AUTOCALL

*UL, ULC Approved**

LifeAlarm Fire Alarm Control Panels

4006 Series Fire Alarm Control Panels Providing up to Ten IDCs and Four NACs

Features

Control panel operator convenience features:

- Wide viewing angle 2 x 20 (40 character) alphanumeric LCD and dedicated LEDs provide convenient panel status information
- Operation is programmable using a multi-function keypad and the panel LCD or via service computer (PC)
- RS-232 service port provides upload/download PC access for panel configuration and event history logs
- Software updates are via PC download
- Convenient library of standard custom label terms
- Standard on-board DACT provides: Contact ID, 3/1, 4/2, BFSK, and SIA formats
- WALKTEST silent or audible system test
- Voltage and current for both the battery charger and the battery can be displayed at the front panel LCD

Five Standard Initiating Device Circuits (IDCs):

- Five Class B IDCs with optional expansion to ten, all with individual zone disable
- Monitor 2-wire or 4-wire initiating devices including TrueAlarm smoke detectors
- Optional Class A Adapter Module

Two Standard Notification Appliance Circuits (NACs):

- Class A or Class B outputs with solid state overcurrent protection per NAC, each rated for 2 A
- Selectable for Autocall SmartSync two-wire horn/strobe control or synchronized strobe control

Standard Power Supply:

- Provides 3 A maximum @ nominal 24 DC
- Automatic input power selection operates with 120 VAC or 240 VAC, 50 or 60 Hz
- On-board temperature compensated battery charger for up to 12.7 Ah batteries in cabinet (UL and ULC) and up to 25 Ah batteries in separate cabinet (UL only)

Additional standard features:

- Programmable Active Status Reminder
- Two auxiliary relays
- IDCs, NACs, and Relay outputs are power limited (AC input, battery circuits, and City Circuit Module outputs are non-power limited)
- Available with beige or red cabinet
- UL listed to Standard 864

Available option modules:

- Door mounted 24 LED annunciator (standard on ULC models)
- 3 A Expansion Power Supply with two on-board 2 A NACs that operate the same as standard NACs
- Expansion IDC module with five Class B IDCs
- Class A IDC Adapter Module, City Interface Module, and Auxiliary Relay Module
- Remote LCD and LED/Switch Annunciators

Description

For areas requiring from five to ten initiating zones, the Autocall, 4006 Series fire alarm control panels provide flexible initiating circuit monitoring, extensive programmable control capability, and LCD annunciated circuit-specific 20 character custom labels.

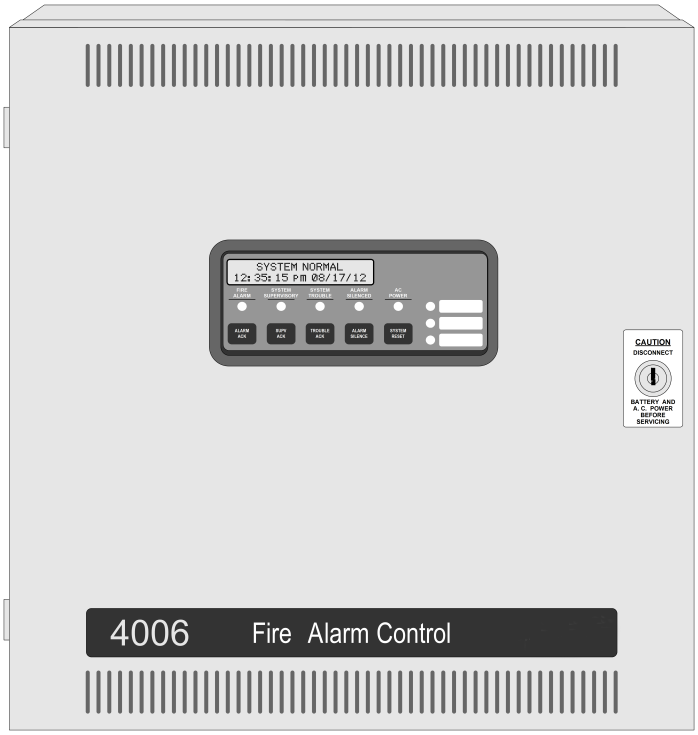

Fig 1: A006-9102 (Beige) Standard Control Panel

* Additional listings may be applicable; contact your local product supplier for the latest status.

