



Intelligent Fire Alarm Systems

EDGE-ML Series

Overview

EDWARDS brand intelligent life safety systems offer the power of high-end intelligent processing in configurations that deliver uncomplicated solutions for small to mid-sized applications. With intelligent detection, electronic addressing, automatic device mapping, built-in Ethernet® connectivity, and a full line of easily-configured option cards and modules, these flexible systems offer versatility that benefits building owners and contractors alike.

The EDGE-ML provides one Class A or Class B intelligent device loop that supports up to 250 device addresses. Loop controller modules may be added in combination to expand total system capacity in 250-point increments to up to 1,000 device addresses. The EDGE-ML panel includes four NACs that may be wired for either Class A (using EDGE-CLA1) or Class B operation.

The RZ16-2 module adds even more capacity to EDGE-ML installations by adding up to 16 conventional device circuits and two additional notification appliance circuits. This makes them an ideal retrofit solution that can accommodate new intelligent detectors, as well as existing conventional devices.

EDGE Series supports a wide range of high-end features, including:

- Supports 10-Year Carbon Monoxide detectors
- R-Series remote annunciators
- SIGA-REL Releasing Modules for sprinkler control
- Fully integrated CO detection using Signature Series detectors with or without audible signaling
- Supports up to 72 LEDs and 72 Switches via optional control display modules



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Features

- 10" capacitive touchscreen LCD display/user interface
- 10A power supply – with Voltage Boost™
- Supports Signature Series intelligent modules and detectors
- Combines the Signature intelligent releasing module with Signature multisensor detectors for reliable fire suppression
- Electronic addressing with automatic device mapping
- Built-In Ethernet port for central station monitoring service, printing local diagnostics and a variety of system reports.
- Six programmable virtual switches with custom labeling – accessible on the touchscreen display
- Supports Genesis horn silence over two wires, and UL 1971-compliant strobe synchronization
- Ground fault detection by module
- Supports up to 30 serial annunciators, (LCD, LED – Type Only)
- Can use existing wiring for most retrofit applications
- Upload/download locally
- Built-In USB-C port for programming using the configuration utility on a technician's laptop.
- Two-level maintenance alert reporting
- Pre-alarm and alarm verification by point
- Adjustable detector sensitivity
- Positive Alarm Sequence (PAS)
- Standalone operation
- Two stage configuration – Canada
- Alarm ON (functionality enabled using the EDGE-CU) command manually activates alarm condition
- Form C contacts for Alarm, Trouble (programmable), and Supervisory (programmable)
- ConnectedSafety+ integration over Ethernet for direct access to live system updates, real time notifications and on demand reports

Application

EDWARDS EDGE Series life safety systems are powerful intelligent solutions for small to mid-sized buildings. Advanced intelligent technology delivers the benefits of flexible system installation, while clean and easy-to-operate user interfaces make panel operation and system maintenance quick and intuitive.

The smart choice

Signature Series electronic addressing eliminates the tedium of setting dipswitches, and automatic device mapping ensures that each device resides on the system at its correct location. Meanwhile, innovative programming allows the designer to customize the system to precisely suit the needs of the building owner.

Reliability you can count on

The inherent fault-tolerant characteristics of Analog/Addressable Technology boosts the reliability of EDWARDS fire alarm systems. When combining EDGE Series with Signature Series smoke and heat detectors, these systems deliver a level of dependability not previously available for small to mid-sized applications. All EDWARDS systems are built to exacting reliability benchmarks.

Clear-cut remote annunciation

Signature Remote annunciation is a strong suit of the EDGE Series fire alarm systems. Up to 30 annunciators can be installed on a single system. Compatible annunciators include a range of LED and LCD models that provide zone or point annunciation, as well as common control capabilities.

Flexibility built right in

Six fully-programmable virtual switches accessible via the panels 10" touchscreen LCD display, providing an added measure of flexibility. Custom labeling and functionality can be programmed using the EDGE-CU.

