



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

TrueAlarm Analog Sensing

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

Features

TrueAlarm analog sensing provides:

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

For use with the following Simplex® products:

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

Fire alarm control panel provides:

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

Photoelectric smoke sensors provide:

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

Heat sensors provide:

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

Ionization smoke sensors provide:

- Three levels of sensitivity; 0.5%, 0.9%, and 1.3% (refer to additional information on page 3)

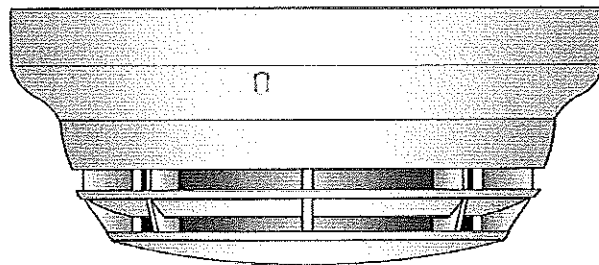
General features:

- Listed to UL 268 and ULC-S529
- Louvered smoke sensor design enhances smoke capture by directing flow to chamber; entrance areas are minimally visible when ceiling mounted
- Designed for EMI compatibility
- Magnetic test feature is provided
- Optional accessories include remote LED alarm indicator and output relays

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



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 (unsupervised)

4098-9791, Sensor base with supervised relay driver output (not compatible with 2120 CDT):

- Relay operation is programmable and can be manually operated from control panel
- Use with remote mount 2098-9737 relay
- Also includes wired connections for remote LED alarm indicator or 4098-9822 relay

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)

4098-9822, LED Annunciation Relay:

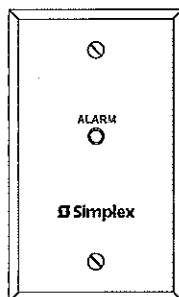
- Activates when base LED is on steady, indicating local alarm or trouble
- DPDT contacts for resistive/suppressed loads, power limited rating of 2 A @ 28 VDC; non-power limited rating of 1/2 A @ 120 VAC, (requires external 24 VDC coil power)

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, ionization, or heat sensors. Each sensor's output is digitized and transmitted to the system fire alarm control panel every four seconds.

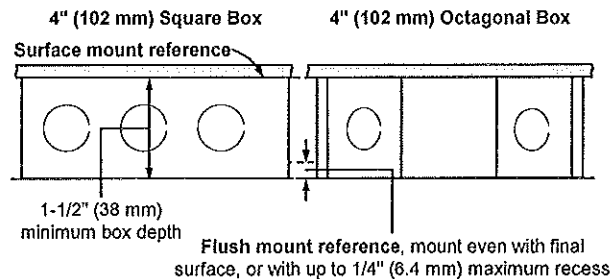
Since TrueAlarm sensors use the same base, different sensor types can be easily interchanged to meet specific location requirements. This feature also allows intentional sensor substitution during building construction. When conditions are temporarily dusty, instead of covering the smoke sensors (causing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

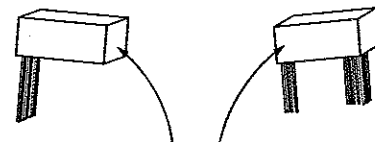
Electrical Box Requirements: (boxes are by others)

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

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

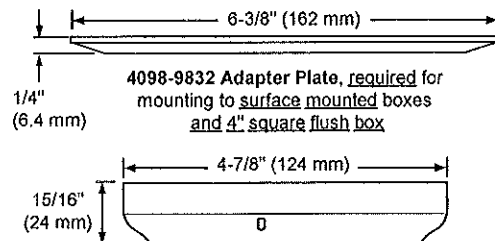


2098-9737 Relay (mounts in base electrical box or remotely) 4098-9822 Relay (mounts in base electrical box)



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

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



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

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:

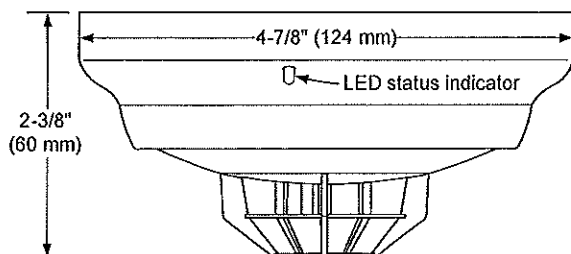
- Photoelectric or ionization technology sensing
- 360° smoke entry for optimum response
- Built-in insect screens

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.*



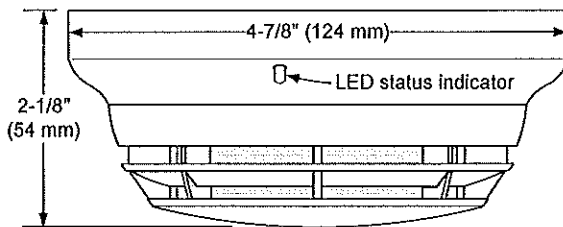
4098-9733 Heat Sensor with Base

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.

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%, and 3.7%. Sensitivity is selected and 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.

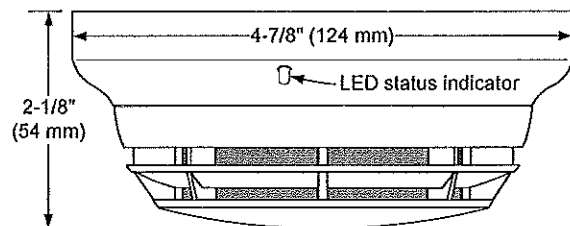


4098-9714 Photoelectric Sensor with Base

4098-9717 Ionization Sensor

TrueAlarm Ionization sensors use a single radioactive source with an outer sampling ionization chamber and an inner reference ionization chamber to provide stable operation under fluctuations in environmental conditions such as temperature and humidity. Smoke and invisible combustion gases can freely penetrate the outer chamber. With both chambers ionized by a small radioactive source [Am 241 (Americium)], a very small current flows in the circuit. The presence of particles of combustion will cause a change in the voltage ratio between chambers. This difference is measured by the electronics in the sensor base and digitally transmitted back to the control panel for processing.

Three levels of sensitivity are available for each ionization sensor: 0.5, 0.9, and 1.3% per foot of smoke obscuration. Sensitivities of 0.5% and 0.9% are for special applications in clean areas. Standard sensitivity is 1.3%. Sensitivity is selected and monitored at the fire alarm control panel.*



4098-9717 Ionization Sensor with Base

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

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

Model	Description	Compatibility	Mounting Requirements
4098-9792	Standard Sensor Base, no options	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	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**	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)	** NOTE: 4098-9791 is NOT compatible with the 2120 CDT

TrueAlarm Sensors

Model	Description	Compatibility	Mounting Requirements
4098-9714	Photoelectric Smoke Sensor	Bases 4098-9792, 4098-9789, and 4098-9791	Refer to base requirements
4098-9717	Ionization Smoke Sensor		
4098-9733	Heat Sensor		

TrueAlarm Sensor/Base Accessories

Model	Description	Compatibility	Mounting Requirements
2098-9737	Supervised Relay, mounts remote or in base electrical box	For use with 4098-9791 base	Remote Mounting requires 4" octagonal or 4" square box, 1-1/2" minimum depth Base Mounting requires 4" octagonal box, 2-1/8" deep with 1-1/2" extension ring
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	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

Specifications

General Operating Specifications

Communications and Sensor Supervisory Power	MAPNET II or IDNet, auto-select, 24-40 VDC w/data, 400 μ A 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 = 0-4000 ft/min (0-1220 m/min)
	4098-9717, Ionization Sensor	Air velocity = 0-200 ft/min (0-61 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 μ A, 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, and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited. NFPA 72 and National Fire Alarm and Signaling Code are trademarks of the National Fire Protection Association (NFPA).



Tyco Fire Protection Products • Westminster, MA • 01441-0001 • USA

S4098-0019-14 11/2012

www.simplexgrinnell.com

© 2012 Tyco Fire Protection Products. All rights reserved. All specifications and other information shown were current as of document revision date and are subject to change without notice.



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
- 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 4100ES, 4010ES, 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)

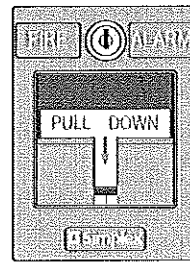
Multiple mounting options:

- 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

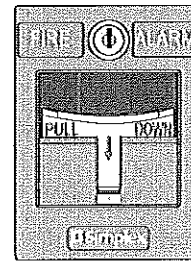
Description

The Simplex 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.

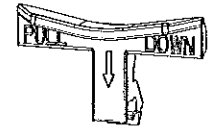
* Refer to page 2 for specific model listings. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7150-0026:224 for allowable values and/or conditions concerning material presented in this document.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



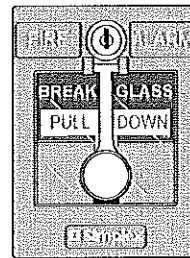
4099-9001
Single action



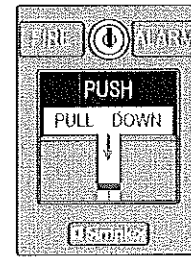
4099-9020
NO GRIP
Single action



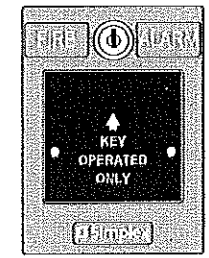
4099-9805
NO GRIP
Retrofit kit



4099-9002
Breakglass



4099-9003
Push



With 2099-9828
Institutional
Cover kit

Operation

Activation of the 4099-9001 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 4099-9020. 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 4099-9020 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
4099-9001	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	ABAISSÉZ	
4099-9002	Double action, Breakglass operation, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM, MEA
4099-9003	Double action, Push operation, English			
4099-9020	Single action NO GRIP operation, English	FIRE ALARM	PULL DOWN	UL, ULC, FM, CSFM

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	
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	

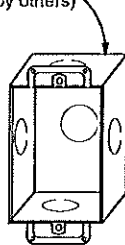
Specifications (refer to Installation Instructions 574-332 for additional information)

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
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

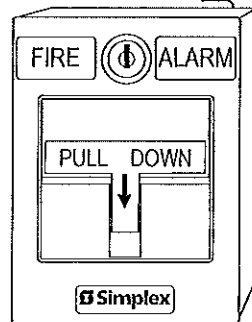
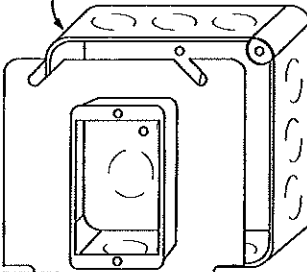
Single Gang Box Mount

Single gang box, 2-1/2" deep (64 mm), RACO #500 or equal (supplied by others)

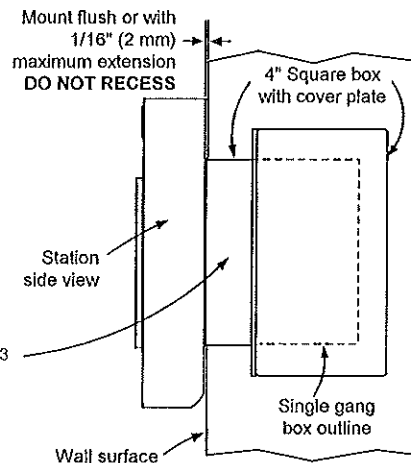


4" Square Box Mount

4" (102 mm) square box, 2-1/8" (54 mm) minimum depth, RACO #231 or equal (supplied by others)



Single gang cover plate, 3/4" (19 mm) extension, RACO #773 or equal (supplied by others)