Standard Feature Details

Five Class B IDCs are each capable of supporting up to 30 Autocall current-limited smoke detectors or electronic heat detectors (see Reference Information, Compatible Autocall Peripherals on page 4) as well as manual stations and other compatible contact closure initiating devices. IDCs are capable of Class A operation with an optional adapter module and can be programmed as Style C (short or open initiates a trouble) for use with current limited devices only.

Two, 2 A On-Board NACs provide conventional reverse polarity operation, selectable as Class A or Class B, with electronic control and overcurrent protection. Operation is selectable for synchronized strobe or SmartSync horn/strobe two-wire operation. Horn control can be selected at the panel for: Temporal pattern coding, Steady On, Slow March Time of 20 beats per minute (BPM), or Fast March Time of 120 BPM. **Note:** When selected for SmartSync horn/strobe control, March Time produces 60 BPM.

The 24 VDC Auxiliary output provides up to 500 mA for system use. (Auxiliary output current is counted for total power supply capacity.)

Standard Auxiliary Relay Outputs. Two relay outputs are available, selectable as normally open or normally closed, rated 2 A @ 30 VDC per below:

Aux Relay 1 is normally assigned to General Alarm operation but is programmable (see Additional Programming Feature Details on page 9)

Aux Relay 2 (Trouble) is energized when Normal and is de-energized with a Trouble condition.

On-Board Dual Line DACT. Operation can be selected for Contact ID, SIA, 3/1, 4/2, and BFSK formats. Reporting includes Alarm, Supervisory, Trouble, and AC Failure. Operation includes automatic 6 hour test and programmable power fail report delay.

Power Supply and Battery Charger. DC power output is 3 A @ 24 VDC for panel use. The temperature compensated battery charger (sealed lead-acid batteries only) is rated for up to 25 Ah batteries per UL 864 and up to 12.7 Ah per ULC-S527. (Up to 12.7 Ah batteries fit in the cabinet, larger batteries require an external cabinet.) Panel electronics can measure and display voltage and current for the power supply, batteries and the battery charger (standard and expansion power supply). Depleted battery trouble is monitored and annunciated and depleted battery cutout can be selected. Active battery status monitor supervises charger operation.

Optional Feature Details

Expansion Power Supply. Provides 3 A total @ 24 VDC, two additional 2 A NACs, and an additional auxiliary power output of 500 mA. Output operation is the same as on the standard power supply.

Expansion IDC Module. Provides 5 additional Class B IDCs with operation the same as the standard IDCs.

Expansion Relay Module. Provides 10 programmable relays, jumper selectable as N.O. or N.C. Contacts are rated 2 A @ 30 VDC. Typical application is to track status of each IDC. See Relay Operation Modes on page 8 for relay program options.

Class A Adapter Module. Converts 5 IDCs from Class B to Class A operation. Two modules can be mounted for use with the Expansion IDC Module.

City Circuit Modules. These modules are available with or without on-board disconnect switches, depending on local requirements (either type can be disconnected through the front panel under password control). Connections are for Remote Station (reverse polarity) or Municipal Master (local energy). Reporting includes Alarm, Supervisory, and Trouble.

Product Selection

Table 1: Control Panel

SKU	Color	Description	Listings		Standard Feature Summary
A006-9102	Beige	Standard fire alarm control panel	MEA	UL, FM	5 Class B IDCs, 2 Class B/Class A NACs, 3 A power supply with battery charger; on-board DACT; 120/240 VAC, 50/60 Hz (autoselect)
A006-9101	Red				

Table 2: Option Modules

SKU	Description	
A006-9801	Expansion Power Supply; 3 A, with 2 NACs, 120/240 VAC, 50/60 Hz	Select up to one of each as required
A006-9802	Expansion IDC Module; 5 Class B IDCs	
A006-9803	Expansion Relay Module; 10 relays selectable as either N.O. or N. C.	
A006-9805	City Circuit Module with disconnect switch	Select one if required
A006-9806	City Circuit Module without disconnect switch	

Table 3: Accessories

SKU	Description
A2975-9811	Beige semi-flush trim kit; 1-7/16" (37 mm) wide; includes four corners and trim pieces for top, bottom, and sides
A2975-9812	Red semi-flush trim kit; 1-7/16" (37 mm) wide; includes four corners and trim pieces for top, bottom, and sides
A009-9801	Beige External Battery Cabinet for up to 25 Ah batteries; mounts close-nippled to control panel cabinet; dimensions = 16-1/4" W x 13-1/2" H x 5-3/4" D (413 mm x 343 mm x 146 mm) [depth increased for 25 Ah effective 7/2005]

