EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Submittal Guide

EST4

Life Safety Control Platform

Life Safety and Incident Management Solutions

EN54 Version



EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

Project: _____

Contact: _____

Date: _____

Thank you for giving us the opportunity to provide this submittal for an EST4 Life Safety Control Platform. EST4 represents some of the most technologically advanced innovations the life safety industry has ever seen —innovations that will make your building and its occupants safe and secure.

This guide provides a summary of these innovations and includes a presentation of related system components and devices. Products we are submitting for your consideration are indicated by a check mark in the margins of the pages that follow.

More detailed information can be found in individual data sheets dedicated to each product. All these sheets, along with guide specifications and other useful product information, are available online at firesecurityproducts.com/en/page/est4.

Thank you for giving us the opportunity to provide this submittal. Please do not hesitate to contact us should you require further information.

_____

Submittal Guide

EST4 Life Safety Control Platform

Life Safety and Incident Management Solutions

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Life Safety Control Platform

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E85014-0019EN54

Wiring diagrams provided herein are for information and reference only and are not to be used for installation purposes. Consult the appropriate installation documents for wiring and configuration details.

This guidebook is for information only and is not intended as a substitute for verbatim-legislated requirements. For authoritative specifications regarding the application of life safety, security, and access control systems, consult current editions of applicable codes and standards. For authoritative interpretation of those codes and standards, consult your local authority having jurisdiction.

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EDWARDS

EST4: Innovation geared to your needs.

A lot can be said about EST4, but when it comes to performance, price, installation ease and flexibility, this remarkable life safety system speaks for itself.

For example, a glance at the contents on this page reveals just how few components are needed to configure even the most sophisticated and elaborate life safety control network. EST4's modular design means you only get the features you need, and its simple configuration ensures trouble-free installation every time.

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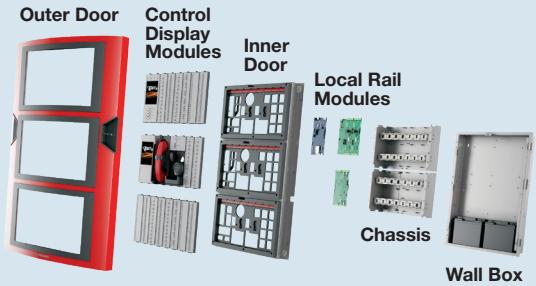
Genesis LED Visual & Audible Signals 30
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Detection & Alarm Since 1872.
Mass Notification • Smoke Detection • Graphical Monitoring and Control • Instant Messaging • Aspirating Smoke Detectors • Industrial Signaling • Voice Evacuation • Smoke Control • Fire Suppression • Intercom • Timekeeping • CO Detection • Heat Detection • Audible & Visible Signaling • Voicemail Messaging • Duct Smoke Detection • Giant Voice • Electronic Signage • Area of Rescue

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EST4 Network

EST4 is a modular system uniquely designed to easily meet the needs of standalone single panel systems or multi-panel networks. Life safety functions including fire alarm, audio and mass notification all use the same fundamental components, simplifying system layouts. A powerful Configuration Utility program helps define system operations and, thanks to higher speeds, download times are a fraction of the time required by previous methods. Virtually all EST4 operating features are software controlled. This gives EST4 great site flexibility and ensures operational changes and upgrades will be possible years after the initial installation.



System components arrange in layers, starting with the wallbox system and ending with inner and outer doors.

Highly Flexible Applications

EST4 is a superbly adaptable life safety system, lending itself to medium and large building applications. Cabinets are available with room for system batteries up to 65 Amp hours. With EST4, one 24-volt battery supports up to four power supplies. Each supply will support up to 7 Amp load. With four supplies, 28 Amps of current is available, all backed up by a common battery.

Fully-Listed User Interfaces

The user interface layer is made up of a Colour Touch Screen Display module and a system of generic control and display modules designed to maximize design flexibility for custom systems. EST4 Control-Display Modules provide first responders and emergency users with easy-to-operate controls and at-a-glance indication when time is of the essence and event information is critical.

Powerful Networking

EST4 life safety platform is built on a self-configuring IPv6 network providing network speeds up to 100Mbps. The EST4 life safety network enables the full support for cybersecurity tested to meet FIPS publication 197. Salted Hashing of passwords, authentication and encryption of sensitive data (user PINs, node authentication) are all standard features. This security applies to a single panel or the full complement of EST4 panels and network annunciators.

EST4 IPv6 network configuration also permits vast distances between panels. Physical interconnections facilitate a range of network capacities. Twisted pair copper at 2 Mbps supports distances of up to 5,000 ft. (1.5 km) between any two panels. Single-mode, multimode, and even CAT 5 (or better) cable solutions are also available.

A single network cable carries all panel-to-panel services: data, voice audio, and firefighters' telephone. No separate interconnections are needed. This powerful feature reduces cable costs and installation time.

Audio

Nothing informs building occupants better than the spoken word. EST4 audio design provides the emergency user with a communication package that minimizes switch selections. This facilitates simple, accurate and fast evacuation control announcements. This high-fidelity messaging, across EST4's impressive capacity of 200 channels, provides the flexibility that responders need to get messages out clearly and concisely.

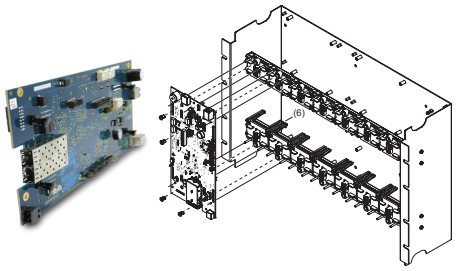
EST4 live paging capabilities ensure that those messages reach the right people at the right time. In addition to standard paging functions (Page to Evacuation, Page to Alert, All Call, and All Call Minus), EST4 introduces Page to Other and Page to Emergency.

Page to Other is a quick way to reach people in stairwells and elevators, while Page to Emergency is for Mass Notification

purposes. This added live paging capability allows responders to reach occupants based not only on their proximity to danger, but also based on their potential to move inadvertently towards specific danger points.
EST4 live paging also lets responders select individual paging groups as well as combinations of groups. This allows them to reach people in Alert and Evacuation zones simultaneously without having to page one group, and then page the other.
Taking full advantage of digital technology, all audio is sent over the same panel-to-panel cabling as network data, removing the need for a separate audio riser. Coupling the inherent reliability and performance of zoned amplifiers with EST4 simplified user interfaces makes audio system design and operation both easy and dependable.
EST4 is the right choice for any medium large application. Its multiplex functions are second to none in the industry today.

Cybersecurity
The security and integrity of the EST4 network is paramount to its ability to maintain systems operations in the face of outside threats. The most vulnerable point of contact for any integrated building system is where it meets the facility owner's existing TCP/IP network. Ironically, it is this gateway, which enhances and expands system capability beyond the communications network, that also exposes the system to some of its most critical vulnerabilities.
To combat outside threats, every EST4 panel can deploy proxy firewalls that effectively insulate the internal fire network from external intranet or internet connections and the malware, ransomware, and denial-of-services attacks that may be raging beyond. The EST4 proxy firewall uses Advanced Encryption Standard (AES) encryption and secure protocols.
EDWARDS recommends the installation of a robust commercial firewall between the facilities intranet and the internet. To further enhance network security, an optional tamper switch may be installed on EST4 cabinet doors. This alerts the system when equipment enclosures are accessed.

Central Processor Unit



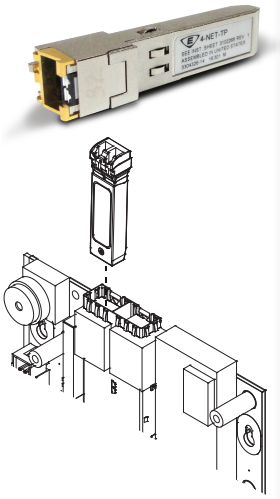
EST4's Central Processing Unit, the 4-CPU-E, is a control panel module that manages data generated by local rail modules and acts as a nexus for system-wide network communications. The 4-CPU-E is the controller of audio data, event logs, and is the link to central monitoring facilities and controller of the system network.

The 4-CPU-E's 16 gigabytes of on-board memory storage holds nearly two hours of pre-recorded audio messaging, as well as an expansive project database. It also holds a large on-board history – large enough to handle more than 10,000 alarm events – and room to store up to 10,000 locked or frozen events held for investigative purposes.

Thanks to its self-configuring network, EST4 easily deploys and configures without intervention by network administration personnel. It adapts to a wide range of network configurations, including rings, stars, redundant segment, and full mesh topology. The 4-CPU-E even allows changes in the panel-to-panel physical layer from copper to fiber, and employs hot-swappable network connections. All this improves network reliability and saves money at installation time and throughout the equipment's life cycle.

4-CPU-E	Central Processor Unit	Data Sheet E85014-0010

Network Controllers



Each 4-CPU-E provides two Small Form factor Pluggable (SFP) slots supporting hot-swappable modules that determine the media type in use at the panel. The network connection supports panel-to-panel data, voice audio, and firefighters telephone all on the same cabling, with no separate interconnections needed. Should the application call for it, cabling can be installed that allows all inter-panel network data including panel data, voice audio, and firefighters telephone to be transmitted on a single twisted-pair or single-fiber optic fiber. This helps speed setup time and cuts installation costs.

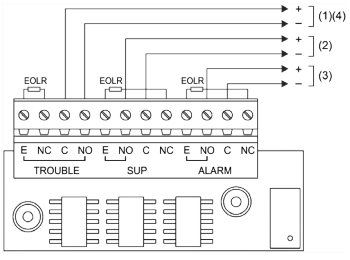
Network physical interconnection options offer a range of solutions from twisted pair running at 2 Mbps and supporting distances of up to 5,000 ft. (1.5 km) between any two panels. Single-mode, multimode, and even CAT5 cabling options are possible with EST4. The 4-CPU-E also meets redundancy and survivability requirements of many cabling needs, including Class A, Class B, Class X, and Class N. CAT5 installations are not limited to Class N wiring style: the network can be engineered to meet Class A, Class B, and Class X configuration when the project requires distances of up to 3,280 ft. (1,000 m).