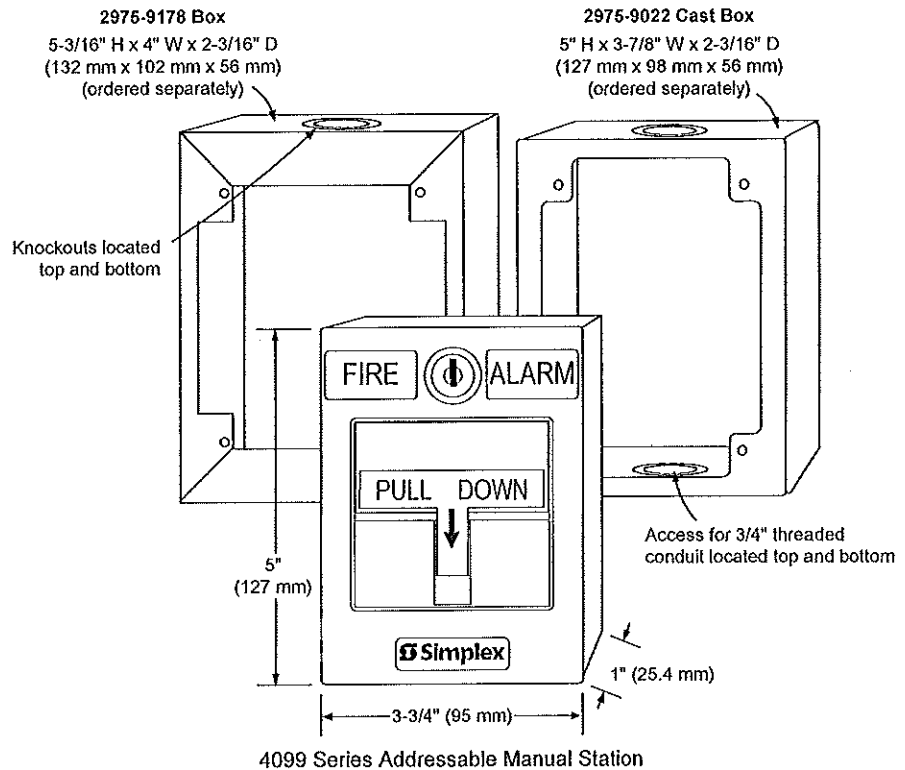


Semi-Flush Mount Side View

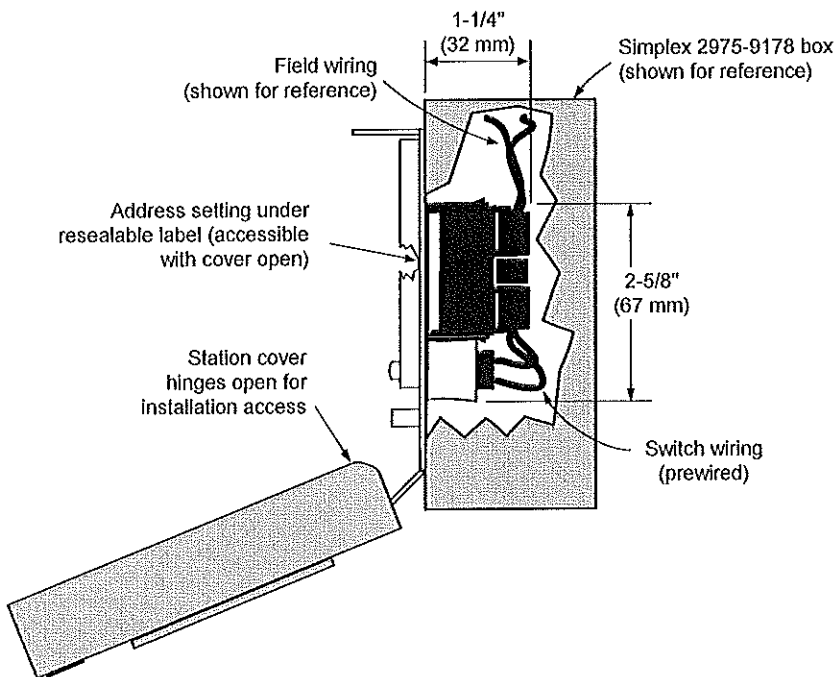
Addressable Manual Stations Surface Mounting

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

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



Surface Mount Side View with Internal Detail



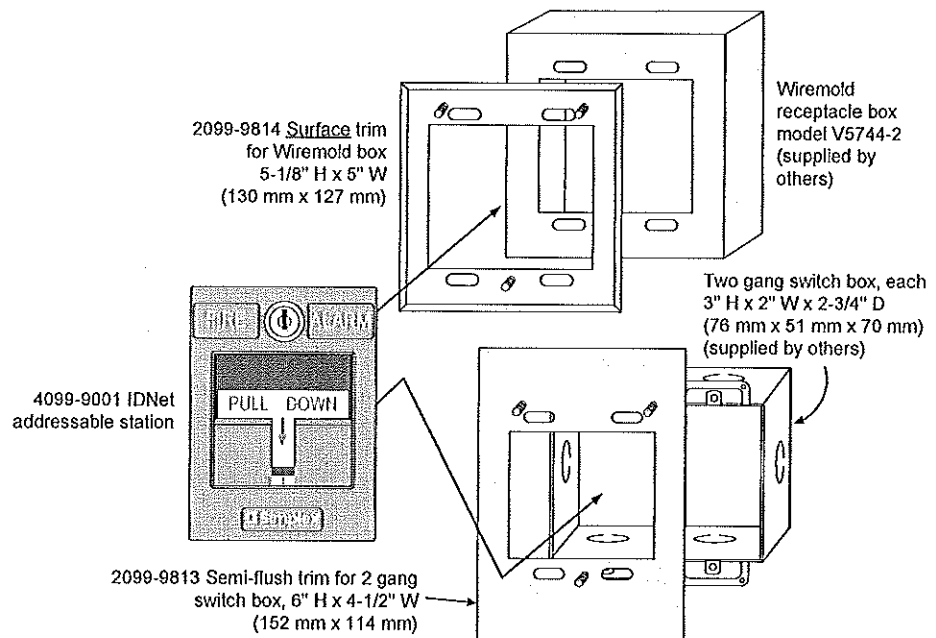
Application Reference

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.

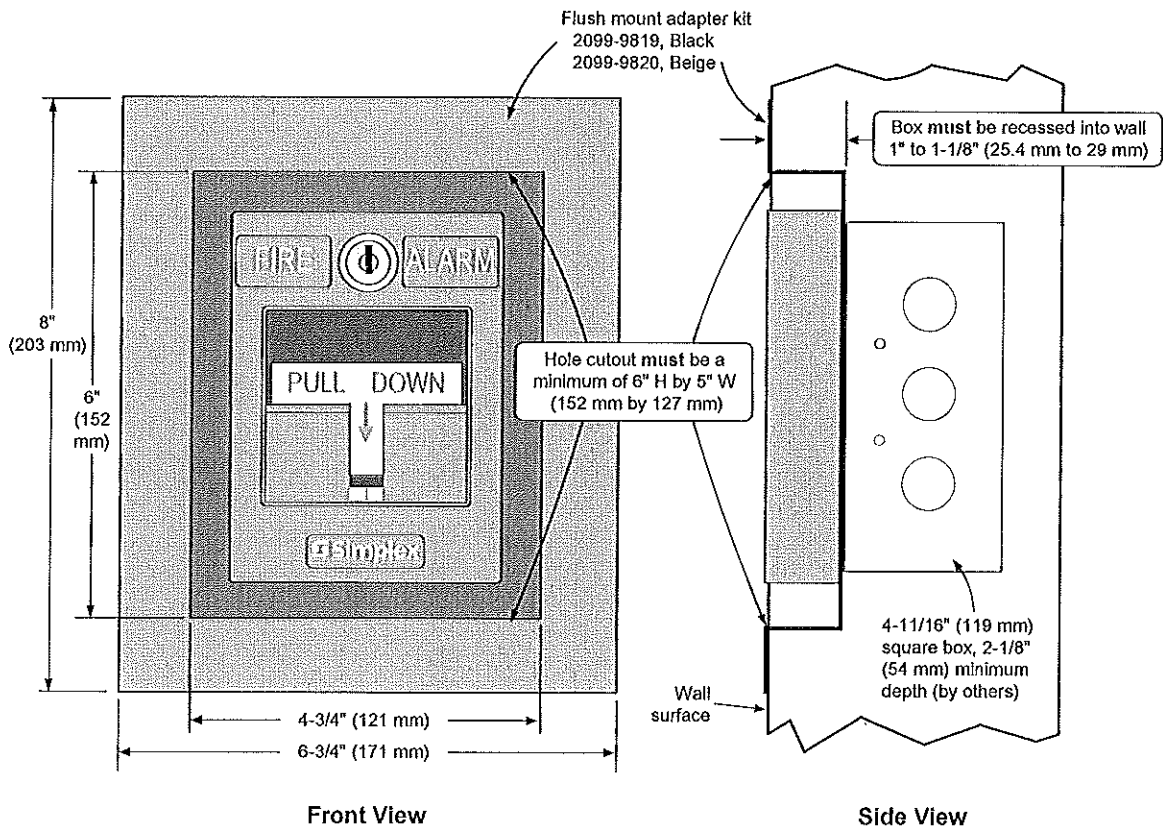
1. Stations shall be located in the normal path of exit and distributed in the protected area such that they are unobstructed and readily accessible.
2. Mounting shall be with the operable part not less than 42 in (1.07 m) and not more than 48 in (1.22 m) above floor level.
3. At least one station shall 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



TYCO, SIMPLEX, and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited. NFPA 72 and National Fire Alarm and Signaling Code are trademarks of the National Fire Protection Association (NFPA). Lexan is a trademark of the General Electric Co. Wiremold is a trademark of the Wiremold Company.



Multi-Application Peripherals

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

IDNet™ and MAPNET II® Communicating Devices,
Individual Addressable Modules (IAMs)

Features

IDNet or MAPNET II addressable communications supply both data and power over a single wire pair to provide**:

- Supervised Class B monitoring of normally open, dry contacts
- Total wiring distance from IAM to supervision resistor(s) of up to 500 ft (152 m)
- Monitored connection is compatible with Simplex® 2081-9044 Overvoltage Protectors for outdoor wiring or electrically noisy applications
- For use in indoor locations up to 158° F (70° C) such as attic spaces or similar applications

For use with following Simplex control panels:

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

Model 4090-9001:

- Enclosed design minimizes dust infiltration
- Mounts in standard single gang electrical box
- Screw terminals for wiring connections
- Visible LED flashes to indicate communications
- Optional covers are available to allow LED to be viewed after installation (requires mounting bracket, ordered separately)

Model 4090-9051:

- Encapsulated design for extended exposure to high humidity (LED is not present on this model)
- Color coded 18 AWG leads for wiring

IDNet communications provides current limited monitoring:

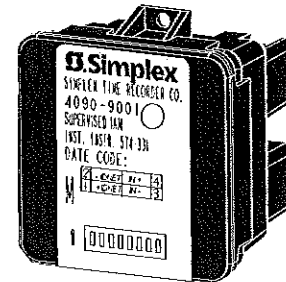
- Provides monitoring of tamper switch (supervisory) and waterflow switch (alarm) on same circuit using one point
- Available with IDNet communications only

Multiple operation modes are available and are selectable at the control panel:

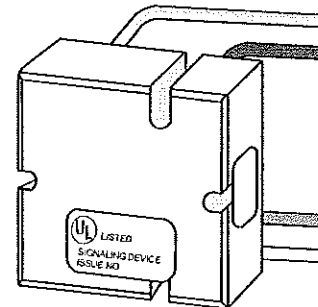
- Contact closure status can be tracked
- Momentary contact closure conditions can be selected at the panel to be latched or tracked (not available with the 2120 CDT)

UL listed to Standard 864

* 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 7300-0028:223 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.



4090-9001 Supervised IAM
(shown approximately 3/4 size)



4090-9051 Supervised IAM
(shown approximately 3/4 size)

Description

Individual addressable modules (IAMs) receive both power and communications from a two-wire MAPNET II or IDNet circuit. They provide location specific addressability to a single initiating device (such as single station smoke detector alarm contacts or heat detector contacts) or multiple devices at the same location by monitoring normally open dry contacts and the wiring to an end-of-line resistor.

Model 4090-9001 is packaged in a thermoplastic housing and provides screw terminal connections and a status indicating LED.

