City of Aurora
Building Codes Division
15151 E Alameda Pkwy
Aurora, CO 80012
(303) 739-7420

Notice

This material is subject to copyright protection pursuant to Federal Law: 17 United States Code Section 106.

COOPER Wheelock

Series RSS and RSSP Strobes and Strobe Plates



Series RSS



Series RSS



Series RSSWP



RSS Round

Description

The Wheelock patented Series RSS Strobe Appliances and Series RSSP Strobe Plates have lower current draw while maintaining outstanding performance, reliability and cost effectiveness. These versatile appliances will satisfy virtually all requirements for indoor, wall or ceiling mount applications.

Strobe options for wall mount models include 1575 or the Wheelock Patented MCW multi-candela strobe with field selectable candela settings of 15/30/75/110cd or the high intensity MCWH strobe with field selectable 135/185cd. Ceiling mount models include the patented MCC multi-candela ceiling strobe with field selectable intensities of 15/30/75/95cd or the high intensity MCCH strobe with field selectable 115/177cd.

All models may be synchronized using the Wheelock SM, DSM Sync Modules or the PS-24-8MC Power Supplies with the Wheelock Patented Sync Protocol. Synchronized strobes can eliminate possible restrictions on the number of strobes in the field of view. Wheelock's synchronized strobes offer an easy way to comply with ADA recommendations concerning photosensitive epilepsy as well as meeting the requirements of NFPA 72.

The Wheelock Series RSS Strobes employ a Patented Integral Strobe Mounting Plate that can be mounted to a single gang, double gang, 4" square, 100mm European backboxes or the SHBB surface backbox. If the flush backbox has side or top space between it and the finished wall, the NATP (Notification Appliance Trimplate) may be used. It provides an additional .65" of trim for the Appliance. An attractive cover plate is provided for a clean, finished appearance on all models.

The Series RSSP Multi-Candela Strobe Plates are a cost effective way to retrofit required wall strobe appliances to bells, horns, chimes, multitones or speakers and easily mounts to standard 4" backboxes or for surface mount use with the Wheelock SBL2 surface backbox.

Features

- Approvals include: UL Standard 1971, New York City (MEA), California State Fire Marshal (CSFM), Factory Mutual (FM), and Chicago (BFP) See approvals by model in Specifications and Ordering Information
- ADA/NFPA/UFC/ANSI compliant. Meets OSHA 29 Part 1910.165
- Wall mount Multi-Candela models are available with Field Selectable Candela Settings of 15/30/ 75/110cd or 135/185cd. Single Candela models are available in 1575cd
- Ceiling mount Multi-Candela models are

  available with field selectable candela settings of 15/30/75/95cd or 115/177cd. (Round or Square)
- Strobes produce 1 flash per second over the

  regulated voltage range
- 12 and 24 VDC models with wide UL "Regulated Voltage" using filtered (DC) or unfiltered VRMS input voltage
- Synchronize using the Wheelock sync modules or power supplies with built-in sync protocol
- Fast installation with IN/OUT screw terminals using #12 to #18 AWG wire

2009430204

For Weatherproof Series RSS See Datatsheet S9004

TYP. 56 PP.
AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT 08 2009
SIGNED DATE

S5391 151-92-E 7125-0785:141 7300-0785:154

COOPER Wheelock

Series CH Chimes and Chime Strobes



SERIES CH70 CHIME STROBE



SERIES CH90 CHIME STROBE



SERIES CH90 CHIME



SERIES CH70 CHIME

Description

The Wheelock Series CH Chimes and Chime Strobes minimize alarm system power supply requirements and wiring costs with a low current draw and a patented chime mounting plate for fast, easy installation. Each model has a built-in level adjustment feature and an aesthetic two (2) screw grille cover.

These unique solid-state chime appliances provide field selectable single-stroke or vibrating operation with Anechoic sound levels adjustable up to 83 dB and tone adjustable from 800 to 1200 Hz.

Strobe options for wall mount models include 1575cd or Wheelock patented MCW multi-candela strobe with field selectable candela settings of 15/30/75/110cd or the high intensity MCWH strobe with field selectable 135/185cd.

Ceiling mount models are available in Wheelock patented MCC multi-candela ceiling strobe with field selectable intensities of 15/30/75/95cd or the high intensity MCCH strobe with field selectable 115/177cd.

The strobe portion of all Series CH Chime Strobes may be synchronized when used in conjunction with the Wheelock SM, DSM Sync Modules or the Wheelock PS-24-8MC Power Supply with patented Sync Protocol. Wheelock's synchronized strobes offer an easy way to comply with ADA recommendations concerning photosensitive epilepsy as well as meeting the requirements of NFPA 72 and UFC.

The Series CH Chime Strobes are UL Listed for indoor, wall or ceiling mount applications under Standard 1971 for Signaling Devices for the Hearing-Impaired and under Standard 464 for Private Mode Audible Signal Appliances. They are available in two attractive package styles for flush mounting to standard electrical boxes or convenient surface mounting. All models include IN/OUT wiring terminations that accept two #12 to #18 AWG wires at each terminal. Inputs are polarized for compatibility with industry standard reverse polarity supervision.

Features

- Approvals include: UL Standard 1971, UL Standard 464, New York City (MEA), and California State Fire Marshal (CSFM) and Chicago (BFP) See approvals by model in Specifications and Ordering Information
- ADA/NFPA/UFC/ANSI compliant
- Complies with OSHA 29 Part 1910.165
- Wall mount models are available with Field

  Selectable Candela Settings of 15/30/75/110cd or 135/185cd (Multi-Candela models) or 1575cd (single candela model)
- Ceiling mount models are available with field selectable candela settings of 15/30/75/95cd or

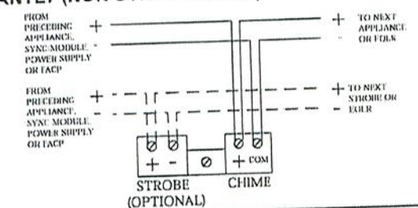
  115/177cd (Multi-candela models)
- Low current draw with temperature compensation to reduce power consumption and wiring costs
- Strobes produce 1 flash per second over the regulated voltage range
- 24 VDC with wide UL "Regulated Voltage" using filtered DC or unfiltered VRMS input voltage
- Synchronize with Wheelock SM, DSM or the Wheelock PS-24-8MC Power Supply with built-in sync protocol
- Adjustable Volume and Tone Control
- Single Stroke or Vibrating Operation
- Fast Installation with IN/OUT screw terminals using #12 to #18 AWG wires

2009430204

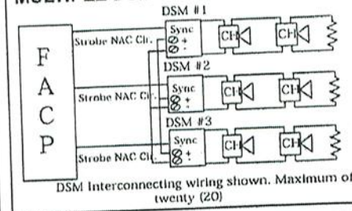
S5391 151-92-E 7125-0785:151 7135-0785:109 (Chime Only)

*Wiring Diagrams**

SERIES CH CHIME & STROBE OPERATE INDEPENDANTLY (NON-SYNC OR SYNC)

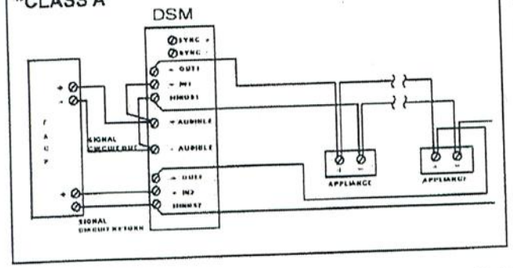


SERIES CH CHIME STROBES SYNCHRONIZED W/ MULTIPLE DSM MODULES

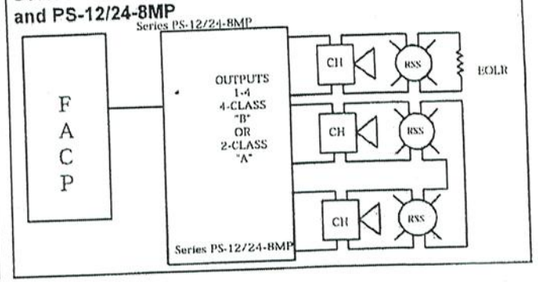


Note: Figure shows interconnection to strobe through sync module. Chime portion requires 2 separate conductors to FACP.

SERIES CH CHIME STROBE APPLIANCES SYNCHRONIZED WITH DSM MODULE SINGLE "CLASS A"



SERIES CH CHIME STROBE APPLIANCES & RSS STROBES SYNCHRONIZED WITH PS-12/24-8CP and PS-12/24-8MP



For wiring information on the PS-24-8MC Power Supply, please refer to Data Sheet #8900.

2009430204

Specifications and Ordering Information

Model Number	Order Code	Wall Mount	Ceiling Mount	Strobe Sync w/ SM, DSM or PS-24-8MC	Strobe Candela	24 VDC	Model Color RED	Model Color White	Mounting Options	Agency Approvals			
										UL	MEA	CSFM	BFP
CH70-24MCW-FR	9018	X		X	15/30/75/110	X	X	-	L,O,P,Q,R,U,Y	X	X	X	X
CH70-24MCW-FW	9019	X	-	X	15/30/75/110	X	-	X	L,O,P,Q,R,U,Y	X	X	X	X
CH70-24MCWH-FR	9083	X	-	X	135/185	X	X	-	L,O,P,Q,R,U,Y	X	X	X	*
CH70-24MCWH-FW	9084	X	-	X	135/185	X	-	X	L,O,P,Q,R,U,Y	X	X	X	*
CH70-241575W-FR	7830	X	-	X	15 (75 on Axis)	X	X	-	L,O,P,Q,R,U,Y	X	X	X	X
CH90-24MCC-FW	3168	-	X	X	15/30/75/95	X	-	X	Q,U,V	X	X	X	*
CH90-24MCCH-FW	3110	-	X	X	115/177	X	-	X	Q,U,V	X	X	X	*
CH70-24-R	7825	X	X	-	-	X	X	-	L,O,P,Q,R,U,Y	X	X	X	X
CH70-24-W	7827	X	X	-	-	X	-	X	L,O,P,Q,R,U,Y	X	X	X	X
CH90-24-W	7826	X	X	-	-	X	-	X	Q,U,V	X	X	X	X

Models are available in either Red or White. Call Customer Service for Order Code & Delivery.

*PENDING

NOTE: Due to continuous development of our products, specifications and offerings are subject to change without notice in accordance with Wheelock Inc. standard terms and conditions.

Simplex

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

Multi-Application Peripherals

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
- 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 4008, 4010, 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)

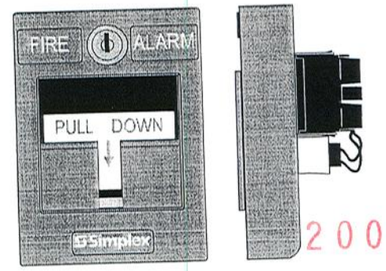
Multiple mounting options:

- 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

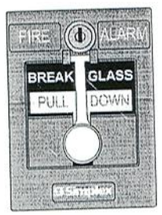
Description

The Simplex model 4099-9001 addressable 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.

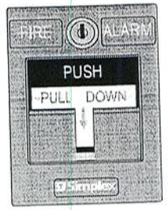
* Refer to page 2 for specific model listings. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7150-0026:224 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.



4099-9001 Addressable Manual Station
(front and side view)



4099-9002
Breakglass



4099-9003
Push



With 2099-9828
Institutional
Cover kit

Operation

Activation of the Simplex 4099-9001 single 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.

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.

** IDNet and MAPNET II addressable communications designs are protected by U.S. Patent No. 4,796,025; 5,966,002; and 6,034,601.

2009430204

Addressable Manual Station Product Selection

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

Model	Description	Housing	Pull Lever	Listings
4099-9001	Single action, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM, MEA
4099-9001CB	Single action, Bilingual English and French	FEU FIRE	TIREZ PULL	ULC, FM
4099-9001CF	Single action, French	ALARME FEU	ABAISSEZ	
4099-9002	Double action, Breakglass operation, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM, MEA
4099-9003	Double action, Push operation, English			

Accessories

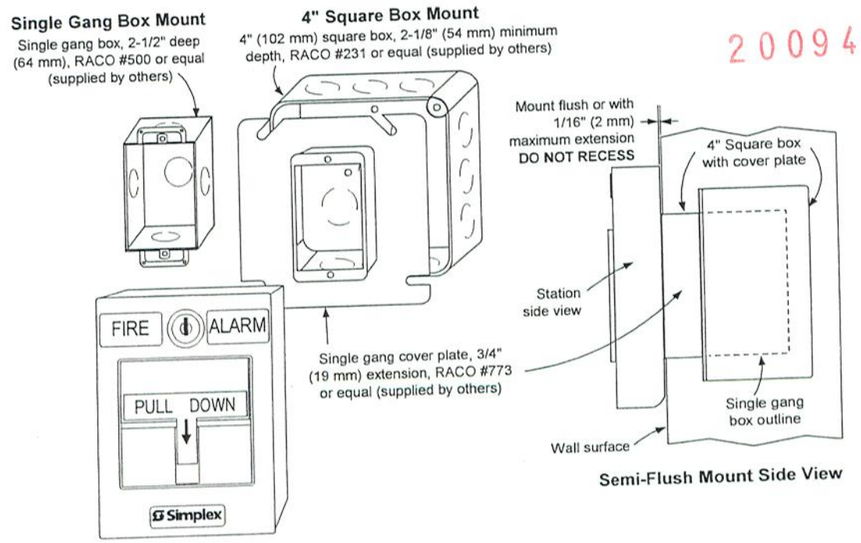
Model	Description	
2975-9178	Surface mount steel box, red	Refer to page 3 for dimensions
2975-9022	Cast aluminum surface mount box, red	
2099-9813	Semi-flush trim plate for double gang switch box, red	Typically for retrofit, refer to page 4
2099-9814	Surface trim plate for Wiremold box V5744-2, red	
2099-9819	Flush mount adapter kit, black	Refer to page 4 for details
2099-9820	Flush mount adapter kit, beige	
2099-9803	Replacement breakglass	
2099-9804	Replacement break-rod	
2099-9828	Institutional cover kit for field installation on 4099-9001	

Specifications

Power and Communications	IDNet or MAPNET II communications, 1 address per station
Address Means	Dipswitch, 8 position
Wire Connections	Screw terminal for in/out wiring, for 18 to 14 AWG wire
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 3-3/4" W x 1" D (127 mm x 95 mm x 25 mm)

Addressable Manual Station Semi-Flush Mounting

2009430204



Semi-Flush Mount Side View

Simplex

TrueAlarm® Analog Sensing

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

TrueAlarm Analog Sensors – Photoelectric, Ionization, and Heat; Compatible Bases and Accessories

Features

TrueAlarm® analog sensing provides digital transmission of analog sensor values via MAPNET II® or IDNet™, two-wire communications**

Fire alarm control panel provides:

- Individual sensitivity selection for each sensor
- Sensitivity monitoring that satisfies NFPA 72® sensitivity testing requirements
- Peak value logging allowing accurate analysis for sensitivity selection
- Automatic, once per minute individual sensor calibration check that verifies sensor integrity
- Automatic environmental compensation
- Display of sensitivity directly in percent per foot
- Multi-stage alarm operation
- Ability to display and print detailed sensor information in plain English language

Photoelectric smoke sensors:

- Seven levels of sensitivity from 0.2% to 3.7%

Heat sensors:

- Fixed temperature sensing
- Rate-of-rise temperature sensing
- Utility temperature sensing

Ionization smoke sensors:

- Three levels of sensitivity; 0.5%, 0.9% and 1.3%

For use with Simplex®:

- 4010, 4020, 4100, 4100U, and 4120 Series control panels
- Universal Transponders and 2120 TrueAlarm CDTs equipped for MAPNET II operation

Magnetic test feature

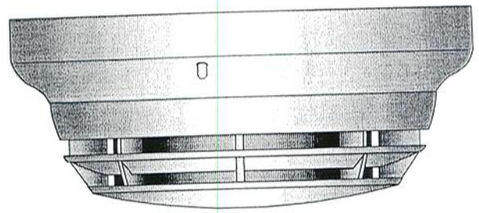
Functional and architecturally styled chamber enclosure:

- Louvered design enhances smoke capture by directing flow to chamber
- Entrance areas are minimally visible when ceiling mounted

Optional accessories include remote LED alarm indicator and output relays

UL listed to Standard 268

* Refer to page 4 for ULC listing status. 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. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.



4098-9714 TrueAlarm Photoelectric Sensor Mounted in Base

2009430204

Description

Digital Communication of Analog Sensing. TrueAlarm analog sensors provide an analog measurement that is 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 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 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.

** TrueAlarm analog sensors are protected by one or more of the following U.S. Patents: 5,155,468; 5,173,683; 5,400,014; 5,543,777; 5,710,541; D383,407; D388,352; D392,573. MAPNET II and IDNet addressable communications designs are protected by U.S. Patent No. 4,796,025.

TrueAlarm Analog Sensing Product Selection Chart

TrueAlarm Sensor Bases*

Model	Description	Compatibility	Mounting Requirements
4098-9792 (C)	Standard Sensor Base, no options	Sensors 4098-9714, -9733, & -9717	4" octagonal or 4" square box, 1-1/2" min. depth; or single gang box, 2" min. depth
4098-9789 (C)	Sensor Base with connections for Remote LED Alarm Indicator **or** Unsupervised Relay	Sensors 4098-9714, -9733, & -9717 2098-9808 remote LED alarm indicator **or** 4098-9822 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.
4098-9791 (C)	Sensor Base with connections for **Supervised** Remote Relay **and** connections for Remote Alarm Indicator **or** Unsupervised Relay	Sensors 4098-9714, -9733, & -9717 2098-9737 remote relay (supervised) 2098-9808 remote alarm indicator **or** 4098-9822 relay (unsupervised)	

TrueAlarm Sensors

Model	Description	Compatibility	Mounting Requirements
4098-9714 (C)	Photoelectric Smoke Sensor	Bases 4098-9792, 4098-9789, and 4098-9791	Refer to base requirements
4098-9717 (C)	Ionization Smoke Sensor		
4098-9733 (C)	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
2098-9808	Remote Red LED Alarm Indicator on single gang stainless steel plate	Bases 4098-9789 and 4098-9791	Single gang box, 1-1/2" minimum depth
4098-9822 (C)	Relay, tracks base LED status (unsupervised, mounts only in base electrical box)		4" octagonal box, 2-1/8" deep with 1-1/2" extension ring
4098-9832	Adapter Plate	Bases 4098-9792, -9789, & -9791	**Required** for surface or semi-flush mounted 4" square box and for surface mounted 4" octagonal box

* Refer to data sheet S4098-0028 for Sounder Base information. Refer to Installation Instructions 574-707 and Application Manual 574-709 for additional information. ULC listed model numbers are designated by (C) and require a "C" suffix such as 4098-9792C.

2009430204

Specifications

General Operating Specifications		
Communications and Sensor Supervisory Power		MAPNET II or IDNet, auto-select, 24-40 VDC w/data, 400 µA typical, 1 address per base
Communications Connections		Screw terminals for in/out wiring, 18 to 14 AWG (0.82 mm^2 to 2.08 mm^2)
Remote LED Alarm Indicator Current		1 mA typical, no impact to alarm current
Remote LED Alarm Indicator and Relay Connections		Color coded wire leads, 18 AWG (0.82 mm^2)
UL Listed Temperature Range		32° to 100° F (0° to 38° C)
Operating Temperature Range	with 4098-9717 or 4098 -9733	32° to 122° F (0° to 50° C)
	with 4098-9714	15° to 122° F (-9° to 50° C)
Humidity Range		10 to 95% RH
Smoke Sensor Ambient Ratings	4098-9714, Photoelectric Sensor	Air velocity = 0-2000 ft/min (0-610 m/min)
	4098-9717, Ionization Sensor	Air velocity = 0-400 ft/min (0-122 m/min); Altitude is up to 8000 ft (2.4 km)
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
4098-9822 Unsupervised Relay, Requirements for Bases 4098-9789 and 4098-9791 (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

Tyco, Simplex, the Simplex logo, TrueAlarm, MAPNET II, and IDNet are trademarks of Tyco International Services AG or its affiliates in the U.S. and/or other countries. NFPA 72 and National Fire Alarm Code are registered trademarks of the National Fire Protection Association (NFPA).

Simplex

Tyco Safety Products Westminster • Westminster, MA • 01441-0001 • USA

www.tycosafetyproducts-usa-wm.com

S4098-0019-9 9/2003

© 2003 Tyco Safety Products Westminster. All rights reserved. All specifications and other information shown were current as of document revision date and are subject to change without notice.

Simplex

UL, ULC Listed;
*CSFM Approved**

Fire Alarm System Accessories

Electromagnetic Door Holders
Wall Mounted or Floor Mounted

Features

Electromagnetic door holders with models available for:

- Flush wall mount for low profile applications
- Semi-flush wall mount for shallow box applications
- Surface wall mount
- Floor mount, single or double door

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

- Operates with 24 VDC, 24 VAC, or 120 VAC
- Current requirement is 15 mA at rated voltage (per magnet for double door floor mount)

Internal full wave rectifier allows AC or DC operation and provides switching transient suppression

Low residual magnetism allows easy door release for compatibility with low pressure door closers

Quick and easy installation:

- Self-adjusting swivel catch plate has two pivot points to adjust to door alignment changes
- Adhesive mounting templates assure alignment

Holding force is 25 lbs minimum

UL listed to Standard 228

Optional accessories:

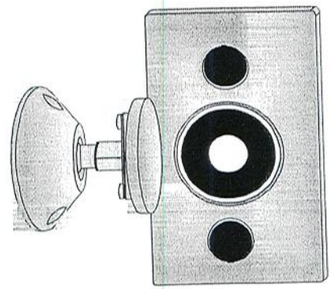
- Extension rods of 1" or 3"
- Back plate for reinforced door mounting

Description

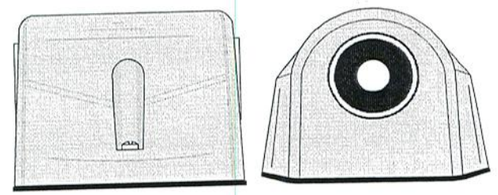
Door holders are normally energized to provide door holding with a minimum force of 25 lbs. In the event of a fire emergency, the fire alarm control panel or other compatible control means will release the magnet allowing the door to close to prevent the spread of smoke. Doors may be manually closed or opened when the door holder is energized.

* 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 3550-0026:232 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. ULC listed models are designated with a "C" suffix such as 2088-9607C, refer to page 2 for model availability. This product was not approved by FM or MEA (NYC) as of document revision date. Additional listings may be applicable, contact Simplex for the latest status.

© 2000 Simplex Time Recorder Co. All rights reserved.