4-NET-TP	SFP, 2Mbps Shared TX/RX, Twisted Pair or Cat 5.	Data Sheet E85014-0008
4-NET-MM	SFP Multimode, Dual-Fiber, 100Base-FX, 1310nm	Data Sheet E85014-0008
4-NET-SM	SFP, Single-Mode, Dual-Fiber, 100Base-LX10, 1310nm	Data Sheet E85014-0008
4-NET-SMD	SFP, Single-Mode, Single-Fiber, Downlink, 100Base-BX10-D 1550nm/1310nm Tx/Rx, works with 4-NETSMU	Data Sheet E85014-0008
4-NET-SMU	SFP, Single-Mode, Single-Fiber, Uplink, 100Base-BX10-U 1310nm/1550nm Tx/Rx, works with 4-NETSMD	Data Sheet E85014-0008
4-NET-SMH	SFP, Single-Mode, Dual-Fiber, 100Base-High Output 1310nm	Data Sheet E85014-0008
4-NET-CAT	SFP, CAT5 UTP Copper, 100Base-TX, 100Mbps	Data Sheet E85014-0008

Common Relays Card

Mounting to the back of the 4-CPU-E, the optional 4-COMREL provides form C common alarm, common trouble, and common supervisory relay outputs rated at 30Vdc at 1A. It also provides connections for end-of-line resistors and supports 18 to 12 AWG wire (1-4mm sq).





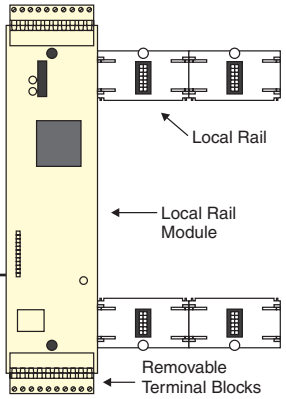
(1) To external trouble input circuit
(2) To external supervisory input circuit
(3) To external alarm input circuit
(4) Shown in the powered state (trouble contact is energized at system startup)

4-COMREL	Common Relay Module	Data Sheet E85014-0010

SUBMIT

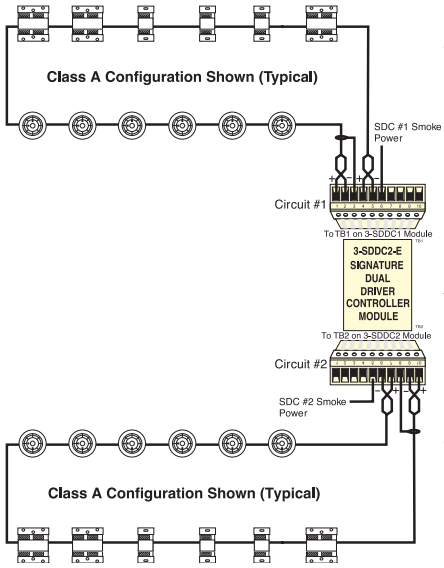
Local Rail Modules

Local Rail Modules (LRMs) conveniently mount to the EST4 inner chassis, away from high voltages. Each module features removable terminal blocks and simple plug-in connectors. LRMs include Zoned Amplifiers, Signature Loop Controllers, Conventional Hardwired Modules, as well as the main 4-CPU-E module. Control Display Modules can be mounted on the inner door of the EST4, away from LRMs.



Signature Driver Controller Modules





The 3-SSDC2-E and 3-SDDC2-E Signature Driver Controller modules provide an intelligent interface between the 4-CPU-E module and Signature Series devices. Each module contains its own microprocessor used to coordinate, process and interpret information received from and sent to Signature devices. Power and communications are received directly from the control panel rail assembly. The 3-SSDC2-E Single Signature Driver Controller module supports one Signature Data circuit, while the 3-SDDC2-E Signature Dual Driver Controller module supports two Signature circuits. Both modules occupy one rail space in the fire alarm control cabinet and provide removable field wiring terminals to aid installation.

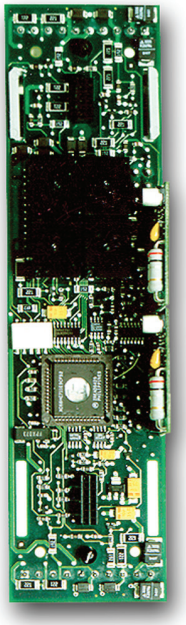
Innovative design gives the 3-SSDC2-E/3-SDDC2-E and Signature devices truly “distributed intelligence.” Signature detectors and modules have their own on-board microprocessor communicating with the loop controller in a fully digital communication format. This increases the accuracy of the information coming to and from the loop controller by reducing the effects of capacitance and noise.

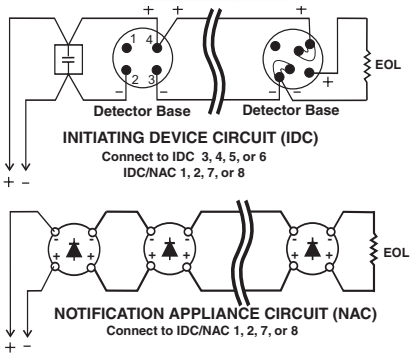
With decentralized intelligence, much of the decision-making moves from the loop controller to the devices. Advanced fire detection algorithms processed within the Signature devices effectively end unwanted alarms. Environmental compensation and multiple sensing element decision-making operations are resident in the devices. Intelligent devices allow the Signature Controllers to execute communication and system functions with greater speed and low baud rates, increasing the accuracy of information transmitted between the loop controller and devices.

To enhance survivability of the system, the 3-SSDC2-E/3-SDDC2-E supports a standalone mode for Signature devices. Two catastrophic failure modes are supported. If the 4-CPU-E fails, the loop controller will continue to poll its devices. If an alarm is detected, it will be sent on the local rail communication bus and received by other local rail modules. A common alarm condition throughout the panel will result. If the local rail module (3-SSDC2-E/3-SDDC2-E) fails, and a device (smoke or module) detects an alarm, specialized circuitry will make the node aware of the alarm condition. The 4-CPU-E will communicate the alarm condition to the rest of the network. Having multiple redundant modes is paramount in a life safety system.

☐	3-SSDC2-E	Single Signature Driver Controller, c/w one 3-SDC1	Data Sheet E85010-0129
☐	3-SDDC2-E	Dual Signature Driver Controller, c/w two 3-SDC1s	Data Sheet E85010-0129
☐	3-SDC1-E	Signature Device Card - upgrades a 3-SSDC2-E to a 3-SDDC2-E	Data Sheet E85010-0129

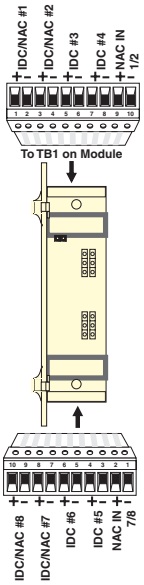
Initiating Device Circuit (Hardwired) Module





The 3-IDC8/4-E is ideal for retrofit projects where existing wiring, smoke detectors and signals may not need replacing.

Flexibility built right into the IDC module allows connection of normally open contact devices, and traditional 2-wire smoke detectors.



The 3-IDC8/4-E also configures for use with N.O. contacts and supports supervised supervisory and monitor circuits with latching or non-latching operations. When the monitor operation is used with the non-latching function, the circuit serves as a supervised event follower. This efficiently covers critical fan and damper operations. Circuits can annunciate on the 4-LCD, control display modules, or at any other display device on the network.

All circuits may be programmed for non-verified or verified smoke operation. Ranges include open circuit, shorted condition, and high- and low-impedance (relative to the main impedance setting). This allows the use of various detectors of similar impedance.

Four of the eight 3-IDC8/4-E circuits are convertible to Class B notification appliance circuits. The circuits employ traditional reversing polarity operation for polarized bells, sounders, and strobes.

Notification appliance circuits are arranged in pairs. Each pair distributes 3.5 Amps at 24 Vdc from the local rail or a single riser. Riser sources supported include 24 V @ 3.5 A, which can be pulsed (temporal pattern) for audible signals, or up to 70 Vrms @ 100W audio source for speakers. For Regulated signals, the IDC supports one NAC pair to distribute up to 1 Amp from the PPS primary power supply through the local rail.

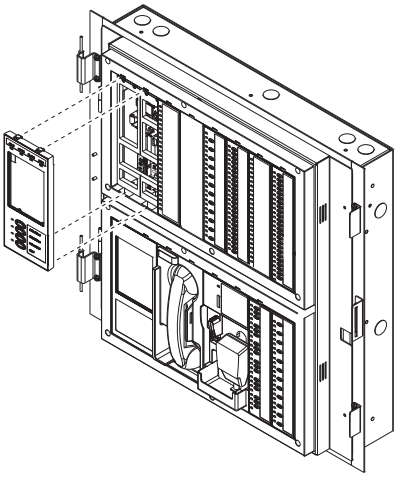
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Control, Display & Annunciation

Colour Touch-Screen Display Modules



EST4's LCD large colour touch-screen display is the window into system operation and maintenance functions. It is large enough to support a graphical tree view of the system. The tree closely matches the system's physical layout, so there's no need for lookup tables to find specific devices.
The EST4 LCD screen will display eight events without scrolling. In addition to touch-screen capability, the display assembly includes four dedicated easy-access rubber buttons for main control functions.
On the display, device events automatically sort into classification queues with event counts for easy identification and response. When new events are present that have yet to be reviewed, each queue is highlighted with a visual marking. An optional custom image may be uploaded to display while no active events are present.

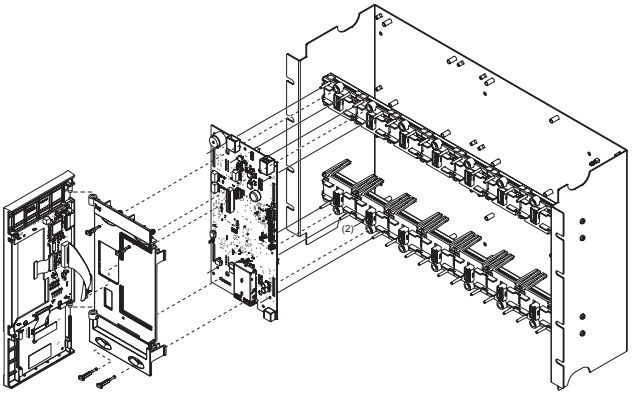


☐	4-LCDLE	Colour LCD display for 3-CAB7B-E, 3-CAB14B-E and 3-CAB21B-E, 4-16ANN-E and 4-24ANN-E mounting	Data Sheet E85014-0007
☐	4-LCDANN	Colour LCD display for Annunciator enclosure 4-4ANN-E, 4-6ANN-E mounting	Data Sheet E85014-0007

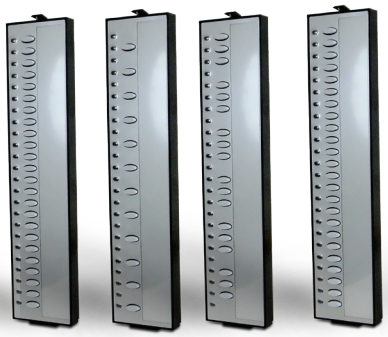
Retrofit colour touch-screen LCD display



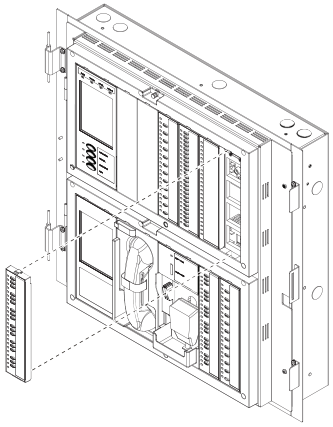
The 4-3LCD-E display mounts into EST3 enclosures that do not contain audio control components. This allows reuse of EST3 user interface layers in retrofit applications. The 4-3LCD-E mounts onto the top of the 4-CPU-E in EST3 retrofit applications, providing all the benefits of the 4-LCD, while matching closely the EST3 look. The 4-3LCD-E can be mounted in remote closet cabinets where an LCD display is needed. The display mounts on the 4-CPU-E module.



