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Glossary of Fire Alarm System Terminology



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Edwards Systems Technology

Important reminder...

The definitions and information contained herein are intended to be used as a training supplement only, so that persons working in the fire alarm system industry might improve their understanding of current equipment and terminology. Use this glossary as a guide.

This glossary is not meant to replace or supersede any of the published standards and regulations of individual Government Agencies, Listing/Approvals Agencies, or your local Authority Having Jurisdiction. Always refer to the specific regulations and codes in force in your area if there appears to be a discrepancy between this publication and your specific situation or experience. Edwards Systems Technology sells fire alarm systems in over 50 countries around the world, so not all of the information here will apply to every jurisdiction.

20 mA Current Loop

A data communications format in which logic states are represented by current flow and the absence of current flow. This format is useful for long distance network communications over dedicated “hard copper” telephone lines.

25 VRMS Audio

An audio distribution scheme using a “constant” 25 VRMS voltage and a “constant voltage” transformer at each speaker.

70 VRMS Audio

An audio distribution scheme using a “constant” 70 VRMS voltage and a “constant voltage” transformer at each speaker.

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Acknowledge

A deliberate action of the panel operator to confirm that a message or event indicator has been seen.

Action

A list of outputs to be activated and functions to be performed by the system. Actions may be called as a result of the activation of an input (alarm, supervisory, monitor, or security), by other actions, time controls, or logic functions. Actions may be enabled/disabled by other actions.

Activate

To turn on an output or function.

Address

A binary/hexadecimal/decimal number that uniquely identifies a specific device, module, or power supply.

Addressable Device

Devices that are capable of being uniquely identified by a control unit and which can provide alarm, trouble, output, and control indications.

Addressable Loop

A circuit of addressable devices (alarm, supervisory, monitor, output or relay) or input/output panels reporting to a single loop controller.

Addressable System

System that uses a digital communications method whereby a control unit (Loop Controller) can identify a specific initiating device that is sending a signal, or send control messages to specific devices for output or control purposes.

Addressable Zone Module

An addressable device which acts as a transponder for one or more smoke detectors, manual stations or other conventional alarm devices so that an area may be identified by activation of any one device connected to the addressable zone module.

Agency Listings and Approvals

System equipment and operation must conform to the standards set out by the local Authority Having Jurisdiction, as detailed by the applicable standards/approvals agency.

AHU

Air Handling Unit

Alarm Circuit

An Initiating Device Circuit which generates a fire alarm condition when a) on a traditional system, a normally open initiating device creates a short across the circuit, or b) on an analog system, the alarm value reported by the sensor exceeds the alarm threshold value.

Alarm Replay

A control panel feature whereby emergency response personnel can view the sequence in which a multiple zone fire has occurred in order to determine the origin and progress of the fire.

Alarm Signal Cutoff

see Automatic Signal Silence Timer

Alarm Silence/Reset Inhibit

A control panel feature that automatically disables the system silence and reset functions for a predetermined period of time.

Alarm Threshold

The temperature, obscuration level, etc. above which an alarm is defined for a particular sensor.

Alarm Verification

see Verified Alarm

Alert Signal

see Two-Stage System

All Call

A control panel feature that selects all paging speakers by the operation of a single switch.

All Call Minus

A control panel feature that causes all previously non-selected paging zones to become active and all previously selected paging zones to become disconnected by the operation of a single switch.

All Clear

An audible signal used to communicate a “safe to return” condition to people already evacuated from a building.

Alternate Sensitivity

An analog device programming feature that causes the alarm threshold points to automatically change for separate day and night system operation.

Americans with Disabilities Act (ADA)

Relevant sections of this Act detail the requirements for audible and visual indicating appliances and mounting heights for manual pull stations.

Amplifier

An electronic module that receives the output from an audio source pre-amp and increases the signal for transmission through field wiring to the audio speakers.

Amplifier, Centralized

An installation method in which all of the amplifier, voice, and tone generator components are located in the same location.

Amplifier, Distributed

An installation method in which the amplifiers are located at remote locations throughout the building.

Amplifier, Zone

A dedicated amplifier that is assigned through system software to supply signals to a specific zone or area of the building via dedicated wiring.

Analog Smoke Sensor

see Smoke Sensor (Analog)

Ancillary Device

A device which is activated by the fire alarm system, but is not part of the fire alarm system, eg. door holders, smoke control fans, remote LED indicators, remote alarm or trouble units.

AND Statement

A logical function that may be incorporated into specific system programming in order to control an event based on: If (Condition A = True) AND (Condition B = True) Then (Perform Action).

Annunciator

A visual and/or audible device that indicates an alarm or other conditions. Annunciators are typically located at building entrances or at emergency control locations to provide a clear indication of a zone or device in alarm using standard LEDs and often includes a customized graphic representation of the building layout to speed response. Annunciators may also incorporate features such as system common controls, auxiliary fan and damper controls, and paging controls.

ASCII

American Standard Code for Information Interchange. A standardized alphanumeric character computer code.

Assembly Drawing

A drawing that details the location, construction and component parts of a particular equipment item.

Audible Signal Circuit

See Indicating Appliance Circuit

Audio System

A fire alarm system that is capable of voice or electronic tone transmissions to speakers.

Audio System (Single Channel)

An audio system in which only one wiring channel is available for either signaling or paging at a given time.

Audio System (Dual Channel)

An audio system in which two wiring channels are available for simultaneous signaling or paging at a given time. In two-stage systems, the alert signal will be discontinued whenever paging is in progress. In simultaneous systems, the alert signal can sound in one area while the evacuation signal sounds elsewhere.

Audio System (Tri-Channel)

An audio system in which three wiring channels are available for simultaneous signaling or paging at a given time. Selected zones may be paged individually without affecting the signals in the rest of the building.

Authority Having Jurisdiction (AHJ)

The government body responsible for the enforcement of any part of the Fire Alarm Codes or the official or agency designated by that body, eg. Fire Marshall.

