



# **TFP-440X Series**

## **Conventional Fire Alarm Panels**

### **Installation & User Manual**

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**\* Sub Models**  
**TFP-4404**  
**TFP-4408**

**4-Zone Conventional Fire Alarm Panel**  
**8-Zone Conventional Fire Alarm Panel**

## Table of Contents

<b>1</b>	<b>- Introduction</b>	<b>3</b>
<b>2</b>	<b>- Warnings</b>	<b>3</b>
<b>3</b>	<b>- Technical Specifications</b>	<b>4</b>
<b>4</b>	<b>- TFP-440x Series Conventional System</b>	<b>5</b>
4.1	- Panel Properties	5
4.2	- Panel User Interface	6
<b>5</b>	<b>- Installation</b>	<b>10</b>
5.1	- Recommended Cables	10
5.2	- Mounting	10
5.3	- Supply Input	10
5.4	- Battery Connection	11
5.5	- Battery Charge Voltage Check	11
5.6	- Inputs and Outputs	11
5.7	- Zone Lines	12
<b>6</b>	<b>- User Levels</b>	<b>12</b>
6.1	- Level 1	12
6.2	- Level 2	12
6.3	- Level 3	12
6.4	- Level 4	13
<b>7</b>	<b>- Using the Panel</b>	<b>13</b>
7.1	- Disable Mode	13
7.2	- Test Mode	13
7.3	- Siren Resound Option	14
7.4	- System Error	14
7.5	- Detailed Error Definitions	14
7.6	- Operation Codes	15
<b>8</b>	<b>- Maintenance</b>	<b>16</b>
8.1	- Situations requiring Maintenance, Repair or Servicing	16
8.2	- Routine Checks	16
8.2.1	- Daily	16
8.2.2	- Weekly	16
8.2.3	- 4 Years	16
<b>9</b>	<b>- Appendices</b>	<b>17</b>
9.1	- Appendix-Mechanical	17
9.2	- Appendix- Electrical	21
9.3	- Appendix-Level	22
9.4	- Appendix - Maintenance Table	23
<b>10</b>	<b>- Issues to be considered</b>	<b>27</b>
10.1	- Maintenance, Repair and Cleaning to be carried out by the Consumer	27
10.2	- Information on Faulty Usage	27
10.3	- Transportation and Shipping	27

Table 1 Main Button Functions .....	7
Table 2 Auxiliary Buttons Functions .....	8
Table 3 LED Indicators .....	9
Table 4 Properties of the Recommended Cables .....	10
Table 5 Known Errors .....	14
Table 6 Operation Codes .....	15
Figure 1 Control Panel User Interface .....	6
Figure 2 Panel Front Cover Mounting .....	17
Figure 3 Mounting Screw Holes .....	18
Figure 4 Electrical Connections.....	19
Figure 5 Battery Connection.....	20
Figure 6 Siren Connection.....	21
Figure 7 Zone Connection.....	21
Figure 8 Level -3.....	22

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EN 54-2:1997, EN 54-2:1997/AC:1999, EN 54-2:1997/A1:2006 Control and indicating equipment for fire detection and fire alarm systems for buildings <b>TFP-4404, TFP-4408</b> Provided options: Output to C Test Condition EN 54-4:1997, EN 54-4:1997/AC:1999, EN 54-4:1997/A1:2002, EN 54-4:1997/A2:2006 Power supply equipment for fire detection and fire alarm systems for buildings <b>TFP-4404, TFP-4408</b> Other technical data: see BİLGİ-TEC-230523-1 held by the manufacturer.

## 1 - Introduction

This manual contains the installation instructions, technical properties, and panel configuration information related to TFP-440X Series Teknim Conventional Panels.

TFP-440X Teknim conventional panels may be viewed under 2 options as 4- or 8-zone devices. 32 detectors or fire alarm buttons can be connected per zone.

TFP-440X series panels compliant with EN54-2/4 standards

**Before installation, the manual must be read and installation must be carried out by authorized persons in accordance with the instructions.**

Before starting the installation, check that the following list is complete inside the package:

- TFP-440X panel,
- 6 pieces of 4K7 end-of-line resistors for TFP-4404 and 10 pieces for TFP-4408,
- Battery interconnect cable belt,
- 4 screws and dowels for wall-mounting,
- QR code on the box to access the manuals.

