EST3 Life Safety Control Platform

EST INTERNATIONAL

Analogue Fire Alarm and Security Solutions

EST
EDWARDS SYSTEMS TECHNOLOGY ™

Project: _____

Contact: _____

Date: _____

It is with great pleasure that we provide this submittal for an EST3 Life Safety Control Platform. This guide includes a comprehensive presentation of control panels and related system components. Products we are submitting for your consideration are indicated by a checkmark in the margins of the pages that follow.

For information on field devices that we are submitting for your consideration, please see the accompanying guide (part number 85010-0138).

More detailed information can be found in individual catalogue sheets dedicated to each product. All these sheets, along with guide specifications and other useful product information, are available electronically on our *LifeLines* CD-ROM. This comprehensive collection of life safety related literature is fully searchable and includes a utility for printing multiple catalogue sheets.

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

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EST

EDWARDS SYSTEMS TECHNOLOGY

Submittal Guide: EST3 Life Safety and Security Solutions

Part Number: 85010-0136

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Also from EST International...
Submittal Guide: QuickStart Life Safety System; P/N 85010-0137
Submittal Guide: Field Devices; P/N 85010-0138

Contents

Marketplace Identifiers

In order to make this submittal guide as easy to use as possible, product entries and descriptions are colour-coded to indicate the market for which the product is best suited. Market Identifiers are colour-coded as follows:

UL

EN54

Universal (i.e. suitable for both UL and EN54 markets)

For listing and aproval status of individual products, consult the literature sheet referenced adjacent to each product entry.

LOCAL RAIL MODULES

DISPLAY

REMOTE REPEATERS

AUDIO

SECURITY/ACCESS

ACCESSORIES

LOCAL RAIL MODULES

DISPLAY

REMOTE REPEATERS

AUDIO

SECURITY/ACCESS

ACCESSORIES

EST3 Network

Fire, security, and access control system

EST3 is a modular system uniquely designed to easily meet the needs of standalone single node systems or multi-node networks. Fire alarm, security, access control and audio functions use the same fundamental components, simplifying system layouts. A powerful System Definition Utility program helps define system operations in a fraction of the time required by previous methods. Virtually all EST3 operating features are software controlled. This gives EST3 great site flexibility and ensures operational changes and upgrades will be possible years after the initial installation.

Highly Flexible Applications

EST3 is a superbly adaptable life safety system, lending itself to medium and large building applications. Up to four power supplies combine in a single enclosure providing up to 28 amps of available power. Battery backup is provided using from one to four sets of batteries, dpending on standby power requirements.

Fully-listed User Interfaces

The user interface layer is made up of a Liquid Crystal Display module and a system of generic modules designed to maximize design flexibility for custom systems.
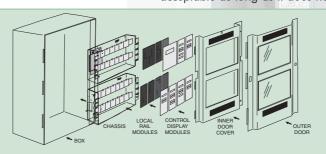
In addition to front panel control and annunciation, EST's powerful FireWorks colour graphics package provides desktop control and messaging in the familiar Windows environment. Fireworks' unique four-quadrant display gives the user access to all EST3 functions including fire alarm, security, access control, and CCTV – in one simple and intuitive interface. And because FireWorks is an integral part of the EST3 network, it is listed by UL not only under fire alarm standards, but under access control, local burglar, and proprietary monitoring standards as well. In fact, EST3 panels and FireWorks are the only such systems with this range of qualifications.

Powerful Networking

EST3 operates on a multi priority peer-to-peer token ring network. The multi-priority token ring gives EST3 exceptional response. Response time for all functions, including fire, security, and access control, is less than three seconds across the network regardless of the total number of nodes. EST3 token ring network configuration also permits vast distances between nodes. The allowable distance between nodes on $0.75mm^2$ (#18AWG) is 1,523m (5,000ft). With 64 nodes supported on a network, the total network length is in excess of 91,400m (300,000 ft), or nearly 60 miles!

A single node supports up to 10 loop controllers with up to 250 devices per loop, depending on the loop protocol used. Any combination of the three protocols supported by EST3 is acceptable as long as it does not exceed 10 loops in total.

EST3 also makes field wiring easy with building wiring terminations that use removable terminal blocks on local rail modules. Panel design allows for the required separation of high voltage and power-limited wiring.

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

CHASSIS — LOCAL RAIL MODULES — CONTROL DISPLAY MODULES — INNER DOOR COVER — OUTER DOOR — BOX

8-channel Voice Alarm

EST3 audio design provides the emergency user with a communication package that minimizes switch selections. This facilitates simple, accurate and fast evacuation control announcements. EST3 provides simple paging controls. Pressing All Call selects all paging zones for message delivery. Pressing Page To Evacuation automatically selects all areas in evacuation. Similarly, the user can Page To Alert. Zoned paging requires the user to simply select zone paging switches.

Taking full advantage of digital technology, up to eight channels of audio sources can be sent over a single twisted pair of wires between nodes. Coupling the inherent reliability and performance of zoned amplifiers with EST3 simplified user interfaces makes voice alarm system design and operation both easy and dependable.

EST3 is the right choice for any medium to large application. Its multiplex functions are second to none in the industry today.

Survival of the fittest
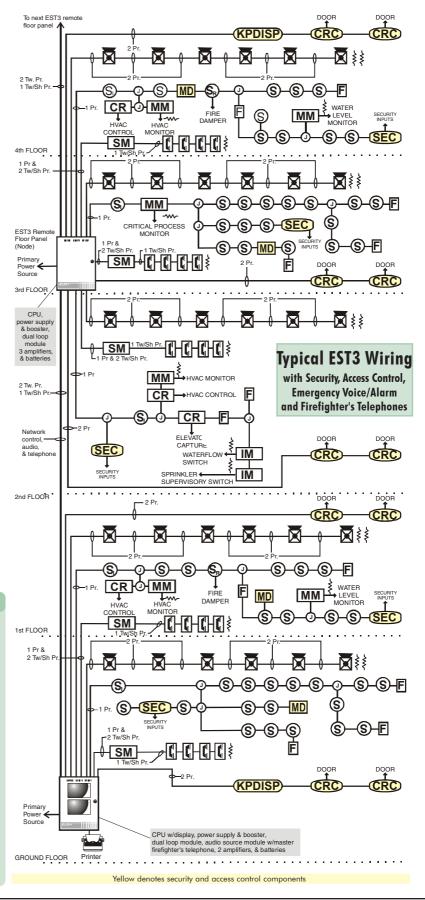
Multiplex fire, security, and access control

Whether for fire alarm only, or for total life safety protection including security and access control, the EST3 network is the most survivable system available.
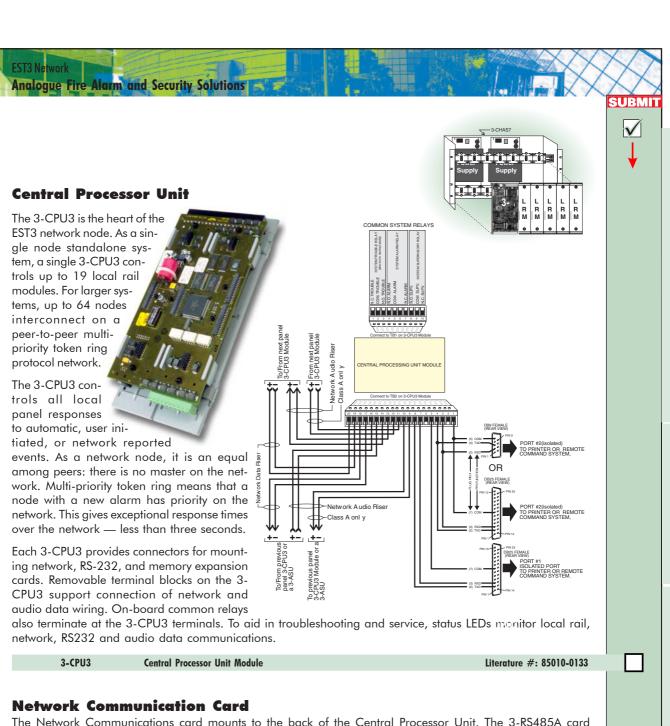
EST3 uses distributed database technology, designed to survive the rigors of fire and firefighting. In spur (Class B) configuration a single break on the network wiring will isolate the system into two groups of one or more nodes. Each group of nodes continues functioning as a peer-to-peer network, working with their combined databases.

In loop (Class A) configurations a single break or short on the network wiring causes the system to isolate the fault. Network communication continues uninterrupted. If multiple faults occur, the network re-configures into multiple networks. This means a system continues to respond to activations from every node that can transmit and receive network messages. Local responses always execute because the local database resides at each node.

Exceptional survivability extends to every EST3 function, including security and access control. These devices (highlighted in yellow) reside on the network alongside fire alarm components. They share wiring, power sources and the inherent stability of a fire alarm network engineered to meet standards far beyond those of ordinary security systems.