Perfect for retrofits

EDWARDS EDGE Series control panels are particularly well-suited to retrofit applications. All connections are made over standard wiring – no shielded cable required. This means that in most situations existing wiring can be used to upgrade a legacy control panel to EDGE technology without the expense or disruption of rewiring the entire building. EDGE control panels also support the ingenious RZ116-2 Zone Module, which adds up to 16 conventional circuits and two NACs. This combination easily accommodates new intelligent detection alongside existing conventional circuits, making it a superior solution in the retrofit market. The EDGE series offers a panel retrofit kit that helps to eliminate disturbing existing pipe and wire going into a backbox.

Scalable IP and Cellular Communications

Built-In Ethernet port supports IP connection to a central station's Sur-Gard receiver, meeting one of the methods of communication allowed by NFPA 72.

Signals with a difference

EDGE panel NACs are configurable using the EDGE-CU configuration utility to fully support the advanced signaling technology of EDWARDS Genesis and Enhanced Integrity notification appliances. These appliances offer precision synchronization of strobes to UL 1971 standards. For Genesis appliances, enabling this feature allows horns to be silenced while strobes on the same two-wire circuit continue to flash until the panel is reset.

A complete line of accessories

EDGE Series life safety systems are supported by a complete line of analog/addressable detectors, modules and related equipment. Consult the Ordering Information section for details.

Programming

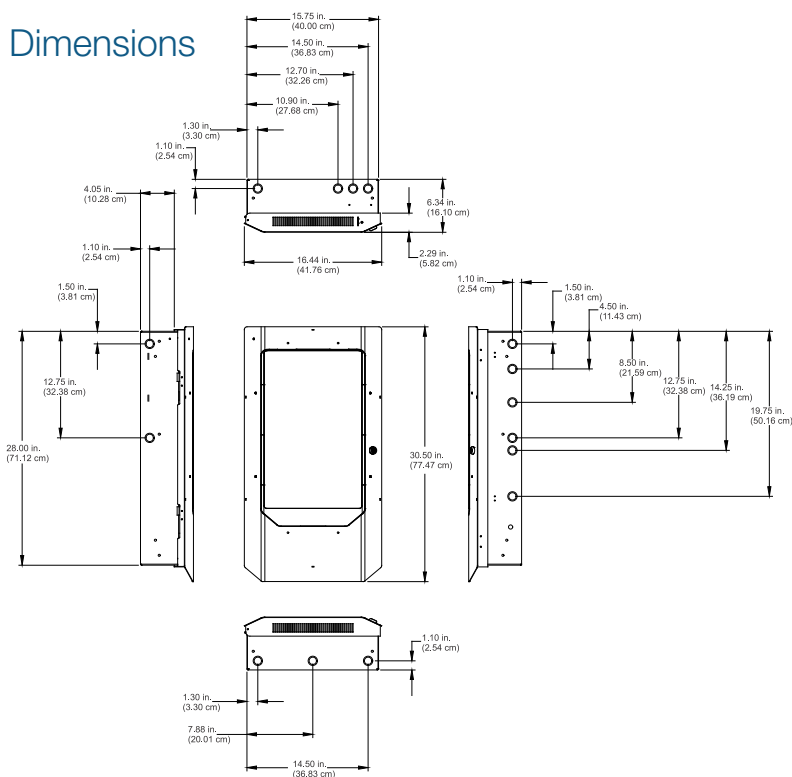
EDWARDS EDGE Series life safety systems are simple to set up, yet offer advanced programming features that put these small building panels into a class of their own.

For more advanced system configuration and correlation groups programming, EDGE Series systems interface to a PC running compatible EDGE-CU software. This option offers full system configuration in the familiar Windows® operating environment. Connection is made to a laptop through the panel's built-in USB-C communications port.

Among the many innovative features of EDGE Series control panels is the built-in Ethernet port. This interface provides a standard 10/100 Base T Ethernet® network connection that permits connection to a printer for fire alarm applications, also UL864 listed for central monitoring service.