Automatic Alarm

An alarm input activated by a device such as a smoke detector, heat detector, flame detector, or waterflow switch that requires no manual operation.

Automatic Evacuation Timer

A control feature that enables evacuation signals to sound only after a period of time has expired in which no action has been taken to investigate an alarm. The timer period of this feature may be individually set according to local jurisdiction, or disabled, as applicable.

Automatic Evacuation Timer Cancel

A control panel feature manually activated by the panel operator that cancels the automatic evacuation timer feature. Depending on jurisdiction, the automatic evacuation timer may begin restart should a new alarm occur after automatic evacuation has already been canceled.

Automatic Fire Alarm System

A control system of initiating devices and alarm signals in which all or some of the initiating circuits are activated by automatic devices.

Automatic Signal Silence Timer

A control panel feature that causes the alarm signals to silence after a predetermined period of time expires.

Automatic Switchover

An internal control panel operation for redundant CPU systems that enables the system to automatically switch from one CPU to another without the manual intervention of an operator.

Auxiliary Relay

A relay contact that is activated by control panel programming to perform some function such as shutting down fans, controlling dampers, closing doors, recalling elevators, etc.

AWG

American (or Brown or Sharpe) Wire Gauge. The North American measurement of non-ferrous wiring.

Back box

see Wallbox

Banked Amplifier

see Amplifier, Banked

Battery

A secondary energy source for the fire alarm system which ensures operability in the case of primary AC power failure.

Battery Charger

An integral power supply element which maintains the batteries at a constant charge level in normal operating mode under primary AC power.

Battery Time

The batteries must fully support the system for a period of time equal to the specified Alarm Time plus the specified Supervisory Time, as determined by the local jurisdiction.

Battery Time (Alarm)

The period of time for which the batteries must support the operation of the system while it is in an alarm state in the event of a primary power failure.

Battery Time (Supervisory)

The period of time for which the batteries must support the operation of the system while it is in the normal supervisory state in the event of a primary power failure.

Baud Rate

The measure of the speed of transmission of a digital signal.

Beam Detector

see Smoke Detector, Projected Beam

Bell

An electro-mechanical resonant signaling device.

Bin

An enclosure or rack with slots for mounting system circuit cards.

Block Diagram

A drawing showing the major control and annunciation components of a Life Safety System, their location, and the connecting wiring required between them.

Bonding

The permanent joining of all non-current-carrying metal parts to assure electrical continuity with the capacity to safely conduct any likely current.

Bonding Conductor

A conductor connecting the non-current-carrying parts of the equipment or enclosures to the service equipment or system grounding conductor.

Building Management System

An integrated computer system for monitoring and controlling various aspects of a building's operation including heating, lighting, air conditioning, etc.

Bus

A wire channel or path for transferring data and electrical signals, eg. data bus, audio signal bus, signal bus,

Cabinet

see Wallbox

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Candela

The SI (metric) unit of measure for luminous intensity or candlepower of a light or strobe.

Central Alarm Control Facility (CACF)

The main command and control center for fire alarm and other monitoring functions (eg. security, air handling), or the room from which an emergency situation is managed.

Central Monitoring Station

An agency or location that maintains communications with remote buildings, either through direct wiring or telephone dial-up, and acts to cause emergency personnel to respond to alarm and/or trouble events at the monitored buildings.

Central Processing Unit (CPU)

The system's main computer.

Change of State

The transformation of an input zone or device from the restored condition to active condition, or from the active condition back to the restored condition.

Channel

A data communications line or audio pre-amp output that is dedicated to a specific function, such as paging or evacuation signaling.

Chime

A mechanical or electronic signaling device that produces a harmonious sound akin to a set of attuned bells.

City Tie Module (CTM)

Also known as Fire Department Relay (FDR), it provides a connection to either the local Fire Department or a central monitoring agency to speed the response of emergency personnel.

Class A

A supervision and wiring classification which permits operation of all initiating or indicating devices in the presence of a single circuit open, and will annunciate the fault. The Class A classification has been superseded by the following approximate equivalents:

1) Initiating Device Circuits: Style D, 2) Indicating Appliance Circuits: Style Z, and 3) Signaling Line Circuits: Style 7.

Class B

A supervision and wiring classification which permits operation of all initiating or indicating devices up to a single circuit open, and will annunciate the fault. The Class B classification has been superseded by the following approximate equivalents: 1) Initiating Device Circuits: Style B, 2) Indicating Appliance Circuits: Style Y. and 3) Signaling Line Circuits: Style 4.

Coded Signals

An alarm signaling method by which specific areas and types of alarms are identified by using different signal rate sequences.

Coder

A device that pulses an audible signal in a prescribed code or sequence.

Color Graphics Computer

A central fire alarm control and annunciation tool that uses graphic representations of the building shown on a computer screen, along with displays of specific device and alarm zone information, and common control features.

Command Port

A supervised network communications port that can receive and transmit network instructions to and from interactive subsystems, ie. color graphics or third party computers.

Common Alarm

An operation sequence in which any active alarm input will cause all output circuits to activate.

Common Controls

The control panel feature switches and indicators that operate such things as signals, information display, voice paging, and telephone controls.

Common Relays

An operation sequence in which an active alarm input will activate all relays.

Compatibility Listing

A list of 2-wire detection devices and the Initiating Device Circuits on which these devices may be used.

Correlation

System programming that identifies the relationship between input activations (alarm, supervisory, monitor, etc.) and output activations (signals, relays, etc.).

Counting Zone

An alarm detection and processing method in which device activations on a single zone are counted, so that subsequent device activations cause different signaling operations or specific auxiliary device activations to occur.

Cross Zone

An alarm detection and processing method in which a logical AND operation is programmed between two initiating device zones, so that operation of one of the zones will cause an alert signal, for example, and operation of the second zone will cause an evacuation signal, and/or specific auxiliary device activations.

Customer Connect

Terminal strip to which external field wiring is connected.

Customized Operation

Non-standard functions, specifically programmed or configured, to meet specific operational requirements of a particular system.