Model 4090-9051 is an encapsulated package with wire leads. It does not provide a status indicating LED.

Operation

Contact Closure. Closure of the monitored contact(s) initiates an alarm or other response as programmed at the fire alarm control panel. An open in the monitored circuit wiring will cause a trouble to be reported.

Panel Selections. Selections can be made at the control panel to maintain the alarm condition if the initiating device contacts are momentary, such as from a rate-of-rise heat detector, or to track the device contact status (not available with the 2120 CDT).

Current Limited Operation Applications

For use with IDNet communications only, these IAMs can provide quad-state sensing of normal, open circuit, short circuit, and current limited conditions. (Program type is "T-sense.") With the proper end-of-line and current limiting resistors, dual functions such as tamper switch and waterflow switch monitoring can be determined and communicated by a single addressable point.

IAM Product Selection

Model	Description
4090-9001	Supervised IAM, mounted in thermoplastic housing with screw terminals; see applicable options below
4090-9051	Supervised IAM, encapsulated with wire leads

Optional Trim Plates and Mounting Bracket for Model 4090-9001

Model	Description
4090-9806	For semi-flush mounted box
4090-9807	For surface mounted box
4090-9810	Mounting bracket, mounts IAM to electrical box and provides screw holes for trim plate, required for optional trim plates

Trim plate with LED viewing window, requires 4090-9810 mounting bracket, includes mounting screws; galvanized steel

End-of-Line Resistor Harnesses (ordered separately as required)

Model	Reference No.	Description
4081-9004	733-886	6.8 k Ω , 1/2 W; Standard end-of-line resistor harness for N.O. contact supervision
4081-9003	733-896	4.7 k Ω , 1/2 W
4081-9005	733-984	1.8 k Ω , 1/2 W

Use for current limited monitoring applications

Specifications

Electrical

Power and Communications	MAPNET II or IDNet, auto selected, 1 address per IAM	
Input Requirements	Normally open, dry contacts	
Wire Connections	4090-9001	Screw terminals for in/out wiring, 18 to 14 AWG wire (0.82 mm ² to 2.08 mm ²)
	4090-9051	Color coded wire leads, 18 AWG (0.82 mm ²), 8" long (203 mm)
Reference Documents	Installation Instructions	574-331 for 4090-9001; 579-572 for 4090-9151
	Field Wiring Diagrams	842-073 for IDNet operation; 841-804 for MAPNET II operation

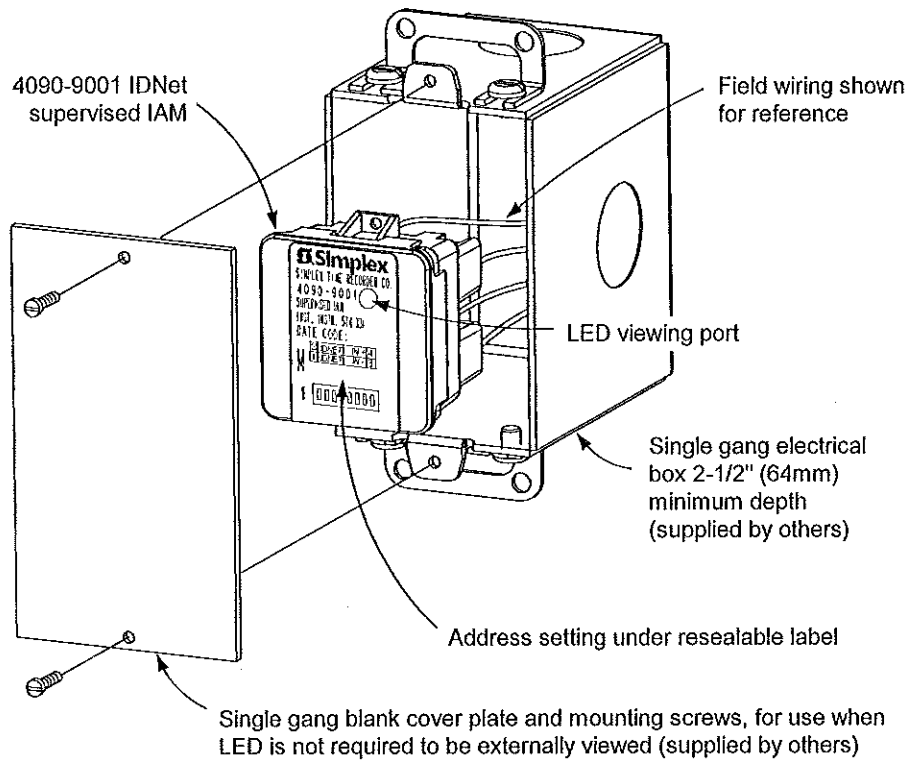
Wiring Distances

Distance from IAM to Contacts	500 ft (152 m) maximum without protectors
	400 ft (122 m) maximum with 2081-9044 Overvoltage Protectors
Wiring Distance Reference per channel, MAPNET II or IDNet Communications	2500 ft (762 m) maximum from fire alarm control panel
	10,000 ft (3048 m) maximum total wiring distance (including T-Taps)

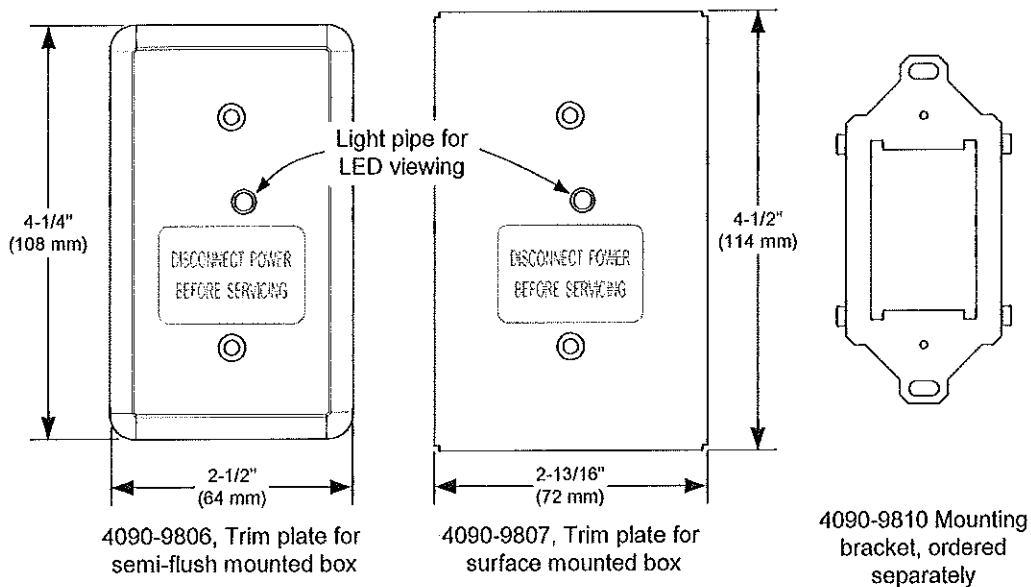
Mechanical

Dimensions	4090-9001	1-9/16" W x 1-3/4" H x 1-1/4" D (40 mm x 44 mm x 32 mm)
	4090-9051	1-9/16" W x 1-9/16" H x 9/16" D (40 mm x 40 mm x 14 mm)
Housing Material, 4090-9001	Black thermoplastic	
Encapsulation Material, 4090-9051	Epoxy, beige	
Temperature Range	32° to 158° F (0° to 70° C); intended for indoor operation	
Humidity Range	Up to 93% RH at 100° F (38° C)	

Mounting Information



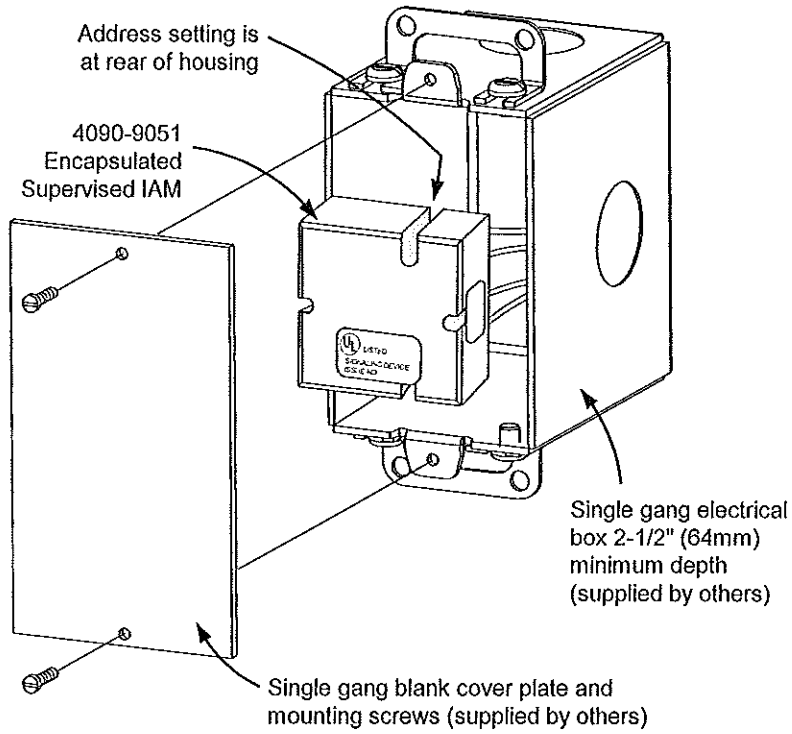
Mounting Reference, Single Gang Blank Cover Plate



NOTE: These mounting plates require mounting bracket 4090-9810.

Optional Trim Plates and Mounting Bracket for Visible LED

4090-9051 Mounting Information



Tyco is a registered trademark of Tyco International Services GmbH and is used under license. Simplex, the Simplex logo, IDNet, and MAPNET II are trademarks of Tyco International Ltd. and its affiliates and are used under license.



TrueAlert® Multi-Candela Notification Appliances

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

SmartSync™ Operation Audible/Visible Notification
with Horn and Synchronized Flash, Non-Addressable

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
- Operation requires connection to a compatible SmartSync operation NAC or to SmartSync Control Module (SCM) 4905-9938

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
- Optional UL/ULC listed sound damper for locations requiring attenuation of 5 to 6 dBA (stairwells, small rooms, highly reverberant areas, etc.)

Optional adapters and wire guards:

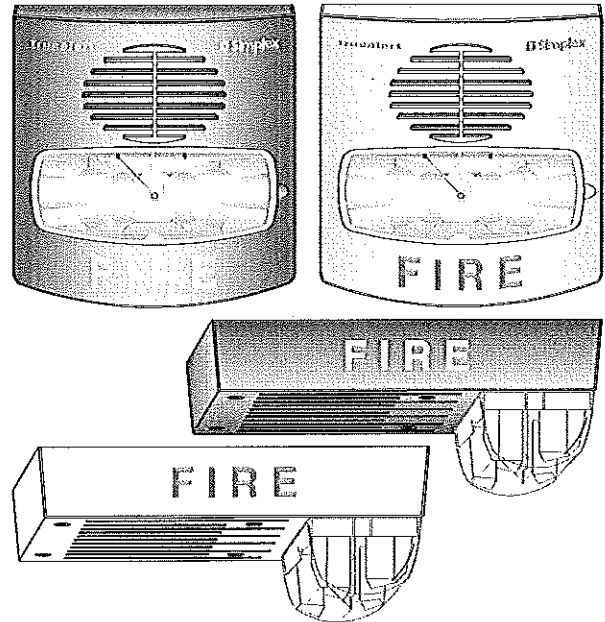
- Wall mount A/V adapters are available to cover surface mounted electrical boxes and to adapt to Simplex® 2975-9145 boxes
- UL listed red wire guards are available for wall or ceiling mount A/Vs*

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
- Regulated circuit design ensures consistent flash output and provides controlled inrush current
- Listed to UL 1971 and ULC S526

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)
- Listed to UL 464 and ULC S525



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.

