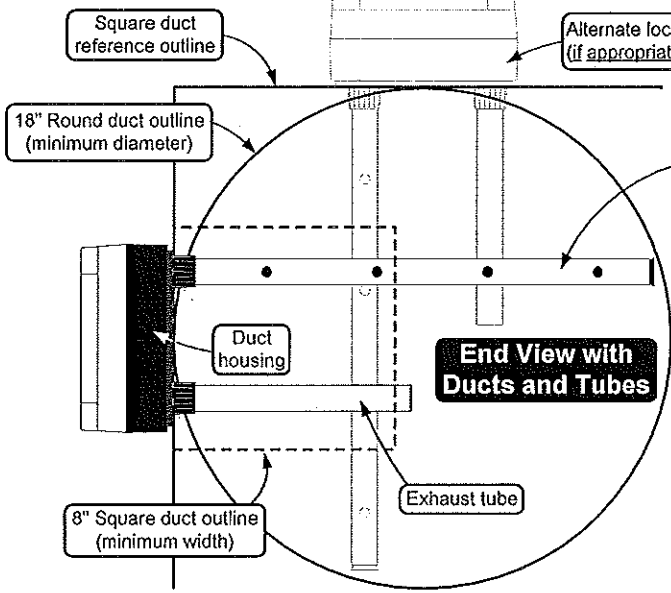
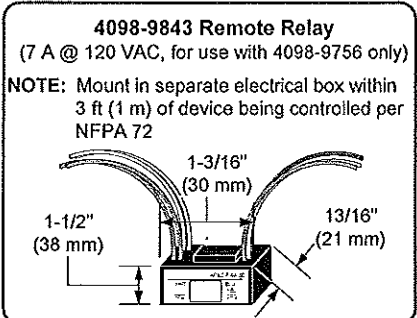
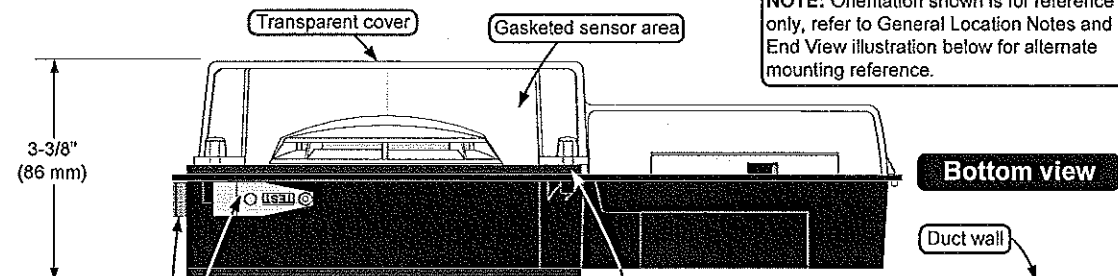
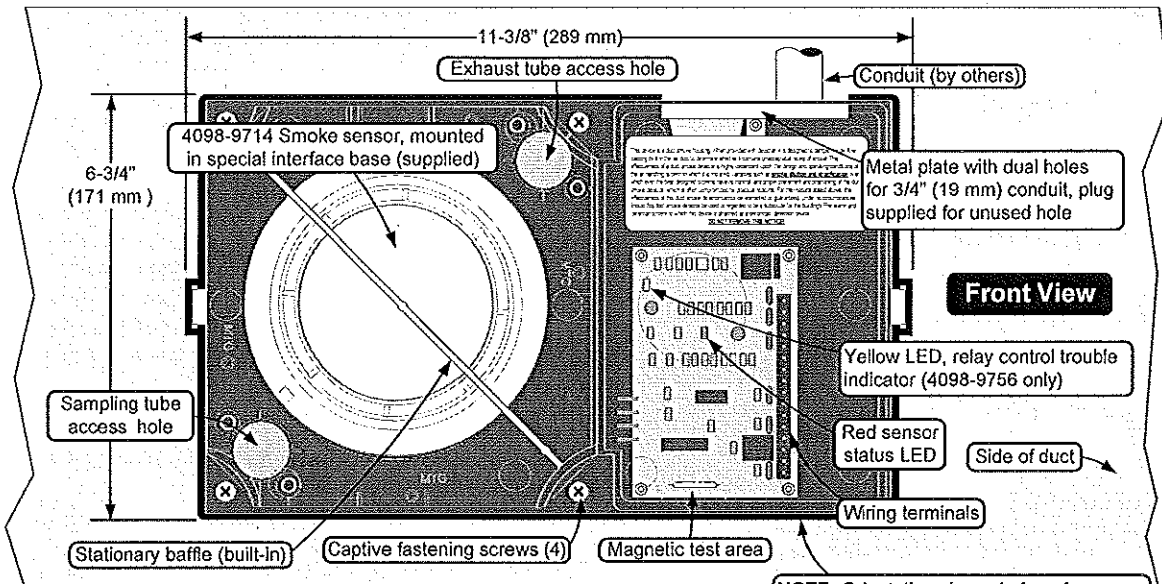


Duct Sensor Housing Detail Reference

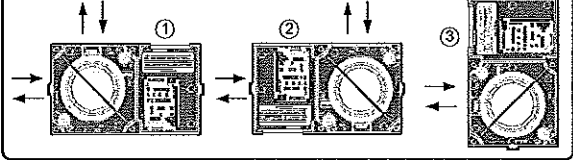
NOTE: Refer to Installation Instructions 574-776 for additional installation detail and maintenance information.



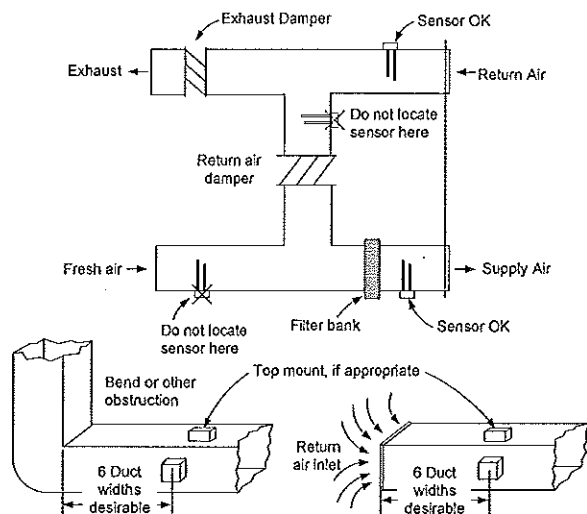
Sampling tube, keyed for proper hole alignment with holes facing into airflow (template is provided for proper tube installation). (Housing is shown as position 2 per note 2 below.)

General Location Notes:

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



Duct Sensor Location Reference



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

Duct Sensor Location Considerations:

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

Locations to Avoid:

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

Specifications

General Mechanical and Environmental

Air Velocity Range (linear ft/min)	300 to 4000 ft/min (91 to 1220 m/min)
Sensor Sensitivity Range	0.2% to 3.7% per foot of obscuration, selectable at host control panel
UL Listed Temperature Range	32° F to 100° F (0° C to 38° C)
Operating Temperature Range	32° F to 122° F (0° C to 50° C)
Storage Temperature Range	0° F to 140° F (-18° C to 60° C)
Humidity Range	10% to 95% RH, non-condensing
Wiring Connections	Terminal blocks, 18 to 12 AWG (0.82 mm ² to 3.31 mm ²)
Housing Color	Black base with clear cover

Remote Status/Alarm LED and Test Station with Remote Status/Alarm LED

Remote Alarm LED Current	1.2 mA, no impact to 24 VDC alarm current (2098-9808 or 2098-9806)
Test Station Keyswitch Current	3.3 mA, no impact to 24 VDC alarm current (2098-9806)
Remote Alarm LED and Test Station Distance	250 ft (76 m) maximum

Addressable Operation

Data Communications	IDNet or MAPNET II communications, auto-select, one address per housing; provides operating power to model 4098-9755
---------------------	--

