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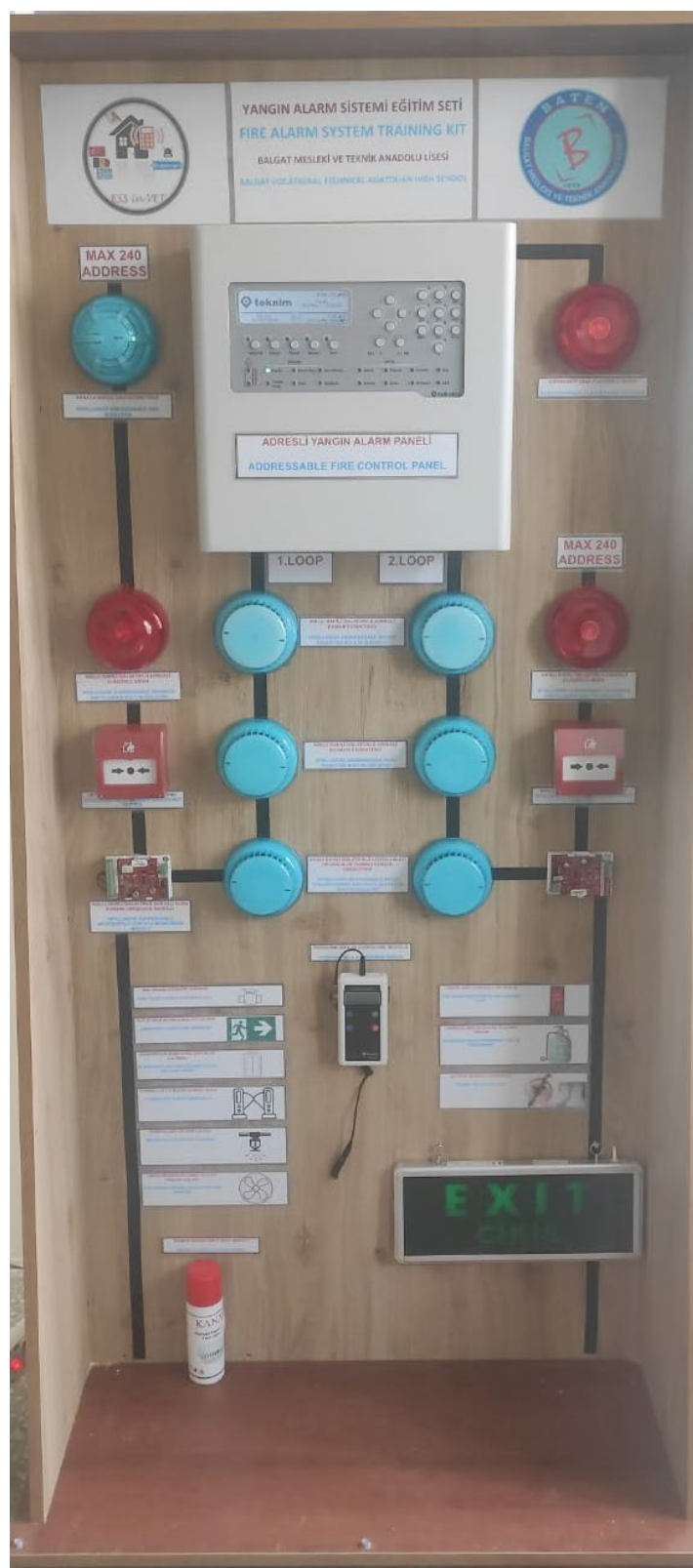


Learning and Teaching Electronic Security Systems in Vocational Education Training

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GUIDE BOOK FOR FIRE ALARM SYSTEM

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ADDRESABLE FIRE ALARM SYSTEMS

Addressable fire detection systems are systems that can perform pinpoint fire detection. This feature makes them generally preferred in high-rise and complex buildings. Because these systems can be integrated and upgraded with mechanical systems, they are widely used in complex structures.

Addressable fire detection systems allow for the identification of the origin of a fire and any potential fault. In high-rise buildings, they can clearly indicate the floor and cause of fires, thanks to the monitoring and control technique. Addressable fire detection systems, which can be connected to the same loop line with detectors and modules, provide savings before and after a fire occurs. For this reason, they are the most common systems used in multi-story buildings.

