



Fire Marshal Division

July 18, 2018

Brett Strickland
P.O. Box 4200
Buies Creek, N.C. 27506

**Re: CU Football Storage Room
180 Wade Stewart Circle
Lillington, NC**

Application Number 18-50044460

Mr. Strickland,

Thank you for submitting the plans for the building alterations. The plans have been carefully reviewed by a qualified code enforcement official to examine for compliance with the North Carolina Fire Prevention Code and all other fire protection regulatory documents. There are some items that were found during the plan review process that need to be addressed before a final inspection of the facility can be given. These items are outlined and described below.

- **Fire Alarm System Upgrade Notes**

All items in notes are to be completed at the time of final.

- Provide a record of completion.
- The Fire marshal's office will complete an acceptance test at completion of project.
- Provide a copy of account history after the acceptance test is completed and approve.
- Provide an accurate zone map at the FACP and remote annunciator panel.
- All work/installation shall be compliant with the NCSFC and NFPA 72.
- Call Fire Marshal's office to schedule the fire alarm acceptance test. (910-984-4003)

- **Notes**

- **All additions to existing systems shall properly communicate to existing fire panel.**
- **A fire alarm construction permit is required.**



- **Please schedule all inspections through the Fire Marshal's Office.
910-984-4003.**

Thank you again for submitting the plans for the building alterations. Please review the plans and adhere to any notes and alterations that were made in addition to the original drawings. If you have any questions, please do not hesitate to call this office.

Again, thank you and we look forward to working with you during the construction period!

Sincerely,



D. Banks Wallace
Chief Deputy Fire Marshal

PROJECT: CAMPBELL FOOTBALL FIELD HOUSE

PROJECT NUMBER: 18:608017801/250:439927

LOCATION: BUIES CREEK, NC

FIRE ALARM SYSTEM

DATE: 08-15-18

Submitted By:



540 Civic Boulevard, Suite 105
Raleigh, NC 27610

919-279-6400
FAX 919-279-6439

Sales Rep: Gordon Gibb

Prepared by: Joe Simmons



50 Technology Drive
Westminster, Ma 01441-0001
(978) 731-2500
FAX: (978) 731-7856

TO:
Southeastern Interiors
PO Box 4200
BUIES CREEK, NC 27506-0000

Project: Campbell Fieldhouse Add Customer
Johnson Controls Reference: 608017801
Date: 08/15/2018
Page 1 of 1

QUANTITY	MODEL NUMBER	DESCRIPTION
		Fire Alarm Parts
		Fire Alarm Parts
2	4099-9006	STATION-LED, DA PUSH ADDR
1	4098-9714	PHOTO SENSOR
1	4098-9792	SENSOR BASE
1	4906-9129	HORN/STROBE MC WHITE

Features

Individually addressable manual fire alarm stations with:

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

Compatible with the following Simplex® control panels:

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

Compact construction:

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

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

Multiple mounting options:

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

Description

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

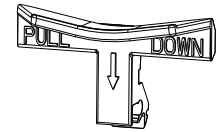
* Refer to page 2 for specific model listings. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7150-0026:224 for allowable values and/or conditions concerning material presented in this document.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



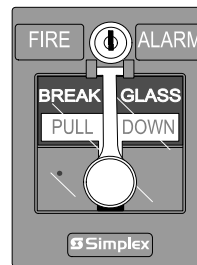
4099-9004
Single action



4099-9021
NO GRIP
Single action



4099-9805
NO GRIP
Retrofit kit



4099-9005
Breakglass



4099-9006
Push



With 2099-9828
Institutional
Cover kit

Operation

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

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

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

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

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

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

Addressable Manual Station Product Selection

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

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

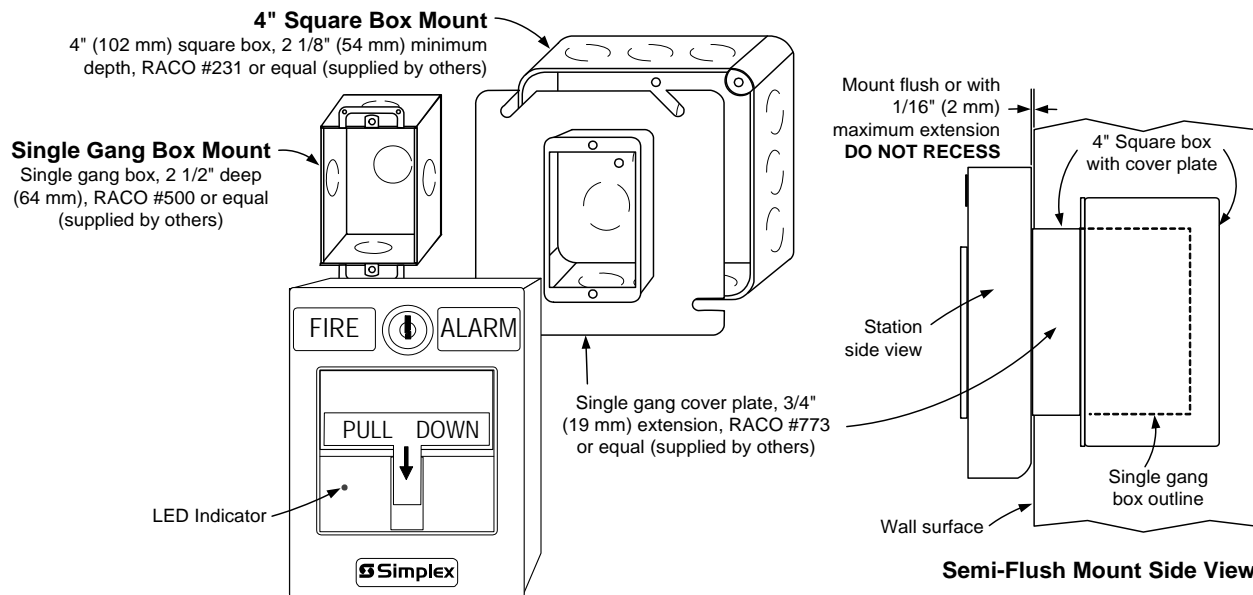
Accessories (refer to pages 3 and 4 for details)

Model	Description	Model	Description
2975-9022	Cast aluminum surface mount box, red	2099-9803	Replacement breakglass
2975-9178	Surface mount steel box, red	2099-9804	Replacement break-rod
2099-9813	Semi-flush trim plate for double gang switch box, red	2099-9828	Institutional cover kit for field installation on 4099-9004; Note: Covers LED indicator
2099-9819	Flush mount adapter kit, black	2099-9814	Surface trim plate for Wiremold box V5744-2, red
2099-9820	Flush mount adapter kit, beige	2099-9822	Replacement retaining clip for breakglass
4099-9805	Retrofit Kit for field conversion of a single action station to a NO GRIP station; refer to Installation Instructions 579-1007 for details		

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

Power and Communications	IDNet or MAPNET II communications, 1 address per station
Address Means	DIP switch, 8 position
Wire Connections	Screw terminal for in/out wiring, for 18 to 14 AWG wire (0.82 mm ² to 2.08 mm ²)
UL Listed Temperature Range	32° to 120° F (0° to 49° C) intended for indoor operation
Humidity Range	Up to 93% RH at 100° F (38° F)
Housing Color	Red with white raised lettering
Material	Housing and pull lever are Lexan polycarbonate or equal
Pull Lever Color	White with red raised lettering
Housing Dimensions	5" H x 3 3/4" W x 1" D (127 mm x 95 mm x 25 mm)

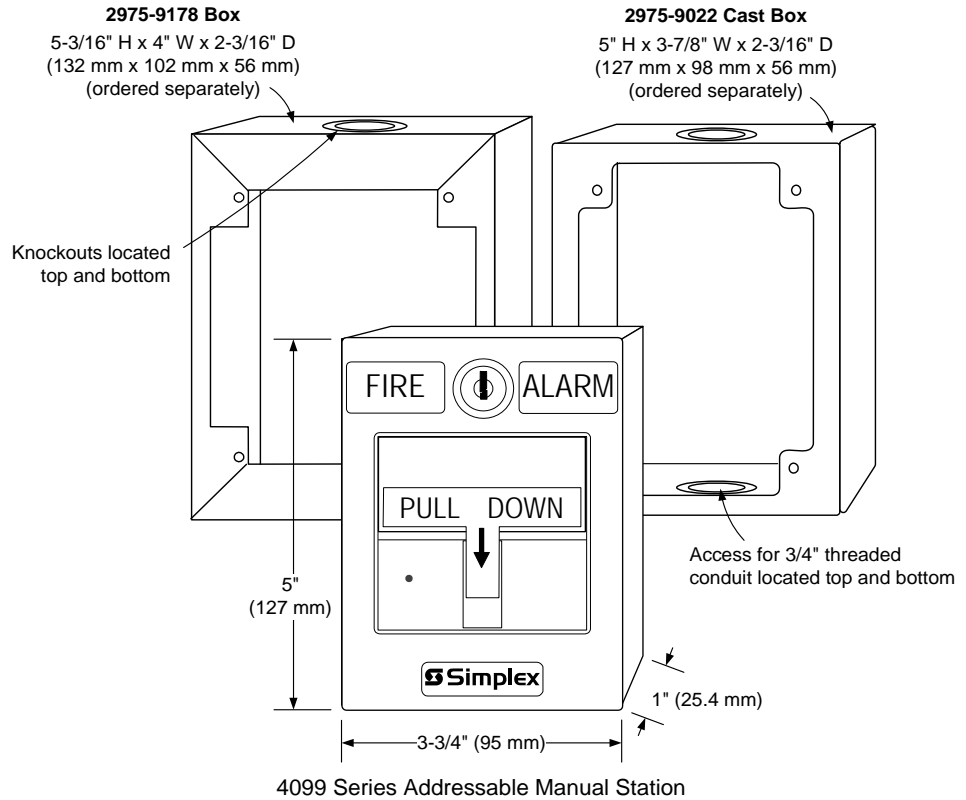
Addressable Manual Station Semi-Flush Mounting



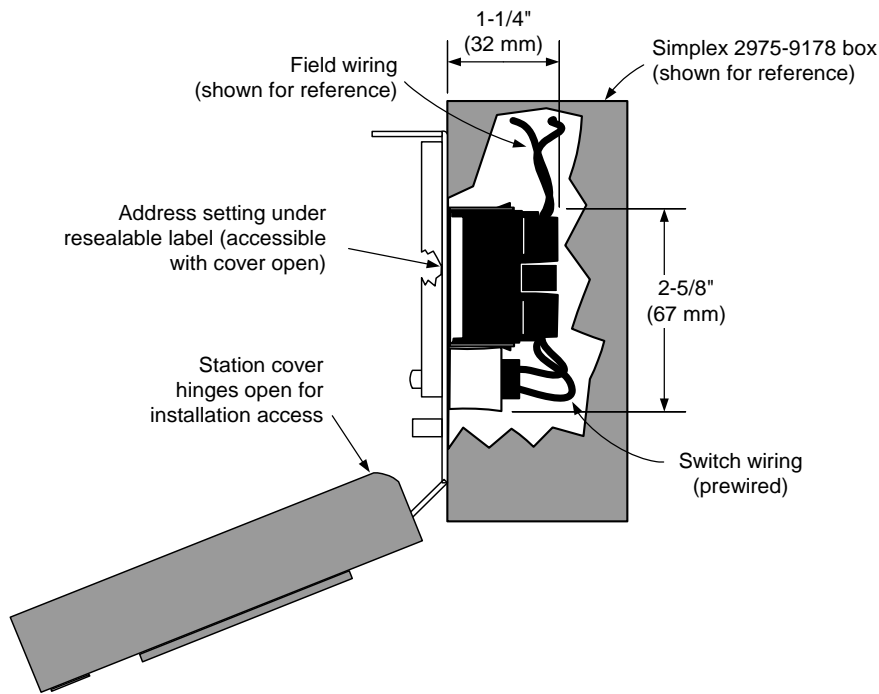
Addressable Manual Stations Surface Mounting