Model 4098-9756 with Supervised Multiple Relay Control, Requires Separate Fused 24 VDC from Fire Alarm Power Supply

Input Voltage	18-32 VDC (24 VDC nominal)
Standby Current	3 mA @ 24 VDC
Alarm Current	15 mA @ 24 VDC; add 15 mA for each 4098-9843 relay
Supervised Remote Relay Control Output	For use with 4098-9843 relay only, quantity of 15 maximum; distance of 500 ft (152 m) maximum; requires 4081-9008 (ref. 733-894) 10 kΩ, 1/2 W end-of-line resistor

4098-9843 Relay Output Ratings, Single Form C, use with Model 4098-9756 Only

Coil Current	15 mA @ 24 VDC, up to 15 maximum per relay control output
Relay Contacts	7 A at 0.35 PF @ 28 VDC & 120 VAC; 250 μA @ 5 VDC
Location Distance	500 ft (152 m) maximum to relay coils; locate relays within 3 ft (1 m) of device being controlled per NFPA 72

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System Accessories, LCD Annunciators

UL, ULC, CSFM Listed;
FM, NYC Fire Dept Approved*

→ 4606-9102 LCD Annunciator
for 4010ES Fire Alarm Control Panels

Features

Remote LCD annunciator for use with Simplex® model 4010ES fire alarm control panels

LCD readout provides:

- Two lines of 40 characters each
- Wide viewing angle, super-twist design
- LED backlighting

Control switches and status LEDs for:

- Alarm, Priority 2, Supervisory, or Trouble acknowledge (keyswitch access controlled)
- Alarm silence, System reset
- Three programmable control switches with yellow LEDs and provisions for custom labeling

Additional features:

- Information is transmitted over a single unshielded twisted pair; separate wiring is required for 24 VDC control panel power (see p. 3 for more information)
- Tone-alert sounder provides local audible indication
- Lamp and LCD are functionally tested each time the keyswitch is turned on
- Mounts flush on standard 6-gang electrical box
- Up to up to 20 internal and external card addresses per 4010ES fire alarm control panel

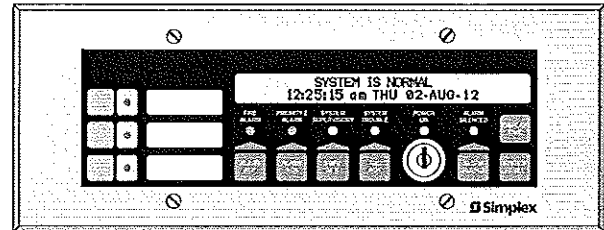
Mounting and trim options (ordered separately, see page 3 for more details):

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

Description

Local Annunciation. 4606-9102 LCD Annunciator allows 4010ES fire alarm control panels to provide information and control switches at convenient locations away from the control panel. The LCD is an 80 character, back-lit, alphanumeric display with information presented in clear and descriptive English. Typical content includes: point status (alarm, trouble, etc.), alarm type (smoke detector, manual station, etc.), number of system alarms, supervisory conditions, troubles, and custom location labels up to 40 characters long.

Communications. Data communications require a single unshielded twisted pair that supports other annunciators on the same communications channel.



4606-9102 LCD Annunciator

Description (Continued)

Indications. Alarm, Priority 2, Supervisory, and Trouble conditions are also indicated by dedicated LEDs and a tone-alert audible indication. Each condition has a dedicated acknowledge push-button switch that silences the tone-alert but leaves the LED on until all conditions in that category are restored to normal.

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

Operation

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

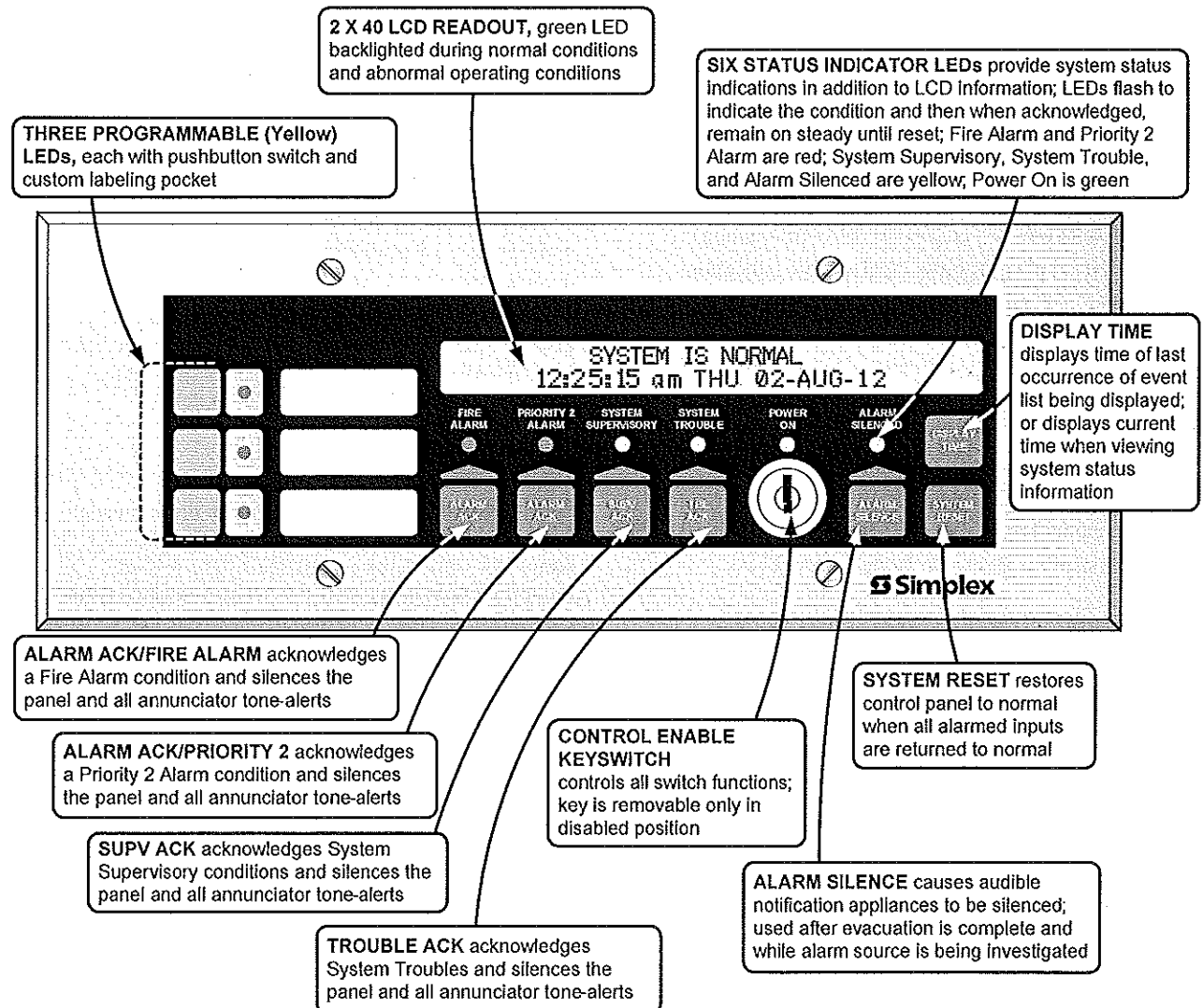
Enabled Operations. When enabled, notification appliances can be deactivated by pressing the "ALARM SILENCE" switch. Pressing the "SYSTEM RESET" switch restores the system to normal operation. When system activity is normal, the LCD displays the time, date, and "SYSTEM IS NORMAL."

* 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 7300-0028:0370 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. NYC Fire Dept COA #6095. 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.