Semi-Flush Wall Mount Door Holder Magnet and Catch Plate (shown with screw hole caps in place)



Floor Mount Side and Front View
(Double door model shown)

2009430204

Specifications

Mechanical Specifications

Material	Durable die-cast metal
Finish	Double chrome plated, decorative surfaces are textured
Wiring Connections	Three position terminal block with provisions for in/out wiring (common, low voltage, high voltage)
Ground Connection	18 AWG wire lead, 9" minimum

Electrical Specifications

Nominal Input	Current	Voltage Range	Terminals
24 VDC	15 mA @ nominal	20.4 to 32	C & L
24 VAC			
120 VAC		102 to 132	C & H

S2088-0013-2 5/00

Product Selection

Wall Mounted Door Holders, Voltage Selectable as 24 VDC, 24 VAC, or 120 VAC

Model*	Description	Electrical Box Requirement
2088-9607	Flush mount, includes magnet, catch plate, cover, and 3" (76 mm) chrome extension rod	Single gang box, 2 1/2" deep minimum (supplied by others)
2088-9608	Semi-flush mount, includes semi-flush magnet and cover assembly, catch plate, and screw hole caps	Single gang box, 2" deep minimum (supplied by others)
2088-9609	Surface mount, includes semi-flush magnet and cover assembly, catch plate, and matching electrical box	Surface mount box is supplied with door holder, dimensions: 4 5/8" H x 2 3/4" W x 2 1/8" D (117 mm x 70 mm x 54 mm)

Floor Mounted Door Holders, Voltage Selectable as 24 VDC, 24 VAC, or 120 VAC

Model	Description		Electrical Box Requirement
2088-9610**	Floor mount for single door	Includes magnet(s), catch plate(s), housing, mounting plate, gasket, and mounting hardware	Separate box is not required, wiring enters floor mount housing via bottom mounting plate
2088-9611**	Floor mount for double door		

Optional Door Holder Accessories

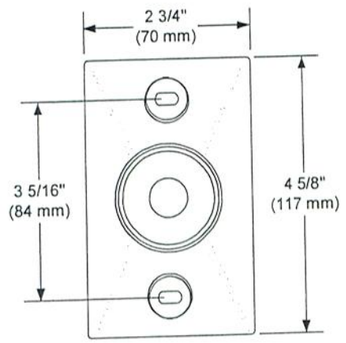
Model	Description
2088-9680	Back plate for reinforcing catch plate, mounts on opposite side of door, recommended for hollow doors
2088-9681	Chrome catch plate extender rod, 1" (25.4 mm) long
2088-9682	Chrome catch plate extender rod, 3" (76 mm) long (supplied with 2088-9607 and floor mount models)

* Add "C" suffix for ULC listed models (such as 2088-9607C).

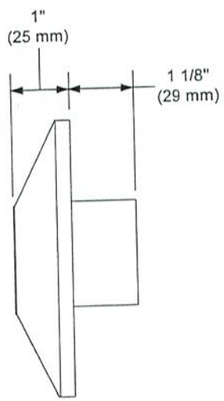
** Note: ULC listing in process for these models as of document revision date.

2009430204

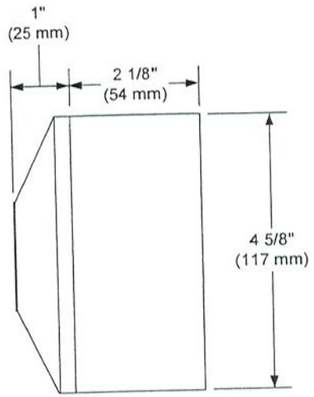
2088-9608. Semi-Flush Mount and 2088-9609. Surface Mount Magnet Dimensions



Semi-Flush and Surface Mount Front View



Semi-Flush Side View



Surface Mount Side View
(conduit entries are provided on top, bottom, and back of box)

Simplex

*UL Listed; FM and CSFM Approved**

MAPNET II® Communicating Devices

Zone Adapter Modules (ZAMs)
Addressable Interface to Conventional Circuits

Features

MAPNET II ZAMs provide an addressable interface to conventional fire alarm zone circuit devices including:**

- Initiating devices (Monitor ZAM)
- Notification appliance circuits (Signal ZAM)
- Control relays (Control ZAM)

These ZAMs are compatible with the following Simplex® fire alarm control panels when equipped with MAPNET II communications:

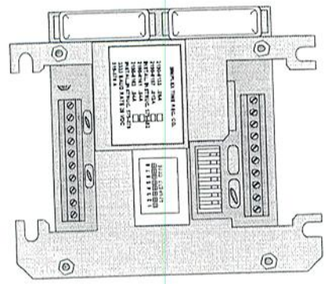
- 4100/4100U Series fire alarm control panels
- 4100 Series Universal Transponders
- 4120 Series Network node fire alarm control panels
- 4020 Series fire alarm control panels
- 2120 Communicating Device Transponders

MAPNET II communications can be wired:

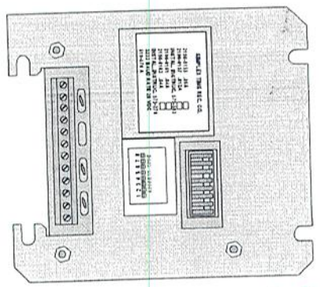
- NFPA Style 4/Class B or Style 6/Class A
- Style 4/Class B communications may be wired either "T" tapped or In/Out

Convenient DIP switch address selection

UL listed to Standard 864



Signal/Control ZAM



Monitor ZAM

2009430204

Description

MAPNET II zone adapter modules (ZAMs) provide an addressable interface between conventional zone devices and the host fire alarm control panel.

Monitor ZAMs provide status monitoring and supervision of an initiating device circuit (IDC) zone and are used for circuits with non-addressable detectors and for other contact closures such as waterflow and tamper switches or non-addressable manual stations. Different models of Monitor ZAMs are available for two-wire IDCs Class B, or Class A, and for four-wire IDCs with Class B IDC input. Each type required a separate 24 VDC input power from a listed fire alarm power supply.

Signal ZAMs supervise and operate 24 VDC notification appliances, speakers, and telephone circuits. Output capacity is up to 2 A @ 24 VDC, or 50 W of 25 VRMS speakers, or up to three simultaneously activated firefighter phones. The signal ZAM is available for either Style Y/Class B or Style Z/Class A operation for notification appliance circuits.

* 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 7300-0026:182 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. This product was not ULC listed or approved by MEA (NYC) as of document revision date. Additional listings may be applicable, contact your local Simplex product supplier for the latest status.

Description *(Continued)*

Control ZAMs provide addressable control functions such as elevator capture, HVAC control, pressurization fan control, and damper control. The control relay provides a DPDT contact (contact ratings are shown on page 4).

General Specifications

Communications	Supplied by MAPNET II, 24 to 40 VDC with data
Power	Separate 24 VDC required from listed fire alarm power supply
Wiring Information	Refer to reference diagrams on pages 3 and 4
Wire Connections	Screw terminals for in/out wiring, 18 to 12 AWG wire
Address Means	DIP switch, 8 position
Temperature Range	32° F to 120° F (0° C to 49° C) intended for indoor operation
Humidity Range	Up to 85% RH at 86° F (30° C)

** MAPNET II addressable communications are protected by U.S. Patent No. 4,796,025.

2009430204

Product Selection

Zone Adapter Modules, Monitor ZAMs (separate 24 VDC power is required)

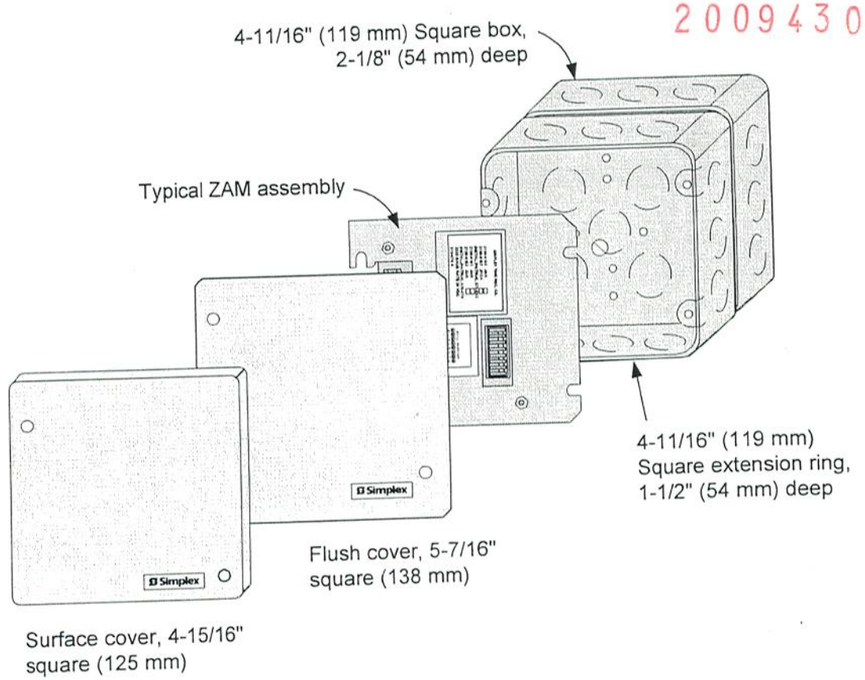
Model	Cover Type	Description	Supervisory Current	Alarm Current
2190-9153	Surface	Monitor ZAM, Class A (Style D)	20 mA @ 24 VDC	90 mA @ 24 VDC
2190-9154	Flush			
2190-9155	Surface	Monitor ZAM, Class B (Style B)		
2190-9156	Flush			
2190-9157	Surface	4-Wire Detector ZAM, Class B IDC input		
2190-9158	Flush			

Zone Adapter Modules, Signal and Control ZAMs (separate 24 VDC power is required)

Model	Cover Type	Description	Supervisory Current	Alarm Current
2190-9159	Surface	Signal ZAM, Class A (Style Z)	15 mA @ 24 VDC	65 mA @ 24 VDC
2190-9160	Flush			
2190-9161	Surface	Signal ZAM, Class B (Style Y)	15 mA @ 24 VDC	40 mA @ 24 VDC
2190-9162	Flush			
2190-9163	Surface	Control Relay ZAM, DPDT Contacts	10 mA @ 24 VDC	
2190-9164	Flush			

Typical ZAM Mounting

2009430204



S2190-0012-14 12/01

Simplex

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

System Accessories

LCD Annunciators
Model 4603-9101

Features

Remote LCD annunciator for use with Simplex® model:

- 4100U, 4100, 4120, and 4020 fire alarm control panels
- 4100/4120 Universal Transponders

Information display features:

- Wide viewing angle, super-twist LCD technology with green LED backlighting
- Two lines of 40 characters each
- LED status indicators
- During battery backup, backlighting is disabled until there is switch activity

Controls include:

- Switches for system acknowledge, alarm silence, and system reset
- Four programmable control switches
- Lamp/LCD test

Wiring information:

- RUI (Remote Unit Interface) communications require a single twisted, shielded wire pair
- Separate wiring is required for 24 VDC control panel power

Flush mount on standard electrical boxes

Options

- 2975-9206, Surface mount box
- 4603-9111, Brushed stainless steel trim

UL Listed to Standard 864

Description

Remote Control and Annunciation is provided using an 80 character, back-lit, alphanumeric display. Information is presented in clear, descriptive English language and includes: **Point Status** (alarm, trouble, etc.); **Alarm Type** (smoke detector, manual station, etc.); **Number of System Alarms**, **Supervisory Conditions**, and **Trouble Conditions**; and a **Custom Location Label**.

Wiring. A single twisted, shielded wire pair provides serial RUI communications that also supports other Simplex serial annunciators on the same wire pair.

Multiple Indications. Alarm, Supervisory, and Trouble conditions are also indicated by dedicated LEDs and a tone-alert audible sounder. Each condition has a dedicated acknowledge push-button switch that silences the tone-alert but leaves the LED on until all conditions in that category are restored to normal. Switch operation is either globally or individually acknowledgeable, determined by the control panel operation.



4603-9101 LCD Annunciator

2009430204

Description *(Continued)*

Repeated operation of the appropriate acknowledge switch will scroll the LCD display showing activity in the sequence of occurrence. The tone-alert also pulses to indicate the operation of any of the push-button switches.

Consult local code requirements for guidance in determining applications and location of the 4603-9101 LCD annunciator.

Operation

System Controls. Notification appliances can be deactivated by pressing the "ALARM SILENCE" switch. (Exact operation is determined by the host control panel such as visible appliances remaining on until system is reset.) Pressing the "SYSTEM RESET" switch restores the system to normal operation. When system activity is normal, the LCD displays the time, date, and "SYSTEM IS NORMAL."

Control Switches. Four programmable "CONTROL" switches and associated LEDs are included. Typical applications include manual evacuation, door holder release bypass, and elevator capture bypass.

Keyswitch Enable. All switches on the annunciator are controlled by the "ENABLE" keyswitch with a key that is removable only in the disabled position. A brief lamp/LCD test is performed whenever the keyswitch is changed from enabled to disabled.

Battery Backup Operation. During battery backup, the LED backlighting is disabled to conserve battery power. When an annunciator switch is activated, the backlighting is automatically enabled. After approximately 30 seconds of inactivity, the backlighting will again be disabled.

* 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 7120-0026:179 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

S4603-0001-10 10/2004

Simplex

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

TrueAlarm® Analog Sensing

In-Duct Mounting of the 4098-9714 TrueAlarm Photoelectric Smoke Sensor

Features

Install the model 4098-9714 TrueAlarm analog photoelectric sensor directly inside air ducts** :

- Accommodates duct airflow from 35 to 600 ft/min (11 to 183 m/min), providing HVAC duct smoke sensing where sampling tube designs are not appropriate
- For applications with controlled dust and humidity
- Standard models are for rectangular ducts from 6" (152 mm) square to 36" (914 mm) square
- Optional adapters allow use with round ducts of 6" or 8" (203 mm) in diameter
- TrueAlarm analog communications can be either MAPNET II® or IDNet™ format†
- Model 4098-9714 sensor is required and ordered separately

Red alarm LED indicator in housing:

- Visible through transparent housing cover
- Pulsing indicates power-on, steady on indicates alarm or trouble as indicated at the fire alarm control panel

Model 4098-9750 provides two-wire operation (no relay output)

Model 4098-9751 provides a local relay:

- Relay operation is programmable from fire alarm control panel and is rated: 1 A @ 28 VDC, power limited; or 1/2 A @ 120 VAC, non-power limited
- 24 VDC power is supplied by fire alarm system (4-wire operation)

Options:

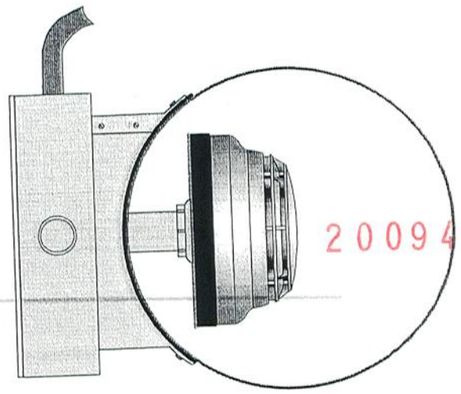
- Adapters for 6" or 8" round ducts
- Remote Test Station (2098-9806)
- Remote LED Alarm Indicator (2098-9808)

UL listed to Standard 268A

* 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 3240-0026:220 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. ULC listed models are designated with a "C" suffix such as 4098-9750C. 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.

** **Please note** that smoke detection in air ducts is intended to notify 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.

† TrueAlarm analog sensors are protected by one or more of the following U.S. Patents: 5,155,468; 5,173,683; 5,400,014; 5,543,777; 5,710,541; D383,407; D388,352; D392,573. MAPNET II and IDNet addressable communications designs are protected by U.S. Patent No. 4,796,025.



2009430204

In-Duct Housing with 4098-9714 Sensor and Optional 8" Round Duct Adapter

Description

HVAC air ducts in buildings supply fresh air and exhaust stale air. Depending on the overall fire detection requirements, smoke detection may be required in the air ducts. For applications where sampling tube type duct detection is not appropriate due to low air velocity or small duct size, Simplex® model 4098-9750 and 4098-9751 housings can be used to install the Simplex model 4098-9714 TrueAlarm analog sensor directly in the duct. (Refer to data sheet S4098-0030 for smoke sensor housings with sampling tubes.)

Application. These housings mount a spot-type smoke sensor directly into the duct airflow. Proper application requires controlled dust and humidity.

Please note that in the event of loss of duct airflow, the 4098-9714 sensor will sense smoke IF the smoke reaches the sensor. However, with no duct airflow, smoke may not reach the sensor depending on the location of the smoke source relative to the sensor.

TrueAlarm Operation. Placing a 4098-9714 sensor in an air duct provides the high reliability performance of TrueAlarm analog sensing featuring: programmable sensitivity, consistent accuracy, environmental compensation, status testing, and monitoring of sensor dirt accumulation. These housings digitally communicate their analog sensor information to the fire alarm control panel using either MAPNET II® or IDNet™ two-wire communications.

Relay Model. Model 4098-9751 provides a relay that can be programmed to track the local sensor's operation or can be independently controlled by the fire alarm control panel to perform fire response actions such as fan shutdown and damper control.

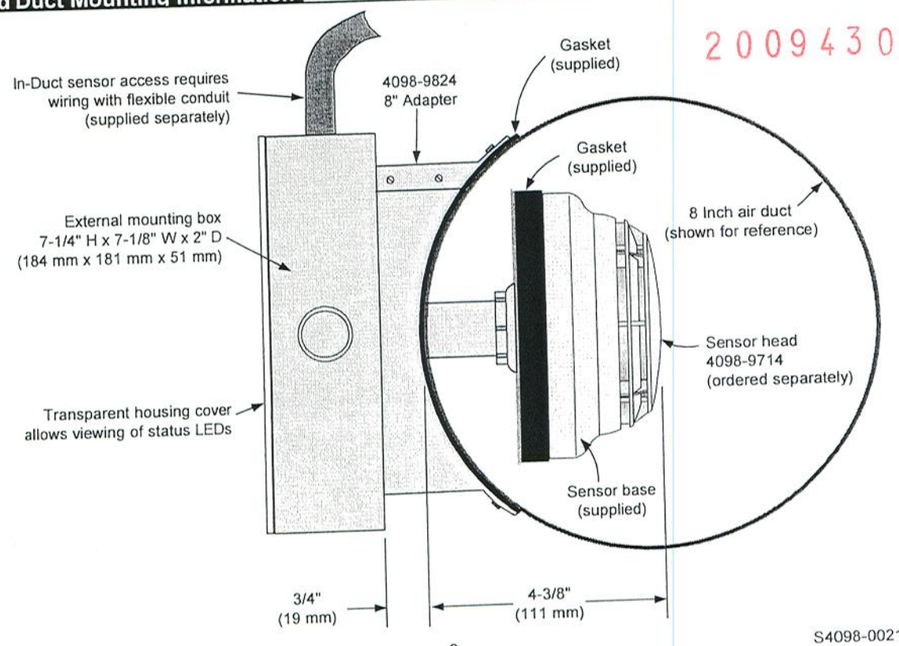
In-Duct Sensor Selection Chart

Model	Description		Compatibility
4098-9750	In-Duct Sensor Housing with beige mounting box, (**requires** 4098-9714 sensor)	without relay	Simplex 4010, 4020, 4100/4100U, 4120, and 2120 CDT configured for MAPNET II TrueAlarm communications
4098-9751		with relay	Simplex 4010, 4020, 4100/4100U, 4120, (not compatible with 2120 CDT)
4098-9714	Photoelectric Sensor Head		Ordered separately, **required** for 4098-9750 or 4098-9751
In-Duct Sensor Options, ordered separately as required, compatible with both 4098-9750 and 4098-9751			
4098-9819	Adapter for 6" (152 mm) round duct, beige		
4098-9824	Adapter for 8" (203 mm) round duct, beige		
2098-9806	Remote Test Station mounted on single gang stainless steel plate		
2098-9808	Remote LED Alarm Indicator mounted on single gang stainless steel plate		

Specifications

Recommended Air Velocity Range	35-600 ft/min (11 to 183 m/min)	**NOTE:** See application discussion on page 1.
UL Listed Air Velocity Range	0-2000 ft/min (0-610 m/min)	
Data Communications	MAPNET II or IDNet, auto-selected, 1 address per housing	
Remote LED Current	0.6 mA, no impact to alarm current	
UL Listed Temperature Range	32° to 100° F (0° to 38° C)	
Operating Temperature Range	15° to 122° F (-9° to 50° C)	
Humidity Range	10% to 90% RH from 32° F to 122° F (0° C to +50° C)	
Wiring Connections	Terminal blocks for wire size 18 to 14 AWG (0.82 mm^2 to 2.08 mm^2)	
Dimensions	Refer to round and square duct mounting diagrams	
Relay Power (4098-9751 only)		
Voltage	18 to 32 VDC	
Standby Current	240 µA @ 24 VDC	
Alarm Current	30 mA @ 24 VDC	
Power Limited Contact Rating	Single form "C", 1 A @ 28 VDC (for suppressed loads)	
Non-Power Limited Contact Rating	Single form "C", 1/2 A @ 120 VAC, resistive (for suppressed loads)	

Round Duct Mounting Information



2009430204

Simplex

LifeAlarm® Fire Alarm Controls

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

4009 IDNet™ NAC Extender for Control from 4010 or 4100U IDNet Communications; or from Conventional NACs

Features

Provides additional notification appliance circuit (NAC) capacity with flexible operation modes and power-limited design

Four, Class B (Style Y) NACs are standard:

- Rated 2 A each for conventional reverse polarity 24 VDC notification appliances and providing multiple operation modes
- Can be selected to provide synchronization for Simplex® visible notification strobe flashes
- Capable of controlling TrueAlert® non-addressable notification appliances operating with SmartSync™ two-wire control mode**

Input control options:

- IDNet addressable communications from a Simplex model 4010 or 4100U Fire Alarm Control Panel**
- Or from one or two conventional 24 VDC NACs with multiple output control options

IDNet communications control benefits:

- Provides status monitoring and individual NAC control using a single address per 4009 IDNet NAC Extender
- Supports IDNet "Device Level" earth fault location

WALKTEST™ operation is available with either input choice†

Internal 8 A power supply/battery charger:

- Charges internal batteries up to 12.7 Ah or up to 18 Ah batteries in external cabinet
- Provides status monitoring of battery, input power, and earth faults
- Rated 8 A for "Special Application" appliances; including Simplex 4901, 4903, 4904, and 4906 Series horns, strobes, horn/strobes, and speaker/strobes
- Rated 6 A for "Regulated 24 DC" appliance power

Optional 4009 IDNet NAC Extender modules:

- IDNet Communications Repeater provides Class B (Style 4) or Class A (Style 6) output
- IDNet Communications Fiber Optic Receiver/Repeater, available as Class B or Class A
- Four additional Class B NACs, rated 1.5 A for Special Application appliances; 1 A for Regulated 24 DC appliance power
- Class A (Style Z), Two Circuit Adapter Module

UL Listed to Standard 864

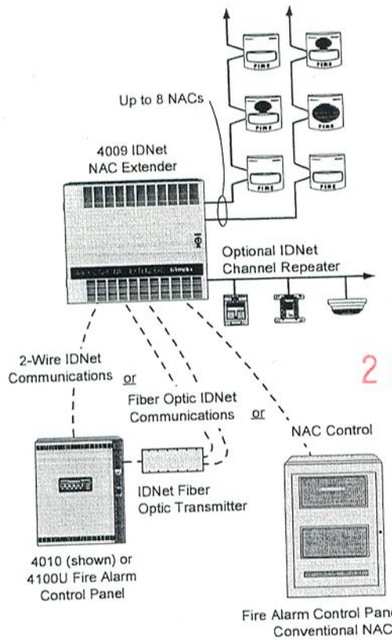
External Accessories

IDNet communication fiber optic transmitters:

- For applications requiring the data integrity available with fiber optic communications
- Available as Class B (Style 4) or Class A (Style 7)
- Mounts in standard six-gang electrical box

External battery cabinet for 18 Ah batteries

† Simplex WALKTEST service testing is protected under U.S. Patent No. 4,725,818.



