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

Features

Figure 1: 4100ES Cabinets are available with one, two, or three bays

Master Controller (top) bay:

- Models available with Color ES Touch Screen Display (shown in Figure 1), Monochrome 2 line x 40 Character Display, or Monochrome InfoAlarm Display
- 32-Bit Master Controller with color-coded operator interface including raised switches for high-confidence feedback
- Dual configuration program CPU, convenient service port access, and capacity for up to 3000 addressable points
- CPU assembly includes 2 GB dedicated compact flash memory for on-site system programming and information storage
- ES Power Supply (ES-PS) and charger with onboard alarm relay, programmable auxiliary power output and provisions for one 4 in. x 10 in. or two 4 in. x 5 in. compatible option cards such as IDNet2 addressable device interface, Conventional NAC or Addressable IDNAC SLC modules; refer to 579-1288AC installation instructions for additional details

Network compatibility:

Compatible with Autocall ES Net Fire Alarm Network

Standard addressable interfaces include:

- 250 point addressable IDNet 2 SLC channel with electrically isolated dual short circuit isolating loops that supports TrueAlarm analog sensors and IDNet communications monitoring and control devices
- Remote annunciator module support through RUI+ (remote unit interface) communications port

Optional modules include:

- Building Network Interface Module (BNIC) for Ethernet connectivity

options, refer to data sheet *AC4100-0061*

- Electrically isolated output IDNet 2 (two loop) and IDNet 2+2 (four loop) modules with short circuit isolation output loops allowing use with either shielded or unshielded, twisted or untwisted single pair wiring
- Fire Alarm Network Interfaces, DACTs, city connections, and up to five RS-232 ports for printers and terminals
- IDNAC signalling line circuits (SLCs) for addressable appliance control
- Alarm relays, auxiliary relays, additional power supplies, IDC modules, NAC expansion modules
- VESDA Air Aspiration Systems interface, ASHRAE BACnet Interface
- LED/switch modules and panel mount printers
- Emergency communications systems (ECS) equipment; 8 channel digital audio or 2 channel analog audio
- 8-point zone/relay module, each point is selectable as an IDC input or relay output. Class A IDCs require two points (one out and one return). Relays rated for 2 A @ 30 VDC (resistive) and configurable as either normally open or normally closed.
- Compatible with Autocall remotely located 4009 IDNet NAC Extenders, up to ten for each IDNet SLC

Listings information*

- UL 864, Fire Detection and Control (UOJZ), Smoke Control Service (UUKL), Releasing Device Service (SYZV), Emergency Communication and Relocation Equipment (UOQY)
- UL 1076, Proprietary Alarm Units - Burglar (APOU)
- UL 2017, Process Management Equipment (QVAX), Emergency Alarm System Control Units (FSZI)
- UL 1730, Smoke Detector Monitor (UULH)
- UL 2572, Mass Notification Systems (PGWM)
- CAN/ULC-S527 Control Units for Fire Alarm Systems (UOJZ7), Releasing Device Service (SYZV7)
- CAN/ULC-S559 Central Station Fire Alarm System Units (DAYR7)
- ULC/ORD-C1076 Proprietary Burglar Alarm Units and Systems (APOU7)
- ULC/ORD-C100 Smoke Control System Equipment (UUKL7)

Software Feature Summary

CPU provides dual configuration programs

- Two programs allow for optimal system protection and commissioning efficiency with one active program and one reserve
- Downtime is reduced because the system stays running during download

PC based programmer features

- Convenient front panel accessed Ethernet port for quick and easy download of site-specific programming
- Modifications can be uploaded as well as downloaded for greater service flexibility
- Firmware enhancements are made through software downloads to the on-board flash memory

Operator interface features

- TrueAlarm individual analog sensing with front panel information and selection access
- "Dirty" TrueAlarm sensor maintenance alerts, service and status reports including "almost dirty"
- TrueAlarm magnet test indication appears as distinct "test abnormal"

message on display when in test mode
- TrueAlarm sensor peak value performance report
- **Install Mode** allows grouping of multiple troubles for uninstalled modules and devices into a single trouble condition, typical with future phased expansion; with future equipment and devices grouped into a single trouble, operators can more clearly identify events from the commissioned and occupied areas
- Module level ground fault searching assists installation and service by locating and isolating modules with grounded wiring
- **Recurring Trouble Filtering** allows the panel to recognize, process, and log recurring intermittent troubles, such as external wiring ground faults, but only sends a single outbound system trouble to avoid nuisance communications
- **WALKTEST** silent or audible system test performs an automatic self-resetting test cycle

Introduction

4100ES Series Fire Detection and Control Panels provide extensive installation, operator, and service features with point and module capacities suitable for a wide range of system applications. An on-board Ethernet port provides fast external system communications to expedite installation and service activity. Dedicated compact flash memory archiving provides secure on-site system information storage of electronic job configuration files.

Modular design

A wide variety of functional modules are available to meet specific system requirements. Selections allow panels to be configured for either Stand-Alone or Networked fire control operation. InfoAlarm Command Center options provide convenient expanded display content, detailed on data sheet *AC4100-1045* .

Module Bay Description

The Master Controller Bay (top) includes a standard multi-featured ES power supply, the master controller board, expansion space for optional features, and operator interface equipment.

The Expansion Bays include a Power Distribution Interface (PDI) for new 4 in. x 5 in. flat design option modules and also accommodate 4100-style modules.

The Battery Compartment (bottom) accepts two batteries, up to 50 Ah, to be mounted within the cabinet without interfering with module space.

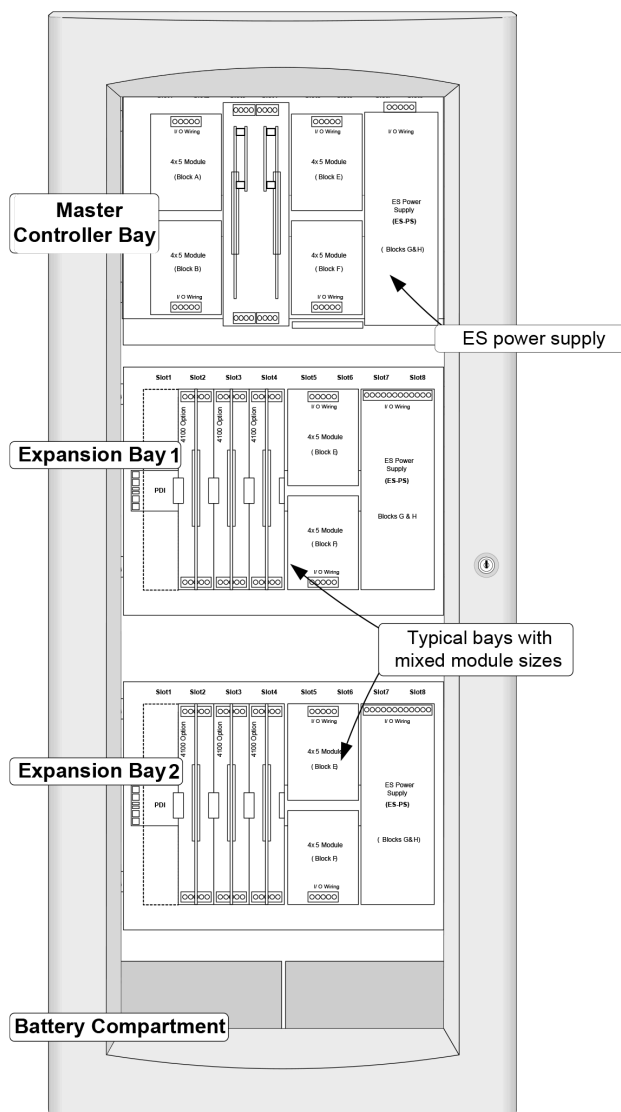Figure 2 identifies bay locations using a three bay cabinet for reference.