* Refer to page 2 for guard listing. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7125-0026:317 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. Refer to page 2 for listing status of wire guards. Additional listings may be applicable; contact your local Simplex product supplier for the latest status. Listings and approvals under Simplex Time Recorder Co. are the property of Tyco Safety Products Westminster.

** Simplex multi-candela SmartSync two-wire horn/strobe appliance operation is protected under one or more of the following U.S. Patent Numbers: 5,559,492; 5,622,427; 5,865,627; 5,886,620; 6,281,789; 6,954,137; 7,005,971; and 7,006,003.

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.

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, 4008, 4100U, and 4010 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.

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	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	Surface Mount Adapter Box Extension, use to cover 1-1/2" deep surface mounted boxes	4-3/4" x 6-7/8" x 1-1/2" deep, (121 mm x 175 mm x 38 mm)
4905-9916		

* UL listed by Space Age Electronics Inc.

A/V Specifications

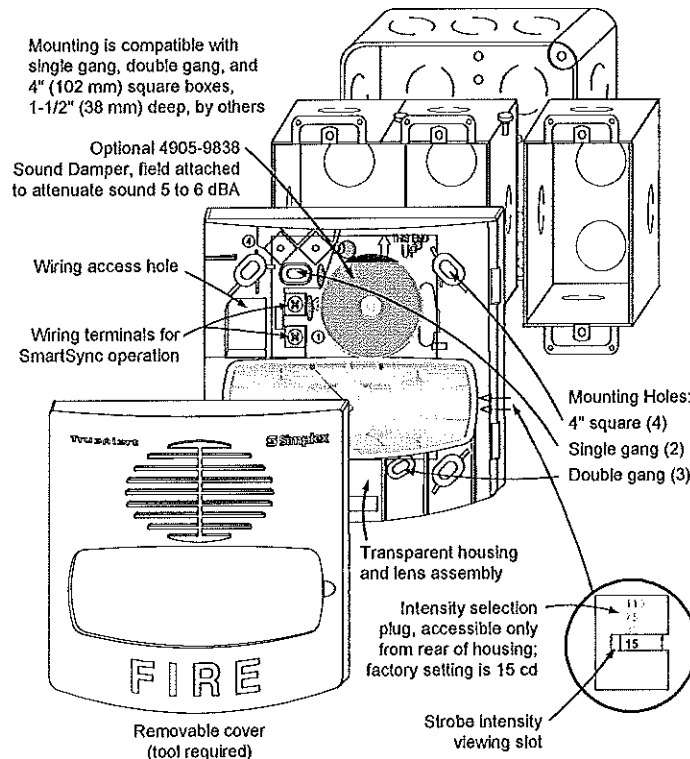
Wall Mount or Ceiling Mount, Common Specifications

Rated Voltage Range		Regulated 24 DC; see Note 1 below			
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 (see Note 2 for polar dispersion reference)	Model Type	Wall Mount		Ceiling Mount	
	Sound Type (see Note 2)	Steady	Coded	Steady	Coded
	Reverberant Chamber Test, per UL 464 @ 10 ft (~3 m)	86 dBA	82 dBA	87 dBA	83 dBA
	Anechoic Chamber Test, per ULC S525 @ 3 m (~10 ft)	88 dBA	94 dBA	90 dBA	98 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
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
24 VDC		57 mA	88 mA	167 mA	213 mA

NOTES:

- "Regulated 24 DC" refers to the voltage range of 16 to 33 VDC per UL Standard 1971, *Signaling Devices for the Hearing Impaired*, changes effective May 1, 2004. This voltage range is the absolute operating range. Operation outside of this range may cause permanent damage to the 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.
- 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. Polar dispersion per ULC S525 testing = -3 dBA at +/-40° off-axis; -6 dBA at +/- 50° off-axis.
- 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



IMPORTANT! WALL MOUNT INSTALLATION HEIGHT REFERENCE

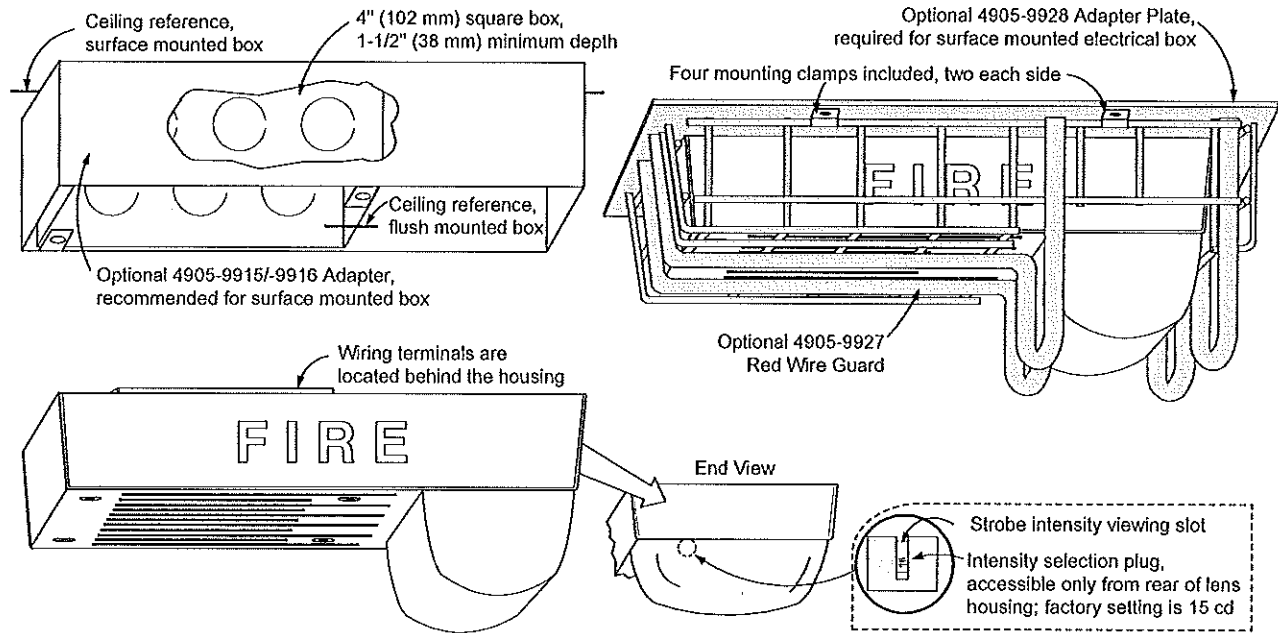
Bottom of lens is either even with, or slightly above bottom of compatible boxes

Electrical box outline

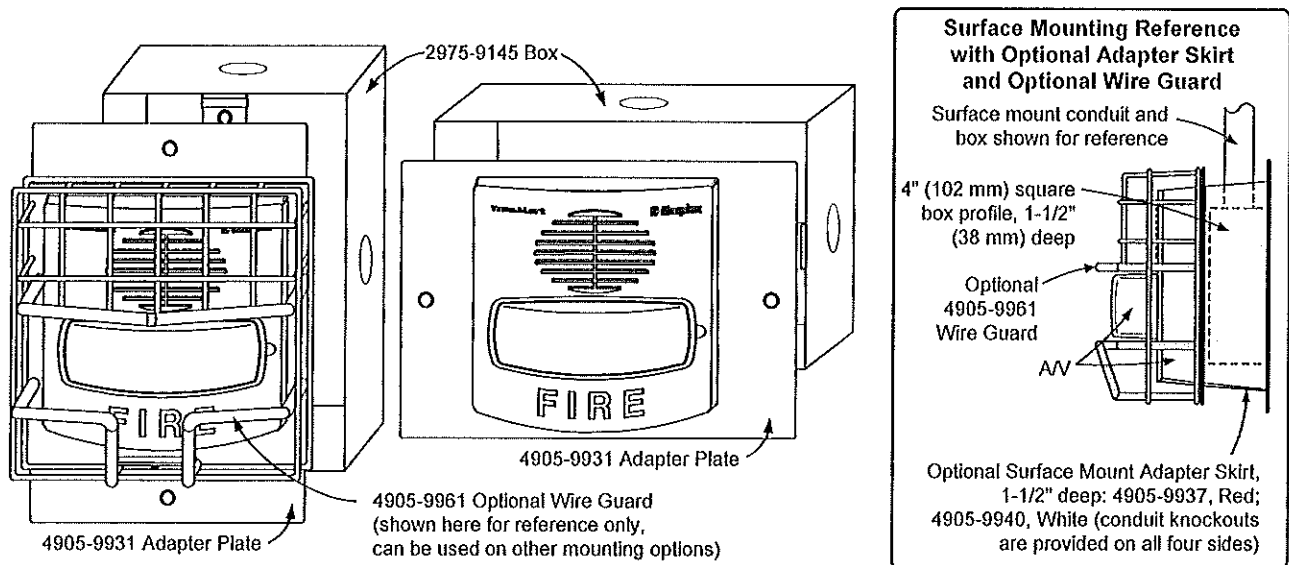
NFPA 72 requires that the entire lens be not less than 80" and not greater than 96" above the finished floor

80" (2.03 m) minimum

Ceiling Mount A/V and Guard Installation Reference



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



Tyco is a registered trademark of Tyco International Services GmbH and is used under license. Simplex, the Simplex logo, IDNet, TrueAlert, and SmartSync are trademarks of Tyco International Ltd. and its affiliates and are used under license. NFPA 72 and National Fire Alarm Code are trademarks of the National Fire Protection Association (NFPA).



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

S4906-0002-5 9/2009

www.tycosafetyproducts-usa-wm.com

© 2009 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.

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



Multi-Candela Audible/Visible (A/V) Appliances
with TrueNAC™ Voltage Drop Diagnostics

Features

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

- High intensity multi-candela xenon strobe with intensity programmable from a Simplex® 4100U fire alarm control panel with TrueAlert Addressable Power Supply (TPS) or jumper selected as 15, 30, 75, or 110 cd
- Synchronized 1 Hz strobe flash rate
- Wiring supervision to each appliance allowing “T-tapped” connections for Class B circuits to simplify wiring (Class A circuits require in/out wiring)
- Backwards compatibility with fixed candela TrueAlert addressable strobes on the same Signaling Line Circuit (SLC) allowing convenient expansion and replacement
- Compatibility with ADA requirements; (refer to important installation information on page 4)
- Strobe operation is UL listed to Standard 1971; Horn operation is UL listed to Standard 464

Compatible TrueAlert Addressable Host Controls:

- 4100U TrueAlert Addressable Power Supply (TPS) mounted in the control panel or in a remote cabinet
- TrueAlert Addressable Controller (4009T) interface panel

With multi-candela appliances and 4100U fire alarm control panels with TPS, TrueNAC™ voltage drop diagnostics provide:

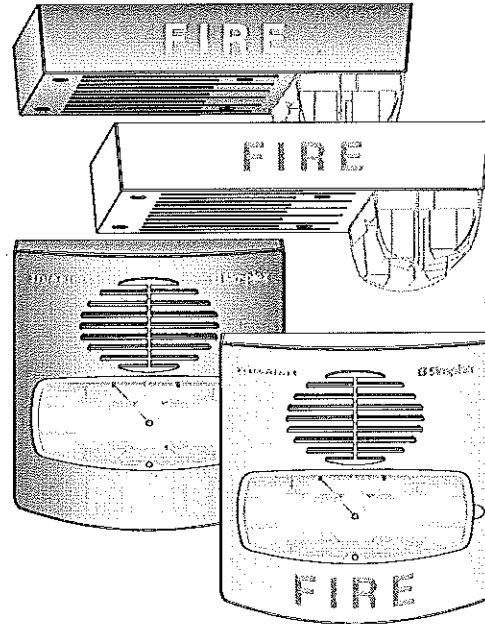
- Individual appliance voltage drop analysis using appliance intensity selection, measured appliance voltage, and SLC output voltage and current**
- Device Reports that detail type, candela rating, and location of addressable appliances on the SLC (also available with TrueAlert Addressable Controller connected to 4100U using RUI communications)
- Status Reports that list the diagnostic results per appliance on the SLC (see details on page 2)
- Requires 4100U Software Revision 12.04 or higher and compatible TPS version

LED indicator and magnet test feature:

- Appliance LED can be selected to display each polling cycle to indicate appliance supervision
- In diagnostic mode, the magnet test pulses the LED to indicate appliance address AND pulses to indicate the intensity selection; a brief output of the strobe and the horn is also selectable to confirm operation

Mechanical design features:

- Rugged, high impact, flame retardant thermoplastic housings are available in red or white for flush or surface, wall or ceiling mount
- Rear of housing does not extend into box and easily mounts to standard electrical boxes
- Access to wall mount in/out wiring terminals (18 AWG to 12 AWG) from front of housing assists installation, inspection, and testing
- Mounting options include electrical box adapters, separate covers to convert color, and red wire guards



Wall and Ceiling Mount Addressable A/Vs

Features (Continued)

Audible notification appliance (horn):

- Low current electronic horn with harmonically rich output sound for either coded or steady operation
- Horns sound as Temporal or March Time pattern (60 or 120 BPM), or on continuously, controlled separately from visible appliances on the same two-wire circuit
- Output is “high” or “low” (~5 dBA difference); 4100U TrueAlert Addressable Power Supply selects per device, TrueAlert Addressable Controller selects per SLC

Description

TrueAlert Addressable Multi-Candela A/Vs are individually addressed and individually controlled with power, supervision, and control supplied from a TrueAlert Addressable SLC.