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

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



Surface Mount Side View with Internal Detail



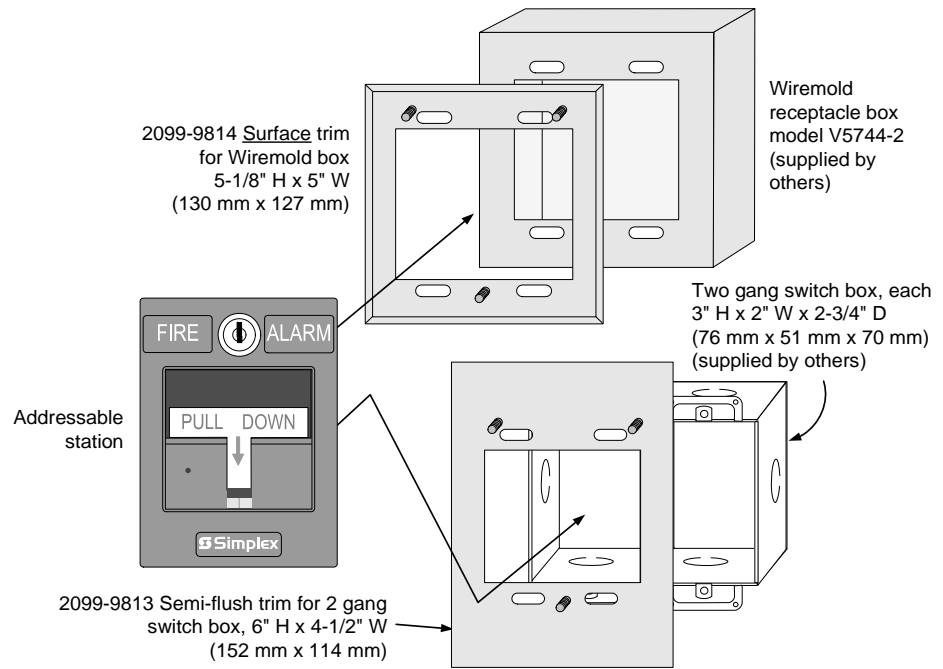
Application Reference

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

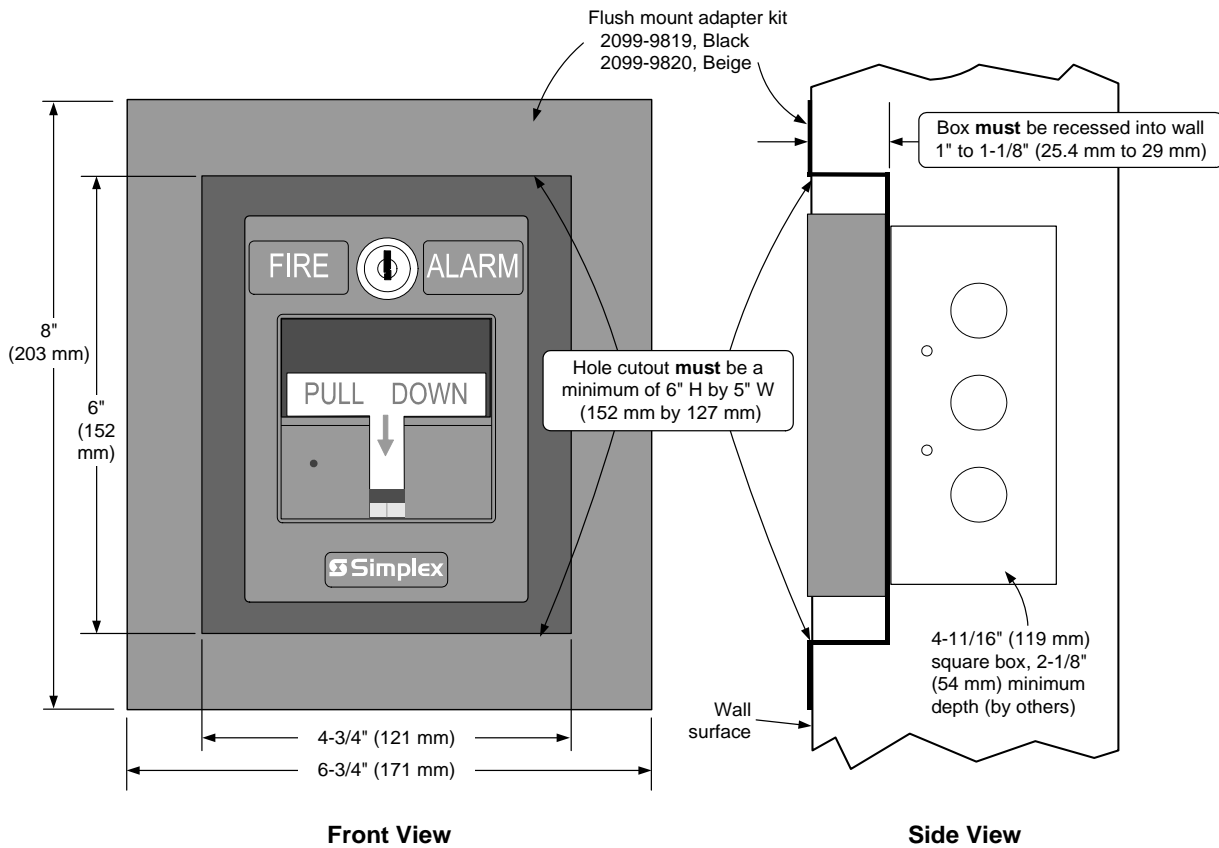
1. Stations shall be located in the normal path of exit and distributed in the protected area such that they are unobstructed and readily accessible.
2. Mounting shall be with the operable part not less than 42 in (1.07 m) and not more than 48 in (1.22 m) above floor level.
3. At least one station shall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

Addressable Manual Station, Additional Mounting Information

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



Addressable Manual Station, Flush Mounting Information



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Features

TrueAlarm analog sensing provides:

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

For use with the following Simplex® products:

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

Fire alarm control panel provides:

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

Photoelectric smoke sensors provide:

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

Heat sensors provide:

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

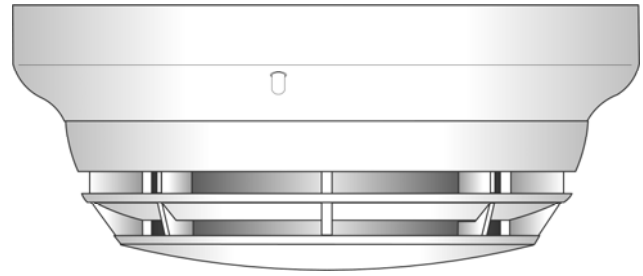
General features:

- Operation is for ceiling or wall mounting
- Listed to UL 268 and ULC-S529
- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- Designed for EMI compatibility
- Magnetic test feature is provided
- Different bases are available to support a supervised or unsupervised output relay, and/or a remote LED alarm indicator

Additional base reference:

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

* These products have been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listings 7272-0026:218, 7271-0026:231, 7270-0026:216, and 7300-0026:217 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Additional listings may be applicable, contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.



4098-9714 TrueAlarm Photoelectric
Sensor Mounted in Base

Description

Digital Communication of Analog Sensing.

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

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

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

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

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

TrueAlarm Sensor Bases and Accessories

Sensor Base Features

Base mounted address selection:

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

General features:

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

Sensor Bases

4098-9792, Standard Sensor Base

4098-9789, Sensor Base with wired connections for:

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

Supervised Relay Bases (not compatible with 2120 CDT):

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

Sensor Base Options

2098-9737, Remote or local mount supervised relay:

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

4098-9860, Remote or local mount supervised relay:

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

4098-9822, LED Annunciation Relay:

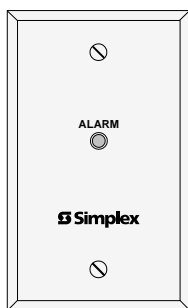
- Activates when base LED is on steady, indicating local alarm or trouble
- DPDT contacts for resistive/suppressed loads, power limited rating of 2 A @ 28 VDC; non-power limited rating of 1/2 A @ 120 VAC, (requires external 24 VDC coil power)

4098-9832, Adapter plate:

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

2098-9808, Remote red LED Alarm Indicator:

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



Description

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

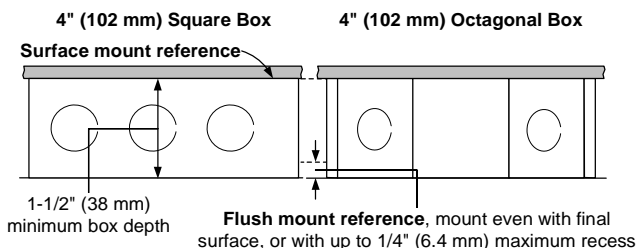
Since TrueAlarm sensors use the same base, different sensor types can be easily interchanged to meet specific location requirements. This feature also allows intentional sensor substitution during building construction. When conditions are temporarily dusty, instead of covering the smoke sensors (causing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

Mounting Reference

Electrical Box Requirements: (boxes are by others)

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

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



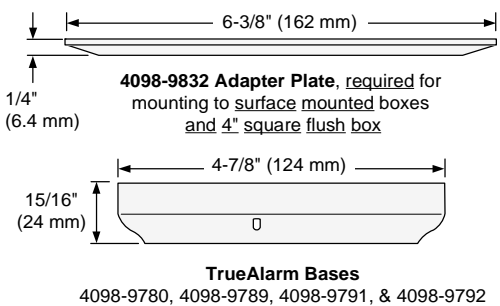
2098-9737 Supervised Relay
(mounts in base electrical box or remotely)

Relay Size: 2-1/2" X 1-1/2" X 1"
(3.75 in³) (64 mm X 38 mm X 25.4 mm)

4098-9822 Relay (mounts in base electrical box)

4098-9860 Supervised Relay (mounts in base electrical box or remotely; 2-3/8" X 1-1/4" X 11/32" (1 in³) (60.4 mm X 31.8 mm X 8.6 mm))

NOTE: Review total wire count, wire size, and accessories being wired to determine required box volume.



TrueAlarm Sensors

Features

Sealed against rear air flow entry

Interchangeable mounting

EMI/RFI shielded electronics

Heat sensors:

- Selectable rate compensated, fixed temperature sensing with or without rate-of-rise operation
- Rated spacing distance between sensors:

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

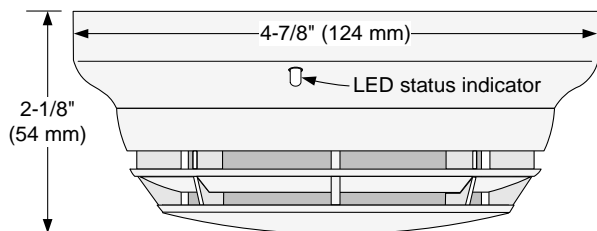
Smoke Sensors:

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

4098-9714 Photoelectric Sensor

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

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



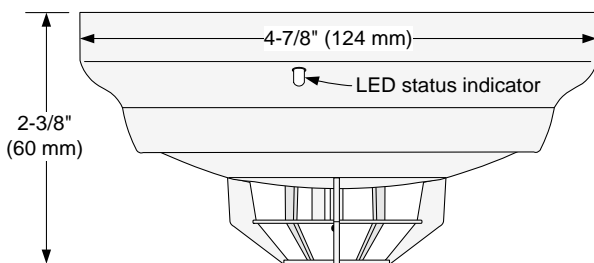
4098-9714 Photoelectric Sensor with Base

4098-9733 Heat Sensor

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

Rate-of-rise temperature detection is selectable at the control panel for either 15° F (8.3° C) or 20° F (11.1° C) per minute. Fixed temperature sensing is independent of rate-of-rise sensing and programmable to operate at 135° F (57.2° C) or 155° F (68° C). In a slow developing fire, the temperature may not increase rapidly enough to operate the rate-of-rise feature. However, an alarm will be initiated when the temperature reaches its rated fixed temperature setting.

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



4098-9733 Heat Sensor with Base

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

Application Reference

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

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

TrueAlarm Analog Sensing Product Selection Chart

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

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

Model*	Color	Description	Compatibility	Mounting Requirements
4098-9792	White	Standard Sensor Base	No options	4" octagonal or 4" square box, 1-1/2" min. depth; or single gang box, 2" min. depth
4098-9776	Black			
4098-9789	White	Sensor Base with connections for Remote LED Alarm Indicator or Unsupervised Relay	2098-9808 Remote Alarm Indicator or 4098-9822 Unsupervised Relay	4" octagonal or 4" square box Note: Box depth requirements depend on total wire count and wire size, refer to accessories list below for reference. ** NOTE: 4098-9791 and 4098-9780 are NOT compatible with the 2120 CDT
4098-9789 IND	White			
4098-9775	Black			
4098-9791**	White	4-Wire Sensor Supervised Relay Base with connections for LED Indicator or Unsupervised Relay	2098-9737 Supervised Remote Relay 2098-9808 Remote Alarm Indicator or 4098-9822 Unsupervised Relay	
4098-9780**	White	2-Wire Sensor Supervised Relay Base with connections for LED Indicator or Unsupervised Relay	4098-9860 Supervised Remote Relay 2098-9808 Remote Alarm Indicator or 4098-9822 Unsupervised Relay	

TrueAlarm Sensors

Model*	Model*	Description	Compatibility	Mounting Requirements
4098-9714	White	Photoelectric Smoke Sensor	Bases 4098-9775, 4098-9776, 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Refer to base requirements
4098-9714 IND	Black			
4098-9774	Black	Heat Sensor		
4098-9733	White			
4098-9778	Black			

TrueAlarm Sensor/Base Accessories

Model	Description	Compatibility	Mounting Requirements
2098-9737	Supervised Relay, mounts remote or in base electrical box	For use with 4098-9791 base	Remote Mounting requires 4" octagonal or 4" square box, 1-1/2" minimum depth Base Mounting requires 4" octagonal box, 2-1/8" deep with 1-1/2" extension ring
4098-9860	Supervised Relay, mounts remote or in base electrical box	For use with 4098-9780 base	
2098-9808	Remote Red LED Alarm Indicator on single gang stainless steel plate	Bases 4098-9789, 4098-9791, and 4098-9780	Single gang box, 1-1/2" minimum depth
4098-9822	Unsupervised Relay, tracks base LED status; Note: Mounts only in base electrical box	Bases 4098-9789, 4098-9791, and 4098-9780	4" octagonal box, 2-1/8" deep with 1-1/2" extension ring
4098-9832	Adapter Plate	Bases 4098-9792, 4098-9789, 4098-9791, and 4098-9780	Required for surface or semi-flush mounted 4" square box and for surface mounted 4" octagonal box

* Note: Model numbers ending in IND are assembled in India.