4009 IDNet NAC Extender Connection Reference Drawing

Introduction

ADA Compliance. Complying with the notification requirements of ADA (Americans with Disabilities Act) may require more notification appliance power than is available within the fire alarm control panel. When additional power is required, a Simplex 4009 IDNet NAC Extender can provide up to 8 A of NAC power with up to eight, supervised reverse polarity NACs.

Location Flexibility. The 4009 IDNet NAC Extender can be mounted close to a compatible dedicated host panel or can be located remotely for convenient power distribution. Multiple operation modes and multiple connection options further increase location flexibility.

Additional Information. For additional operation detail and application information, refer to Installation Instructions 574-181 and field wiring diagram 842-068.

* ULC listed model is 4009-9202CA. 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 7300-0026:214 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

** SmartSync horn/strobe operation is protected under U.S. Patent No. 6,281,789. IDNet addressable communications are protected under U.S. Patent Nos. 4,796,025; 5,966,002; and 6,034,601. 4100U requires revision 11 software or higher for compatibility. 4010 requires revision 2 software or higher for compatibility.

2009430204

Application and Operation Information

IDNet Addressable Communications Compatible. Up to five, 4009 IDNet NAC Extenders can be controlled on a single IDNet communications channel. Each output NAC can be individually controlled for general alarm or selective area notification requiring only one point address per Extender. Individual Extender NACs can also be manually controlled from the host panel. IDNet controlled extenders will inform the host panel of troubles via IDNet communications.

Optional IDNet Repeaters. IDNet communications can be repeated with the optional IDNet Repeater Module or with the optional Fiber Optic Receiver Module. Up to 100 of the IDNet channel points can be repeated once (refer to pages 3 and 5 for details). Repeated IDNet communications also support the "device level" earth fault location utility of the host panel.

Hardwire Control Applications. For applications where an existing (or new) conventional NAC needs additional power, the 4009 IDNet NAC Extender can be controlled directly from the NAC. Either one or two NACs, from either the same, or from different host fire alarm control panels, can be connected to control the 4009 IDNet NAC Extender output NACs. Multiple control selections provide flexible operation. (Refer to page 4 for more detail.) Alarms from the host panel will activate the four, 4009 IDNet NAC Extender NACs (or optionally, eight NACs) to extend the alarm.

The 4009 IDNet Extender monitors itself and each of its output NACs for trouble conditions, including earth faults. Extenders wired to conventional NACs will indicate a trouble by opening the path to the NAC's end-of-line resistor, but retaining the ability to respond to alarms. Individual troubles are also annunciated by LEDs located on the 4009 IDNet NAC Extender main circuit board. (Refer to page 7 for more diagnostic information.)

Product Selection

Standard Models

Model	Description	
4009-9201	120 VAC input	4009 IDNet NAC Extender with 4, Class B (Style Y) NACs and 8 A power supply
4009-9202CA*		
4009-9301	240 VAC input	

* ULC listed model

2009430204

Optional Modules (for on-site installation)

Model	Description		Comments
4009-9807	Additional four point NAC module, rated 1.5 A Special Application appliances; 1 A for Regulated 24 DC appliance power, Class B (Style Y),		One maximum
4009-9808	Dual Class A (Style Z) adapter (for two NAC outputs)		Select as required (4 maximum)
4009-9809	IDNet Repeater, output is Class A (Style 6) or Class B (Style 4)		Select **either** an IDNet Repeater **or** a Fiber Optic Receiver as required
4009-9810	Fiber Optic Receiver	Class B (Style 4)	
4009-9811		Class A (Style 7 fiber, Style 6 IDNet)	
4009-9805	Red Appliqué for door		Select if required
2975-9801	Semi-Flush Trim Kit	Beige trim	1-7/16" wide (78 mm), use if required for semi-flush installations
2975-9802		Red trim	

Battery Selection (select battery size per system requirements)

Model	Description	Comments
2081-9272	6.2 Ah Battery, 12 VDC	Two batteries are required, 24 VDC operation
2081-9274	10 Ah Battery, 12 VDC	
2081-9288	12.7 Ah Battery, 12 VDC	
2081-9275	18 Ah Battery, 12 VDC	Requires external battery cabinet, two batteries are required, 24 VDC operation

External Accessories (select per system requirements)

Model	Description		Comments
4090-9105	IDNet Fiber Optic Transmitter	Class B (Style 4) operation	Mounts in six-gang electrical box, refer to page 4 for mounting details
4090-9107		Class A (Style 7) operation	
4009-9801	External battery cabinet for up to 18 Ah batteries, beige		16-1/4" W x 13-1/2" H x 5-3/4" D (413 mm x 343 mm x 146 mm)
4081 Series	End-of-Line Resistor Harnesses; see data sheet S4081-0003 for details		

Simplex

Fire Alarm Control Panel Accessories

Cabinet Mounted System Batteries; 2081 Series, Sealed Lead-Acid; 6.2 Ah to 50 Ah

Features

Rechargeable, sealed lead-acid design:

- Lead-calcium grid structure
- Immobilized electrolyte in absorbent separator
- High reliability dual seal construction
- Low maintenance, no need to add water
- Low self-discharge characteristics
- One-piece, high impact polystyrene cell cover

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

For applications requiring 110 Ah batteries:

- Refer to data sheet S4081-0002 for 4100U systems
- Refer to data sheet S2081-0012 for 4100/4120 series system

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.

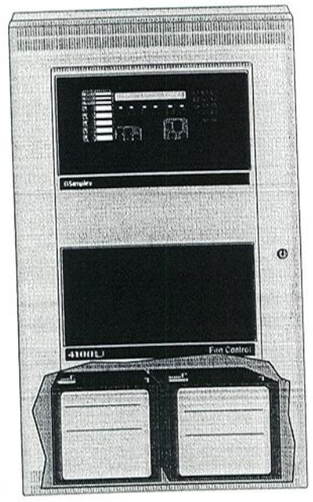
Because of their sealed construction, packaging is allowed within the system electronics enclosure (see illustration on page 2). When this is applicable, the quantity of system cabinets and the battery wiring distances are both minimized.

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

2009430204

Battery Details *(Continued)*

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.

Specification Summary

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

These batteries 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.

Battery 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	9-1/2" (241 mm)	5-1/2" (140 mm)	8-7/8" (225 mm)	41.8 lbs (19 kg)

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

NOTE: **When installed in a fire alarm control panel, they are to be of identical voltage, appearance, model number, and approximately the same date of manufacture.**

2009430204

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)									
		4003	4004	4004R	4005	4006 & 4008	4009 (all models)	4010	4100U (2 or 3 bay)	4100 &4120 (2, 4 or 6-Unit)	4020 (2, 4 or 6-Unit)
2081-9272	6.2 Ah	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2081-9274	10 Ah	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
2081-9288	12.7 Ah	✓		✓	✓	✓	✓	✓	✓	✓	✓
2081-9275	18 Ah	✓		Note 3	✓	Ext	Ext	Note 2	✓	✓	Ext
2081-9287	25 Ah			Note 3	Ext			✓	✓	✓	Ext
2081-9271 (rectangular)	33 Ah			Note 3	Ext			Note 3	✓	Ext	Note 4
2081-9276 ("square")	33 Ah			Note 3	Ext			Note 3	✓	✓	Ext
2081-9296	50 Ah			Note 3				Note 3	✓	Ext	Ext

✓ = Can be placed in the respective equipment cabinet

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

Shaded areas = Not applicable

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. 4020 Cabinets will accommodate 2081-9271, 33 Ah batteries, but will not allow bottom entry conduit.
5. Some control panel models are listed for battery replacement reference only.

Simplex

TrueAlarm® Fire Alarm Controls

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

Fire Alarm Controls 4100 and 4120 Series Addressable Detection and Control Systems

STANDARD FEATURES

- **UL Listed for:**
  - Fire Detection and Control (UOJZ)
  - Proprietary Alarm Units - Burglar (APOU)
  - Process Management Equipment (QVAX)
  - Smoke Control Service (UUKL)
- **Wide viewing angle, 80 character super-twist LCD**
- **Selectable for maintained display of first alarm**
- **Expandable up to 1000 points**
- **Dedicated supervisory service indicator and acknowledge**
- **Nonvolatile flash EPROM memory**
- **Battery supervision (low/no battery)**
- **Power-limited operation per NEC 760** (module dependent)

SOFTWARE FEATURES

- **WALKTEST™ system test****
- **Four operator access levels**
- **600 event historical log**
- **Individual circuit disconnect/disable**
- **Programmable:**
  - Alarm verification by zone or point
  - Selective signaling and/or relay control
  - Zone coding (PNIS)
  - Signal silence reminder

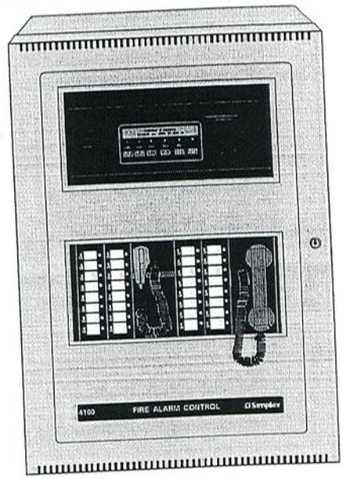
OPTIONAL FEATURES

- **Voice communications and firefighter's phones**
- **Interface to remote:**
  - MAPNET II® addressable devices and TrueAlarm® analog sensors**
  - MINIPLEX® Transponders
  - TrueAlert™ Addressable Controllers
  - 4-20 mA Analog Monitor ZAMs (AMZs)
  - Supervised LED and LCD serial annunciators
- **Release control operation**

OPTIONAL MODULES (partial list)

- **4120 Network interface**
- **Class A or Class B IDCs and NACs**
- **Control relays with feedback**
- **Dial-in service modem**
- **RS-232 interface to remote printer or CRT/keyboard**
- **Panel mount printer**
- **Internal DACTs, serial or contact closure**
- **Decoder module for coded circuit interface**
- **Simplex 2120 interface**
- **Expansion power supplies and battery chargers**

© 2000 Simplex Time Recorder Co. All rights reserved.



4100/4120 Series Fire Alarm Control Panel with Optional Voice Control

2009430204

INTRODUCTION

Simplex 4100/4120 Series Fire Alarm Detection and Control Panels provide an extensive and powerful feature list to satisfy a wide variety of applications and local code requirements. They are on-site programmable to provide mapping logic for inputs and outputs and for custom labeling additions and revisions. Their flexible site-specific software features can be quickly and securely generated, modified, and archived by trained service personnel using computer based programming tools. With this flexibility, last minute changes can be made on-site, minimizing delays in job completion.

Monitor and control point expansion is available up to a maximum of 1000 points in any combination of IDCs, NACs, auxiliary control relays, and addressable devices. Annunciation capacity is up to 2000 points.

* 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 Listings 7165-0026:160 and 7170-0026:187 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. Applicable FM approval information is available on request. Additional listings may be applicable, contact Simplex for the latest status.

** WALKTEST system test is protected under US Patent No. 4,725,818. MAPNET II addressable communications is protected under U.S. Patent No. 4,796,025. TrueAlarm analog detection is protected under U.S. Patent No. 5,155,468 and 5,173,683.

NOTE: The features described in this document assume operation with revision 9 software. Detailed information about 4120 Network operation is found in data sheet S4120-0001. 4100 Series control panels become 4120 Series control panels when equipped with a 4120 Network interface and the required network programming.

MODULE DESCRIPTIONS *(Continued)*

AUDIO CONTROL BOARD FEATURES (4100-0200 Series):

- **Message Memory - Custom Message Data**
- **Routing Matrix - Input/Output Switching**
- **Audio Inputs:**
  - Master Microphone
  - Remote Microphone #1 (Optional)
  - Remote Microphone #2 (Optional)
  - Primary Voice/Tone Generator (Optional)
  - Secondary Voice/Tone Generator (Optional)
  - Phone to Audio Interface
- **Audio Outputs:**
  - Channel 1 (Single Channel, 4100-0210)
  - Channel 2 (Dual Channel, 4100-0211)
  - Channel 3 (Triple Channel, 4100-0212)
  - Local Panel Speaker
- **Audio Tones:**
  - **Slow Whoop** - slowly ascending tone from 200 to 830 Hz in 2.5 seconds, recommended for fire alarm and no other purpose
  - **High/Low** - free-running signal with a high frequency of 750 Hz for 100 ms and a low frequency of 500 Hz for 400 ms
  - **Horn** - continuous 500 Hz tone primarily used for coded systems
  - **Chime** - 600 Hz fundamental tone with a 1.5 s duration, used as a free-running tone or for coded operation
  - **Beep** - 500 Hz tone of 0.7 s on, 0.7 s off
  - **Stutter** - 500 Hz tone with equal on and off times of 100 ms
  - **Wail** - ascends, then descends between 600 to 940 Hz
  - **GSA Tone** - continuous 2000 Hz tone
  - **Bell** - a fundamental frequency of 350 Hz with prominent harmonics at 700 Hz and 2100 Hz
  - Selectable **Temporal Pattern** for horn, bell, whoop, and chime tones (1/2 sec on, 1/2 sec off, 1/2 sec on, 1/2 sec off, 1/2 sec on, 1 1/2 sec off)

ZONE CODED SIGNALING is available using tones or spoken numbers. Spoken coded messages can be used in place of conventional pulse tone coding to eliminate counting and interpretation of the zone coded location. For example, a fire alarm zone such as First Floor East, Smoke Detector Room 23 will be Code 1123.

Two possible transmission schemes are:

1. Conventional Zone coded Signaling where T = Tone: **T...T...TT...TTT...T...T...TT...TTT...**
2. Spoken Coded Signaling:
   Code, one..one..two..three...
   Code, one..one. two..three

The Digital Audio Controller has the ability to precede spoken codes with phrases and alert tones. As an alternative, the previous example could have been preceded with a chime tone. The word "*code*" could be replaced with the phrase "*Doctor Firestone, please dial...*".

PREPROGRAMMED SPECIAL MESSAGES are available on request. Up to five minutes of special phrases and messages are available to meet specific applications. The standard Evacuation Message is:

"Attention...Attention...Attention...An emergency has been reported.... All occupants walk to the nearest stairway exit and walk down to your assigned re-entry floor or main lobby... Do not use the elevator... Walk to the nearest stairway.... Do not use the elevator.... Walk to the nearest stairway."

AUDIO AMPLIFIERS (4100-0200 & -1200 Series):

- Power-limited models are available with 25 W or 100 W output at 25 VRMS, or 90 W output at 70 VRMS
- Nonpower-limited models are available with 100 W output at 25 VRMS or 70 VRMS
- Frequency response of 120 to 12,000 Hz
- Battery backup operation
- Integral amplifier monitor for supervised operation
- Optional redundant operation provides automatic switchover from primary to backup amplifier

MAPNET II®, TRUEALARM® MODULE (4100-0110):

- Up to 127 MAPNET II addressable devices or TrueAlarm analog sensors per module
- MAPNET II Line Isolator Modules for panel mount (4100-0111) or line powered (2190-9169, surface mount or 2190-9170, flush mount)
- Refer to data sheet S4100-0002 for details

DECODER MODULE (4100-0136)
Translates coded initiating circuit inputs into addressable points. Refer to data sheet S4100-0018 for details.

2009430204

DIAL-IN SERVICE MODEM (4100-0139)
Provides remote access for a computer equipped with a modem and terminal emulation software.

PANEL MOUNT PRINTER (4100-0451):

- 40 column high speed event printer
- 20 visible lines with internal take-up reel
- Operates from system voltage with battery back-up
- Requires dedicated RS-232 port
- Refer to data sheet S4100-0021 for details

INTERNAL DUAL LINE DACT MODULES:

- Each provides multiple programmable features such as automatic 24 hour test and power fail report delay
- Each line requires a DACT cable, model 2080-9047, 14 ft long, with RJ45 plug
- Serial DACT 4100-0155 is capable of communicating serial, point-specific information (refer to data sheet S2080-0009 for details)
- Contact Closure DACT 4100-0153:
  - Alarm input typically connects to City relay contacts
  - Provides Supervisory and AC power fail reporting using dedicated relay contacts
  - Provides DACT communications status monitoring using relay feedback point

Simplex

TrueAlarm® Fire Alarm Systems

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

Fire Alarm Controls, 4100 Series MAPNET II®/TrueAlarm Addressable Modules and Isolator Modules

MAPNET II COMMUNICATIONS FEATURES**

- **A two-wire addressable circuit that provides:**
  - Supervision and identification of initiating devices
  - Supervision and operation of notification appliance circuits
  - Operation of control relays
  - Support of TrueAlarm analog sensing devices**
  - Communications that operate with *either shielded or unshielded* twisted pair wiring
- **Module 4100-0110 characteristics:**
  - Capacity of up to 127 addressable devices per channel (one channel per module)
  - Class B or Class A communications wiring
  - Retrofit applications can often use existing wiring
  - Multiple modules can be mounted in the control panel (refer to specific control panel for details)
- **Zone adapter modules (ZAMs) are available to connect conventional (non-addressable) initiating devices to MAPNET II circuits**
- **Compatible with the following 4100 Series Simplex® panels:**
  - Fire alarm control panels
  - MINIPLEX® transponders
  - Universal transponders
  - 4120 Network control panels†
- **Optional fault isolation modules:**
  - Panel mount module is available with four output circuits, Class A or Class B
  - Single circuit line powered modules are available for remote mounting in surface or flush mount trim

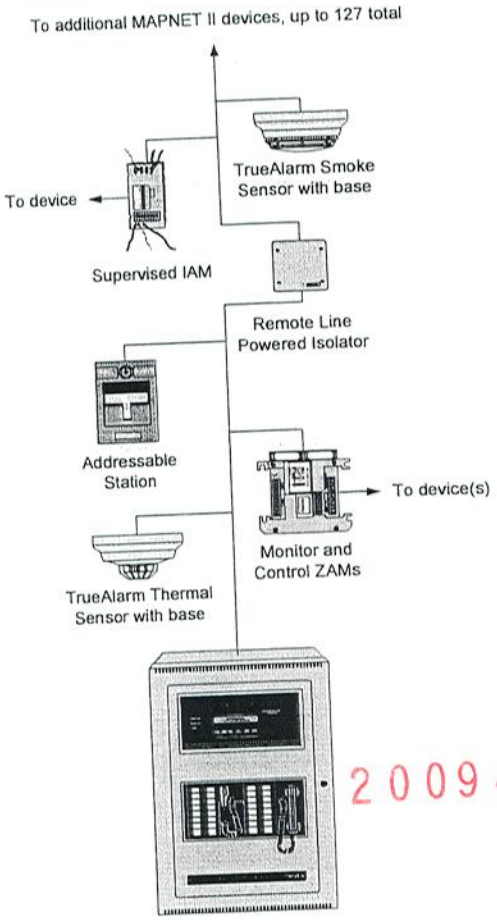
TrueAlarm ANALOG SENSING FEATURES

- **Analog information is digitally transmitted to the control panel to provide:**
  - Automatic environmental compensation to accurately maintain sensor sensitivity
  - Variable sensitivity settings
  - Automatic daily sensor alarm simulation test
  - Selectable day/night operation mode
  - Automatic dirty and excessively dirty sensor indication

* 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 Listings 7165-0026:160, 177, 178, & 187 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable, contact your local Simplex product supplier for the latest status.

** MAPNET II addressable operation is protected by U.S. Patent No. 4,796,025. TrueAlarm analog detection is protected by U.S. patent numbers 5,173,683 and 5,155,468.

† When used in a 4120 Network control panel, select model number 4120-0110.



Simplex 4100 Series Fire Alarm Control Panel with MAPNET II Devices

2009430204

DESCRIPTION

Model 4100-0110 addressable modules communicate with remote addressable devices to provide initiation, notification, and control. Operating over a two wire MAPNET II circuit, individual initiating devices such as smoke and heat sensors, manual fire alarm stations, and sprinkler flow switch contacts can communicate their identity and status.

Individual addressability allows the location and the condition of each device to be displayed on the 4100 control panel and on system annunciators. Additionally, notification appliance circuits (horns, bells, strobes, etc.) as well as other control circuits (fans, dampers, etc.) may also be individually controlled. Up to a combined total of 127 addressable monitor and control devices may be intermixed on the same common pair of wires.

THE MEDICAL CENTER OF AURORA

FIRE ALARM SYSTEM SHOP DRAWINGS

BUILDING CLASSIFICATIONS AND CODES

OCCUPANCY GROUP: ~~I-1~~ I-2 USE: HOSPITAL CONST I-FR,SPK (IBC)
STORIES: 6 STORIES
SQUARE FOOTAGE: ~~13,876~~ SQ. FT. IN SCOPE 30,464
SPRINKLERED: YES

APPLICABLE CODES

2006 I.B.C. 2006 I.F.C.
2005 N.E.C. 2002 NFPA 72

SYSTEM WIRING TYPES

INITIATING DEVICE CKT: CLASS B, STYLE B (HARDWIRED)
NOTIFICATION APPLIANCE CKT: CLASS B, STYLE Y (HARDWIRED)
SIGNALLING LINE CKT: CLASS B, STYLE 4 (ADDRESSABLE)
NETWORK: CLASS A, STYLE 7 (ADDRESSABLE)

SYSTEM TYPE

SUPERVISING STATION TYPE: CENTRAL STATION
AUDIBLE NOTIFICATION: TEMPORAL
VISUAL NOTIFICATION: PUBLIC

DESIGN STATEMENT:

THIS PROJECT'S DESIGN IS FROM THE ENGINEERED PLANS AND SPECIFICATIONS PREPARED BY: CCRD PARTNERS

ARCHITECURAL PLANS DATED: 07/15/09
MECHANICAL PLANS DATED: 07/15/09
ELECTRICAL PLANS DATED: 07/15/09
SPECIFICATIONS DATED:
ADDENDUM'S DATED:

SCOPE OF WORK

Medical Center of Aurora–4th Flr East and West Wings

This project involves the installation of new initiating and notification in 4th Floor East and West Wings. New initiating devices for West Wing will tie into existing Mapnet 4 devices. New initiating devices for East Wing will tie into existing Mapnet 8 devices. A new 4009 NAC panel will be installed in West end of 4th floor West Wing for new chime/strobe and strobe only devices.