Product Selection

Model	Description	
4606-9102	Remote LCD Annunciator with beige trim for use with 4010ES fire alarm control panels	Refer to specifications on page 3 for additional details
4603-9111	Brushed stainless steel trim option	
2975-9206	Matching surface mount box; ivory finish	
2081-9044	Overvoltage protector; required where annunciator communications and power wiring exits and enters a building; refer to data sheet S2081-0016 for details	

4606-9102 Operator Information



4606-9102 LCD Annunciator Specifications

General Operating Specifications (refer to Installation Instructions 579-977 for additional information)

Voltage	18 to 32 VDC, system supplied
Normal Operating Current	110 mA (with LED backlighting on)
Battery Standby Current	65 mA (during battery backup, LED backlighting is turned off after 30 seconds without switch activity)
Alarm Current	140 mA maximum (LED backlighting is on and tone-alert is sounding)
Operating Temperature Range	32° to 120° F (0° to 49° C)
Operating Humidity Range	Up to 93% RH, non-condensing at 100° F (38° C)

Communications

For 4010ES Panels*	Type	RUI (Remote Unit Interface) external annunciator communications line SLC (signaling line circuit)
	Capacity	Up to 20 total internal and external card addresses

Wiring Requirements

RUI Data	Standard Wiring Type	Unshielded twisted pair (UTP), 18 AWG (0.82 mm ²) for most applications, see below
	Wiring Characteristics	0.58 µF (580 nF) maximum capacitance between conductors; 35 Ω maximum total line resistance
	Wiring Applications Requiring Shielded, Twisted Pair (STP)	<ol style="list-style-type: none"> 1. Wiring that leaves the building. Also requires Isolated Loop Circuit Protectors on each end, refer to data sheet S2081-0007 for 2081-9027 (200 mA), or S2081-0008 for 2081-9028 (5 A) 2. Wiring run in 500 ft (152 m) or more of conduit. 3. Wiring closely bundled with standard IDNet communications or TrueAlert addressable communications (not required when run with IDNet+ communications).
	Class B "T-Tap" wiring distance	Up to 10,000 ft (3048 m) total wiring; up to 2500 ft (762 m) to farthest device
	Class X wiring distance	Up to 2500 ft (762 m)
Power Wiring	18 to 12 AWG (0.82 mm ² to 3.31 mm ²) wires for 24 VDC system power	
Earth Wiring	A dedicated earth ground connection to the electrical box is required for proper ESD and EMI protection; wire in accordance with NFPA 70 (<i>National Electrical Code</i>) Article 250	

Mounting Information

Trim Dimensions	4 ½" H x 11 13/16" W (114 mm x 300 mm)	
Assembly Depth	1 5/16" (33 mm), 1 ½" at terminal block location (38 mm)	
Standard Trim Finish	Steel, painted beige	
4603-9111, Optional Trim	Brushed stainless steel (ordered separately); supplied with both slotted and tamper resistant screws	
Boxes for Flush Mounting (supplied separately)	Masonry boxes	Six-gang box, RACO # 965, 3 ½" (89 mm) deep or equal
	Single gang boxes	Six, single gang boxes, 3 ½" (89 mm) deep minimum, RACO # 590 or equal
	Box selection note	Conduit entrance is box dependent, refer to Installation Instructions 579-977 for additional mounting information and conduit entry requirements

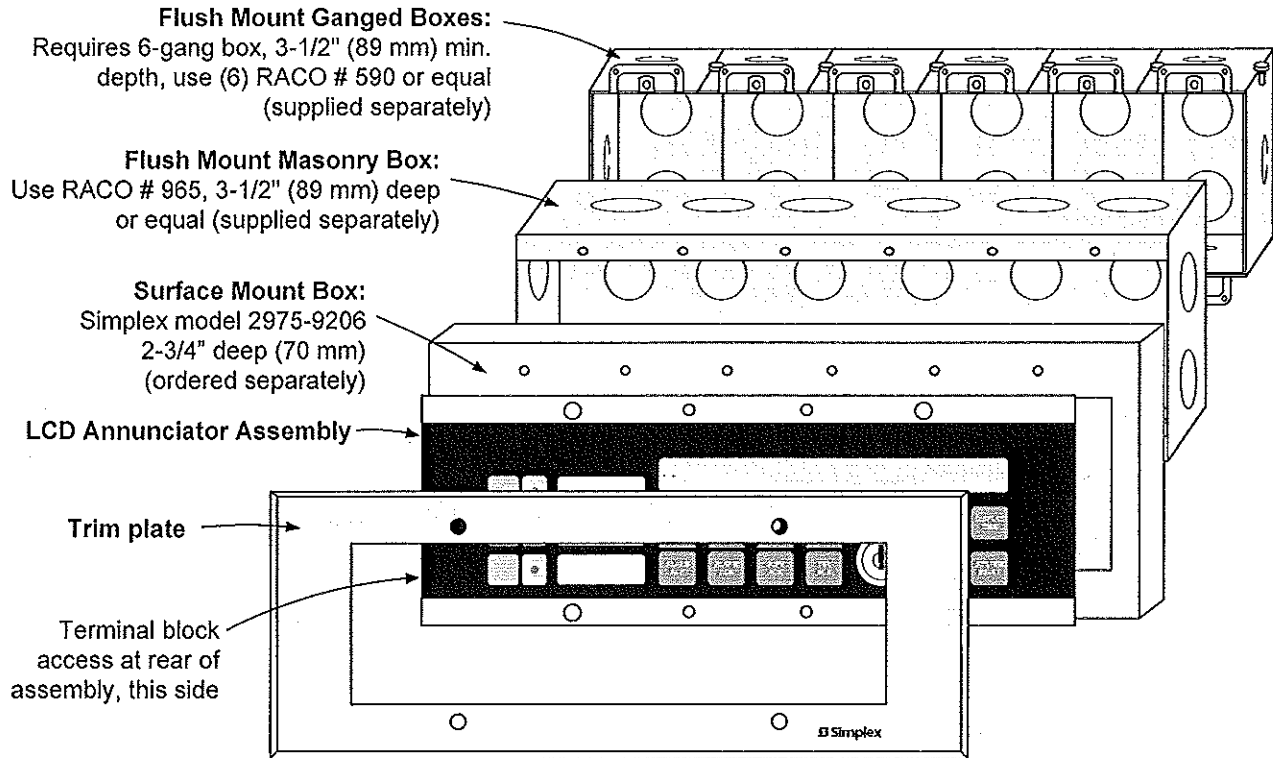
2975-9206, Surface Mount Box Option (ordered separately)

Dimensions	12" W x 4 5/8" H x 2 3/4" D (305 mm x 117 mm x 70 mm)
Finish	Painted steel, ivory finish

* Refer to the 4010ES control panel data sheet for additional panel information.

Mounting Information

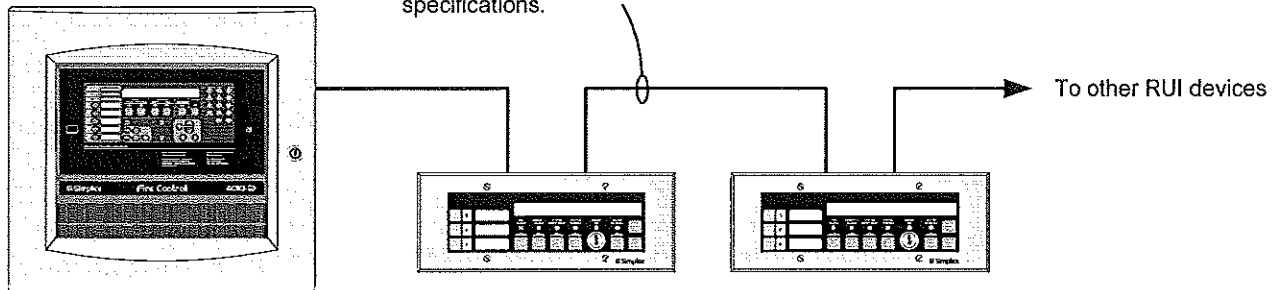
Note: Review box choice with assembly layout before selecting conduit entrance location to allow easy access to terminals



Wiring Reference

Interconnection Wiring Notes:

1. Communications require 18 to 12 AWG unshielded twisted pair.
2. Power requires two, 18 to 12 AWG wires for 24 VDC system power, plus Earth Ground to each electrical box.
3. Refer to Installation Instructions 579-977 for additional wiring specifications.