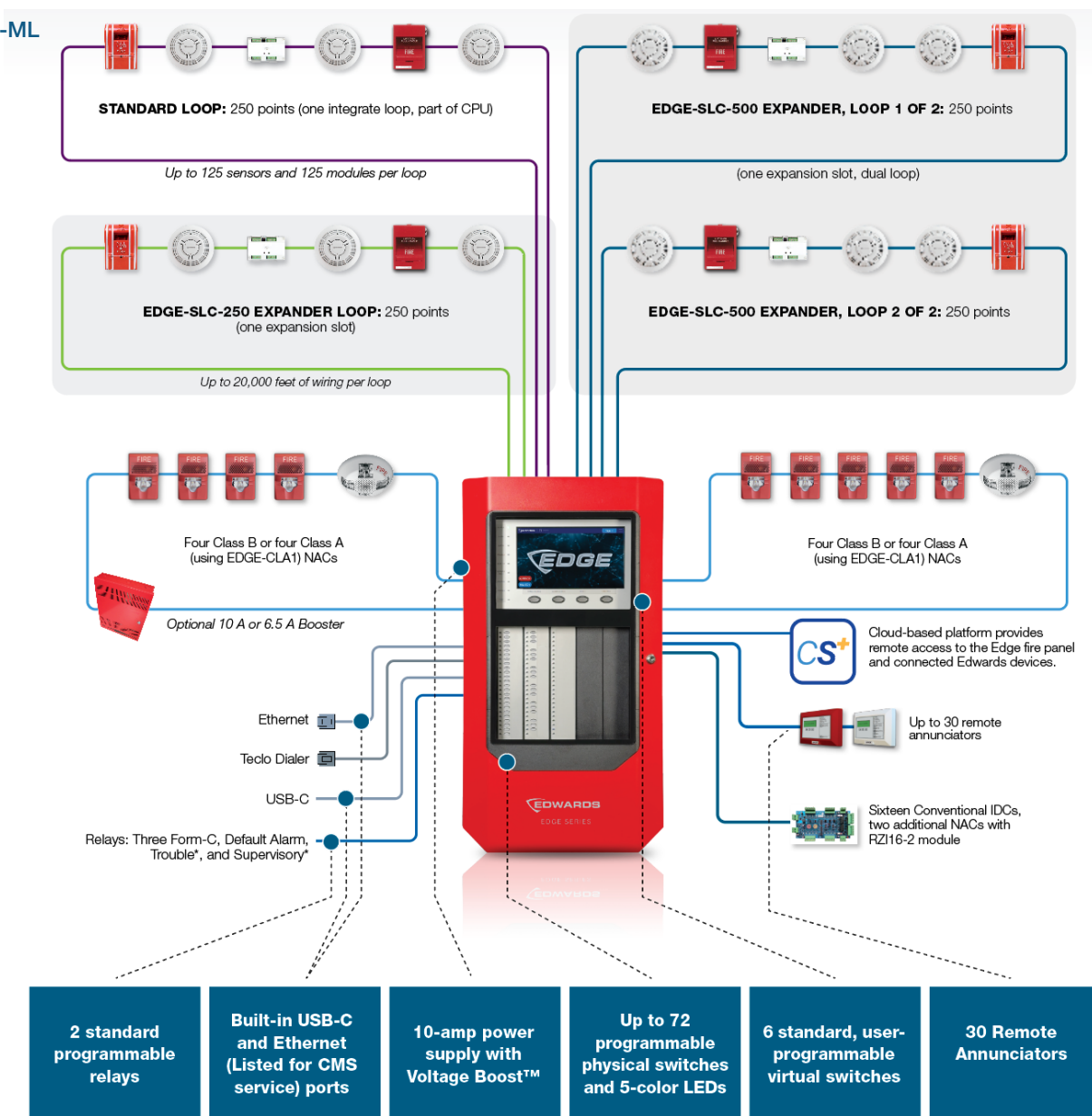
Available system reports include: Project, Loops, Groups, Correlations, Connectivity, Control/Display, Panel Status, Maintenance, Events, Informational, and Device Details.