Table 4: Batteries, 12 Volt (select one battery model per system standby requirements; order quantity of two)

SKU	Size	Location
2081-9272	6.2 Ah	For cabinet mount
2081-9274	10 Ah	
2081-9275	18 Ah	Requires A009-9801 External Battery Cabinet (UL listed only)

Specifications

Refer to Installation Instructions 579-704AC for additional information.

Table 5: Power Ratings

Specification		Rating
AC Input Ratings	Input Voltage	120 VAC, 60 Hz; 220/230/240 VAC, 50/60 Hz, auto-select
	Input Current, Standard	2 A maximum @ 120 VAC input; 1.5 A maximum @ 240 VAC input
	Input Current with Expansion Power Supply	4 A maximum @ 120 VAC input; 3 A maximum @ 240 VAC input
Power Supply Output Rating		3 A maximum @ 24 VDC in alarm (see NAC details on Detailed NAC Ratings on page 8)
Battery Charger		Temperature compensated charger is rated for up to 25 Ah per UL 864; up to 12.7 Ah per ULC-S527
Standby Current		130 mA; with 5 IDCs fully loaded, tone-alert silenced, trouble LED on

Table 6: Standard Circuit Ratings (NOTE: Total DC current = 3 A maximum)

Specification		Rating	
Notification Appliance Circuits (NACs) **Note:** See Detailed NAC Ratings on page 8		2 A maximum @ 24 VDC, per circuit; available as Class A or Class B; Class B end-of-line resistor = 10 kΩ, 1/2 W; Model A4081-9008 (P/N 733-894AC)	
Initiating Device Circuits (IDCs)	**Supervisory Current**	3 mA maximum	
	Alarm Current	60 mA maximum	
	Capacity	Each IDC supports up to 30 detectors (smoke or electronic heat) and manual stations as required; wiring distance is limited to 50 Ω maximum	
	End-of-Line Resistor	3.3 kΩ, 1/2 W; Model A4081-9002 (P/N 733-893AC) for Class B IDCs	
Annunciator Communications	**Quantity Supported**	Up to four annunciator modules per panel (see Remote Annunciator Options on page 5)	
	Wiring Type	Twisted pair, or twisted, shielded pair; 18 AWG (0.82 mm^2)	
	Bus-Style Wiring	Up to 4000 ft (1219 m); 0.58 µF (580 nF) maximum capacitance; 35 Ω max.	
	T-Tap" Wiring	Up to 10,000 ft (3048 m) total wiring; up to 2500 ft (762 m) to farthest device	
	Line Matching Resistor	Bus-style, connect one at panel and one at end of line	100 Ω, 1/2 W; A4081-9011; (part number 733-974)
		T-Tap, connect one at panel and one at farthest device	
	Suppression	Use A2081-9044 Overvoltage Protectors where wiring leaves and enters a building (refer to data sheet *AC2081-0016*)	
Auxiliary Power Output		500 mA maximum @ 24 VDC	

Table 6: Standard Circuit Ratings (NOTE: Total DC current = 3 A maximum)

Specification		Rating	
Standard Auxiliary Relay Outputs	**Relay 1**	Programmable operation	Contacts rated 2 A @ 30 VDC, 0.35 power factor; jumper selectable as N.O. or N.C.
	Relay 2	Trouble operation	
Wiring Connections for Above Circuits and AC Input		Terminals rated for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2)	

Table 7: Option Module Ratings

Specification		Rating
Class A IDC Adapter Module		Five circuits per module, rated same as circuits
Ten Relay Auxiliary Module A006-9803	**Contact Ratings**	2 A @ 30 VDC, 0.35 power factor; jumper selectable as N.O. or N.C.
	Wiring	Terminals rated for 18 AWG to 12 AWG (0.82 mm^2 to 3.31 mm^2)

Table 8: Environmental Ratings

Specification	Rating
Operating Temperature Range	32° to 120°F (0° to 49° C)
Operating Humidity Range	Up to 93% RH, non-condensing @ 100.4° F (38° C) maximum