4010ES Fire Alarm Control Panel

4606-9102 LCD Annunciators

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S4606-0002-5 8/2012

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Multi-Application Peripherals

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

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, 4100U, 4010ES, 4010, 4008, 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)

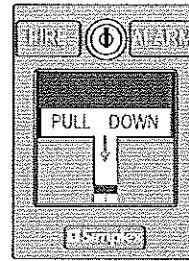
Multiple mounting options:

- 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

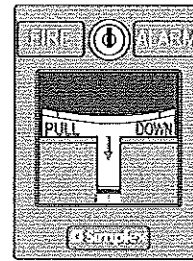
Description

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.

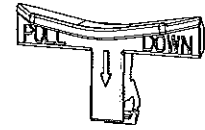
* Refer to page 2 for specific model listings. This product has been approved by the California State Fire Marshal (CSFM) pursuant to Section 13144.1 of the California Health and Safety Code. See CSFM Listing 7150-0026:224 for allowable values and/or conditions concerning material presented in this document. 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.



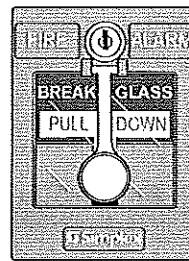
4099-9001
Single action



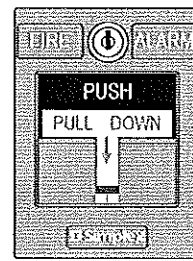
4099-9020
NO GRIP
Single action



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)

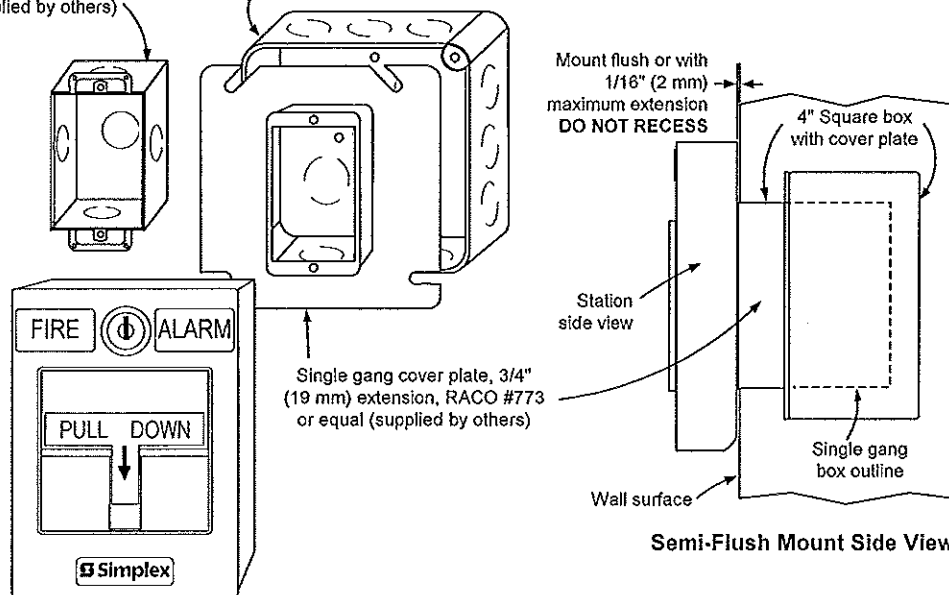
Addressable Manual Station Semi-Flush Mounting

Single Gang Box Mount

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

4" Square Box Mount

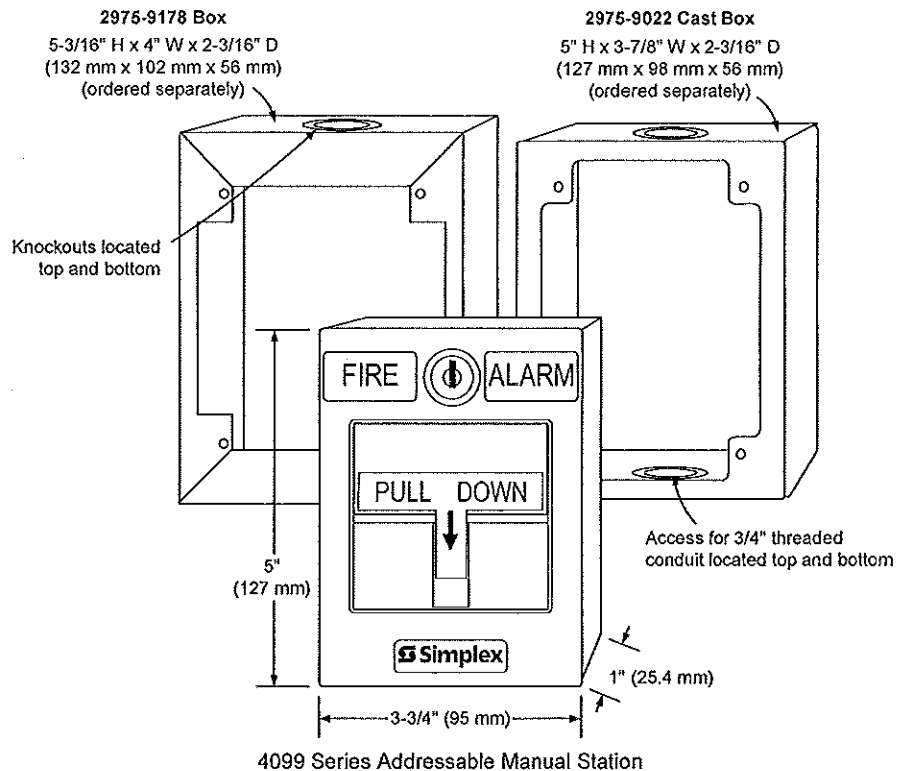
4" (102 mm) square box, 2-1/8" (54 mm) minimum depth, RACO #231 or equal (supplied by others)



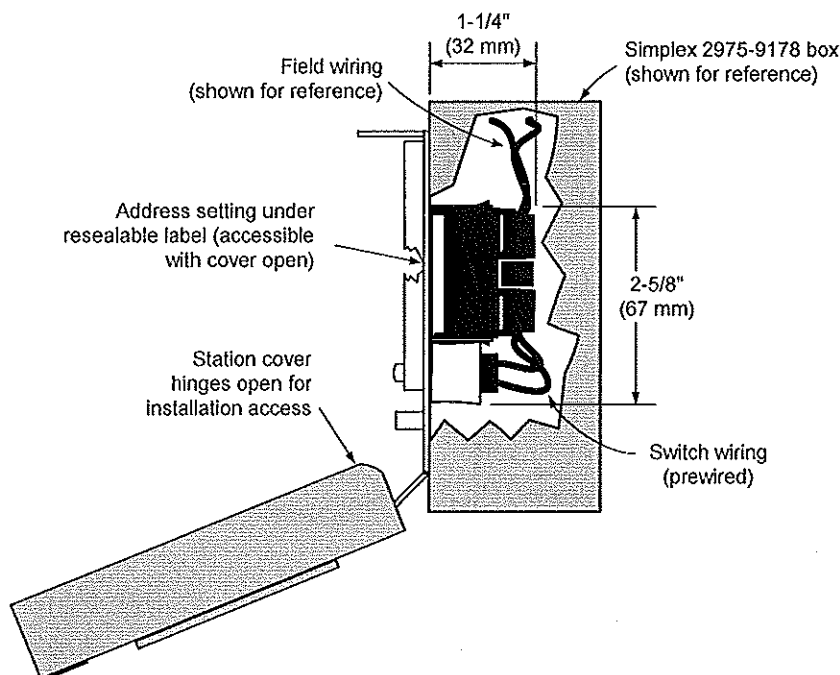
Addressable Manual Stations Surface Mounting