Specifications

General Operating Specifications

Communications and Sensor Supervisory Power	IDNet or MAPNET II communications, auto-selected, 1 address per base
Communications Connections	Screw terminals for in/out wiring, 18 to 14 AWG (0.82 mm ² to 2.08 mm ²)
Remote LED Alarm Indicator Current	1 mA typical, no impact to alarm current
Remote LED Alarm Indicator and Relay Connections	Color coded wire leads, 18 AWG (0.82 mm ²)
UL Listed Operating Temperature Range	32° to 100° F (0° to 38° C)
Operating Temperature Range	with 4098-9733 Heat Sensor: 32° to 122° F (0° to 50° C) with 4098-9714 Smoke Sensor: 15° to 122° F (-9° to 50° C)
Storage Temperature Range	0° F to 140° F (-18° C to 60° C)
Humidity Range	10 to 95% RH
4098-9714 Smoke Sensor Air Velocity Rating	0-4000 ft/min (0-1220 m/min)
Housing Color	Frost White or Black

4098-9791 Base With Supervised Remote Relay 2098-9737 (see page 2 for contact ratings)

Externally Supplied Relay Coil Voltage	18-32 VDC (nominal 24 VDC)
Supervisory Current	270 µA, from 24 VDC supply
Alarm Current with 2098-9737 Relay	28 mA, from 24 VDC supply

4098-9780 Base With Supervised Remote Relay 4098-9860 (see page 2 for contact ratings)

Power	Supplied from communications
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4098-9822 Unsupervised Relay, Requirements for Bases 4098-9789, 4098-9791, and 4098-9780 (see page 2 for contact ratings)

Externally Supplied Relay Coil Voltage	18-32 VDC (nominal 24 VDC)
Supervisory Current	Supplied from communications
Alarm Current	13 mA from separate 24 VDC supply

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S4098-0019-22 10/2016

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Features**Audible/visible (A/V) notification appliances with efficient electronic horn and high output xenon strobe, available for wall or ceiling mount**

- Operation is compatible with ADA requirements (refer to important installation information on page 3)
- Rugged, high impact, flame retardant thermoplastic housings are available in red or white with clear lens

Operates over a two-wire SmartSync circuit to provide:

- Horns that are controlled separately from strobes on the same two-wire circuit
- “On-until-silenced” and “on-until-reset” operation on the same two-wire pair
- SmartSync horn activation of Temporal pattern, March Time pattern (at 60 BPM), or on continuously
- Strobe appliances on the same circuit operating at a synchronized 1 Hz flash rate
- Class B operation requires connection to a compatible SmartSync NAC or to SmartSync Control Module (SCM) 4905-9938
- Class A operation when connected to the 4905-9938 SCM or with 4100U series fire alarm control panel NACs

Wall mount A/Vs features:

- Wiring terminals are accessible from the front of the housing providing easy access for installation, inspection, and testing
- Covers are available separately to convert housing color
- Available UL listed sound damper for locations requiring attenuation of 5 to 6 dBA (stairwells, small rooms, highly reverberant areas, etc.)

Optional adapters and wire guards:

- Wall mount A/V adapters are available to cover surface mounted electrical boxes and to adapt to Simplex® 2975-9145 boxes
- UL listed red wire guards are available for wall or ceiling mount A/Vs

Visible notification appliance (strobe):

- 24 VDC xenon strobe; intensity is selectable as 15, 30, 75, or 110 candela with visible selection jumper secured behind strobe housing
- UL listed to Standard 1971
- Regulated circuit design ensures consistent flash output and provides controlled inrush current

Audible notification appliance (horn):

- Low current, 24 VDC electronic horn with harmonically rich sound output suitable for either steady or coded operation (Temporal or 60 BPM March Time pattern)
- UL listed to Standard 464



Wall and Ceiling Mount A/Vs

Description

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

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

Ceiling mount A/Vs install using standard 4” electrical boxes. Color choice is determined by model number.

Strobe Intensity Selection

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

* This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7125-0026:317 for allowable values and/or conditions concerning material presented in this document. Accepted for use – City of New York Department of Buildings – MEA35-93E. Refer to page 2 for listing status of wire guards. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Fire Protection Products.

Strobe Application Selection

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

Synchronized Strobes

Multiple Strobes. When multiple strobes and their reflections can be seen from one location, synchronized flashes reduce the probability of photo-sensitive reactions as well as the annoyance and possible distraction of random flashing. The multi-candela strobes of these A/Vs are synchronized by the controlling SmartSync operation NAC.

Product Selection

Multi-Candela A/Vs

Model	Mounting	Housing Color	"FIRE" Lettering	Description
4906-9127	Wall	Red	White	Horn with Multi-Candela Strobe; strobe intensity selectable as: 15, 30, 75, or 110 candela; operates with SmartSync two-wire control
4906-9129		White	Red	
4906-9128	Ceiling	Red	White	
4906-9130		White	Red	

Wall Mount A/V Accessories

Model	Description	Dimensions
4905-9937	Red Surface Mount Adapter Skirt; use to cover 1-1/2" (38 mm) deep surface mounted boxes	5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm) depth with strobe = 4-3/8" (111 mm)
4905-9940		
4905-9931	Red Adapter Plate for mounting to Simplex 2975-9145 box (typically for retrofit, may be mounted vertical or horizontal)	8-5/16" x 5-3/4" x 0.060" Thick (211 mm x 146 mm x 1.5 mm)
2975-9145	Red Mounting Box, requires Adapter Plate 4905-9931	7-7/8" x 5-1/8" x 2-3/4" D (200 mm x 130 mm x 70 mm)
4905-9838	Optional Sound Damper; package of 20; field installed adhesive backed horn output attenuator; reduces output 5 to 6 dBA NOTE: After Sound Damper installation, measure sound level to ensure compliance with applicable code requirements	1-3/4" Diameter (44.5 mm) with 0.31" (8 mm) sound opening

SmartSync Control Module

Model	Description	Dimensions
4905-9938	SmartSync Control Module with Class B or Class A output; mounts in 4" (102 mm) square box; refer to data sheet S4905-0003 for details	4" x 4-1/8" x 1-1/4" D (102 mm x 105 mm x 32 mm)

Replacement Covers for Wall Mount A/Vs

Model	Description	Dimensions
4905-9994	Red cover with white "FIRE" lettering	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)
4905-9995	White cover with red "FIRE" lettering	

Wire Guards and Ceiling Mount A/V Adapter

Model	Description	Dimensions
4905-9961*	Wall mount red wire guard with mounting plate, compatible with semi-flush or surface mounted boxes	6-1/16" H x 6-1/16" W x 3-1/8" D (154 mm x 154 mm x 79 mm)
4905-9927*	Red Wire Guard for mounting to flush mounted electrical box	8-1/2" x 6-1/8" x 3" (216 mm x 156 mm x 76 mm)
4905-9928*	Ceiling Mount Red Adapter Plate, required to mount guard to surface mounted electrical box	9" x 7" (229 mm x 178 mm)
4905-9915	White	4-3/4" x 6-7/8" x 1-1/2" deep, (121 mm x 175 mm x 38 mm)
4905-9916	Red	

* UL listed by Space Age Electronics Inc.

SmartSync Two-Wire Control

SmartSync operation mode allows a two-wire circuit to provide the ability to activate both the horn and strobe on the same NAC and then allow the horn to be silenced while the strobe remains flashing. The horn operates as "on-until-silenced" while the strobe operation is "on-until-reset."

SmartSync Control Sources

- **4006, 4007ES Hybrid, 4008, 4010, 4010ES, 4100ES, and 4100U Fire Alarm Control Panels** (refer to individual product data sheets for more information)
- **4009 IDNet NAC Extender** (refer to data sheet S4009-0002)
- **SmartSync Control Module (SCM) 4905-9938** (refer to data sheet S4905-0003)

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

A/V Specifications

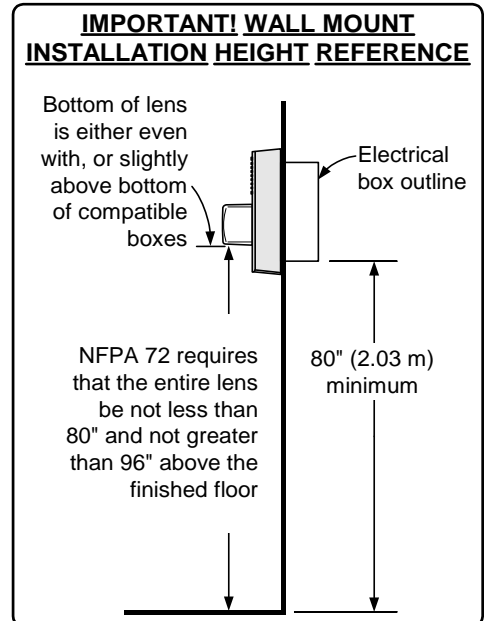
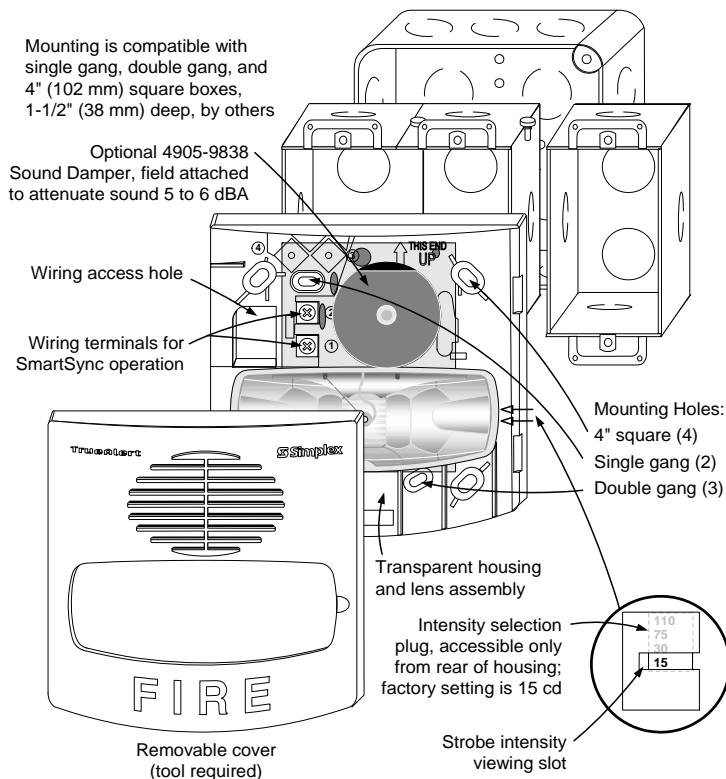
Wall Mount or Ceiling Mount, Common Specifications