Dimensions



System Layout

EDGE-ML

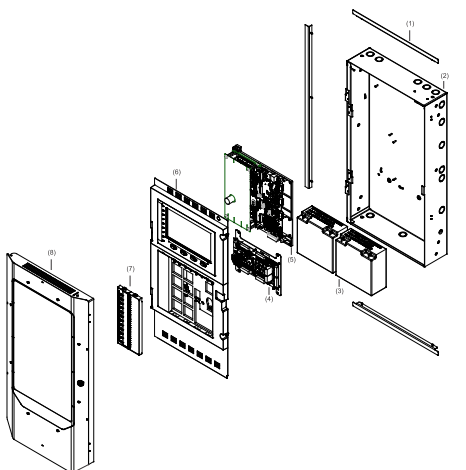


* Programmable

EDGE-ML loops support 125 detector addresses and 125 modules addresses.

Panel Layout

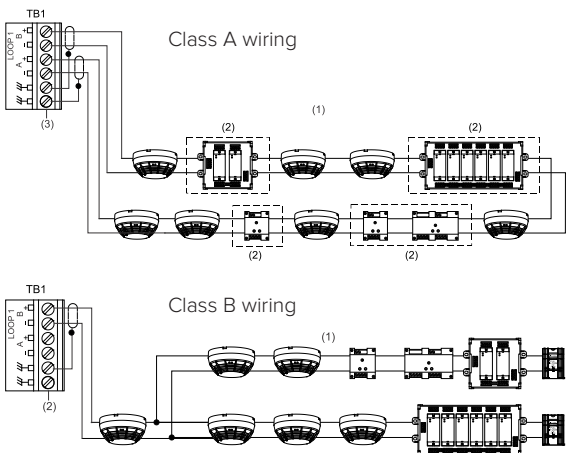
- 1 EDGE-PTK2 Trim Kit – Optional
- 2 Backbox (same height x width of iO500/ iO1000)
- 3 Holds up to two 18AH standby batteries
- 4 RZI16-2 Zone Card – Optional
- 5 Main Electronics Assembly – Power Supply & CPU
- 6 Inner Door Assembly with 10" Touchscreen LCD
- 7 LED/Switch Control Display modules – Optional
- 8 Outer EDGE Panel Series Door – Red or Grey



Wiring & Configuration

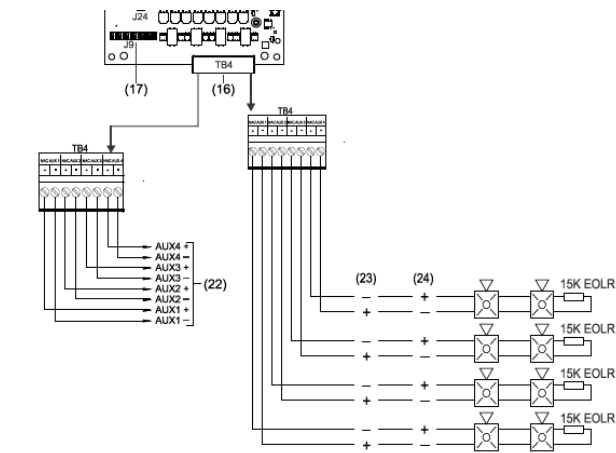
Signature device loop

The system provides one device loop circuit with a total capacity of 125 detectors and 125 module addresses. The loop circuit is supervised for opens, shorts, and grounds.



Notification appliance circuits (TB4 on CPU board)

EDGE-ML control panels come equipped with four notification appliance circuits. Each circuit can be individually configured for continuous, temporal, synchronized, and coded output.