4100U Additional Features. When controlled from a Simplex 4100U control panel with TPS, additional features are available such as software selection of strobe intensity, detailed reports of actual appliance intensity selection (see sample reports on page 2), TrueNAC voltage drop diagnostics, and additional setup and test diagnostics (further detailed on page 2).

* See page 3 for wire guard 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 7125-0026-239 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.

** TrueAlert addressable notification is protected under U.S. Patent Nos. 6,313,744; 6,426,697; 6,693,532; 7,006,003; and 7,091,847. TrueNAC diagnostics are protected under U.S. patent No. 7,333,010.

Strobe Intensity Selection

Selectable at Appliance or Remotely Selected. During installation, a plug at the back of the housing (visible after installation) is inserted to select strobe output as 15, 30, 75, or 110 cd; or *FACP*. *Selecting FACP allows a 4100U control panel with TPS to program the output intensity.*

FACP Selection Advantages. When intensity is selected in software from a 4100U fire alarm panel, it can be easily changed if renovations or other usage conditions are revised and intensity selection errors at installation are effectively eliminated.

Strobe Application Reference

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

TrueAlert Addressable Advantage

TrueAlert Addressable Operation provides separate audible and visible appliance control functions using a single two-wire circuit that also *confirms connection to the individual notification appliance's electronic circuit.* This operation increases circuit supervision integrity by providing supervision beyond the appliance wiring connections.

Opportunities for Reducing Installation and Testing Time. Separate controls carried on the same two-wire SLC can significantly reduce installation time and expense for both retrofit and new construction. When Class B (Style 4) wiring is used, *wiring can be T-tapped*, allowing even more savings in distance, wire, junction boxes, and overall installation efficiency. The extensive diagnostics features available provide improved installation efficiency.

TrueAlert Device and Device Status Reports

Service Port		Page 1	
REPORT 5 : TrueAlert Device Report		12:34:56am	WED 2-Jan-08
POINT ID	CUSTOM LABEL	DEVICE TYPE	CANDELA
T14-1-1	Location Label . . . up to 40 characters	V/O	15
T14-1-2	Break Room 5	A/V	110
T14-1-3	Boiler Room	A/V	75
T14-1-4	Elec. Room 7	A/V	30

Service Port		Page 1	
REPORT 6 : TrueNAC Status Report		12:34:56am	WED 2-Jan-08
POINT ID	CUSTOM LABEL	TEST RESULT	
TPS AT ADDRESS 3			
SLC 1			
T14-1-1	Location Label . . . up to 40 characters	PASSED	
T14-1-3	West Hall South End	PASSED	
T14-1-5	Classroom 2	PASSED	
T14-1-6	Classroom 3	FAILED	-0.6
NOMINAL CURRENT (A) :		1.34	
WORST CASE CURRENT (A) :		1.97	
WORST CASE VOLTAGE ABOVE/BELOW THRESHOLD (V) :		-0.6	
SLC HAS NOT PASSED UNLESS ALL DEVICES ARE MARKED AS PASSED			

Addressable Product Reference

Product	Data Sheet	Product	Data Sheet	Product	Data Sheet
V/O (strobe)	S4906-0004	TrueAlert Addressable Horn	S4901-0012	4100U Fire Alarm Panels	S4100-0031
SV (speaker/strobe)	S4906-0006	Amber Lens Strobes (Mass Notification)	S4906-0007		
TrueAlert Isolator	S4905-0001	TrueAlert Addressable Controller (4009T)	S4009-0003		

TrueAlert Addressable Diagnostics

Appliance Type and Intensity Check. The TrueAlert Addressable Host Control is programmed with address, location, device type, and intensity selection. An incorrect appliance replacement or substitution will produce a location specific trouble allowing easy correction.

LED Communications Indicator. The host control can be selected to pulse each appliance's LED when it receives a supervision poll. This feature can be left on continuously, or activated for system testing.

Silent Mode Appliance Magnet Testing. In this test mode, the local magnet test activates the appliance LED to pulse sequentially to indicate the appliance's address *and* to indicate the appliance's strobe intensity selection.

Operational (non-silent mode) Appliance Magnet Test. When this test mode is selected at the host control, after the address and intensity selection is indicated, the strobe will flash once and the horn will briefly sound.

4100U TrueNAC Diagnostic Operation

Individual Appliance Performance Analysis. With appliances on the SLC activated, each measures its terminal voltage and reports it to the 4100U TPS where the address and appliance type is stored in memory. The 4100U TPS measures its output voltage and current and then iteratively analyzes all of this information against known appliance power requirements to determine equivalent impedance to each appliance. TrueNAC diagnostics then analyze each appliance's wiring connection for performance under worst case conditions and identifies problems by appliance address. **TrueAlert Device Reports** detail type, candela rating, and location per appliance (first sample below). Fixed candela appliances will also report, but are not compatible with TrueNAC voltage drop diagnostics. **TrueNAC Status Reports** detail the diagnostic results as shown in the second report example below.

Product Selection

Multi-Candela Addressable A/Vs

Model	Mounting	Housing Color	"FIRE" Lettering	Dimensions	Description
4906-9227	Wall	Red	White	5-1/8" H x 5" W x 2-3/4" D (130 mm x 127 mm x 70 mm)	Addressable Horn with Multi-Candela Strobe; intensity selectable as: 15, 30, 75, or 110 candela
4906-9229		White	Red		
4906-9228	Ceiling	Red	White	4-3/4" L x 6-7/8" W x 2-5/8" D (121 mm x 175 mm x 67 mm)	
4906-9230		White	Red		

Wall Mount A/V Adapters

Model	Description	Dimensions
4905-9937	Red Surface Mount Adapter Skirt; use to cover 1-1/2" (38 mm) deep surface mounted boxes; depth with A/V = 4-3/8" (111 mm)	5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm)
4905-9940	White Surface Mount Adapter Skirt; use to cover 1-1/2" (38 mm) deep surface mounted boxes; depth with A/V = 4-3/8" (111 mm)	5-3/8" H x 5-1/4" W x 1-5/8" D (136 mm x 133 mm x 41 mm)
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)

Replacement Covers for Wall Mount A/Vs

Model	Housing	"FIRE"	Model	Housing	"FIRE"	Dimensions
4905-9994	Red	White	4905-9995	White	Red	5-1/8" H x 5" W x 1-1/2" D (130 mm x 127 mm x 38 mm)

Wire Guards and Ceiling Mount A/V Adapter

Model	Mounting	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*	Ceiling Mount	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*		Red Adapter Plate, required for surface mount guard	9" x 7" (229 mm x 178 mm)	
4905-9915		White	Surface Mount Adapter Box Extension, use to cover 1-1/2" deep surface mounted boxes	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.

Addressable A/V Specifications

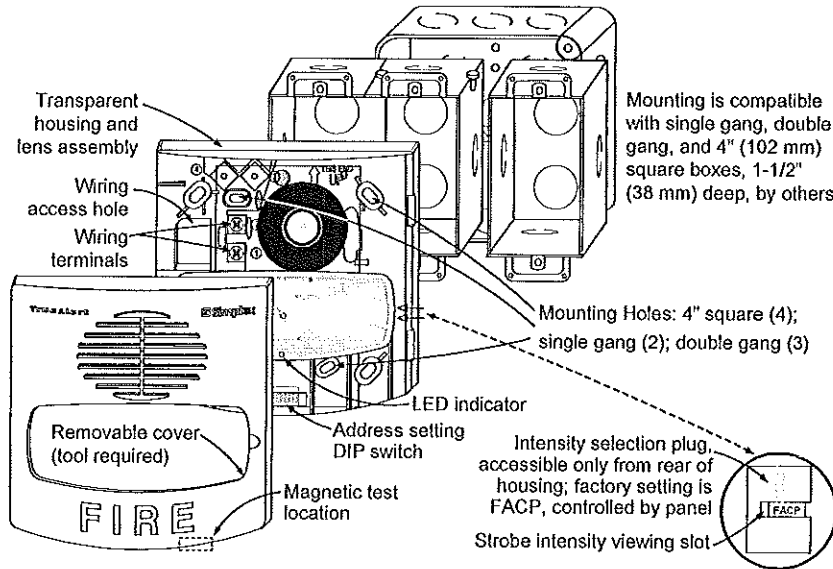
Wall Mount or Ceiling Mount, Common Specifications

Rated Voltage Range	UL Listed Rating	Special Application, 17 to 31 VRMS, see Note 1 below															
	ULC Listed Rating	21.25 to 28.2 VRMS															
Supervisory Requirements	1 unit load																
Strobe Flash Rate and Synchronized SLC Loading	1 Hz; with up to 46 synchronized addressable strobes maximum per SLC																
Environmental; Temperature and Humidity	32° to 122° F (0° to 50° C); 10% to 93%, non-condensing at 100° F (38° C)																
Terminal Block Connections	18 AWG to 12 AWG (0.82 mm ² to 3.31 mm ²); 2 wires per terminal for in/out wiring																
Horn Output Characteristics	2400 to 3700 Hz sweep, modulated at 120 Hz rate																
Horn Output Ratings; dBA @ 10 ft (3 m)	Voltage	17 VRMS				24 VRMS				31 VRMS							
		Sound Type (see Note 2)		Coding		Steady		Coded		Steady		Coded					
	Setting	High	Low	High	Low	High	Low	High	Low	High	Low	High	Low				
	Reverberant Chamber, UL 464 Test	84.6	79.1	80.6	75.5	86.3	81.5	82.4	77.2	88.4	84.3	84.5	79.2				
Anechoic Chamber	90	84	86	80	93	87	90	83	94	90	90	86					
Wall Mount Current	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)	15 cd				30 cd				75 cd				110 cd			
	Reference RMS Currents	69 mA				102 mA				184 mA				245 mA			
	at other voltages	52 mA				77 mA				138 mA				183 mA			
Ceiling Mount Current	Maximum RMS Current Rating per Strobe Setting (see Note 2 below)	15 cd				30 cd				75 cd				110 cd			
	Reference RMS Currents	82 mA				135 mA				249 mA				335 mA			
	at other voltages	58 mA				96 mA				176 mA				237 mA			

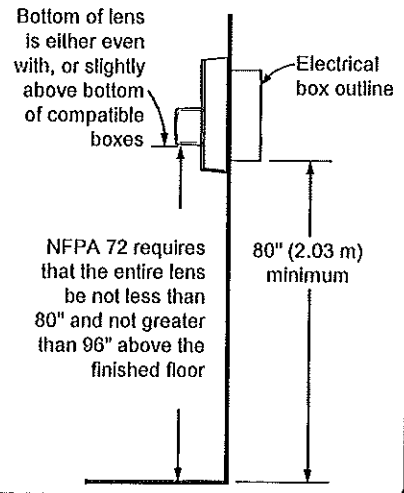
NOTES:

- "Special Application" refers to the operating category under UL Standard 1971, *Signaling Devices for the Hearing Impaired*. The rated voltage range listed is the absolute operating range. Operation outside of this range may cause permanent damage to the appliance. Please note that 17 VRMS is the lowest operating voltage that is allowed at the last appliance on the TrueAlert signaling line circuit under worst case conditions. "Low" horn setting draws approximately 5 mA less current at each voltage listed.
- 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. Coded horn values are typical of the output measured with a Temporal or March Time pattern 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.