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



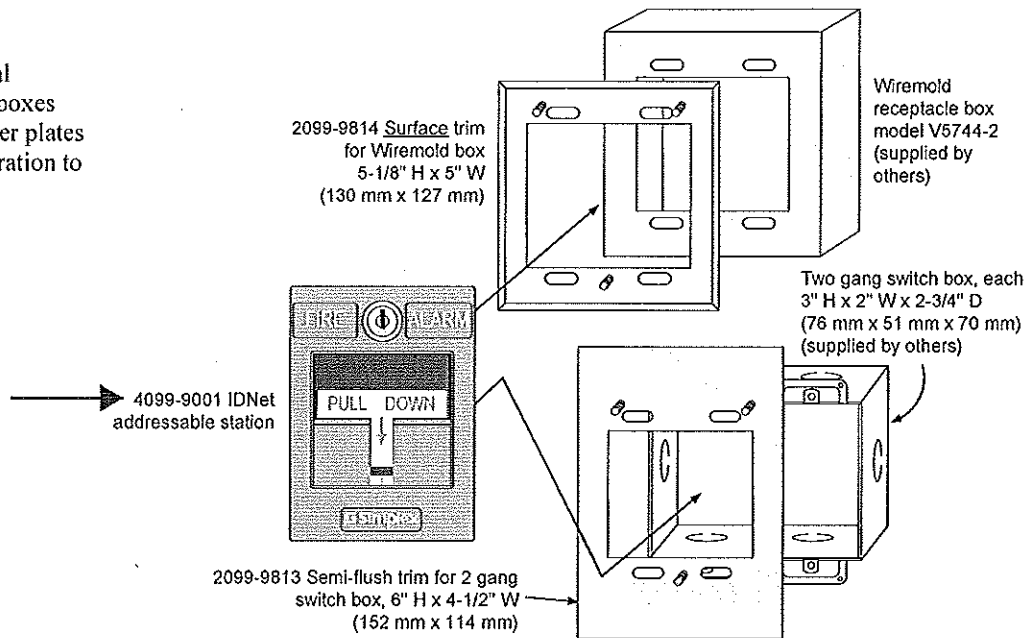
Application Reference

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.

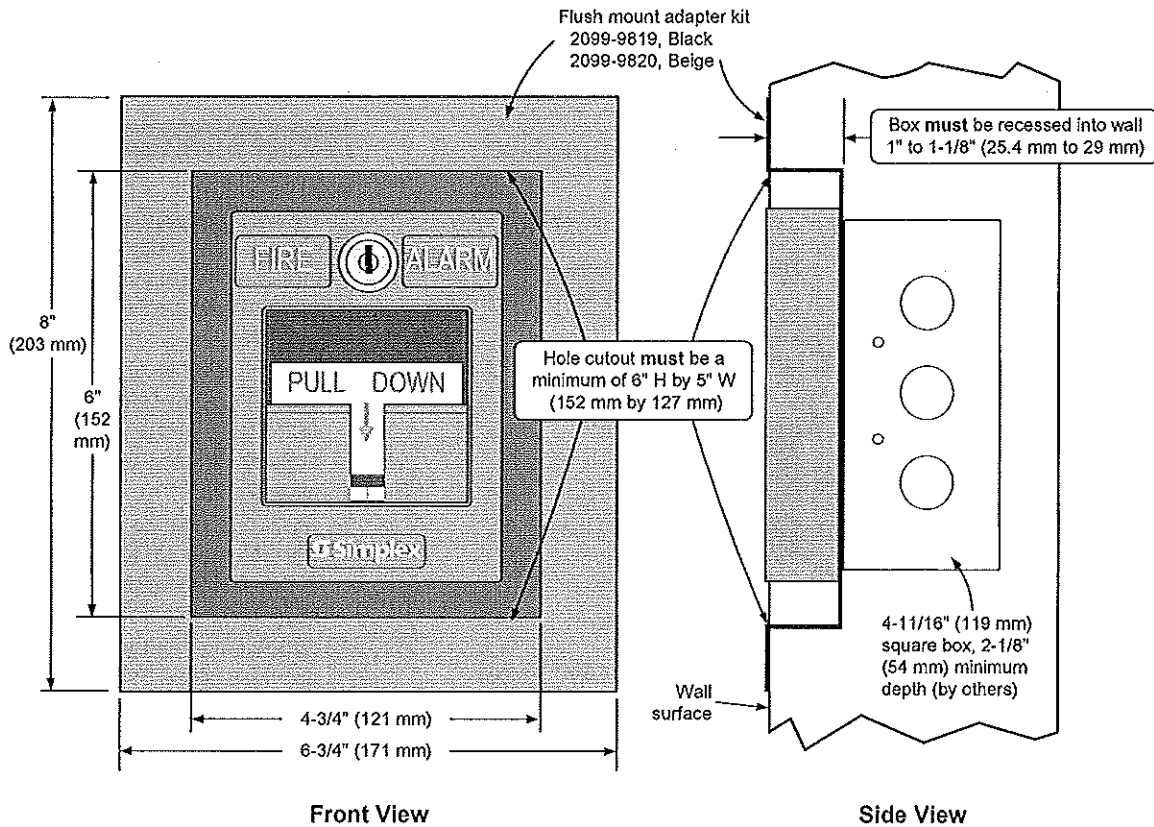
1. Stations shall be located in the normal path of exit and distributed in the protected area such that they are unobstructed and readily accessible.
2. Mounting shall be with the operable part not less than 3-1/2 ft (1.1 m) and not more than 4-1/2 ft (1.37 m) above floor level.
3. At least one station 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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UL, ULC, CSFM Listed; FM Approved;
MEA (NYC) Acceptance*

4090-9116 Addressable IDNet™ Isolator for
4100ES, 4100U, 4010ES and 4008 Series Fire Alarm Controls

Features

Dual port, bi-directional communications isolator:

- For use with Simplex® 4100ES, 4100U, 4010ES or 4008 Series fire alarm control panel IDNet Signaling Line Circuits (SLCs)
- Either port can serve as an input or output, ports are automatically separated when a communications short circuit occurs
- Isolation can also be activated from the control panel for system diagnostics
- Small size fits into 4" square electrical box and allows convenient mounting where protection is required
- Visible LED flashes to indicate communications; optional covers are available to view LED after installation
- When panel mounted isolation is also required use IDNet+ (not available on 4008 panels, see diagram notes on pages 2 and 3)
- TrueAlarm® sensor base IDNet Isolators are also available, refer to data sheet S4098-0025 for details
- UL listed to Standard 864

Earth fault isolation reduces time to fix wiring problems:

- Built-in control panel diagnostics assist in locating earth fault conditions – the most common installation wiring problem

For Class B or Class A wiring:

- Communications are monitored from either port
- Class A wired SLCs can optimize operation by maintaining communications with devices outside of the isolated wiring section

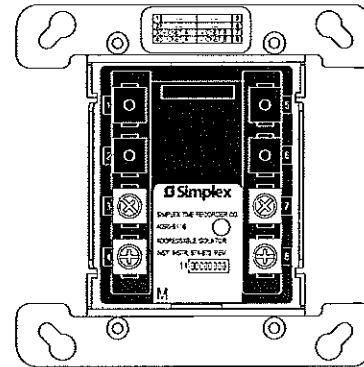
Description

→ **4090-9116 Isolators** provide IDNet communications isolation to improve installation convenience and increase system integrity. Isolation is automatically activated when an output short circuit is detected and isolation can also be selected manually from the control panel to assist with troubleshooting wiring problems.

Operation. Isolators power-up in isolation mode and are directed to connect by the control panel. If the output wiring is acceptable, the isolator will connect to the rest of the circuit. If the output wiring is shorted, the isolator remains isolated.

Status Tracking. The isolator reports back to the panel when it is in isolation mode and the extent of shorted wiring is reported back to the panel by identifying device addresses that are not communicating. [Isolators are assigned sequentially to low number addresses to expedite SLC power-up.]