Figure 2: 4100ES Module Bay Reference

Mechanical Description

· Boxes can be close-nippled; each box provides convenient stud markers for drywall thickness and nail-hole knockouts for quicker mounting
· Smooth box surfaces are provided for locally cutting conduit entrance holes exactly where required
· The latching dress panel (retainer) assembly easily lifts off for internal access
· NACs can be mounted directly on power supply assemblies providing minimized wiring loss, compact size, and readily accessible terminations
· Packaging supports traditional 4100-style motherboard with daughter cards
· Modules are power-limited except as noted, such as relay modules
· The NEMA 1/IP30 box is ordered separately and available for early installation
· Doors are available with tempered glass inserts or solid; boxes and doors are available in platinum or red
· Boxes and door/retainer assemblies are ordered separately per system requirements; refer to data sheet *AC4100-0037* for details

Operator Interface Detail Reference

4100ES Fire Alarm Control Units are provided with either an enhanced Color ES Touch Screen Display or a basic Monochrome 2 Line by 40 Character operator interface depending on the model selected. The following illustrations highlight the primary functions of each.
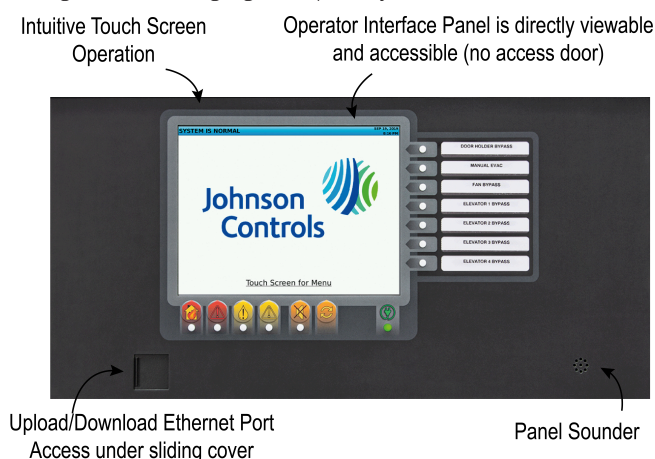
Intuitive Touch Screen Operation

Operator Interface Panel is directly viewable and accessible (no access door)

Upload/Download Ethernet Port Access under sliding cover

Panel Sounder

Figure 3: ES Touch Screen Display Interface

Operator interface panel is directly viewable and accessible (no access door)

Upload/Download Ethernet port access (under sliding cover)

Basic operator instructions are printed on the interface mounting plate
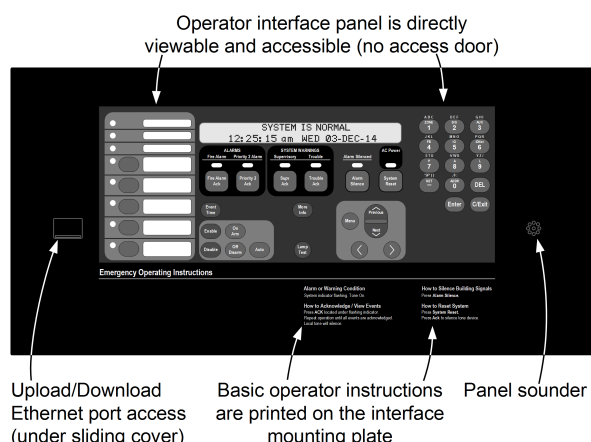
Panel sounder

Figure 4: 2 x 40 Operator Interface

Compatible Peripheral Devices

The 4100ES is compatible with an extensive list of remote peripheral devices including printers, CRT/keyboards (up to five total), and both conventional and addressable devices including TrueAlarm analog sensors and TrueAlert addressable appliances.

Master Controller Bay Module Details

Master Controller and Motherboard

· Master Controller mounts in Slot 2 of a two slot motherboard and provides one Class B or Class A, RUI+ communications channel configurable for isolated or un-isolated operation
· Slot 1 of the motherboard is primarily for an optional network interface card, or secondarily for the A100-6038 dual RS-232 board
· RUI+ and RUI communications controls up to 31 remote devices per master controller at up to 2500 ft (762 m) for single run, or 10,000 ft (3048 m) total if wiring is Class B and T-tapped; if more distance is required, up to four total RUI channels are supported; add up to three A100-1291 RUI Expansion Modules (A100-1291 provides unisolated RUI communications)
· Compatible RUI+ and RUI remote equipment includes: MINIPLEX transponders, A4603-9101 LCD Annunciators, A602-9101 Status Command Units (SCU), A602-9102 Remote Command Units (RCU), A602 Series LED Annunciator Panels, A100 Series 24 I/O and LED/ Switch modules, (A602 series annunciators require un-isolated communications)
· Up to four RUI channels (combination of built-in RUI+ and optional RUI modules) are supported per master controller
· Open slot space on the left of the CPU motherboard is available for either another dual slot motherboard, or for one or two block modules, see Figure 14

ES-PS Master Controller Power Supply

· Rating is up to 9.5 A total without a fan or up to 12.7A total with a fan using Special Application appliances; or up to 5 A total with Regulated 24 DC appliance loads.
· Outputs are power-limited, except for battery charger and city circuits.
· Provides system power, battery charging, auxiliary power, auxiliary relay, earth detection, electrically isolated IDNet 2 communications channel for 250 points (A100-3117), three 3 A conventional NACs (A100-5450) or three 3 A IDNAC addressable SLCs (A100-5451), two block spaces for compatible optional modules and provisions for either an optional City Connect Module or an optional Alarm Relay Module (City Connect or Alarm Relay module requires one available block space).
· **IDNet 2 SLC Output** (A100-3109 and A100-3117) provides an electrically isolated Class B or Class A communications channel with dual short circuit isolating loops for up to 250 addressable devices, as described in Addressable Device Control (requires one block space from ES-PS power supply or Master Controller bay).
· **Conventional NAC Module** (A100-5450) provides three outputs individually selectable as a Conventional NAC (Class B or Class A) or an Auxiliary Power output. When mounted on the ES-PS power supply, each NAC is rated at 3 A for Special Application appliances (9 A max per card) or 2 A for Regulated 24 DC loads (4 A max per card). NAC operation supports synchronized strobe or SmartSync horn/strobe operation over two wires. Auxiliary power outputs are rated for 3 A continuous duty. The total auxiliary power output per power supply is limited to 5 A (requires one block space).
· **IDNAC Addressable Notification SLC Module** (A100-5451) provides three 3 A IDNAC addressable notification SLCs compatible with both TrueAlert ES and TrueAlert addressable notification appliances and remote 4009 IDNAC Repeaters used to extend power and wiring distances (requires two block spaces).
· **DCAI (Dual Class A IDNAC Isolator) Module** (A100-6103) creates two Class A outputs from one IDNAC SLC Class B Input; up to two can

be connected to one IDNAC SLC, with up to 6 total per ES-PS power supply; total Class A output loop current is limited to the 3 A rating of the IDNAC SLC (requires one block space).

- **Battery Charger** is dual rate, temperature compensated, and charges up to 50 Ah sealed lead-acid batteries mounted in the battery compartment (33 Ah for single bay cabinets); also is UL and ULC listed for charging up to 110 Ah batteries mounted in an external cabinet, refer to data sheet AC2081-0012 for details.
- **Battery and Charger Monitoring** includes battery charger status and low or depleted battery conditions; status information provided to the master controller includes analog values for: battery voltage, charger voltage and current, actual system voltage and current, individual NAC currents, and individual IDNAC SLC currents.
- **Low Battery Cutout** is selectable for each ES-PS power supply.
- **2 A Programmable Output** is selectable for conventional SNAC or Auxiliary power operation.

  - SNAC operation supports conventional non-synchronous NAC operation to provide supervised reverse polarity for sounder base power, Suppression Release Peripheral (SRP) power, or other coded NAC operation requirements.
  - Auxiliary (AUX) power operation can be used for sounder base power, four-wire detector power, or door holder; relay is selectable as N.O. or N.C and rated for 2 A @ 32 VDC and 30 VAC (resistive); supervised AUX operation does not require an end-of-line relay to provide Power-Limited operation.

- **Auxiliary Relay** is selectable as N.O. or N.C., rated 2 A @ 32 VDC or 30 VAC (resistive), and is programmable as a trouble relay, either normally energized or normally de-energized, or as an auxiliary control.
- **Optional City Connect Module** (A100-6031, with disconnect switches, or A100-6032, without disconnect switches) can be selected for conventional dual circuit city connections (requires one block space).
- **Optional Alarm Relay Module** (A100-6033) provides three Form C relays that are used for Alarm, Trouble, and Supervisory, rated 2 A resistive @ 32 VDC (requires one block space).

IDNet SLC for Addressable Device Communications

Overview

The 4100ES provides standard addressable device communications for IDNet compatible devices and accepts optional modules for communications with compatible devices. Using a two wire communications circuit, individual devices such as manual fire alarm stations, TrueAlarm sensors, conventional IDC zones, and sprinkler waterflow switches can be interfaced to the addressable controller to communicate their identity and status.

Addressability allows the location and condition of the connected device to be displayed on the operator interface LCD and on remote system annunciators. Additionally, control circuits (fans, dampers, etc.) may be individually controlled and monitored with addressable devices.

Addressable Operation

Each addressable device on the communication channel is continuously interrogated for status condition such as: normal, off-normal, alarm, supervisory, or trouble. Both Class B and Class A operation are available. Sophisticated poll and response communication techniques ensure supervision integrity and allow for "T-tapping" of the circuit for Class B operation. Devices with LEDs pulse the LED to indicate receipt of a communications poll and can be turned on steady from the panel.

IDNet Channel Capacity

The CPU bay ES-PS provides an IDNet 2 signaling line circuit (SLC) that supports up to 250 addressable monitor and control points intermixed on the same pair of wires. IDNet 2 and IDNet 2+2 Module SLCs are

isolated from other system reference voltages to reduce common mode noise interaction with adjacent system wiring. Additional 250 address IDNet 2 or IDNet 2+2 Modules are available, see Table 16.

