit	6-Digit	Mount	Description
SNS7B423	N/A*	Wall/Ceiling	9' (2.74m) cord with plug
–	SNS7B427	Ceiling	9' (2.74m) cord wth plug
SNS5X423	N/A*	Wall/Ceiling	PoE
–	SNS5X427	Ceiling	PoE

* 4" 6-digit Clock cannot be dual-mounted to the wall.
- Add a "G" after the item number for green LED models. Example: SNS7B200G OR SNS7Y200G-1

Designed for Visibility and Reliability

SNS Digital Clocks are clearly visible up to 150' away. The SNS AMP Web-based interface provides additional control of clock functions and sends alerts to facility staff when synchronization is off or maintenance is required.

Product Features:

- Highly visible 7-segment LED digits
- Three display dimmer options: 75%, 50% and 25%
- Power outage memory backup for up to 8 hours
- Dual-mount models provide greater visibility in hallways
- Choose Red or Green LED digits
- Available in AC or Power over Ethernet (PoE)



Surface Mount 4-Digit



Surface Mount 6-Digit



Flush Mount 6-Digit



Dual Mount - Wall

SNS Digital Clocks

SYNCHRONOUS NETWORK SYSTEM

Digital Clock Specifications:

- 12- or 24-hour time display
- PM indicator light
- Alternating time and date display option
- LED dimmer option (75%, 50%, 25%)
- Power outage memory backup for up to eight hours
- Operating temperature range: 32°- 95°F (0°- 35°C)
- Storage temperature range: -20°-185°F (-29°- 85°C)
- Configuration is accomplished via the on-board Web-server or remotely using the SNS AMP software.

AC Power Supply

- 120 VAC/ 50–60 cycle, with either 9' (2.74m) cord with plug or 18" (45.72cm) cord with pigtail

Network Connectivity

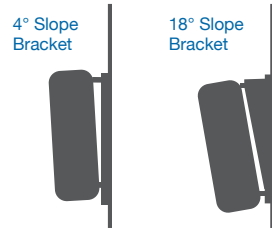
- 802.11 (b/g) Wireless or Ethernet communication
- Security Encryption: WEP, WPA, WPA2
- Authentication: LEAP, EAP-FAST, PEAP

PoE Digital Clock Specifications:

- PoE IEEE 802.3af compliant
- Certification: FCC/IC/CE marked
- Actual power consumption: 12 watts (class 3)

SURFACE MOUNT

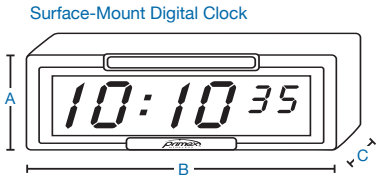
Digit Height	No. of Digits	Weight	Max. Current Draw	Height	Width	Depth
				A	B	C
2.5" (6.35cm)	4	2.26 lbs. (1 kg)	230 mA	5" (12.7cm)	10.75" (27.30cm)	2.5" (6.35cm)
2.5" (6.35cm)	6	2.72 lbs. (1.23kg)	260 mA	5" (12.7cm)	13.75" (34.93cm)	2.5" (6.35cm)
4" (10.16cm)	4	4.74 lbs. 92.15 kg)	230 mA	8" (20.32cm)	18" (45.72cm)	3" (7.62cm)
4" (10.16cm)	6	7.31 lbs. (3.3 kg)	260 mA	8" (20.32cm)	23.25" (59.05cm)	3" (7.62cm)



FLUSH MOUNT

Digit Height	No. of Digits	Weight	Max. Current Draw	Height	Width	Depth	Overall Depth through Wall
				A	B	C	D
2.5" (6.35cm)	6	2.88 lbs. (1.31 kg)	260 mA	6.3" (16cm)	17" (43.18cm)	.2" (.5cm)	2.6" (6.6cm)

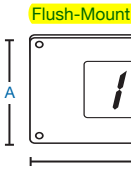
Ships with silicone sealant to seal faceplate to the wall

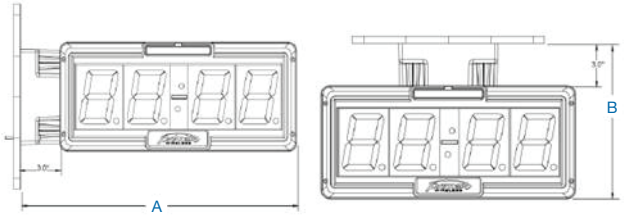


DUAL-MOUNT DIMENSIONS

Clock Type	Width from Wall	Height from Ceiling	Depth of Two Clocks
	A	B	C
Dual 2.5" 4-digit	13.75" (34.93cm)	8.0" (20.32cm)	6.6" (16.76cm)
Dual 2.5" 6-digit	16.8" (42.67cm)	8.0" (20.32cm)	6.6" (16.76cm)
Dual 4" 4-digit	21.0" (53.34cm)	11.0" (27.94cm)	7.5" (19.05cm)
Dual 4" 6-digit	N/A*	11.0" (27.94cm)	7.5" (19.05cm)

* 4" 6-digit Clock cannot be dual-mounted to the wall.







To Learn More:

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2011.053 12.12

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: _____

Business/Building Name: _____ Address of Project: _____

Contractor: _____ Contractor's Phone: _____

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

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

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

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

Additional Comments:

Inspection Date: _____ Approved or Disapproved FD Inspector: _____

Inspection Date: _____ Approved or Disapproved FD Inspector: _____

Fire Alarm Installation Certification

Permit #: _____ Date: _____

	Property Protected	System Installer	System Supplier
Business Name:			
Address:			
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: _____