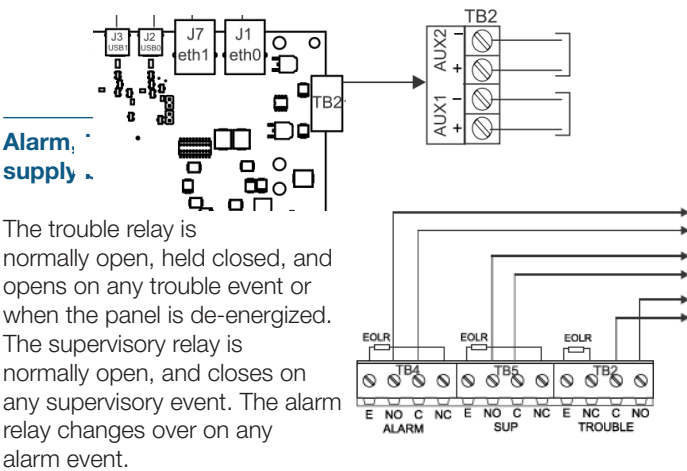


Specifications	EDGE-ML
Circuit Type	4 Class B or 4 Class A (Use EDGE-CLA1 for Class A)
Voltage	24 VDC Filtered Regulated
Current	8.0 A total, 2.5 max. (2.0 A when configured as AUX power) per current at 120/240 VAC 60 Hz.
EOLR	15 K Ω , 1/2 W
Signal Synchronization	(1) Synchronization supported between built-in notification appliance circuits (NACs) and built-in device loop #1 on the CPU. (2) Outputs on the expansion loop sync with other outputs on that same loop, not across loops.

Auxiliary & smoke power outputs (TB2 on CPU board)

The control panel provides two auxiliary power outputs that can be used for powering ancillary equipment such as remote annunciators and two wire smoke detectors. The circuit is supervised for shorts and grounds. Aux outputs can be configured as resettable or non-resettable using the EDGE-CU.

Circuit specifications	
Circuit voltage range	22.5 to 26.5 V (when running on batteries)
Resettable circuit (Aux power 2)	Each Aux output provides 1.0 A and is configurable as resettable or non-resettable.
Continuous circuit (Aux power 1)	Each Aux output provides 1.0 A and is configurable as resettable or non-resettable.



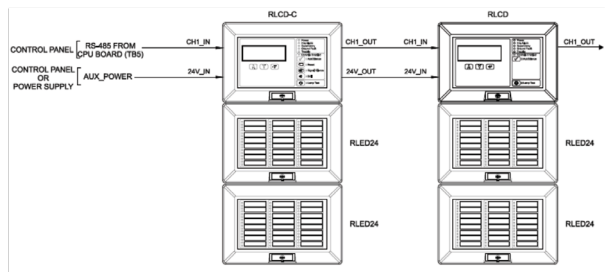
Relay specifications

Common relays	
Current	
Standby	0mA at 24 VDC
Alarm/active	8 mA at 24 VDC
Quantity	3 (alarm, supervisory, trouble)
Type	Form C
Rating	30 VDC at 1.0 A, 1.0 PF
Wiring	Class E

Relay circuits can only be connected to power-limited sources.

Annunciator loop (TB5 on CPU board)

The control panel provides a connection for up to 30 serially driven and supervised remote annunciators. For more about R-Series annunciators, see the R-Series Remote Annunciator Technical Reference Manual (P/N 3102919).



Option Cards

EDWARDS EDGE Series panels are supported by a complete line of modules and related equipment that enhance performance and extend system capabilities. Option cards plug directly into the control panel main circuit board or mount to the inner door.

Single and Dual Loop Controller Cards

The EDGE-SLC-250 is a single loop controller card that can be used with the EDGE-ML as a 250-point expansion module.

The EDGE-SLC-500 is a 500-point dual loop controller card for the EDGE-ML that provides two SLC circuits, each with 125 detector addresses and 125 module addresses.

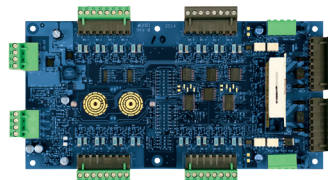
Specifications	EDGE-SLC-250	EDGE-SLC-500
Device Addresses	EDGE-ML: one loop, 250 device addresses	EDGE-ML: two loops, 500 device addresses
Wiring	Class B or Class A	
Operating Voltage	24 VDC	
Operating Current (fully loaded loop)	Standby: 65 mA Alarm: 86 mA	Standby: 110 mA Alarm: 151 mA
Note: These ratings do not include the use of two-wire smoke modules.		
Communication Line Voltage	Max. 20.6 V peak-to-peak	
Terminal Rating	12 to 18 AWG (1.0 to 4.0 mm ²)	
Circuit Current	0.5 A max.	
Max total loop resistance	100 Ω	
Max total loop capacitance	0.5 μ F	
Isolators	64 isolators maximum per loop (total both isolator bases and modules)	
Ground Fault Impedance	0 to 5 k Ω	

Built-In Ethernet Interface/IP Communicator

Built-in ETH port provides a standard 10/100 Base T Ethernet network connection for connecting to an intranet, a local network, or the Internet. The interface supports IP connectivity for monitoring services by a supervising station to meet NFPA 72 Chapter 26. The Ethernet function uses the FIBRO protocol to communicate with Sur-Gard System receivers (see below).