☐	4-3LCD-E	Colour LCD display	Data Sheet E85014-0007



Control-Display Modules



EST4 Control-Display Modules provide first responders and emergency users with easy-to-operate controls and at-a-glance indication when time is of the essence and event information is critical. Control-Display Modules come with 24 LED indicators and are available with 0, 12, 18, or 24 control buttons. LED indicators are actually comprised of five individual LEDs, each of a different colour (red, green, blue, yellow and white). Programmers configure indicators to display their preselected colour according to the type of information conveyed by the indicator. This offers a level of design efficiency that can reduce the number of display strips necessary for an application. In addition to colour selection, the flash rate of the LED may be programmed to provide even more information. Examples include: damper and fan status, or audio zone notification status, alert, evaluation or paging.

Printable slide-in label inserts give control-display modules context with colour-coded shading and other effects. They can be localized for regional language requirements, and printed on-the-fly to accommodate system changes as they are implemented.

4-24L-E	24 Indicator Display Module	Data Sheet E85014-0006
4-24L12S-E	24 Indicator 12 Control-Display Module	Data Sheet E85014-0006
4-24L18S-E	24 Indicator 18 Control-Display Module	Data Sheet E85014-0006
4-24L24S-E	24 Indicator 24 Control-Display Module	Data Sheet E85014-0006
4-FIL	Blank Filler Plate	Data Sheet E85014-0006



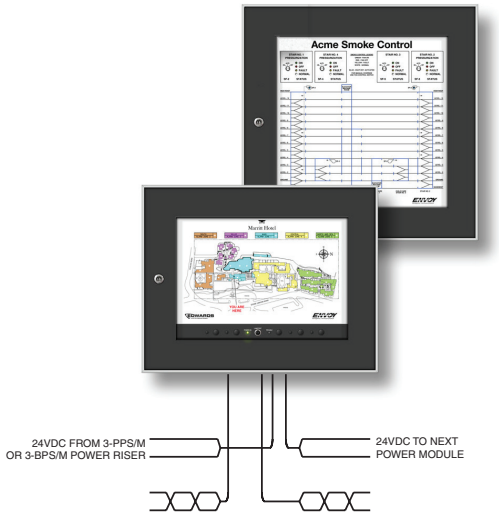
Printer External Connection

The 4-USBHUB is used to connect printers to the EST4 network. It may be installed in any network control panels or annunciator enclosures.

4-USBHUB	USB Hub module	Data Sheet E85014-0016

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Graphic Annunciation



Graphic annunciators and smoke control panels are custom designed to present complex status and control information in an easy-to-understand package. The design of the annunciator permits users to rapidly determine system status and easily operate associated system controls.

3-EVDVRA driver module assemblies connect the EST4 control panel to the display panel of an LED-based graphic annunciator. Each driver card supports up to 24 LEDs and 12 switches on the graphic panel display. Attached to a plastic mounting rail, the driver boards fit easily into custom Graphic annunciators. The annunciator driver communicates with the EST4 control panel on any network-supported media, twisted pair, CAT5, and fiber optic cable. This can be configured for Class A, Class B, or Class X communication.

National and local installation and approvals should always be adhered to when selecting a graphic panel supplier.

☐	4-CPUGRPH-E	Graphic Annunciator Central Processor Module	Data Sheet E85014-0003
☐	3-EVDVRA	LED/SWITCH Driver Module Assembly for Third-party Graphics	Data Sheet E85014-0003
☐	3-EVPWRA	Power Supply Assembly c/w 19 inch rail mounting chassis assembly space for one 4-CPUGRPH-E for Third-party Graphics	Data Sheet E85014-0003
☐	3-EVDVRX	Plastic mounting extrusion 19” mounting - for up to 3 3-EVDVRAs	Data Sheet E85014-0003

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See Page 3 for Network Controllers

See Page 7 for Control-Display Modules.

See Page 10 for Colour Touch-Screen Displays, Audio Accessories, Paging Micro-phones, and Firefighter Telephones

Remote Annunciators

Use EST4 remote annunciators wherever a system status display or control point is needed. Annunciator configurations include: LCD-only display, LED-only display, or combination LED and LCD display in a single enclosure. Display and control is provided by the 4-LCD and Control Display Modules. Control/ Display modules install onto the annunciator inner door, maximizing annunciator design flexibility. Annunciators use the same SFP network controllers as other EST4 cabinets which give the same flexibility of supporting twisted pair, CAT5 or better and fiber optic cable options; simply pick the SFP to match the cable installed.

Annunciators communicate on the EST4 IPv6 network and can support microphone and telephone operations.

4-2ANN-E	Colour touch-screen annunciator	Data Sheet E85014-0003	☐
4-4ANN-E	Four-position base annunciator	Data Sheet E85014-0003	☐
4-6ANN-E	Six-position base annunciator	Data Sheet E85014-0003	☐
4-16ANN-E	Sixteen-position base annunciator	Data Sheet E85014-0003	☐
4-24ANN-E	Twenty-four-position base annunciator	Data Sheet E85014-0003	☐

Remote Annunciator Cabinets

4-2ANNMT	4-2ANN-E, two-wide annunciator mounting enclosure, supports surface or semi-flush mounting	Data Sheet E85014-0003	☐
4-4ANNMT	4-4ANN-E, four-wide annunciator mounting enclosure, supports surface or semi-flush mounting	Data Sheet E85014-0003	☐
4-6ANNMT	4-6ANN-E, six-wide annunciator mounting enclosure, supports surface or semi-flush mounting	Data Sheet E85014-0003	☐
4-16ANNMT	4-16ANN-E, sixteen-wide annunciator mounting enclosure, supports surface mounting	Data Sheet E85014-0003	☐
3-CAB7B-E	4-16ANN-E, sixteen-wide annunciator mounting enclosure, supports semi-flush mounting	Data Sheet E85014-0003	☐
4-24ANNMT	4-24ANN-E, twenty-four-wide annunciator mounting enclosure, supports surface mounting	Data Sheet E85014-0003	☐
3-CAB14B-E	4-24ANN-E, twenty-four-wide annunciator mounting enclosure, supports semi-flush mounting	Data Sheet E85014-0003	☐

SUBMIT

Network Audio



Configuring EST4 audio is a matter of selecting components for installation in standard fire alarm cabinet assemblies. EST4 uses zoned amplifiers. This reduces wire runs and space needs at a central location. Audio control equipment and zoned amplifiers use the same system power supplies as fire alarm components. All these components are supported by a common standby battery. Where multiple panels and annunciators make up the system, a single pair of wires or single fiber cable carries all system data between panels. EST4's voice audio function is built modularly. System designers can specify an ideal voice audio system by selecting only equipment needed to get the job done. EST4 microphones and telephone handsets, along with their controllers, are used to create Notification Control Areas (NCAs) that can contain one or more Command Centers. Where multiple command centers are deployed, EST4 easily configures for request-grant-deny operation, ensuring that one command center is in control at one time, but allowing for changes in control if required.

EST4 allows both mass notification and emergency communications to be addressed, delivering live paging and pre-recorded messaging where it's needed. EST4 supports configurations with Central Control Stations (CCSs), Autonomous Control Units (ACUs), and Local Operations Consoles (LOCs). Together, these options provide the opportunity to find an efficient yet economical Emergency Communications audio solution.



4-MIC-E—Paging Microphone

The 4-MIC-E paging microphone mounts to the inner door of cabinets and annunciators, taking only two spaces. It provides a hand-held microphone with push-to-talk switch and a multi-colour amber-green-red volume meter on the assembly. The 4-MIC-E is used in conjunction with the 4-AUDTELS-E or 4-ANNAUDTEL interface modules. Use an LED-Switch Module or 4-LCDAUDTEL colour touch-screen interface where zoning or specific messaging operations are needed.



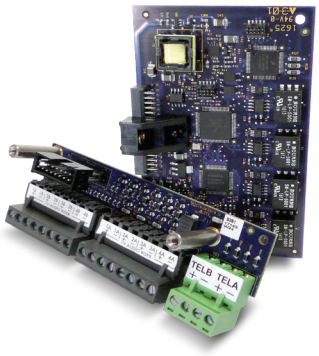
4-FT—Firefighter Master Handset

The 4-FT firefighter master handset mounts to the inner door of cabinets and annunciators, taking only two spaces. The 4-FT is used in conjunction with the 4-AUDTELS-E or 4-ANNAUDTEL interface modules. Telephone call-in selection may be annunciated at the control center via standard EST4 LED-Switch modules or the 4-LCDAUDTEL colour touch screen.



4-LCDAUDTEL LCD Display Module

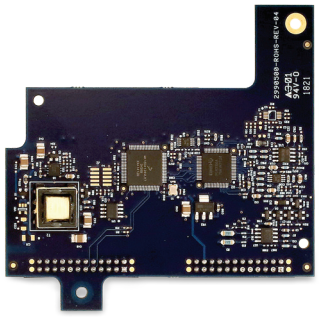
The optional 4-LCDAUDTEL LCD module provides a dedicated colour touch-screen user interface for selecting page circuits and for placing and receiving calls over the Firefighters' Telephone Handset.