## 2 - Warnings

- The panel contains electronic card consisting of digital and analog circuits. Therefore it should not be used before having read the entire operation manual.
- In case of any malfunction or in the case that the panel needs maintenance, maintenance and repairs must be carried out by the authorized service station of the manufacturer company or the people/companies authorized by the manufacturer company.
- The cable lines for the supply line of the panel, siren line, and the detector line should be as specified in this manual.
- When panel is energized with supply voltage, do not make any changes to the panel connections.
- The grounding connection to the panel must have been made.
- Do not apply ~230 VAC 50Hz mains voltage to the inputs-outputs of the zone line, inputs of the siren line connections, and the inputs of the battery connections.
- Do not use batteries that have reached the end of useful life or have been damaged by falling below a voltage level. The device does not charge batteries that are below voltage level 20.5 VDC.

**Warning: Do not start mounting before having read the entire manual.**

### 3 - Technical Specifications

Supply	
Voltage	230 / 115 VAC (+%10 / -%15)
Frequency	50 / 60 Hz (±%5)
Mains Input Fuse	2A
Output Voltage	24 VDC ± %2
Output Fuse	4A (F1)
Cable Type	3 x 1,5mm <sup>2</sup> (Phase, Neutria, Ground)
Battery	2 x 12V, 7Ah / 2 x 12V, 7.2Ah
Battery Cut Off Voltage	20,5 V
Battery Internal Resistance Fault	Resistance > 1,5 ohm
Greatest Current to be drawn from the Battery	When the main power source is not connected 2A
Battery Fuse	1,8A (F2)
Charging Voltage	27,6 Vdc @20°C, with heat compensation
Charging Current	500mA (resistance limited)
Imin	TFP-4404 – 75mA, TFP-4408 – 110mA
ImaxA	500mA
ImaxB	1,5A
Outputs	
Supervised Siren Outputs	2 pcs 24Vdc (Caution : The output current of the panel should not exceed 1.4 A)
Siren Fuse	2 pcs 500mA (F5-F6)
Siren End-of-line Resistance	4K7 ohm, %1, 1/4W
General Error Relay	1 pcs NC/NO dry contact, 30V, 2A
Fire Relay	1 pcs NC/NO dry contact, 30V, 2A
Auxiliary Output (AUX)	1 pcs 24Vdc/450mA (Caution : The output current of the panel should not exceed 1.4A)
AUX Fuse	1 pcs 500mA (F3)
Cable Type for Outputs	2 x 0,8mm <sup>2</sup> J-Y(St)Y...Lg 2 x 1,5mm <sup>2</sup> J-Y(St)Y...Lg (Recommended)
Zone Information	
Number Of Zones	4 or 8
Number of Detectors	32 pieces per zone
Output	24Vdc/450mA
Output Fuse	1 pcs 500mA (F4)
Cable Resistance	40 ohm (Maximum)
Cable Length	1,5 km 1,5mm <sup>2</sup> cross-section (Maximum)
End Of Line Resistance	4K7 ohm, %1, 1/4W
Cable Type For zone	2 x 0,8mm <sup>2</sup> J-Y(St)Y...Lg 2 x 1,0mm <sup>2</sup> J-Y(St)Y...Lg 2 x 1,5mm <sup>2</sup> J-Y(St)Y...Lg (Recommended) 2 x 2,5mm <sup>2</sup> J-Y(St)Y...Lg
Environmental Conditions	
Temperature	-10°C ~ +55°C (14°F ~ 131°F)
Humidity	95% RH (Maximum)
IP Class	IP30
Mechanical	
Housing Material	Metal, RAL7035 Texture
Dimensions (mm)	311,6 x 360 x 101
Weight (Without Battery)	4,26kg

- The device properties may be changed without notification.
- The battery recommended for the device is **Yuasa NP7-12**.
- **The greatest current that can be given to the zones and outputs is 1.4A.**

## 4 - TFP-440x Series Conventional System

TFP-440X series conventional systems are fire detection systems, which are designed with 4 or 8-zones and in which 32 detectors or fire alarm buttons can be connected per zone. The system also provides features like 2 supervised siren outputs, 1 dry contact fault relay, 1 dry contact alarm relay, and 1 x 24 AV AUX output.