Rated Voltage Range	UL Listed Rating	Regulated 24 DC; see Note 1 below					
	ULC Listed Rating	20 VDC to 30 VDC per ULC S526-M878					
Flash Rate and Synchronized NAC Loading	1 Hz; with up to 35 synchronized strobes maximum per NAC						
Environmental; Temperature and Humidity	32° to 122° F (0° to 50° C); 10% to 93%, non-condensing at 100° F (38° C)						
Connections	Terminal blocks for 18 AWG to 12 AWG (0.82 mm ² to 3.31 mm ²); two wires per terminal for in/out wiring						
Horn Output Characteristics	2400 to 3700 Hz sweep, modulated at 120 Hz rate						
Horn Output Ratings @ 10 ft (3 m) (see Note 2)	Voltage	16 VDC		24 VDC		33 VDC	
	Sound Type (see Note 2)	Steady	Coded	Steady	Coded	Steady	Coded
	UL 464 Reverberant Chamber	86 dBA	82 dBA	88 dBA	84 dBA	90 dBA	86 dBA
	Anechoic Chamber	92 dBA	91 dBA	94 dBA	95 dBA	96 dBA	96 dBA
Wall Mount	Housing Dimensions (with lens)	5-1/8" H x 5" W x 2-3/4" D (130 mm x 127 mm x 70 mm)					
	Maximum RMS Current Rating per Strobe Setting (see Note 3 below)	15 cd	30 cd	75 cd	110 cd		
		75 mA	116 mA	221 mA	285 mA		
	Reference RMS Currents at other voltages	18 VDC	67 mA	103 mA	196 mA	253 mA	
24 VDC		50 mA	77 mA	147 mA	190 mA		
Ceiling Mount	Housing Dimensions (with lens)	4-3/4 L" x 6-7/8" W x 2-5/8" D (121 mm x 175 mm x 67 mm)					
	Maximum RMS Current Rating per Strobe Setting (see Note 3 below)	15 cd	30 cd	75 cd	110 cd		
		86 mA	132 mA	250 mA	320 mA		
	Reference RMS Currents at other voltages	18 VDC	76 mA	117 mA	222 mA	284 mA	
24 VDC		57 mA	88 mA	167 mA	213 mA		

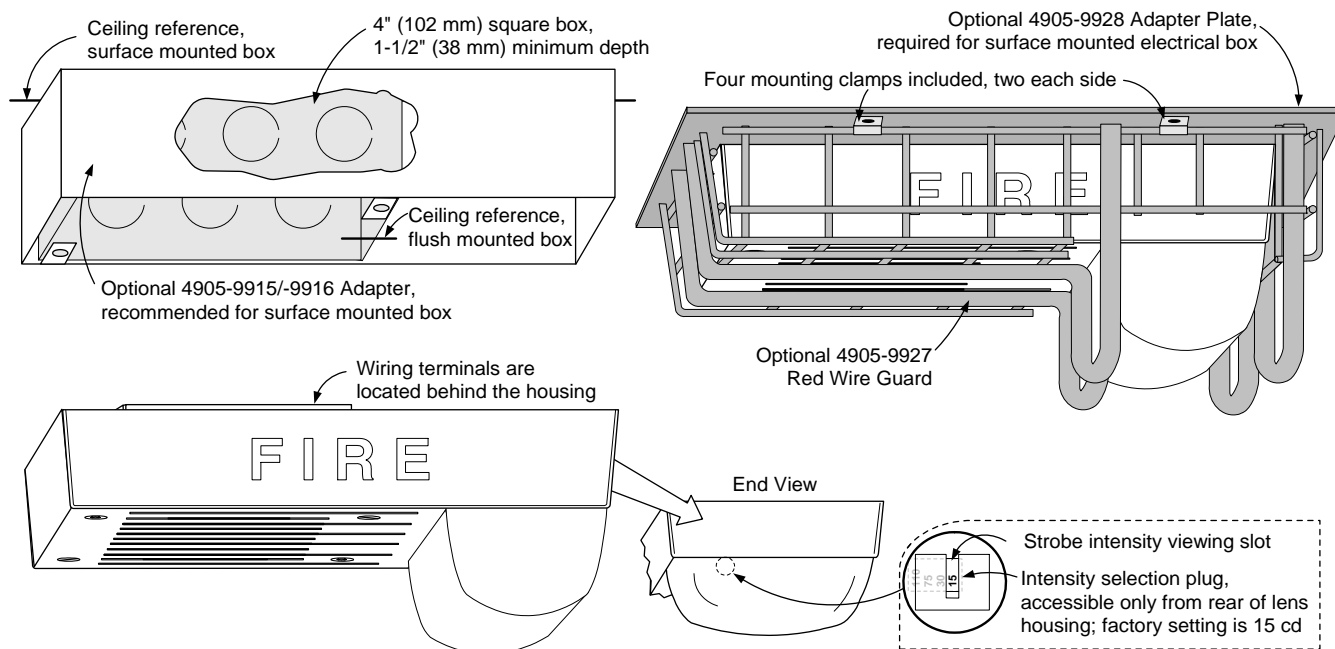
NOTES:

1. "Regulated 24 DC" refers to the voltage range of 16 to 33 VDC per UL Standard 1971, *Signaling Devices for the Hearing Impaired*. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the appliance. Please note that 16 VDC is the lowest operating voltage that is allowed at the last appliance on the NAC under worst case conditions.
2. Coded values are typical of the output measured with a Temporal coded or a March Time coded pulse and with a sound level meter reading on a "fast" setting. Under the same test conditions, coded horn output "peak" sound level readings are typically 4 dBA higher. Anechoic horn output ratings are typically more representative of actual installed sound output.
3. Currents are with horn on steady. The maximum RMS current listed is the device nameplate rating. Strobe designs are constant wattage and the maximum RMS current rating occurs at the lowest allowable operating voltage. (RMS is root mean square and refers to the effective value of a varying current waveform.)

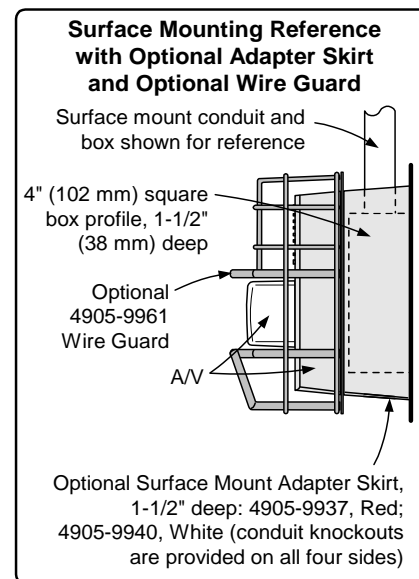
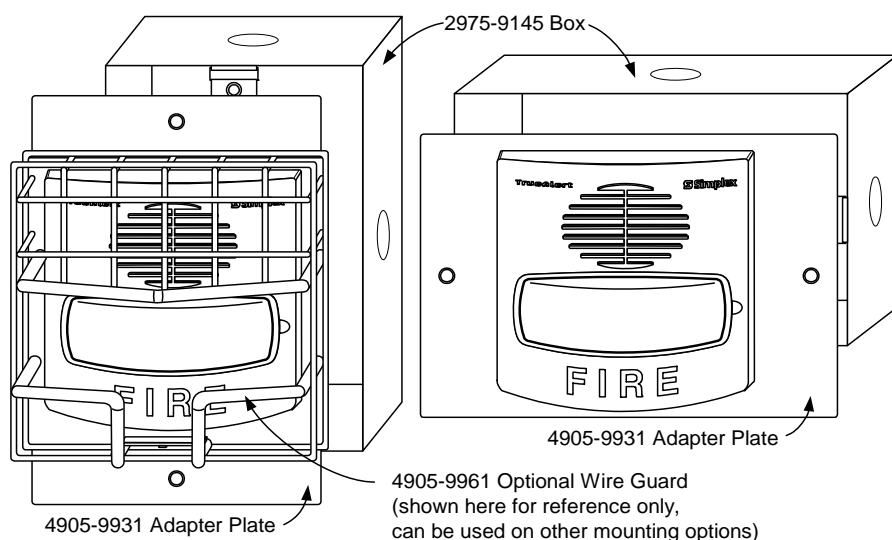
Installation Reference, Surface or Semi-Flush Mounting



Ceiling Mount AV and Guard Installation Reference



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



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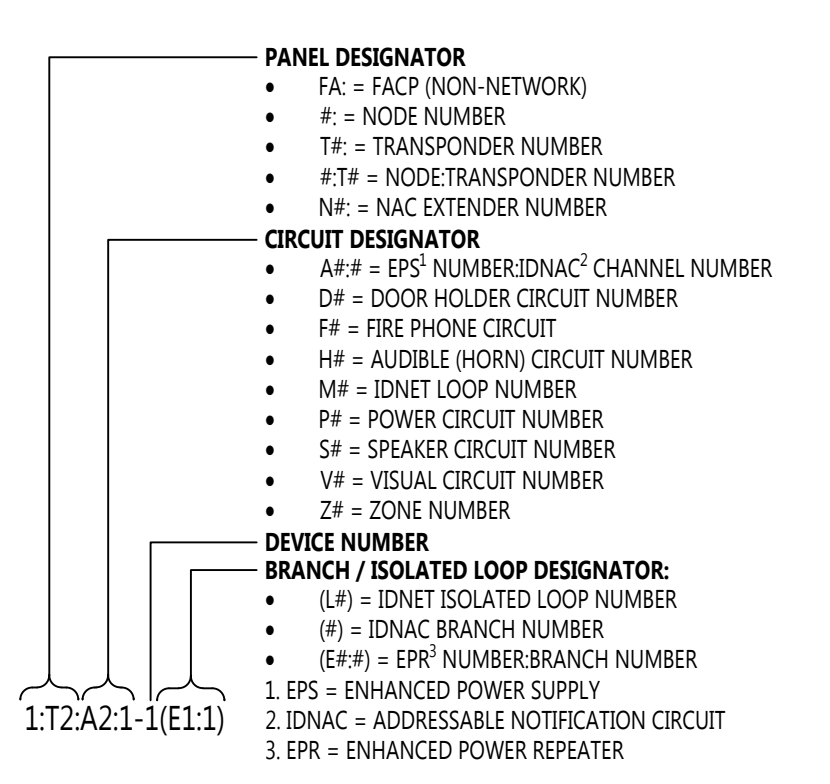
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FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	BRAND	MODEL	BOX CODE	WIRE TYPE
INITIATING DEVICES					
F	DOUBLE ACTION MANUAL PUSH/PULL STATION	SIMPLEX	4099-9006	4G 1E	M
F	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR WITH STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4K 1C	M
NOTIFICATION APPLIANCES					
M	MULTI-CANDELA HORN/STROBE, WALL MOUNT, WHITE, FIRE CLEAR LENS	SIMPLEX	4906-9129	4A 1B	V
BACKBOX CODES					
CODE BOX SPECIFICATIONS		CODE BOX SPECIFICATIONS			
4A	1" SQ. BOX 1 1/2" DEEP	1E	SINGLE GANG BOX 2 1/2" DEEP	4B	1" SQ. BOX 1 1/2" DEEP W/ COVER
4B	1" SQ. BOX 1 1/2" DEEP W/ COVER	1F	SINGLE GANG BOX 2 1/2" DEEP W/COVER	4C	1" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING
4C	1" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	1G	SINGLE GANG BOX 3 1/2" DEEP	4D	1" SQ. BOX 2 1/8" DEEP
4D	1" SQ. BOX 2 1/8" DEEP	1H	SINGLE GANG BOX 3 1/2" DEEP	4E	1" SQ. BOX 2 1/8" DEEP W/ COVER
4E	1" SQ. BOX 2 1/8" DEEP W/ COVER	2A	DOUBLE GANG BOX 2" DEEP	4F	1" SQ. BOX 2 1/8" DEEP W/ 1 1/2" EXT. RING
4F	1" SQ. BOX 2 1/8" DEEP W/ 1 1/2" EXT. RING	2B	TWO GANG BOX 2 1/2" DEEP	4G	1" SQ. BOX 2 1/8" DEEP W/ SINGLE GANG COVER
4G	1" SQ. BOX 2 1/8" DEEP W/ SINGLE GANG COVER	2C	TWO GANG BOX 3 1/2" DEEP	4H	1" SQ. BOX 2 1/8" DEEP W/ TWO GANG COVER
4H	1" SQ. BOX 2 1/8" DEEP W/ TWO GANG COVER	5A	SINGLE GANG BOX 2 1/2" DEEP	4J	1" SQ. BOX 2 1/2" DEEP
4J	1" SQ. BOX 2 1/2" DEEP	6A	SINGLE GANG BOXES 3 1/2" DEEP	4K	1" OCT. BOX 1 1/2" DEEP
4K	1" OCT. BOX 1 1/2" DEEP	6B	SINGLE GANG BOX	4L	1" OCT. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING
4L	1" OCT. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	6C	SINGLE GANG BOX 2 1/2" DEEP	4M	1 1/16" SQ. BOX 1 1/2" DEEP
4M	1 1/16" SQ. BOX 1 1/2" DEEP	6D	SINGLE GANG BOX 3 1/2" DEEP	4N	1 1/16" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING
4N	1 1/16" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	FBO	FURNISHED BY OTHERS	4P	1 1/16" SQ. BOX 2 1/8" DEEP W/ 1 1/2" EXT. RING
4P	1 1/16" SQ. BOX 2 1/8" DEEP W/ 1 1/2" EXT. RING	MFG	SUPPLIED BY MANUFACTURER	4Q	1" SQ. BOX 1 1/2" DEEP W/4098-9832 ADAPTER
4Q	1" SQ. BOX 1 1/2" DEEP W/4098-9832 ADAPTER	MDW	MOUNTS TO DUCTWORK	4R	1" SQ. BOX 1 1/2" DEEP W/RACO 787 OR EQUIV.
4R	1" SQ. BOX 1 1/2" DEEP W/RACO 787 OR EQUIV.	MBD	MOUNTS IN BOX BEHIND DETECTOR	4S	1" SQ. BOX 1 1/2" DEEP W/4098-9863 ADAPTER
4S	1" SQ. BOX 1 1/2" DEEP W/4098-9863 ADAPTER	WM	WALL MOUNT	1A	SINGLE GANG BOX 1 1/2" DEEP
1A	SINGLE GANG BOX 1 1/2" DEEP	DT	DESK TOP MOUNT	1B	SINGLE GANG BOX 2" DEEP
1B	SINGLE GANG BOX 2" DEEP	DS	REFER TO PRODUCT DATASHEET	1C	SINGLE GANG BOX 2 1/8" DEEP
1C	SINGLE GANG BOX 2 1/8" DEEP	NR	NO BACKBOX REQUIRED	1D	SINGLE GANG BOX 2 1/8" DEEP W/COVER
1D	SINGLE GANG BOX 2 1/8" DEEP W/COVER	TRM	1 3/5" WIDE SNAP TRACK W/MOUNTING SCREWS		
FOR ADDITIONAL BACK BOX OPTIONS, REFER TO THE XX-700 SERIES DRAWINGS OR PRODUCT DATA SHEETS AND INSTALLATION INSTRUCTIONS.					