4-AUDTELS-E Audio-Telephone Module

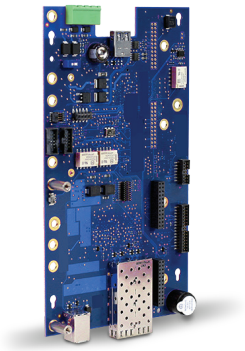
The 4-AUDTELS-E mounts to the 4-CPU-E module and enables and processes information from connected microphone or telephone units mounted directly to the right of the CPU. The 4-AUDTELS-E provides audio input-output, and is the source for a telephone riser that supports remote handsets. Up to four line-level balanced audio input/output connections are available, each rated for 1 Vrms nominal signal level.

Field wiring is to removable field wiring terminal blocks



4-ANNAUDTEL Annunciator, Audio Telephone Module

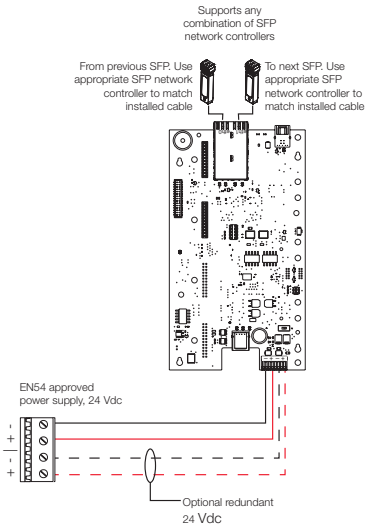
The 4-ANNAUDTEL mounts to the top of the 4-ANNCPU-E. The 4-ANNAUDTEL enables and processes information from connected microphone or telephone units. The module mounts in remote annunciators as well as in lobby cabinets.



4-ANNCPU-E

The 4-ANNCPU-E Annunciator Central Processor Module is used in Fire Alarm Control Unit (FACU) and remote annunciator enclosures. The 4-ANNCPU-E is the control element for the LCD and control display modules connected to it. The 4-ANNCPU-E processes all control information from switches on the displays, as well as processing the data received from the network for display. For systems using audio, the 4-ANNAUDTEL module is mounted to the 4-ANNCPU-E to control audio functions for a firefighter telephone and a paging microphone.

The 4-ANNCPU-E provides: One USB host port • One USB device port • Connections for two SFP (small form-factor pluggable) network adapters



4-MIC-E	Paging Microphone	Data Sheet E85014-0002
4-FT	Firefighter Master Handset	Data Sheet E85014-0002
4-LCDAUTELANN	Audio LCD Module for Audio/Telephone Control Annunciator mounting	Data Sheet E85014-0002
4-LCDAUDTELCAB-CB	Audio LCD Module for Audio/Telephone Control includes 4-BRKT-CB - 3-CAB7B-E, 3-CAB14B-E and 3-CAB21B-E mounting	Data Sheet E85014-0002
4-LCDAUDTELCAB-MPLT	Audio LCD Module for Audio/Telephone Control includes 4-MPLT - 3-CAB7B-E, 3-CAB14B-E, 3-CAB21B-E, 4-16ANNMT and 4-24ANNMT mounting	Data Sheet E85014-0002
4-ANNCPU-E	Annunciator Central Processor Unit (CPU), provides mounting for up to two network controllers device port, one USB host port and one 4-ANNAUDTEL module.	Data Sheet E85014-0003
4-AUDTELS-E	Audio and Telephone Interface/Riser Module	Data Sheet E85014-0002
4-ANNAUDTEL	Annunciator, Audio and Telephone Interface Module	Data Sheet E85014-0002

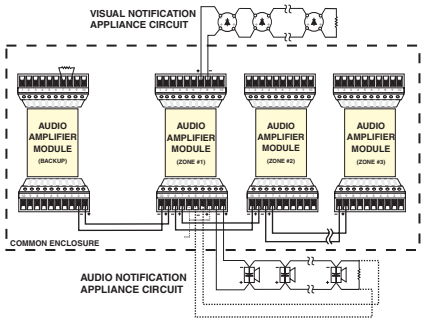
SUBMIT



Audio Amplifiers (Zoned)

EST4 audio amplifiers take full advantage of proven digital technology to deliver highly intelligible voice audio for evacuation and Mass Notification purposes. Pre-Recorded digital messages and live paging messages are multiplexed into separate channels. Each zoned amplifier contains integrated de-multiplexing circuitry that allows eight digital audio channels, designated from the 100 system-supported channels, to be placed on the amplifier's built-in speaker circuit.

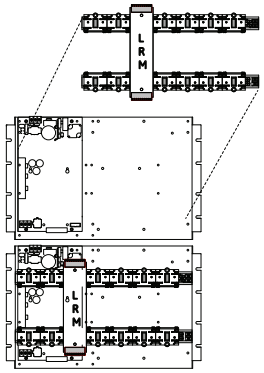
Amplifiers are available in 20- or 40-watt versions, with supervised, power-limited 25Vrms or 70Vrms outputs. The amplifier output is wired to a single speaker zone. Each amplifier has a 1 kHz temporal tone generator used as an evacuation signal in the event of a fault with local or network audio.



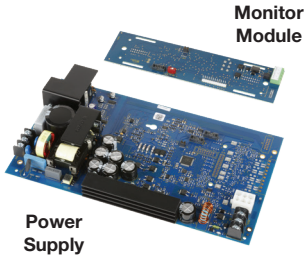
☐	3-ZA20A-E	20-Watt Zoned Amplifier w/Class A/B	Audio & Class A/B 24 VDC outputs	Data Sheet E85010-0017
☐	3-ZA40A-E	40-Watt Zoned Amplifier w/Class A/B	Audio & Class A/B 24 VDC outputs	Data Sheet E85010-0017

Power Supplies

EST4 power supplies use a unique paralleling arrangement that ensures optimization of each supply's full capacity. Each power supply supports up to a 7 amp load. With four supplies, 28 Amps of current is available per cabinet as is battery charging capacity of up to 260 Amp-Hours.

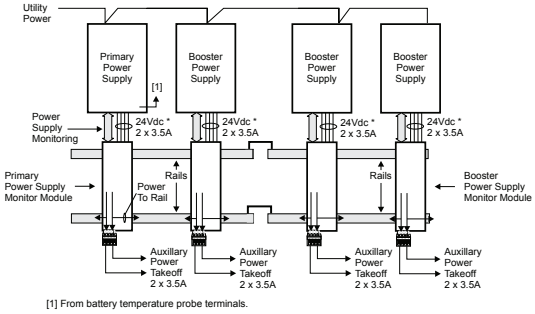


Main Panel Power Supplies



EST4 Power supplies consist of two assemblies: a high-efficiency switch mode power supply card and a power supply monitor module. Up to four power supplies may be combined in a single enclosure to provide up to 28 amps of available current. Battery backup is provided using from one-to-four sets of batteries, depending on standby power requirements to support up to 260 Ah batteries.

The power supply comes in two styles: a primary supply and a booster supply. Each power supply produces 7 amps of filtered and regulated 24 VDC. The primary power supply provides the system with battery charging and voltage regulation. The booster supplies work in concert with the primary supply and are available with or without battery-charging capability. Software configuration configures the battery-charging circuits for either 10-24 Ah batteries or 30-65 Ah batteries and controls the high/low charge rate.



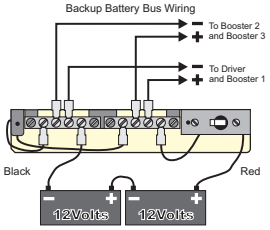
[1] From battery temperature probe terminals.

EST4 power supplies individually monitor batteries for load deficiencies, short circuits, and insufficient voltage levels and report trouble back to the 4-CPU-E. The 4-LCD displays any troubles and the power supply's address, a specific trouble code, and a location text message describing the specific trouble.

4-PPS/M-E	Primary Power Supply w/ local rail module 120-240V 50/60 Hz	Data Sheet E85010-0060
3-BTSEN-E	Distribution Module required when battery installed in remote cabinet	Data Sheet E85010-0060
4-FIL	Blank EST4 filler plate (order separately when no LED or LED/ Switch module is installed on the inner door)	Data Sheet E85010-0060
3-FP	Filler Plate, order separately when no LED or LED/Switch module installed	Data Sheet E85010-0060



Battery Distribution Unit



The 3-BTSEN-E consists of a circuit breaker and copper bus bars mounted on a sheet metal bracket. The unit provides a backup battery bus for supplying backup power to multiple power supplies fed by a common battery. The 3-BTSEN-E features a 50 Amp circuit breaker to protect the backup battery. The 3-BTSEN-E mounts in the BC-1 battery cabinet or any EST4 "RCC" series enclosure. Any power supply configured for charging will use the remote temperature sensor input if at startup it detects the presence of a sensor.

3-BTSEN-E	Battery Distribution Unit	Data Sheet E85010-0111

Power Distribution Board

NOTE: Every cabinet that uses a 4-PPS/M-E power supply will require at least one 4-PWRDIST board, regardless of how many power supplies are in use. The power distribution board is quite large and it might be a challenge to fit two power supplies within the chassis.

4-PWRDIST	Power supply distribution board required with EST4 EN54 systems	Data Sheet E85010-0060
4-PPSKIT	Power supply kit (including Power distribution board, Ferrite kit, Kapton labels)	Data Sheet E85010-0060

SUBMIT

Network Accessories



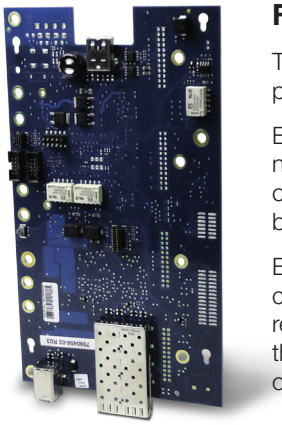


Communications Bridge

The FSB-PC4 and FSB-PC4LW communication bridges are devices that provide protocol translation between EST4 control panel data and the serial RS-485 or Ethernet input of an external device controller. Communication bridges may be configured for one-way ancillary purposes (monitor-only) or, where approved for the purpose, two-way between EST4 and other critical building systems such as building management systems (BMS).

FSB-PC4(LW)	Communications Bridge Data Sheet	Data Sheet E85014-0011

SUBMIT



Firewall

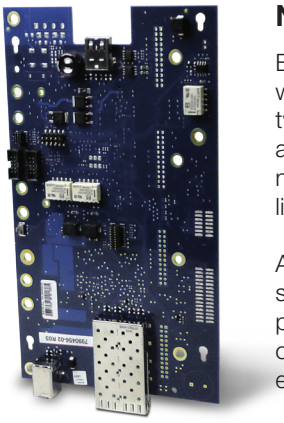
The 4-FWAL series mitigates vulnerabilities by providing a barrier between the EST4 life safety platform and the external connections necessary in today's networked building.