Earth Faults. During installation, earth faults frequently occur. Finding these faults normally requires extensive wiring disconnection. With the 4090-9116, earth faults on the IDNet communications lines can be quickly located to assist in their repair and to restore the system wiring to normal.



→ 4090-9116 IDNet Communications Isolator
(shown approximately 1/2 size)

Product Selection

Model	Description
4090-9116	Addressable IDNet Isolator for 4100ES, 4100U, 4010ES and 4008 Systems
4090-9801	For semi-flush mounted box
4090-9802	For surface mounted box

Optional trim plate with LED viewing window, includes mounting screws; galvanized steel

Specifications

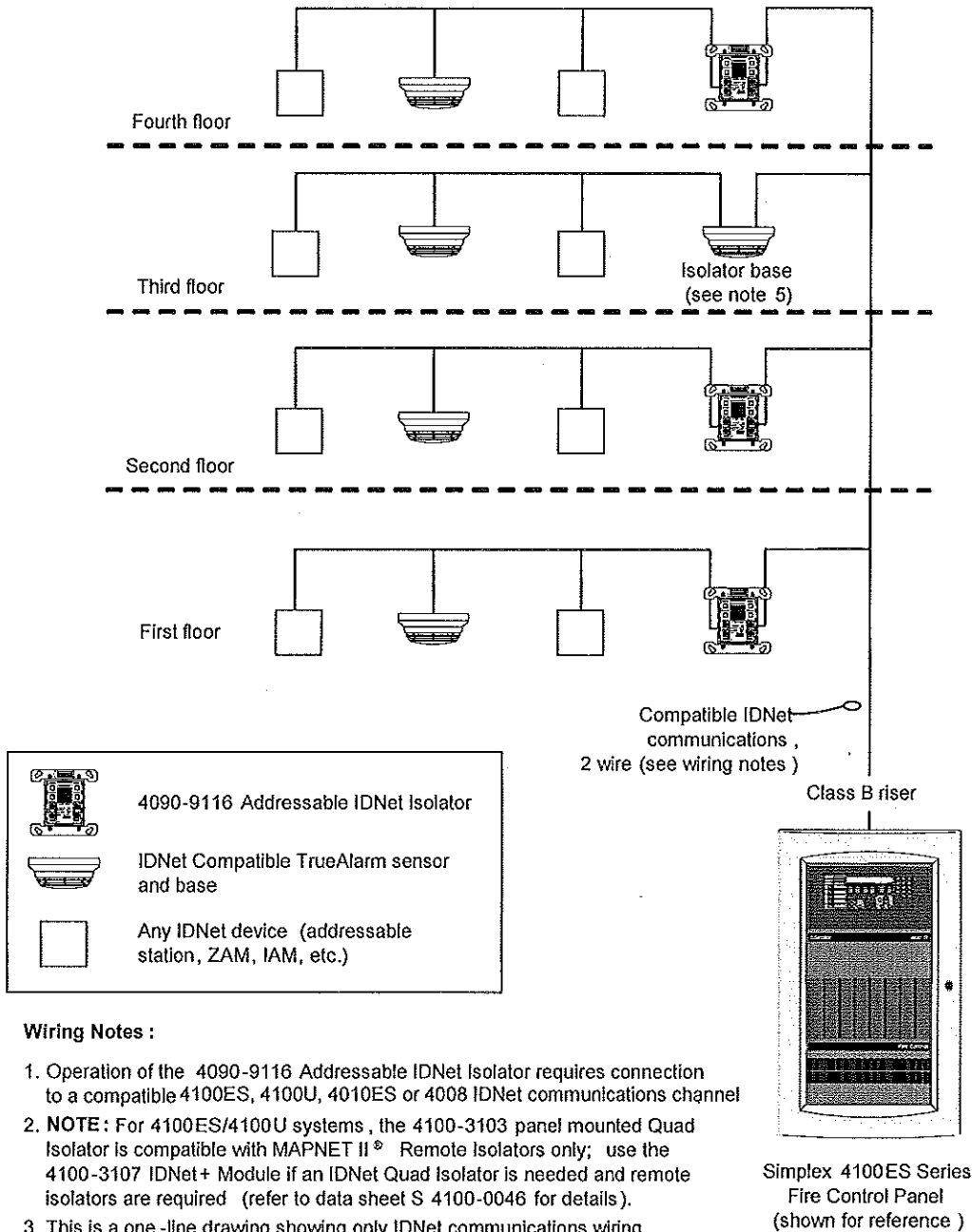
Electrical	
Communications	4100ES, 4100U, 4010ES or 4008 IDNet, 1 address
Power	Consumes one unit load, power supplied from IDNet SLC
Wire Connections	Screw terminals for input and output wiring, 18 to 14 AWG wire (0.82 mm ² to 2.08 mm ²)
Wiring Distances	
IDNet Wiring Reference	Up to 2500 ft (762 m) from fire alarm control panel
	Up to 10,000 ft (3048 m) total wiring distance (including T-Taps)
	Compatible with Simplex 2081-9044 Overvoltage Protectors
Mechanical	
Dimensions	4-1/8" H x 4-1/8" W x 1-3/8" D (105 mm x 105 mm x 35 mm)
Package	Black thermoplastic housing on metal mounting plate
Temperature	32° to 120° F (0° to 49° C) indoor operation only
Humidity Range	10 to 90% RH at 90° F (32° C)

* 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 7300-0026:252 for allowable values and/or conditions concerning material presented in this document. It is subject to re-examination, revision, and possible cancellation. 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.

Multi-Floor Isolator Example 1

Short Circuit Isolation. The one-line diagram on this page shows a multiple floor example with Class B IDNet communications for each floor starting at an Isolator. (A sensor in the 4098-9793 Isolator Base is shown for reference as an alternate isolating device.) If floor wiring beyond the isolator should experience a short circuit, each floor is automatically separated from the next, preventing the short circuit from disabling the entire IDNet communications wiring.

Earth Fault Isolation. In the event of an earth fault, each floor can be individually isolated using built-in control panel diagnostics. With individual floor control, the earth fault can be isolated to the floor level to narrow the search area. By adding more isolators, the section required to be isolated can be reduced, allowing more devices to remain active.