DEVICE TAG LEGEND



ABBREVIATIONS LEGEND

- AC = ABOVE CEILING
- AFF = ABOVE FINISHED FLOOR
- AJH = AUTHORITY HAVING JURISDICTION
- ALM = ALARM
- AN = ANNUNCIATOR
- BMS = BUILDING MANAGEMENT SYSTEM
- C = CEILING MOUNTED
- CD = CANDELA RATING
- DET = DETECTOR
- DGP = DATA GATHERING PANEL
- E = EXISTING TO REMAIN
- EOL = END OF LINE
- EPO = EMERGENCY POWER OFF
- FAA = FIRE ALARM ANNUNCIATOR
- FACP = FIRE ALARM CONTROL PANEL
- FATC = FIRE ALARM TERMINAL CABINET
- FBO = FURNISHED BY OTHERS
- FCC = FIRE COMMAND CENTER
- FSD = FIRE SMOKE DAMPER
| FIR = FIRE ALARM TRANSDUCER | H = HIGH HUMIDITY | HVAC = HEATING VENTILATION & AIR CONDITIONING | IMS = INFORMATION MANAGEMENT SYSTEM | MAX = MAXIMUM | MIN = MINIMUM | N/A = NOT APPLICABLE | NAC = NOTIFICATION APPLIANCE CIRCUIT | NDU = NETWORK DISPLAY UNIT |

FIRE ALARM WIRE LIST

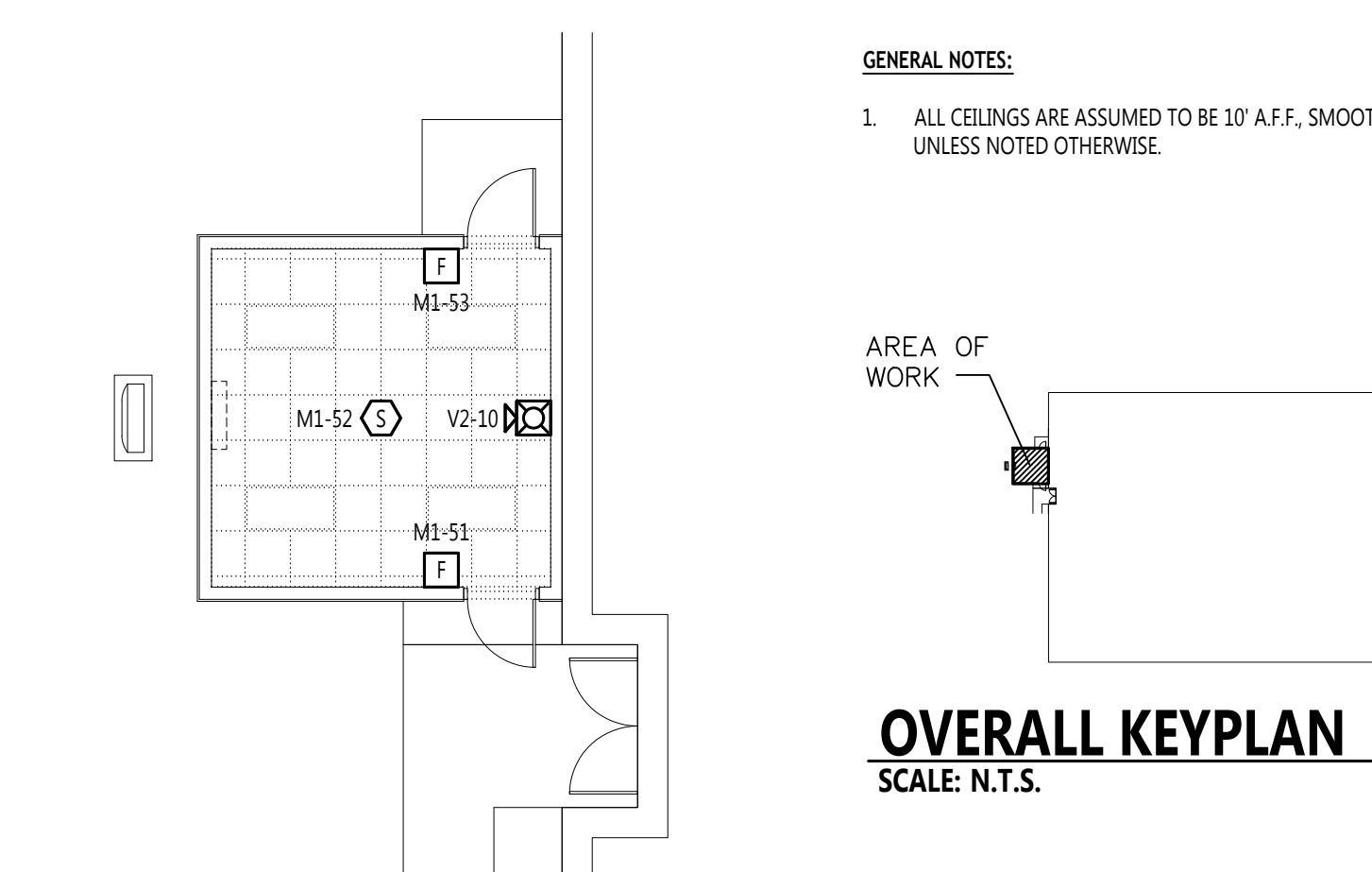
CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES				
				FIR	FIRP	THIN	THIN	OUTDOOR
M>IDNET	UTP SOLID	18 AWG		X	X			
V VISUAL SIGNAL				X	X			
CONDUIT SIZE MAX CONDUCTOR AREA CONDUIT SIZE MAX CONDUCTOR AREA NOTES								
1/2"	0.12 SQ INCH	1-1/4"	0.60 SQ INCH	*40% FILL PER N.E.C.				
3/4"	0.21 SQ INCH	1-1/2"	0.82 SQ INCH	SUBSCRIPT "U" UNSHIELDED CABLES MOVED WITH SHIELDED CABLES OF SAME CIRCUIT DESIGNATION.				
1"	0.34 SQ INCH	2"	1.34 SQ INCH					
**OUTDOOR AERIAL CABLE REQUIRES MESSENGER								
ITEMS SUCH AS CAPACITANCE BETWEEN CONDUCTORS AND WIRE GAUGE CAN BE CRUCIAL TO THE CIRCUIT DESIGN OF THIS SYSTEM. INSTALLATION, THE INSTALLING CONTRACTOR IS RESPONSIBLE FOR SELECTING AND INSTALLING CABLE MANUFACTURER AND MODEL THAT MEETS OR EXCEEDS THE ABOVE REQUIREMENTS. RECOMMENDED CABLE MANUFACTURERS AND MODEL NUMBERS ARE AVAILABLE UPON REQUEST.								

4010 FACP

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4010-9101	1	FACP 250PT 4NAC 4A 110V BIDGE	-	0.1950	0.2950	0.2950
Panel Totals						
			0.1950	0.1950	0.2950	0.2950
IDNet Addressable Devices (SLC)						
4099-9004	9	ADDRESSABLE SINGLE ACTION MANUAL STATION	-	-	-	-
4099-9001	5	IDNET SUPERVISED JAM	-	-	-	-
4098-9714	3	TRUEALARM PHOTO SMOKE SENSOR	-	-	-	-
4098-9717	29	TRUEALARM ION SMOKE SENSOR	-	-	-	-
4098-9734	2	HIGH TEMP HEAT SENSOR	0	-	-	-
4098-9756	2	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	-	-	-	-
4098-9792	34	TRUEALARM SENSOR BASE	-	-	-	-
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	2	ENCAPSULATED RELAY PUMP-SD	0.0000	0.0000	0.0150	0.0300
4098-9756	2	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0000	0.0060	0.0150	0.0300
Notification Appliances						
4905-9815	1	SMARTSYNc ADAPTER, NON-ADDRESS	0.0001	0.0001	0.0240	0.0240
4906-9101	5	V/O MC NON-ADDRESS, RED, WALL	15	0.0000	0.0400	0.2000
4906-9101	1	V/O MC NON-ADDRESS, RED, WALL	75	0.0000	0.1240	0.1240
4906-9127	11	A/V MC NON-ADDRESS, RED, WALL	15	0.0000	0.0500	0.5500
4906-9127	4	A/V MC NON-ADDRESS, RED, WALL	30	0.0000	0.0770	0.3080
4906-9127	10	A/V MC NON-ADDRESS, RED, WALL	75	0.0000	0.1470	1.4700
ASWP-2475W-FR	1	W/HORN STROBE 75CD, 14VDC WALL, RED	0.0000	0.0000	0.1600	0.1600
Peripheral Totals						
			0.0061	0.0000	0.2920	0.2920
Added Current for EPS Conversion of 24 to 29 Volt IDNet Devices						
			0.0000	0.0000	0.0000	0.0000
RUL Totals						
			0.0000	0.0000	0.0000	0.0000
			0.0000	0.0000	0.0000	0.0000
Address Totals			50	0.0400	0.8900	0.8900
System Totals			0.2411	0.2411	1.2170	1.2170

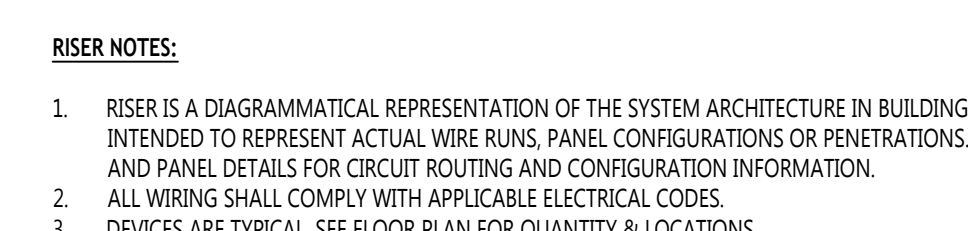
Standby Current	Standby Total	Alarm Current	Alarm Total
0.2411	0.2011	1.3870	1.3870
Sub Total			
0.2411	0.2011	1.3870	1.3870
Additional Current Draw:			
MARPNET/IDNet Device Address Communication Current	50	x 0.000800	-0.0400
Sub Total			
0.2411	0.2411	1.3270	1.3270
Spare addressable point capacity			
0%	0	x 0.0008	-0.0000
Total			
0.2411	0.2411	1.3270	1.3270
Standby Time = 24 Hrs			
x 0.2411 = 5.7864 Standby Ah			
Alarm Time = 5 Min			
x 0.8833 x 3.237 = 0.6938 Alarm Ah			
Additional Spare Battery Capacity = 0%			
x 0.0000 = 0.0000			
Total			
0.6938			
Battery Discharge Factor = 20%			
x 1.2112 = 0.6588			
Minimum Battery Required			
2081-9274 168AH (2s)			
Battery Supplier: 2081-9274 168AH (2s)			
7.2669			

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



PARTIAL DEVICE PLACEMENT PLAN

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



PARTIAL RISER DIAGRAM

SCALE: N.T.S.