Typical EST3 Wiring
with Security, Access Control, Emergency Voice/Alarm and Firefighter's Telephones

LEGEND

MCP	Manual call point
S (relay)	Smoke detector with relay base
S (isolator)	Smoke detector with isolator base
S	Smoke detector with standard base
MD	Motion detector
⊠	Combination speaker/strobe
☖	Firefighter's telephone
SEC	Security module
KPDISP	Keypad Display
CRC	Access Controller
SM	Supervised control module
CR	Control relay module
IM	Input module
MM	Monitor module
⌇	End-of-line resistor
☉	Junction box

Yellow denotes security and access control components

Marketplace Identifers: EN54 UL Universal
Consult the appropriate literature sheet for product listing and approvals

Central Processor Unit

The 3-CPU3 is the heart of the EST3 network node. As a single node standalone system, a single 3-CPU3 controls up to 19 local rail modules. For larger systems, up to 64 nodes interconnect on a peer-to-peer multi-priority token ring protocol network.

The 3-CPU3 controls all local panel responses to automatic, user initiated, or network reported events. As a network node, it is an equal among peers: there is no master on the network. Multi-priority token ring means that a node with a new alarm has priority on the network. This gives exceptional response times over the network — less than three seconds.

Each 3-CPU3 provides connectors for mounting network, RS-232, and memory expansion cards. Removable terminal blocks on the 3-CPU3 support connection of network and audio data wiring. On-board common relays also terminate at the 3-CPU3 terminals. To aid in troubleshooting and service, status LEDs monitor local rail, network, RS232 and audio data communications.

3-CPU3	Central Processor Unit Module	Literature #: 85010-0133

Network Communication Card

The Network Communications card mounts to the back of the Central Processor Unit. The 3-RS485A card provides a loop (Class A) or spur (Class B) circuit for network communications signals and a loop (Class A) or spur (Class B) for digitized audio signals. The 3-RS485B card provides a loop (Class A) and a spur (Class B) circuit for network communications signals and a second spur (Class B) circuit for the digitized audio signals. Network messages received by the Network Communications card are re-transmitted to the next network node.

3-RS485A	Network Communication Card, for loop wiring (Class A)	Literature #: 85010-0133
3-RS485B	Network Communication Card, for spur wiring (Class B)	Literature #: 85010-0133

RS-232 Communication Card

The 3-RS232 Communication Card mounts to the back of the 3-CPU3. The 3-RS232 has two optically-isolated RS-232 ports. The ports support connection of a printer and/or an external command center.

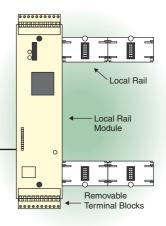| 3-RS232	RS-232 Communication Card	Literature #: 85010-0133

LOCAL RAIL MODULES

DISPLAY

REMOTE REPEATERS

AUDIO

SECURITY/ACCESS
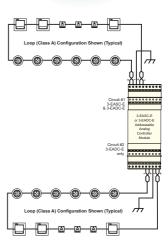
ACCESSORIES

SUBMIT

Local Rail Modules

Local Rail Modules (LRMs) conveniently mount to the EST3 inner chassis, away from high voltages. Each module features removable terminal blocks and simple plug-in connectors. LRMs include Zoned Amplifiers, Loop Controllers, Conventional Hardwired Modules, Signalling Modules, Power Supplies, as well as the main CPU module. Control Display Modules can be mounted on any LRM.

Local Rail

Local Rail Module

Removable Terminal Blocks

Escape Series™ Loop Controller

The 3-EASC-E and 3-EADC-E Escape Series loop controller modules provide an interface between the 3-CPU3 module and Escape Series addressable devices. Each module contains its own microprocessor used to coordinate, process and interpret information received from and sent to the Escape Series devices. Power and communications are received directly from the control panel rail assembly. The 3-EASC-E module supports one Escape Series loop, while the 3-EADC-E module supports two Escape Series loops. Both modules occupy one rail space and each Escape Series loop supports a total of 127 devices of which 70 can be loop-powered sounders.

Loop (Class A) Configuration Shown (Typical)

Circuit #1
3-EASC-E
& 3-EADC-E

3-EASC-E
or 3-EADC-E
Addressable
Analog
Controller
Module

Circuit #2
3-EADC-E
only

Loop (Class A) Configuration Shown (Typical)

3-EASC-E	**Single Escape Series Controller Module**	**Literature #: 85010-0130**
3-EADC-E	**Dual Escape Series Controller Module**	**Literature #: 85010-0130**
3-EAC-E	**Escape Series Circuit Board**	**Literature #: 85010-0130**
225002	**Ferrite Clamp Kit required for EN54 compliance**	**Literature #: 85010-0129**

Signature Driver Controller Modules

The 3-SSDC1 and 3-SDDC1 Signature Driver Controller modules provide an intelligent interface between the 3-CPU3 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-SSDC1 Single Signature Driver Controller module supports one Signature Data circuit, while the 3-SDDC1 Signature Dual Driver Controller module supports two Signature circuits. Both modules occupy one rail space. Each Signature loop supports 125 detectors and 125 modules.

Loop (Class A) Configuration Shown (Typical)

SDC #1 Smoke
Power

Circuit #1

To TB1 on 3-SDDC1 Module

3-SDDC1
SIGNATURE
DUAL
DRIVER
CONTROLLER
MODULE

To TB2 on 3-SDDC1 Module

Circuit #2

SDC #2 Smoke
Power

Loop (Class A) Configuration Shown (Typical)

3-SSDC1	**Single Signature Driver Controller. Comes with one 3-SDC1 Device Card**	**Literature #: 85010-0129**
3-SDDC1	**Dual Signature Driver Controller. Comes with two 3-SDC1s**	**Literature #: 85010-0129**
3-SDC1	**Signature Device Card - upgrades a 3-SSDC1 to a 3-SDDC1**	**Literature #: 85010-0129**
225002	**Ferrite Clamp Kit required for EN-54 compliance**	**Literature #: 85010-0129**
3-SDDC1-MB	**Dual Signature Driver Controller Motherboard**	**Literature #: 85010-0129**

Addressable Analog Device Controller Module

The 3-AADC1 Addressable Analogue Circuit Module is a local rail module that supports up to 99 addressable analogue sensors and 99 addressable modules. The controller also features a hinged front panel for a Control Display Module, which are available in a variety of LED and/or switch configurations.The 3-AADC1 requires one connection on the rail chassis.

3-AADC1	Addressable Analogue Device Controller Module	Literature #: 85010-0103	

Initiating Device Circuit (Hardwired) Module

The 3-IDC8/4 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 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 3-LCD, control display modules, or at any other display device on the network.

Up to 30 optical or 50 ionisation smoke detectors are supported per circuit. 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, as well as 4-state European alarm circuit operation.

Four of the eight 3-IDC8/4 circuits are convertible to spur-type (Class B) notification appliance circuits. The circuits employ traditional reversing polarity operation for polarized bells, horns, 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.

INITIATING DEVICE CIRCUIT (IDC)
Connect to IDC 3, 4, 5, or 6
IDC/NAC 1, 2, 7, or 8

NOTIFICATION APPLIANCE CIRCUIT (NAC)
Connect to IDC/NAC 1, 2, 7, or 8

IDC/NAC #1
IDC/NAC #2
IDC #3
IDC #4
NAC IN 1/2
To TB1 on Module

IDC/NAC #8
IDC/NAC #7
IDC #6
IDC #5
NAC IN 7/8

3-IDC8/4	Initiating Device Circuit Module	Literature #: 85010-0061	
225002	Ferrite Clamp Kit required for EN54 compliance	Literature #: 85010-0129	

LOCAL RAIL MODULES
DISPLAY
REMOTE REPEATERS
AUDIO
SECURITY/ACCESS
ACCESSORIES

EST INTERNATIONAL
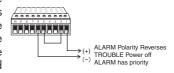
LOCAL RAIL MODULES

Off Premise Signalling Module

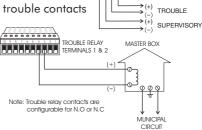The 3-OPS supports three separate off premises signalling modes of operation:

'Old' style reverse polarity operation has only a single reversed polarity output. In the normal state the output is 24 Vdc current limited to 6 mA. In the alarm state the polarity reverses. Should the EST3 panel go into trouble from the normal state, the voltage is removed from the output terminals of the 3-OPS. This change will be detected by the central station as a trouble. Alarm always has priority over trouble. Trouble relay contacts must be configured for normally-closed operation.

(+) ALARM Polarity Reverses
TROUBLE Power off
(−) ALARM has priority

'New' style reverse polarity operation allows the 3-OPS to output three independent reversing polarity signals. These are alarm, supervisory, and trouble. In each case an active condition causes the terminal output voltage to reverse. Should the central station detect a loss of voltage, the condition is due to line failure. When configured for "new" style operation, a set of trouble contacts is available.

TROUBLE RELAY TERMINALS 1 & 2
(+)
(−) ALARM
(+)
(−) TROUBLE
(+)
(−) SUPERVISORY

City Tie connection. In this configuration the 3-OPS has terminals for a local energy master fire alarm box. The module operates into a 14 ohm coil and supervises the city tie connection for open conditions. Trouble relay contacts are configurable for normally-open or normally-closed operation.

TROUBLE RELAY TERMINALS 1 & 2
MASTER BOX
(+)
(−)
Note: Trouble relay contacts are configurable for N.O or N.C
MUNICIPAL CIRCUIT

3-OPS	Off Premise Signalling Module	Literature #: 85010-0075

Fibre Optics Communications Interface

EST3 networks easily configure to single or multi mode fiber optic or combination fibre optic / copper networks using the 3-FIBMB Fibre Optic Communications Interface and the appropriate fibre optic transceivers.