ETH specifications	
Ethernet	10/100 Base-T
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)
Compatible Sur-Gard Receivers	SG-System I, II, III, IV and 5

RZI16-2 Remote Zone Interface Module



The RZI16-2 Addressable Remote Zone Interface Module is an addressable device that provides connections for sixteen Class B Initiating Device Circuits and two Class B Supervised Output Circuits. The inputs and outputs can be configured individually for several device types.

It requires 18 consecutive addresses on the Signaling Line Circuit (SLC). Addresses are assigned electronically. There are no address switches to set.

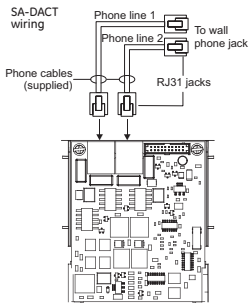
The RZI16-2 incorporates two 8-segment DIP switches that are used to select the Alarm or Supervisory default device type for each of the 16 IDC circuits. The module also includes one 4-segment DIP switch used to select the default Relay or NAC output device type. Device types other than the default are accomplished through programming.

RZI16-2 Specifications

Voltage/Current	
24V/Aux nominal:	24 VDC
Supervisory current:	250 mA at 24 VDC nominal
Alarm Current	1000 mA
24V/Aux minimum:	18.4 VDC
24V/Aux maximum:	26.4 VDC
NAC1, NAC2 nominal:	24 VDC
Current Per Circuit	
Standby current for 4.7 k EOL (U.S.)	4.8 mA/ circuit
Standby current for 3.9 k EOL (Canada)	5.7 mA/ circuit
Alarm current at nominal voltage	31.1 mA/ circuit
Relay outputs	
Quantity	2
Type Rating (pilot duty)	Programmable 24 VDC at 2.5 A
Input circuit wiring resistance	25 Ω per wire
Initiating device circuits	
Quantity	16
EOL resistor	4.7 k Ω (U.S.); 3.9 k Ω Canada
Zone voltage	23.9 V for 4.7 k Ω (U.S.) 23.2 V for 3.9 k Ω (Canada)
Alarm current	33.2 mA/ channel at nominal voltage 35 mA max
Alarm impedance range	< 680 Ω
Trouble impedance range	> 6.0 k Ω
Supervised output circuits	
EOL resistor	15 k Ω
Quantity	2
Short circuit detection	< 2.6 k Ω
Open circuit detection	> 66.0 k Ω
Contact ratings	24 VDC at 2.5 A (5 A for two NACs)
Compatible cabinets	MFC-A, EDGE-ML, APS

SA-DACT Dialer

The SA-DACT provides communications between the control panel and the central station over a telephone line system. It transmits system status changes (events) to a compatible digital alarm communicator receiver over the public switched telephone network. The dialer is capable of single, dual, or split reporting of events to two different account and telephone numbers. The modem feature of the SA-DACT can also be used for uploading and downloading panel configuration, history, and current status to a PC running the EDGE-CU.



The dialer phone lines connect to connectors on the dialer's main circuit board. Phone line 1 connects to connector J4 and phone line 2 connects to connector J1.

The SA-DACT queues messages and transmits them based on priority (alarm, supervisory, trouble, and monitor). Activations are transmitted before restorations.

The SA-DACT is installed on the plastic assembly and connects to the main circuit board via a ribbon cable.