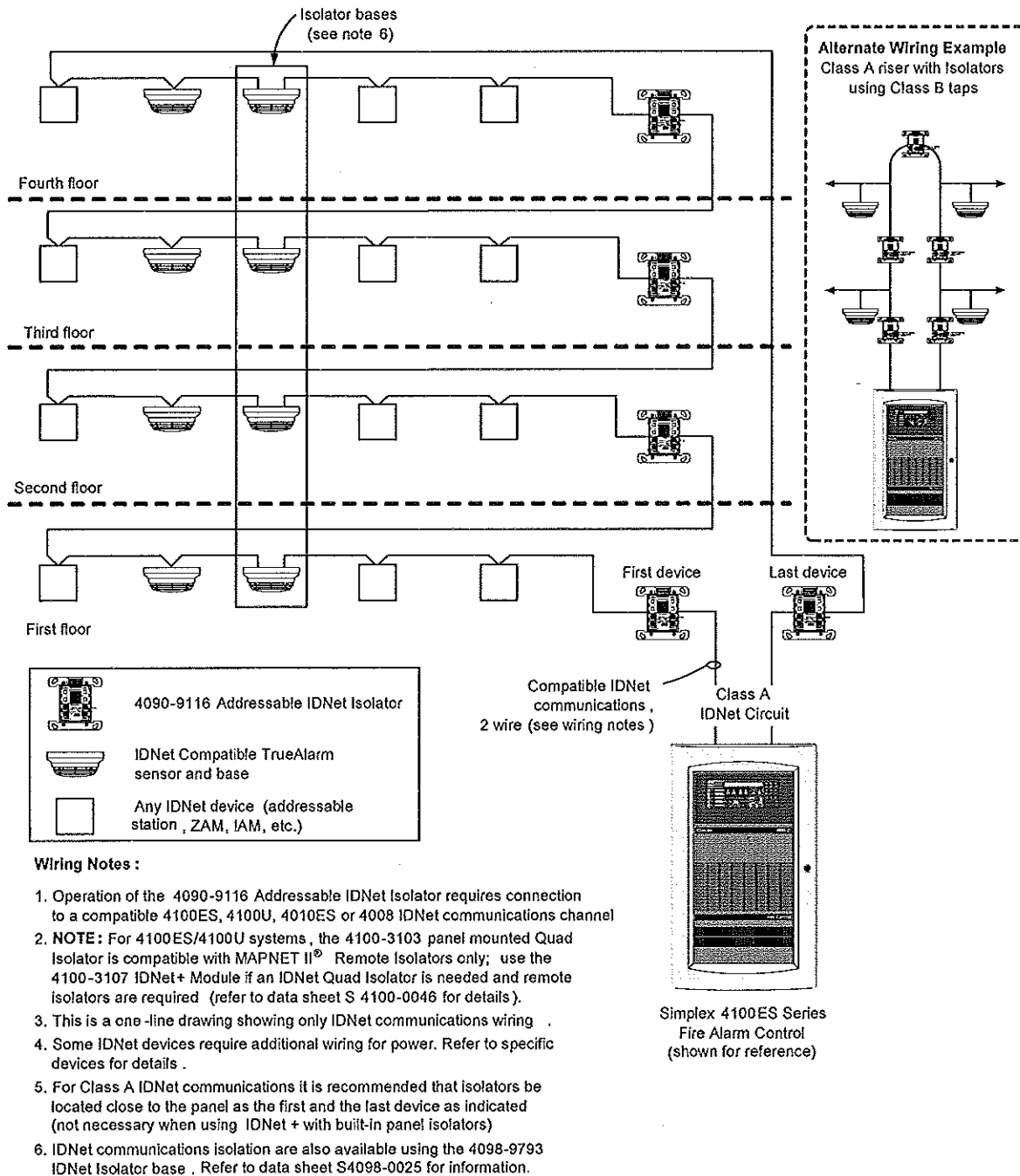
Wiring Notes :

1. Operation of the 4090-9116 Addressable IDNet Isolator requires connection to a compatible 4100ES, 4100U, 4010ES or 4008 IDNet communications channel
2. **NOTE:** For 4100ES/4100U systems, the 4100-3103 panel mounted Quad Isolator is compatible with MAPNET II[®] Remote Isolators only; use the 4100-3107 IDNet+ Module if an IDNet Quad Isolator is needed and remote isolators are required (refer to data sheet S 4100-0046 for details).
3. This is a one-line drawing showing only IDNet communications wiring.
4. Some IDNet devices require additional wiring for power. Refer to specific devices for details.
5. IDNet communications isolation are also available using the 4098-9793 IDNet Isolator base. Refer to data sheet S 4098-0025 for information.

Multi-Floor Isolator Example 2

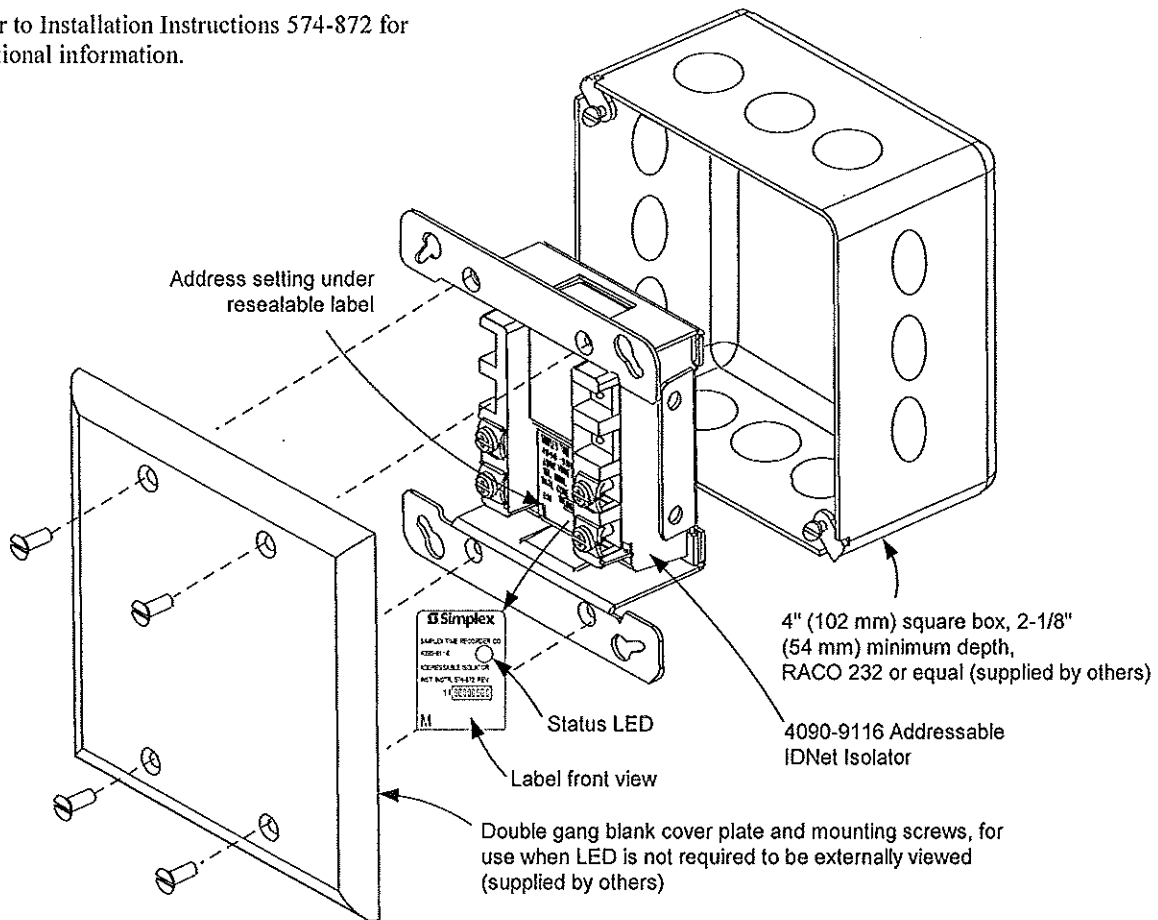
Class A Wiring. The illustration below is a modification of Example 1. Each floor is wired as a Class A connection, and a sensor mounted in a 4098-9793 Isolator Base has been added for reference. This illustrates that with additional isolators (either the 4090-9116 or the Isolator Base), there is a reduction in the number of isolated devices in the event of a short circuit.

Diagnostic Assistance. For Class A wiring, it is recommended that isolators be located as the first and last devices in the loop (as shown below). With the resulting wiring isolation flexibility, locating wiring faults can be made easier. (When connected to an IDNet+ channel, this is not necessary due to its internal isolation design.)

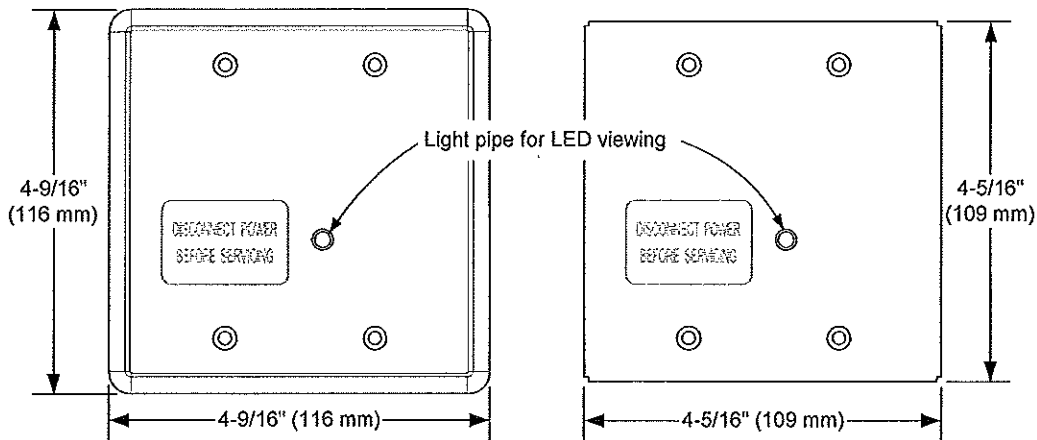


Mounting Information

Refer to Installation Instructions 574-872 for additional information.