Actual Graphic Maps will be provided by hospital 'Graphic Map Upgrade Project'.

CENTRAL STATION MONITORING SERVICE:

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

PROJECT:
THE MEDICAL CENTER OF AURORA
4TH FLOOR EAST AND WEST WINGS
1501 SOUTH POTOMAC STREET
AURORA, CO 80012

ARCHITECT:
HEERY INTERNATIONAL INC.
820 16TH STREET MALL, SUITE 200
DENVER, COLORADO 80202
720–946–0276

GENERAL CONTRACTOR:
HOWELL CONSTRUCTION
550 LIPAN STREET
DENVER, COLORADO 80204
303–899–4787

FIRE ALARM DESIGN ENGINEER:
SIMPLEXGRINNELL
6240 SMITH ROAD
DENVER, CO 80216
303.355.0500

ENGINEER OF RECORD:
CCRD PARTNERS
8301 E. PRENTICE AVENUE, SUITE 200
GREENWOOD VILLAGE, COLORADO 80111
303–694–4755

ELECTRICAL CONTRACTOR:
DESIGN ELECTRICAL CONTRACTORS
7193 SOUTH DILLON COURT
GREENWOOD VILLAGE, COLORADO 80112

SIMPLEXGRINNELL DRAWING INFORMATION

SIMPLEXGRINNELL PROJECT NUMBER: 945770701
SIMPLEXGRINNELL CAD FILE: G:\ELEC\MEDICAL CENTER OF AURORA

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

THE DESIGN FOR MEDICAL CENTER OF AURORA – 4TH FLOOR EAST AND WEST WINGS WAS PROVIDED BY CCRD PARTNERS. THIS DRAWING SET WAS PREPARED UNDER THE SUPERVISION OF A NICET IV 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.

JAMES COOLEY — DATE 9/23/09

SHEET INDEX

FIRE ALARM DRAWING INDEX:

FA0.01 *	COVER SHEET
FA1.01 *	GENERAL INFORMATION
FA1.02 *	GENERAL INFORMATION
FA1.03	GENERAL INFORMATION
FA2.01 *	TYPICAL WIRING
FA2.02 *	PARTIAL ONE–LINE RISER DIAGRAM
FA3.01	BASEMENT
FA3.02	FIRST FLOOR AREA "A"
FA3.03	FIRST FLOOR AREA "B"
FA3.04	FIRST FLOOR AREA "C"
FA3.05	FIRST FLOOR AREA "D"
FA3.06	FIRST FLOOR AREA "E"
FA3.07	SECOND FLOOR AREA "A"
FA3.08	SECOND FLOOR AREA "B"
FA3.09	THIRD FLOOR AREA "A"
FA3.10 *	FOURTH FLOOR AREA "A" AND AREA "B"
FA4.01 *	4009 NAC7 EXTENDER PANEL DETAIL
FA5.01 *	PERIPHERAL WIRING DETAILS
FA5.02 *	PERIPHERAL WIRING DETAILS
FA6.01 *	GRAPHIC MAP

REQUIRED INFORMATION LOCATED ON SHEET:

FA0.01	SCOPE OF WORK
FA0.01	APPLICABLE CODES
FA1.01	LEGEND
FA1.01	SEQUENCE OF OPERATION
FA1.02	DEVICE ADDRESSES
FA1.02	BATTERY CALCULATIONS
FA1.02	VOLTAGE DROP CALCULATIONS
FA2.02	ONE–LINE RISER DIAGRAM
FA4.01	PANEL DETAIL WIRING
FA5.01–5.02	PERIPHERAL DETAIL WIRING
FA6.01	GRAPHIC MAP

* SHEETS INCLUDED IN THIS SUBMITTAL.

FIRE DEPT./BLDG DEPT. PLAN REVIEW #:

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

City of Aurora Plan Review
Occ./Const. Type I-2 / IBC-IFR, SPK
Code IBC NFPA S.F. 30,464
RSN 72 428757
Permit Number 2009430204

City of Aurora Plan Review
Project MEDICAL CENTER OF AURORA
Address 1501 S. POTOMAC ST, 4TH FLOOR
Contractor MERIDIAN FIRE & SECURITY
Plan Location SCANNER

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 2006 IFC AND THE 2008 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 2006 IFC AND THE 2003 ANSI A117.1 STANDARD.
– PROVIDE A PRIMARY AND SECONDARY POWER SUPPLY FOR THE FIRE ALARM SYSTEM PER THE 2006 IFC, SECTION 907.5 AND THE 2002 NFPA 72.
– FIELD INSPECTION CONSULTATION IS AVAILABLE UPON REQUEST. CALL 303–739–7420 TO REQUEST CONSULTATION.

- THE FIRE ALARM INSTALLATION CONTRACTOR MUST COMPLETE THE NFPA 72 "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. IFC SECTION 907.10.2.

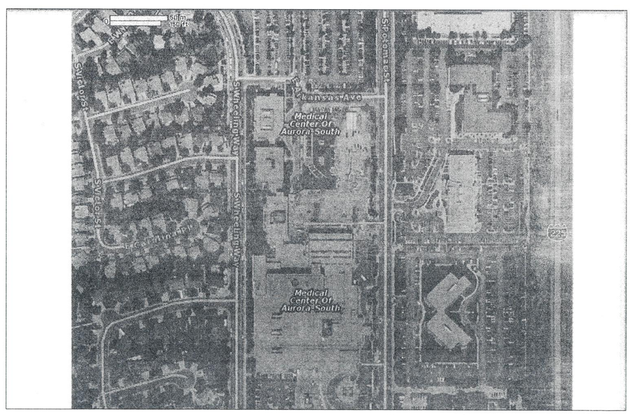
tyco / Fire & Security / SimplexGrinnell
6240 Smith Road
Denver, Colorado 80216
(303) 355–0500 (Sales/Service) ch.3-435-9508
(303) 355–0615 (Fax)
http://www.SimplexGrinnell.com

NFPA MEMBER 09/10

Project Manager: Mike Lamitola
Design Manager: James Cooley
Project Coordinator: Barb Hufford

AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
SIGNED APPROVED OCT 0 8 2009 DATE

2009430204



SITE MAP NORTH

42" x 30"

SimplexGrinnell / tyco Fire & Security
6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

©2001 SIMPLEXGRINNELL LP ALL RIGHTS RESERVED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: COVER SHEET	
SHEET NUMBER: FA0.01	

GENERAL NOTES

1. THE FIRE ALARM CONTRACTOR WILL PROVIDE 48 HOUR NOTICE TO THE OWNER AND TESTING AGENCY FOR ALL TESTING REQUIRED. THE AUTHORITY HAVING JURISDICTION SHALL BE NOTIFIED OF THE DATE AND TIME OF THE FINAL FIRE ALARM TESTING, AND SHALL ASSIST/WITNESS SUCH TESTING WHEN ABLE.
2. THE FIRE ALARM CONTRACTOR SHALL PROVIDE A COMPLETED AND SIGNED "RECORD OF COMPLETION" TO THE INSPECTOR OF RECORD AFTER COMPLETION OF OPERATIONAL ACCEPTANCE TESTS.
3. A STAMPED SET OF APPROVED FIRE ALARM DRAWINGS SHALL BE AT THE JOB SITE AND SHALL BE USED FOR INSTALLATION.
4. 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.
5. 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.
6. IF AN EXISTING FIRE ALARM SYSTEM EXISTS, IT SHALL NOT BE DISCONNECTED OR TAKEN OUT OF SERVICE WITHOUT WRITTEN PERMISSION FROM THE OWNER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE WITH THE OWNER THE TIMING OF THE EXISTING FA SYSTEM DEMOLITION WORK. THE LOCAL FIRE AUTHORITY AND CENTRAL MONITORING STATION SHALL BE NOTIFIED 48 HOURS IN ADVANCE OF EXISTING FA SYSTEM SHUTDOWN.
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 NEC SECTION 760-10. MARK ALL FIRE ALARM WIRES IN ACCORDANCE NEC SECTION 760-31g AND 760-42.
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 760-7, 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. FIRE ALARM SYSTEM INSTALLER SHALL COORDINATE WITH THE MECHANICAL CONTRACTOR WHEN DETERMINING INSTALLATION OF SMOKE DETECTORS OR SENSORS.
24. DO NOT MOUNT SMOKE/HEAT SENSORS CLOSER THAN 3 FEET FROM ANY SUPPLY/RETURN DIFFUSER OR FLUORESCENT BAFFLES.
25. ALL FIRE ALARM POINTS ARE TO BE ON THE NEW FIRE ALARM PANEL.THE NEW FIRE ALARM PANEL WILL BE THE MAIN FIRE ALARM PANEL.

WIRING INSTRUCTIONS

A. Install wiring according to the following:
1. NECA 1.
2. TIA/EIA 568-A
3. Cables, raceways and support pathways including but not limited to j-hooks and cable tray, which are used for fire alarm circuits, and equipment control wiring associated with the fire alarm system, shall not contain any other wire or cable.

B. Wiring Method for vertical risers penetrating floor slabs: Install wiring in metal raceway according to Specification Division 26 Section "Raceways and Boxes for Electrical Systems".

C. Wiring Method for circuits concealed in Walls, Partitions, and Inaccessible Ceilings: Install wiring in metal raceway according to Specification Division 26 Section "Raceways and Boxes for Electrical Systems".

D. Wiring Method for surface mounted and other exposed circuits, including in Crawlspaces: Install wiring in metal raceway according to Specification Division 26 Section "Raceways and Boxes for Electrical Systems".

E. Wiring Method for circuits concealed in accessible ceilings, install plenum-rated fire alarm cables supported on j-hooks.
1. For wall mounted devices: Install recessed device backboxes with conduit extended to above accessible ceiling according to Specification Division 26 Section "Raceways and Boxes for Electrical Systems.

F. Wiring Method:
1. Cables and raceways used for fire alarm circuits, and equipment control wiring associated with the fire alarm system, may not contain any other wire or cable.
2. Fire-Rated Cables: Use of 2-hour fire-rated fire alarm cables, NFPA70 Types MI and CI, is permitted.
3. Signaling Line Circuits: Non-Power-limited fire alarm cables shall not be installed in the same conduit or raceway as signaling line circuits.

G. Wiring within Enclosures: Separate power-limited and non-power-limited conductors. Install conductors parallel with or at right angles to sides and back of enclosure. Bundle, lace and train conductors to terminal points with no excess. Connect conductors that are terminated, spliced or interrupted in any enclosure associated with the fire alarm system to terminal blocks. Mark each terminal according to the system's wiring diagrams. Make all connections with approved crimp-on terminal spade lugs, pressure-type terminal blocks or plug connectors.

SYMBOL KEY

SYMBOL	DESCRIPTION	MODEL#	BACKBOX
NAC#	NAC EXTENDER PANEL # DESIGNATES THE NAC PANEL NUMBER W / 10AH BATTERY SET	SIMPLEX 4009-9201 SIMPLEX 2081-9274	16-1/4"W x 13-1/2"H x 4-3/16"D
ANN#	SERIAL LCD ANNUNCIATOR	SIMPLEX 4603-9101	6 SINGLE GANG BOXES 3 1/2" DEEP
F	MANUAL PULL STATION STOPPER II W/HORN	SIMPLEX 4099-9003 STI-1130	SINGLE GANG BOX 2 1/2" DEEP
?	SMOKE PHOTO SENSOR / BASE	SIMPLEX 4098-9714 SIMPLEX 4098-9792 BASE	4" OCTAGONAL BOX 1 1/2" DEEP
DUCT SMOKE SENSOR		SIMPLEX 4098-9751	MOUNT TO DUCTWORK
W/PHOTOELECTRIC SENSOR HEAD, RELAY AND		SIMPLEX 4088-9714	
REMOTE TEST STATION W/ LED AND KEY SWITCH		SIMPLEX 2098-9806	SINGLE GANG BOX 2 1/2" DEEP
FSD	FIRE SMOKE DAMPER	BY OTHERS	MONITOR AND CONTROL WITH RELAY 1AM 4090-9118
DH	DOOR HOLDER	SIMPLEX 2088-9609	SINGLE GANG BOX 2" DEEP
DH EX	DOOR HOLDER	EXISTING	SINGLE GANG BOX 2" DEEP
#	CHIME/STROBE # =CANDELA RATING	WHEELOCK CH70-24MCW-FR	4" SQUARE BOX 1 1/2" DEEP W/ 1 1/2" EXTENSION RING
#	WALL MOUNT MULTI-CANDELA W/O WHITE # =CANDELA RATING	WHEELOCK RSS-24MCW-FR	4" SQUARE BOX 1 1/2" DEEP W/ 1 1/2" EXTENSION RING
10K	END-OF-LINE RESISTOR (EOL)	BY OTHERS	SEE CHART SHEET FA-604
	SMOKE PHOTO SENSOR / BASE	EXISTING	4" OCTAGONAL OUTLET BOX
T	THERMAL SENSOR IN TRUEALARM BASE	EXISTING	4" OCTAGONAL OUTLET BOX
	MANUAL PULL STATION	EXISTING	(2) 3x2x2-3/4 SWITCH BOXES WITH 2099-9813 TRIM
S	PHOTO SENSOR IN TRUEALARM DUCT HOUSTING WITH SAMPLING TUBES	EXISTING	DIRECTLY TO DUCTWORK
	REMOTE TEST SWITCH	EXISTING	SINGLE GANG OUTLET BOX
	REMOTE LED ON PLATE	EXISTING	SINGLE GANG OUTLET BOX
	24VDC WALL MOUNTED DOOR HOLDERS	EXISTING	SINGLE GANG BOX
CZ	CONTROL ZAM	SIMPLEX 2190-9163	4-11/16" SQUARE, 2-1/8 DEEP BOX WITH 1-1/2" DEEP EXTENSION RING
SZ	SIGNAL ZAM	SIMPLEX 2190-9161	4-11/16" SQUARE, 2-1/8 DEEP BOX WITH 1-1/2" DEEP EXTENSION RING
	CHIME WITH 15 CANDELLA STROBE UNIT	EXISTING	4" SQUARE BOX 1-1/2" DEEP
	15 CANDELLA STROBE UNIT	SIMPLEX 4904-9137	SINGLE GANG BOX 1-1/2" DEEP
TS	TAMPER SWITCH	EXISTING	EXISTING
FS	FLOWSWITCH	EXISTING	EXISTING
EOLR	END-OF-LINE RESISTOR (EOLR)	EXISTING	IN BACKBOX OF LAST DEVICE
J	J-BOX	EXISTING	EXISTING

SHEET NOTES

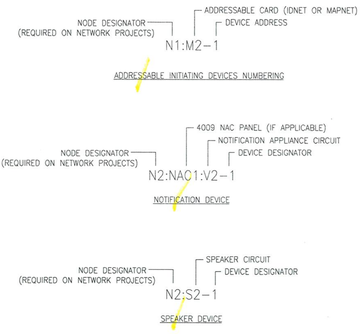
THE INFORMATION OR SYMBOLS SHOWN IN BOLD LINETYPE ARE NEW OR RELOCATED. SCOPE OF NEW WORK—ALL OTHER COMPONENTS ARE EXISTING
THE INFORMATION OR SYMBOLS SHOWN IN LIGHT LINETYPE ARE EXISTING.

SEQUENCE OF OPERATION

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

NOTE: DOES NOT CHANGE FROM ORIGINAL SEQUENCE.

DEVICE ADDRESSING LEGEND



ABBREVIATIONS LEGEND

(AC)	= ABOVE CEILING	HT	= HEIGHT
(C)	= CEILING MOUNTED	HVAC	= HEATING, VENTILATION, & AIR CONDITIONING
(E)	= EXISTING	MAX	= MAXIMUM
(N)	= NEW	MIN	= MINIMUM
(RC)	= EXISTING TO REMOVE AND COVER	N/A	= NOT APPLICABLE
(RD)	= EXISTING DEVICE TO BE RELOCATED	NAC	= NOTIFICATION APPLIANCE CIRCUIT
(RL)	= RELOCATED DEVICE	NDU	= NETWORK DISPLAY UNIT
(RR)	= REMOVE EXISTING AND REPLACE W/NEW	NEC	= NATIONAL ELECTRICAL CODE
(WP)	= WEATHERPROOF	NFPA	= NATIONAL FIRE PROTECTION ASSOCIATION
AFF	= ABOVE FINISHED FLOOR	NIC	= NOT IN CONTRACT
AHJ	= AUTHORITY HAVING JURISDICTION	NPU	= NETWORK PROCESSOR UNIT
ALM	= ALARM	NTS	= NOT TO SCALE
ANN	= ANNUNCIATOR	SCC	= STATUS COMMAND CENTER
BMS	= BUILDING MANAGEMENT SYSTEM	SLC	= SIGNALING LINE CIRCUIT
CD	= (EX. 15CD) CANDELA	SMK	= SMOKE
DET	= DETECTOR	SPRV	= SUPERVISORY
DGP	= DATA GATHERING PANEL	TAC	= TRUEALERT ADDRESSABLE CONTROLLER
EOL	= END OF LINE	TRBL	= TROUBLE
EP	= EXPLOSION PROOF	TYP	= TYPICAL
EPO	= EMERGENCY POWER OFF	UON	= UNLESS OTHERWISE NOTED
FACP	= FIRE ALARM CONTROL PANEL	VCC	= VOICE COMMAND CENTER
FATC	= FIRE ALARM TERMINAL CABINET	VT	= VALVE TAMPER
FBO	= FURNISHED BY OTHERS	WF	= WATER FLOW
FCC	= FIRE COMMAND CENTER	W	= (EX. 1/2W) WATT
FSD	= FIRE SMOKE DAMPER	W/	= WITH
GCC	= GRAPHIC COMMAND CENTER		

WIRE SCHEDULE

FIRE ALARM WIRE LIST (POWER LIMITED)

A	NETWORK COMMUNICATION – 1 PAIR 18 AWG TWISTED OVERALL SHIELD – CI CABLE VENDOR: LIFELINE CICFPL-2C/18OS	
C	COMMUNICATION FOR ANNUNCIATOR AND NETWORK – 1 PAIR 18 AWG TWISTED OVERALL SHIELD NON-PLENUM RATED: FPL ANIXTER SG1802S19-03 AREA=0.0320 SQ. INCH	PLENUM RATED: FPLP ANIXTER SG1802S21-03 AREA=0.0177 SQ. INCH
D	DOOR HOLDER CIRCUIT – 2 CONDUCTOR 14 AWG SOLID NON-PLENUM RATED: FPLR ANIXTER SG1402N10-03 AREA=0.0340 SQ. INCH	CONDUIT ONLY: THHN (2) #14 AWG (PINK/BROWN) AREA=0.0097 SQ. INCH (EACH)
		PLENUM RATED: FPLP ANIXTER SG1402N21-03 AREA=0.0308 SQ. INCH
L	REMOTE LED CIRCUIT – 2 CONDUCTOR 18 AWG SOLID NON-PLENUM RATED: FPLR ANIXTER SG1802N10-03 AREA=0.0177 SQ. INCH	CONDUIT ONLY: TFFN (2) #18 AWG (WHITE/ORANGE) AREA=0.0055 SQ. INCH (EACH)
		PLENUM RATED: FPLP ANIXTER SG1802N21-03 AREA=0.0167 SQ. INCH
M	MAPNET/IDNET CIRCUIT – 1 PAIR 18 AWG TWISTED OVERALL SHIELD NON-PLENUM RATED: FPL ANIXTER SG1802S19-03 AREA=0.0320 SQ. INCH	PLENUM RATED: FPLP ANIXTER SG1802S21-03 AREA=0.0177 SQ. INCH
N	CHIME/SIGNAL CIRCUIT – 2 CONDUCTOR 14 AWG SOLID NON-PLENUM RATED: FPLR ANIXTER SG1402N10-03 AREA=0.0340 SQ. INCH	CONDUIT ONLY: THHN (2) #14 AWG (RED/BLACK) AREA=0.0097 SQ. INCH (EACH) ********** REFER TO SIGNAL CIRCUIT DISTANCE CHART **********
		PLENUM RATED: FPLP ANIXTER SG1402N21-03 AREA=0.0308 SQ. INCH
P	MAPNET/IDNET POWER CIRCUIT – 2 CONDUCTOR 14 AWG SOLID NON-PLENUM RATED: FPLR ANIXTER SG1402N10-03 AREA=0.0340 SQ. INCH	CONDUIT ONLY: THHN (2) #14 AWG (YELLOW/BLUE) AREA=0.0097 SQ. INCH (EACH)
		PLENUM RATED: FPLP ANIXTER SG1402N21-03 AREA=0.0308 SQ. INCH
S	SPEAKER CIRCUIT – 1 PAIR 18 AWG TWISTED OVERALL SHIELD NON-PLENUM RATED: FPL ANIXTER SG1802S19-03 AREA=0.0320 SQ. INCH	PLENUM RATED: FPLP ANIXTER SG1802S21-03 AREA=0.0177 SQ. INCH
	********** REFER TO PANEL INSTALLATION MANUAL **********	
T	TELEPHONE CIRCUITS – 1 PAIR 18 AWG TWISTED OVERALL SHIELD NON-PLENUM RATED: FPL ANIXTER SG1802S19-03 AREA=0.0320 SQ. INCH	PLENUM RATED: FPLP ANIXTER SG1802S21-03 AREA=0.0177 SQ. INCH
V	VISUAL/SIGNAL CIRCUIT – 2 CONDUCTOR 14 AWG SOLID NON-PLENUM RATED: FPLR ANIXTER SG1402N10-03 AREA=0.0340 SQ. INCH	CONDUIT ONLY: THHN (2) #14 AWG (RED/BLACK) AREA=0.0097 SQ. INCH (EACH) ********** REFER TO SIGNAL CIRCUIT DISTANCE CHART **********
		PLENUM RATED: FPLP ANIXTER SG1402N21-03 AREA=0.0308 SQ. INCH

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 2005 N.E.C.