Reference Information, Compatible Autocall Peripherals

Table 9: Compatible Detectors

SKU	Type	Description		Data Sheet
A4098-9601	Photoelectric smoke detectors for 2-wire and 4-wire bases	Standard detector (2.8% nominal)		*AC4098-0015*
A4098-9605		Reduced sensitivity detector (3.5% nominal)		
A4098-9602		Combination smoke and heat detector		*AC4098-0017*
A4098 Series	Duct detector housings	2-wire and 4-wire models		*AC4098-0029*
A4098-9612	Electronic heat detectors for 2-wire and 4-wire bases	135° F (57°C)	Fixed temperature heat detector	*AC4098-0014*
A4098-9614		200° F (93°C)		
A4098-9613		135° F (57°C)	Fixed temperature heat detector with rate-of-rise detection	
A4098-9615		200° F (93°C)		

Table 10: Compatible System Expansion Panels

SKU	Type	Description	Data Sheet
4009 Series	Remote NAC Extender	Provides remote NACs; includes power supply and battery charger; 4 extenders max/NAC; 4006 uses NAC output to provide control	*AC4009-0002*
Note: Contact your local Autocall Product Supplier for additional compatible peripherals.			

Supervisory and Alarm Currents

Table 11: Supervisory and Alarm Currents

SKU	Module	Supervisory	Alarm
A006-9101 A006-9102	Standard fire alarm control panel	130 mA	160 mA + 60 mA per IDC in Alarm
A006-9801	Expansion Power Supply	50 mA	60 mA
A006-9802	Expansion IDC Module	50 mA	50 mA + 60 mA per IDC in Alarm
A006-9803	Expansion Relay Module	0 mA + 10 mA per energized relay	0 mA + 10 mA per energized relay

Table 11: Supervisory and Alarm Currents

SKU	Module	Supervisory	Alarm
A006-9805	City Circuit Module with disconnect switch	30 mA	60 mA
A006-9806	City Circuit Module without disconnect switch	30 mA	60 mA
A4606-9101	Remote LCD Annunciator	65 mA	140 mA
A4610-9111	Remote LED/Switch Annunciator (see data sheet AC4610-0001)	40 mA	70 mA (all LEDs and tone-alert on)

**** Current Calculation Information:**

1. To determine total supervisory current, add currents of modules in panel to base system value and all auxiliary loads.
2. To determine total alarm current, add currents of modules in panel to base system alarm current and add all panel NAC loads and all auxiliary loads.

Remote Annunciator Options

The 4006 supports up to four annunciator options including:

- Door Mounted 24 LED Annunciator
- A4610-9111 Remote LED/Switch Annunciators
- A4606-9101 Remote LCD Annunciators

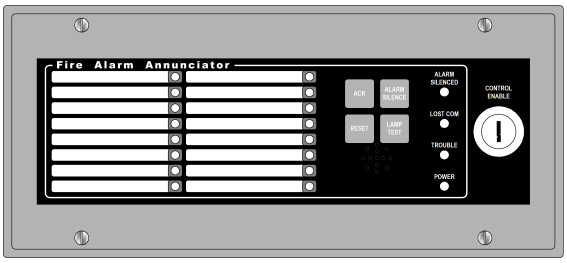

Fig 2: A4610-9111 LED/Switch Annunciator

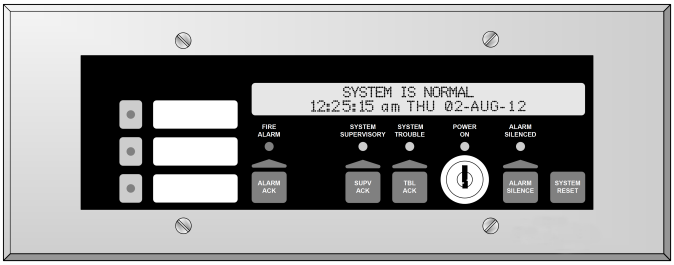

Fig 3: A4606-9101 LCD Annunciator

Annunciators communicate at a rate of 9600 baud with 24 VDC power supplied by separate wiring.