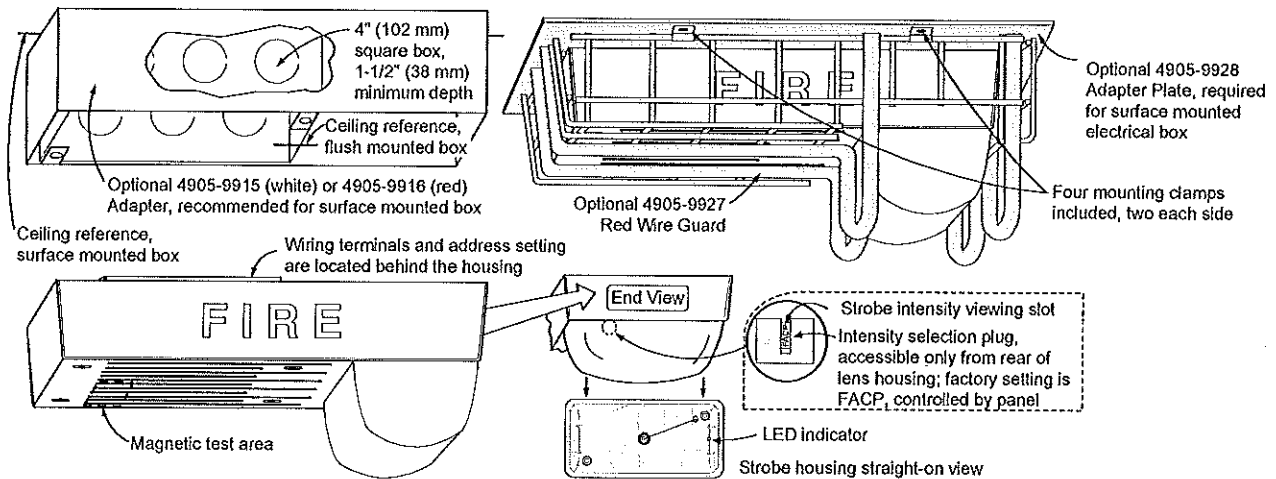
Wall Mount Installation Reference, Surface or Semi-Flush Mounting



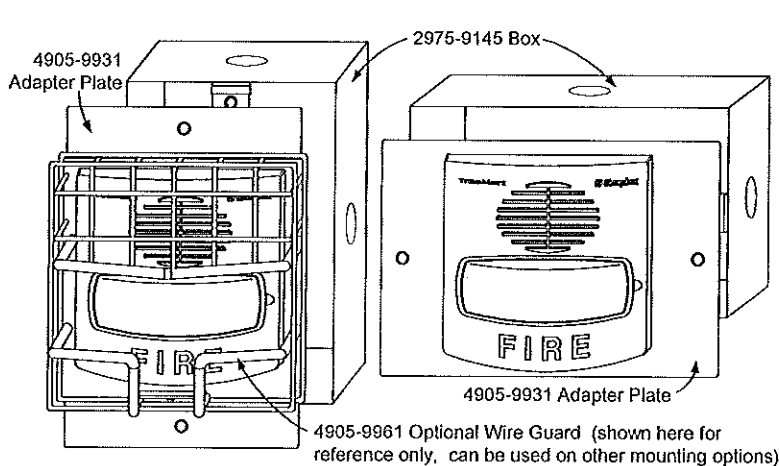
IMPORTANT! WALL MOUNT INSTALLATION HEIGHT REFERENCE



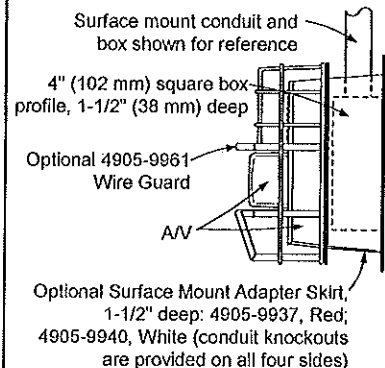
Ceiling Mount A/V and Guard Installation Reference



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



Surface Mounting Reference with Optional Adapter Skirt and Optional Wire Guard



Tyco is a registered trademark of Tyco International Services GmbH and is used under license. TrueAlert, TrueNAC, Simplex, and the Simplex logo are trademarks of Tyco International Ltd. and its affiliates and are used under license. NFPA 72 and National Fire Alarm Code are trademarks of the National Fire Protection Association (NFPA).



Tyco Safety Products Westminster • Westminster, MA • 01441-0001 • USA
www.tycosafetyproducts-usa-wm.com

S4908-0005-2 3/2008

© 2008 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.

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

4009 IDNet NAC Extender for Control from 4010, 4010ES, 4100ES/4100U IDNet Communications, or Conventional NACs

Features

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

Four, Class B 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, 4010ES, 4100U, or 4100ES 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 or Class A output
- IDNet Communications Fiber Optic Receiver/Repeater, available as Class B or Class X
- Four additional Class B NACs, rated 1.5 A for Special Application appliances; 1 A for Regulated 24 DC appliance power
- Class A, Two Circuit Adapter Module

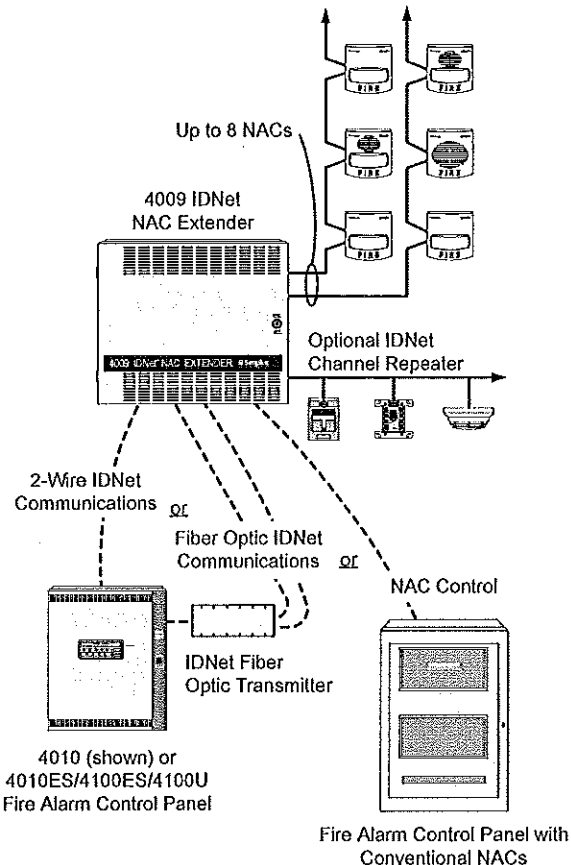
UL Listed to Standard 864

External Accessories

IDNet communication fiber optic transmitters:

- For applications requiring the data integrity available with fiber optic communications
- Available as Class B or Class X
- Mounts in standard six-gang electrical box

External battery cabinet for 18 Ah batteries



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 SimplexGrinnell LP, Westminster.

** 4100U requires revision 11 software or higher for compatibility. 4010 requires revision 2 software or higher for compatibility.

Application and Operation Information

IDNet Addressable Communications Compatible.

Up to ten (10), 4009 IDNet NAC Extenders can be controlled per 4010ES/4100ES/4100U IDNet communications channel; up to five (5) can be controlled on the 4010 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. 4010ES/4100ES/4100U control panels control using multi-point rules, refer to data sheet S4090-0011 for details.

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 NACs and 8 A power supply
4009-9202CA*		
4009-9301	240 VAC input	

* ULC listed model

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	One maximum	
4009-9808	Dual Class A adapter (for two NAC outputs)	Select as required (4 maximum)	
4009-9809	IDNet Repeater, output is Class A or Class B	Select either an IDNet Repeater or a Fiber Optic Receiver as required; one transmitter can connect to one receiver	
4009-9810	Fiber Optic Receiver		Class B
4009-9811			Class A (IDNet), Class X (fiber)
4009-9805	Red Appliqué for door	Select if required	
2975-9801	Semi-Flush Trim Kit	1-7/16" wide (78 mm), use if required for semi-flush installations	
2975-9802			Red trim

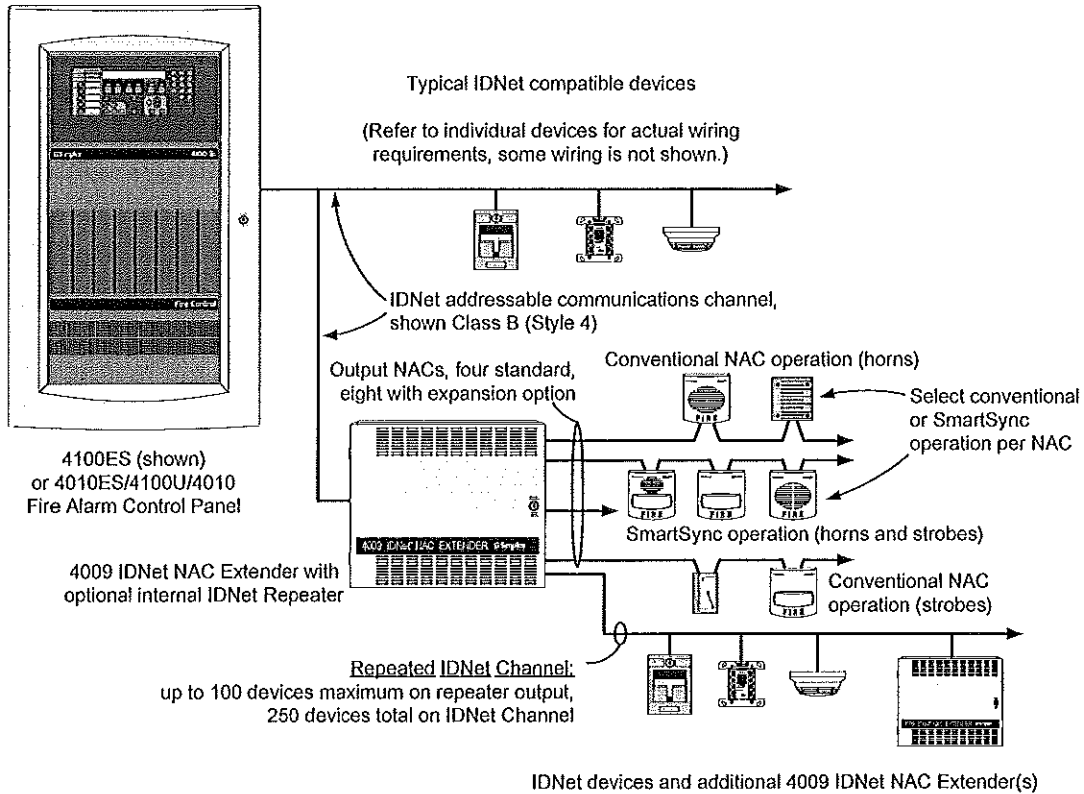
Battery Selection (select battery size per system requirements)

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)