SA-DACT specifications

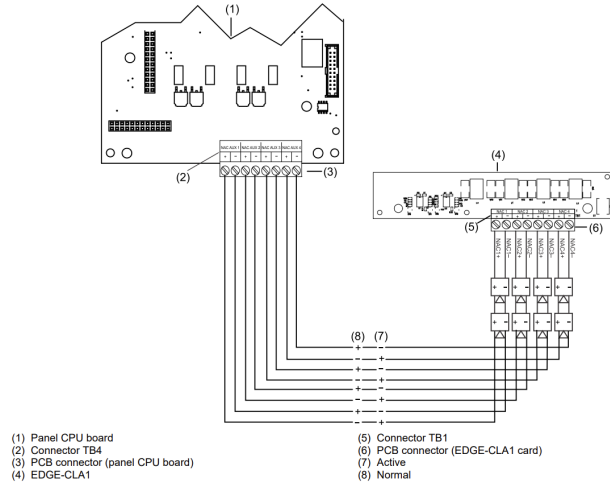
Phone line type	One or two loop-start lines on a public, switched network
Phone line connector	RJ-31/38X (C31/38X)
Communication formats	Contact ID (SIA DC-05)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)

Compatible DACRs

Receiver	Models	Formats
Ademco	685	Contact ID
FBI	CP220	Contact ID
Osborne-Hoffman	OH 2000	Contact ID
Bosch	D6600	Contact ID
Silent Knight	9800	Contact ID
Sur-Gard	SG-MLR1, MLR2	Contact ID

EDGE-CLA1 Class A Module (EDGE-ML)

The EDGE-CLA1 card provides Class A capability for NAC wiring. Its terminal block provides the wiring connection for NAC return wiring. The EDGE-CLA1 is compatible with EDGE-ML control panels only. The EDGE-CLA1 is installed directly to the control panel circuit board using its plastic standoffs and plug connection.



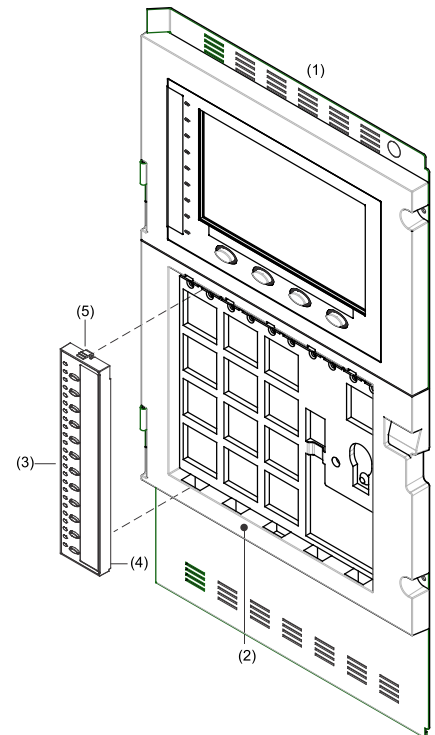
- (1) Panel CPU board
- (2) Connector TB4
- (3) PCB connector (panel CPU board)
- (4) EDGE-CLA1
- (5) Connector TB1
- (6) PCB connector (EDGE-CLA1 card)
- (7) Active
- (8) Normal

EDGE-CLA1 specifications

Operating voltage	24 V Filter Regulated
Operating current	Max. current 2.5 A per circuit (8.0 A total)
Circuit impedance	26 ohms, 0.35uF
Terminal rating	12 to 18 AWG (1.0 to 4.0 mm ²)
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Humidity	0 to 93% RH, noncondensing at 90°F (32°C)
Standby	7 mA
Alarm	25.5 mA

EDGE-24L Series Control Display Modules

EDWARDS EDGE Series are supported by a complete line of LED and Switch control display modules increasing versatility of the entire system. Each LED and Switch can be configured using the EDGE-CU to operate independent of each other or the Switch triggering the LED in a correlation. The LEDs are multi-color (Red, Yellow, Green, Blue, and White) and Switches configured for momentary and toggle, which enhance performance and extend system capabilities.