A4610-9111 LED Annunciator Features:

- 16 LEDs with programmable functions and dedicated LEDs for Alarm Silenced, Lost Communications, Trouble, and Power-on
- Keyswitch access controlled switches for Acknowledge, Alarm Silence, Reset, and Lamp Test
- Local tone-alert

A4606-9101 LCD Annunciator Features:

- LCD readout with two lines of 40 characters each and LED backlighting
- Wide viewing angle, super-twist design
- Keyswitch access controlled

Control switches and status LEDs for:

- Alarm, supervisory, or trouble acknowledge
- Alarm silence and System Reset

Three programmable LED indicators:

- Two LEDs are selectable as red or yellow
- One LED is selectable as green or yellow
- With provisions for custom labeling

Keyboard Reference

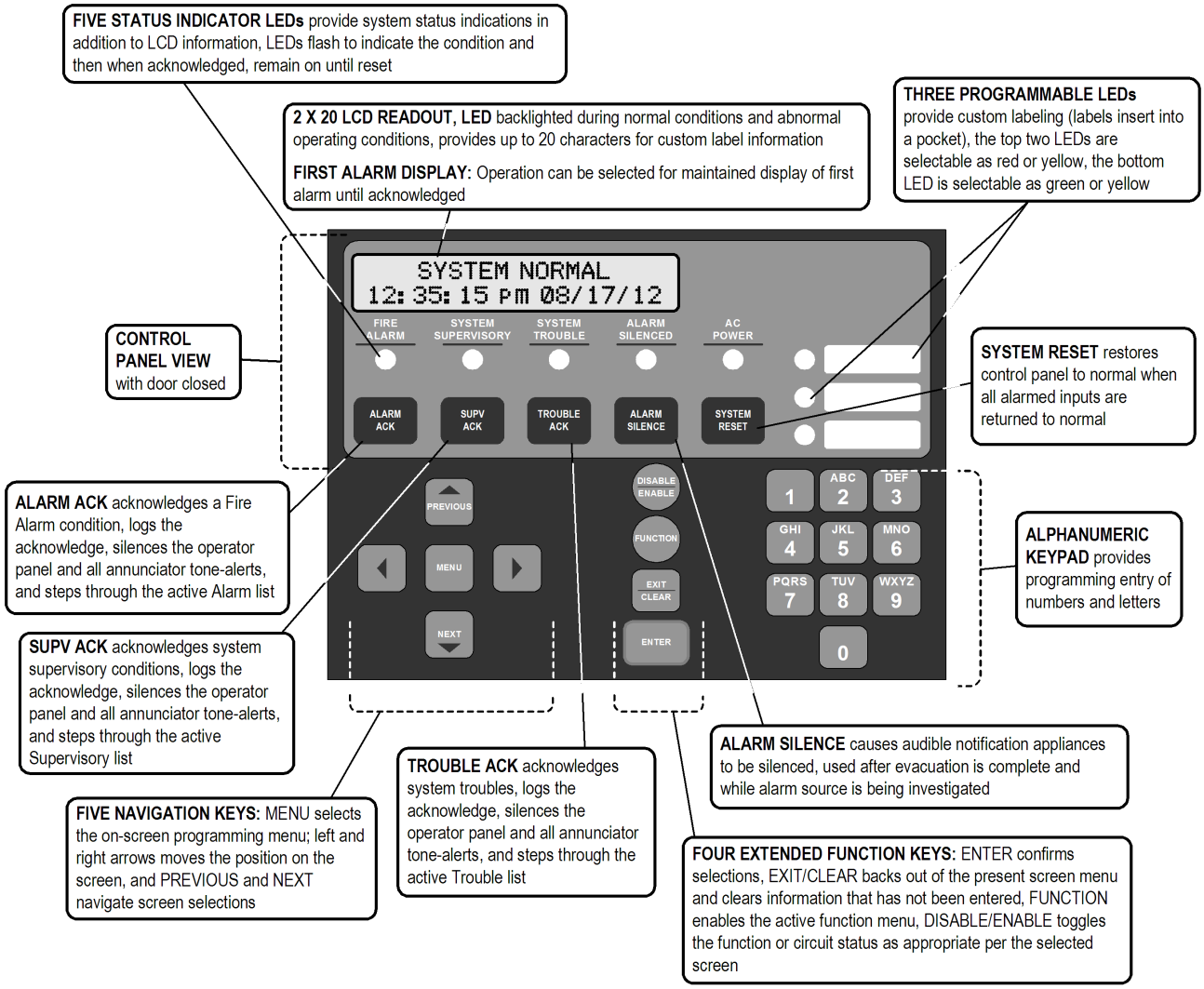

Fig 4: Keyboard Reference

Door LED Annunciator Details

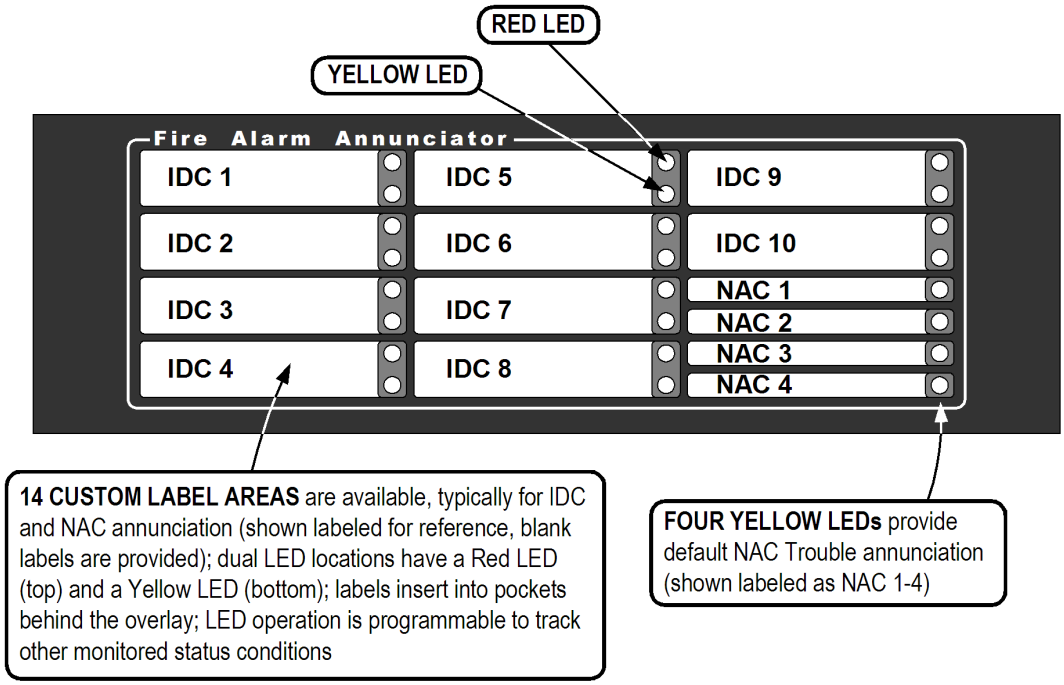

Fig 5: Door LED Annunciator Details

IDC Operation Modes

The following IDC operation modes are selectable from either the front panel or the PC programmer

Table 12: IDC Operation Modes

Function Type	Description	Device State	IDC Status
Fire	Fire monitor zone	Normal = Current Limited = Short = Open =	Normal FIRE FIRE TROUBLE