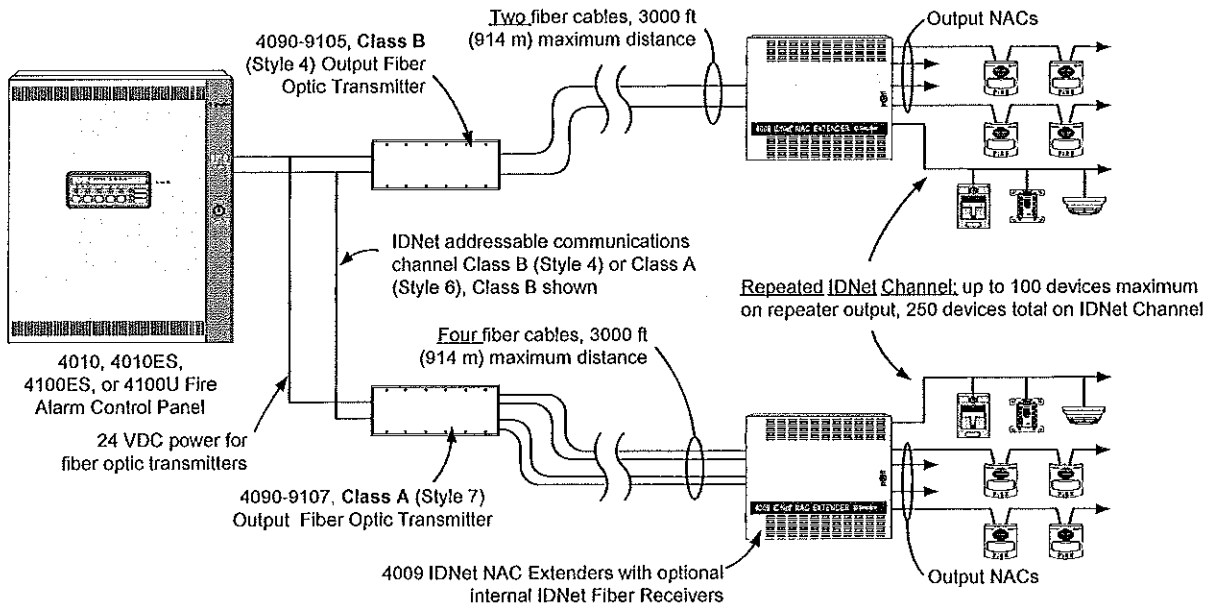
Model	Description	Comments
4090-9105	IDNet Fiber Optic Transmitter	Mounts in six-gang electrical box, refer to page 4 for mounting details
4090-9107		
4009-9801	External battery cabinet for up to 18 Ah batteries, beige	16-1/4" W x 13-1/2" H x 5-3/4" D (413 mm x 343 mm x 146 mm)
4081 Series	End-of-Line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

Typical IDNet Connection Example



NOTE: Up to ten (10) 4009 IDNet NAC Extenders may be connected per 4010ES, 4100ES or 4100U IDNet channel, up to five (5) on the 4010 IDNet channel. IDNet communications can be repeated only once (can pass through only one series connected repeater or one fiber optic receiver).

Typical Fiber Optic System Connections



NOTE: Up to ten (10) 4009 IDNet NAC Extenders may be connected per 4010ES, 4100ES or 4100U IDNet channel, up to five (5) on the 4010 IDNet channel. IDNet communications can be repeated only once (can pass through only one series connected repeater or one fiber optic receiver). Fiber optic transmitters connect to only one receiver in a 4009 IDNet NAC Extender.

Hardwire Control Connection Information

NAC Input Selections. The 4009 IDNet NAC Extender can be selected to:

- Track input NAC operation or to provide a locally generated code, selectable per NAC input
- If selected for local coding, NAC outputs can be either **Temporal Coded** or **60 Beats/min March Time Coded**, one code selection per extender (input NACs must be on continuous with Alarm)
- Additionally, NAC outputs can be selected to provide the Simplex strobe synchronization signal. This signal will synchronize the flashes of synchronized strobes but will be ignored by free-run strobes and audible devices. (Strobes are for operation by noncoded NACs.)

NAC input to NAC output control can be selected for standard and optional NACs per the following table:

Conventional NAC Output Operation Options

Input	A	B	C
NAC 1	NACs 1 & 2, 5 & 6	NACs 1-4	NACs 1-8
NAC 2	NACs 3 & 4, 7 & 8	NACs 5-8	None

SmartSync NAC Output Operation

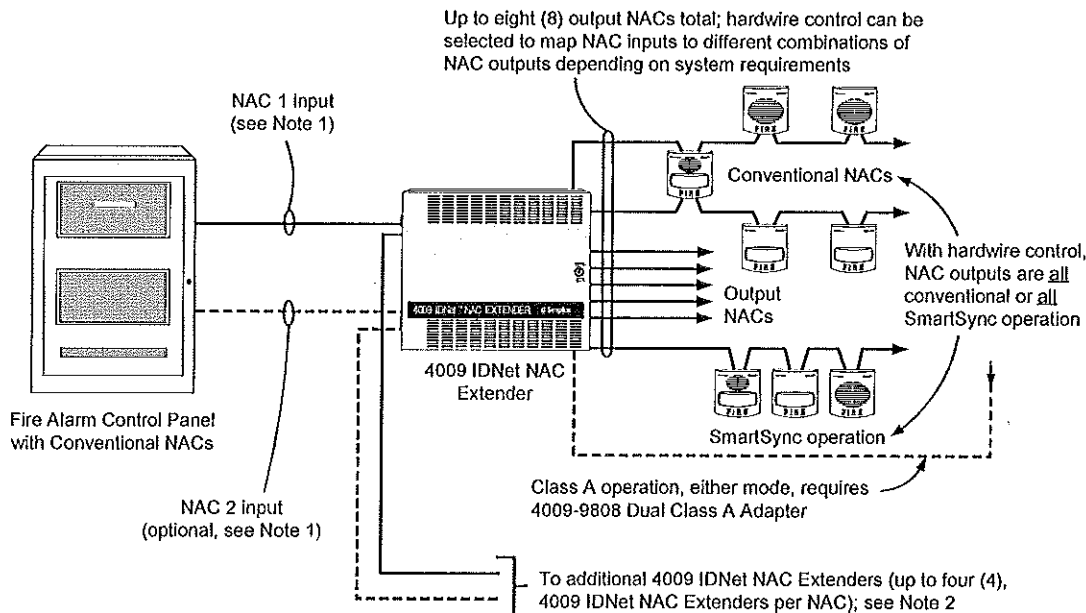
Input	NAC Control Function	
NAC 1	Strobe Control	All NAC outputs (1-8)
NAC 2	Horn Control	

SmartSync Notification Appliance Control

The TrueAlert Notification Appliance product line includes addressable and non-addressable operation. Non-addressable models are available with 2-wire SmartSync operation or conventional 4-wire operation. The following details apply to use with the 4009 IDNet NAC Extender:

- TrueAlert non-addressable models with SmartSync operation allow audible notification to be separately controlled over the same wire pair that controls visible notification
- 4009 IDNet NAC Extenders can be selected to provide SmartSync operation whether controlled by IDNet communications or conventional NACs
- IDNet control allows output NACs to be **individually selected** for conventional or SmartSync operation
- With NAC input control, all output NACs are selected for either conventional or SmartSync operation
- Refer to data sheet S4009-0003 for TrueAlert Addressable operation details, contact your local Simplex product supplier for further information on specific TrueAlert notification appliances

Hardwire Control NAC Connection One-Line Reference Diagram



Notes:

1. For separate audible and visible output NAC control, or SmartSync NAC output operation, two (2) input NACs are required. NAC 1 is "on-until-reset" and NAC 2 is "on-until-silenced."
2. To synchronize strobe flash outputs for up to four (4) 4009 IDNet NAC Extenders, use the synchronized strobe output from a Synchronized Flash Module (4905-9914 for Class B operation, 4905-9922 for Class A operation) or, if available, from a NAC selected to provide synchronized strobe flash output. **NOTE: DO NOT USE a NAC selected for SmartSync operation for this function.**

Refer to Installation Instructions 574-181 for additional information and application guidance

4009 IDNet NAC Extender Specifications

Input Ratings	120 VAC Input (4009-9201)	3A @ 102-132 VAC, 60 Hz
	240 VAC Input (4009-9301)	1.5A @ 204-264 VAC, 50/60 Hz
	Hardwire Control from External NACs, Input Requirements	Conventional reverse polarity operation 5 mA maximum; 16 to 33 VDC
Output Ratings	Total Rating	8 A, Special Application appliances 6 A, Regulated 24 DC appliance power
	Standard NACs	2 A each, Special Application or Regulated 24 DC appliance power
	Optional NACs (requires 4009-9807)	1.5 A each, Special Application appliances 1 A each, Regulated 24 DC appliance power
	Special Application Appliances	Simplex 4901, 4903, 4904, and 4906 Series non-addressable horns, strobes, and combination horn/strobes and speaker/strobes (contact your Simplex product representative for compatible appliances)
	Regulated 24 DC Appliances	Power for other UL listed appliances; use associated external synchronization modules where required
	Strobe Operation	Up to 33 strobes per NAC can be synchronized; output NACs configured for Simplex synchronized strobe operation are synchronized to each other
	Auxiliary Output	500 mA @ 24 VDC nominal

Optional Modules Ratings

IDNet Repeater Module (4009-9809)	Input Power	70 mA @ 24 VDC, system supplied
	IDNet Input, One Address	Maximum distance from IDNet source is 2500 ft (762 m)
	IDNet Output Specifications	Repeated IDNet output for up to 100 devices (total IDNet devices not to exceed 250 per channel)
		Maximum distance to farthest device is 2500 ft (762 m)
		Total distance including "T-taps" is 10,000 ft (3048 m)
	Class A loop maximum distance is 2500 ft (762 m), no "T" taps	

Fiber Optic Receiver Modules

Input Current	4009-9810, Class B, 65 mA @ 24 VDC, system supplied 4009-9811, Class X, 80 mA @ 24 VDC, system supplied
IDNet Output Specifications	Same as those for Repeater Module (see above)
Fiber Optic Transmission Distance	3000 ft (914 m) maximum

General (LED status indicators are listed on page 7, dimensions and mounting details are on page 6)

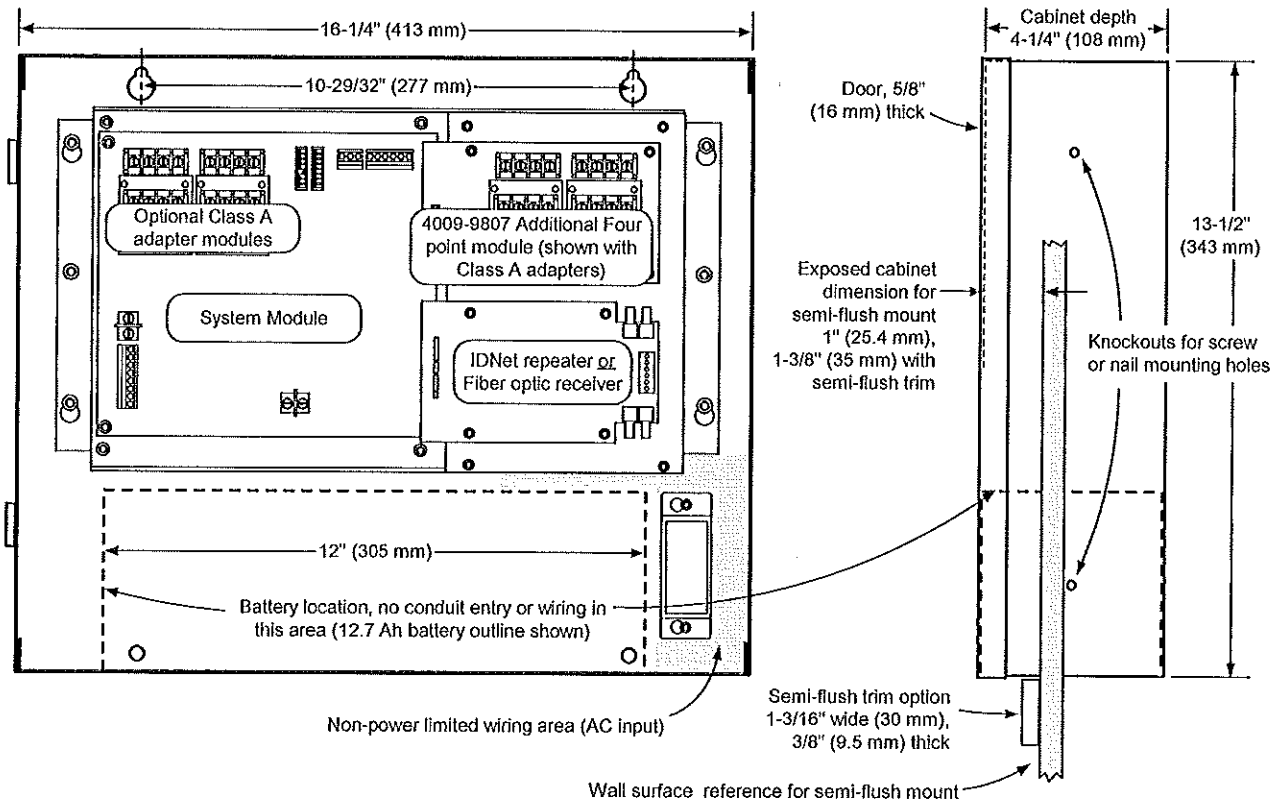
Operating Temperature	32° to 120° F (0° to 49° C)
Operating Humidity Range	10% to 90% RH from 32° F to 104° F (0° C to 40° C)
Wiring Connections*	Terminal blocks for 18 AWG (stranded) to 12 AWG (solid)