Each 4-FWAL firewall also has two small form-factor pluggable (SFP) slots that support its network adapters. These are used to connect to external networks, and provide physical layer options for connections between outside equipment and EST4. 4-FWAL firewalls support both IPv4 and IPv6 networks, thus removing concern over network-addressing compatibility.

EST4 firewalls are mounted inside the control panel. All firewalls provide engineered cybersecurity measures, including hashing of passwords, authentication, and encryption. EDWARDS recommends the installation of a robust commercial firewall between the facilities intranet and the internet. To further enhance network security, an optional tamper switch may be installed on EST4 cabinet doors. This alerts the system when equipment enclosures are accessed.

4-FWAL1-E	Firewall - Provides secure connection to external systems Supports up to eight concurrent IP connections	Data Sheet E85014-0012
4-FWAL2-E	Firewall W/DACT	Data Sheet E85014-0012
4-FWAL3-E	Firewall W/EMAIL	Data Sheet E85014-0012
4-FWAL4-E	Firewall W/DACT/ EMAIL/DIAG	Data Sheet E85014-0012
4-FWAL-MM	SFP Network Firewall Adapter, Multimode, Dual-Fiber, 100Base-FX 1310nm	Data Sheet E85014-0012
4-FWAL-SM	SFP Network Firewall Adapter, Single-Mode, Dual-Fiber, 100Base-LX10 1310nm	Data Sheet E85014-0012
4-FWAL-SMD	SFP Network Firewall Adapter, Single-Mode, Single-Fiber, Downlink, 100Base-BX10-D 1550nm/1310nm Tx/Rx, works with 4-FWAL-SMU	Data Sheet E85014-0012
4-FWAL-SMU	SFP Network Firewall Adapter, Single-Mode, Single-Fiber, Uplink, 100Base-BX10-U 1310nm/1550nm Tx/Rx works with 4-FWAL-SMD	Data Sheet E85014-0012
4-FWAL-SMH	SFP Network Firewall Adapter, Single-Mode, Dual-Fiber, 100Base-High Output 1310nm	Data Sheet E85014-0012
4-FWAL-CAT	SFP Network Firewall Adapter, CAT5 UTP Copper, 100Base- TX, 100Mbps	Data Sheet E85014-0012
4-MPLT	Mounting Plate, mounts in a chassis or battery space	Data Sheet E85014-0012
4-BRKT-CB	Mounting bracket for 4-FWAL series, allows mounting to the back of a 3-CHAS7	Data Sheet E85014-0012
4-BRKT-CS	Mounting bracket for 4-FWAL series, allows mounting to the right side of a 3-CHAS7	Data Sheet E85014-0012

Note: Reference page 18 for tamper switches.



Network Adder Module

EST4's 4-NET-AD-E Network Adder Module resides on EST4's self-configuring IPv6 network. It provides two supplementary Small Form Factor Pluggable (SFP) network ports and two USB connectors. The SFP ports allow wiring to branch out of an EST4 cabinet to create star or mesh network configurations. The USB ports connect the adder module to the node's 4-CPU-E board, establishing a communications link between the SFP ports and the life safety network. The USB interconnect may also act as an interface for local printers.

Adding SFP and USB capacity to the EST4 network provides the system designer with significant flexibility when it comes to engineering a network that matches the needs of the project. The 4-NET-AD-E may be mounted in a number of locations, including the back or side of a 3-CHAS7 chassis, on the 4-MPLT mounting plate, or within an annunciator enclosure.

4-NET-AD-E	Network Adder Module	Data Sheet E85014-0015

SUBMIT

FireWorks

FireWorks is an incident management command-and-control platform that provides a powerful and cohesive Mass Notification and Life Safety solution. Sophisticated networking technology allows it to integrate seamlessly with EDWARDS life safety solutions, yet FireWorks remains fully interoperable with third-party equipment, making it ideal for system upgrades or new installations alike.

FireWorks can automatically trigger programmed responses to facility events, or it can act as an operator interface for manual control. The FireWorks user interface provides a clear, concise, and coordinated view of any situation by presenting information strategically.

Five configurable graphical viewports offer simultaneous insight into different aspects of an incident, while the underlying software dynamically manages content in each viewport based on real-time events and user interaction. Facility maps, live video feeds, audio channels, protocol information, and fingertip control over vital equipment all come together instantly within view of an operator facing events that require solid information and split-second timing.



For more information, please refer to Data Sheet E85006-0068.

The minimum requirements for the workstation:

- PassMark score: 21,000
- CPU: i9 Intel® processor with 10 core/20 threads
- RAM: 32GB DDR4 Memory
- Hard drive: 1TB SSD

The minimum requirements for the server:

- PassMark score: 21,000
- CPU: i9 Intel® processor with 10 core/20 threads
- RAM: 64GB DDR4 Memory
- Hard drive: 1TB SSD

Software

☐	FW-CGS	Standalone package. Allows full 5 viewport display. Includes FW-FIREKEYUSB. No common control.
☐	FW-CGSUL	Standalone package. Allows full 5 viewport display. Includes FW-FIREKEYUSB. With common control.
☐	Non-Redundant Servers:	☐FW-NSZ5FP, 5 seat. ☐FW-NS15FP, 15 seat.
☐	Redundant Servers:	☐FW-RSZ5FP, 5 seat. ☐FW-RS15FP, 15 seat. ☐FW-RS25FP, 25 seat. ☐FW-RS50FP, 50 seat.

Software options

☐	WebClients:	☐FW-1S, 1 seat. ☐FW-4S, 4 seat (Requires FW-1S). ☐FW-10S, (Requires FW-1S & FW-4S).
☐	FW-FAST	FAST AutoCAD® reader and panel building software for FireWorks Server or Standalone system.

See Data Sheet E85006-0068 for complete FireWorks ordering information.

Cabinets & Chassis

EST4 offers a wide selection of cabinets, allowing the greatest use of its flexible modular design. From the elegant contoured door design of the Lobby Enclosure through to the standard design of Remote Closet Cabinets, both aesthetics and function are easily addressed.



Lobby Enclosures

EST4 lobby enclosures provide space for control, monitoring and display modules. Ideal for mounting in lobbies where appearance is important, their modern design maximizes mounting flexibility, providing doors that will mount for right- or left-hand opening. Lobby enclosures come in several sizes housing one-to-three chassis and batteries. Lobby enclosure doors have viewing windows and are available in metallic bronze: (Pantone Coated PMS# 171-61C, Pantone RGB# 81 75 67, and RAL Classic/RAL Design# 7022) or red baked enamel finishes.

3-CAB7B-E	Backbox, black. One chassis space	Data Sheet E85014-0004
4-CAB16D-E	Door Assembly – Metallic bronze, comes with 16 User Interface spaces, mounts to 3-CAB7B-E backbox	Data Sheet E85014-0004
4-CAB16DR-E	Door Assembly – Red, comes with 16 User Interface spaces, mounts to 3-CAB7B-E backbox	Data Sheet E85014-0004
3-CAB14B-E	Backbox, black. Two chassis spaces	Data Sheet E85014-0004
4-CAB24D-E	Door Assembly – Metallic bronze outer door and black inner door with 24 user interface spaces, mounts to 3-CAB14B-E backbox	Data Sheet E85014-0004
4-CAB24DR-E	Door Assembly – Red outer door and black inner door with 24 user interface spaces, mounts to 3-CAB14B-E backbox	Data Sheet E85014-0004
3-CAB21B-E	Backbox, black. Three chassis spaces	Data Sheet E85014-0004
4-CAB24DL-E	Door Assembly – Metallic bronze outer door and black inner door with 24 user interface spaces, mounts to 3-CAB21B-E backbox	Data Sheet E85014-0004
4-CAB24DRL-E	Door Assembly – Red outer door and black inner door with 24 user interface spaces, mounts to 3-CAB21B-E backbox	Data Sheet E85014-0004

Remote Closet Enclosures

Remote Closet Cabinets provide an economical way of installing equipment in locations where aesthetics are not paramount, such as electrical closets. Optional display modules used for system diagnostics display can be mounted behind the front door. Remote Closet Cabinets are surface-mounted and come in sizes providing space for one-to-three chassis, with room for standby batteries. Remote Closet Cabinets have left-hand hinged doors and are available with red finish only. RCC cabinets can also be used as remote battery cabinets.



3-RCC7R-E	Red door and Black backbox. One chassis space	Data Sheet E85014-0004
3-RCC14R-E	Red door and Black backbox. Two chassis spaces	Data Sheet E85014-0004
3-RCC21R-E	Red door and Black backbox. Three chassis spaces	Data Sheet E85014-0004

Chassis Assembly

3-CHAS7-I	Provides space for seven local rail modules	Data Sheet E85014-0004
3-CHAS7-E	Provides space for seven local rail modules, EU	Data Sheet E85014-0004

SUBMIT

Cabinet Accessories

4-TAMP	Use with 3-CAB7B-E, 3-CAB14B-E, or 3-CAB21B-E backbox	Data sheet E85014-0004
3-TAMPRCC	Tamper switch (3-RCC7R-E, 3-RCC14R-E, 3-RCC21R-E)	Data sheet E85014-0004
4-MPLT	Mounting Plate	Data sheet E85014-0004
4-BRKT-CB	Mounting	Data sheet E85014-0004
4-BRKT-CS	Mounting Bracket	Data sheet E85014-0004



Batteries

EST4 uses rechargeable sealed lead-acid batteries as its secondary (standby) power source as defined by EN standard. Battery size is determined by the load that the system installation demands and the standby time that is required.

12V10A	12 Amp hour Battery	Data Sheet E85010-0127
12V17A	18 Amp hour Battery	Data Sheet E85010-0127
12V24A	26 Amp hour Battery	Data Sheet E85010-0127
12V40A	40 Amp hour Battery	Data Sheet E85010-0127
12V50A	50 Amp hour Battery	Data Sheet E85010-0127
12V65A	65 Amp hour Battery	Data Sheet E85010-0127



Battery Cabinets

Battery cabinets provide mounting of standby batteries outside the fire panel when the battery size needed for the application is outside what the fire panel can support. Battery cabinets are of steel construction.

The BC-1 series of cabinets support battery sizes from 24 Amp hours to 40 Amp hours. BC-1 series come with black backbox and are available in red or metallic bronze: (Pantone Coated PMS# 171-61C, Pantone RGB# 81 75 67, and RAL Classic/RAL Design# 7022) outer doors to match the colour of the fire panel door.