Water	Waterflow monitor zone	Normal = Current Limited = Short = Open =	Normal FIRE FIRE TROUBLE
Heat	Heat detector zone		
Duct	Duct detector zone		
Pull	Manual (pull) station zone		
Smoke	Smoke detector zone		
SO	Sprinkler Supervisory	Normal = Current Limited = Short = Open =	Normal SUPERVISORY SUPERVISORY TROUBLE
WSO	Combination waterflow and water supervisory zone	Normal = Current Limited = Short = Open =	Normal SUPERVISORY ALARM TROUBLE
SUPV	Supervisory monitor	Normal = Current Limited = Short = Open =	Normal SUPERVISORY SUPERVISORY TROUBLE
UTIL	Supervised utility monitor	Normal = Current Limited = Short = Open =	OFF ON ON TROUBLE

Table 12: IDC Operation Modes

Function Type	Description	Device State	IDC Status
TROUBLE	Trouble monitor	Normal = Current Limited = Short = Open =	NORMAL TROUBLE TROUBLE TROUBLE
VSMOKE	Verified fire alarm; the abnormal (current limited) state causes the alarm verification cycle to start; a short is an immediate alarm	Normal = Current Limited = Short = Open =	NORMAL VERIFY FIRE TROUBLE
STYLEC	Style C fire monitor	Normal = Current Limited = Short = Open =	NORMAL FIRE TROUBLE TROUBLE
LATSUPV	Latching supervisory monitor (supervisory latches until system is reset)	Normal = Current Limited = Short = Open =	NORMAL SUPERVISORY SUPERVISORY TROUBLE