Table 1: IDNet 2, and IDNet 2+2 SLC Wiring Common Specifications

Specification		Description
Maximum Distance from Control Panel per Device Load	1 to 125	4000 ft (1219 m); 50 ohms
	126 to 250	2500 ft (762 m); 35 ohms
Connections		Terminals for 18 to 12 AWG (0.82 mm^2 to 3.31 mm^2)

Table 2: IDNet Specifications

Specification		Description
Wire Type	New Installation	Shielded twisted pair (STP)
	Retrofit Only	Unshielded twisted pair (UTP)
Total Wire Length Allowed With "T" Taps for Class B Wiring		Up to 10,000 ft (3 km); 0.58 μF

Note: For retrofit installations consult with your local Autocall product supplier, restrictions may apply.

Table 3: IDNet 2 and IDNet 2+2 Wiring Specifications

Specification		Description
Wire Type	New Installation	Unshielded twisted pair (UTP)
	Retrofit Only	Shielded or unshielded, twisted or untwisted wire
Total Wire Length Allowed With "T" Taps for Class B Wiring		Up to 12,500 ft (3.8 km); 0.60 μF
Maximum Capacitance Between IDNet 2 Channels		1 μF
IDNet 2 and IDNet 2+2 Module Compatibility: IDNet communicating devices and TrueAlarm sensors including QuickConnect and QuickConnect2 sensors		

Note: For retrofit installations consult with your local Autocall product supplier, restrictions may apply.

TrueAlarm System Operation

Addressable device communications include operation of TrueAlarm smoke and temperature sensors. Smoke sensors transmit an output value based on their smoke chamber condition and the CPU maintains a current value, peak value, and an average value for each sensor. Status is determined by comparing the current sensor value to its average value. Tracking this average value as a continuously shifting reference point filters out environmental factors that cause shifts in sensitivity.

Programmable sensitivity of each sensor can be selected at the control panel for different levels of smoke obscuration (shown directly in percent) or for specific heat detection levels. To evaluate whether the sensitivity should be revised, the peak value is stored in memory and can be easily read and compared to the alarm threshold directly in percent.

CO sensor bases combine an electrolytic CO sensing module with a TrueAlarm analog sensor to provide a single multiple sensing assembly using one system address. The CO sensor can be enabled/disabled, used in LED/Switch modes and custom control, and can be made public for communication across a fire alarm Network. Refer to data sheet *AC4098-0052* for details.

TrueAlarm heat sensors can be selected for fixed temperature detection, with or without rate-of-rise detection. Utility temperature sensing is also available, typically to provide freeze warnings or alert to HVAC system problems. Readings can selected as either Fahrenheit or Celsius.

TrueSense Early Fire Detection

Multi-sensor A4098-9754 provides photoelectric and heat sensor data using a single 4100ES IDNet address. The panel evaluates smoke activity, heat activity, and their combination, to provide TrueSense early detection. For more details on this operation, refer to data sheet *AC4098-0024* .

Diagnostics and Default Device Type

Sensor Status

TrueAlarm operation allows the control panel to automatically indicate when a sensor is almost dirty, dirty, and excessively dirty. The NFPA 72 requirement for a test of the sensitivity range of the sensors is fulfilled by the ability of TrueAlarm operation to maintain the sensitivity level of each sensor. CO Sensors track their 10 year active life status providing indicators to assist with service planning. Indicators occur at: 1 year, 6 months, and when end of life is reached.

Modular TrueAlarm sensors

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

IDNAC SLC for Addressable Notification Appliance Communications

IDNAC Addressable notification appliance communications include operation of TrueAlert and TrueAlert ES Visible only (V/O, strobe), Audible only (A/O, horn), Audible/Visible (A/V, horn/strobe), and strobes of Speaker/Visible (S/V) notification appliances. (S/V appliances require separate speaker wiring.) IDNAC SLC addressable communications allow each horn and strobe to be individually controlled using a single two-wire circuit, confirms the wiring connections to the individual notification appliance's electronic circuit, and confirms communications between each appliance and the fire alarm control unit. Addressable communications increases supervision integrity versus conventional notification systems by providing supervision beyond the circuit wiring to each individual appliance and by constantly verifying the ability of each appliance to communicate with the control panel.

Individual Appliance Status and Settings

The fire alarm control panel monitors and records each addressable notification appliance status, type of appliance, and its configured appliance settings. A fault in any individual appliance automatically reports a trouble condition to the control panel.

A/O (horn)   V/O (strobe)   A/V (horn/strobe)

Figure 5: TrueAlert ES Addressable Appliance Reference

Virtual NACs Provide Control Convenience

For control convenience, IDNAC notification appliances can be grouped into *Virtual NACS* (VNACs) for group control, grouping that can be made across SLCs, not defined by their wiring connection.

Panel Control Convenience

Applicable operation settings for each appliance can be programmed *without having to replace appliances or remove them from the wall or ceiling*. An appliance's VNAC notification zone can be easily changed through programming without having to add additional circuits, conduit, and wiring. Audible and visible appliances for non-Fire Emergency Communications notification can be programmed to operate separately *on the same pair of wires as the fire alarm notification appliances*. The result is lower installation, retrofit, and overall life-cycle cost of ownership compared with traditional conventional notification systems.

Installation, Retrofit, and Life-Cycle Cost Benefits

With each addressable appliance capable of being controlled separately on the same two-wire IDNAC SLC, installation time and expense for both retrofit and new construction can be significantly reduced. When Class B wiring is used, wiring can be "T-tapped" allowing more savings in distance, wire, conduit (size and utilization), and overall installation efficiency.

Location Information, Diagnostics and Troubleshooting

Each addressable notification appliance has its own 40 character custom label to identify the location of the appliance and to aid in troubleshooting fault conditions. In conventional notification systems, conventional appliances are not capable of communicating with the control panel. Fault reporting on a conventional system is limited to the circuit wiring and the entire area (zone) covered by appliances on the notification appliance circuit (NAC) making it much more difficult and costly to locate and correct the source of a problem. Using the TrueAlert *magnet test* allows each appliance to individually identify its candela setting and address and to briefly operate if desired, and using the *TrueAlert ES Appliance Self-Test feature provides detailed performance verification per appliance* .

TrueAlert ES Appliance Self-Test Operation

On-Board Test Sensors

TrueAlert ES appliances are equipped with on-board sensors to detect strobe and/or horn output allowing efficient and unobtrusive Self-Testing. When **Automatic Self-Test** is initiated from the control panel, each appliance within the selected VNAC group will briefly operate and then report its Self-Test status to the control panel, all within several seconds. Silent Self-Test can be selected to test only visible appliance if desired. The control panel is in a trouble condition during testing and in the event of an alarm, Self-Test is automatically terminated. **Additionally, Automatic Self-Test can be scheduled** to occur at a convenient time on a regular basis .

Automatic Self-Test

Automatic Self-Test results are communicated to the control panel with a time and date stamp and are stored in memory. Results are viewable at the front panel display and printed reports can be generated from the panel service port.

Individual Self-Test

Individual Self-Test is selected from the control panel when individual appliances need to be observed to operate. Each appliance in the selected VNAC group will turn on its LED until individually activated by applying a magnet. After performing the individual test, the appliance LED turns off to indicate completion. Results are recorded the same as during the automatic test.

TrueAlert ES Appliance Self-Test Last Test Results Report Example

```
Service Port                                                          Page 1
REPORT 10   TrueAlertES Self-Test Report               12:34:56pm  WED  03-DEC-14

Point ID     Custom Label                       Date        Visual       Audible
T1-1-1       VO FIRST FLOOR (up to 40 characters)  03-DEC-14    NO OUT        N/A
T1-2-5       AV FIRST FLOOR EAST WING           03-DEC-14    NO OUT       NORMAL
T7-3-55      AO SECOND FLOOR EAST WING          03-DEC-14     N/A         NO OUT
T8-2-45      AV SECOND FLOOR ROOM 29            03-DEC-14    NOT TST        N/A
T8-2-60      AV SECOND FLOOR ROOM 22            03-DEC-14    NORMAL       NORMAL
T1-2-4       AO FIRST FLOOR ROOM 17             03-DEC-14     N/A         UNSUPP
TRUEALERT_ES SELF-TEST REPORT COMPLETED
              Press RETURN for next Screen OR CTRL-X to abort
```

Results Description

· **NORMAL** = Works correctly

· **NO OUT** = No Output, no light or sound was detected

· **NOT TST** = No result. Either the appliance did not return a result before the test ended or the test was conducted as silent (strobes only) and audible appliance was not activated

· **N/A** = Not applicable (no strobe, on audible only, etc.)