CONTACT YOUR LOCAL SIMPLEXGRINNELL OFFICE FOR ANY CABLE SUBSTITUTIONS

NICET CERTIFICATION

NICET CERTIFIED

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY — DATE 9/23/09

AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT 0 8 2009
SIGNED — DATE

2009430204

42" x 30"

tyco / Fire & Security
SimplexGrinnell
6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0815

©2001 SIMPLEXGRINNELL LP
ALL RIGHTS RESERVED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: GENERAL INFORMATION	
SHEET NUMBER: FA1.01	

The Medical Center of Aurora - Magnet Channel 4

Magnet Number	Device Type	Room Number (Max 40 Characters)	
1M4-1	IAM	ELEVATOR MACHINE ROOM 1-0702	M4-1
1M4-2	IAM	ELEVATOR #6 MACHINE ROOM	M4-2
1M4-3	IAM	HOOD SUPPRESSION ROOM 1-0118	M4-3
1M4-4	**NAC**	**4TH WEST WING WEST ELECTRICAL NAC7**	
1M4-5	SPARE		
1M4-6	RZAM	SURGERY ROLLUP DOOR 1-0700	M4-6
1M4-7	RZAM	ELEVATOR 1,2,4 RECALL	M4-7
1M4-8	RZAM	ELEVATOR 1,2,4 RECALL	M4-8
1M4-9	RZAM	ELEVATOR 1,2,4 WON DOOR 2ND FLOOR	M4-9
1M4-10	RZAM	ELEVATOR 1,2,4 WON DOOR 3RD FLOOR	M4-10
1M4-11	RZAM	ELEVATOR 1,2,4 WON DOOR 4TH FLOOR	M4-11
1M4-12	RZAM	ELEVATOR 1,2,4 WON DOOR 5TH FLOOR	M4-12
1M4-13	RZAM	ELEVATOR #6 RECALL	M4-13
1M4-14	RZAM	ELEVATOR #6 RECALL	M4-14
1M4-15	RZAM	ELEVATOR 1,2,4 SHUNT TRIP	M4-15
1M4-16	RZAM	ELEVATOR #6 SHUNT TRIP	M4-16
1M4-17	RZAM	GIFT SHOP FIRE DOORS 1-0316	M4-17
1M4-18	RZAM	KITCHEN FIRE DOORS 1-0118	M4-18
1M4-19	RZAM	ELEVATOR #3 SHUNT TRIP	M4-19
1M4-20	RZAM	SMOKE DAMPER AHU 97-6 1-0618	M4-20
1M4-21	SPARE		
1M4-22	**RZAM**	**4TH FLOOR WEST WING CHIME SIGNAL ZAM**	
1M4-23	**RZAM**	**4TH FLOOR WEST WING VISUAL SIGNAL ZAM**	
1M4-24	**RZAM**	**4TH FLOOR WEST WING DOOR HOLDERS**	
1M4-25	HEAT	KITCHEN 1-0118	M4-25
1M4-26	HEAT	ELEVATOR #1 PIT	M4-26
1M4-27	HEAT	ELEVATOR #2 PIT	M4-27
1M4-28	HEAT	ELEVATOR #4 PIT	M4-28
1M4-29	HEAT	ELEVATOR 1,2,4 MACHINE ROOM 1-0702	M4-29
1M4-30	HEAT	ELEVATOR 1,2,4 TOP OF SHAFT	M4-30
1M4-31	HEAT	ELEVATOR #1 PIT	M4-31
1M4-32	SMOKE	ELEVATOR MACHINE ROOM 1-0702	M4-32
1M4-33	SMOKE	SERVICE ELEVATOR LOBBY 1-0703	M4-33
1M4-34	SMOKE	SERVICE ELEVATOR LOBBY 1-0703	M4-34
1M4-35	SMOKE	ELEVATOR LOBBY 1,2,4 1-0301	M4-35
1M4-36	SMOKE	ELEVATOR 1,2,4 2ND FLOOR LOBBY	M4-36
1M4-37	SMOKE	ELEVATOR 1,2,4 2ND FLOOR LOBBY	M4-37
1M4-38	SMOKE	ELEVATOR 1,2,4 3RD FLOOR LOBBY	M4-38
1M4-39	SMOKE	ELEVATOR 1,2,4 3RD FLOOR LOBBY	M4-39
1M4-40	SMOKE	ELEVATOR 1,2,4 4TH FLOOR LOBBY	M4-40
1M4-41	SMOKE	ELEVATOR 1,2,4 4TH FLOOR LOBBY	M4-41
1M4-42	SMOKE	ELEVATOR 1,2,4 5TH FLOOR LOBBY	M4-42
1M4-43	SMOKE	ELEVATOR 1,2,4 5TH FLOOR LOBBY	M4-43
1M4-44	SPARE		
1M4-45	SMOKE	EXIT ACCESS CORRIDOR 1-0214	M4-45
1M4-46	SMOKE	EXIT ACCESS CORRIDOR 1-0300	M4-46
1M4-47	SMOKE	EXIT ACCESS CORRIDOR 1-0300	M4-47
1M4-48	SMOKE	ELEVATOR #1,2,4 LOBBY 1-0301	M4-48
1M4-49	SMOKE	ELEVATOR #1,2,4 LOBBY 1-0301	M4-49
1M4-50	SMOKE	CORRIDOR 1-0430	M4-50
1M4-51	SPARE		
1M4-52	SMOKE	CORRIDOR 1-0430	M4-52
1M4-53	SMOKE	SERVICE ELEV. LOBBY 1,2,& 4 1-0703	M4-53
1M4-54	SMOKE	ELEVATOR #6 MACHINE ROOM	M4-54
1M4-55	HEAT	ELEVATOR #6 MACHINE ROOM	M4-55
1M4-56	HEAT	ELEVATOR #6 PIT	M4-56
1M4-57	HEAT	ELEVATOR #6 TOP OF SHAFT	M4-57
1M4-58	SMOKE	ELEVATOR #6 LOBBY 1ST FLOOR	M4-58
1M4-59	SMOKE	ELEVATOR #6 LOBBY 2ND FLOOR	M4-59
1M4-60	SMOKE	ELEVATOR #6 LOBBY 3RD FLOOR	M4-60
1M4-61	SMOKE	ELEVATOR #6 LOBBY 4TH FLOOR	M4-61
1M4-62	SMOKE	ELEVATOR #6 LOBBY 5TH FLOOR	M4-62
1M4-63	SMOKE	MEDICAL LIBRARY 1-0414	M4-63
1M4-64	SMOKE	CORRIDOR 1-0429	M4-64
1M4-65	SMOKE	CORRIDOR 1-0429	M4-65
1M4-66	SMOKE	CORRIDOR 1-0417	M4-66
1M4-67	SMOKE	CORRIDOR 1-0417	M4-67
1M4-68	SMOKE	CORRIDOR 1-0417	M4-68
1M4-69	SMOKE	WAITING 1-1920	M4-69
1M4-70	SMOKE	CORRIDOR 1-0417	M4-70
1M4-71	SMOKE	CORRIDOR 1-0430	M4-71
1M4-72	SMOKE	CORRIDOR 1-0430	M4-72
1M4-73	SMOKE	CORRIDOR 1-0415	M4-73
1M4-74	SMOKE	CORRIDOR 1-0415	M4-74
1M4-75	SMOKE	TELEPHONE EQUIPMENT ROOM 1-0311	M4-75
1M4-76	SMOKE	PASSAGE 1-0309	M4-76
1M4-77	SMOKE	PASSAGE 1-0308	M4-77
1M4-78	SMOKE	CORRIDOR 1-0109	M4-78
1M4-79	SMOKE	CORRIDOR 1-0302	M4-79
1M4-80	SMOKE	CORRIDOR 1-0302	M4-80
1M4-81	SMOKE	CORRIDOR 1-0302	M4-81
1M4-82	SMOKE	CORRIDOR 1-0302	M4-82
1M4-83	SMOKE	CORRIDOR 1-0402	M4-83
1M4-84	SMOKE	CORRIDOR 1-0430	M4-84
1M4-85	SMOKE	PASSAGE 1-1903	M4-85
1M4-86	SMOKE	CORRIDOR 1-0606	M4-86
1M4-87	SMOKE	CORRIDOR 1-0400	M4-87
1M4-88	SMOKE	SLEEP ROOM 1-0409	M4-88
1M4-89	SMOKE	SLEEP ROOM 1-0411	M4-89
1M4-90	SMOKE	FACP ROOM 1-0602	M4-90
1M4-91	SMOKE	ELEVATOR 1,2,4 TOP OF SHAFT	M4-91
1M4-92	SMOKE	ELEVATOR 1,2,4 TOP OF SHAFT	M4-92
1M4-93	SMOKE	ELEVATOR #6 TOP OF SHAFT	M4-93
1M4-94	RZAM	FAN SHUTDOWN FOR AHU #7 1-605	M4-94
1M4-95	DUCT	SUPPLY AHU 97-6 1-0618	M4-95
1M4-96	DUCT	RETURN AHU 97-6 1-0618	M4-96
1M4-97	DUCT	RETURN AHU 97-6 1-0618	M4-97
1M4-98	SMOKE	CORRIDOR 1-0606	M4-98
1M4-99	SMOKE	CORRIDOR 1-0606	M4-99
1M4-100	SPARE		
1M4-101	SPARE		
1M4-102	SPARE		
1M4-103	DUCT	AHU 1G SUPPLY PLANT OPS AND MORT	M4-103
1M4-104	DUCT	AHU 1G RETURN PLANT OPS AND MORT	M4-104
1M4-105	DUCT	AHU 1C KITCHEN SUPPLY	M4-105
1M4-106	DUCT	AHU 1C KITCHEN RETURN	M4-106
1M4-107	DUCT	AHU 1A SURGERY SUPPLY	M4-107
1M4-108	DUCT	AHU 1A SURGERY RETURN	M4-108
1M4-109	RZAM	AHU 1G FAN SHUTDOWN CONTROL	M4-109
1M4-110	RZAM	AHU 1C FAN SHUTDOWN CONTROL	M4-110
1M4-111	RZAM	AHU 1A FAN SHUTDOWN CONTROL	M4-111
1M4-112	DUCT	HV-1 CENTRAL PLANT MAKE-UP AIR	M4-112
1M4-113	RZAM	HV-1 FAN SHUTDOWN CONTROL	M4-113
1M4-114	DUCT	HV-2 KITCHEN MAKE-UP SUPPLY	M4-114
1M4-115	DUCT	HV-2 KITCHEN MAKE-UP RETURN	M4-115
1M4-116	RZAM	HV-2 KITCHEN MAKE-UP SHUTDOWN	M4-116
1M4-117	SPARE		
1M4-118	**DUCT**	**4TH FLOOR WEST WING FIRE/SMOKE DAMPER**	
1M4-119	**DUCT**	**4TH FLOOR WEST WING FIRE/SMOKE DAMPER**	
1M4-120	**PULL**	**4TH FLOOR WEST WING NURSE STATION A**	
1M4-121	**PULL**	**4TH FLOOR WEST WING NURSE STATION B**	
1M4-122	**SMOKE**	**4TH FLOOR WEST WING CLEAN STORAGE**	
1M4-123	**SMOKE**	**4TH FLOOR WEST WING SOILED UTILITY /HOLD**	
1M4-124	**SMOKE**	**4TH FLOOR WEST WING ELECTRICAL**	
1M4-125	SPARE		
through			
1M4-127	SPARE		

The Medical Center of Aurora - Magnet Channel 8

Magnet Number	Device Type	Room Number (Max 40 Characters)	
1M8-1	PULL	4TH FLOOR STAIRWELL CORRIDOR 4-0237	M8-1
1M8-2	PULL	4TH FLOOR NURSE STATION 4-0247	M8-2
1M8-3	**PULL**	**4TH FLOOR NURSE STATION 4-0203**	**M8-3**
1M8-4	IAM	4TH FLOOR TOWER STAIRWELL	M8-4
1M8-5	IAM	4TH FLOOR TOWER STAIRWELL	M8-5
1M8-6	SPARE		
1M8-7	**PULL**	**4TH FLOOR NURSE STATION D**	**M8-7**
1M8-8	SPARE		
1M8-9	DUCT	4TH FLOOR RTAH 97-12 4-0220 SUPPLY	M8-9
1M8-10	DUCT	4TH FLOOR RTAH 97-12 4-0217 SUPPLY	M8-10
1M8-11	DUCT	4TH FLOOR RTAH 97-12 4-0263 RETURN	M8-11
1M8-12	DUCT	4TH FLOOR RTAH 97-13 4-0203 SUPPLY	M8-12
1M8-13	SPARE		
1M8-14	SMOKE	4TH FLR TOWER TOP OF STAIRWELL	M8-14
1M8-15	SMOKE	4TH FLR PED #6, 4-0255	M8-15
1M8-16	SMOKE	4TH FLR PED #7 4-0256	M8-16
1M8-17	SMOKE	4TH FLR PED #8 4-0257	M8-17
1M8-18	SMOKE	4TH FLR PED #9 4-0258	M8-18
1M8-19	SMOKE	4TH FLR PED #10 4-0259	M8-19
1M8-20	SMOKE	4TH FLOOR PED #11 4-0260	M8-20
1M8-21	SMOKE	4TH FLOOR PAT #1 4-0202	M8-21
1M8-22	SMOKE	4TH FLOOR PAT #2 4-0206	M8-22
1M8-23	SMOKE	4TH FLOOR MC ISO PAT #3 4-0207	M8-23
1M8-24	SMOKE	4TH FLOOR FAMILY WAITING 4-0229	M8-24
1M8-25	SMOKE	4TH FLOOR PAT #4 4-0208	M8-25
1M8-26	SMOKE	4TH FLOOR PAT #5 4-0209	M8-26
1M8-27	SMOKE	4TH FLOOR PAT #6 4-0210	M8-27
1M8-28	SMOKE	4TH FLOOR PAT #7 4-0211	M8-28
1M8-29	SMOKE	4TH FLOOR PAT #8 4-0212	M8-29
1M8-30	SMOKE	4TH FLOOR SEMI PVT PAT #9 4-0240	M8-30
1M8-31	SMOKE	4TH FLOOR SEMI PVT PAT #10 4-0239	M8-31
1M8-32	SMOKE	4TN FLOOR SEMI PVT PAT #11 4-0236	M8-32
1M8-33	SMOKE	4TH FLOOR SEMI PVT PAT #12 4-0235	M8-33
1M8-34	SMOKE	4TH FLOOR SEMI PVT PAT #13 4-0234	M8-34
1M8-35	SMOKE	4TH FLOOR PED #1 4-0250	M8-35
1M8-36	SMOKE	4TH FLOOR PED #2 4-0251	M8-36
1M8-37	SMOKE	4TH FLOOR PED #3 4-0252	M8-37
1M8-38	SMOKE	4TH FLOOR PED #4 4-0253	M8-38
1M8-39	SMOKE	4TH FLOOR PED #5 4-0254	M8-39
1M8-40	SMOKE	4TH FLOOR PHYS THER ROOM 4-0261	M8-40
1M8-41	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0237	M8-41
1M8-42	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0237	M8-42
1M8-43	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0237	M8-43
1M8-44	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0237	M8-44
1M8-45	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0205	M8-45
1M8-46	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0205	M8-46
1M8-47	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0215	M8-47
1M8-48	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0215	M8-48
1M8-49	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0215	M8-49
1M8-50	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0221	M8-50
1M8-51	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0221	M8-51
1M8-52	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0221	M8-52
1M8-53	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0238	M8-53
1M8-54	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0238	M8-54
1M8-55	SMOKE	4TH FLOOR WORK AREA TOWER 4-0233	M8-55
1M8-56	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0247	M8-56
1M8-57	SMOKE	4TH FLOOR CORRIDOR TOWER 4-0120	M8-57
1M8-58	SPARE		
1M8-59	SPARE		
1M8-60	**SMOKE**	**4TH FLOOR ORTHO STORAGE**	
1M8-61	**SMOKE**	**4TH FLOOR SOILED UTILITY / HOLD**	
1M8-62	**SMOKE**	**4TH FLOOR CLEAN STORAGE**	
1M8-63	SPARE		
through			
1M8-127	SPARE		

Medical Center of Aurora South Campus - 4100 FACP

Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment							
4100-8010	1	MINIPLEX CONTROL PANEL		0.000000	0.000000	0.000000	0.000000
4100-7003	1	MASTER CONTROLLER		0.292000	0.292000	0.292000	0.292000
4100-0304	1	STYLE 7 REMOTE UNIT INTERFACE		0.085000	0.085000	0.085000	0.085000
4100-0153	1	DIGITAL ALARM COMM TRANSMITTER		0.035000	0.035000	0.050000	0.050000
4100-5004	7	8 ZONE STYLE B		0.075000	0.525000	0.195000	1.365000
4100-2052	1	8 PT AUX RELAY MODULE 3 AMP		0.025000	0.025000	0.280000	0.280000
4100-0110	5	MAPNET II ADDRESSABLE MODULE		0.270000	1.350000	0.290000	1.450000
4100-4321	8	6 CIRCUIT CLASS B (STYLE Y)		0.025000	0.200000	0.070000	0.560000
4100-7402	1	64/64 LED/SW CONTROLLER MODULE		0.067000	0.067000	0.067000	0.067000
4100-7404	1	32 POINT SWITCH INPUT MODULE		0.000000	0.000000	0.000000	0.000000
				Total Panel Stby	2.579000	Total Panel Alarm	4.149000
Peripheral Devices							
2190-9172	37	MAPNET SUPERVISED IAM	×	0.000000	0.000000	0.000000	0.000000
2099-9795	28	MAPNET SINGLE ACTION PULL STATION	×	0.000000	0.000000	0.000000	0.000000
4098-9701	411	TRUEALARM PHOTO SMOKE SENSOR		0.000000	0.000000	0.000000	0.000000
4098-9785	411	TRUEALARM SENSOR BASE W/ LED OUTPUT	×	0.000000	0.000000	0.000000	0.000000
4603-9101	9	SERIAL LCD ANNUNCIATOR		0.030000	0.270000	0.170000	1.530000
4098-9706	33	TRUEALARM DUCT SMOKE SENSOR HOUSING W/ RELAY	×2	0.002280	0.009240	0.029000	0.957000
4903-9219	10	HORN/STROBE 24V 15cd		0.002000	0.020000	0.132000	1.320000
4903-9292	98	CH70-2415W-FR 15CD CHIME STROBE		0.000000	0.000000	0.070000	6.860000
4904-9137	126	15CD VISIBLE ONLY RED		0.000000	0.000000	0.082000	10.332000
2190-9163	43	MAPNET UNSUPERVISED CONTROL ZAM	×	0.010000	0.430000	0.040000	1.720000
4098-9613	24	HEAT DETECTOR RATE OF RISE/FIXED 135	1	0.000080	0.001920	0.000000	0.000000
4098-9788	24	2 WIRE DETECTOR BASE	1	0.000000	0.000000	0.000000	0.000000
2190-9155	1	MAPNET CLASS B MONITOR ZAM	×2	0.020000	0.020000	0.090000	0.090000
1st Floor-Area "D"-Interventional Remodel							
4098-9714	4	TRUEALARM PHOTO SMOKE SENSOR		0.000000	0.000000	0.000000	0.000000
4098-9792	2	TRUEALARM SENSOR BASE	×	0.000000	0.000000	0.000000	0.000000
4098-9789	2	TRUEALARM SENSOR BASE W/ LED OUTPUT	×	0.000000	0.000000	0.000000	0.000000
2098-9808	2	REMOTE ALARM INSICATOR		0.000000	0.000000	0.000000	0.000000
4098-9756	1	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT		0.002400	0.002400	0.015000	0.015000
2098-9806	1	REMOTE TEST STATION W/ LED AND KEY SWITCH		0.000000	0.000000	0.000000	0.000000
4098-9843	1	ENCAPSULATED RELAY PAM-SD		0.002400	0.002400	0.015000	0.015000
CH70-24MCW-FR	2	WHEELOCK, CHIME STROBE, MULTI-CANDELA SELECTABLE, 15cd, 24VDC, RED		0.000000	0.000000	0.082000	0.164000
CH70-24MCW-FR	1	WHEELOCK, CHIME STROBE, MULTI-CANDELA SELECTABLE, 75cd, 24VDC, RED		0.000000	0.000000	0.212000	0.212000
1st Floor-Private Room Expansion (925486401)							
4098-9714	5	TRUEALARM PHOTO SMOKE SENSOR		0.000000	0.000000	0.000000	0.000000
4098-9792	5	TRUEALARM SENSOR BASE	×	0.000000	0.000000	0.000000	0.000000
4009-9205	1	4009 IDNET NAC EXTENDER, 120 VAC		0.000000	0.000000	0.019000	0.019000
4TH FLOOR EAST AND WEST WING (945770701)							
4098-9714	**6**	**TRUEALARM PHOTO SMOKE SENSOR**		0.000000	0.000000	0.000000	0.000000
4098-9792	**6**	**TRUEALARM SENSOR BASE**	×	0.000000	0.000000	0.000000	0.000000
4099-9003	**4**	**IDNET DOUBLE ACTION PULL STATION**	×	0.000000	0.000000	0.000000	0.000000
2190-9161	**2**	**MAPNET CLASS B SIGNAL ZAM**	×	0.015000	0.030000	0.040000	0.080000
2190-9163	**1**	**MAPNET UNSUPERVISED CONTROL ZAM**	×	0.010000	0.010000	0.040000	0.040000
2088-9609	**2**	**MAGNETIC DOOR HOLDER, SURFACE**		0.015000	0.030000	0.000000	0.000000
4603-9101	**2**	**SERIAL LCD ANNUNCIATOR**		0.030000	0.060000	0.170000	0.340000
				Total Periph Stby	0.866	Total Periph Alarm	23.694
				Total Standby Amps	3.445	Total Alarm Amps	27.843
						Quantity OF Back-up Amplifiers	0

× Current Draw Included With Device Addresses Used (See additional current draws)
1. 2-wire detector alarm current is included in the alarm current of the Initiating Device Circuit.

Battery Set # 1 (Cabinet/Charger #1)	Qty		Standby Current		Alarm Current
Control Panel Power (Master Power Supply)			1.229		2.699
Magnet/IDNet Card Current Draw	5		1.350		1.450
Current Draw For 90 Watt Or 100 Watt Amplifiers	0		0.000		0.000
Current Draw For Dual 25 Watt Amplifiers	0		0.000		0.000
Power For External Peripheral Devices			0.86596		26.27800
			3.445	<-- Sub Totals -->	30.427
Additional Current Draws					
MAPNET/IDNet Device Addresses ordered / used	594.5	594.5	0.991		0.995
Spare addressable point capacity included for battery calc	0%	0	0.000		0.000
			4.436	<--Grand Totals -->	31.422
Additional Battery Capacity Required 20%			0.887		6.284
Standby Time = 4 Hrs			21.292	Standby Ah	
Alarm Time = 5 Mins.			3.142	Alarm Ah	
Battery Supplied 2081-9296 50AH			45.382	Total Ah	

NAC7 - 4TH FLOOR WEST WING ELECTRICAL ROOM

Module	Qty	Description		Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment							
4009-9201	1	4009 IDNET NAC EXTENDER, 120 VAC		0.085	0.085	0.185	0.185
4009-9807	1	NAC CARD, 4PT, IDNET		0.040	0.040	0.040	0.040
Misc. Standard Devices used with Mult-Candella Strobe Circuits							
CH70-24-R	37	24 VDC, SQUARE, RED		0.000	0.000	0.022	0.814
Mult-Candela Strobes						ALERT STROBES OFF	
CH70-24MCW-FR	22	MULTI CD CH STR, WM, RED	15cd	0.000	0.000	0.060000	1.320
CH70-24MCW-FR	3	MULTI CD CH STR, WM, RED	30cd	0.000	0.000	0.092000	0.276
CH70-24MCW-FR	3	MULTI CD CH STR, WM, RED	75cd	0.000	0.000	0.165000	0.495
RSS-24MCW-FR	17	MULTI CD STR, 24VDC, WM, RED	15cd	0.000	0.000	0.060000	1.020
RSS-24MCW-FR	3	MULTI CD STR, 24VDC, WM, RED	30cd	0.000	0.000	0.092000	0.276
				Total Periph Stby	0.000	Total Periph Alarm	4.201
				Total Standby Amps	0.125	Total Alarm Amps	4.426

Battery Calculations	Standby Current		Alarm Current
Control Panel Card Power	0.125		0.225
Power For External Peripheral Devices	0.000		4.201
	0.125	<-- Totals -->	4.426
Additional Battery Capacity Required 20%	0.025		0.885
Standby Time = 24 Hrs	3.600	Standby Ah	
Alarm Time = 5 Mins.	0.443	Alarm Ah	
Standby + Alarm =	4.043		
Battery Required 2081-9272 6.2AH	5.229	Total Ah Required (see note below)	
Battery Supplied 2081-9274 10AH			

Note: The total Ah required takes into account any physical and chemical properties of battery discharge rates, high alarm current draw of a battery after a long (standby) low current draw, and reflects the manufacturers discharge rates per their recommendations and UL standards.