Mounting Reference, Double Gang Blank Cover Plate



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

4090-9802, Trim plate for surface mounted box

Optional Trim Plates for Visible LED

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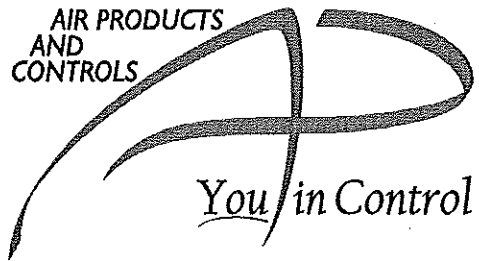


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S4090-0005-7

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AIR PRODUCTS
AND
CONTROLS

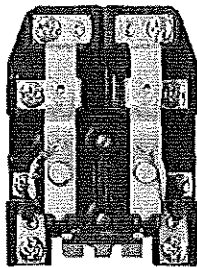


You in Control

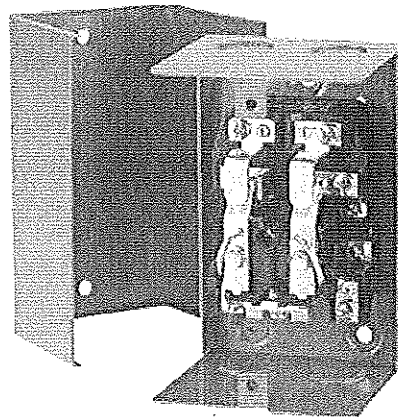
MR-199 SERIES HEAVY DUTY POWER RELAYS

PRODUCT DESCRIPTION

The MR-199 Series Heavy Duty Power Relays are designed for control applications where 30A DPDT contacts are required. Two models are available: the **MR-199X-13**, a 24VDC coil, and the **MR-199X-14**, a 120VAC coil. Both models may be ordered in a rugged steel enclosure.



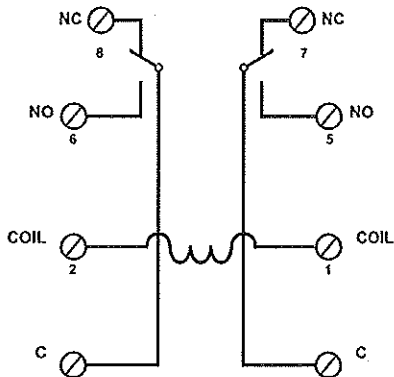
→ MR-199X-13 or
MR-199X-14



MR-199X-13/C (-14)
(or MR-199X-13/C/R (-14) with red enclosure)

WIRING

MR-199 Series



CSFM LISTED

MEA APPROVED

Air Products and Controls Inc.
1749 E. Highwood
Pontiac, MI 48340
(248) 332-3900 Phone
(888) 332-2241 Toll free
(248) 332-8807 Fax
www.ap-c.com

A
**HALMA
GROUP
COMPANY**

Distributed By:



PRODUCT SPECIFICATIONS

MODEL NUMBER	INPUT VOLTAGE	MODULE POSITIONS	CONTACT CONFIGURATION PER POSITION	RELAY ONLY H X W X D	ENCLOSURE MOUNTED H X W X D	COVER MATERIAL	UL* FILE S3403
MR-199X-13	24VDC	1	DPDT	3.33" (84mm) 2.50" (63mm) 2.18" (55mm)			UOXX2
MR-199X-14	120VAC						
MR-199X-13/C	24VDC	1	DPDT		5.35" (136mm) 3.41" (86mm) 3.04" (77mm)	Grey 18ga CRS	UOXX UOXX2 UUKL UUKL2
MR-199X-14/C	120VAC						
MR-199X-13/C	24VDC	1	DPDT		5.35" (136mm) 3.41" (86mm) 3.04" (77mm)	Red 18ga CRS	UOXX UOXX2 UUKL UUKL2
MR-199X-14/C	120VAC						
POWER REQUIREMENTS:		MR-199X-13	24VDC @ 85mA, Minimum pull-in voltage: 75% of nominal voltage @ 25°C				
		MR-199X-14	120VAC @ 85mA, Minimum pull-in voltage: 85% of nominal voltage @ 25°C				
COIL DATA:	Nominal	DC coils (-13)	2.0 Watts @ 25°C				
		AC coils (-14)	9.8VA @ 25°C				
		Max DC coils (-13)	8.0 Watts @ 25°C				
COMPONENTS:		UL Recognized as component; UL Listed when installed in enclosure (/C versions)					
POLARIZED:		No					
CONTACT RATINGS:		30A @ 240VAC; 20A @ 277VAC; 2HP @ 240VAC / 1.5HP @ 120VAC					
CONTACT CONSTRUCTION:		Dry form "C" DPDT					
ENVIRONMENTAL:		32°F to 120°F (0°C to 49°C) @ 85% RH (@ 32°F), Non-condensing, Non-freezing					
WIRING:		#6 to #14 AWG terminals					
/C VERSIONS:		Backbox: 18ga CRS, plated with 1/2" conduit knockouts top and bottom					

*UOXX = Control Unit Accessories, System; 2 = Component

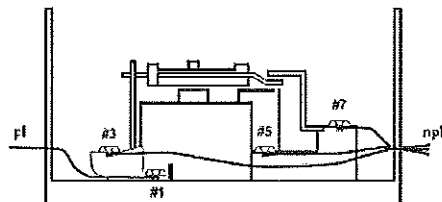
UUKL = Smoke Control System Equipment

UUKL2 = Control System Equipment, Smoke

POWER LIMITED WIRING

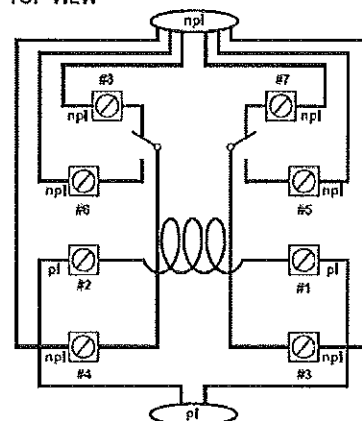
MR-199X-13
MR-199X-13/C
MR-199X-13/C/R
COIL POWER: 24VDC

SIDE VIEW - OTHER SIDE IDENTICAL



*pl - POWER LIMITED
*npl - NON-POWER LIMITED

TOP VIEW



CAUTION: MINIMUM 1/4" SEGREGATION BETWEEN POWER LIMITED AND NON-POWER LIMITED WIRING
CAUTION: DE-ENERGIZE POWER BEFORE SERVICE
CAUTION: NON-ENCLOSED VERSIONS MUST BE MOUNTED IN THE APPLICATION ENCLOSURE

NOTICE: The information contained in this document is intended only as a summary and is subject to change without notice. The products described have specific instructional/installation documentation, which covers various technical, approval, code, limitation and liability information. Copies of this documentation along with any general product warning and limitation documents, which also contain important information, are provided with the product and are also available from Air Products and Controls Inc. The information contained in all of these documents should be considered before specifying or using the products. Any example applications shown are subject to the most current enforced local/national codes, standards, approvals, certifications, and/or the authority having jurisdiction. All of these resources, as well as the specific manufacturer of any shown or mentioned related equipment, should be consulted prior to any implementation. For further information or assistance concerning the products, contact Air Products and Controls Inc. Air Products and Controls Inc. reserves the right to change any and all documentation without notice.