· **UNSUPP** = Appliance not compatible with Self-Test (TrueAlert addressable appliance not TrueAlert ES addressable appliance)

Note: Additional TrueAlert ES Self-Test information is detailed in ES Operating Instructions 579-197AC shipped with the panel.

TrueAlert ES Appliance Self-Test All Test Results Report Example

```
Service Port                                                          Page 1
REPORT 10   TrueAlertES Self-Test Report               12:34:56pm   WED  03-DEC-14

Point ID     Custom Label                       Date        Visual       Audible
T1-1-1       VO FIRST FLOOR                     03-DEC-14    NO OUT        N/A
T1-2-5       AV FIRST FLOOR EAST WING          03-DEC-14    NO OUT       NORMAL
T1-2-6       AV FIRST FLOOR NORTH ENTRANCE     30-OCT-14    NO OUT       NORMAL
T7-3-55      AO SECOND FLOOR EAST WING         03-DEC-14     N/A         NO OUT
T8-2-45      AV SECOND FLOOR ROOM 29           03-DEC-14    NOT TST        N/A
T1-1-11      AV FIRST FLOOR SOUTH ENTRANCE     30-OCT-14    NORMAL       NORMAL
T8-2-60      AV SECOND FLOOR ROOM 22           03-DEC-14    NORMAL       NORMAL
T1-2-4       AO FIRST FLOOR ROOM 17            03-DEC-14     N/A         UNSUPP
T1-2-7       AO FIRST FLOOR ROOM 12            30-OCT-14     N/A         UNSUPP
T8-3-43      AV SECOND FLOOR ROOM 25           30-OCT-14    UNSUPP       UNSUPP
TRUEALERT_ES SELF-TEST REPORT COMPLETED
              Press RETURN for next Screen OR CTRL-X to abort
```

TrueAlert ES Appliance Self-Test Individual Appliance Report Example

```
CUSTOM LABEL
4-1-2                                        AV
POINT ADDRESS: 4-1-2                 Type: AV
CARD: 4    CHANNEL: 1   DEVICE: 2
EXTENDED POWER SUPPLY
UNIT NUMBER: 2            RUI NUMBER: LOCAL
PRIMARY STATUS                         NORMAL
AUDIBLE GROUP CONFIG:                  0 0 0
VISUAL GROUP CONFIG:                   0 0 0
STYLE:                                 INDOOR
OPERATION:                       GENERAL EVAC
CANDELA RATING                          15 CD
COLOR LENS                                YES
TONE TYPE                           BROADBAND
CODING TYPE                          TEMPORAL
VOLUME                                   HIGH
LAST TEST TIME:          MON 02-JUN-14 01:00 AM
LAST VISUAL TEST:                      NORMAL
LAST AUDIBLE TEST:                     NORMAL
LAST TEST VOLUME:                      NORMAL
DEVICE TEST TROUBLE:                   NORMAL
```

IDNAC SLC Hardware Reference

ES-PS Power Supplies

ES-PS Power Supplies configured with an IDNAC card provide three, 3 A IDNAC SLCs for control and power to TrueAlert ES and TrueAlert addressable notification appliances. Both power supplies incorporate an efficient switching design that provides a regulated output of 29 VDC, even during battery operation. With 29 VDC minimum output at the panel, addressable notification SLCs can support wiring distances two to three times farther than available with conventional notification, or support more appliances per SLC, or work with smaller gauge wiring, or combinations of these benefits, all resulting in installation and maintenance savings with high assurance that appliances that operate during normal system testing will operate during worst case alarm conditions.

IDNAC SLC Appliance Wiring Reference

IDNAC SLC Capacity

Up to 127 addresses and up to 139 unit loads (appliances are typically one unit load, devices such as Isolators may require more than one load, refer to individual device data sheet for specific information)

Table 4: IDNAC SLC Appliance Wiring Reference

Specification	Rating
Recommended wire type	Unshielded twisted pair (UTP)
Maximum wire length allowed with "T-Taps" for Class B wiring, per SLC	10,000 ft (3048 m)
Maximum wire length per SLC to any appliance	4000 ft (1219 m)
Appliance Supervisory Current	1 unit load = 0.8 mA per appliance
Wiring connections	Terminals for 18 to 12 AWG (0.82 mm^2 to 3.31 mm^2)
Installation Instructions (see for more information)	579-1015AC

8-Point Zone/Relay Module Details

· **Select as IDC or Relay;** configure up to eight Class B IDCs, or up to four Class A IDCs; or up to eight Relay outputs rated 2 A resistive @ 30 VDC (N.O. or N.C.); or combinations of IDCs and Relays; each zone is separately configurable as an IDC or Relay output

· **IDC Support:** each IDC supports up to 30, two-wire devices. Zone relay modules may be powered directly from the control unit power supply or through the optional 25 VDC regulator module where required for two-wire detector compatibility. Refer to 2-Wire Detector Compatibility document 579-832AC for additional details.

· **IDC EOL resistor values are selectable as:** 3.3 kΩ, 2 kΩ, 2.2 kΩ, 3.4 kΩ, 3.9 kΩ, 4.7 kΩ, 5.1 kΩ, 5.6 kΩ, 6.34/6.8 kΩ, and 3.6 kΩ + 1.1 kΩ; see instructions for more details

Color ES Touch Screen Display

The Color ES Touch Screen Display interface offers intuitive operation similar to a tablet or smart phone. With a larger area format versus an individual text line display, more information is available at a glance, and minimal key presses are needed to access detailed information.
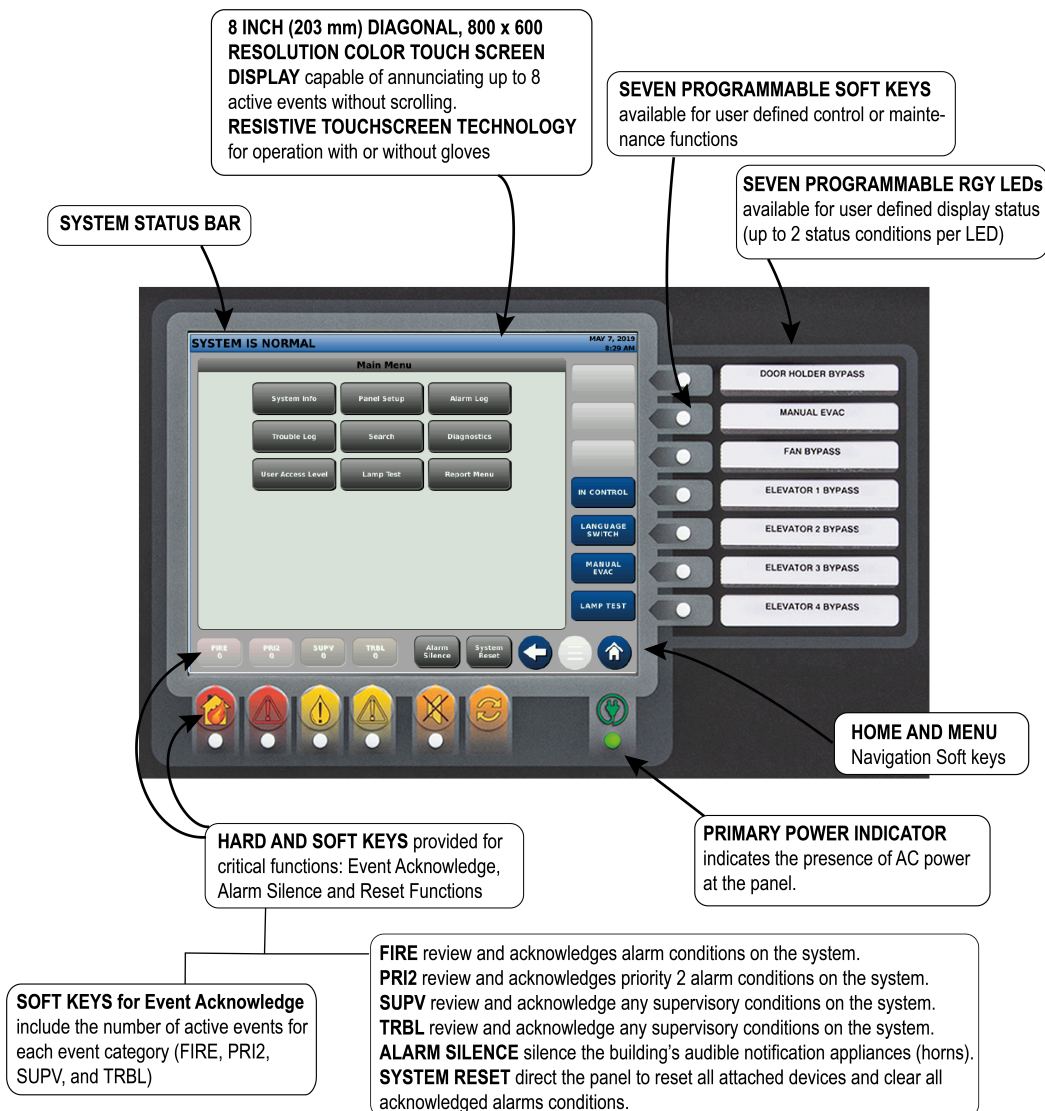
8 INCH (203 mm) DIAGONAL, 800 x 600 RESOLUTION COLOR TOUCH SCREEN DISPLAY capable of annunciating up to 8 active events without scrolling.
RESISTIVE TOUCHSCREEN TECHNOLOGY for operation with or without gloves

SEVEN PROGRAMMABLE SOFT KEYS available for user defined control or mainte-nance functions

SEVEN PROGRAMMABLE RGY LEDs available for user defined display status (up to 2 status conditions per LED)

SYSTEM STATUS BAR

HOME AND MENU Navigation Soft keys

HARD AND SOFT KEYS provided for critical functions: Event Acknowledge, Alarm Silence and Reset Functions

PRIMARY POWER INDICATOR indicates the presence of AC power at the panel.