NAC7 - 4TH FLOOR WEST WING ELECTRICAL ROOM

NAC SCHEDULE / VOLTAGE DROP CALCULATION
12 % MAXIMUM VOLTAGE DROP FROM NOMINAL OPERATING VOLTAGE
CIRCUIT OUTPUT VOLTAGE = 19 VOLTS (FOR CALCULATIONS)×

CIRCUIT	DESCRIPTION	CIRCUIT TYPE	A/V CH70-24MCW-FR 15cd 0.060000	A/V CH70-24MCW-FR 30cd 0.092000	A/V CH70-24MCW-FR 75cd 0.165000	V/D RSS-24MCW-FR 15cd 0.060000	V/D RSS-24MCW-FR 30cd 0.092000	A/D CH70-24-R CHIME 0.022	VOLTAGE DROP TOTALS: TOTAL CKT. LOAD (AMPS)	WIRE GAUGE (18, 16, 14, 12)	ESTIMATED CIRCUIT LENGTH	ACTUAL VOLTAGE DROP %	ACTUAL VOLTAGE DROP (VOLTS)	TOTAL CIRCUIT RESISTANCE	MAXIMUM ALLOWABLE CKT. LENGTH
N1NAC7-V1	4TH FLOOR EAST WING STROBES	V/D	4			5	2		0.724	14	620 ft.	11.48%	2.756	3.8 Ohms	648 ft.
N1NAC7-V2	4TH FLOOR EAST WING STROBES	V/D	8			3	1		0.752	14	623 ft.	11.99%	2.877	3.8 Ohms	624 ft.
N1NAC7-N3	4TH FLOOR EAST WING CHIMES	A/D						12	0.264	14	1150 ft.	7.77%	1.864	7.1 Ohms	1777 ft.
N1NAC7-V4	4TH FLOOR WEST WING SOUTH STROBES	V/D	6	1		1			0.512	14	380 ft.	4.98%	1.195	2.3 Ohms	916 ft.
N1NAC7-V5	4TH FLOOR WEST WING NORTH STROBES	V/D	3	1	1	4			0.677	14	305 ft.	5.28%	1.268	1.9 Ohms	693 ft.
N1NAC7-V6	4TH FLOOR WEST WING WEST STROBES	V/D	1	1	2	4			0.722	14	280 ft.	5.17%	1.241	1.7 Ohms	650 ft.
N1NAC7-N7	4TH FLOOR WEST WING CHIMES	A/D						25	0.550	14	850 ft.	11.96%	2.870	5.2 Ohms	853 ft.
SPARE	SPARE	SPARE							0.000	14	ft.	0.00%	0.000	0.0 Ohms	0 ft.
			Appliance Summary						4.201	Total Load (AMPS) FIRE					
			22	3	3	17	3	37							

METHOD USED TO CALCULATE VOLTAGE DROP:
((CIRCUIT LENGTH IN FEET X 2) (AMPS) (OHMS / FT))

Wire Resistance At
75 Degrees Celsius
167 Degrees Fahrenheit
Ohms / ft
10GA = 0.001210
12GA = 0.001930
14GA = 0.003070
16GA = 0.004890
18GA = 0.007770
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE)

× AS RECOMMENDED BY THE NFPA 72 HANDBOOK, VOLTAGE DROPS ARE CALCULATED USING A BATTERY VOLTAGE OF 20.4 VOLTS AND/OR LOW AC INPUT VOLTAGE AS DEFINED BY UL864. THIS TOOL ALSO FACTORS IN INTERNAL LOSSES INCURRED WITHIN THE CONTROL PANEL HARNESSING AND CIRCUITRY RESULTING IN A MINIMUM STARTING VOLTAGE OF 19 VOLTS AT THE CIRCUITS TERMINALS FOR THESE CALCULATIONS.

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

NICET CERTIFIED

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY — DATE 9/23/09

AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT 08 2009
SIGNED DATE

2009430204

SHEET NOTES

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

42" x 30"

tyco / Fire & Security / SimplexGrinnell

6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

©2001 SIMPLEXGRINNELL LP
ALL RIGHTS RESERVED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR

MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: GENERAL INFORMATION	
SHEET NUMBER: FA1.02	

EXISTING FIRE ALARM PANEL
TO BE GUTTED AND
USED AS A TERMINAL CABINET

2#14 AWG SIKUD (ALARM)
94#16 AWG SOLID (ZONES)
64#14 AWG SOLID (SIGNALS)

FIRE ALARM CONTROL PANEL
WITH 33AH BATTERIES

4100-8010 WITH
2081-9276

MAPNET
24VDC POWER
CHIME CIRCUIT
STROBE CIRCUIT
DOOR HOLDER RELAYS
ELEVATOR RECALL RELAYS
DAMPER RELAY
24VDC POWRE
ANNUNCIATOR COMM
RS485 PORT

18-2 TWISTED PAIR SHIELDED
2#14 AWG SOLID
RS485 CABLE

3#12 AWG SOLID
(WITH GROUND)

TO 120VAC
EMERGENCY
SUPPLY

4#14 AWG SOLID
(IN 1/2" CONDUIT)

TO OWNER PROVIDED
CITY APPROVED
CENTRAL STATION TIE

FIRE ALARM TRANSPONDER
WITH 33AH BATTERIES

4100-8019 WITH
2081-9276

3#12 AWG SOLID
(WITH GROUND)

TO 120VAC
EMERGENCY
SUPPLY

PHOTO SENSOR in DUCT HOUSING
4098-9701 in 4098-9706

MAPNET (+)
MAPNET (-)
SHIELD
18-2 TWISTED PAIR SHIELDED (M)
24VDC (+)
24VDC (-)
2#14 AWG SOLID (P)
4#18 AWG SOLID (2R)

NOTE:
DETECTOR RELAYS ARE PROGRAMMED
INDEPENDENT FROM THE DUCT
DETECTOR.

FOR FAN SHUTDOWN
AS REQUIRED

REMOTE TEST STATION
2098-9806
LIGHT KEY

THERMAL SENSOR in TRUEALARM BASE
4098-9732 in 4098-9785
4098-9613 in 4098-9788

PHOTO SENSOR in TRUEALARM BASE
4098-9701 in 4098-9785

2#18 AWG SOLID (R)
BLU WHT
REMOTE LIGHT
2098-9808

MAPNET (+)
MAPNET (-)
SHIELD
24VDC (+)
24VDC (-)
18-2 TWISTED PAIR SHIELDED (M)

MAPNET (+)
MAPNET (-)
24VDC (+)
24VDC (-)

ADDRESSABLE PULL STATION
2099-9795

CONTROL ZAM
2190-9163

TB1
TB2
SHIELD
MAPNET (-)
MAPNET (+)
24VDC (-)
24VDC (+)

USE CONTACTS
AS REQUIRED
FOR DOOR or WON DOOR RELEASE,
FOR FIRE SHUTTER RELEASE

COM
N/C
N/O
K1B

18-2 TWISTED PAIR SHIELDED (M)
2#14 AWG SOLID (P)

MONITOR ZAM
2190-9155

2#16 AWG SOLID
ZONE (-)
ZONE (+)
TO HEAT DETECTORS
SHOWN ON FA-6

TO FURTHER DEVICES
ON MAPNET RUNS

P.I.V. SWITCH,
WATERFLOW SWITCH or
VALVE TAMPER SWITCH
BY OTHERS

RED +
BLK -
YEL +
VIO -
GRY -
BRN
TYPICAL IAM ZONE
2#16 AWG SOLID (Z)
SET DIP SWITCH SW1-8 TO ON

INDIVIDUAL ADDRESSABLE MODULE
2190-9172

FIRE PUMP MONITOR
BY OTHERS

INDIVIDUAL ADDRESSABLE MODULE
2190-9172

CHIME/STROBE UNIT
4903-9202

ORG +
BRN -
LT.BLU +
TAN -
CHIME
STROBE

HORN/STROBE UNIT
4903-9202

HORN

NOTE:
CUT JUMPERS J1
& J2 TO SEPARATE
HORN & STROBE
CIRCUITS.

STROBE UNIT
4904-9112

10K ohm
1/2 Watt
E.O.L.R.
TYPICAL CHIME/HORN CIRCUIT

10K ohm
1/2 Watt
E.O.L.R.
TYPICAL STROBE CIRCUIT

DOOR HOLDER
2088-9588

BLU +
GRY -

INSTALL REVERSE BIAS DIODE IF DOOR HOLDER POWER
IS 24VDC, SUPPLIED BY FIRE ALARM CONTROL PANEL.
DIODES FOR DOOR HOLDERS ARE AVAILABLE FROM
SIMPLEX FIELD SERVICE TECHNICIAN.
CALL TO SCHEDULE VISIT AND PROCURE DIODES.

ELEVATOR CONTROLLER
BY OTHERS

PRIMARY FLOOR RECALL
ALTERNATE FLOOR RECALL

120VAC
HOT
NEU
SMOKE DAMPERS
BY OTHERS

COM
N/C
CONTACTOR
NOT SUPPLIED BY SIMPLEX
(NUMBER OF CONTACTS AS REQUIRED)

LCD REMOTE ANNUNCIATOR
4603-9101

SHIELD
- COMM-
+ COMM-
24VDC
+24VDC

WIRING OF GRAPHIC ANNUNCIATOR IS
SIMILAR TO REMOTE LCD ANNUNCIATOR

CRT/KEYBOARD
4190-9006

SIMPLEX
TIME
RECORDER
Co.

PRINTER
4190-9007

PANEL NOTES:
CONTRACTOR IS RESPONSIBLE FOR ALL TERMINATIONS TO FIRE ALARM PANEL. REFER TO FIRE ALARM PANEL PRINTS, SHIPPED WITH PANEL. FOR ACTUAL PANEL TERMINATIONS. DUE TO THE MODULAR DESIGN OF THE CONTROL PANEL, MODULE LOCATIONS ARE DETERMINED BY THE FACTORY AND ARE SHOWN ON FACTORY PRINTS, SHIPPED WITH PANEL.

DO NOT CONNECT THE POWER TO THE SYSTEM WITHOUT A SIMPLEX TECHNICAL REPRESENTATIVE PRESENT, OR WITHOUT PRIOR VERIFICATION OF THE SYSTEM BY SIMPLEX.

PANEL MUST BE CONNECTED TO A DEDICATED 120VAC EMERGENCY CIRCUIT, 20 AMP MAXIMUM, WITH A SEPARATE UNIFIED EARTH GROUND PER NEC ARTICLE 250.

ALL SHIELDED WIRE USED WITHIN THIS SYSTEM MUST HAVE PROPERLY DRESSED SHIELDS AND DRAIN WIRES. SHIELDS AND DRAINS MUST BE A CONTINUOUS CONDUCTOR, TAPED COMPLETELY AT EVERY JUNCTION AND TERMINATED ONLY AT THE TERMINAL DESIGNATED "SHIELD". UNDER NO CONDITION SHALL THE SHIELDS BE EXPOSED TO CONDUIT, OTHER WIRING, OR EQUIPMENT CABINETS.

AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS
INDICATED AND FIELD INSPECTIONS
WITH FUNCTIONAL TESTS
APPROVED OCT 0 9 2009
SIGNED DATE

2009430204

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY

9/23/09
DATE

NICET CERTIFIED

42" x 30"

tyco / Fire & Security / SimplexGrinnell

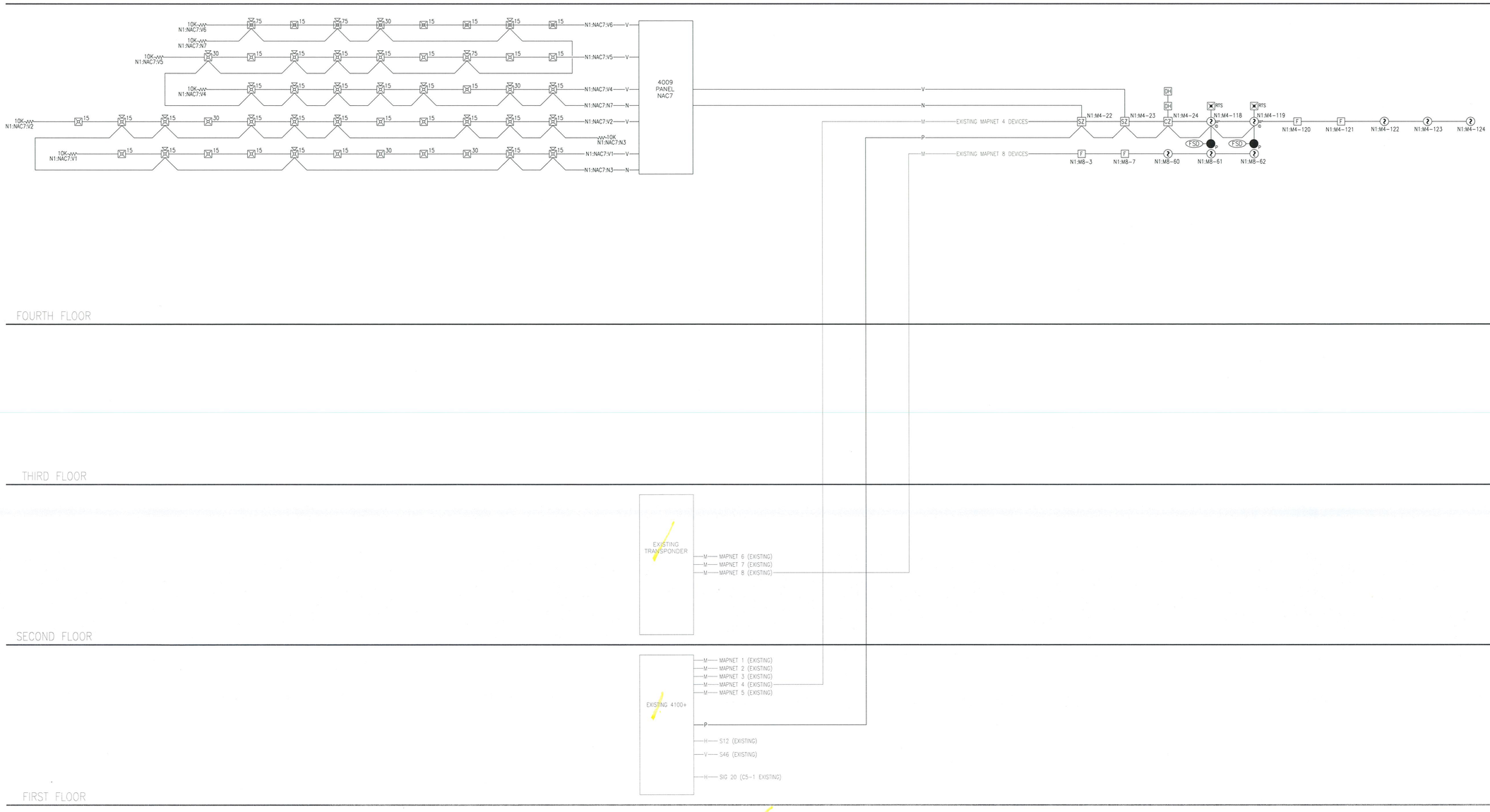
6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

©2009 SIMPLEXGRINNELL LP
ALL RIGHTS RESERVED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: TYPICAL WIRING	
SHEET NUMBER: FA2.01	



PARTIAL ONE LINE DIAGRAM

4TH FLOOR EAST AND WEST WING

AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT 01 2009
SIGNED DATE

2009430204

SHEET NOTES

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

NICET CERTIFICATION

NICET CERTIFIED

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY — DATE 9/23/09

tyco / Fire & Security / SimplexGrinnell
6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

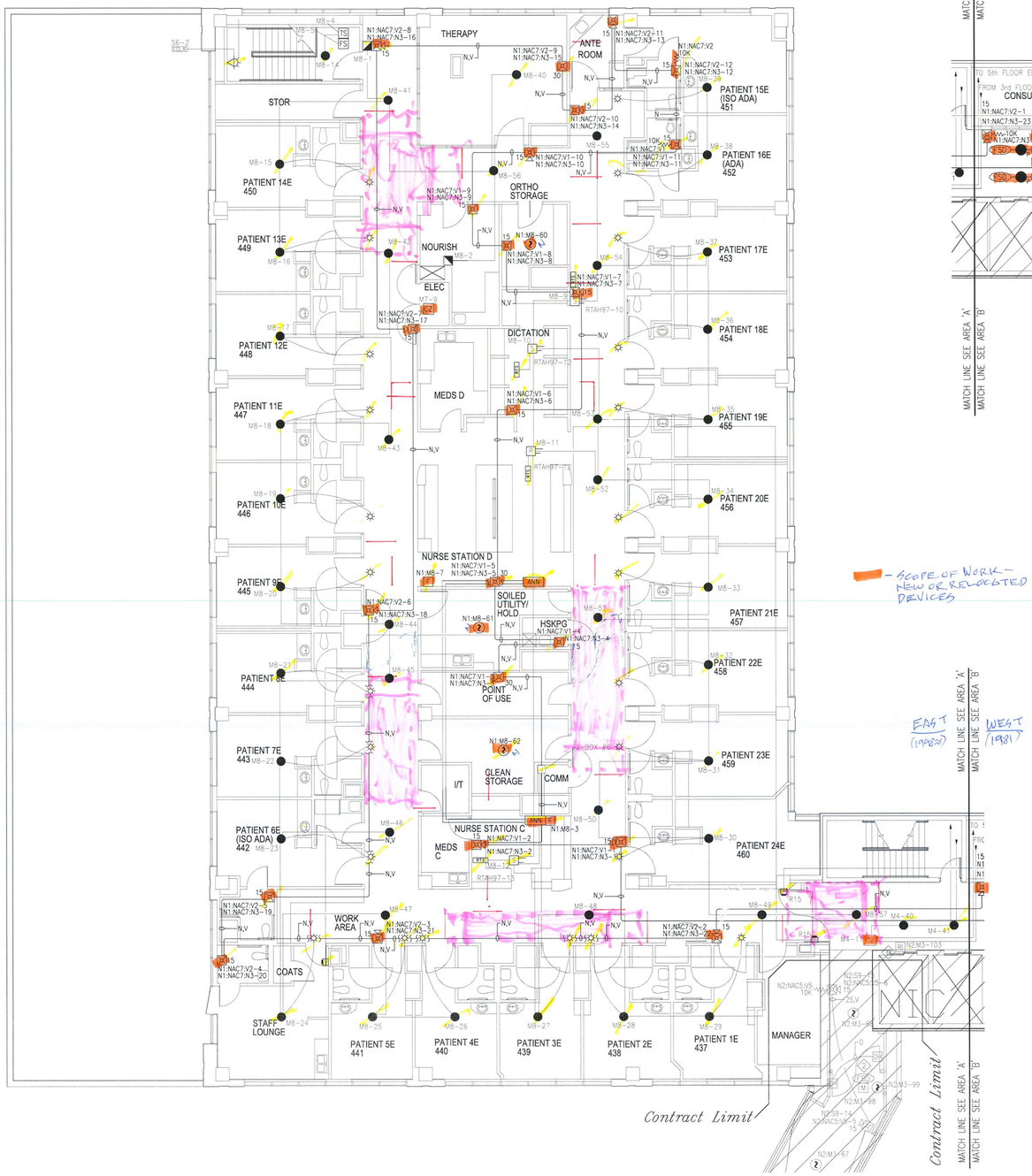
©2001 SIMPLEXGRINNELL LP
ALL RIGHTS RESERVED

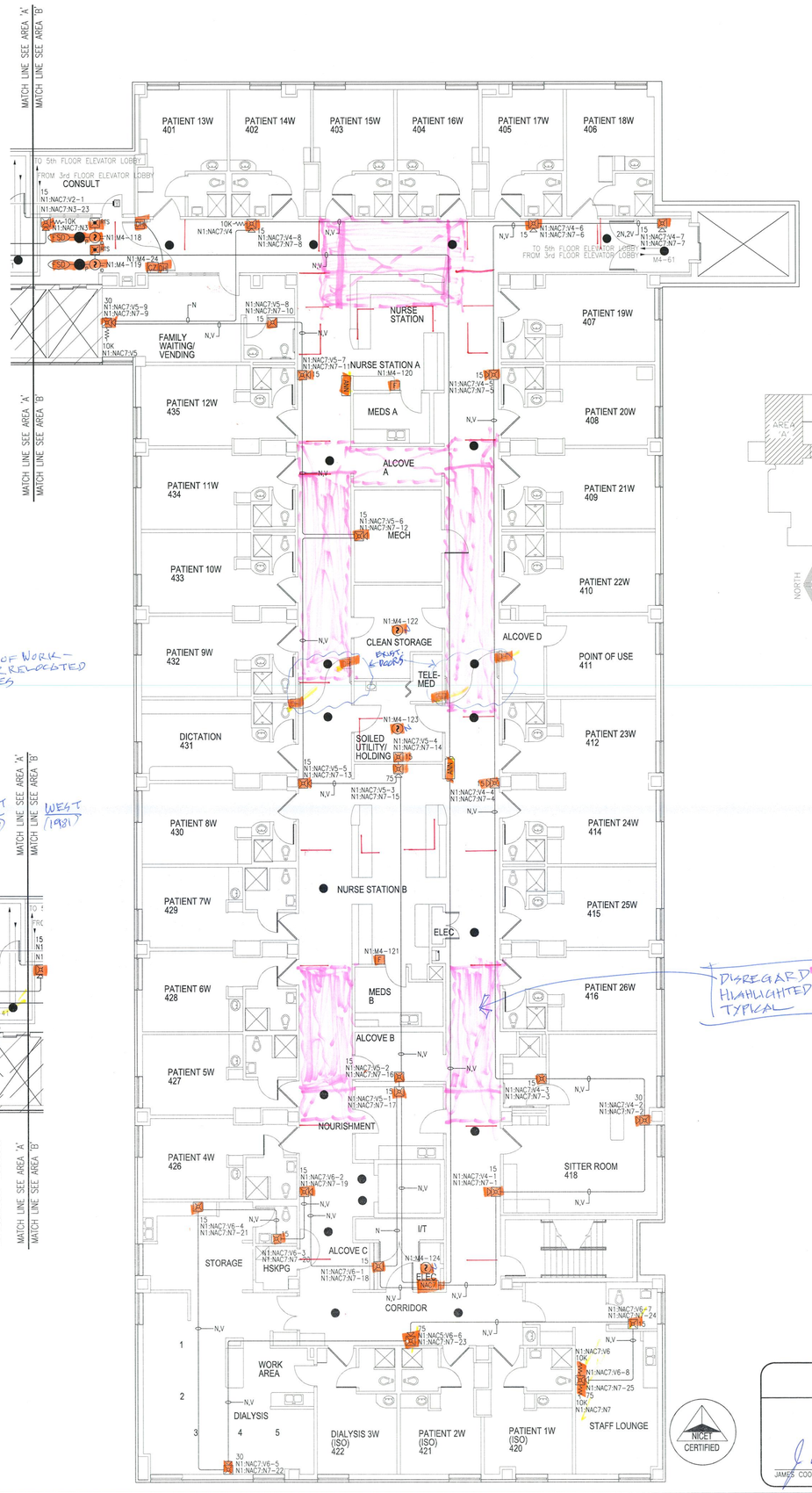
NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: PARTIAL ONE-LINE RISER DIAGRAM	
SHEET NUMBER: FA2.02	