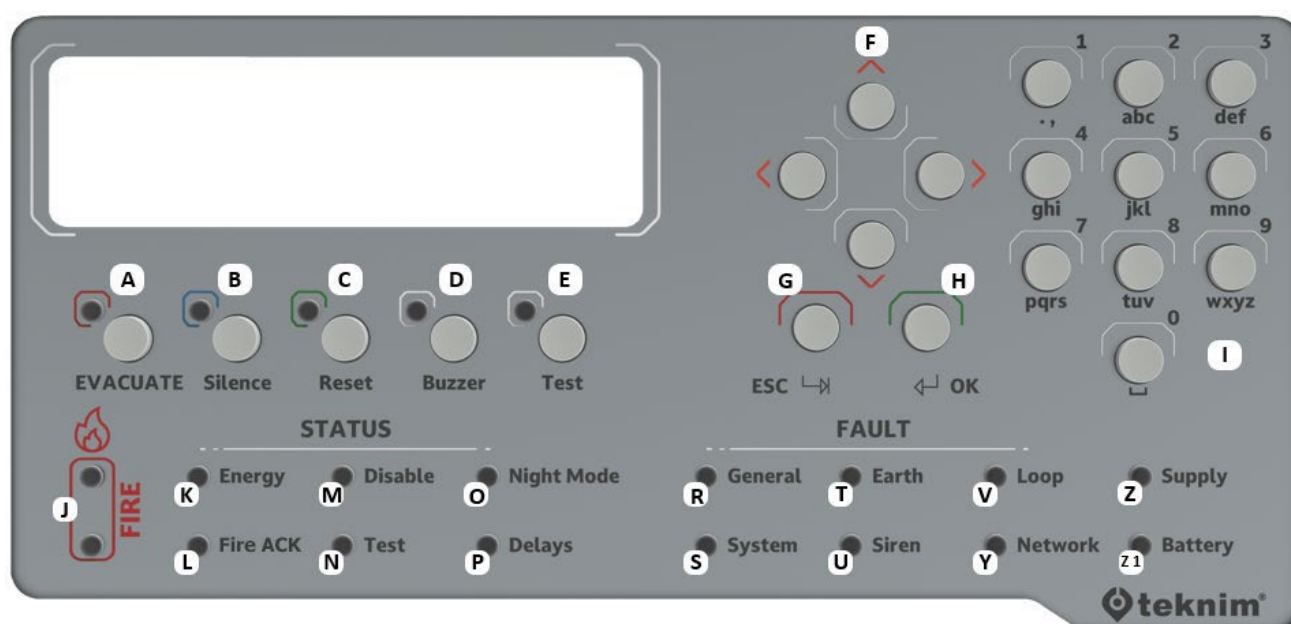
HOW FIRE ALARM SYSTEMS WORK ?

These systems contain detectors and modules that are assigned addresses to different areas of a building. Each detector and module monitors a specific area or room. When a fire hazard is detected, the system can quickly determine which area is affected.





CONTROL PANEL



Label	Function	
[A]	EVACUATION	May be used in Level-2 and Level-3. Starts the evacuation procedure, activates sirens. Panel enters into alarm status.
[B]	SILENCE	May be used in Level-2 and Level-3. Mutes sirens in case of alarm.
[C]	RESET	May be used in Level-2 and Level-3. Reset command is sent to all devices connected to the panel. It restores the panel in alarm or fault status to normal operating status.
[D]	BUZZER	Mutes Buzzer in the event of an error or an alarm.
[E]	TEST	LCD, LED and Buzzer test. (test duration 5 seconds)
[F]	UP-DOWN	Used to scroll up and down on menus and lists.
	LEFT-RIGHT	Used to move to the right or left between forms.
[G]	ESC	It includes functions such as exit, back, cancel, and so on. Used to access the "Status" window on the main screen.
[H]	OK	It includes input, confirm, save and similar functionality. Used to enter menu in the main screen.
[I]	Numeric Keypad	Numbers 0-9. Allows entry of values directly on forms. Provides fast access by entering the number of rows in the list.



Label	Name of LED	LED - Permanent Light	LED - Blinking Light	Color
[J]	FIRE	N/A	Indicates that the panel is in alarm status (250 ms)	Red
[K]	Energy	Indicates that the system is being supplied from any source	N/A	Green
[L]	Fire ACK	Indicates that the fire alarm information has been acknowledged by cloud users	N/A	Red
[M]	System Out-of Service	Indicates that zones or devices or outputs are disabled	N/A	Yellow
[N]	Test	Indicates that one or more zones are in a test state	N/A	Yellow
[O]	Night Mode	Indicates that the system is in night mode.	N/A	Yellow
[P]	Delays	Indicates that the output delays are active.	N/A	Yellow
[R]	General Failure	Indicates that there is a system error. (system error lights up together with associated LED)	Reveals that there is any error in the system	Yellow
[S]	System Failure	Indicates that there is a system error.	N/A	Yellow
[T]	Earth Fault	N/A	Indicates that there is a malfunction in the ground connection	Yellow
[U]	Siren	Indicates that the siren is in the disabled state	Indicates that there is a malfunction in the siren	Yellow
[V]	Loop	Indicates that the loop PCB is disabled.	It shows errors related to the loop PCB such as loss, open circuit, short circuit.	Yellow
[Y]	Network	Indicates the panel is included in the network.	Displays the error status of the network.	Yellow
[Z]	Supply Failure	N/A	Indicates that there is a malfunction in the power supply	Yellow
[Z1]	Battery Failure	N/A	Indicates that there is a malfunction in the battery	Yellow

POWER SUPPLY INPUT

The panel main power supply input should be connected to the 195~250 VAC 50 Hz mains voltage and grounding connection must be in place and functioning. Utmost care should be taken that grounding resistance is not greater than 10 ohms. The main supply input fuse of the panel must be 6A. Also, the panel supply cable must be of the type 3x1.5 NYM or 3x1.5 NYA.

BATTERY CONNECTION

The panel is supplied with 2 units of 12V sealed lead acid battery and at least, this type of battery should be used. Battery must be placed and installed.

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DETECTORS AND OTHER UNITS

Training Set has two smoke detectors, two heat detectors and one gas detector. Also three sounders and flashers and an addressable device.



Smoke and Heat Detectors



Gas Detector



Addressing Device



Sounders and Flashers



SCENARIOS

- a) A fire was detected on the seventh floor of an 11-story building. Elevators were lowered to the ground floor and sirens were sounded.**
- b) As a result of the fire on the 3rd floor, only the sprinkler system on that floor should be activated.**
- c) A gas leak was detected in a hotel kitchen. The kitchen siren was activated and the gas was shut off.**
- d) In the event of an earthquake, sound the sirens and open the exterior doors.**
- e) In case of earthquake or fire, turn on the lights of the signs indicating the emergency exit doors.**
- f) When a fire is detected in the kitchen caused by the hood, open the valve that releases carbon dioxide into the environment.**
- g) Address a heat detector and a gas detector with the addressing device.**



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