The panels satisfy the standards "EN54-2 & 4 Fire detection and fire alarm systems - Control and indicating equipment". In addition, they satisfy the following conditional provisions of EN54-2:

- EN54-2 Article 7.8. Transmission of fire alarm signals received from one zone to fire alarm devices,
- EN54-2 Article 10. Test status that allows automatic resetting for zone fire test,

The panels are supplied by 2-ampere internal power supply. Spaces have been allocated in the panels for placement of batteries as shown in "**Figure 5 Battery Connection**". The power supply compliant with EN54-4 has a smart battery charging system with heat compensation.

The transition between access levels 1 and 2 is facilitated with the switch at the front of the panel. For access level 3, the front cover of the panel must be removed. Access level 4 is made available with a special apparatus provided by the manufacturer.

There are 6 buttons to control the system. 3 performance these, "Alarm On/Off", "Silence" and "Reset", are designed in color to direct the user.

For the calculation of how long the system can be supplied via a battery after an interruption of the main supply, the current consumptions of the panel are given in the table for uncharged and alarm statuses.

Model	Idle Status	Alarm Status
TFP-4404	75 mA	140 mA
TFP-4408	115 mA	180 mA

### 4.1 - Panel Properties

- 4 or 8 zones controlled against incorrect connections with end-of-line resistances,
  - Capability to connect 32 detectors or fire alarm buttons per zone,
  - "Fire and Fault/Disable/Test" LEDs for the zones,
  - LEDs for general fault, system fault, supply fault, battery fault, earth fault, siren status, energy, system on, test, disable, access level, password, general alarm,
  - Capability to disable desired zones; capability to see the disabled zones with the dedicated disable LED on the panel.
  - Easily conducted zone test,
  - Smart charging system that prolongs the battery life; where there is no main supply and the system is supplied through battery, when the battery voltage drops below 20.5 VDC, the device shuts itself down automatically to preserve the batteries and not to cause false alarms.
  - 2 pcs siren outputs controlled against incorrect connections with end-of-line resistances,
  - 1 pcs NC/NO fire relay (button alarm, detector alarm, etc.)
  - 1 pcs NC/NO fault relay (Energy error , zone error , battery error , etc.)
  - 1 pcs output with Aux 24VDC 500 mA automatic fuse
  - Switch system determining intervention authorization level
  - Easy-to-understand front panel,
  - Switched power supply (with 24 VDC SMPS 2A automatic fuse)
  - Metal housing
  - Used with 2 x 12V 7Ah or 2 x 12V 7.2Ah batteries.
- The battery recommended for the device is **Yuasa NP7-12**

## 4.2 - Panel User Interface

This chapter describes the indicators and buttons on the panel.

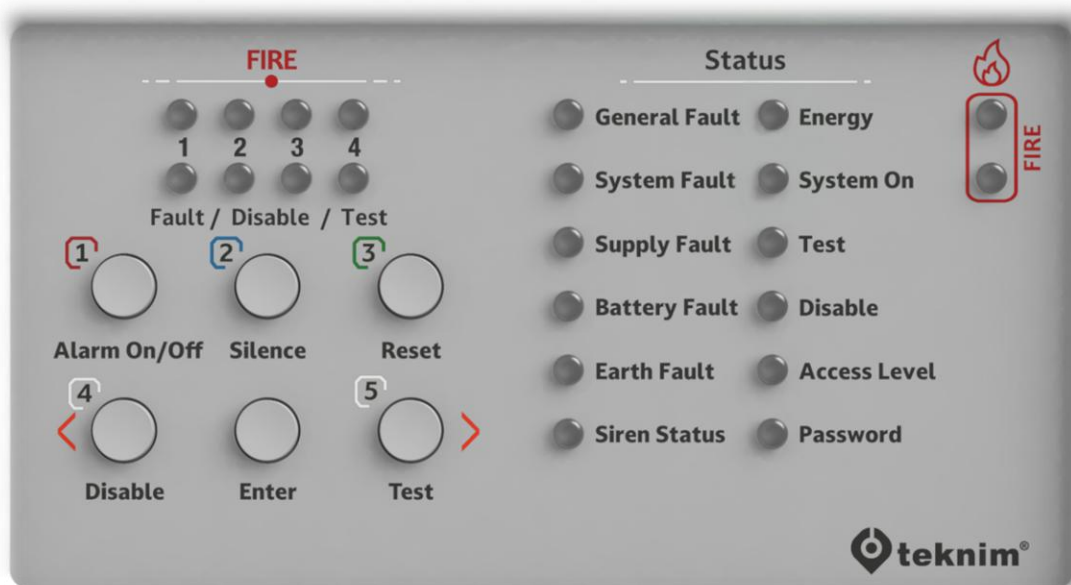


Figure 1 Control Panel User Interface

All buttons have multiple functions as shown in the figure titled "**Control Panel User Interface**". These functions vary according to the access level, the mode of the panel, and the amount of pressing the button. In the table titled "**Main Button Functions**", the functions of all buttons are explained. A short press is a push-pull in less than 3 seconds. Long press is holding key for more than 3 seconds.