The 3-FIBMB electronics card plugs right into the CPU. A ribbon cable connects the 3-CPU directly to the 3-FIBMB fibre interface card. The interface card mounts in the ½ footprint space in a 3-CHAS7 chassis or 3-CAB5 enclosure.

The 3-FIBMB supports from one to four single or multi mode transceivers that plug into the interface card. Each transceiver provides the transmission and reception capability for the network data or digital audio data to/from a 3-FIBMB located in the next network node using single and/or multi mode fiber optic cables.

The SMXLO standard output single mode transceiver is suitable for distances up to approximately 14 km (8.7 miles). The SMXHI high output single mode transceiver is available to span distances up to approximately 40 km (24 miles).

For multi mode applications, the MMXVR transceiver is suitable for distances up to approximately 2,400 m (8,000 ft) Actual distances are dependent on the losses in each fibre optic circuit, and should be calculated for each installation. One transceiver is required for each fibre side of both network and audio links. Simply order the required type and number and type of transceiver(s) for your application.

CPU with 3-FIBMB
CPU with 3-FIBMB
Fiber-optic network data riser
Fiber-optic audio data riser
CPU with 3-FIBMB
From 3-ASU primary audio data

3-FIBMB Spur (Class B) network and audio fibre-optic connections

3-FIBMB	Fibre Optic Communications Interface (requires one or more transceivers)	Literature #: 85010-0131
SMXLO	Plug-In standard output single mode transceiver for 3-FIBMB	Literature #: 85010-0131
SMXHI	Plug-In high output single mode transceiver for 3-FIBMB	Literature #: 85010-0131
MMXVR	Plug-In standard output multi mode transceiver for 3-FIBMB	Literature #: 85010-0131

Marketplace Identifers: EN54   UL   Universal
Consult the appropriate literature sheet for product listing and approvals

LOCAL RAIL MODULES

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Modem Communicator

The Modem Communicator is a two-way local rail module that performs a variety of off-premise communications functions for the EST3 system unavailable on any other system. The module has provisions for supervising two loop-start telephone lines. It features a modular jack for telephone line connections, as well as database download from a PC. The Modcom's configuration and firmware can also be updated from any network node.

Modcom series modules occupy a single local rail space and can be mounted in any node on the network. Any EST3 Control/Display module can be mounted on the face of a Modcom series module. Power for the Modcom is supplied by the EST3 system supply.

The Modcom provides an enhanced level of survivability in the event of a network CPU failure by notifying the Central Monitoring Station of the failure and entering a degraded mode of operation. In degraded mode, the Modcom can transmit a default fire alarm message during a fire alarm condition.

Two versions of the Modcom are available:

3-MODCOM - This internal modem is a V.32bis 14.4K baud full duplex modem. The modem permits the remote upload and download of system data via a telephone line.

3-MODCOMP – In addition to all modem and dialer (DACT) functions of the 3-MODCOM, the 3-MODCOMP can dial directly into paging systems using Telelocator Alphanumeric Protocol (TAP). Alphanumeric system data can be sent to a single pager or groups of pagers. Some pager services can forward messages via e-mail and Fax.

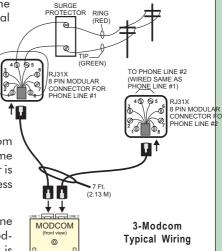Each Modcom can buffer up to 500 events in its event queue. It reviews all active events in the queue and identifies the highest priority event and dials the associated receiver. The Modcom then identifies all other events in the queue that are destined to the same receiver as the highest priority event. All event information for that receiver is then transmitted. The next high priority event is identified and the process repeated.

The Modcom series has been designed for installation on the same phone lines with other devices such as faxes and answering machines. The module makes its first dial out attempt on either of the two phone lines that is not in use. This prevents unnecessary interruption of calls in progress by the line seizure relays. In the event that both lines are busy, the module seizes one of the busy lines. A fixed DACT testing time can be set at an off-hour, e.g. 2:00am, again minimizing interruptions.

The answering machine override feature permits Modcom modules to be installed on a standard telephone line. The Modcom series also has the ability to detect Type 2 and Type 3 distinctive ringing patterns, permitting it to share its phone lines with other devices and still have a unique phone number for incoming calls.

3-Modcom
Typical Wiring

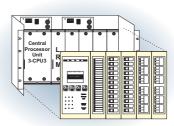| 3-MODCOM | Modem/Dialer (DACT) version | Literature #: 85010-0107 | |
| 3-MODCOMP | Modem/Dialer (DACT) w/TAP Protocol | Literature #: 85010-0107 | |

Control, Display & Annunciation

Liquid Crystal Display Module

The 3-LCD module mounts to the local rail over the node's central processing unit module (3-CPU3). The 3-LCD module is optional in any network node.

The 3-LCD uses a backlit high-contrast, supertwist, graphical display. Eight lines of 21 characters provide the room needed to convey information in a meaningful way.

The 3-LCD always displays the last highest priority event even when the user is viewing other message queues. Further message flexibility is provided with EST3's message routing ability. Messages from a node can display at every node on the network, or messages can route to specific nodes only. Routing can be initiated at a specific time/shift change. Depending on the marketplace, the function of certain controls and indications on the 3-LCD change.

The EST3 system configures for proprietary, local or EN54 market operations. The mode of operation is selected through the System Definition Utility program (SDU).

3-LCD	Liquid Crystal Display Module	Literature #: 85010-0071

Control Display Modules

EST3 Control Display modules provide the system operator with the simplest of interfaces: lights and switch controls. Control Display Modules install over local rail modules. There are five types of modules available.

The first module supports simple zone annunciation; the second, zone annunciation with zone disable; the third, alarm and trouble zone annunciation; the fourth, alarm and trouble zone annunciation with zone disable. Typically, alarm zone annunciation appears on any of these module types.

The fifth module is very adaptable to system requirements for audio or remote equipment control. Each contains 18 LEDs and 18 switches. And each group of three switches has a latching-interlock to support operations that must be kept separated. The interlock is under software control so only one switch is active at a given time.

3-LDSM	LED Display Support Module	Literature #: 85010-0055
3-24R	Display Module: 24 red LED	Literature #: 85010-0055
3-24Y	Display Module: 24 yellow LED	Literature #: 85010-0055
3-24G	Display Module: 24 green LED	Literature #: 85010-0055
3-12RY	Display Module: 12 red LEDs and 12 yellow LEDs	Literature #: 85010-0055
3-12SR	Display/Control Module: 12 switches with 1 red LED per switch	Literature #: 85010-0055
3-12SY	Display/Control Module: 12 switches with 1 yellow LED per switch	Literature #: 85010-0055
3-12SG	Display/Control Module: 12 switches with 1 green LED per switch	Literature #: 85010-0055
3-12/S1GY	Display/Control Module: 12 switches with one green and one yellow LED per switch	Literature #: 85010-0055
3-12/S1RY	Display/Control Module: 12 switches with one red and one yellow LED per switch	Literature #: 85010-0055
3-12/S2Y	Display/Control Module: 12 switches with two yellow LEDs per switch	Literature #: 85010-0055
3-6/3S1G2Y	Display/Control Module: 6 groups of 3 switches, one LED each: green, yellow, yellow	Literature #: 85010-0055
3-6/3S1GYR	Display/Control Module: 6 groups of 3 switches, one LED each: green, yellow, red	Literature #: 85010-0055

SUBMIT

☑

FireWorks™

The FireWorks four-quadrant display provides easy access to fire, security, access control, and CCTV functions. FireWorks operates with WindowsXP operating system.

For FireWorks specifications and ordering information, please refer to literature # 85006-0048.

For FireWorks operation and application, please refer to literature # 85006-0047.

FireWorks is a family of software and hardware options designed to work in concert with EST life safety and property protection systems.

FireWorks provides a simple user interface, taking what could be an overwhelmingly large amount of information and presenting it in an easy-to-understand format. FireWorks does this by dividing major system functions into easy-to-manage quadrants. These quadrants make the system very intuitive to use because information is presented logically.

To further enhance usability, FireWorks is event driven. This greatly increases the user's ability to deal with system events by eliminating the confusion sometimes experienced when systems present all information at once. FireWorks automatically prioritizes the events for the user in an Event Quadrant. Here the highest priority event is displayed first, and the lowest priority event is displayed last. This allows the user to quickly determine which events warrant the most immediate attention.

Each of the other three quadrants provides one specific piece of information that relates to the event highlighted in the Event Quadrant. Related information may include event action information (specific tasks the user may need to perform in response to the event), or information about the area where the event has taken place (any hazardous materials present in the area, etc.). Still images, CCTV, video, audio messages and graphical maps may also be presented to aid in the understanding of an event and how it should be managed.