Damper Control

Air handling system dampers may be opened or closed, as applicable, to isolate and exhaust smoke, and to control pressurization of the areas surrounding a fire.

Data Gathering Panel (DGP)

A remote panel to which individual device circuits are connected, that communicates their status back to the central processing panel and receives auxiliary and signaling instructions.

DC-Blocking Capacitor

A capacitor wired in series with a device that allows the passage of a signal current while blocking the DC supervisory current.

Deadfront

Enclosure plates or doors constructed such that all live electrical parts are safely enclosed so as to be inaccessible to unauthorized persons. For control panels, the deadfront is generally secured behind a locked outer door, and may contain operator control switches, LEDs, and displays.

Degraded Mode

If a major failure occurs in the functioning of the system, it will revert to a predetermined mode of operation that ensures that the basic alarm signaling operation of the system will continue to function. Any alarm activation will cause all signals to sound.

Detector Coverage

The recommended maximum distance between adjacent detectors or the area that a detector is designated to protect.

Dialer

An automatic telephone dialling device that enables the system to send a message over the phone lines.

Digitized Message

A pre-recorded, digitally stored paging message that may be activated in the event of an emergency or other customized applications.

DIP Switch

A two position electrical switch used to program hardware to specific software addresses or functions.

Disable

A command which prevents an input device/circuit zone from reporting its change of state, or an output device/circuit/zone from changing state.

Distributed Processing

An information processing system in which remote control units are located throughout the network and interconnected and operated via a multiplexed communications channel.

Door Holder

An electromagnetic device that maintains a fire door in a fixed position under normal circumstances and causes it to close in a fire emergency.

Down-Line Programming

A control panel feature that permits programming changes to be loaded into any remote panel from a single location.

Dual-Lite, A Unit of General Signal

Manufacturer of emergency lighting, exit signs, and power inverter products.

Duct Smoke Detector

see Smoke Detector, Sampling

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Edwards, A Unit of General Signal

Manufacturer and supplier of electrical contact devices, transformers, audible/visual signaling products, and residential intercom and communications systems.

Edwards Systems Technology (EST), A Unit of General Signal

Manufacturer and supplier of fire alarm systems, nurse call systems, security systems, devices, and components.

EIA (Electrical Industry of America) Rack Mounting

A standardized measurement unit system for mounting equipment in a cabinet in which 1 EIA Space = 1.75 inches. The standard rack mounting width is 19".

Electroluminescent Display Panel

A high-visibility lighted LCD display panel.

EEPROM (E²PROM)

Electrically Erasable Programmable Read Only Memory.

Electrical Supervision

The ability to detect an electrical fault condition in a device or installation wiring which would prevent normal operation of the fire alarm system.

Elevator Homing Floor

The designated floor to which the elevator will automatically go in the event of an alarm.

Elevator Homing Alternate Floor

The designated floor to which the elevator will automatically go in the event of an alarm on the primary elevator homing floor.

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Emergency Lighting

An automatic lighting system that is activated or maintained whenever primary power fails in a building so that the occupants have adequate light and direction to move about safely--normally composed of self-contained battery operated lights and directional Exit signs.

Emergency Power Supply

A secondary source of electrical power independent of the primary power supply, used to power the fire alarm system in the event of primary failure--usually batteries and/or an emergency generator.

Emergency Telephone System

A telephone system which provides two-way voice communications between the control panel and remotely located emergency telephones. This system is self-sustaining from the fire alarm system.

Enable

A command which allows an input device/circuit/zone to report its change of state or an output device/circuit/ zone to change state.

End-of-Line Resistor

A resistor installed at the end of a device wiring loop to establish a supervision current back to the control unit.

ESA2000

A fire alarm control panel manufactured by Edwards Systems Technology. Available in traditional, addressable, analog addressable, and audio configurations. Suitable for applications up to 128 input zones. Field programmable through a laptop computer.

EVAC (Emergency Visual Audio Control)

A centralized operator unit for monitoring and controlling fire emergency situations, with appropriate switches, LEDs, common controls, graphic annunciation, and fan and damper controls.

Evacuation Signal

A General Alarm signal that is intended to cause all occupants of the building to leave in an alarm situation.

Event Log

see Log

Exhaust Fan

As part of the air handling or smoke control system, an exhaust fan evacuates the air from the area serviced by the ventilation system to the outside of the building.

Expandability

The capability of a control panel to accommodate additional devices or remote panels.

Explosion proof

The characteristic of a device to prevent or contain an explosion within the device so as not to cause a vapour ignition or explosion in the atmosphere surrounding the device.

FACP

see Fire Alarm Control Panel

False Alarm

An unwanted alarm caused by mischief, a dirty sensor/ detector, or system fault.

FasTest

A one person test mode which facilitates testing of initiating devices and circuits, as well as indicating appliances and circuits, useful for installation and maintenance checks.

FCC (Fire Command Center)

A centralized operator control unit for displaying, monitoring and controlling fire emergency situations with appropriate switches, indicators, common controls, graphic annunciators, and fan and damper controls.

FDR Fire Department Relay

See City Tie Module.

Fiber Optics

A glass fiber medium that utilizes light transmission to achieve extremely fast, secure, and noise-immune communications over long distances. Other advantages are no cross-talk, wide bandwidth, lightning and power surge immunity, and its suitability for explosive environment applications.

Field Panel

see Transponder

Field Programmable

The characteristic describing the flexibility of making changes to the control panel programming at the installation site.

Fire Alarm Coded Box

A manually operated coded fire alarm box used with local auxiliary and proprietary alarm systems to communicate the location of a fire emergency.

Fire Alarm Control Panel (FACP)

An electronic unit that monitors fire detection devices and activates appropriate alarm signaling appliances and other auxiliary appliances according to pre-set or preprogrammed instructions.

Fire Code

Regulations that govern the safe and effective operation of fire alarm systems and devices.