The 3-RCC series cabinets support multiple sets of batteries up to 65Amp hours and come with black backbox and red outer door. (See page 17 for list of 3-RCC series cabinets.)

BC-1	Battery cabinet - Metallic bronze door	Data Sheet E85014-0004
BC-1R	Battery cabinet – Red door	Data Sheet E85014-0004
3-BATS	Battery Shelf for 3-RCC series cabinet mounting	Data Sheet E85010-0067

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Detector Bases p. 21
Detector Accessories p. 22
Input/Output Modules p. 23
Fire Alarm Call Points p. 27

Signature Series

Intelligent Analog Initiating Devices

EST4's Signature Series intelligent analog-addressable system is an entire family of life safety detectors as well as mounting bases, multiple-function input and output modules, and user-friendly maintenance and service tools.

Signature Series detectors continually monitor the protected space with their on-board sensors, which are finely tuned to detect the characteristic properties of combustion. Detection data is gathered and run through sophisticated algorithms that track the sensor readings over time to known signatures of fires. Only when a match is found will an alarm condition occur. This means that a Signature Series detector can distinguish between a harmless puff of dust and a wisp of smoke; between hot, humid weather and a serious life safety condition.

On-board processing and distributed intelligence also result in advanced features that save time and money.

Self-diagnostics and History Log – Signature Series devices constantly run self-checks to provide important maintenance information. The results of these checks are automatically updated and permanently stored in the device's non-volatile memory.

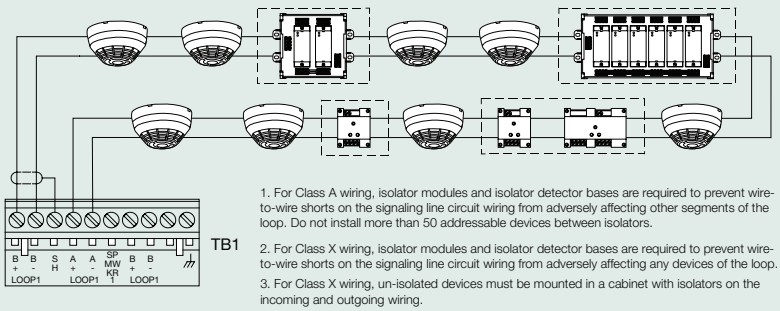
Automatic Device Mapping – The Signature Loop Controller learns where each device's serial number address is installed relative to other devices on the circuit. This mapping function is invaluable for tracking down unexpected or missing device addresses, or finding changes to wiring. The System Definition Utility program also uses this mapping feature to produce system layout or As-Built drawings showing such details as branch wiring (T-taps), device types and their addresses.

Fast Stable Communication – Built-in intelligence means less information needs to be sent between the device and the Signature Loop Controller, making the circuit less sensitive to noise and wire characteristics. This renders shielded wiring unnecessary. In fact, existing wiring can be used by Signature Series devices in most retrofit situations.

Testing & Maintenance – Each detector automatically identifies when it is dirty or defective and causes a "dirty detector" message. The detector's sensitivity measurement can also be transmitted to the loop controller. A sensitivity report may be printed to satisfy AHJ sensitivity measurements. The user-friendly maintenance program shows the current state of each detector and other pertinent messages.

Signature Driver Controllers

3-SSDC2-E and 3-SDDC2-E Signature Driver Controller modules provide an intelligent interface between the 4-CPU-E module and Signature Series devices. The 3-SSDC2-E Single Signature Driver Controller module supports one Signature Data circuit, while the 3-SDDC2-E Signature Dual Driver Controller module supports two Signature circuits. Both modules occupy one rail space in the fire alarm control cabinet and provide removable field wiring terminals to aid installation. Class B, Class A and Class X wiring are supported. Loop distances over 11,000 feet (3300m) are possible.



1. For Class A wiring, isolator modules and isolator detector bases are required to prevent wire-to-wire shorts on the signaling line circuit wiring from adversely affecting other segments of the loop. Do not install more than 50 addressable devices between isolators.
2. For Class X wiring, isolator modules and isolator detector bases are required to prevent wire-to-wire shorts on the signaling line circuit wiring from adversely affecting any devices of the loop.
3. For Class X wiring, un-isolated devices must be mounted in a cabinet with isolators on the incoming and outgoing wiring.

SUBMIT

Fire Detectors

Intelligent Multi-criteria Optical Smoke Detector

The workhorse of modern fire alarm systems, these devices include a multi-criteria optical smoke sensor to detect smoke.

SIGA-OSDI	Intelligent Optical Smoke Detector	Data Sheet E85001-0712
SIGI-OSDI	Intelligent Optical Smoke Detector, integrated isolator	Date sheet E85001-0712

Intelligent Rate-of-rise and Fixed Temperature Heat Detector

These devices include a rate-of-rise and a fixed-temperature sensor to detect heat from fire.

SIGA-HRDI	Intelligent fixed temperature/Rate-of-rise heat detector	Data Sheet E85001-0713
SIGA-HFDI	Intelligent fixed temperature heat detector	Data Sheet E85001-0713

Intelligent Multi-criteria Optical Smoke and Heat Detector

These devices contain a fixed-temperature heat sensor to detect heat from fire and a multi-criteria optical smoke sensor to detect smoke. Unlike simple multi-criteria detectors, the SIGA-OSHDI can report the heat and photo elements as separate event types — or together. This permits the photo element of the detector to report, for example, a supervisory event during the day, and an alarm event at night – while the heat element always reports an alarm.

SIGA-OSHDI	Intelligent Multi-criteria Smoke and Heat Detector	Data Sheet E85001-0711
SIGI-OSHDI	Intelligent Mult-criteria Smoke Detector, integrated isolator	Data Sheet E85001-0711

SUBMIT

Detector Bases

Audible (Sounder) Bases



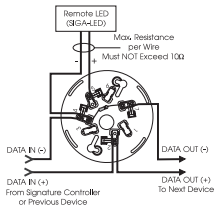
Signature Series Sounder Bases add audible output functions to Signature Series smoke detectors. Bases can operate as independent local alarms, or as part of a zone or system alarm with synchronized audible output.

SIGA-AB4GI	Audible (Sounder) Base	Data Sheet E85001-0712 ☐
AB4G-SB	Surface Box for Audible Bases	Data Sheet E85001-0712 ☐

Standard Detector Bases



Standard detector bases provide roomside wiring terminals. They mount to North American one-gang box, 3½ or 4-inch octagon boxes, or 4-inch square electric box. Bases for 4-inch square boxes include the SIGA-TS4 Trim Skirt to conceal the electric box and provide a finished appearance.

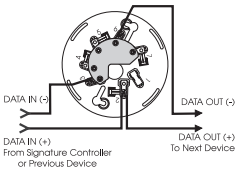


☐SIGA-SB	☐SIGA-SB4 (with trim skirt)	Standard Detector Base	Data Sheet E85001-0712 ☐

Isolator Detector Base



Isolator detector bases provide room-side wiring terminals and includes a built-in line fault isolator. Models with integral switches allow the detector to be removed from its base without causing the isolator to operate. Mounts to North American one-gang box, 3½ or 4-inch octagon boxes, or 4-inch square electrical boxes. Bases for 4-inch square boxes include the SIGA-TS4 Trim Skirt to conceal the electrical box and provide a finished appearance.

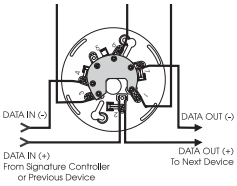


☐SIGA-IB	☐SIGA-IB4 (with trim skirt)	Isolator Detector Base	Data Sheet E85001-0712 ☐

Relay Detector Base



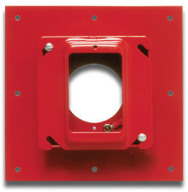
This base includes a relay. Normally open or closed operation is selected during installation. The dry contact is rated for 1 amp (pilot duty) @ 30 Vdc. The relay's position is supervised to avoid accidentally jarring it out of position. It mounts to North American one-gang boxes, 3½ or 4-inch octagon boxes, or 4-inch square electrical boxes. Bases for 4-inch square boxes include the SIGA-TS4 Trim Skirt to conceal the electrical box and provide a finished appearance.



☐SIGA-RB	☐SIGA-RB4 (with trim skirt)	Relay Detector Base	Data Sheet E85001-0712 ☐

SUBMIT

Detector Accessories



Detector Mounting Plate

The SIGA-DMP Detector Mounting Plate is a 7-inch (178mm) square mounting plate designed to provide convenient mounting of Signature Series intelligent smoke detectors in raised floor or plenum applications. The detector mounting plate may also be installed in low velocity ducts that have a maximum width of up to 36-inches (915mm) and a maximum height of up to 36-inches (915mm).

☐	SIGA-DMP	Detector Mounting Plate	Data Sheet E85001-0255



Trim Skirt

Use the SIGA-TS Trim Skirt to give Signature detectors a finished look and hide surface imperfections around the detector's base. Supplied with all four-inch detector bases, the SIGA-TS4 can also be ordered separately. Use the black model with SIGA-IPHSB.

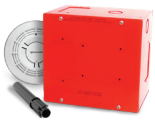
☐	SIGA-TS	Detector Trim Skirt (white)	Data Sheet E85001-0245
☐	SIGA-TSB	Detector Trim Skirt (black)	Data Sheet E85001-0245
☐	SIGA-TS4	Detector Trim Skirt (white) – for 4-inch box	Data Sheet E85001-0245



Detector Guard

Constructed of sturdy 16-guage steel, the SIGA-GRD Smoke Detector Guard is designed for preventing smoke detectors from damage or tampering. The advanced louver system allows smoke detectors to be installed at their listed spacing and has no effect on operating sensitivity.

☐	SIGA-GRD	Smoke Detector Guard	Data Sheet E85001-1005
☐	SIGA-DGSB	Detector Guard Surface Mount Accessory	Data Sheet E85001-1005



Duct Housing

The SDH(R) series housings provide the ability to use Signature detectors in duct applications utilizing SD-Txx sampling tubes in lengths of 8" to 10 ft. (.2 to 3.05 meters).