4010 FACP VOLTAGE DROPS

Power Supply	Panel Circuit	Plan Ckt.	Dist. (D)	Wire Gauge	Wire Res. / Ft. (R)	Total Alarm (A)	V. Drop (A^2P^2R)	Volt @ End	% Volt Drop	Min Device Voltage	Max Distance
4010	SI61	V1	390	12ga	0.0015	0.962	2.219	15.241	5.97%	16vdc	1903 Ft
4010	SI62	V2	375	12ga	0.0015	0.895	1.296	13.104	6.35%	16vdc	1813 Ft
4010	SI63	V3	300	12ga	0.0015	1.035	1.199	19.201	5.88%	16vdc	876 Ft
4010	SI64	V4	12ga	0.0015	0.000	0.000	0.000	20.400	0.00%	16vdc	0 Ft

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

ADDRESSABLE PULL STATIONS

OPTION	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/2" (64mm) DEEP	BY OTHERS
B	4" (102mm) SQUARE BOX, 2-1/8" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS
C	SIMPLEX 2975-9022 - 5H x 3-7/8" W x 2-3/16" D (127mm x 98mm x 56mm)	ORDERED SEPARATELY
D	SIMPLEX 2975-9178 - 5-3/4" H x 3-7/8" W x 2-3/16" D (132mm x 102mm x 56mm)	ORDERED SEPARATELY

STANDARD SENSOR BASE

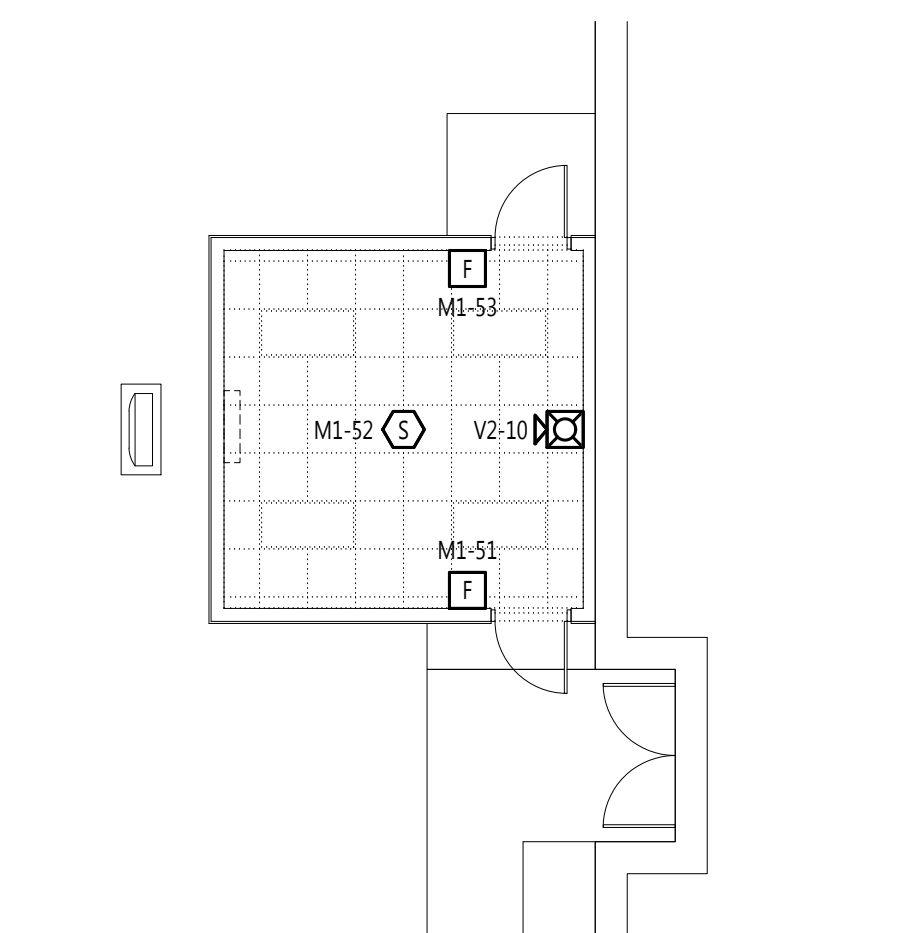
OPTION	DESCRIPTION	NOTE
A	SINGLE GANG BOX, 2-1/8" (54mm) DEEP	BY OTHERS
B	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SINGLE GANG COVER PLATE 3/4" (19mm) EXTENSION	BY OTHERS
C	4" (102mm) OCTAGONAL BOX, 1-1/2" (38mm) DEEP, MINIMUM	BY OTHERS
D	4" (102mm) SQUARE BOX, 1-1/2" DEEP (MIN) W/ SIMPLEX 4098-9832 ADAPTER KIT	BOX BY OTHER, 4098-9832 ORDERED SEPARATELY

TrueAlert CONVENTIONAL APPLIANCES

OPTION	DESCRIPTION	NOTE
A	4" (102mm) SQUARE BOX, 1-1/2" (38mm) DEEP, MINIMUM	BY OTHERS
B	SURFACE MOUNT 4" (102mm) SQUARE BOX, 1-1/2" (38mm) DEEP, 4905-9915 (WHITE) OR 4905-9916(RED) ADAPTER RECOMMENDED, ORDERED SEPARATELY	RECOMMENDED, ORDERED SEPARATELY

4010 FACP

Module	Qty	Description	Standby Current	Total Standby	Alarm Current	Total Alarm
Panel Equipment						
4010-9101	1	FACP 250PT 4NAC 4A 120V WEDGE	0.1950	0.1950	0.2950	0.2950
IDNet Addressable Devices (SLC)						
4099-9004	9	ADDRESSABLE SINGLE ACTION MANUAL STATION	-	-	-	-
4099-9001	5	IDNET SUPERVISED JAM	-	-	-	-
4098-9714	3	TRUEALARM PHOTO SMOKE SENSOR	-	-	-	-
4098-9717	29	TRUEALARM ION SMOKE SENSOR	-	-	-	-
4098-9734	2	HIGH TEMP HEAT SENSOR	0	0	0	0
4098-9756	2	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	-	-	-	-
4098-9792	34	TRUEALARM SENSOR BASE	-	-	-	-
Miscellaneous Peripheral Devices That Require (Additional) System Power						
4098-9843	2	ENCAPSULATED RELAY PAIR-SD	0.0000	0.0000	0.0150	0.0300
4098-9756	2	TRUEALARM DUCT SMOKE SENSOR W/ RELAY OUTPUT	0.0000	0.0060	0.0150	0.0300
Notification Appliances						
4905-9815	1	SMARTSYNC ADAPTER, NON-ADDRESS	0.0001	0.0001	0.0240	0.0240
4906-9101	5	V/O MC NON-ADDRESS, RED, WALL	15	0.0000	0.0400	0.2000
4906-9101	11	V/O MC NON-ADDRESS, RED, WALL	75	0.0000	0.1240	0.1240
4906-9127	11	A/V MC NON-ADDRESS, RED, WALL	15	0.0000	0.0500	0.5500
4906-9127	4	A/V MC NON-ADDRESS, RED, WALL	30	0.0000	0.0770	0.3080
4906-9127	10	A/V MC NON-ADDRESS, RED, WALL	75	0.0000	0.1470	1.4700
ASWP-2475W-R	1	WPHORN STROBE 75CD, 14VDC WALL RED	0.0000	0.0000	0.1600	0.1600
Peripheral Totals			0.0001	0.0061	2.8920	2.8920
Added Current for EPS Conversion of 24 to 29 Volt IDNet Devices						
RUL Totals			0	0.0000	0.0000	0.0000
Address Totals			50	0.0400	0.8920	0.8920
System Totals*			0.2451	0.2451	3.2790	3.2790



OVERALL KEYPLAN
 SCALE: N.T.S.

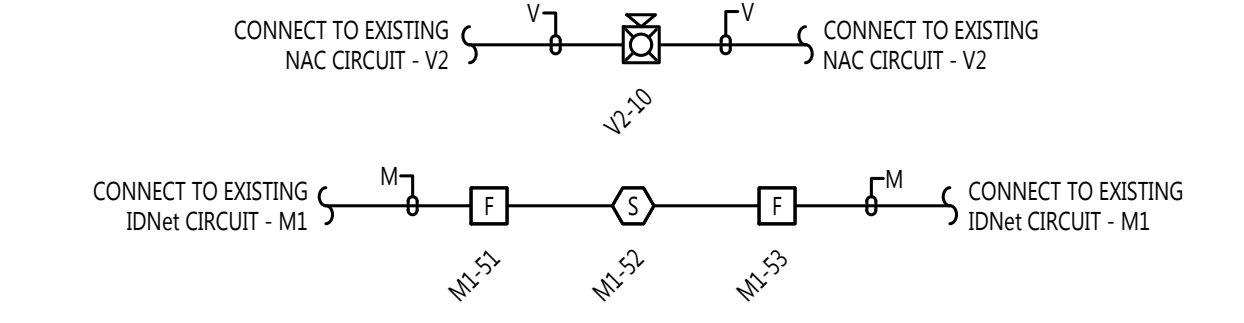
PARTIAL DEVICE PLACEMENT PLAN



Reviewed For Code Compliance By:
D. Banks Wallace
 Chief Deputy Fire Marshal
 08/20/2018 9:47:38 AM

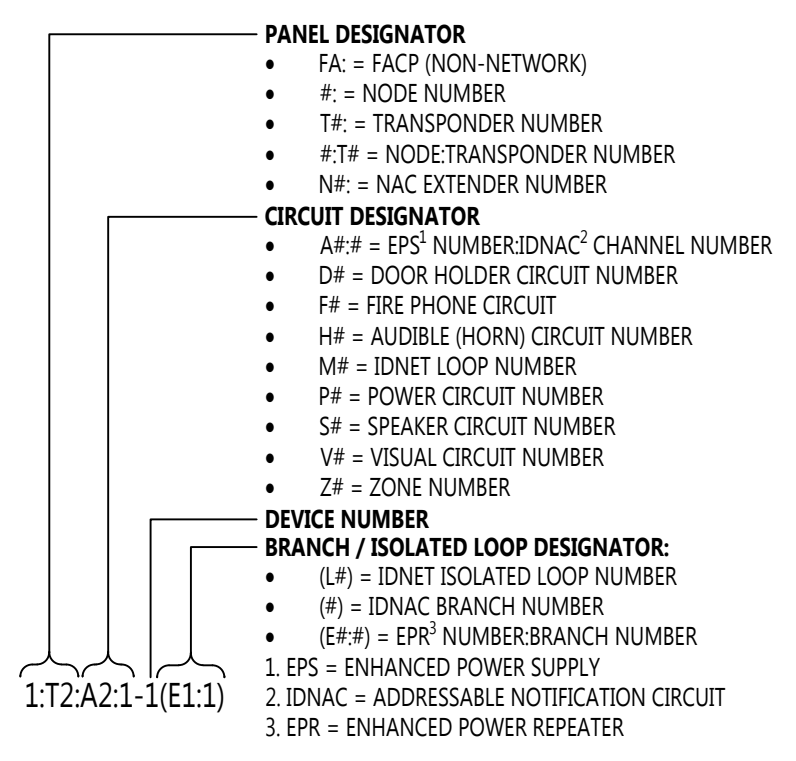
RISER NOTES:

- RISER IS A DIAGRAMMATICAL REPRESENTATION OF THE SYSTEM ARCHITECTURE IN BUILDING CROSS SECTION. IT IS NOT INTENDED TO REPRESENT ACTUAL WIRE RUNS, PANEL CONFIGURATIONS OR PENETRATIONS. REFER TO FLOOR PLANS AND PANEL DETAILS FOR CIRCUIT ROUTING AND CONFIGURATION INFORMATION.
- ALL WIRING SHALL COMPLY WITH APPLICABLE ELECTRICAL CODES.
- DEVICES ARE TYPICAL. SEE FLOOR PLAN FOR QUANTITY & LOCATIONS.



PARTIAL RISER DIAGRAM
 SCALE: N.T.S.