- (1) Inner door
- (2) UI frame assembly
- (3) Control-display module
- (4) Tab (bottom of module)
- (5) Locking tab (top of module)

Electrical Specification

	EGDE-ML
Common relays	
Current	
Standby	0 mA at 24 VDC
Alarm/active	8 mA at 24 VDC
Quantity	3 (alarm, supervisory, trouble)
Type	Form C
Rating	30 VDC at 1.0 A, 1.0 PF
Wiring	Class E
Mains circuit	
Voltage	120/240 VAC, 50/60 Hz
Current	120 V, 50/60 Hz: 3.0 A max. 240 V, 50/60 Hz: 1.5 A max.
Brownout level:	≤ 95 VAC, 50/60 Hz ≤ 195 VAC (when operating at 230 V), 50/60 Hz
Wire size	12 to 18 AWG (1.0 to 4.0 mm ²)
Ground fault impedance	10 kΩ
Battery circuit	
Voltage	24 VDC nom.
Operating voltage	20.4 V min.
Charge current	1.5 A or 3.0 A, selectable
Battery capacity	65 Ah max.
Battery type	Sealed lead-acid
Expected standby operation	24 h min.
Operating environment	
Temperature	32 to 120°F (0 to 49°C)
Relative humidity	0 to 93% noncondensing

**Contact us**

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Ordering Information

Part	Description
EDGE-ML Fire Alarm Systems	
EDGE-ML-R	Four loop system with one built-in 250-point loop, 110v/220v, Red Door
EDGE-ML-G	Four loop system with one built-in 250-point loop, 110v/220v, Grey Door
EDGE-ML-RRK	Retrofit Kit - Four loop system with one built-in 250-point loop, 110v/220v, Red Door, Retrofit Collar, No Backbox - compatible with IO500 and IO1000 systems
EDGE-ML-GRK	Retrofit Kit - Four loop system with one built-in 250-point loop, 110v/220v, Grey Door, Retrofit Collar, No Backbox - compatible with IO500 and IO1000 systems
Option Cards	
EDGE-SLC-250	SLC Expansion module, one 250-device loop.
EDGE-SLC-500	SLC Expansion module, two 250-device loops, 500 devices total.
RZI16-2	Remote Zone Interface Module. 16 Class B IDCs, 2 Class B Output. Includes bracket. Module will take up to 18 addresses on the signaling line circuit.
SA-DACT	Dual Line Dialer/Modem, supports Contact ID, mounts in cabinet on base plate.
EDGE-CLA1	Class A adapter module. Provides Class A capacity on NACs. Mounts in cabinet on main board. EDGE-ML systems only.
Accessories	
CTM	City Tie Module. 2-gang. Connection to a local energy fire alarm box.
MFC-A	Multifunction Fire Cabinet, 8" x 14" x 3.5" - red.
SIGA-REL	Releasing Module
PT-1S+	System Printer
BC-1	Battery Cabinet. 14.0" x 18.25" x 7.25". Holds two 12V24A batteries.
BC-1R	Battery Cabinet - Red. 14.0" x 18.25" x 7.25". Holds two 12V24A batteries.
EDGE-24L	Display Module, 24 LED, EDGE Series
EDGE-24L12S	Control Display Module, 24 LED/12 Switch, EDGE Series
EDGE-24L18S	Control Display Module, 24 LED/18 Switch, EDGE Series
EDGE-24L24S	Control Display Module, 24 LED/24 Switch, EDGE Series
EDGE-FIL	Blank Filler Plate, EDGE Series
EDGE-CPU-HDMI-CBL	Replacement HDMI Cable, CPU-to-LCD, EDGE Series
EDGE-10TSLCD-RE	Replacement Touchscreen Display, Assembly, EDGE Series
EDGE-MB-RE	Replacement Electronics, EDGE Series
EDGE-FPS-LK	EDGE, Language Kit - UI inserts for French Canadian, Spanish, Portuguese
EDGE-TAMPER	Tamper Switch, EDGE Series
EDGE-PTK2	Panel Trim Kit, use on EDGE-ML panel series
Programming Tools	
EDGE-CU	EDGE Series configuration and diagnostics utility. Panel includes built-in USB-C, use appropriate cable from laptop to USB-C port.