Detailed NAC Ratings

Table 13: Detailed NAC Ratings

NAC Ratings, Maximum per NAC	Appliances
Special Application: 2 A**;** strobe synchronization is UL listed across all 4 system NACs for these A4906 Series appliances	Autocall, A4901 Series (horns) and A4906 Series Multi-Candela non-addressable strobes, horn/strobes, and speaker/strobes (contact your Autocall product representative for compatible appliances)
Regulated 24 VDC: 1.5 A **Note:** Maximum strobe load on main power supply or expansion power supply is 1.35 A per power supply (2.7 A total); remainder of power supply rating is available for other loading	Power for other UL listed appliances; use associated external synchronization modules where required

NAC Operation Modes

Table 14: NAC Operation Modes

Function Type	Description
SSIG	Alarm signal, on until silenced
RSIG	Alarm signal, on until reset
TROUBLE	Trouble signal
SUPV	Supervisory signal
QALERT	SmartSync 2-wire horn/strobe control; horn on until silenced, strobe on until reset
Wheelock	Provides Wheelock strobe synch protocol when using only Wheelock strobes on panel, not to be mixed with Autocall strobes
UTILITY	Utility signal, generic non-alarm

Relay Operation Modes

The following relay operations are selectable from either the front panel or the PC programmer.

Table 15: Common Fire Alarm Operations

Function Type	Relay Activates Upon	Relay Deactivates Upon
SRELAY	General Alarm	Silence
RRELAY	General Alarm	Reset
SUPV	Supervisory condition	Clear

Table 15: Common Fire Alarm Operations

Function Type	Relay Activates Upon	Relay Deactivates Upon
TRBL	Trouble condition	Clear

Table 16: Special Functions

Function Type	Description
UTILITY	Utility IDC in the same alarm group activates
PRIMARY	General alarm; relay is tied to Primary Elevator Recall contacts
ALTERN	General alarm; relay is tied to Alternate Elevator Recall contacts
DRESET	Relay provides 24 VDC power to 4-wire detectors; relay turns off for 5 seconds on System Reset
DHOLDER	Relay provides 24 VDC to larger door holder relay with separate power source; relay activates on general alarm to remove power to door holder relay and close doors

Additional Programming Feature Details

Table 17: Additional Programming Feature Details

Function	Details								
Custom labels	Up to 20 characters per point; a built-in message library provides for commonly used words for easy front panel programming								
Message Library	For front panel label creation convenience, the following words can be selected as part of a custom label (_designates a built-in space; typing the first letter of a word/number will select the closest word in alphabetical/numerical sequence)								
	North South East West Front	Center rear 5th Flr_1 Flr_2	Flr_3 Flr_4 Flr_5 RM_	Basement Floor Garage Hallway HVAC_Room Kitchen	Lobby Office Patient upper lower	main first 2nd 3rd 4th	Boiler_RM Classroom Closet_ Corridor Elect_RM	Elevator Entrance Restroom Room Stairway	Storeroom Wing Zone
History logs	Three separate logs: Alarm (100 entries), Supervisory (100 entries), and Trouble (300 entries); logs can be queried separately, or as a combined log; logs can be downloaded for printing or archiving using the RS-232 service port								
Autoprogram	Automatically scans system for installed option modules and configures panel programming accordingly; modes are available to detect new modules only, recreate default programming and then add all modules found								
Alarm Groups	Up to 99 alarm groups are available, any point may be in up to 3 alarm groups; this allows NAC and relay operation to be associated with IDC inputs according to local response requirements								
WALKTEST	Allows one person to perform system testing; alarm or trouble tests are followed by automatic reset; the alarm zone is sounded out by associated audible notification or the response is silently logged into the Alarm log								
Manual Control	Allows selection of individual relays or NACs for system testing								
Passcode Protection (4-digit number)	Level 1 = Acknowledge, Silence, System Reset, View logs, View point information, and Lamp Test Level 2 = All Level 1 + Set Time/Date, Point Control, Enable/Disable points Level 3 = All Level 2 + Clear logs, Clear verification tallies, Custom label editing, and WALKTEST Level 4 = All Level 3 + Programming, Upload/Download; this is the Service access level								

Installation and Module Placement Reference