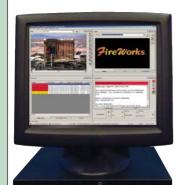|		
FW3UL3	3 Port Workstation (See notes). Comes with Windows XP, 3.5" floppy drive, CD-R/RW drive, 512 Meg memory, 80 Gig hard drive, three serial ports, one parallel port, two dual-stack USB rear connectors, 64Meg RAM on-board video, on-board sound card, and anti-virus software. Order monitor, mounting hardware, FireWorks Applications Software and optional internal boards separately.	☐
FW5UL3	5 Port Workstation (See notes). Comes with Windows XP, 3.5" floppy drive, CD-R/RW drive, 512 Meg memory, 80 Gig hard drive, five serial ports, one parallel port, two dual-stack USB rear connectors, 64Meg RAM on-board video, on-board sound card, and anti-virus software. Order monitor, mounting hardware, FireWorks Applications Software and optional internal boards separately.	☐

Monitors

FW-19MN	19" Monitor: Biege; UL 864 listed; rack mountable (order rack mount equipment separately).	☐
FW-18LCD	18.1" LCD Monitor. Black, UL 864 listed; rack mountable (order rack mount equipment separately).	☐
FW-18LCDTS	18.1" LCD Monitor with touch screen. Black, UL 864 listed; rack mountable (order rack mount equipment separately).	☐
FW-21MN	21" Monitor: Beige; UL 864 listed.	☐

Enclosures and Mounting Accessories

RKU-61-24	19" Rack mount enclosure - 35 EIA panel Spaces available	☐
FW-RACKMN	Monitor Rack mount kit - 10 EIA panel spaces required. For FW-19MN monitors.	☐
FW-RACKLCD	Monitor Rack mount kit - 10 EIA panel spaces required. For FW-18LCD(TS) monitors.	☐
FW-RACKPC	Computer Rack mount - Hardware - 4 EIA panel spaces required. Order FW-RACKSD slides separately	☐
FW-RACKKB	Keyboard Rack mount kit - Black - 2 EIA panel spaces required. Order FW-RACKSD slides separately	☐
FW-RACKSD	Rack mount slides	☐
BP1	Blank plate - One EIA panel Space (1.75" x 19")	☐
BP2	Blank plate - Two EIA panel Spaces (3.5" x 19")	☐
BP3	Blank plate - Three EIA panel Spaces (5.25" x 19")	☐
MFC-A	Accessory Enclosure for mounting Mini-Mux at FireWorks workstation	☐
PCCA	PC Conduit Adapter - Used for desk or tower mounting PC	☐

DISPLAY

REMOTE REPEATERS

AUDIO

SECURITY/ACCESS

ACCESSORIES

Marketplace Identifers: EN54 UL Universal
Consult the appropriate literature sheet for product listing and approvals

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LOCAL RAIL MODULES

DISPLAY

SUBMIT

FireWorks (options)

For FireWorks specifications and ordering information, please refer to literature # 85006-0048.

For FireWorks operation and application, please refer to literature # 85006-0047.

Colour Graphics Software

☐	FW-CGS	(no common control)
☐	FW-CGSUL	(with common control)

Access Control Database Software

☐	ACDB8	(controls up to eight doors)
☐	ACDB8+	(controls more than eight doors)

SiteVIsion Software

☐	SV	Provides on-screen annunciation of CCTV at FireWorks PC
☐	SV+	Provides on-screen annunciation of CCTV at FireWorks PC (with on-screen control)

Option cards

☐	FW-SP2	Serial Port for UL/ULC listed systems. Provides 2 additional serial ports for FW3UL3 or FW2UL2 or FW2 workstations.
☐	FW-VIDTVC	Card for UL/ULC listed systems. Required when using SV+ software with FW3UL3 or FW5UL3.
☐	FW-MOD	Modem for UL/ULC listed systems - 56K baud V.90
☐	FW-SNDSP	Computer Speakers Black
☐	FW-VIDVC2	Video card for dual monitors (FW3UL3 and FW5UL3)

Optional Accessories

☐	Mini-Mux	Communication Interface Board - UL listed for extending FireWorks to Fire Panel Communications.
☐	FCOM-FIB	Fiber Optic data line card used with Mini-Mux
☐	FW-XPC	RS-232 extender. Allows FireWorks with no common controls to communicate to Fire Panels over copper connection up to 3 miles. Works in conjunction with FW-XPL ordered separately
☐	FW-XPL	RS-232 extender. Allows Fire Panel (EST3, EST2, IRC-3, and FCC) to communicate with FireWorks with no common controls over copper connection up to 3 miles. Mounts in 1/2 foot print space in control panel.

Printers

☐	PT-IP	Parallel Printer 120V
☐	PT-IP-220	Parallel Printer 220V

Video Display Utility for Text Annunciation

The 3-VDUT *Video Display Utility for Text* is a software package that runs on an IBM-compatible personal computer. The software allows ancillary annunciation of EST3 system events in text format. The 3-VDUT is a 32-bit program compatible with Windows95®, Windows98® or WindowsNT® 4.0 operating systems.

☐	3-VDUT	Video Display Utility for Text Annunciation Software	Literature #: 85010-0117

Marketplace Identifers: EN54 UL Universal

Consult the appropriate literature sheet for product listing and approvals

SUBMIT

Remote Repeaters (annunciators)

Remote Repeaters

To Backbox — Ground Lead

EARTH GROUND
+ 24 VDC
+ 24 VDC
SPARE
+ NETWORK A
+ NETWORK B

To TB1 on 3-ANNCPU1

Rear View

Use EST3 remote repeaters wherever a compact system status display is needed. Repeater 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 3-LCD and Control Display Modules. Control/Display modules install over any repeater support module, maximizing repeater design flexibility. A lamp test feature can program to any spare control switch. If a 3-LCD display is installed in the repeater, simply operate the Alarm Silence and Trouble Silence switches simultaneously to lamp test all LEDs. 3-REMICA remote microphones can also be installed in repeater cabinets.

See Page 8 for Control Display modules. See Page 14 for Remote Microphones.

3-LCDANN-E	Remote LCD Command Module Repeater, EN-54 approved	Literature #: 85010-0069-I
3-6ANN-E	Six-position Base Repeater, EN-54 approved	Literature #: 85010-0069-I
3-10ANN-E	Ten-position Base Repeater, EN-54 approved	Literature #: 85010-0069-I
3-LCDANN	Remote LCD Command Module Repeater	Literature #: 85010-0069
3-6ANN	Six-position Base Repeater	Literature #: 85010-0069
3-10ANN	Ten-position Base Repeater	Literature #: 85010-0069
3-ANNCPU3	Repeater CPU	Literature #: 85010-0069
3-ANNSM	Repeater Support Module	Literature #: 85010-0069
3-LCD	Liquid Crystal Display Module	Literature #: 85010-0069
3-ANNBF	Blank Filler Plate	Literature #: 85010-0069
3-REMICA	Remote Microphone-Repeater, Mounted	Literature #: 85010-0069

Mimic Display Drivers

3-EVDVRA	LED/Switch Driver Module Assembly for Third-party Graphics	Literature #: 85010-0069
3-EVPWRA	Power Supply Assembly with 19-inch rail mounting chassis assembly	Literature #: 85010-0069
3-EVDVRX	Plastic mounting extrusion 19-inch mounting	Literature #: 85010-0069

Remote Repeater Cabinets

Repeater cabinets are constructed from 16-gauge cold rolled steel. The gray textured enamel finish of the repeaters complements any decor. Both surface and semi-flush mounting cabinet configurations maximize mounting flexibility and aesthetic appeal. Cabinet arrangements allow both LED and LCD annunciation to easily combine in a single enclosure.

RLCM/B	Remote LCD Command module flush mount LCD wallbox	Literature #: 85010-0069
RLCM/B-S	Remote LCD Command module surface mount LCD wallbox	Literature #: 85010-0069
6ANN/B	Six-position LED/LCD flush wallbox	Literature #: 85010-0069
6ANN/B-S	Six-position LED/LCD surface wallbox	Literature #: 85010-0069
10ANN/B	Ten-position LED/LCD flush wallbox	Literature #: 85010-0069
10ANN/B-S	Ten-position LED/LCD surface wallbox	Literature #: 85010-0069

REMOTE REPEATERS

AUDIO

SECURITY/ACCESS

ACCESSORIES

Marketplace Identifers: EN54 | UL | Universal
Consult the appropriate literature sheet for product listing and approvals

LOCAL RAIL MODULES

DISPLAY

REMOTE REPEATERS

Envoy Graphic Repeater

ENVOY graphic repeaters and smoke control panels are designed to present complex status and control information in an easy to understand package. The design of ENVOY products permits users to rapidly determine system status and easily operate associated system controls. The addition of system LCD repeaters and remote microphones can turn EN-VOY into a complete fire command station.
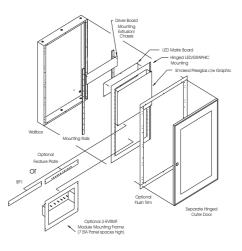
ENVOY graphic repeaters display system information using high intensity LEDs mounted behind the smoked Plexiglas panel that displays the artwork. The Envoy EST3 FACS Smoke Control Series replaces the Plexiglas graphic panel with a gloss black finished steel panel. High contrast white graphics are placed on the panel along with the required switches and LED indicators, integrating the element of control directly "into the picture." Switches and LEDs can be mounted virtually anywhere on the graphic display itself. White artwork and text on a dark background is standard. Coloured artwork is available as an option, to enhance building areas or individual zones. A variety of LEDs and switches are available to meet any display and control requirement.