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Fire Detector

A device which detects a fire signature and automatically initiates an electrical signal to actuate an alert or alarm signal.

Fire Drill

A control panel feature switch that allows for activation of all signal circuits as a test for evacuation procedures. The fire drill feature will not operate any programmed auxiliary functions or the central station connection.

Fire Fighters Elevator

A specially designated elevator, installed in its own separate shaft, that is used during a fire emergency.

Fire Fighters Telephone

An emergency telephone that is part of the fire alarm control system which allows easy communications to the central control location from which an emergency is managed.

Fire Marshall

see Authority Having Jurisdiction

Fire Pump

A water pump that provides capacity for fire extinguishing system needs (standpipe, sprinkler, hoses).

Flame Detector

A device that detects the infra-red, ultraviolet, or visible radiation produced by a fire.

Flow Switch

see Waterflow Alarm

Flush Mounting

The physical mounting of equipment such that it is set back into a wall so that no cabinet parts or doors protrude from the wall.



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Freestanding Equipment Rack

A cabinet or wallbox that is self-supporting and may be located away from any wall or support structure.

Form A Contact

A Normally Closed (N.C.) relay contact.

Form B Contact

A Normally Open (N.O.) relay contact.

Form C Contact

A relay contact consisting of both a Normally Open and a Normally Closed contact.

Four-Wire Smoke Detector

A smoke detector which initiates an alarm condition on two wires different than the two wires that supply power to the detector.

Full Duplex

A communications circuit that allows simultaneous transmission of data in two directions.

Function Switch

A control panel switch used to select and execute a programmed operation. Function switches are “soft” switches, ie. their function is context sensitive and changes depending on the application.

General Alarm (GA)

Evacuation alarm signal.

General Signal Corporation (GS)

Parent corporation of Edwards, Edwards Systems Technology, Dual-Lite, and other companies with head office in Stamford, Connecticut.

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Graphic Annunciator

An LED annunciator incorporating a scaled drawing of the installation or building area covered by the control panel. May include common control switches for local control of some system features.

Ground Fault

A circuit resistance to ground resulting from an abnormal condition that causes a control panel trouble condition.

Guard Patrol

Control panel programming that accommodates regular location reports from an active security patrol.

Half Duplex

A communications circuit that allows transmission of data in two directions, but in only one direction at a time.

Hardwired System

A traditional non-multiplexed, non-addressable system.

Harmonized Cordage

The European standard governing the construction, identification, and use of different wire sizes and stranding.

Heat Detector

A device that detects abnormally high temperature and/ or rate of rise of temperature. Used for the protection of property, not life safety.

Heat Detector, Fixed Temperature

A device that activates when the ambient temperature passes a predetermined setpoint.

Heat Detector, Line

A device in which detection is continuous along a path.

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Heat Detector, Non-restorable

A device whose sensing element will be destroyed by the process of detecting a fire.

Heat Detector, Rate Compensation

A fast-acting fixed temperature heat detector with a comparably low thermal lag, calibrated to operate irrespective of the rate of temperature increase.

Heat Detector, Rate-of-Rise

A device that will respond when the temperature rises in excess of a predetermined rate.

Heat Detector, Restorable

A device whose sensing element is not destroyed by the process of detecting a fire. Restoration may be manual or automatic.

Heat Detector, Self-Restoring

A restorable heat detector whose sensing element is designed to be returned to normal automatically.

Heat Detector, Spot

A device whose detecting element is concentrated at a particular location.

High Level Network

A communications circuit which carries internal network information between fully integrated CPUs.

Hose Cabinet

Cabinets containing a length of hose connected to a water valve, located throughout a building to provide quick local fire extinguishing access.

HVAC (Heating, Ventilation, Air Conditioning)

HVAC systems are governed under the provisions of NFPA 90A.

Hydraulic Motor Gong

A water-operated audible gong alarm that is installed on the outside of a building so that when water is flowing through the sprinklers in a building, passersby may be alerted.

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Indicating Appliance Circuit (IAC)

A supervised signal output circuit connected to bells, horns, sirens, buzzers, chimes, electronic tones, speakers, etc. to alert the building occupants of an alarm condition. See NFPA 72 Table 6-4 for wiring Style W through Style Z.

Initiating Device Circuit (IDC)

A supervised input circuit connected to alarm initiating devices such as smoke detectors, manual pull stations, thermostats, waterflow switches, etc. See NFPA 72 Table 2-6.1 for wiring Style 0.5 through Style 7.

Input Circuit

An alarm, supervisory, monitor, or security circuit connected directly to traditional devices and used to provide field device status change information to the control Panel.

Installation Drawing

A drawing that details the methods, parts, and other information for the proper installation, wiring, and testing of equipment.

Installation Manual

The publication that details the methods, parts, and other information for the proper installation, wiring, and testing of equipment.

Integrated Alarm System

A combination system in which speakers are used for sounding alarm tones and emergency voice paging.

Interactive Device

An operator interface subsystem such as a color graphics computer, capable of generating and receiving network commands.

Interrupt

A signal to a computer to temporarily suspend its current activity and respond to a priority request for action from an external device.

Intrinsically Safe

A characteristic of a device that means any spark or thermal effect occurring normally or in any likely fault condition will be incapable of causing ignition of a specified gas, vapour, or dust.

IO

Input/Output

Ionization Smoke Detector

Smoke Detector. Ionization

IRC-3

A single line multiplexed network fire alarm control panel manufactured by Edwards Systems Technology. Available in traditional, analog addressable, and audio configurations. Suitable for applications requiring complex control sequences. Capable of Regenerative Networking and expandable for very large installations. Field programmable through a laptop computer.

Keypad

A control unit interface for entering alphanumeric information.

Key Station

A key-operated manual station.

Lamp Test

A control switch/feature located on the control panel or annunciator that causes all of the indicators to turn on for test purposes.

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Laptop Programming

Field programming of systems may be accomplished with the use of a laptop computer to improve modification time.

Latching

Locked on. A latching device will remain active until reset.