SOFT KEYS for Event Acknowledge include the number of active events for each event category (FIRE, PRI2, SUPV, and TRBL)

FIRE review and acknowledges alarm conditions on the system.
PRI2 review and acknowledges priority 2 alarm conditions on the system.
SUPV review and acknowledge any supervisory conditions on the system.
TRBL review and acknowledge any supervisory conditions on the system.
ALARM SILENCE silence the building's audible notification appliances (horns).
SYSTEM RESET direct the panel to reset all attached devices and clear all acknowledged alarms conditions.

Figure 6: ES Touch Screen Display Operator Interface

Features

ES Touch Screen Displays provide customized operating experience

· Event activity display choices include: First 8 Events; or First 7 Events with emphasis on Most Recent; or First 6 Events with emphasis on First and Most Recent (individually selectable for each event type)
· System reports are easily viewable; logs can be read with minimal scrolling
· Up to two languages are available per system, easily selected by programmable key press
· Information sent to Remote ES Touch Screen Displays can be vectored by point or zone
· Both Hard and Soft keys available for critical functions: Event Acknowledge, Alarm Silence, and Reset Functions
· Resistive touchscreen technology allows operation with or without gloves
· Seven programmable RGY LEDs available for user-defined display status (up to 2 status conditions per LED)
· Seven programmable Soft keys available for user-defined control or maintenance functions
· PRI2 Soft key label can be changed to CO to annunciate Carbon Monoxide detection status
· ES Touch Screen Display can be programmed to report individual points or groups of points as a single zone
· Supports ability to display a custom watermark background file of a company logo or other desired display content
· Seismically compliant under the State of California Statewide Office of Housing and Development (OSHPD) Special Seismic Certification (SSC) program guidelines. Refer to *Simplex Seismic Application Guide* 579-1213AC and *Battery Brackets for Seismic Activity Applications* AC2081-0019 for details.

Display properties
- 8 inch (203 mm) diagonal, 800 x 600 resolution color touch screen display capable of annunciating up to 8 active events without scrolling
- Bright white LED backlighting provides efficient and long lasting illumination; backlight is dim in quiescent state, automatically switches to full power on touch or on event activity in system.

Description

ES Touch Screen Displays for 4100ES fire alarm systems provide a large display with extended information content, dual language support including UTF-8 character languages, and an intuitive control key interface per the following:

- Up to 10 ES Touch Screen Displays are supported per 4100ES control panel; able to allow one ES Touch Screen Display to take-control and to designate access levels for interfaces not in-control; programmable LEDs can be assigned to in-control status indications
- Menu-driven format conveniently prompts operators for the next action required
- Direct point callup displays individual points alphabetically and then homes in on the logical choice as more point information is entered
- Event categories are color coded for quick visual representation; Red for Alarm and Priority 2 Events; Yellow for Supervisory and Trouble events
- Date formats are either MM/DD/YY or DD/MM/YY
- Time formats are either 24 hour or 12 hour with AM/PM
- System Normal screen supports a color background (watermark) for company name, company logo, or other desired display content

Example Display Screens
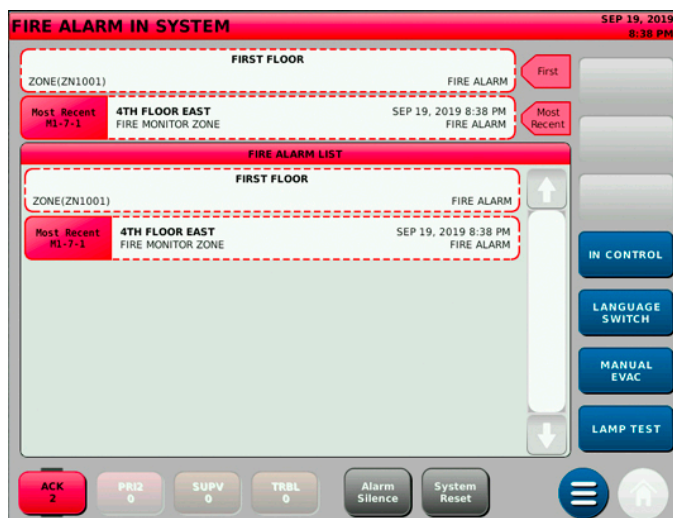
Figure 7: First and Most Recent Alarm Display
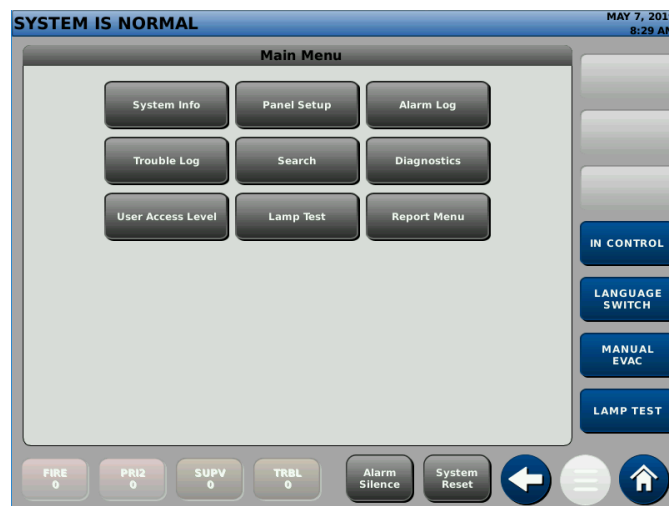
Figure 8: Main Menu

Figure 9: First Eight Active Trouble Events List

Figure 10: Direct Point Callup
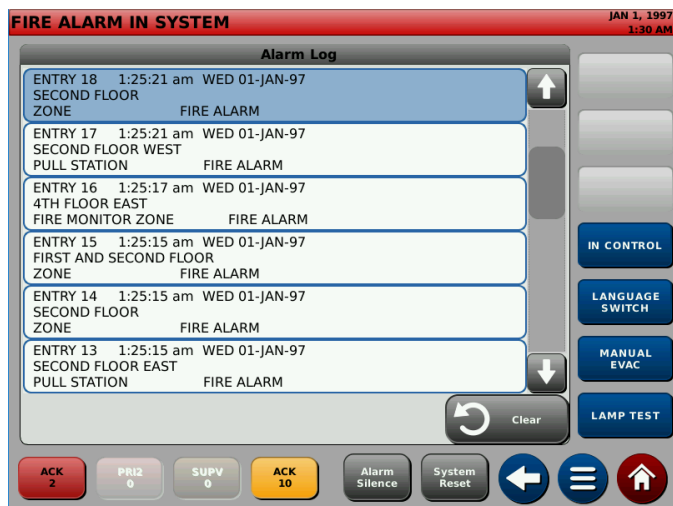
Figure 11: Alarm History Log
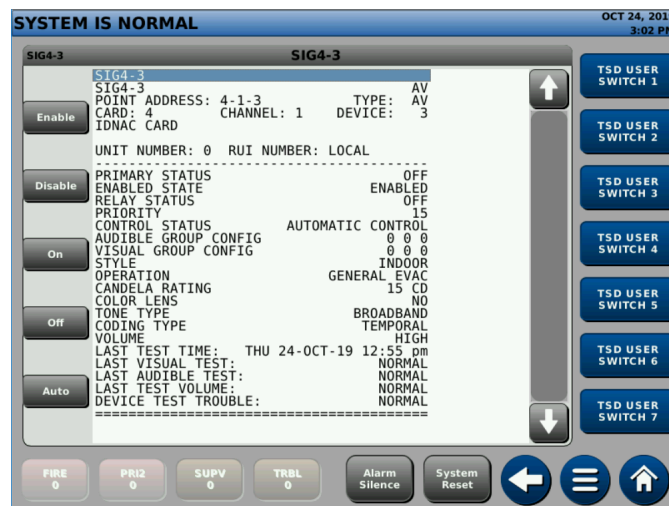
Figure 12: Detailed Point Status
Screen for TrueAlert ES Appliance

Specifications

Table 5: General ES Touch Screen Display Specifications

Specification	Rating
Resolution	800 x 600 Pixels (RGB)
Size / Type	8 inch (203 mm) Diagonal / Color Touch Screen
Touch Screen Technology	Resistive
Event Display	Up to 8 Events without scrolling
Normal Screen Custom Watermark File Format	680 x 484 Pixels: BMP, JPG, TIFF, GIF or PNG file format
Environmental	Operating Temperature: 32°F to 120°F (0°C to 49°C)
	Operating Humidity: Up to 93% RH, non-condensing @ 90°F (32°C) maximum

Operator Interface with Monochrome 2 x 40 LCD

With the locking door closed, the glass window allows viewing of the display, status LEDs, and available operator switches. Features include a two-line by 40-character, wide viewing angle (super-twist) LCD with status LEDs and switches as shown in Figure 13.