Power ON, Trouble, and Signal Silenced LEDs; System Reset, Silence, Trouble Silence, and Drill push button switches are available as panel feature options. Other panel options include system LCD displays and remote microphones.

ENVOY graphic panels are available in three standard sizes to fit the needs of most installations. Wall boxes are manufactured from 16-gauge cold rolled steel and finished with a textured black baked enamel. Panels can be surface mount or semi-flush mount. When semi-flush mounting, optional trim kits provide a finished look to the installation.
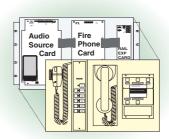
EV1	Envoy Graphic Repeater (maximum 96 LEDs)	Literature #: 85006-0037
EV1B	EV1 Wallbox: textured black finish	Literature #: 85006-0037
EV1T	EV1 Semi-Flush Trim: textured black finish	Literature #: 85006-0037
EV2	Envoy Graphic Repeater (maximum 160 LEDs)	Literature #: 85006-0037
EV2B	EV2 Wallbox: textured black finish	Literature #: 85006-0037
EV2T	EV2 Semi-Flush Trim: textured black finish	Literature #: 85006-0037
EV3	Envoy Graphic Repeater (maximum 256 LEDs)	Literature #: 85006-0037
EV3B	EV3 Wallbox: textured black finish	Literature #: 85006-0037
EV3T	EV3 Semi-Flush Trim: textured black finish	Literature #: 85006-0037
FSCS-1	Envoy Smoke Control Graphic Panel	Literature #: 85006-0037
FSCS-2	Envoy Smoke Control Graphic Panel	Literature #: 85006-0037
FSCS-3	Envoy Smoke Control Graphic Panel	Literature #: 85006-0037
FSCS-4	Envoy Smoke Control Graphic Panel	Literature #: 85006-0037

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Marketplace Identifers: EN54 UL Universal
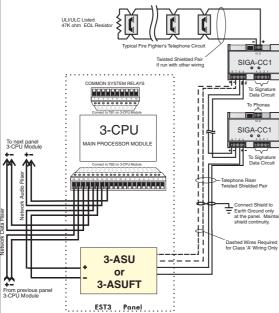*Consult the appropriate literature sheet for product listing and approvals*

Network Audio

Configuring EST3 audio is a matter of selecting components for installation in standard fire alarm cabinet assemblies. EST3 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 nodes make up the system, a single pair of wires carries eight channels of digital audio between nodes.

Audio and Telephone Masters

The Audio Source Unit converts analogue signals to digital signals. Sampling the analogue signal 9600 times per second provides high quality reproduction of audio sources. On-board audio memory stores signal tones and/or alarm-alert verbal messages. The ASU comes standard with two minutes of memory for tone and message storage. Available message memory expands easily to 32 minutes with the optional 3-ASUMX/32 memory expansion card.

Audio Source Units support connection of a local micro-phone, remote microphone, telephone voice line, and auxiliary audio input. With eight audio channels to choose from, combinations of paging, alert, evacuation signalling and automatic messages are available for simultaneous delivery to different parts of a building.

When the system requires paging, only the 3-ASU or 3-ASU/4 Audio Source Units provide a master paging microphone with common controls.

Audio Source Units mount in one chassis space of an EST3 Lobby Enclosure. In addition to the paging microphone, the 3-ASU/4 has mounting space for up to four local rail modules, including 20, 40, and 90 watt zone amplifiers, and up to four Control Display modules. This increases layout flexibility. The 3-ASU provides the same functionality as the 3-ASU/4 but is supplied with an inner door filler plate and no local rail module spaces.

The 3-FTCU contains the master telephone handset that provides an analogue telephone riser for two-way com-munications between the fire command station and firefighter's telephone stations installed in the facility. The 3-FTCU features an alphanumeric display that indicates both incoming and connected calls. Up to five remote telephones may be connected to the riser simultaneously. The fire command center operator can also use the telephone circuit as a page source, permitting paging via the telephone system.

3-ASU/FT	Audio Source Unit w/local microphone and firefighters' telephone	Literature #: 85010-0063
3-ASU/4	Audio Source Unit w/local microphone (provides four local rail spaces)	Literature #: 85010-0063
3-ASU	Audio Source Unit w/local microphone and inner door filler plate	Literature #: 85010-0063
3-FTCU	Firefighters' Telephone Control Unit w/inner door filler plate	Literature #: 85010-0063
3-ASUMX/32	Audio Source Unit Memory Expansion (32 minutes of message time)	Literature #: 85010-0063

AUDIO

SECURITY/ACCESS

ACCESSORIES

Marketplace Identifers: EN54   UL   Universal
Consult the appropriate literature sheet for product listing and approvals

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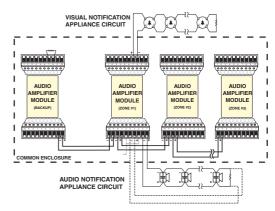**SUBMIT**

LOCAL RAIL MODULES

DISPLAY

REMOTE REPEATERS

AUDIO

Audio Amplifiers (Zoned)

EST3 audio amplifiers decode and re-expand the eight multiplexed audio signals on the network audio riser. Under command of the network, one of the available eight signals is selected to be distributed over the speaker circuit. Command and control signals for the amplifier are sent and received via the network data riser in response to network programming.

Amplifiers are available in 20, 40 or 90 watt versions, with supervised, power limited 25 Vrms or 70VRMS outputs. The amplifier output is wired to a single speaker zone. Each amplifier has a 1 KHz temporal tone generator used as evacuation signal in the event of a fault with the network audio circuit. In the event of an on-line amplifier failure, a standby amplifier may be configured for automatic replacement of any on-line amplifier configuration. 20 and 40 watt amplifiers also provide an independently controlled supervised, power limited 24 Vdc notification appliance circuit rated at 3.5 amps. All field wiring connections are made via plug-in connectors.
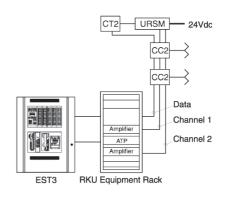
3-ZA20A	20 W Zoned Amplifier w/loop or spur Audio & Class loop/spur 24 VDC outputs	Literature #: 85010-0057
3-ZA20B	20 W Zoned Amplifier w/spur Audio & spur 24 VDC outputs	Literature #: 85010-0057
3-ZA40A	40 W Zoned Amplifier w/spur or loop Audio & spur/loop 24 VDC outputs	Literature #: 85010-0057
3-ZA40B	40 W Zoned Amplifier w/spur Audio & spur 24 VDC outputs	Literature #: 85010-0057
3-ZA90	90 W Zoned Amplifier w/loop or spur Audio output	Literature #: 85010-0057

Audio Amplifiers (Banked)

Banked Amplifiers provide EST3 with economy audio configurations for single and some dual channel applications. Model 3-ZA20A/B Zoned Amplifiers at the EST3 control panel provide channel sources for banked amplifiers. 3-ZA20A/B amplifiers can select any of EST3's eight audio channels as a signal source.

A special interface module, the 3-ATPINT, accepts analogue audio signals at 25 or 70VRMS from EST3's Zoned Amplifiers and passes these signals to the 1B3125 and 1B3250 Audio Power Amplifiers via an Amplifier Terminal Panel (ATP). The 3-ATPINT mounts in the ATP.

The ATP Audio Terminal Panel interfaces one or two audio power amplifiers and monitors utility power, charges and supervises standby batteries, and provides switch-over to standby. The amplifier bank is monitored and controlled through Signature Series modules.

1B3125	Audio Power Amplifier — 125 Watts	IB3125-240	Audio Power Amplifier — 240 Volt	Literature #: 85010-0011
1B3250	Audio Power Amplifier — 250 Watts	IB3250-240	Audio Power Amplifier — 240 Volt	Literature #: 85010-0085
ATP	Amplifier Terminal Panel			Literature #: 270041
3-ATPINT	ATP Interface Module			Literature #: 85010-0085
3-ATPINT-220	ATP Interface Module — 220 Volt			Literature #: 85010-0085
URSM	Universal Riser Supervisory Module			Literature #: 270038
RKU	19-inch Equipment Rack			

Remote Microphones

The remote microphone panel is a supervised remote microphone, used with the 3-ASU Audio Source Unit's remote microphone input. The front panel provides Local Page Active, Remote Page Active, and Trouble LED indicators as well as an integral VU (Volume Unit) meter to indicate page volume level. All panels use a 24 Vdc power source and all wiring is supervised. One form C trouble contact is provided. Up to 64 microphones can be connected to the 3-ASU in a daisy-chain.

3-REMICP	Remote Microphone — Chassis Mount	Literature #: 85010-0105
3-REMICA	Remote Microphone — Repeater Mounted	Literature #: 85010-0105

SUBMIT

Security & Access Control

As a true multiplex life safety system, EST3 supports fire alarm as well as security and access control functions. The capacity for this additional functionality is built right into every EST3 panel. All that's needed to take advantage of it is a handful of specialized components.
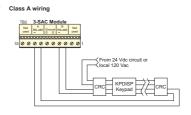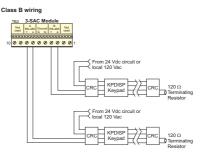
Security/Access Control Module

The 3-SAC Security/Access Control Module is a key component that blends the security and access control functions into the EST3 multiplex life safety system. The 3-SAC is the demarcation point between fire and security functions. For jurisdictions requiring independent wiring of fire and security devices, the 3-SAC offers two independent circuits. Where fire and security devices are permitted to be connected to the same circuit, both circuits can support fire and security functions. All security devices that connect to a 3-SAC are designed, tested and listed to strict fire alarm standards.