LCD

Liquid Crystal Display

LED

Light Emitting Diode

Lexan

A fire-resistant plexiglas-like material commonly used in fire alarm equipment doors/enclosures. Manufactured by GE Plastics.

Life Safety System

The fire alarm activation, display, signaling, and auxiliary control system.

Light Scattering

The action of light being reflected and/or refracted off particles of combustion for detection by a photoelectric smoke detector

Listing

A list of tested equipment or materials published by a standards organization acceptable to the local Authority Having Jurisdiction and concerned with product evaluation and periodic inspection of production of listed equipment or materials. Listing agencies verify that appropriate standards of testing have been met for equipment applied in specified uses. The criteria for evaluation and identification of approved equipment varies from organization to organization. Some of the major listing agencies include ULI, FM, ULC, and CSA.

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Local Protective Signaling System

Afire alarm system located within the protected premises and primarily used to initiate the evacuation of occupants. Local systems meet the requirements of NFPA 72 Chapter 6 (formerly NFPA 72A).

Log

Record or history of the operations of the processing equipment, listing each event's occurrence, time, action, etc.

Logic Functions

Boolean logic functions such as AND, OR, NOT, etc. may be built into customized programming in some control panels to achieve complex operation sequences.

Loop Controller

An intelligent electronic control module that communicates with addressable/analog devices along a dedicated data line to determine their alarm status and to supervise their normal operation.

LSS1

A traditional hardwired multi-zone fire alarm control panel manufactured by Edwards Systems Technology, expandable up to 52 zones.

Maintenance Alert

For analog sensors, a preset maintenance alert analog value is programmed into the system so that as the sensor gets dirty over time, routine maintenance may be performed before the sensor reaches its alarm threshold .

Manual Pull Station

A device designed to initiate an alarm signal when operated manually.



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March Time

An alarm signal rate equivalent to 90 strokes per minute.

Matrix

A spreadsheet used to indicate the relationship of network inputs to outputs.

Mixer

An electronic circuit that combines several sources of audio input and directs them onto a single channel.

Modem (Modulator/Demodulator)

A communications device that allows data to be transmitted and received via telephone lines.

Module

A plug-in circuit board, dedicated to a specific system function such as input circuit receiving, auxiliary relay control, tone signal generation, etc.

Monitor Input

A system input that is generally connected to a contact device that follows the operation of auxiliary devices such as dampers or automatic doors.

Morse Code

A communications code that translates letters and numbers into combinations of long and short pulses.

Motherboard

An electronic circuit board into which other cards or modules are connected.

Multi-line Network

A multi-line network consists of multiple control panels, computers, and annunciators wired on more than one data channel.

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Multiple Channel

An audio signaling system in which several pre-amp sources (evacuation, alert, paging, etc.) are available for switching onto the system wiring. This allows for different areas of the building to independently receive different signals.

Multiplex

To interleave or simultaneously transmit two or more messages from remote devices over a single communications channel.

Municipal Tie Module

see City Tie Module

National Fire Protection Association (NFPA)

The NFPA publishes and administers the development of codes, standards, and other materials concerning all aspects of fire safety for the United States. The NFPA is internationally recognized as a definitive fire protection authority.

NFPA 72 Chapter 6

Standard dealing with the specific requirements of Local Protective Signaling Systems (formerly known as NFPA 72A).

NFPA 72 Chapter 7

Standard dealing with the specific requirements of Auxiliary Protective Signaling Systems (formerly known as NFPA 72B).

NFPA 72 Chapter 8

Standard dealing with the specific requirements of Remote Station Protective Signaling Systems (formerly known as NFPA 72C).



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NFPA 72 Chapter 9

Standard dealing with the specific requirements of Proprietary Protective Signaling Systems (formerly known as NFPA 72D).

Network

An interlinked communication system used to share event input data and output activation data between control panels.

Node

A node is a common reference to a single control panel that is part of a network.

Non-Coded Signal

A continuously energized signaling appliance.

Non-latching

Not locked on. A non-latching device will activate and reset itself to normal according to its own input condition

NOVRAM (Non-Volatile Random Access Memory)

System memory that is maintained through power interruption.

Normal Standby Condition

The ready-to-operate condition existing prior to the activation of the system or device.

Nuisance Alarm

An unwanted alarm caused by everyday events such as cooking, cigarette smoke, dust, insects, etc.

Obscuration

The reduction in the atmospheric transparency caused by smoke or dust, expressed as a percentage.

On-Auto-Off Switch

A 3-position control panel switch used to select the manual or automatic operation of a motor, fan, or other appliance.

Open Fault

An abnormal circuit series resistance increase resulting in a trouble condition at the control panel.

OR Statement

A logical function that may be incorporated into specific system programming in order to control an event based on: if (Condition A = True) OR (Condition B = True) Then (Perform Action).

Output

A signal generated to control external devices such as signals, relays, LEDs, control modules, etc.

Paging Inhibit

An audio common control feature that prevents voice paging for a predetermined period of time after the first alarm is received.

Paging Microphone

A microphone that is used for communicating emergency instructions over the audio speakers used by the fire alarm system.

Password Controlled System Access

A confidential system, in which the operators or service personnel may access various protected features of the fire alarm system, to discourage tampering and unauthorized changes to the operation of the system.

Photoelectric Smoke Detector

see Smoke Detector, Photoelectric

Point Contact Transmitter

An addressable transponder that is connected to a conventional contact device such as a monitoring device.

Polarized Signaling Device

A signaling device that only operates if the correct electrical polarity is established across the signal circuit by the control panel.

Polling

The process of sequentially interrogating modules or devices to determine if their status is Normal, Active, or Trouble.

Positive Point Identification

The ability of an addressable device system to positively identify status changes of specific devices for instant location identification.

Power Supply

The system's power source that operates on a primary AC supply and secondary DC battery supply to provide the power for the control system, including devices.

Pre-Amp

Electronic pre-amplifier circuitry that conditions an audio signal for the system amplifiers.