Fiber Optic Transmitter Specifications

Input Voltage	18.9-32 VDC from compatible listed fire alarm supply
Input Current	4090-9105, Class B, 30 mA @ 24 VDC 4090-9107, Class X, 35 mA @ 24 VDC
Fiber Optic Connections and cable requirements	Multimode, graded index, 50/125µm, 62.5/125 µm, 100/40 µm, or 200 µm Type ST connectors 4090-9105, Class B operation, two fiber cables required 4090-9107, Class X operation, four fiber cables required
Module Size (with mounting bracket)	6-13/16" W x 3-3/4" H x 1-1/8" D (173 mm x 95 mm x 29 mm)
On-board Status Indicators	Green LED flashing = transmit Red LED flashing = receive Separate red LED on 4090-9107 = Class X receive
Communications	Simplex IDNet
Fiber Optic Transmission Distance	3000 ft (914 m) maximum
Wiring Connections*	Terminal blocks for 18 AWG (stranded) to 12 AWG (solid)
Operating Humidity	10% to 90% RH from 32° to 104° F (0° to 40° C)
Operating Temperature	32° F to 120° F (0° to 49° C)

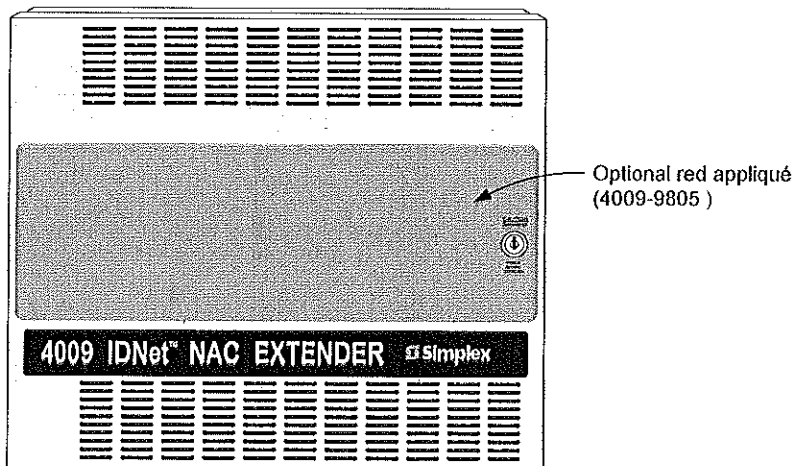
* Metric wire equivalents: 18 AWG = 0.82 mm²; 12 AWG = 3.31 mm²

4009 IDNet NAC Extender Mounting and Module Placement Information

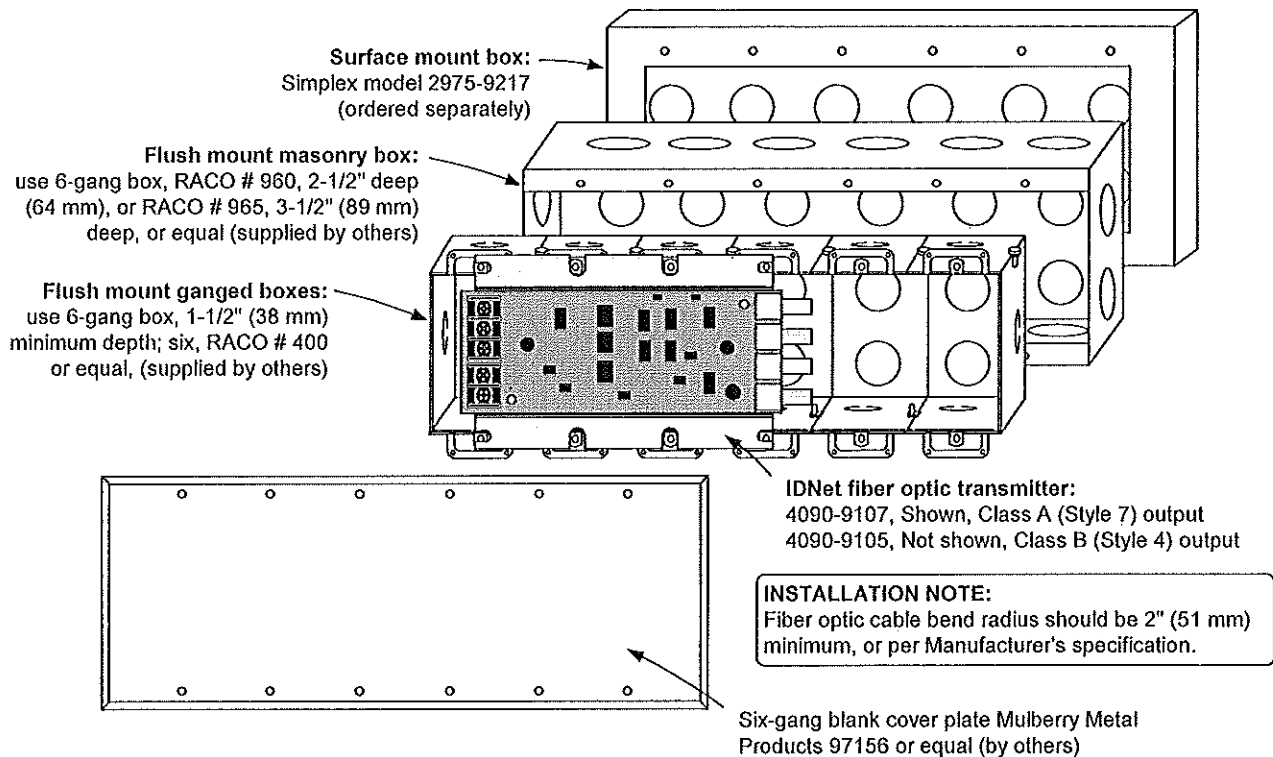


NOTE: Recommended conduit entrance varies with module selection. Refer to general installation instructions 574-181, specific module installation instructions, and to field wiring diagrams 842-068 before locating conduit entrance.

4009 IDNet NAC Extender Cabinet with Door Detail



4090-9105/9107 IDNet Fiber Optic Transmitter Mounting Information



Service Diagnostic Features

Power-up Self-Diagnostics. Upon power-up, the 4009 IDNet NAC Extender tests each module and performs earth fault diagnostics. Trouble conditions are communicated to the host control panel and are also displayed on diagnostic status LEDs in the 4009 IDNet NAC Extender. When connected via IDNet communications, detailed status information is available at the host. When controlled with conventional NAC inputs, common troubles are signaled by providing a polarized open circuit that disconnects the NAC wiring from its end-of-line resistor but still allows a reversed polarity alarm to be received.

Door Mounted Reference Label. The 4009 IDNet NAC Extender has a detailed programming and diagnostic label inside the front door that provides a quick reference for both installation and checkout.

LED Status Indicators are provided for the following:

- **Each NAC** (standard and optional) has a dedicated yellow LED that:
 - During supervision provides a slow flash to indicate a short circuit condition and a fast flash to indicate an open circuit
 - During an alarm, the LED follows the NAC output (on steady or flashing with coded output)
- **Four, general status yellow LEDs** provide nine separate indications listed in priority of urgency. As a trouble is eliminated, any remaining trouble(s) will then be indicated until the 4009 IDNet NAC Extender is returned to normal operation.
- **AC power status** is indicated by a green LED that is on when AC is normal. During low AC (brownout) conditions or with no AC, the LED is off. Additional power and battery status is indicated by the general status LEDs.

4009 IDNet NAC Extender Current Calculation Chart

Step 1. Calculate Basic Extender Battery Requirements (minus NAC loads)

Panel, NAC Options, and Auxiliary Power (underlined model numbers are optional modules)

Model	Description	Supervisory Current	Actual Supervisory	Alarm Current	Actual Alarm
4009-9201	120 VAC input	85 mA	85 mA	185 mA	185 mA
4009-9301	240 VAC input				
<u>4009-9807</u>	Additional Four Point NAC	40 mA	+ _____	40 mA	+ _____
<u>4009-9808</u>	Dual Class A Adapter (no additional current)	-	-	-	-
Auxiliary Power Output		(500 mA maximum)	+ _____	(500 mA maximum)	+ [A1] _____
Basic Panel Supervisory Current			= [S1] _____	Basic Panel Alarm Current = [A2] _____	

Step 2. Calculate IDNet Output Module and Device Current (if used)

Model	Description	Select one per Extender	Supervisory Current	Actual Supervisory	Alarm Current	Actual Alarm
<u>4009-9809</u>	IDNet Repeater		70 mA	+ _____	70 mA	+ _____
<u>4009-9810*</u>	Fiber Optic Receiver, Class B		65 mA		65 mA	
<u>4009-9811*</u>	Fiber Optic Receiver, Class X		80 mA		80 mA	
IDNet Devices (connected to Repeater or Receiver above), 0.7 mA each, maximum of 100			Total devices x 0.7 mA each	+ _____	Total devices x 0.7 mA each	+ _____
* Note: IDNet Fiber Optic Transmitter current is supplied from the host fire alarm control panel		IDNet Module Supervisory Current	[S2] = _____	IDNet Module Alarm Current	= [A3] _____	

Step 2. Calculate Available NAC Current

* 8 A for Special Application Appliances; 6 A for Regulated 24 DC Appliances

Maximum Available Current	= 8 A*
Subtract Auxiliary Power Output	- [A1] _____
Subtract IDNet Module Current	- [A3] _____
Available NAC Current	= [A4] _____

Step 3. Calculate Actual NAC Loading (Limited to Available NAC Current per Step 2.)

NAC Type	NAC Circuit #	NAC Alarm Current
Standard Panel NACS, <u>2 A maximum</u> per NAC	Circuit 1	+ _____
	Circuit 2	+ _____
	Circuit 3	+ _____
	Circuit 4	+ _____
Optional Four Point NAC Module, <u>1.5 A maximum</u> Special Application rating, <u>1 A maximum</u> Regulated 24 DC rating, per NAC	Circuit 5	+ _____
	Circuit 6	+ _____
	Circuit 7	+ _____
	Circuit 8	+ _____
Total Actual NAC Load Alarm Current		= [A5] _____

Step 4. Calculate Total Supervisory Current

Total Supervisory Current = Basic Panel Current [S1] + IDNet Module Current [S2] = _____

Step 5. Calculate Total Alarm Current

Total Alarm Current = Basic Panel Current [A2] + IDNet Module Current [A3] + Actual NAC Current [A5] = _____

TYCO, SIMPLEX, and the product names listed in this material are marks and/or registered marks. Unauthorized use is strictly prohibited.



Tyco Fire Protection Products • Westminister, MA • 01441-0001 • USA
www.simplexgrinnell.com

S4009-0002-11 1/2013

© 2013 Tyco Fire Protection Products. All rights reserved. All specifications and other information shown were current as of document revision date and are subject to change without notice.