The 3-SAC is used in combination with the Modcom Modem Communicator. The Modcom's dialer (DACT) function transmits alarms to one or more central monitoring stations and/or paging terminals. Additionally, information received by the Modcom can be downloaded through the 3-SAC to individual security devices.

The EST3 network ensures that fire alarm events always receive the highest priority over routine signal processing. Power for the 3-SAC comes from the same highly-reliable power supply/ battery combination used to power fire alarm components. Any Control Display module will mount in front of the 3-SAC, allowing great flexibility of the system user interface layout.
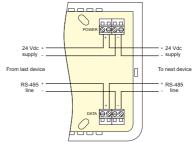
Class A wiring

Class B wiring

3-SAC	Security/Access Control Module	Literature #: 85010-0109

Keypad/Display

The KPDISP is a combination keypad and dot-matrix display designed for use with the EST3 fire alarm/ security/access control systems. The unit features a large LCD display and telephone-style keypad housed in an attractive Cycoloy® case. A removable cover is provided to prevent accidental keypad activation and for protection against dirt.

The KPDISP transmits and receives information from/ to the 3-SAC security access control module installed in the EST3 system. Communication between the KPDISP and the 3-SAC is supervised, providing unprecedented reliability. Credential holder information is encrypted to provide an additional level of security. KPDISP data is stored in non-volatile memory. Power to the KPDISP is provided by the EST3, ensuring a reliable, supervised and backed-up power source.

KPDISP	Keypad/Display	Literature #: 85006-0046
KPDISP-CF	Keypad/Display Configuration Software	Literature #: 85006-0046
KPDISP-ID	Keypad/Display Unique Identification Cards	Literature #: 85006-0046

SECURITY/ACCESS

ACCESSORIES

Marketplace Identifers: EN54   UL   Universal
Consult the appropriate literature sheet for product listing and approvals

SUBMIT

LOCAL RAIL MODULES

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Card Reader Controller

The Card Reader Controller (CRC) provides the power and electronics required to monitor and control a single door with both entry and exit readers. The unit is designed to mount in close proximity to the door it controls, however it can be located remotely from the readers in retrofit applications. The unit is housed in an off-white Cycoloy® housing. Its attractive design allows for surface mounting in exposed areas.

All access decisions are made locally in the CRC. The CRC's non-volatile memory can hold schedules and holiday information for up to 8,000 cardholders. The CRCXM has additional memory, and supports 36,000 cardholders. The memory also retains the last 5,000/20,000 events for logging purposes. This history information is uploaded at the request of the access control database for use in a variety of reports.
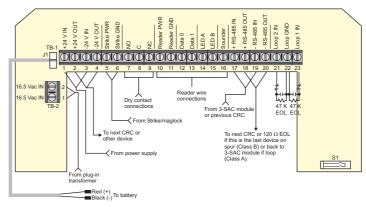
The unit provides 12 Vdc @ ½ amp for door strike or magnetic lock requirements. An integral standby battery can provide up to four hours of service for applications that use electric door strikes. An integral tamper switch is also provided.

Two input circuits are provided for security devices. These are typically used to monitor door position and request-to-exit devices. Input circuits can also be configured as a "buzz in" switch to manually unlock the door, or as security input points.

A handicapped feature output is provided to operate mechanical door openers with extended door-open times. This output is activated when a cardholder with the disabled option activated presents his card to the reader.

Each CRC(XM) contains the entire access control database within its memory. This distribution of intelligence minimizes traffic on the network. Cardholder data is created and stored in the Access Control Database (ACDB) software program that runs on any compatible PC. This information is then encrypted and sent to the CRCs by a hardwire or dial-up connection.

In a life safety network environment, the PC is simply equipped with a conventional modem. The ACDB program then dials up the network and sends the encrypted database information via the network to the individual CRCs. This allows an ACDB to serve multiple sites. Dial-up data entry also permits multiple tenants to share a common access control system without sharing a common database. PCs may also be connected directly to the system using a direct serial connection.

CRC	Card Reader Controller w/memory for 8,000 cardholders	Literature #: 85001-0528
CRCXM	Card Reader Controller w/memory for 36,000 cardholders	Literature #: 85001-0528
CRCSND	CRC Sounder Module	Literature #: 85001-0528
12V1A2	12V @1.2AH Standby Battery	Literature #: 85001-0528
CRCXF	Class 2, 16 Vac Plug in Transformer - 120 Vac to 10 Vac	Literature #: 85001-0528
DLSM	Data Line Supervisory Monitor	Literature #: 85001-0528
ACDB8	Access Control Software - eight doors	Literature #: 85010-0098
ACDB8+	Access Control Software - eight-plus doors	Literature #: 85010-0098
ACDB-SVR	Access Control Database Server Application Software	Literature #: 85010-0098
ACDB-CLNT	Access Control Database Client Application Software	Literature #: 85010-0098

Proximity Card Readers

EST3 card readers feature the latest proximity technology that allows cards to be read when they are held in the vicinity of the reader. This eliminates the need for reader adjustments required by swipe-type readers. Readers are rated for both indoor and outdoor applications and are constructed of rugged sealed polycarbonate, which provides a high degree of vandal resistance as well as protection from harsh environments.

5355AGK0009 Shown

CR-5355 Proximity Card Reader

The CR-5355 proximity card reader is available with or without a keypad. The keypad option provides the additional security offered by a Personal Identification Number (PIN). The CR-5355 mounts on a one-gang electrical box. Dimensions (HWD): 12.7 cm x 12.7 cm x 2.54 cm (5.0" x 5.0" x 1.0").

CR-5355	Standard Proximity Card Reader, Charcoal Gray	Literature #: 85001-0520	
5355AGK0009	HID Brand Proximity Card Reader with Keypad, Charcoal Gray	Literature #: 85001-0520	

CR-5365 Proximity Card Reader

The CR-5365 is a narrow proximity card reader designed for mounting on doorframes or mullions. The CR-5365 mounts on any sturdy surface. Dimensions (HWD): 15.2 cm x 4.36 cm x 2.54 cm (6.0" x 1.7" x 1.0").

CR-5365	Slim-line Proximity Card Reader, Charcoal Gray	Literature #: 85001-0521	

CR-5395 Proximity Card Reader

The CR-5395 is an aesthetically pleasing proximity card reader that is available with a variety of different colour covers. It mounts on a one-gang electrical box. Dimensions (HWD): 11.9 cm x 7.6 cm x 1.7 cm (4.7" x 3.00" x 0.68").

CR-5395	Proximity Card Reader, Charcoal Gray	Literature #: 85001-0522	
C-5395G	Gray Cover for CR-5395	Literature #: 85001-0522	
C-5395B	Beige Cover	Literature #: 85001-0522	
C-5394BL	Black Cover	Literature #: 85001-0522	
C-5394W	White Cover	Literature #: 85001-0522	

CR-6005 Proximity Card Reader

The CR-6005 offers the smallest footprint of any EST proximity card reader. It mounts on any sturdy surface. Dimensions (HWD): 7.98 cm x 4.32 cm x 1.3 cm (3.14" x 1.70" x 0.51").

CR-6005	Mini Proximity Card Reader, Charcoal Gray	Literature #: 85001-0523	

SECURITY/ACCESS

ACCESSORIES

Marketplace Identifers:	EN54	UL	Universal

Consult the appropriate literature sheet for product listing and approvals

SUBMIT

LOCAL RAIL MODULES

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Proximity Access Cards

EST proximity access control cards offer the most convenient access credential available. To request access, the user simply holds the card in the vicinity of the card reader. There is no need to remove the card from a wallet or unclip it when worn as a badge. Cards are not affected by body shielding or environmental conditions, even when kept near keys and coins.

EST proximity cards feature a highly reliable passive design that requires no batteries. Over 100,000,000 unique codes are available in a package the size of a standard credit card. Each card has an external ID number printed on the card for ease of entry into any system database.

PC-1326	Molded proximity card, with EST logo	Literature #: 85001-0524
PC-1386	ISO format proximity card, with EST logo	Literature #: 85001-0524
PC-1386B	ISO format proximity card, no logo	Literature #: 85001-0524
EST-PC	Molded proximity construction card with EST logo	Literature #: 85001-0524

Key Fob Proximity Access Credential

The PK-1346 incorporates a proximity access credential in the form of an ordinary key fob. The small convenient size is designed to hang on a key ring, so it's always accessible. Packaged in an ultrasonically-welded charcoal gray polycarbonate shell, this lightweight credential is virtually unbreakable and works in a wide range of environmental conditions. The fob's passive design requires no batteries, and the read range is not affected by body shielding or environmental conditions, even when close to keys or coins.