☐	SIGA-SDH	Duct detector housing with standard base	Data Sheet E85001-0326
☐	SIGA-SDHR	Duct detector housing with relay base	Data Sheet E85001-0326

SUBMIT

Signature Series

Input/Output Modules



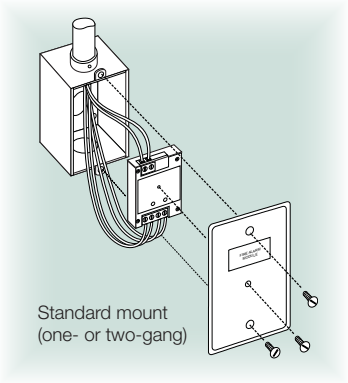
Standard two-gang mount

Signature Series input/output modules are extremely flexible and powerful devices that gather analog information from the slave devices connected to them and convert this data into digital signals. They are available in models that mount in standard one- or two-gang electrical boxes, as well as versions that plug into UIO motherboards.

The actual function of each module is determined by its installer-selected personality code. This is downloaded to the module from the Signature Loop Controller during system configuration. Because they are intelligent devices, all decisions are made at the module. This allows lower communication speed but very fast control panel response time and less sensitivity to line noise and loop wiring properties. As a result, twisted or shielded wire is not required.

Application	Module
Waterflow Switches	Waterflow/Tamper Module
Class A indicating and initiating circuits, two-wire smoke detectors	Universal Class A/B Module
Class B Initiating Circuits: Door Closers, Fans, Dampers	Class B Input Module
	Monitor Module
	Control Relay Module
Telephone Power and Audible/Visual Signal Power Selector, Strobe Synchronization	Signal Module
Fault detection	Isolator Module

Signature Series intelligent input/output modules feature multiple user-set personality codes that define the module's behavior.



Standard mount (one- or two-gang)

Module mounting and installation options

Standard mount models are installed to North American two-gang or one-gang electrical boxes, making them ideal for locations where only one module is required. Separate I/O and data loop connections are made to each module.

SUBMIT

Universal Class A/B Module

The Universal Class A/B Module is used to connect initiating, appliance, or two-wire smoke circuits in either Class A or Class B configurations. The plug-in version can also be used as a Class A dry contact initiating device circuit. The actual function of this module is determined by the "personality code" selected by the installer. Up to fifteen personalities are available.



SIGA-UMI

☐	SIGA-UMI	Universal Class A/B Module (Two-gang standard mount)	Data Sheet E85001-0275

Class B Input Module

The Class B Input Module is used to connect Class B normally open Alarm, Supervisory, or Monitor type dry contact initiating device circuits. The standard-mount version is available with either one or two input connections. The actual function of this module is determined by the "personality code" selected by the installer. A variety of four personalities are available.



SIGx-CT1/CT2

☐	SIGA-CT1I	Single Input Module	Data Sheet E85001-0708
☐	SIGI-CT1I	Single Input Module, includes integrated isolator	Data Sheet E85001-0708
☐	SIGA-CT2I	Dual Input Module	Data Sheet E85001-0708
☐	SIGI-CT2I	Dual Input Module, includes integrated isolator	Data Sheet E85001-0708

Signal Module

The Signal Module is used to connect, upon command from the loop controller, supervised Class B signal or telephone circuits to their respective power inputs. Models are available with one or two power inputs. These may be either polarized 24 Vdc to operate audible and visual signal appliances, or 25 and 70V$_{RMS}$ to operate audio evacuation speakers and firefighters' telephones. The actual function of this module is determined by the "personality code" selected by the installer. A total of three personalities are available.



☐	SIGA-CC1I	Single Input Signal Module (Two-gang mount)	Data Sheet E85001-0707
☐	SIGI-CC1I	Single Input Signal Module, includes integrated isolator	Data Sheet E85001-0707
☐	SIGA-CC2I	Dual Input Signal Module (Two-gang mount)	Data Sheet E85001-0707
☐	SIGI-CC2I	Dual Input Signal Module, includes integrated isolator	Data Sheet E85001-0707
☐	SIGA-CC2AI	Dual Input Signal Module with Class A Operation, Includes integrated isolator	Data Sheet E85001-0703

Control Relay Module

The Control Relay Module provides a Form C dry relay contact to control external appliances such as door closers, fans, dampers etc. This device does not provide supervision of the state of the relay contact. Instead, the on-board microprocessor ensures that the relay is in the proper ON/OFF state. Upon command from the loop controller, the relay activates the normally open or normally closed contact. This module supports only one personality: no user configuration is required.



☐	SIGA-CRI	Control Relay Module (One-gang mount)	Data Sheet E85001-0706
☐	SIGI-CRI	Control Relay Module, includes integrated isolator	Data Sheet E85001-0706
☐	SIGI-CRHI	High Power Control Relay Module, includes integrated isolator	Data Sheet E85001-0710

SUBMIT

Synchronization Output Module

The Synchronization Output Module is an intelligent device that connects a supervised output circuit to a 24 Vdc riser. The output wiring is monitored for open circuits and short circuits. A short circuit will cause the fire alarm control panel to inhibit the activation of the audible/visual signal circuit so the riser is not connected to the wiring fault. Upon command from the Signature loop controller, the Auto-Sync Output Module connects the output circuit to the riser input. The output circuit operates polarized audible and visual appliances that have an adjustable resynchronizing feature.



SIGA-CC1SI	Synchronization Output Module	Data Sheet E85001-0704
SIGI-CC1SI	Synchronization Output Module, includes integrated isolator	Data Sheet E85001-0704

Input/Output Module

The Input/Output Module is an intelligent device that provides the following modes of operation:

- Output with monitor input
- Input/programmable output
- Input/direct output



SIGA-IOI	Input/Output Module (One-gang mount)	Data Sheet E85001-2004
SIGI-IOI	Input/Output Module, includes integrated isolator	Data Sheet E85001-2004

Waterflow/Tamper Module

The SIGI-WTMI Waterflow/Tamper Module is a two-circuit intelligent module. Circuit 1 is for Class B normally open waterflow alarm switches. When the input contact is closed for approximately 16 seconds, an “alarm” signal is sent to the loop controller. Circuit 2 is for Class B normally open dry contact supervisory and tamper switches. When the input contact is closed, an “active” signal is sent to the loop controller. Conditions on both circuits are latched at the module.



SIGI-WTMI	Waterflow/Tamper Module (One-gang mount)	Data Sheet E85001-0705

Isolator Module

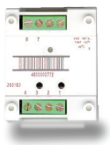
The SIGA-IM2 Isolator Module is an intelligent device that allows part of the Signature data loop to continue operating in the event of a short circuit. The module can be wired into a Class A data loop at any point. A maximum of 96 isolator modules can be installed on one circuit. If a fault occurs, the isolator cuts power to all devices beyond the isolator on the loop. Once activated, the line fault isolator continuously checks the faulted side of the loop to determine if the short still exists. When the fault is cleared, the module automatically restores the entire data loop to its normal condition.



SIGA-IM2I	Fault Isolator Module (Two-gang mount)	Data Sheet E85001-0273

Monitor Module

The SIGx-MM1I is a single-circuit intelligent module that includes a Class B normally open dry contact. This is used for monitoring input from devices such as fans, dampers, and doors. When the input contact is closed, an “active” signal is sent to the loop controller. The active condition is not latched at the module.



SIGA-MM1I	Monitor Module (One-gang mount)	Data Sheet E85001-0705
SIGI-MM1I	Monitor Module, includes integrated isolator	Data Sheet E85001-0705

SUBMIT

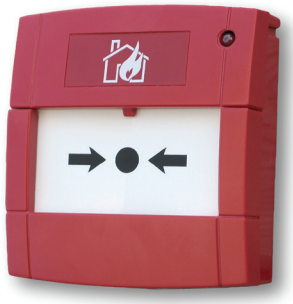
Related Equipment

MFC-A	Multi-function Cabinet (for UIO and Releasing modules)
235196P	Bi-polar Transient Protector (use with all Signal Modules)
SIGA-MP1	Signature Module Mounting Plate, 1 footprint
SIGA-MP2	Signature Module Mounting Plate, 1/2 footprint
SIGA-MP2L	Signature Module Mounting Plate, 1/2 extended footprint



SUBMIT

Fire Alarm Call Points



Fire Alarm Call Points are part of EDWARDS Signature Series system. In all Signature Series Call Points, the switch is held off by the edge of the glass. When the glass is broken by pressing directly on it, the switch is released and an alarm is sent to the Signature loop controller. A protective plastic coating on the glass prevents operator injury and inhibits the release of glass fragments.

SIGI-271	Intelligent Call Point - English Markings	Data Sheet E85001-0349 ☐
SIGI-MCP	Intelligent Call Point with Integrated Isolator - English Markings	Data Sheet E85001-0349 ☐

SUBMIT



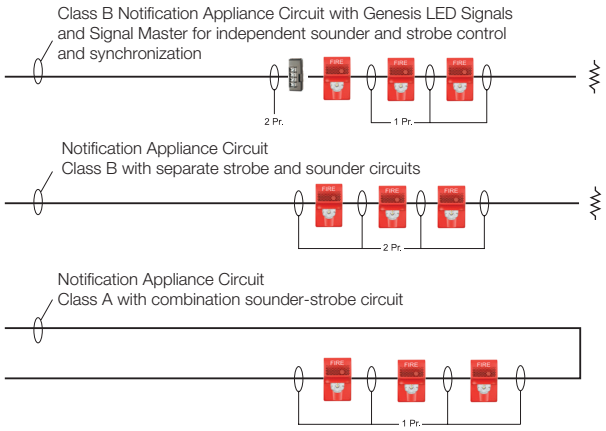
Genesis LED Visual & Audible Signals p. 30
LED Strobes, Sounders & Sounder-Strobes p. 31
Strobe Expanders p. 32

Notification Appliances

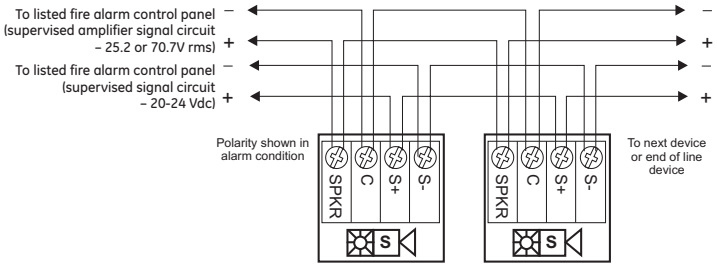
EDWARDS notification appliances are high-performance devices finely tuned to deliver maximum output in exchange for the lowest possible current draw. Covering the entire spectrum of life safety applications, these devices are durable, dependable, and virtually maintenance-free. And they support a wide range of mounting options that make them ideal for new construction and retrofit applications alike.