DEVICE TAG LEGEND



ABBREVIATIONS LEGEND

- AC = ABOVE CEILING
- AFF = ABOVE FINISHED FLOOR
- AJH = AUTHORITY HAVING JURISDICTION
- ALM = ALARM
- ANN = ANNUNCIATOR
- BMS = BUILDING MANAGEMENT SYSTEM
- C = CEILING MOUNTED
- CD = CANDELA RATING
- DET = DETECTOR
- DGP = DATA GATHERING PANEL
- E = EXISTING TO REMAIN
- EOL = END OF LINE
- EPO = EMERGENCY POWER OFF
- FAA = FIRE ALARM ANNUNCIATOR
- FACP = FIRE ALARM CONTROL PANEL
- FATC = FIRE ALARM TERMINAL CABINET
- FBO = FURNISHED BY OTHERS
- FCC = FIRE COMMAND CENTER
- FSD = FIRE SMOKE DAMPER
- FR = FIRE ALARM TRANSPOUNDER
- H = HIGH HUMIDITY
- HT = HEIGHT
- HVAC = HEATING VENTILATION & AIR CONDITIONING
- IMS = INFORMATION MANAGEMENT SYSTEM
- MAX = MAXIMUM
- MIN = MINIMUM
- N/A = NOT APPLICABLE
- NAC = NOTIFICATION APPLIANCE CIRCUIT
- NDU = NETWORK DISPLAY UNIT
- NEC = NATIONAL ELECTRIC CODE
- NFPA = NATIONAL FIRE PROTECTION ASSOCIATION
- NIC = NOT IN CONTRACT
- NPU = NETWORK PROCESSING UNIT
- NTS = NOT TO SCALE
- PAP = FIRE ACTION PANEL
- RC = EXISTING TO REMOVE AND COVER
- RD = EXISTING DEVICE TO BE RELOCATED
- RL = RELOCATED DEVICE
- RR = REMOVE EXISTING & REPLACE WITH NEW
- SCC = STATUS COMMAND CENTER
- SCL = SIGNALING LINE CIRCUIT
- SMK = SMOKE
- SUPV = SUPERVISORY
- TAC = TRULERT ADDRESSABLE CONTROLLER
- TRBL = TROUBLE
- TS = TAMPER SWITCH
- TYP = TYPICAL
- UN = UNLESS OTHERWISE NOTED
- VCC = VCC COMMAND CENTER
- VT = VALVE TAMPER
- W = WITH
- W/O = WITHOUT
- WP = WATERFLOW
- WG = WIRE GUARD
- WP = WEATHERPROOF
- XP = EXPLOSION PROOF

FIRE ALARM SYMBOL LEGEND

SYMBOL	DESCRIPTION	BRAND	MODEL	BOX CODE	WIRE TYPE
INITIATING DEVICES					
F	DOUBLE ACTION MANUAL PUSH/PULL STATION	SIMPLEX	4099-9006	4Q 1E	M
F	ADDRESSABLE PHOTOELECTRIC SMOKE SENSOR WITH STANDARD BASE	SIMPLEX	4098-9714 HEAD 4098-9792 BASE	4K 1C	M
NOTIFICATION APPLIANCES					
M	MULTI-CANDELA HORN/STROBE, WALL MOUNT, WHITE, FIRE CLEAR LENS	SIMPLEX	4906-9129	4A 1B	V
BACKBOX CODES					
CODE	BOX SPECIFICATIONS	CODE	BOX SPECIFICATIONS		
4A	1" SQ. BOX 1 1/2" DEEP	1E	SINGLE GANG BOX 2 1/2" DEEP		
4B	1" SQ. BOX 1 1/2" DEEP W/ COVER	1F	SINGLE GANG BOX 2 1/2" DEEP W/COVER		
4C	1" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	1G	SINGLE GANG BOX 3 1/2" DEEP		
4D	1" SQ. BOX 2 1/8" DEEP	1H	SINGLE GANG BOX 3 1/2" DEEP		
4E	1" SQ. BOX 2 1/8" DEEP W/ COVER	2A	DOUBLE GANG BOX 2" DEEP		
4F	1" SQ. BOX 2 1/8" DEEP W/ 1 1/2" EXT. RING	2B	TWO GANG BOX 2 1/2" DEEP		
4G	1" SQ. BOX 2 1/8" DEEP W/ SINGLE GANG COVER	2C	TWO GANG BOX 3 1/2" DEEP		
4H	1" SQ. BOX 2 1/8" DEEP W/ TWO GANG COVER	5A	SINGLE GANG BOX 2 1/2" DEEP		
4J	1" SQ. BOX 2 1/2" DEEP	6A	SINGLE GANG BOXES 3 1/2" DEEP		
4K	1" OCT. BOX 1 1/2" DEEP	6B	6 GANG BOX		
4L	1" OCT. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	6C	6 GANG BOX 2 1/2" DEEP		
4M	4 11/16" SQ. BOX 1 1/2" DEEP	6D	6 GANG BOX 3 1/2" DEEP		
4N	4 11/16" SQ. BOX 1 1/2" DEEP W/ 1 1/2" EXT. RING	FBO	FURNISHED BY OTHERS		
4P	4 11/16" SQ. BOX 2 1/8" DEEP W/ 1 1/2" EXT. RING	MFG	SUPPLIED BY MANUFACTURER		
4Q	1" SQ. BOX 1 1/2" DEEP W/4098-9832 ADAPTER	MDW	MOUNTS TO DUCTWORK		
4R	1" SQ. BOX 1 1/2" DEEP W/RAC 787 OR EQUIV.	MBD	MOUNTS IN BOX BEHIND DETECTOR		
4S	1" SQ. BOX 1 1/2" DEEP W/4098-9863 ADAPTER	WM	WALL MOUNT		
1A	SINGLE GANG BOX 1 1/2" DEEP	DT	DESK TOP MOUNT		
1B	SINGLE GANG BOX 2" DEEP	DS	REFER TO PRODUCT DATASHEET		
1C	SINGLE GANG BOX 2 1/8" DEEP	NR	NO BACKBOX REQUIRED		
1D	SINGLE GANG BOX 2 1/8" DEEP W/COVER	TRM	13 1/2" WIDE SNAP TRACK W/MOUNTING SCREWS		

FIRE ALARM WIRE LIST

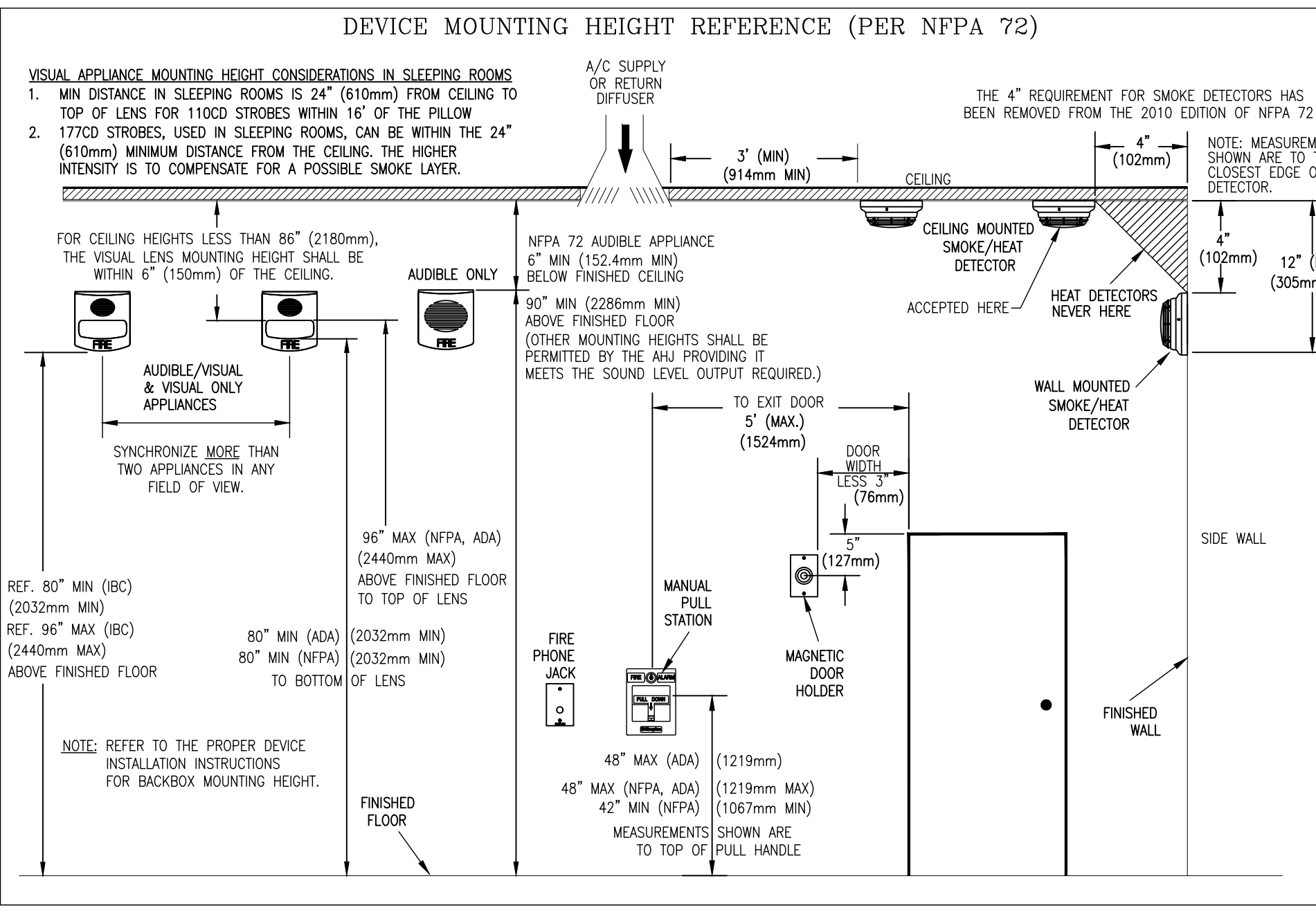
CIRCUIT DESCRIPTION	CONSTRUCTION	GAUGE	CIRCUIT PROPERTIES	ACCEPTABLE CABLE TYPES			
				FPLR	FPLP	THIN	THICK
M>IDNET	UTP SOLID	18 AWG		X	X		
V VISUAL SIGNAL	2 COND. STRANDED	12 AWG		X	X		
CONDUIT SIZE MAX CONDUCTOR AREA CONDUIT SIZE MAX CONDUCTOR AREA NOTES							
1/2"	0.12 SQ INCH *	1-1/4"	0.60 SQ INCH *	*40% FILL PER N.E.C.			
3/4"	0.21 SQ INCH *	1-1/2"	0.82 SQ INCH *	SUBSCRIPT "U" UNSHIELDED CABLES MOUNTED WITH SHIELDED CABLES OF SAME CIRCUIT DESIGNATION.			
1"	0.34 SQ INCH *	2"	1.34 SQ INCH *				

Battery Set #1 (Cabinet/Charger #1)	Standby Current	Standby Total	Alarm Current	Alarm Total
4010	0.2011	0.2011	3.1870	3.1870
Additional Current Draws:				
MANPT/IDNet Device Address Communication Current	50 x 0.000000	-0.0400	x 0.001000	-0.0500
Sub Total 0.2411				
Spare addressable point capacity				
0%	0 x 0.0008	-0.0000	x 0.001	-0.0000
Total 0.2411				
Standby Time = 24 Hrs x 0.2411 = 5.7864 Standby Ah				
Alarm Time = 5 Min x 0.8833 x 3.237 = 0.2038 Alarm Ah				
Additional Spare Battery Capacity = 0%				
Minimum Battery Required 2081-9274 160AH (2x)				
Battery Supplier: 2081-9274 160AH (2x)				