PK-1346	EST Key Fob Proximity Access Credential	Literature #: 85001-0525

Proximity Tag Access Credential

The PT-1391 proximity tag is a paper-thin self-adhesive transponder that can be fixed to any non-metallic surface. The small black disk may be affixed to existing identification badges, or magnetic stripe and barium ferrite (Wiegand) access credentials, permitting a seamless migration path to proximity technology, without the need for multiple cards during the transition period. The proximity tag may also be used on personal objects such as cell phones and PDAs, instantly turning these devices into access credentials.

PT-1391	Proximity Tag Access Credential	Literature #: 85001-0525

SUBMIT

Cabinets & Chassis

EST3 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

EST3 lobby enclosures provide space for control, monitoring and display modules. Ideal for mounting in lobbies where appearance is important, maximum mounting flexibility is provided with 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 grey baked enamel or red baked enamel finishes.

3-CAB7B-E	Wallbox only — one chassis, grey	Literature #: 85010-0067
3-CAB7D(R)-E	Inner and outer doors for 3-CAB7B-E, grey (red)	Literature #: 85010-0067
3-CAB14B-E	Wallbox only — two chassis, grey	Literature #: 85010-0067
3-CAB14D(R)-E	Inner and outer doors for 3-CAB14B-E, grey (red)	Literature #: 85010-0067
3-CAB21B-E	Wallbox only — three chassis	Literature #: 85010-0067
3-CAB21D-E	Inner and outer doors for 3-CAB21B-E	Literature #: 85010-0067
3-CAB5(R)	Cabinet with Wallbox and door — five LRM spaces	Literature #: 85010-0067
3-CAB7B	Wallbox only — one chassis	Literature #: 85010-0067
3-CAB7D(R)	Inner and outer doors for 3-CAB7B	Literature #: 85010-0067
3-CAB14B	Wallbox only — two chassis	Literature #: 85010-0067
3-CAB14D(R)	Inner and outer doors for 3-CAB14B	Literature #: 85010-0067
3-CAB21B	Wallbox only — three chassis	Literature #: 85010-0067
3-CAB21D(R)	Inner and outer doors for 3-CAB21B	Literature #: 85010-0067

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 wallbox and door (one chassis)	Literature #: 85010-0067
3-RCC14R-E	Red wallbox and door (two chassis)	Literature #: 85010-0067
3-RCC21R-E	Red wallbox and door (three chassis)	Literature #: 85010-0067
3-RCC7R	Red wallbox and door (one chassis)	Literature #: 85010-0067
3-RCC14R	Red wallbox and door (two chassis)	Literature #: 85010-0067
3-RCC21R	Red wallbox and door (three chassis)	Literature #: 85010-0067

Chassis Assemblies

3-CHASS4	Provides space for 3-REMICA and four local rail modules	Literature #: 85010-0067
3-CHAS7	Provides space for seven local rail modules	Literature #: 85010-0067

Cabinet Accessories

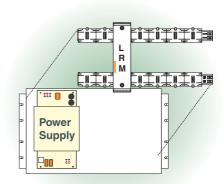|		
3-BATS	Battery Shelf for RCC Enclosures. Room for up to one 65 AH battery	Literature #: 85010-0067
3-TAMP	Tamper switch for 3-CAB7, 3-CAB14 and 3-CAB21 cabinets	Literature #: 85010-0067
3-TAMP5	Tamper switch for 3-CAB5	Literature #: 85010-0067
3-TAMPRCC	3-TAMPRCC Tamper Switch for RCC series cabinets. Mounts to side of cabinet.	Literature #: 85010-0067
ATCK	Attack rated door for 3-RCC7R (for security applications)	Literature #: 85010-0067

ACCESSORIES

Marketplace Identifers:	EN54	UL	Universal

Consult the appropriate literature sheet for product listing and approvals

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LOCAL RAIL MODULES

DISPLAY

REMOTE REPEATERS

AUDIO

SECURITY/ACCESS

ACCESSORIES

SUBMIT ✓

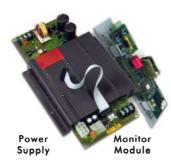# Power Supplies

EST3 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.
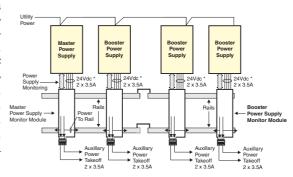
L R M

Power Supply

Main Panel Power Supplies

Power Supply / **Monitor Module**

EST3 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 changing circuits for either 10-24 AH batteries or 30 – 65 AH batteries and controls the high/low charge rate.

Utility Power

| Master Power Supply | Booster Power Supply | Booster Power Supply | Booster Power Supply |

Power Supply Monitoring

Master Power Supply Monitor Module

24Vdc * 2 x 3.5A

Power To Rail

Rails

Rails

Booster Power Supply Monitor Module
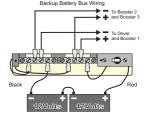
Auxillary Power Takeoff 2 x 3.5A

EST3 power supplies individually monitor batteries for load deficiencies, short circuits, and insufficient voltage levels and report trouble back to the 3-CPU3. The 3-LCD displays any troubles and the power supply's address, a specific trouble code, and a text message describing the specific trouble.

3-PPS/M	Primary Power Supply w/ local rail module 120V 50/60 Hz	Literature #: 85010-0059
3-BPS/M	Booster Power Supply w/ local rail module 120V 50/60 Hz	Literature #: 85010-0059
3-BBC/M	Booster/Charger Supply w/local rail module 120V 50/60Hz	Literature #: 85010-0059
3-PPS/M-230	Primary Power Supply w/ local rail module 230V 50/60 Hz	Literature #: 85010-0059
3-BPS/M-230	Booster Power Supply w/ local rail module 230V 50/60 Hz	Literature #: 85010-0059
3-BBC/M-230	Booster/Charger Supply w/local rail module 230V 50/60Hz	Literature #: 85010-0059
3-PPS/M-230-E	Primary Power Supply w/local rail module 230V 50 Hz, EN-54 Certified, CE	Literature #: 85010-0059
3-BPS/M-230-E	Booster Power Supply w/local rail module 230V 50 Hz, EN-54 Certified, CE	Literature #: 85010-0059
3-BBC/M-230-E	Booster/Charger Supply w/local rail module 230V 50/60Hz	Literature #: 85010-0059
3-BBCMON	Booster/Charger Monitor Module with charger capability (used to upgrade BPS to BBC)	Literature #: 85010-0059
3-BBCMON-E	Booster/Charger Monitor Module with charger capability (used to upgrade BPS to BBC)	Literature #: 85010-0059

Backup Battery Bus Wiring

To Booster 2 and Booster 3

To Driver and Booster 1

Battery Distribution Unit

The 3-BTSEN 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 features a 50 Amp circuit breaker to protect the backup battery. The 3-BTSEN mounts in the BC-1 Battery cabinet or any EST3 "RCC" series enclosure.

Black

Red

12Volts   12Volts

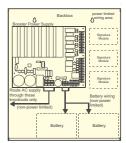| 3-BTSEN-E | Battery Distribution Unit w/temperature probe | Literature #: 85010-0111 |
| 3-BTSEN | Battery Distribution Unit | Literature #: 85010-0111 |

Remote Booster Power Supply

The Remote Booster Power Supply is a self-contained 24 Vdc power supply designed to augment fire alarm audible and visual power requirements. The booster contains all of the necessary circuits to monitor and charge batteries, control and supervise four spur (Class B) or two loop (Class A) sounder circuits and monitor two controlling inputs from external sources.
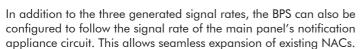
Simple switch selection provides a wide variety of operational configurations. Each remote booster power supply is supplied with its own enclosure providing ample space for additional interface modules and battery compartment. The BPS is available in either a 6.5 or 10 amp version @ 24 Vdc.
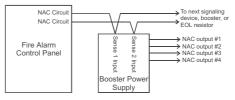
The Remote Booster Power Supply provides additional power for audible and visual devices when constrained by system capacity or site application. Fault conditions detected by the BPS will open the main panel's sounder circuit. This initiates a trouble condition and eliminates the need to wire a separate trouble contact back to the control panel. During alarm condition, detected faults are overridden and the main panel's default configuration is restored.

The BPS's default output configuration is continuous 24 Vdc on all NACs. This output is typically used to drive visual devices.

BPS notification appliance circuits easily configure for any one of three signalling rates: 120 SPM, 3-3-3 temporal, or continuous. This makes the BPS ideal for applications requiring signalling rates not available from the main panel. It also allows independent setup of a notification appliance circuit without interfering with the main panel and its initiating circuits.

In addition to the three generated signal rates, the BPS can also be configured to follow the signal rate of the main panel's notification appliance circuit. This allows seamless expansion of existing NACs.