Pre-Action System

see Sprinkler System, Pre-action

Pre-Announce Tone

An electronic tone transmitted over the speakers before any voice paging is made, so that the building occupants are alerted for the message that follows.

Pre-Signal System

An alarm signaling system in which a distinct audible/ visual alert signal is used to warn only selected areas (maintenance/security office, switchboard, etc.) of an alarm event. After investigation, staff would activate the evacuation signals as required.

Pressure Switch

As part of a dry sprinkler system, the pressure switch would cause water to charge the sprinkler piping if it detected a sudden drop in air pressure in the system caused by the opening of a closed sprinkler head.

Pressurization Fan

A fan used to supply air to an area, causing it to become pressurized in relation to the areas immediately surrounding it so that smoke may be contained.

Priority

A programmed hierarchy system that determines the setting or resetting of outputs.

Products of Combustion

Substances resulting from a fire such as smoke, ash, gases, or ionized particles.

Projected Beam Smoke Detector

see Smoke Detector, Projected Beam

Prompt

A cursor that is presented to the operator on interactive display units to obtain a response to complete a programming action.

Proprietary Protective Signaling System

A fire alarm system which serves one or more facilities under common ownership and is continuously monitored from a central location by trained personnel. Proprietary systems meet the requirements of NFPA 72 Chapter 9 (formerly NFPA 72D).

PSNI

Positive, Successive, Non-interfering code.

Pull Station

see Manual Pull Station

Radio Frequency (RF)

Electromagnetic radiation, generally above 20 kHz, that may cause unwanted noise in communications wiring.

RAM

Random Access Memory

Redundant Wiring Circuit (or Alternate Path Circuit)

The circuit has two continuous paths, separately protected, connecting all components on the circuit.

Reed Switch

A sensor/detector test switch, activated by a hand-held magnet, that tests the operation of the device.

Regenerative Network

A distributed communications network system that is capable of regenerating itself into several new and fully functioning network families, independent of the main CPU, in the event of a data line break or a control panel failure.

Releasing Device Service

The control of building safety systems by the fire alarm system, eg. elevators, smoke control and venting systems, fire doors, and extinguishing systems.

Remote Annunciator

see Annunciator

Remote LED Indicator

An LED mounted separately from a device to provide a status indication. Common applications are for smoke detectors located above false ceilings or below raised floors in computer rooms.

Remote Protective Signaling System

A fire alarm system which transmits alarm conditions to a remote location, where appropriate action is taken. Remote systems meet the requirements of NFPA 72 Chapter 8 (formerly NFPA 72C).

Remote Receiving Equipment

Control panel and accessories provided for receipt of signals from fire alarm control panels located in other buildings, typically located in a Fire Department headquarters, a central monitoring station, or other location acceptable to the Authority Having Jurisdiction.

Remote Station

see Central Monitoring Station

Remote Trouble Unit (RTU)

An audible/visual indicating device installed at a secondary location that communicates a system trouble condition.

Reset

A system common control function that attempts to return the alarm system or device to its normal operating condition, canceling all active programming until the reset is complete and new input status information can be processed. All input devices and circuits must be in their normal state before the system will reset completely.

Response Time

The time interval between activation of an alarm initiating device and the sounding of alarm signals and other auxiliary devices.

Restore

Return to normal.

Reverse Polarity

The electrical characteristic of an equipment module that defines a switching from a normal to an active state by the reversing of the line polarity.

Ribbon Cable

A flat cable made up of a number of wires, each one beside the other, which interconnects different modules, cards, or customer connects in the control panel.

Riser

An electrical path used to distribute power or signals used by multiple panels or devices.

Riser Diagram

A drawing that shows the building floor levels, and the system wiring required for initiating, signaling, paging, telephone, and auxiliary equipment on each level.

ROM

see EPROM

RS-232

A serial data communications format used for computer peripheral devices such as printers, modems, etc.

RS-485

A serial differential communications format used on high level networks and optionally on data lines between control panels.

Satellite Station

A normally unattended location remote from the Remote Receiving Equipment station and linked by a communications channel. The interconnection of signal receiving equipment or communications channels from protected buildings is accomplished at this location.

Security Circuit

A dedicated circuit/device used for monitoring secure areas, doors, or windows for access and intrusion violations.

Security System

An access/intrusion control and personnel monitoring system used to deter and prevent unauthorized practices.

Self-Diagnostics

The internal checking by electronic and logical means of the operability of a unit without external assistance, and the resultant indication of any actual problems when a fault occurs.

Semi-Flush Mounting

The physical mounting of equipment such that it is partly set into a wall and partly protruding out from the wall.

Sensitivity

The alarm threshold or calibration of a sensing device.

Sensitivity Report

An operator-generated report that lists each analog sensor along with its programmed alarm threshold and current analog value, used for preventative maintenance of sensors.

Sequence of Operation

A description of the series of events that will take place given a particular event or activation of a system device.

Sequential Display

Any visual display not capable of simultaneous display of all the indications which may occur simultaneously.



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Short-Circuit Fault

A low resistance shunt across a circuit resulting from an abnormal condition causing a trouble condition at the control panel.

Signal Circuit

An electrically supervised circuit that is activated from the control unit to provide an indication of an alarm or other condition requiring immediate attention. Typical audible and visual devices that connect to a signal circuit include bells, horns, sirens, chimes, gongs, and strobes.

Signal/Page Circuit

An electrically supervised circuit that is activated from the control unit to provide an indication of an alarm or other condition requiring immediate attention. Typically an “integrated” circuit made up of audio speakers that can broadcast both voice paging messages and electronic tone signals (pulsed evacuation rate, siren, whoop, bell tone, etc.).

Signal Rate

The repetitive frequency at which an evacuation or alert signal sounds.

Simultaneous Evacuation System

A system in which both an alert and evacuation are signaled to different areas of the building, depending on the location of the fire.