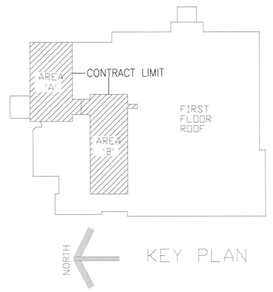
AS" x 30"





– SCOPE OF WORK – NEW OR RELOCATED DEVICES

DISREGARD "PINK" HIGHLIGHTED AREAS – TYPICAL



AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT. 08 2009
SIGNED DATE
2009430204

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY — 9/23/09 DATE

NICET CERTIFIED

tyco / Fire & Security / SimplexGrinnell

6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

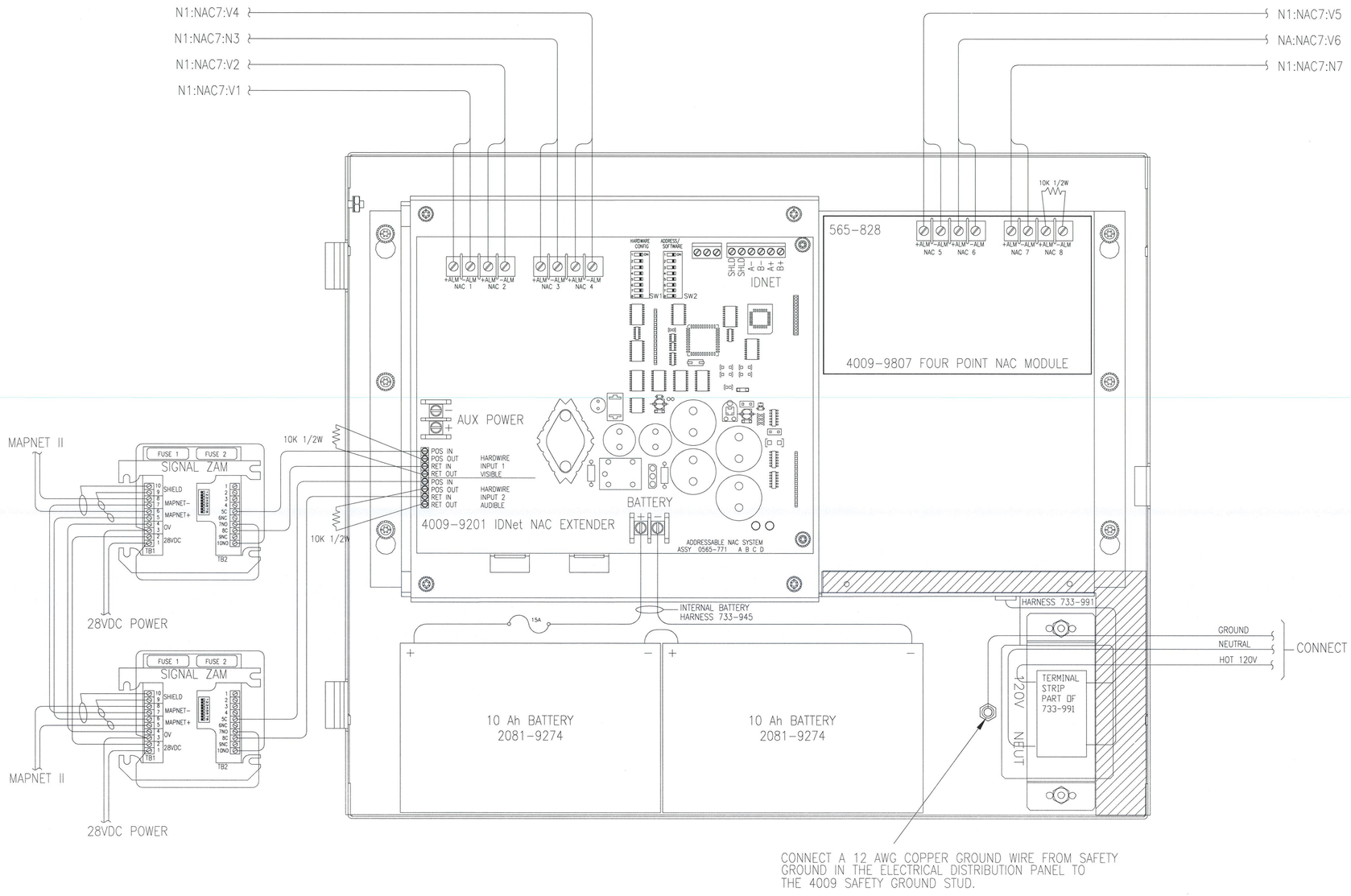
©2001 SIMPLEXGRINNELL LP
ALL RIGHTS RESERVED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: 1/8"=1'-0"	
SHEET TITLE: FOURTH FLOOR AREA 'A' AND AREA 'B'	
SHEET NUMBER: FA3.10	

24" x 36"



NAC PANEL 7

AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT 08 2009
SIGNED DATE

2009430204

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY — DATE 9/23/09

NICET CERTIFIED

tyco / Fire & Security / SimplexGrinnell
6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

©2001 SIMPLEXGRINNELL LLP
ALL RIGHTS RESERVED

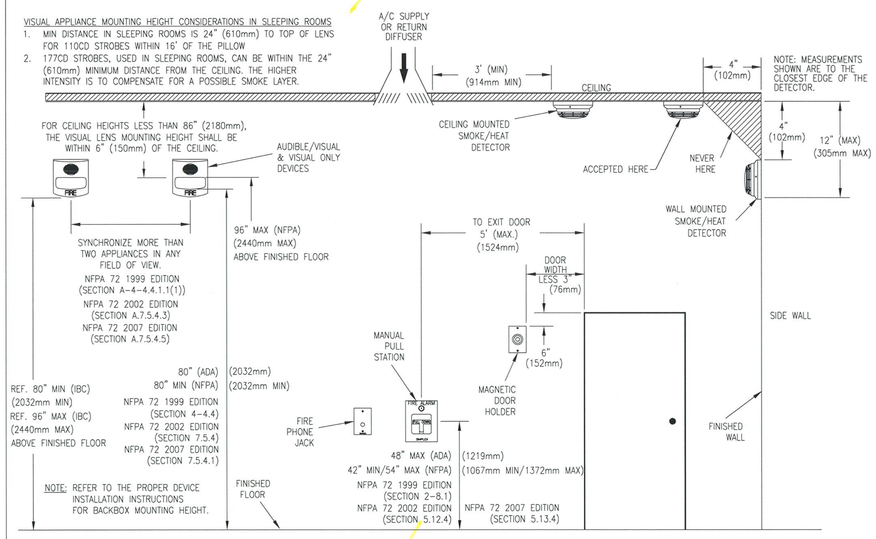
NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: 4009 NAC7 EXTENDER PANEL DETAIL	
SHEET NUMBER: FA4.01	

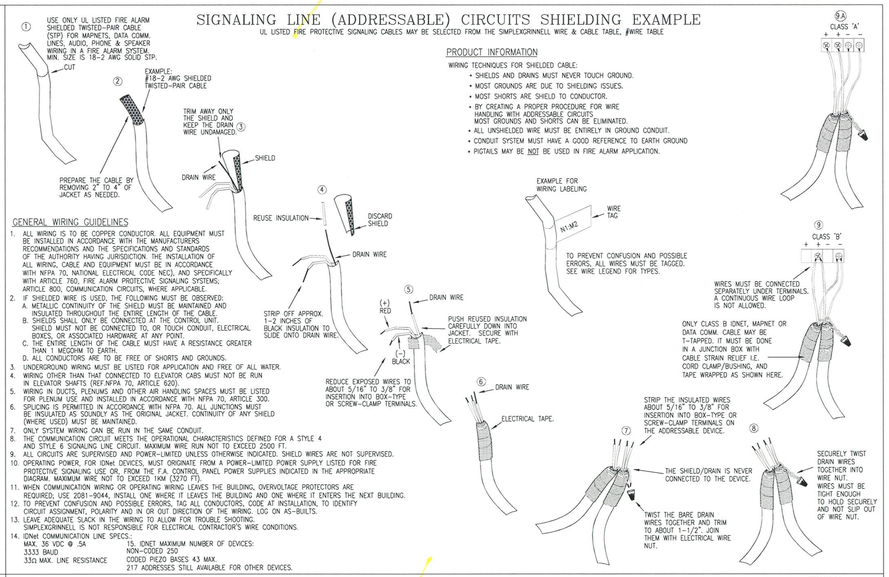
42" x 30"

DEVICE MOUNTING HEIGHTS (PER NFPA 72)



SIGNALING LINE (ADDRESSABLE) CIRCUITS SHIELDING EXAMPLE

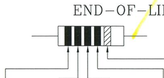
UL LISTED FIRE PROTECTIVE SIGNALING CABLES MAY BE SELECTED FROM THE SIMPLEXGRINNELL WIRE & CABLE TABLE, #WIRE TABLE



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. THE 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 FIRE ALARM 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 (3370 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. 35 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.

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	OMHS	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 MAPNET® II 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

4099-9003 IDNet DOUBLE ACTION PUSH STATION

PRODUCT INFORMATION

FEATURES:
- UL LISTED
- DOUBLE ACTION (PUSH/PULL), IDNET ADDRESSABLE
- PULL LEVEL PROTRUDES WHEN ALARMED
- TAMPER RESISTANT RESET KEY LOCK
- MOUNTING: SEMI-FLUSH, SURFACE
- OPERATING TEMPERATURE RANGE: 32 - 120° F
- OPERATING HUMIDITY RANGE: 0 - 93% RH
- ADAPTER PLATES 2099-9813 OR 2099-9814 CAN BE USE FOR RETROFIT APPLICATIONS.
- 5" HIGH X 3 3/4" WIDE X 1" DEEP
- SCREW TERMINALS FOR 18 TO 14 AWG WIRE
- ADDRESSED BY MEANS OF AN 8 POSITION DIP SWITCH
- COMPATIBLE WITH IDNet/MAPNET

OPERATION:
ACTIVATION:
4099-9003 DOUBLE ACTION STATION REQUIRES A FIRM DOWNWARD PULL TO ACTIVATE THE ALARM SWITCH. COMPLETING THIS ACTION BREAKS AN INTERNAL PLASTIC BREAK-ROD THAT IS VISIBLE BELOW THE PULL LEVER (USE OF PLASTIC ROD IS OPTIONAL). THE PULL LEVEL LATCHES INTO THE ALARM POSITION AND REMAINS EXTENDED OUT OF THE HOUSING TO PROVIDE A VISIBLE INDICATION.

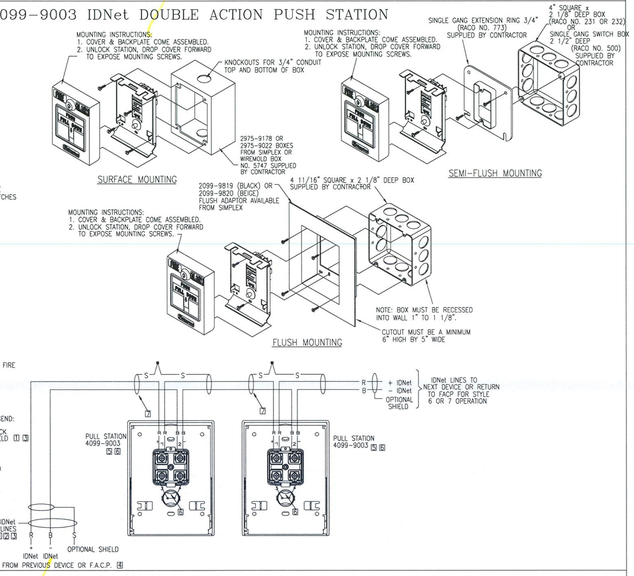
RESETTING
4099-9003 DOUBLE ACTION STATION REQUIRES A KEY TO RESET THE ACTIVATION LEVER AND DEACTIVATE THE ALARM SWITCH. (IF OPTIONAL PLASTIC BREAK ROD WAS USED IT MUST BE REPLACED)

CONSTRUCTION:
STATION HOUSING AND PULL LEVER ARE CONSTRUCTED OF CHIP RESISTANT AND DIRT RESISTANT, HIGH IMPACT LEXAN. HOUSING IS RED WITH RAISED WHITE LETTERING AND PULL LEVER IS WHITE WITH RED RAISED LETTERING.
* LEXAN IS A REGISTERED TRADEMARK OF THE GENERAL ELECTRIC CO.

APPLICATION:
PULL STATIONS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72 AND ADA GUIDE LINES.

INTRODUCTION:
THE 4099-9003 ADDRESSABLE PULL STATION PROVIDES TWO-STATE STATUS INFORMATION (NORMAL AND SHORT) TO THE IDNET COMPATIBLE FIRE ALARM CONTROL PANEL (FACP) VIA THE IDNET CHANNEL. THE IDNET CHANNEL PROVIDES THE COMMUNICATION LINK BETWEEN PULL STATION AND THE FACP AND POWERS THE ENTIRE CIRCUITRY.

WIRING:
1. ALL WIRING TO COMPLY WITH LOCAL CODE.
2. CONDUCTORS MUST TEST FREE OF ALL GROUNDS.
3. MAINTAIN CORRECT POLARITY.
4. IDNET LINES ARE TO BE 18 AWG TWISTED SHIELDED PAIR
5. MAXIMUM LINE RUN FROM PANEL TO FARTHEST DEVICE NOT TO EXCEED 2500 FEET.
6. MAXIMUM TOTAL WIRE (INCLUDING ALL T-TAPS) FROM PANEL NOT TO EXCEED 10,000 FEET.
7. MAXIMUM QUANTITY OF DEVICES PER CIRCUIT: 250
8. TERMINALS 1 AND 2 FOR FIELD WIRING. TERMINALS 3 AND 4 ARE FACTORY WIRING.
9. WIRE NUT, SPLICE, OR SOLDER THE SHIELD WIRES.
10. IF SHIELD IS PRESENT, IT SHOULD BE CONNECTED TO THE OUTGOING IDNET SHIELD TO PROVIDE A CONTINUOUS SHIELD OVER THE LENGTH OF THE IDNET CHANNEL. SHIELD SHOULD BE INSULATED FROM THE ELECTRICAL BOX.
11. SEE INSTALLATION INSTRUCTIONS 574-332



4098-9792 STANDARD SENSOR BASE

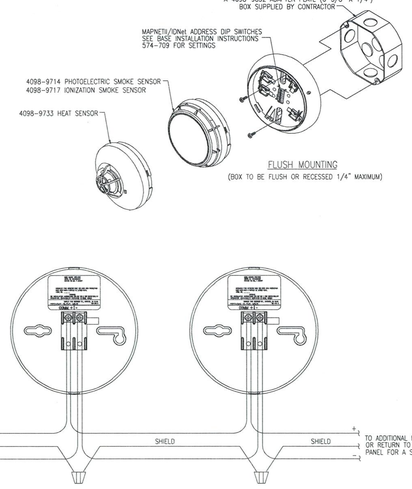
PRODUCT INFORMATION

FEATURES:
- UL LISTED, FM APPROVED
- TRUEALARM ANALOG SENSING PROVIDES DIGITAL TRANSMISSION OF ANALOG SENSOR VALUES VIA MAPNET®, OR IDNet 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:
  - –FIXED 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, 4100U
- 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 93% RH
- PHOTOELECTRIC SENSOR AIR VELOCITY RANGE: 0-2000 FT/MIN
- IONIZATION SENSOR AIR VELOCITY RANGE: 0-300 FT/MIN
- WIRING CONNECTIONS: SCREW TERMINALS FOR IN/OUT WIRING, #18 TO #14 AWG
- COMMUNICATIONS MAPNET®/IDNet: 1 ADDRESS PER BASE
  VOLTAGE (MAPNET®/IDNet): 24-40VDC
  CURRENT: 400uA TYPICAL

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

WIRING:
1. ALL WIRING TO COMPLY WITH LOCAL CODE.
2. CONDUCTORS MUST TEST FREE OF ALL GROUNDS.
3. MAINTAIN CORRECT POLARITY.
4. MAPNET®/IDNet WIRING TO BE #18 AWG TWISTED SHIELDED PAIR
5. IF SHIELD IS USED, TWIST SHIELD WIRES TOGETHER AND CAP WITH WIRE NUT. SHIELD SHOULD BE INSULATED FROM ELECTRICAL BOX.
6. REFER TO INSTALLATION INSTRUCTIONS (574-707)
7. REFER TO APPLICATION MANUAL (574-709)



4098-9751 TRUEALARM IN-DUCT SENSOR HOUSING WITH RELAY OUTPUT

PRODUCT INFORMATION

FEATURES:
- UL LISTED TO STANDARD 268A
- MONITORS AIR DUCTS FOR THE PRESENCE OF SMOKE
- FOR USE WITH SIMPLEX MODEL 4098-9714 TRUEALARM PHOTOELECTRIC SMOKE SENSOR
- SMOKE SENSING IS OPTIMIZED WITH MINIMAL AIRFLOW RESTRICTION
- RED ALARM LED INDICATOR IN HOUSING
  - – VISIBLE THROUGH TRANSPARENT HOUSING COVER
  - – PULSING INDICATES POWER-ON, STEADY ON INDICATES ALARM OR TROUBLE AS INDICATED AT THE FIRE ALARM CONTROL PANEL
- BASE MOUNTED ADDRESS SELECTION
  - –REMAINS WITH LOCATION
  - –ACCESSIBLE FROM FRONT (UNDER SENSOR)
- MAXIMUM QUANTITY OF DEVICES:
  - –127 FOR 4020, 4100, AND 4120
  - –250 FOR 4010
- RELAY OPERATION IS PROGRAMMABLE FROM FIRE ALARM CONTROL PANEL
- 24VDC POWER IS SUPPLIED BY FIRE ALARM SYSTEM
- COLOR : GRAY

SPECIFICATIONS:
- AIR VELOCITY: 35 TO 2000 FT./MIN.
- DATA COMMUNICATIONS: MAPNET II/IDNet
- MAPNET II/IDNet CURRENT: 1 mA
- UL LISTED TEMPERATURE RANGE: 32° F TO 100° F
- OPERATING TEMPERATURE RANGE: 32° F TO 122° F
- HUMIDITY RANGE:10 TO 93%, RH
- WIRING CONNECTIONS: TERMINAL BLOCKS, #18 TO #14 AWG
- AUXILIARY RELAY VOLTAGE: 18 TO 32 VDC
- AUXILIARY RELAY STANDBY CURRENT: 240 uA @ 24 VDC
- AUXILIARY RELAY ALARM CURRENT: 30 mA @ 24 VDC
- AUXILIARY ALARM RELAY CONTACTS: FORM "C", 1A @ 24VDC, FOR TRANSIENT SUPPRESSED LOADS

APPLICATION:
- – RECTANGULAR DUCTS FROM 6" SQUARE UP TO 36" SQUARE
- – ROUND DUCTS, 6" TO 8" DIAMETER
- – DUCTS FROM 37" TO 72" WIDE MAY BE MONITORED USING A SENSOR ON EACH SIDE

PREFERRED IN-DUCT SENSOR LOCATIONS:
1. A MINIMUM OF SIX DUCT WIDTHS DOWNSTREAM FROM BENDS OR INLETS TO AVOID AIR TURBULENCE.
2. ON THE DOWNSTREAM SIDE OF FILTERS TO DETECT FIRES IN THE FILTERS.
3. IN RETURN DUCTS, AHEAD OF MIXING AREAS.
4. UPSTREAM OF AIR HUMIDIFIER AND COOLING COILS.
5. WITH ACCESSIBILITY FOR TEST AND SERVICE.
6. FOR ADDITIONAL INFORMATION, REFER TO NFPA 90A, STANDARD FOR THE INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS.

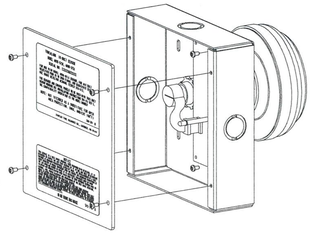
LOCATIONS TO AVOID:
1. WHERE DAMPERS CLOSED FOR COMFORT CONTROL WOULD INTERFERE WITH AIRFLOW.
2. NEXT TO OUTSIDE AIR INLETS (UNLESS THE INTENT IS TO MONITOR SMOKE ENTRY FROM THAT AREA).
3. IN RETURN AIR DAMPER BRANCH DUCTS AND MIXING AREAS WHERE AIRFLOW MAY BE RESTRICTED.

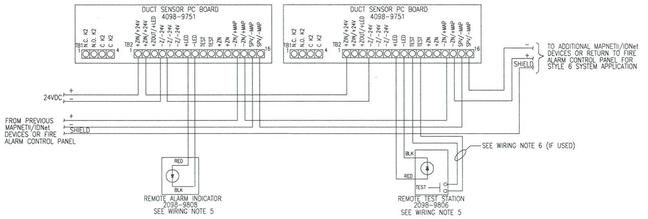
DESCRIPTION:
MODEL 4098-9751 PROVIDES A MINIMAL RESTRICTION IN-DUCT ASSEMBLY THAT MOUNTS A SIMPLEX 4098-9714 PHOTOELECTRIC TRUEALARM ANALOG SENSOR DIRECTLY INTO THE AIRFLOW. THE RESULT IS A COMPACT INSTALLATION THAT PROVIDES THE HIGH RELIABILITY PERFORMANCE OF TRUEALARM ANALOG SENSING, FEATURING: PROGRAMMABLE SENSITIVITY, CONSISTENT ACCURACY, ENVIRONMENTAL COMPENSATION, STATUS TESTING, AND MONITORING OF SENSOR DIRT ACCUMULATION.