LED indicators describe the general category of activity being displayed with the LCD providing more detail. For the authorized user, unlocking the door provides access to the control switches and allows further inquiry by scrolling the display for additional detail.

· Convenient and extensive operator information is provided using a logical, menu-driven display
· Multiple automatic and manual diagnostics for maintenance reduction
· Alarm and Trouble History Logs (up to 1000 entries for each, 2000 total events) are available for viewing from the LCD, or capable of being printed to a connected printer, or downloaded to a service computer
· Convenient PC programmer label editing
· Password access control

FIRE ALARM ACK acknowledges a Fire Alarm condition, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

PRIORITY 2 ACK acknowledges a Priority 2 Alarm condition, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

SUPV ACK acknowledges system supervisory conditions, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

TROUBLE ACK acknowledges system troubles, logs the acknowledge, and silences the operator panel and all annunciator tone-alerts

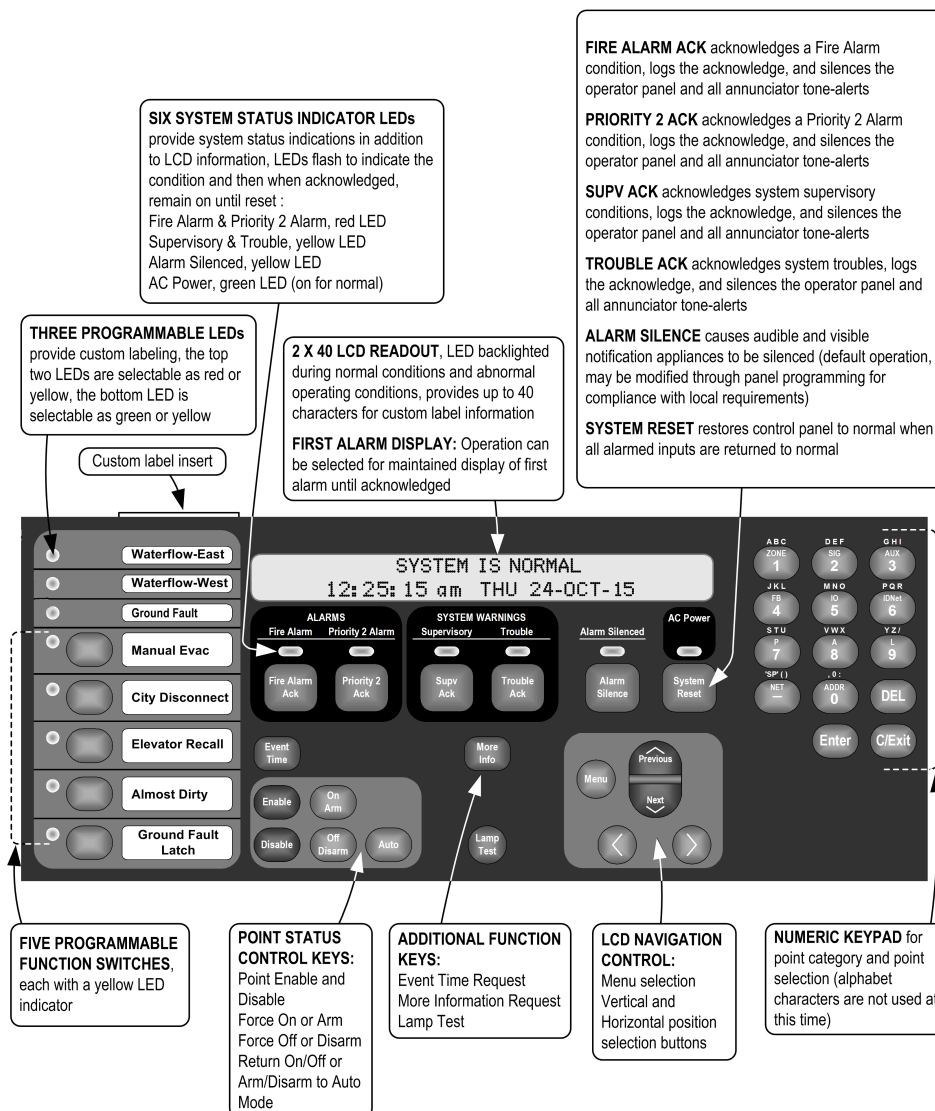**ALARM SILENCE** causes audible and visible notification appliances to be silenced (default operation, may be modified through panel programming for compliance with local requirements)

SYSTEM RESET restores control panel to normal when all alarmed inputs are returned to normal

SIX SYSTEM STATUS INDICATOR LEDs provide system status indications in addition to LCD information, LEDs flash to indicate the condition and then when acknowledged, remain on until reset :
Fire Alarm & Priority 2 Alarm, red LED
Supervisory & Trouble, yellow LED
Alarm Silenced, yellow LED
AC Power, green LED (on for normal)

THREE PROGRAMMABLE LEDs provide custom labeling, the top two LEDs are selectable as red or yellow, the bottom LED is selectable as green or yellow

2 X 40 LCD READOUT, LED backlighted during normal conditions and abnormal operating conditions, provides up to 40 characters for custom label information

FIRST ALARM DISPLAY: Operation can be selected for maintained display of first alarm until acknowledged

Custom label insert

SYSTEM IS NORMAL
12:25:15 am THU 24-OCT-15

Waterflow-East
Waterflow-West
Ground Fault
Manual Evac
City Disconnect
Elevator Recall
Almost Dirty
Ground Fault Latch

ALARMS — Fire Alarm, Priority 2 Alarm
SYSTEM WARNINGS — Supervisory, Trouble
Alarm Silenced
AC Power

Fire Alarm Ack
Priority 2 Ack
Supv Ack
Trouble Ack
Alarm Silence
System Reset

Event Time
More Info
Menu
Previous
Next

Enable
On Arm
Disable
Off Disarm
Auto
Lamp Test

ABC ZONE 1
DEF SIG 2
GHI AUX 3
JKL FB 4
MNO IO 5
PQR IDNet 6
STU P 7
VWX A 8
YZ/ L 9
'SP'() NET —
.,0: ADDR 0
DEL
Enter
C/Exit

FIVE PROGRAMMABLE FUNCTION SWITCHES, each with a yellow LED indicator

POINT STATUS CONTROL KEYS:
Point Enable and Disable
Force On or Arm
Force Off or Disarm
Return On/Off or Arm/Disarm to Auto Mode

ADDITIONAL FUNCTION KEYS:
Event Time Request
More Information Request
Lamp Test

LCD NAVIGATION CONTROL:
Menu selection
Vertical and Horizontal position selection buttons

NUMERIC KEYPAD for point category and point selection (alphabet characters are not used at this time)

Figure 13: Operator Interface

Expansion Bay Module Loading Reference

Slot 1	Slot 2	Slot 3	Slot 4	Slot 5	Slot 6	Slot 7	Slot 8

Block A   Block C   Block E   Block G

Block B   Block D   Block F   Block H

Expansion Bay Chassis

Size Definitions: Block = 4 in. W x 5 in. H (102 mm x 127 mm) card area

Slot = 2 in. W x 8 in. H (51 mm x 203 mm) motherboard with daughter card

Table 6: Expansion bay loading reference

Description		Mounting
IDNet 2, IDNet 2+2 Modules		1 Block
Four 2 A Relays	NON Power-limited	1 Block
Four 10 A Relays		4 in., 2 Slots
Eight 3 A Relays		1 Block
VESDA Interface		2 in., 1 Slot
Class B IDC		2 in., 1 Slot
Class A IDC		2 in., 1 Slot
NAC Card		1 Block
IDNAC Card		2 Blocks (on ES Power Supply only)
ES-PS		Blocks G & H ONLY
ES-PS Configured as backup		Blocks E & F ONLY
ES-XPS		2 Blocks