Single Channel

An audio signaling system in which several pre-amp sources (evacuation, alert, paging, etc.) are available for switching onto the system wiring, but only one at a time. This means all areas of the building receive the same signal.

Single Line Network

A communications network between control panels that uses only a single data channel over a pair of wires.

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Single Stage System

An alarm signaling method in which any alarm device activation will cause all of the signals to sound in the building.

Siren

An audible signal characterized by a cyclical rising and falling frequency.

Smoke Control System

The integration of supply, exhaust, and pressurization fans, along with damper controls and monitoring devices, that operates in a fire emergency to contain and evacuate the smoke, limit air circulation to the fire location, and ensure adequate ventilation in unaffected areas.

Smoke Detector

A device that detects the visible or invisible products of combustion.

Smoke Detector, Combination

A detector that employs more than one smoke detecting principle in one unit with each principle contributing in response, either wholly or partially.

Smoke Detector, Combination Smoke and Heat

A detector that responds to smoke or heat.

Smoke Detector, Ionization

An ionization smoke detector has a small amount of radioactive material which ionizes the air in the sensing chamber, thus rendering it conductive and permitting a current flow between two charged electrodes in the sensing chamber. When products of combustion enter the chamber they decrease the conductance of the air by attaching themselves to the ions. When the conductance is less than the preset level, the detector activates.

Smoke Detector, Photoelectric

In a photoelectric light scattering smoke detector, a light source and a photosensitive sensor are arranged so that the rays from the light source do not normally fall on the sensor. When smoke particles enter the light path, some of the light is scattered by reflection and refraction onto the sensor causing the detector to activate.

Smoke Detector, Projected Beam

In a projected beam detector, light is transmitted and monitored between a source and a photosensitive receiver. When smoke particles are introduced in the light path, some of the light is scattered and some absorbed, thereby reducing the intensity of the light reaching the receiver, causing the detector to activate.

Smoke Detector, Sampling (Duct)

A duct detector draws air samples through piping or tubing from the air duct to the detector sampling ports. At the detector, the air sample is analyzed for products of combustion by ionization or photoelectric methods.

Smoke Exhaust Fan

A fan that is activated to exhaust the smoke from an area.

Smoke Sensor (Analog)

As part of an addressable system, an analog smoke sensor is capable of communicating the precise smoke obscuration level of its chamber to the control panel. Various alarm thresholds may be individually set depending on the ambient conditions at the location. A maintenance alert point is also set so that periodic maintenance may be performed on dirty sensors before they cause a false alarm.

Speaker Tap

A terminal strip on a speaker that allows for different Wattages to be individually selected so that an appropriate signal intensity is supplied to a given area without having to switch to a larger or smaller speaker.

Specific Trouble Indication

A common trouble audible signal and a visual indication which identifies the failed circuit, device, equipment, or operational malfunction.

Sprinkler System

A fire suppression system, activated either automatically or by the control panel comprised of a fire pump, piping, valves, and fire-sensitive sprinkler heads that supply water to the activated sprinkler head to control or extinguish a fire in its early stages.

Sprinkler System, Automatic

A closed sprinkler designed to open automatically by operation of a heat-responsive releasing mechanism that maintains the sprinkler head discharge orifice closed by means such as the exertion of pressure on a cap, button, or disc.

Sprinkler System, Deluge

An uncharged sprinkler system with normally open sprinkler heads in which the piping is charged with water only after activation of a heat detector. Water then flows and is applied to the entire area serviced by the system.

Sprinkler System, Dry Pipe

An uncharged sprinkler system with normally closed sprinkler heads in which the pipes are filled with compressed air. When a sprinkler head activates, this compressed air is released into the building, causing a pressure drop inside the piping which causes the main water valve to be opened into the system. Dry pipe systems may be used in areas in which the system is subject to freezing temperatures.

Sprinkler System, Pre-Action

An uncharged sprinkler system in which the piping is charged with water when a heat detector is activated. Water will then flow through any open sprinkler head.

Sprinkler System, Wet Pipe

A sprinkler system where the pipes leading to the sprinkler heads are charged with water or foam solution at all times, and do not require a separate pre-action to charge them before they may operate. The water behind each sprinkler head is released when a fusible link is melted by heat from a fire.

Spot Detector

A device whose detecting element is concentrated and aimed at a specific location. Typical examples are bimetallic detectors, fusible alloy detectors, certain pneumatic rate-of-rise detectors, certain smoke detectors, and thermoelectric detectors.

Staged Evacuation System

A highrise alarm signaling system in which evacuation signals sound on the floor of alarm and the floors immediately above and below, while alert signals sound in the remainder of the building.

Stand Alone Operation

A secondary mode of operation for networked panels in which programming reverts to local device monitoring and signaling only in the event of a network communications failure.

Standby Amplifier

A backup amplifier designed to take the place of any amplifier that fails so that the system's full functionality is maintained until repairs can be made.

Standpipe System

A high volume, high pressure water supply system in a building consisting of control valves, piping, and fire hose outlets on each floor, and possibly a fire department hose connection also. Standpipe systems provide a close and ready water supply near potential fire locations.

Status

A system indication that an event has occurred or an operation is in effect.

Style

A classification system used to identify the performance of Initiating Device Circuits (IDC), Indicating Appliance Circuits (IAC), and Signal Line Circuits (SLC) in response to various fault conditions.

Supervision

Monitoring of a device or circuit and the annunciation of conditions preventing their normal operation.

Supervised Auxiliary Relay

For critical equipment, the wiring to the relay contact is electrically supervised

Supervisory Device/Circuit

A device/circuit used to signal a condition which could prevent proper operation of the system. Commonly used to alert personnel to valve tampering, loss of power to critical equipment, etc.

Supply Fan

In an air handling system, the fan that supplies fresh air to a building. With programmed damper control, may be used to pressurize a building area to deter the spread of smoke.

Supporting Field Device

An active device that monitors other field devices on a separate circuit and reports the status of that device to the control panel.

Suppression System

An integrated automatic detection and extinguishing/sprinkler system.