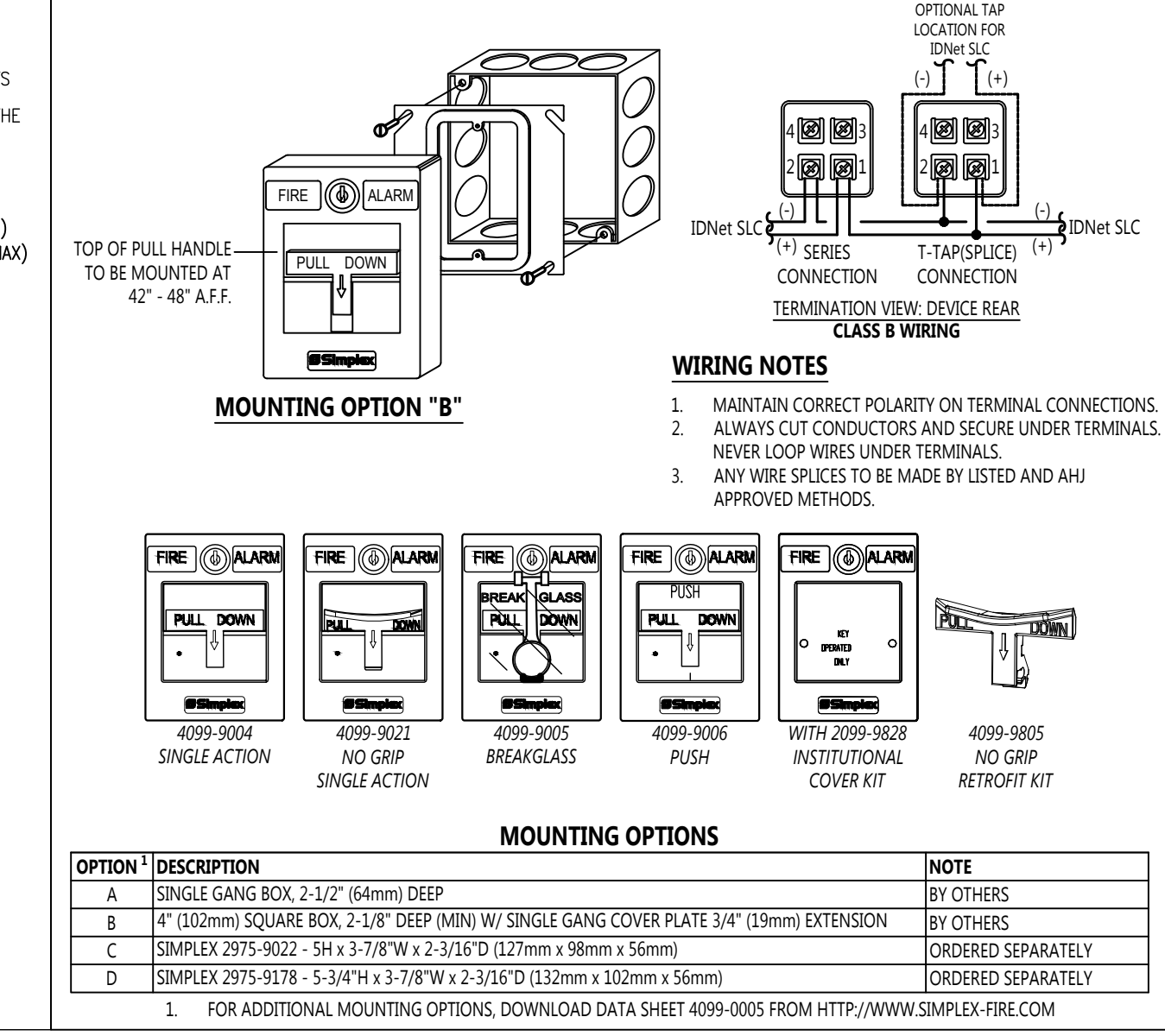
WIRE RESISTANCE BASED ON TABLE 8 FROM NATIONAL ELECTRICAL CODE (UNCOATED SOLID COPPER WIRE) @ 75 Celsius	Power Supply	Panel Circuit	Plan Ckt.	Dist. (D)	Wire Gauge	Wire Res. / Ft. (R)	Total Alarm (A)	V. Drop (A*20R)	Volt @ End	% Volt Drop	Min Device Voltage	Max Distance
I/F	4010	SI61	V1	300	12ga	0.0013	0.390	2.23	19.141	5.97%	16vdc	1003 Ft.
I/F	4010	SI62	V2	375	12ga	0.0013	0.395	1.296	19.104	6.35%	16vdc	1013 Ft.
I/F	4010	SI63	V3	300	12ga	0.0013	1.035	1.199	19.201	5.88%	16vdc	876 Ft.
SPARE	4010	SI64	V4	12ga	0.0013	0.000	0.000	0.000	20.400	0.00%	16vdc	0 Ft.

4010 FACP VOLTAGE DROPS	4906-9101	4906-9101	4906-9127	4906-9127	4906-9127	4905-9815	ASWP-2475W-R
Setting	15cd	75cd	15cd	15cd	SSync	A/V	
Device Type	MC V/O	MC V/O	MC A/V	MC A/V	SSync	A/V	
Sign. Current	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	
Alarm Current	0.0000	0.1240	0.0500	0.0770	0.0120	0.1600	
Alarm Current @ 23 Volts	0.0400	0.3240	0.0700	0.0770	0.0000	0.1600	

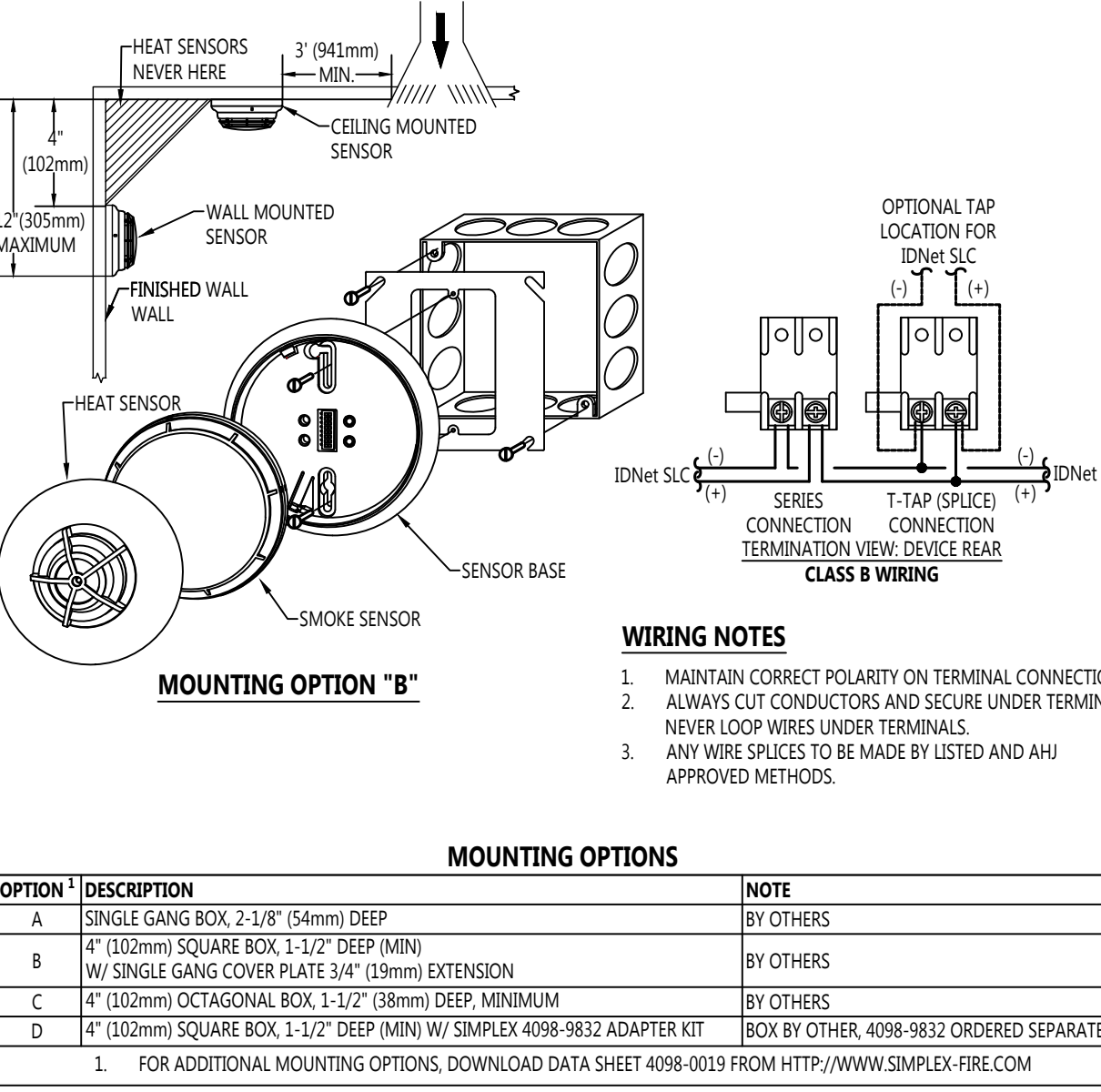
NOTE: LUMP SUM METHOD WAS USED TO CALCULATE ALLOWABLE VOLTAGE DROP. THIS METHOD ALLOWS FOR A SMALL MARGIN OF SAFETY, TAKING INTO CONSIDERATION THAT THE ACTUAL INSTALLED CIRCUIT ROUTING MAY DIFFER FROM WHAT IS SHOWN ON THE SHOP DRAWINGS. IF THE ACTUAL CIRCUIT LENGTH IS GOING TO EXCEED THE MAXIMUM ALLOWABLE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



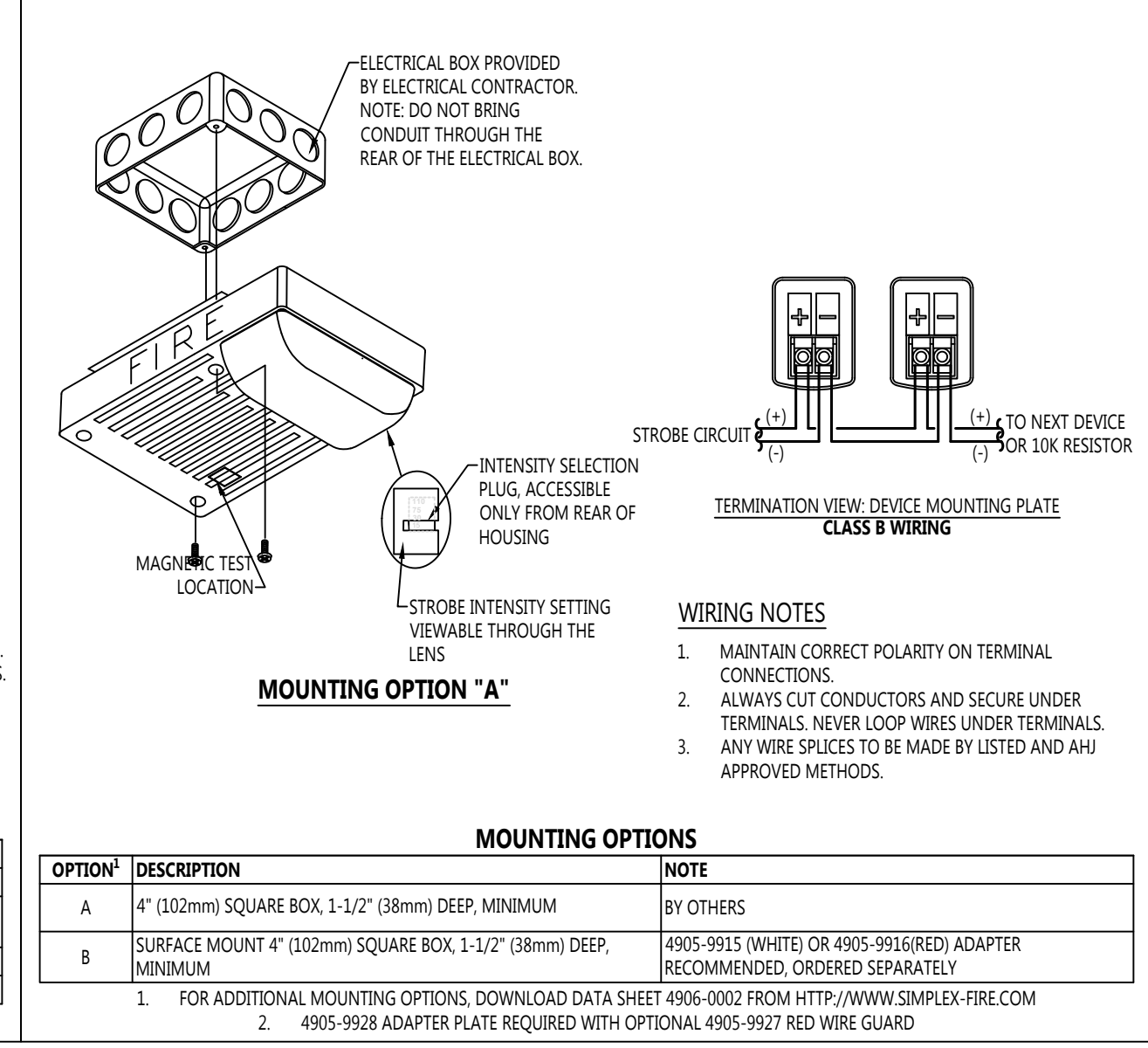
ADDRESSABLE PULL STATIONS



STANDARD SENSOR BASE



TrueAlert CONVENTIONAL APPLIANCES



24" x 36" Arch D Size
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CAMPBELL UNIVERSITY FOOTBALL FIELD HOUSE
 CAMPBELL FIELD HOUSE & STADIUM
 80 WADE STEWART CIRCLE
 BUIES CREEK, NC 27506

ISSUE NO.	MARK	DATE	CD	CHK	DESCRIPTION

DRAWN BY: C. BETHEL
 CHECKED BY: J. SIMMONS
 ISSUE DATE: 8/15/18
 JOB #: 250-439927
 PROJECT #: 250-18-608017801
 JOHNSON CONTROLS © 2018
 SYSTEM: FIRE ALARM SYSTEM
 SHEET: FA-101