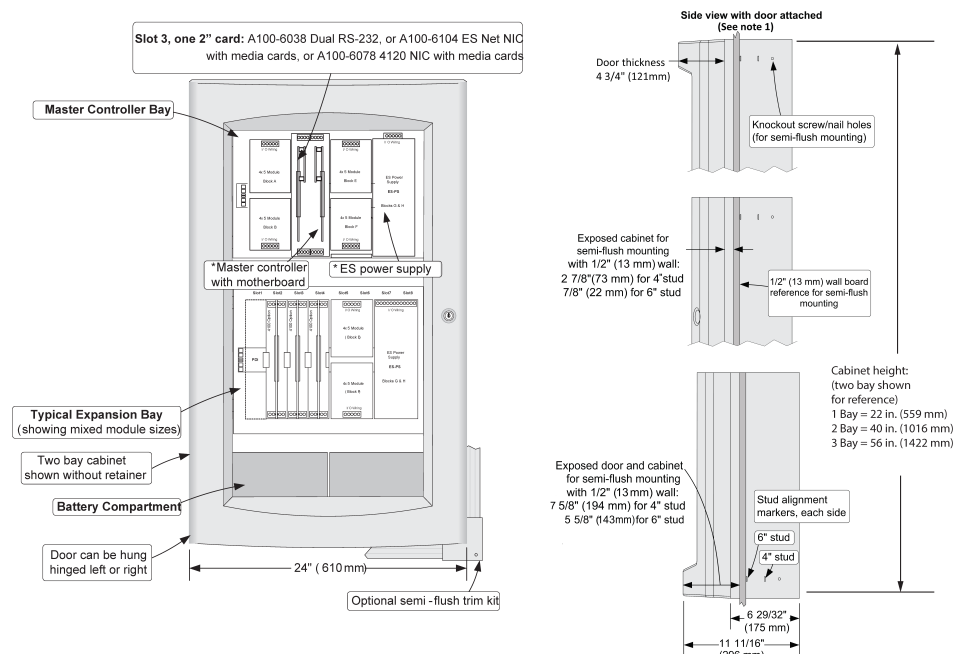## Mounting and Master Controller Bay Module Reference

Figure 14: Mounting and CPU Bay Module Reference

Note:

1. Side View dimensions are shown with minimal cabinet and door protrusion from the exterior wall. For 6 in. stud construction with minimum protrusion shown, the door will open 90 degrees. To allow the door to open 180 degrees, the exposed cabinet dimension from the exterior wall must be a minimum of 3 in. (76 mm) for both 4 in. and 6 in. stud construction.

2. Asterisks (*****) in Figure 14 indicate supplied modules.

3. A system ground must be provided for earth detection and transient protection devices. This connection shall be made to an approved, dedicated earth connection per NFPA 70, article 250, and NFPA 780.

General Specifications

Table 7: ES Power Supply Specifications (ES-PS and ES-XPS)

Specifications	Rating
AC Input Power	120 to 240 VAC
120 VAC	3.72 A
220 to 240 VAC	1.82 A
Total DC Output Power Capacity	
Without Fan	9.5 A
With A100-5131 Fan and A100-5451 IDNAC Module(s)	9.7 A
With A100-5131 Fan (without A100-5451 IDNAC Module)	12.7 A
With Regulated 24V Appliance Loads (with or without A100-5131 Fan)	5.0 A
Special Application Appliance Loads: supports full total DC output power capacity ratings above	Autocall horns, strobes, and combination horn/strobes and speaker/strobes (contact your Autocall product representative for compatible appliances)
Regulated 24V Appliances: reduces total DC output power capacity to 5.0 A	Power for other UL listed appliances; use associated external synchronization modules where required
Auxiliary Power Tap	2 A maximum (taken from total output power capacity)
NACs Programmed for Auxiliary Power	3 A maximum per NAC, 5 A maximum total (taken from total output power capacity)
Battery Charger (ES-PS only)	Sealed Lead-Acid Batteries
Battery Ah Capacity	UL/ULC listed for battery charging of up to 110 Ah (batteries larger than 50 Ah require a remote battery cabinet)
Charger characteristics and performance	Temperature compensated, dual rate, recharges depleted batteries within 48 hours
Environmental	
Operating Temperature	32°F to 120°F (0°C to 49°C)
Operating Humidity	Up to 93% RH, non-condensing @ 90°F (32°C) maximum
Option Card Mounting	2 vertical blocks are available fore compatible modules; refer to 579-1288AC installation instructions for additional details

Note:

1. Battery charger is only available on the ES-PS power supply.
2. When an ES-PS is used to power Flex-35 or Flex-50 Amplifiers the ES-PS battery charger is not available.

Master Controller Selection Information

Note for Table 8

· Supervisory and alarm currents are without IDNet devices. Add IDNet device currents seperately.

Table 8: 4100ES Master Controller Selection

Model	Description	Includes	Listings	Supv.	Alarm
A100-9701	ES-PS Master Controller with 2x40 Display - English	Master Controller – English, 2x40 Display, CPU Card, IDNet 2 Card supports up to 250 addressable/analog points, ES Power Supply (120 V to 240 V 50/60 Hz, 24 V Aux. Relay, 24 V Aux. Power Tap/Simple NAC, 110 Ah Battery Charger) and external RUI+ (isolated or un-isolated) communications interface.	UL/ULC, FM	277 mA (See note)	321 mA (See note)
A100-9702	ES-PS Master Controller with 2x40 Display - Canadian French	Same as A100-9701 above except with Canadian French user interface.	ULC, FM		
A100-9706	ES-PS Master Controller with ES Touch Screen Display	Same as A100-9701 above except with Color ES Touch Screen Display user interface. For dual language support, desired language is switch selectable.	UL/ULC, CSFM	362 mA (See note)	441 mA (See note)
A100-9709	ES-PS Master Controller without Display - English	Same as A100-9701 above except with no 2x40 Display or user interface.	UL/ULC, FM	277 mA (See note)	321 mA (See note)

Note:

1. The Master Controller current draw specifications do not include IDNet, NAC, or IDNAC current draws. These must be added separately as required.
2. International orders may substitute MX Loop Module () in place of IDNet 2 Module (A100-3117). Refer to data sheet AC4100-0059 for more details. The provides the same module and specifications as the but is dedicated as a Master Controller feature selection.
3. At the time of publication English and Canadian French languages are available for ES Touch Screen Display models. Contact your local Autocall product supplier for the latest status and availability for other languages.

Table 9: Master Controller Accessories

SKU	Description
A100-2300	Expansion Bay Assembly; order for each required expansion bay (not required for A100-9121)
A100-2303	Legacy Module Stabilizer Bracket, used when expansion bays have legacy slot style modules

Module Selection Information

Current Calculation Notes

To determine total supervisory current, add currents of modules in panel to base system value and all external loads powered by panel power supplies.

To determine total alarm current, add currents of modules in panel to base system alarm current and add all panel NAC loads and all external loads powered from panel power supplies.

Table 10: Communication Modules

SKU	Description			Size	Supv.	Alarm
A100-1291	Un-isolated remote unit interface module (RUI); up to three maximum per control panel			1 Slot	85 mA	85 mA
A100-6031	**Select one per ES Power Supply (non power-limited)**	City Circuit, with disconnect switches	For use with ES-PS only (not for backup ES-PS or ES-XPS)	1 Block	20 mA	36 mA
A100-6032		City Circuit, without disconnect switches			20 mA	36 mA
A100-6033		Alarm Relay, three Form C relays, 2 A @ 32 VDC			15 mA	37 mA
A100-6038	Dual Port RS-232 (slot module)	Three maximum of RS-232 type modules per panel		1 Slot	132 mA	132 mA
A100-6046	Dual Port RS-232 standard interface (4 in. x 5 in. module)			1 Block	60 mA	60 mA
A100-6048	VESDA Aspiration System Interface			1 Slot	132 mA	132 mA
A100-6080	DACT, Point or Event Reporting; one shipped unless A100-7908 is selected; two max. per system; includes two 2080-9047 cables, 14 ft (4.3 m) long, RJ45 plug and spade lugs			Side Mt.	30 mA	40 mA

Table 11: ES Power Supplies

Model	Voltage	Description	Includes	Provides Power to Bay	Size	Supv.	Alarm
A100-5401	120 to 240 V 50/60 Hz	ES-PS	24 V Aux. Relay, 24 V Aux. Power 2 A Tap/ Simple NAC, 110 Ah Battery Charger, 2 PDI Blocks for compatible option cards.	Yes	2 Blocks	68 mA	77 mA
A100-5402	120 to 240 V 50/60 Hz	ES-XPS	Same as ES-PS above, except without battery charger	No			