Surface Mounting

The physical mounting of equipment such that it is installed directly onto the wall.

Survivability

The quality of the system to be able to withstand wiring, communications, and internal problems to maintain maximum functionality. Class A wiring, redundant CPUs, regenerative networking, stand alone operation, and degraded mode operation all contribute to survivability.

Tamper Proof

Resistant to unauthorized opening or access.

Tamper Switch

A device that detects the removal or opening of a protective cover, or the change of status of a supervised valve position.



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Telephone

see Fire Fighters Telephone

Telephone Call-In

A control panel indicator that alerts the operator of an incoming call on the emergency telephone system.

Telephone Privacy Switch

A control panel feature that allows a remote emergency telephone handset to be connected “privately” to the master handset at the control panel, thereby preventing any other active remote handsets from being a party to the conversation.

Temperature, Ambient

The temperature of the air surrounding or within the enclosure housing the fire alarm control equipment or devices.

Temporal Pattern

The description of an alarm signal’s timing characteristics described as so many On/Off periods of a certain duration, followed by a Silence period of a certain duration, with the signal amplitude noted as well.

Terminal, Factory Wiring

A wiring terminal intended to be connected at the manufacturer’s location.

Terminal, Field Wiring

A terminal to which a power supply, sensor, signaling, auxiliary, or other wire is intended to be connected by an installer in the field.

Thermal Detector

see Heat Detector

Thermal Lag

Thermal lag or delay is the time taken for a heat detecting element to heat up to its operating temperature. This lag is due to the fact that other materials connected to the element may heat up at a slower rate. The effect is especially notable, for example, where sprinkler heads are connected to water-filled piping.

Threshold

see Alarm Threshold

Time Control

Programming that is dependent on the time of day or week, or that uses the system clock to produce system signals.

Toggle

The ON/OFF action of a switch or operation.

Tone Generator

An electronic module that creates a signal for distribution in an audio system to amplifiers and speakers. Several optional tones and timing patterns are usually available.

Touch Screen

A computer display terminal that allows the operator to control the display and activate various controls by touching a prompt area that is highlighted on the screen.

Traditional System

A fire alarm system comprising non-addressable, non-analog devices connected together on zoned wiring circuits so that all devices on the circuit provide common status change information at the pane. Such devices cannot be identified individually unless there is only one device on the circuit. Traditional circuits may be included with analog/addressable circuits within the same system.

Transponder

A system component physically separate from the central processor in an addressable system which interfaces to and supports the operation of a field device and transmits the status of the device to the control panel, or activates a field device.

Trouble Signal

A visual or audible indication of equipment failure, circuit failure, fault condition, or operational malfunction.

Two Stage System

An alarm signaling method in which an alarm initiating device may cause an alert signal to sound for building staff before an evacuation process is begun. Evacuation signals may sound if they are preprogrammed, or manually operated, or programmed to operate after the expiration of a timer.

Two-Wire Smoke Detector

A smoke detector which initiates an alarm condition on the same two wires that supply power to the detector.

UPS (Uninterruptable Power Supply)

A secondary power supply often used with computer equipment that senses a loss or degradation of primary power and switches over automatically before any damage or data loss occurs to the connected equipment.

Valve, Alarm

Automatic alarm valves are for use in wet-pipe sprinkler systems. Valves may be installed with either a pressure switch giving an electrical alarm, or water motor and gong for mechanical alarms, or both.



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Valve, Deluge

An automatic water-supply control valve operated by an auxiliary device to admit water into either an open pipe system for a deluge system, or a closed pipe system for a pre-action operation.

Valve, Dry Pipe

An automatic sprinkler water-supply control valve designed so that air pressure in a system of piping will hold back water pressure until the air pressure in the system drops sufficiently to cause the automatic operation of the valve and admission of water into the system.

Valve, Gate

Shut-off valves used in dry pipe and air and water piping equipment.

VDU (Video Display Unit)

A computer controlled monitor that displays system messages.

Verified Alarm

A feature intended to reduce the occurrences of unwanted alarms by validating an alarm input. Automatic fire detectors must report an active alarm condition for a minimum specified period of time, or confirm an alarm condition within a given time period after being reset to normal, to be accepted as a valid alarm.

Visual Signal

A device used to visually indicate the actuation of the fire alarm system such as a strobe, beacon, or flash-light.

Voice/Alarm Communication System

Signaling system that uses electronic tones, digitized voice communication, and live paging.

Wallbox

The cabinet/box in which control panel equipment or devices are mounted. Wallboxes may be installed on the wall surface, flush into the wall, or semi-flush to the wall.

Warble

An electronic tone characterized by a high frequency, fast repetitive signal.

Warden Station

A permanently installed firefighters telephone handset.

Watchdog

A hardware/software feature that monitors the integrity of microprocessor-based electronics and generates a trouble condition in the event of a failure.

Waterflow Alarm

An electronic sensor that causes an alarm condition whenever waterflow is detected in a sprinkler piping system.

Weatherproof

Resistant to the effects of rain, cold, moisture, or heat. For cold climate regions, equipment may be installed with an automatic thermostat/heater unit included.

Whoop

An electronic tone characterized by a repetitive signal starting at a low frequency, then rising steadily in frequency, and then terminating.

Wireless Radio Linker

A device which receives, verifies, and retransmits radio frequency alarm and supervisory signals generated by wireless initiating devices and circuits.

Wireless Smoke Detector

A smoke detector which communicates with associated control/receiving equipment using wireless transmissions.

Yeow

An electronic tone characterized by a repetitive signal starting at a high frequency, then falling steadily, and then terminating.

Zone

A distinct physical area in which closely associated alarm, supervisory, monitor, security, signal, paging, telephone, or relay devices are located.

Zone Disconnect

A control panel feature that effectively disconnects a device, circuit, zone, or operation from the system programming so that any activations that would normally affect the system are ignored and any related actions are not executed. Primarily used to disable a circuit or device for service so that the remainder of the system can continue to operate normally.



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