OPTIONS:
2098-9806: REMOTE TEST STATION, PROVIDES A REMOTE RED ALARM LED STATUS INDICATOR AND A REMOTE TEST KEY SWITCH MOUNTED ON A SINGLE GANG STAINLESS STEEL PLATE. TURNING THE TEST SWITCH TO "TEST" WILL INITIATE AN ALARM AND ALLOW THE RESULTING SYSTEM RESPONSES TO BE VERIFIED.

2098-9808: REMOTE ALARM INDICATOR, PROVIDES A REMOTE ALARM LED STATUS INDICATOR MOUNTED ON A SINGLE GANG STAINLESS STEEL PLATE.

WIRING:
1. MAPNET II/IDNet WIRING TO BE #18 AWG TWISTED SHIELDED PAIR.
2. MAXIMUM ALLOWABLE LINE RUN FROM 4010, 4020, 4100 OR 4120 TO FARTHEST DEVICE, NOT TO EXCEED 2500 FT.
3. MAXIMUM TOTAL WIRE (INCLUDING ALL T-TAPS) ON CIRCUIT: FROM 4010, 4020, OR 4100, OR 4120 NOT TO EXCEED 10,000 FT.
4. FOR MAXIMUM VOLTAGE DROP, ETC., REFER TO STI* SALES ENGINEER'S 4010, 4020, 4100, OR 4120 FIELD WIRING GUIDE.
5. THE 2098-9806 AND 2098-9808 ARE POLARIZED; OBSERVE COLOR CODED WIRING.
6. MAXIMUM WIRE LENGTH TO TERMINALS IS 50FT.
7. ALL WIRING TO COMPLY WITH LOCAL CODE.
8. CONDUCTORS MUST TEST FREE OF ALL GROUNDS.
9. REFER TO INSTALLATION INSTRUCTIONS (574-711).
10. REFER TO PANEL FIELD WIRING DIAGRAMS FOR ADDITIONAL INFORMATION.
11. DC POWER LINES TO BE MINIMUM #14 AWG OR TO LOCAL CODES





AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT 0 8 2009
SIGNED DATE
2009430204

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12
JAMES ZOOLEY
9/23/09 DATE

NICET CERTIFIED

tyco / SimplexGrinnell / Fire & Security

6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

©2001 SIMPLEXGRINNELL LP
ALL RIGHTS RESERVED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY:	DATE:
SKB	08/20/09
DESIGNED BY:	DATE:
SKB	08/20/09
APPROVED BY:	DATE:
JC	07/17/09
PROJECT #:	
945770701	
SCALE:	
N.T.S.	
SHEET TITLE:	

2088-9609 MAGNETIC DOOR HOLDER

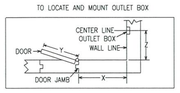
PRODUCT INFORMATION

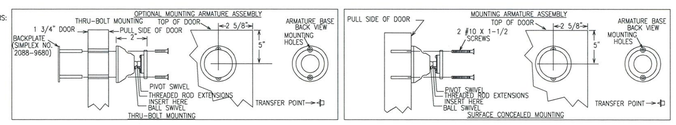
FEATURES:
- UL LISTED
- CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS: 2088-9609 DOOR HOLDERS 3550-0026:232
- MOUNTING: WALL, SEMI-FLUSH
- FINISH: DOUBLE PLATED CHROME

SPECIFICATIONS:
- VOLTAGE RANGE: OPERATES WITH 24 VDC, 24 VAC, OR 120 VAC
- CURRENT: 15 mA

DESCRIPTION:
2088-9607 MAGNETIC DOOR HOLDERS HAVE A MINIMUM HOLDING FORCE OF 25 LBS. UNDER NORMAL CONDITIONS, THE ELECTROMAGNET IS ENERGIZED TO HOLD OPEN THE DOOR. IN THE EVENT OF A FIRE, THE SIMPLEX FIRE ALARM CONTROL PANEL, OR AN APPROVED PERIPHERAL APPLIANCE, WILL AUTOMATICALLY INTERRUPT THE VOLTAGE TO THE DOOR HOLDER RELEASING THE DOOR TO PREVENT THE SPREAD OF SMOKE. DOORS MAY BE MANUALLY OPENED WHEN THE DOOR HOLDER IS ENERGIZED.

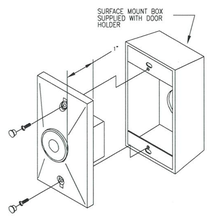
WIRING:
- ALL WIRING TO COMPLY WITH LOCAL CODE.
- MAINTAIN CORRECT POLARITY
- CONDUCTORS MUST TEST FREE OF ALL GROUNDS.





MOUNTING ARMATURE INSTRUCTIONS

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

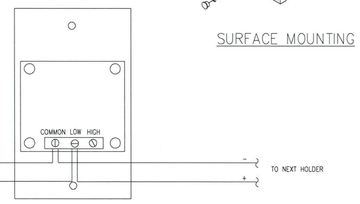


SURFACE MOUNTING

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

X = DIMENSION OF DOOR JAMB TO WALL

1. REFER TO DRAWING & CHART TO LOCATE OUTLET BOX.
2. INSTALL THE OUTLET BOX ON THE HORIZONTAL CENTER LINE 5" FROM TOP OF DOOR.



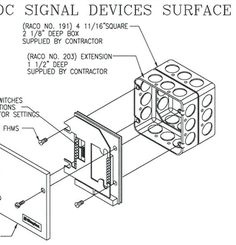
2190-9161 CLASS B SIGNAL ZAM W/ 24 VDC SIGNAL DEVICES SURFACE MOUNT

PRODUCT INFORMATION

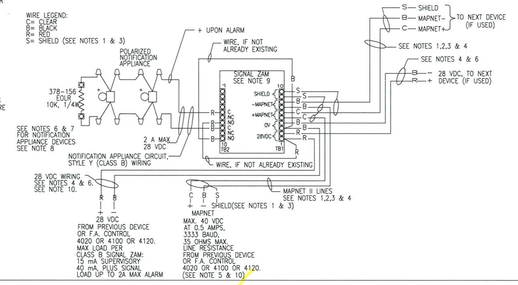
SPECIFICATIONS:
- DEVICE QTY: 127 MAPNET II DEVICES ON A SINGLE PAIR OF WIRES
- OPERATING TEMPERATURE RANGE: 32° F TO 120° F
- HUMIDITY RANGE: 85% NON-CONDENSING @ 86° F
- OUTPUT CAPACITY IS UP TO 2A @ 24 VDC
- SUPERVISORY DC CURRENT: 15 mA } MAX LOAD PER ZAM
- ALARM DC CURRENT: 40 mA

DESCRIPTION:
SIGNAL ZAMS ARE USED TO SUPERVISE AND OPERATE 24 VDC NOTIFICATION APPLIANCES, SPEAKERS, AND TELEPHONE CIRCUITS.

WIRE NOTES:
1. MAPNET II LINES ARE TO BE #18 AWG TWISTED SHIELDED PAIR (CONSULT YOUR LOCAL SIMPLEX BRANCH FOR EXCEPTIONS).
2. MAXIMUM ALLOWABLE LINE RUN FROM 4020 OR 4100 OR 4120 TO FARTHEST DEVICE, NOT TO EXCEED 2500 FEET.
3. MAXIMUM TOTAL WIRE (INCLUDING ALL T-TAPS) ON CIRCUIT, FROM 4020 OR 4100 OR 4120 NOT TO EXCEED 10,000 FEET.
4. FOR MAXIMUM VOLTAGE DROP ETC. REFER TO STR SALES ENGINEERING'S 4020 OR 4100 OR 4120 FIELD WIRING GUIDE.
5. MAX QTY OF DEVICES PER CIRCUIT: 127 IF 4020 OR 4100 OR 4120 SYSTEM.
6. MINIMUM NO. 14 AWG WIRE FOR 28 VDC WIRING, OR TO LOCAL CODE.
7. RIPPLE VOLTAGE ALLOWED: 100% / 120 Hz
8. NOTIFICATION APPLIANCE DEVICES RATED 21-30 VDC, STR MODEL NUMBERS: BELLS 2901-9331, -9332, OR -9333 CHIME 2902-9207 HORNS 2901-9838, -9839, -9840, OR -9841
9. SEE INSTALLATION INSTRUCTIONS 575-279
10. WHEN COMMUNICATION WIRING OR OPERATING WIRING LEAVES THE BUILDING, OVERVOLTAGE PROTECTORS ARE ARE REQUIRED.



SURFACE MOUNTING



MAPNET II ADDRESSABLE CONTROL ZAM 2190-9163

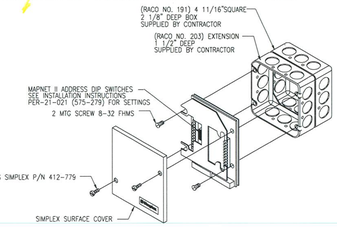
PRODUCT INFORMATION

FEATURES:
- UL LISTED
- FM APPROVED
- CALIFORNIA STATE FIRE MARSHAL LISTING NUMBERS: 2088-9163 CONTROL ZAM: 7300-0026:182
- ZONE ADAPTER MODULES (ZAMS) PROVIDE ADDRESSABILITY TO CONVENTIONAL CIRCUITS
- FOR USE WITH SIMPLEX MAPNET II COMMUNICATIONS.
- NFPA STYLE 4 OR 6 COMMUNICATIONS
- STYLE 4 WIRING MAY BE EITHER "T" TAPPED OR IN/OUT
- DIP SWITCH ADDRESS SELECTION, 8 SWITCHES
- MOUNTING: SURFACE

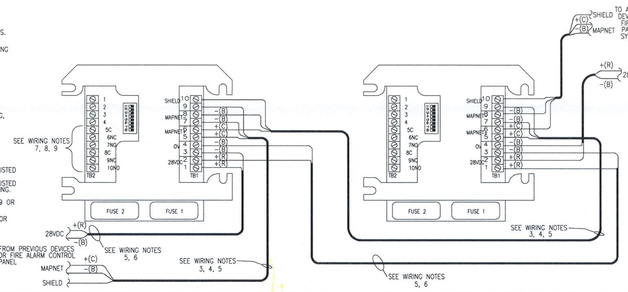
SPECIFICATIONS:
- DEVICE QTY: 127 MAPNET II DEVICES ON A SINGLE PAIR OF WIRES
- OPERATING TEMPERATURE RANGE: 32° F TO 120° F
- HUMIDITY RANGE: 85% NON-CONDENSING @ 86° F
- CONTROL ZAM RELAY CONTACTS ARE RATED AT: .5A @ 120 VAC OR 2A @ 28 VDC, RESISTIVE
- SUPERVISORY DC CURRENT: 10 mA } MAX LOAD PER ZAM
- ALARM DC CURRENT: 40 mA

DESCRIPTION:
CONTROL ZAMS ARE USED TO PROVIDE ADDRESSABLE CONTROL FUNCTIONS SUCH AS ELEVATOR CAPTURE, HVAC CONTROL, PRESSURIZATION FAN CONTROL, DAMPER CONTROL

WIRING:
1. ALL WIRING TO COMPLY WITH LOCAL CODE.
2. CONDUCTORS MUST TEST FREE OF ALL GROUNDS.
3. MAPNET II LINES ARE TO BE #18 AWG TWISTED SHIELDED PAIR (CONSULT STR SALES ENGINEERING FOR EXCEPTIONS).
4. MAXIMUM ALLOWABLE LINE RUN FROM 4020 OR 4100 OR 4120 TO FARTHEST DEVICE NOT TO EXCEED 2500 FEET.
5. FOR MAXIMUM VOLTAGE DROP ETC. REFER TO STR SALES ENGINEERING'S 4020 OR 4100 OR 4120 FIELD WIRING GUIDE.
6. MINIMUM NO. 14 AWG WIRE FOR 28 VDC WIRING, OR TO LOCAL CODE.
7. CONTRACTOR WIRING TO RELAY CONTACTS IS UNSUPERVISED. USE NO. 14 AWG, OR TO LOCAL CODE.
8. RELAY CONTACTS RATED 2A, 28 VDC FOR DC LOADS. POWER MUST BE PROVIDED FROM F.A. CONTROL 4020 OR 4100 OR POWER SUPPLY LISTED FOR FIRE PROTECTIVE SIGNALING USE. DERATE CONTROL 4020 OR 4100 OR POWER SUPPLY LISTED CURRENT RATING BY 50% FOR INDUCTIVE LOADING.
9. REFER TO INSTALLATION INSTRUCTIONS 575-279 OR 575-592
10. REFER TO FIELD WIRING DIAGRAMS 841-804 OR 841-996.



SURFACE MOUNTING



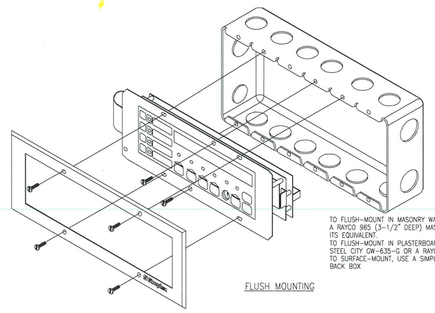
4603-9101 REMOTE ANNUNCIATOR

PRODUCT INFORMATION

FEATURES:
- UL LISTED
- FM APPROVED
- FLUSH MOUNT ON STANDARD ELECTRICAL BOXES

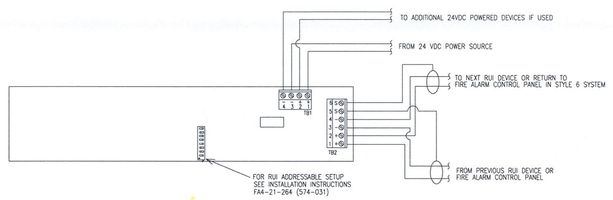
SPECIFICATIONS:
- VOLTAGE: 24VDC NOMINAL
- CURRENT: ALARM 170mA SUPERVISORY 30mA
- OPERATING TEMPERATURE: 32° F TO 120° F
- HUMIDITY RANGE: 10% TO 90% RH FROM 32° F TO 104° F
- STANDARD TRIM: BEIGE (SUPPLIED WITH BOTH SLOTTED AND TAMPERPROOF SCREWS)

OPTIONS
- BRUSHED ALUMINUM TRIM: 4603-9111
- SURFACE BOX: 2975-9206
- DIMENSIONS 11 31/32"L X 4 5/8" W X 2 3/4"D
- FINISH: LIGHT BROWN ENAMEL



NOTES:
1. ALL WIRING TO BE No. 18 AWG OR TO LOCAL CODE.
2. ALL WIRING SUPERVISED
3. WIRE TO BE 18 AWG TWISTED SHIELDED PAIR RECOMMENDED CONSULT SALES ENGINEERING FOR EXCEPTIONS. 2500 FT ONE WAY MAX COMMUNICATION LINE POWER 32 VDC MAX 130 mA MAX 1200 OR 9600 BAUD
4. WHEN WIRING LEAVES THE BUILDING, OVER VOLTAGE PROTECTORS ARE REQUIRED; USE 2081-9044 ONE IS INSTALLED WHERE IT LEAVE THE BUILDING AND ONE WHERE IT ENTERS THE NEXT BUILDING. TWO 2081-9044 (MAX)

FLUSH MOUNTING

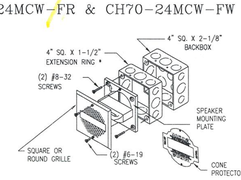


WHEELOCK CHIME STROBE
MODELS CH70-24MCW-FR & CH70-24MCW-FW

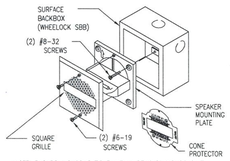
SPECIFICATIONS

VOLTAGE	STROBE @ 15CD AVERAGE CURRENT	STROBE @ 30CD AVERAGE CURRENT	STROBE @ 75CD AVERAGE CURRENT	STROBE @ 110CD AVERAGE CURRENT
16V DC	.060	.092	.165	.220
18V DC	.053	.082	.147	.195
24V DC	.041	.063	.109	.140

VOLTAGE	ANECHOIC PEAK dBA @ 10 FEET	dBA @ 10 FT REVERBERANT	RATED CHIME AVERAGE CURRENT
16V DC	80	52	.022
18V DC	80	58	.022
24V DC	83	58	.022

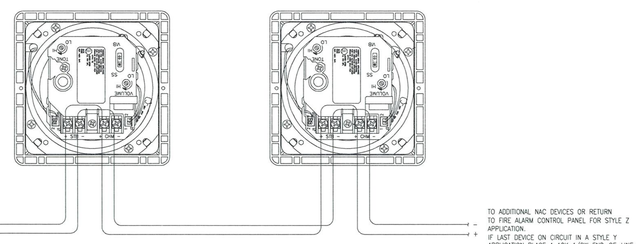


FLUSH MOUNTING



NOTE: BACKBOX IS COMPATIBLE WITH WIREMOLD AND CONDUIT. MOUNTING HOLES ARE FOR SINGLE-GANG, DOUBLE-GANG, 4" SQ. 3-1/2" & 4" OCTAGON OR ROUND BACKBOXES.

SURFACE MOUNTING



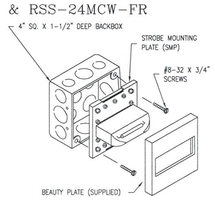
WHEELOCK MULTI-CANDELA STROBE
RSS-24MCW-FW & RSS-24MCW-FR

SPECIFICATIONS INFORMATION

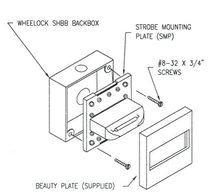
MODEL NUMBER	INPUT VOLTAGE	REGULATED VOLTAGE RANGE VDC/FWR	STROBE CANDELA	HOUSING COLOR
RSS-24MCW-FR	24	16.0-33.0	15, 30, 75, 110	RED
RSS-24MCW-FW				WHITE

AVERAGE CURRENT

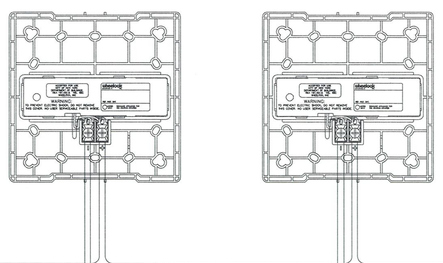
AVERAGE CURRENT RATINGS (AMPS)				
VOLTAGE	15cd	30cd	75cd	110cd
16.0 VDC	.060	.092	.165	.220
18.0 VDC	.053	.082	.147	.196
24.0 VDC	.041	.063	.109	.140



FLUSH MOUNTING



SURFACE MOUNTING



AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS INDICATED AND FIELD INSPECTIONS WITH FUNCTIONAL TESTS
APPROVED OCT 08 2009
SIGNED DATE

2009430204

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY — DATE 9/23/09

NICET CERTIFIED

tyco / SimplexGrinnell
Fire & Security
6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0800
FAX: (303) 355-0815

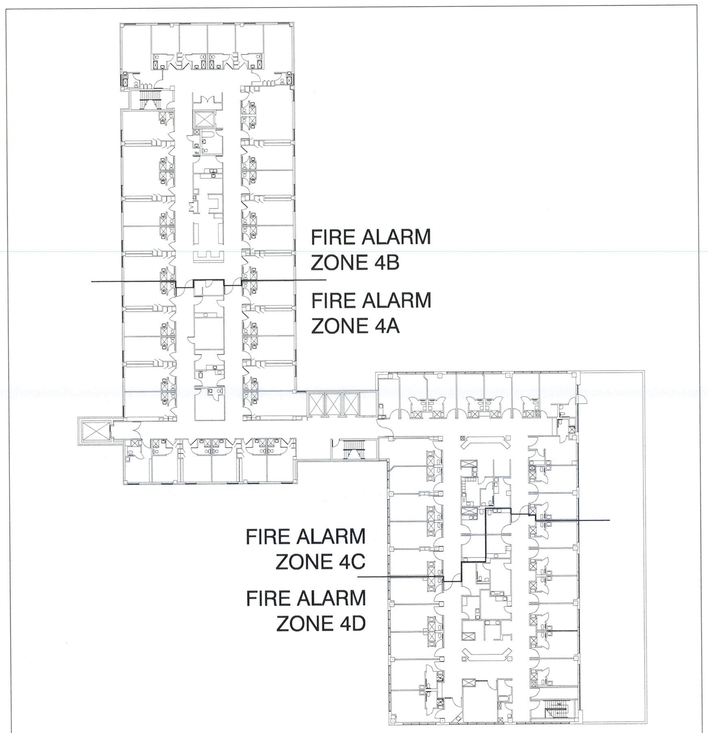
©2001 RMH ECGRINNELL LP ALL RIGHTS RESERVED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: PERIPHERAL WIRING DETAILS	
SHEET NUMBER: FA5.02	

22" x 36"



NOTE: ACTUAL GRAPHIC MAPS WILL BE PROVIDED BY HOPSPITAL 'GRAPHIC MAP UPGRADE PROJECT'.

FIELD VERIFY
NEW GRAPHIC MAPS MUST
MATCH FLOOR PLAN SHEET
FA3.10 AND MUST BE IN
PLACE PRIOR TO FINAL INSPECTION.

AURORA BUILDING DEPARTMENT
LIFE SAFETY SYSTEMS
APPROVED
SUBJECT TO CORRECTIONS AS
INDICATED AND FIELD INSPECTIONS
WITH FUNCTIONAL TESTS
SIGNED
APPROVED OCT 08 2009
DATE
2009430204

NICET CERTIFICATION

TECHNICAL AREA 00303: LEVEL IV
CERTIFICATE #: 109355
VALID THROUGH: 09/01/12

JAMES COOLEY
9/23/09
DATE

NICET CERTIFIED

NO.	DATE	REVISION DESCRIPTION
A	09/23/09	COMMENTS PER AHJ (SKB)

tyco / Fire & Security / SimplexGrinnell

6240 SMITH ROAD
DENVER, COLORADO 80216
SALES: (303) 355-0500
SERVICE: (303) 355-0500
FAX: (303) 355-0615

©2001 SIMPLEXGRINNELL LP
ALL RIGHTS RESERVED

FIRE ALARM SYSTEM FOR:
MCOA 4TH FLOOR
MEDICAL CENTER OF AURORA
1501 S. POTOMAC
AURORA, CO 80012

DRAWN BY: SKB	DATE: 08/20/09
DESIGNED BY: SKB	DATE: 08/20/09
APPROVED BY: JC	DATE: 07/17/09
PROJECT #: 945770701	
SCALE: N.T.S.	
SHEET TITLE: GRAPHIC MAP	
SHEET NUMBER: FA6.01	

42" x 30"