Field Wiring

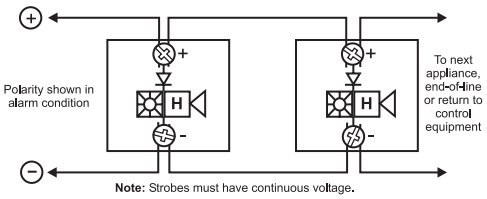
Notification appliances may be configured for Class A or Class B wiring. Genesis combination sounder-strobes, when used with the innovative Signal Master Module, support independent sounder control over a single pair of wires and precision synchronization. This reduces wiring time while meeting the requirements of even the most demanding application.



Device Wiring, Speaker-strobes



Device Wiring, Sounder-strobes



All appliances feature #18 – #12 AWG terminals – ideal for long runs, existing wiring.

Strobe Synchronization

On a common circuit, strobes flash once per second (1 fps) within 10 milliseconds over a two-hour time period. Temporal setting (private mode only): synchronized to temporal output on the same circuit. Genesis LED strobes are synchronized, backwards compatible, and can be used in the same field of view as Genesis xenon strobes.

Genesis LED Visual & Audible Signals

A complete line engineered to deliver innovative features and superb output.



LED Compact Strobes, Sounders, & Sounder-Strobes p. 31



Strobe Expanders & Loudspeakers p.32

The award-winning Genesis LED line of products represents excellence in fire alarm notification with looks, features, and performance benefits designed with your project in mind. Wall strobes, sounders, and chimes about the size of a deck of playing cards offer a discreet alternative to bulky devices, while speakers and ceiling models with clean modern lines blend inconspicuously with their surroundings.

Signaling on-demand

Though designed for discretion, Genesis LED signals are also engineered to command attention. Wall-penetrating high dB output and patented strobe technology immerse the protected area with levels of light and sound that simply can't be ignored – all in exchange for the lowest current demands of any device in their class.

Genesis LED brings on-demand signaling to every application with an unparalleled range of field-configurable options: sounders and chimes with high/low dB output settings and strobes with selectable candela output and flash rate – options that put you in the driver's seat when time is short, budgets slim, and manpower is at a premium. It also means fewer parts to stock, less inventory to worry about, and the flexibility to meet changing demands – on the fly – without having to reinstall equipment or order more parts!

Application flexibility

Whether you're designing for a new landmark structure, or simply retrofitting a local strip mall, competitively priced Genesis LED signals bring value, good looks, and installation flexibility to every application. Contact EDWARDS today to learn how your signal solutions can be the model of discretion.

Genesis LED Series Compact Wall Models

LED Strobes, Sounders & Sounder-Strobes



Genesis LED G1 EN54 Series sounders and LED strobes feature a sleek, low-profile design and energy-efficient technology that make them less expensive to install and operate by reducing overhead. High-performance LEDs require fewer circuits and power supplies. These new appliances are designed with energy-efficiency and life safety in mind.

Genesis LED strobes use high-efficiency optics, combined with patented electronics, to deliver Ultra-low device current consumption, only 24mA VDC. The High-Performance LED Strobe Technology delivers W-2.4-8.5 of cuboid coverage and is built on enhanced synchronization circuitry to comply with the latest requirements of EN54-3 and EN54-23. *(Data Sheet E85001-0701)*

White housing ↓ no marking	White housing ↓ with "FIRE"	Red housing ↓ no marking	Red housing ↓ with "FIRE"
☐ G1VWN-E	☐ G1VWF-E	☐ G1VRN-E	☐ G1VRF-E



Genesis LED Sounders reach output levels as high as 103.8 dBA and feature a unique multiple-frequency tone that results in excellent wall penetration and an unmistakable warning of danger. Sounders may be configured for either constant or temporal 3 output and high or low dBA output with a conveniently located switch under the cover. This setting reduces sounder output by about 6 dBA. No more cutting jumpers. Sounders operate at 13mA VDC on Low dBA output and 23mA VDC on High dBA output. Sounder-only models may be ceiling-mounted or wall-mounted and may be configured for either coded or non-coded notification appliance circuits. *(Data Sheet E85001-0701)*

White housing ↓ no marking	White housing ↓ with "FIRE"	Red housing ↓ no marking	Red housing ↓ with "FIRE"
☐ G1AWN-E	☐ G1AWF-E	☐ G1ARN-E	☐ G1ARF-E



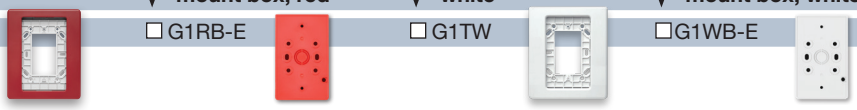
Genesis LED Sounder-strobes provide a low-profile design with sounder output reaching as high as 103.8 dBA and as low as 93.4 dBA and have strobes that offer Ultra-low device current consumption. The sounder can be field configured with a switch, which is conveniently located on the side of the device, and it may be configured for either constant or temporal 3 output and high or low dB output. Sounder-Strobes operate at 24mA VDC and The High-Performance LED Strobe Technology delivers W-2.4-8.5 of cuboid coverage. *(Data Sheet E85001-0701)*

White housing ↓ no marking	White housing ↓ with "FIRE"	Red housing ↓ no marking	Red housing ↓ with "FIRE"
☐ G1AVWN-E	☐ G1AVWF-E	☐ G1AVRN-E	☐ G1AVRF-E

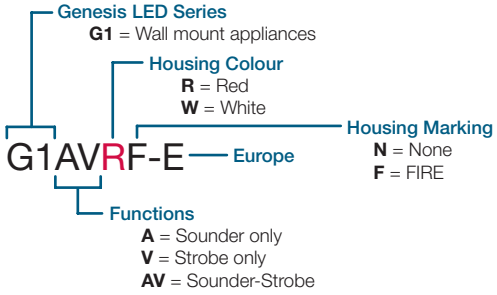


Accessories

Trim ring, G1 Series, ↓ red	One-gang surface ↓ mount box, red	Trim ring, G1 Series, ↓ white	One-gang surface ↓ mount box, white
☐ G1TR	☐ G1RB-E	☐ G1TW	☐ G1WB-E



Model Number Syntax, Appliances



SUBMIT

Genesis LED Series Wall Models

Strobe Expanders



Genesis LED GSE EN54 Strobe Expander adds a synchronized visual alarm device (VAD) to compatible loudspeakers. Genesis LED EN54 strobe expanders may be surface mounted (on wall) or semiflush mounted (in wall).

Note: Synchronized operation requires a separately installed synchronization device. See the control unit or power supply compatibility list for compatible synchronization devices.

Genesis LED EN54 strobe expanders consist of a wiring plate and preattached conduit adaptor, and a strobe. Loudspeakers are ordered separately.

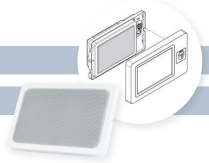
	FIRE, vertical, ↓ strobe top	FIRE, vertical, ↓ strobe bottom	FIRE, horizontal, ↓ strobe left*	FIRE, horizontal, ↓ strobe right
☐	☐ GSEFT-E	☐ GSEFB-E	☐ GSEFL-E	☐ GSEFR-E



	No markings, vertical, ↓ strobe top	No markings, vertical, ↓ strobe bottom	No markings, horizontal, ↓ strobe left	No markings, horizontal, ↓ strobe right
☐	☐ GSENT-E	☐ GSENB-E	☐ GSENL-E	☐ GSENR-E



Compatible loudspeakers



☐	EST-W6C_BL	Fire wall aesthetic speaker Power: 6W, 100V CAP, BLACK version
☐	EST-W6C	Fire wall aesthetic speaker Power: 6W, 100V CAP

Compatible accessories

☐	☐ ABT-W6 FRAME	Drywall frame	☐ ABT-W6 BOX	Wall box
☐	☐ ABT-W6-KIT/HOOK	Safety steel rope	☐ ABT-W6-TMPL	Mounting Holes Guide

Additional speakers without strobe





☐	EST-S206BC	Complete fire ceiling speaker Power: 6W, 100V, (diameter 20 cm) CAP
☐	EST-S206BC_BL	Complete fire ceiling speaker Power: 6W, 100V, (diameter 20 cm) CAP, BLACK version
☐	EST-S186C	Ceiling speaker, ABS fire dome (diameter 17,5 cm), CAP

*Data Sheet E85001-0702



EDWARDS

Proven leadership.
Proud heritage.
Shared vision.

In 1872, when Robert Edwards installed an electrically-operated gas lamp igniter in a New York City church, he began a tradition of innovation that would chart the course of building safety and security for the next 150 years. Today the company that bears his name draws on this rich legacy of inventiveness, and benefits from fresh new alliances established with one underlying goal: uncompromised excellence.

Today EDWARDS meets this goal with quality products and an exceptional sensitivity to the needs of our customers. Now we have access to the resources, talent, and experience that is already setting a coordinated plan for excellence into action. The result is a unique synergy sustained by a strong organization with a well-defined vision of the future.

That vision of excellence is why EDWARDS is among the fastest growing building systems providers today. It's also why, with more than a century of solid growth behind us, you can put your trust in EDWARDS.

See what's possible now.



EDWARDS Partners:

Innovation, leadership, and a rich tradition of excellence...

Whether EDWARDS life safety systems are protecting the lives and livelihoods of the people who make businesses run, or the lives entrusted to the care of public institutions; whether they're charged with protecting the guests of the world's finest hotels, or preserving irreplaceable artifacts that bring history to life; EDWARDS stands alone as the brand closely associated with some of the most important and far-reaching developments in the life safety industry today.

Our strength, in part, comes from the strategic relationships we have built with our partners – the people and organizations we entrust with the technology that has charted the course of life safety protection for decades. Our Partners are not middlemen or go-betweens. They are independent contractors who add value to the EDWARDS life safety solution. As insiders, they enjoy exclusive access to products, custom design innovations, and factory training. Yet, as successful independent contractors, they are adept at ensuring that each submittal is strong and competitive, and that each bid is locally relevant to your installation. As local businesses, they not only have to earn your trust — they have to keep it.

Together these strengths set EDWARDS installations apart, and have earned this brand a special place among life safety and security solutions available today. Perhaps that's why many of the world's most cherished landmarks are protected by EDWARDS products. From the Bibliotheca Alexandrina Museum in Egypt, to the modern-day sphinx at the Luxor Hotel in Las Vegas, professionals who design, own and occupy the world's most impressive structures have chosen the EDWARDS solution.

See what's possible now...
Contact your EDWARDS Partner today!



EDWARDS

LIFE SAFETY & INCIDENT MANAGEMENT

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