Table 12: Power supply accessories

Model	Description	Size	Current
A100-5152	12 VDC Power Option, 2 A maximum	1 Block	1.5 A maximum
A100-0156	8 VDC Converter, required for multiple Physical Bridge Modules, 3 A maximum	1 Block	included with loads
A100-5130	Voltage Regulator Module, 22.8 to 26.4 VDC (25 VDC nominal); isolated and resettable output; includes earth detection circuit and trouble relay for status monitoring.	1 Block	3 A maximum with 2.5 A load, 4.9 A maximum with 4 A load
A100-5131	ES-PS Fan Module, allows more than one power supply to be installed in a single bay and may increase total DC output power capacity per power supply. See Table 7 for specifications.	N/A	0 mA Supv. 200 mA Alarm
A100-0636	Box Interconnection Harness Kit (non-audio); order one for each close-nippled cabinet		
A100-0638	A100 Slot Module Additional 24 VDC Harness; needed when A100 Slot module requirements exceed 2 A from ES-PS		
A100-5403	Harness for ES-PS Backup Power Supply		
A100-0644	120 VAC PDM Harness	One PDM harness is required per power supply, select as required for appropriate input voltage	
A100-0645	220 VAC PDM Harness		
A100-0646	230 VAC PDM Harness		
A100-0647	240 VAC PDM Harness		

Table 13: Conventional and Addressable Notification Appliance Modules

Model	Description	Outputs	Size	Max Load - Special Application*		Max Load - Regulated 24 V		Current Draw	
				On ES-PS / ES-XPS	In Bay	On ES-PS / ES-XPS	In Bay	Supv.	Alarm
A100-5450**	Conventional NAC Module	Three 3 A NACs	1 Block	3.0 A / NAC 9.0 A / Card	3.0 A / NAC 6.0 A / Card	2.0 A / NAC 5.0 A / Card	2.0 A / NAC 2.0 A / Card	66 mA	66 mA
A100-5451**	IDNAC Addressable Notification SLC Module	Three 3 A SLCs	2 Blocks (on ES Power Supply only)	3.0 A / NAC 9.0 A / Card	N/A	N/A		124 mA	230 mA

*Special Application specifications apply to both Special Application and Steady Aux Power loads during alarm operation. Available power during non-alarm operation is 5.0 A maximum.

**The A100-5450 and A100-5451 can only be powered from a A100-5401 and A100-5402 power supply.

Table 14: Dual Class A Isolator for IDNAC

SKU	Description	Size	Supv.	Alarm
A100-6103	**Dual Class A IDNAC Isolator (DCAI)**, converts a single Class B IDNAC SLC input to two Class A SLC outputs; provides short circuit isolation between each Class A output circuit; connect up to two DCAI Modules per IDNAC SLC input up to a maximum of 6 DCAI Modules per IDNAC SLC; each isolated output SLC used requires one IDNAC address; the total current remains controlled by the Class B input source SLC at 3 A maximum; each isolated loop supports up to 30 device addresses **Note:** Up to 30 additional device addresses may be installed between each 4905-9929 TrueAlert Addressable Isolator+ Module, not to exceed the maximum address and unit loading specifications for the IDNAC channel	1 Block	8.3 mA	18.5 mA

Table 15: 8-Point Zone/Relay Card

SKU	Description	Size	Supv.	Alarm
A100-5013	8 point zone/relay 4 in. x 5 in. flat module. Supports eight Class B or four Class A IDCs. Mounts in any open block in a master controller or expansion bay. Alarm current shown is for eight Class B IDCs using 3.3K end-of-line-resistors with four in alarm and four in standby. Standby current shown is for all eight IDCs in standby. Refer to 579-1236AC Zone/Relay Module Installation Instructions for additional information.	1 Block	83 mA	295 mA
A100-6305	25 V regulator harness for 8 point zone/relay module. One required for each 8 point zone/relay module to be powered by the A100-5130 25 V regulator module. A maximum of five 8 point zone/relay modules may be powered from the A100-5130 per bay.	N/A	N/A	N/A

Note: Modules in Table 15 requires 4100ES Version 3.06 or later.

Table 16: IDNet Addressable Interface Modules

SKU	Description	Devices	Standby	Alarm
A100-3109 A100-3117	IDNet 2 Module, 250 point capacity; electrically isolated output with two short circuit isolating Class B or Class A output loops, 1 block; standard on ES-PS with IDNet 2 Module; alarm currents for 50 and above devices includes 20 device LEDs in alarm	none	50 mA	60 mA
		50	90 mA	150 mA
		125	150 mA	225 mA
		250	250 mA	350 mA
A100-3110	IDNet 2+2 Module, 250 point capacity; electrically isolated output with four short circuit isolating Class B or Class A output loops, one block; alarm currents for 50 and above devices includes 20 device LEDs in alarm	none	50 mA	60 mA
		50	90 mA	150 mA
		125	150 mA	225 mA
		250	250 mA	350 mA
A100-3111	IDNet Short Circuit Isolating Loop Output Module; mount up to two on a A100-3109 or A100-3117 module; this option is for aftermarket field installation only. Total initiating SLCs per CPU, including VESDA Interface is 30.			

Note: Each IDNet 2 and IDNet 2+2 Short Circuit Isolating Loop Output can be individually controlled for system diagnostics and can be assigned a public point for Fire Alarm Network

Table 17: Current draw for each IDNet device

Condition	Current
Standby	0.8 mA
Alarm, with LED off	1.0 mA
Alarm, with LED on	3.0 mA
Note: A maximum of 20 devices with LED on is supported for each channel. Additional device LEDs do not turn on.	

Table 18: Relay Modules; Non power-limited (for mounting in expansion bay only)

SKU	Description	Resistive Ratings		Inductive Ratings		Size	Supv.	Alarm
A100-3202	4 DPDT w/feedback	10 A	250 VAC	10 A	250 VAC	2 Slots	15 mA	175 mA
A100-3204	4 DPDT w/feedback	2 A	30 VDC/VAC	1/2 A	30 VDC/120 VAC	1 Block	15 mA	60 mA
A100-3206	8 SPDT	3 A	30 VDC/120 VAC	1-1/2 A	30 VDC/120 VAC	1 Block	15 mA	190 mA

Table 19: Miscellaneous Accessories

SKU	Description
A100-1279	Single blank 2 in. display cover; A100-2302 provides a single plate for a full bay
4100-9835	Termination and Address Label Kit (for module marking); provides additional labels for field installed modules
A100-6034	Tamper Switch, one per cabinet assembly if required; monitors solid door for panels with solid door; monitors the internal retainer panel for panels with glass door (not the glass door); has a built-in addressable IDNet IAM
A2081-9031	Series resistor for WSO, IDCs (N.O. water flow and tamper on same circuit, wires after water flow and before tamper) 470 Ω, 1 W, encapsulated, two 18 AWG leads (0.82 mm2), 2 1/2 in. L x 1 3/8 in. W x 1 in. H (64 mm x 35 mm x 25 mm)

Network Interface and Network Media Card Product Selection

4100ES fire alarm control units are compatible with Autocall ES Net network fire alarm products.

· Refer to datasheet *AC4100-0076* for additional information on compatible ES Net fire alarm products.

Additional 4100ES and Network Product Reference

Table 20: Additional 4100ES and Network Product Reference

Subject	Data Sheet
Serial DACT (SDACT) for 4100ES, 4010ES, 4007ES	*AC2080-0009*
Battery and Battery Cabinet Reference for 4100ES	*AC2081-0006*
110 Ah Batteries and Cabinets for 4100ES	*AC2081-0012*
4009 IDNet NAC Extender	*AC4009-0002*
4009 IDNAC Repeater	*AC4009-0004*
External 110 Ah Battery Charger for 4100ES, 4010ES	*AC4081-0002*
Graphic I/O Modules for 4100ES, 4010ES, 4007ES	*AC4100-0005*
Interface to VESDA Air Aspiration Detection Systems	*AC4100-0026*
4100ES LED/Switch Modules & Printer	*AC4100-0032*
Master Clock Interface	*AC4100-0033*
4100ES Enclosures	*AC4100-0037*
4100ES Extinguishing Release Applications	*AC4100-0040*
BACpac Ethernet Module	*AC4100-0051*
Building Network Interface Card (BNIC)	*AC4100-0061*
Emergency Voice/Alarm Communications Equipment with ES-PS Power Supplies	*AC4100-1034*
MINIPLEX Transponders with ES-PS Power Supplies	*AC4100-1035*
4100ES Remote Annunciator Panels with ES-PS Power Supplies	*AC4100-1039*
Remote ES Touch Screen Displays for 4100ES and 4010ES Panels	*AC4100-1070*
ES Net Network Products and Specifications	*AC4100-1076*
NDU with ES-PS Power Supplies for ES Net	*AC4100-1077*
TrueSite Workstation	*AC4190-0016*
TrueSite Incident Commander	*AC4190-0020*
Network System Integrator (NSI) for ES Net Networks	*AC4190-0026*
24-Pin Dot Matrix Fire Alarm System Remote Printer	*AC4190-0027*
SCU/RCU Annunciators for 4007ES, 4010ES, 4100ES	*AC4602-0001*
LCD Annunciator for 4100ES	*AC4603-0001*