Wiring: Single Booster on Sounder Circuit
(See literature sheet for more wiring options)

BPS6	**Booster Power Supply, 6.5A, 120V**	**Literature #: 85005-0107**
BPS6220	**Booster Power Supply, 6.5A, 220V**	**Literature #: 85005-0107**
BPS10	**Booster Power Supply, 10A, 110V**	**Literature #: 85005-0107**
BPS10220	**Booster Power Supply, 10A, 220V**	**Literature #: 85005-0107**
260006	**UL Listed Fuse Holder c/w 4 Amp Fuse**	**Literature #: 85005-0107**

Batteries and Battery Cabinets
Literature #: 85010-0127

12 Volt Batteries	❏12V4A (4.5 Ah)	❏12V6A5 (7.2 Ah)	❏12V10A (11 Ah)		
❏12V17A (17 Ah)	❏12V24A (26 Ah)	❏12V40A (40 Ah)	❏12V50A (50 Ah)	❏12V55A (55 Ah)	❏12V65A (65 Ah)
6 Volt Batteries	❏6V8A (8 Ah)	❏6V10A (12 Ah)			
Battery Cabinets	❏BC-1 (holds up to two 40 Ah batteries)		❏3-RCC used as large battery enclosure (holds up to two 65 Ah batteries)		

ACCESSORIES

Marketplace Identifers: EN54   UL   Universal
Consult the appropriate literature sheet for product listing and approvals

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SUBMIT

LOCAL RAIL MODULES

DISPLAY

REMOTE REPEATERS
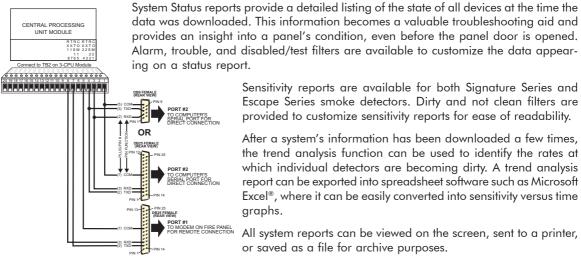
AUDIO

SECURITY/ACCESS

ACCESSORIES

Network Accessories

Remote Diagnostic Utility

The Remote Diagnostic Utility (RDU) is a Windows®-based communications program used to remotely access and download status and sensitivity information from EST3 fire alarm systems. The RDU can accommodate over 1,000 individual sites in its database.

The RDU is ideal for multiple system owners and those responsible for systems located over a large geographic area. In the event of Trouble, system status can be quickly determined with a single phone call, before dispatching service personnel.

The RDU computer communicates with the panel over telephone lines. At the remote panel location, a modem is connected to one of the panel's serial ports and a conventional dial-up telephone line. Alternately, the RDU computer can be directly connected to the panel when visiting the panel site.

System Status reports provide a detailed listing of the state of all devices at the time the data was downloaded. This information becomes a valuable troubleshooting aid and provides an insight into a panel's condition, even before the panel door is opened. Alarm, trouble, and disabled/test filters are available to customize the data appearing on a status report.

Sensitivity reports are available for both Signature Series and Escape Series smoke detectors. Dirty and not clean filters are provided to customize sensitivity reports for ease of readability.

After a system's information has been downloaded a few times, the trend analysis function can be used to identify the rates at which individual detectors are becoming dirty. A trend analysis report can be exported into spreadsheet software such as Microsoft Excel®, where it can be easily converted into sensitivity versus time graphs.

All system reports can be viewed on the screen, sent to a printer, or saved as a file for archive purposes.

RDUEU-E	**Remote Diagnostic Utility for End Users — CD-ROM**	**Literature #: 85010-0101**

Serial Printer

The PT-1 series printers are high-speed, nine-pin dot matrix type. They use standard, continuous tractor feed computer paper. The PT-1 is used to permanently record life safety system changes of state. All printed entries contain the date, time, event type and a user-defined message for each printed event. The printer is required in proprietary systems and requires a backup UPS power source. In auxiliary, local, or remote station systems, the printer is optional. Printer paper may be fed from the rear or bottom of the printer.

PT-1S	**Serial Printer —115 Vac**	**Literature #: 270020**
PT-1S/220	**Serial Printer — 220/240 Vac**	**Literature #: 270020**

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Marketplace Identifers: EN54   UL   Universal
Consult the appropriate literature sheet for product listing and approvals
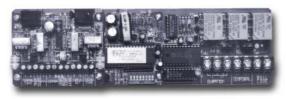
SUBMIT

RS-232 Optical Isolator Card

The IOP3A is an optically isolated RS-232 card that electrically isolates the power between the CM1(N), CM2N, FCC, and 3-CPU3. The IOP3A also provides power for use with short haul modems and fiber optic drivers. The IOP3A is a 1/2 size footprint card that is mounted in an enclosure adjacent to the CM1(N), CM2N, FCC, or 3-CPU3. The module is powered by the system power supply that provides battery back up. The IOP3A, through it's on-card regulator, generates isolated power for the RS-232 drivers. The on-card regulator also provides isolated 12 Vdc power for use with external modems and drivers. Two RS-232 ports are provided that operate parallel with each other. A DB-9 connector is available for a convenient point of connection for a system program download cable.

| IOP3A | Isolated RS-232 card | Literature #: 270039 | ☐ |

CDR-3 Coder

The CDR-3 Coder is an auxiliary circuit option module that provides two audio outputs, March Time and PSNI, (Positive, successive, non-interfering). Dry relay contacts are provided for PSNI code, march time and duration. For the PSNI code, the RS-232C input provides communications, between EST3's RS-232 communications card and the CDR-3. The RS-232 port is actively supervised by the CDR-3. If the coder senses a loss of communication, the CDR-3 begins operating in a fail safe mode. When the fail safe mode is active all outputs, (tone and dry contact) activate with a march time code. The CDR-3 provides buffering for up to fifty active codes. The mode and baud rates are dipswitch selectable. The coder outputs four rounds of code and then, through DIP switch selected options, will either: 1) stop and wait for next code; 2) continue; or, 3) change to march time code until reset.

| CDR-3 | PSNI Coder Module | Literature #: 270009 | ☐ |

MTM March Time Module

The March Time Coder provides March Time, Morse "S", or Morse "U" codes. The code, generated on-board, is selected by contact closure or terminal block jumper configurations. The output is provided through Form C dry contacts. The MTM is activated by applying power through a contact closure.

| MTM-1 | March Time Coder Module | Literature #: 270009 | ☐ |

Network Short Haul Modem

EST3 networks easily configure for use over existing copper telephone lines using the 3-NSHM Short Haul Modem Communications Interface. The 3-NSHM electronics card, plugs right into the 3-CPU3. A ribbon cable connects the 3-CPU3 directly to the modem interface card. The interface card mounts on the right rear of a 3-CHAS7 chassis. No local rail space is used. The 3-NSHMs uses the 3-MPFIB mounting bracket for 3-CAB5 enclosure mounting.

| 3-NSHM1 | Network Short Haul Modem, single modem connection | Literature #: 85010-0113 | ☐ |
| 3-NSHM2 | Network Short Haul Modem, two modem connections | Literature #: 85010-0113 | ☐ |

ACCESSORIES

LOCAL RAIL MODULES

DISPLAY
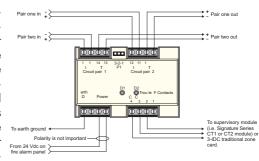
REMOTE REPEATERS

AUDIO

SECURITY/ACCESS

ACCESSORIES

SUBMIT
✓

Network Accessories

Ground Fault Detection Module

The GFD module is designed to detect ground fault conditions on either of two independent power or data circuits. Each circuit must be balanced with respect to ground. The module will detect when the resistance between any of the monitored conductors and earth ground drops below 10 K Ohms. Two LEDs are provided to indicate the conductor with the ground condition. A normally energized Trouble/Ground Fault relay is provided with NO/NC relay contacts for interfacing with monitoring systems.
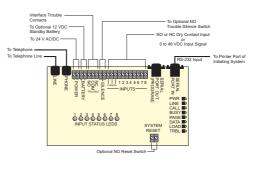
GFD	Ground Fault Detection Module	Literature #: 85010-0115

Alphanumeric Pager Interface

The API-8/232ME is an interface between alarm and monitoring equipment and personal pager systems or PCS messaging services. The interface ensures that key personnel, regardless of their location, are notified of EST3 status changes. The unit can monitor an ASCII text string from a serial printer port for eight different event types. Each event type is defined by one or two programmable keywords up to 20 characters in length.

API-8/232ME	Paging System Interface with programming software	Literature #: 85006-0045

Communications Bridge

The 3-SM8051-0139 Communication Bridge converts the EST3 External Communications Protocol (ECP) to a variety of commercial protocols that facilitate one-way and two-way communications between EST3 and other in-building systems and sensors using a common protocol via an Ethernet LAN.

3-SM8051-0139	Communications Bridge	Literature #: 85010-0119
3-SM8700-07	BacNet® Driver - ArcNet (Includes ArcNet Card)	Literature #: 85010-0119
3-SM8700-19	Driver, Metasys N2 (Johnson Controls)	Literature #: 85010-0119
3-SM8704-02	BacNet Driver - Ethernet Dedicated	Literature #: 85010-0119
3-SM8700-39	EST Driver	Literature #: 85010-0119
8051-01-ESTPROG	Custom Programming	Literature #: 85010-0119

Marketplace Identifers: EN54   UL   Universal
Consult the appropriate literature sheet for product listing and approvals

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Submittal Guide: EST3 Life Safety and Security Solutions

This Submittal Guide is a concise summary of EST3 control, display, communications, and security components. It is intended as a supplement to product literature. Information on field devices, including detectors, sounders, callpoints and more, can be found in *Submittal Guide: Field Devices*. To obtain copies of this book, please order part number 85010-0138.

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EDWARDS SYSTEMS TECHNOLOGY