The mode in which operation codes and user passwords are entered is called engineering mode.

Table 1 Main Button Functions

Button	Access Level 1			
	Engineering Mode		Normal	
	Short	Long	Short	Long
Alarm On/Off	Used for number 1.		Access level 2 and engineering mode is entered to start evacuation.	
Silence	Used for number 2.		Silence the Buzzer.	
Reset	Used for number 3.	Quit engineering mode.	Access level 2 and engineering mode is entered to reset the panel.	
Disable	Used for number 4.			
Enter	Quit engineering mode.		Detailed error indication is started.	Enter engineering mode.
Test	Used for number 5.		The indicator test is started. The LEDs turn on sequentially for a certain period of time.	
Access Level 2-3				
Alarm On/Off	Used for number 1.		Evacuation is started.	
Silence	Used for number 2.		Silence the Buzzer.	
Reset	Used for number 3.	Quit engineering mode.	Panel is reseted.	Decreases access level from 2 to 1.
Disable	Used for number 4.		Switching between zones and siren in disabled and test menus.	Enter or exit the disable menu.
Enter	Quit engineering mode.		Detailed fault indication starts. Or, it selects the zone or the siren as Test/Normal or Disabled/Active in the disabled and test menus.	Entering the engineering mode to enter the operation codes.
Test	Used for number 5.		The indicator test is started. The LEDs turn on sequentially for a certain period of time.	Enter or quit the test menu.

The buttons Disable, Enter, and Test shown in "**Figure 1 Control Panel User Interface**" have multiple functions. These functions vary depending on the access level and the time of button presses.



The functions of the buttons are defined in Table-2.

**Long press:** Keeping the button pressed for more than 3 seconds

**Short press:** Pressing and releasing the button in a period under 3 seconds

*Table 2 Auxiliary Buttons Functions*

Button	Task	
	Short Press	Long press
DISABLE (<)	It is used to change the processed zone when test or disable process is active in Level-2. It shows the disable zones for 3 seconds when Level-1 and test or disable process are deactivated.	It is used to turn on and off the deactivation process in Level-2. In this case, the fault statuses of the zones or the siren are not shown. Only the disable zones are shown.
ENTER	It is confirmed to carry out disable or test processes at the selected zone/siren when disable or test processes are carried out.	It is used to show the details of the fault statuses in Level-1.
TEST (>)	It is used to test the buzzer and the LEDs in Level-1. It is used to change the processed zone or siren when disable process is active in Level-2. Also, it is used to show the tested zones and siren for 3 seconds when test and disable processes are deactivated.	It is used to show the zones and siren being tested for 3 seconds in Level-1. It is used to turn on and off the test process in Level-2. In this case, it show the zones and siren being tested.

Level 1 and 2 control is performed using a special encryption system provided by the manufacturer.

Panel fault and alarm states are provided with led indicators. There is an internal buzzer for audible warning. LEDs and buzzer can be tested without level switching.

The table titled "Led Indicators" explains the functions of the LEDs on the panel.

*Table 3 LED Indicators*

LED name	Fixed LED	Blinking LED	Color
FIRE	NONE	Shows that the panel is in alarm status (250 ms)	Red
General Fault	Shows a system error	Shows there is a fault in the system	Yellow
System Fault	Shows a system error	NONE	Yellow
Supply Fault	NONE	Shows there is a fault in the power source or charging circuit	Yellow
Battery Fault	NONE	Shows there is a fault in the battery	Yellow
Earth Fault	NONE	Shows there is a fault in the earth connection	Yellow
Siren Status	Shows that the siren is disabled	Shows there is a fault in the siren	Yellow
Energy	Shows that the system is supplied from any source	NONE	Green
System On	Shows that there no problems that can affect the full operation of the system	NONE	Green
Test	Shows that one or more zones are in test status	NONE	Yellow
Disable	Shows that the zones or the siren are disabled	NONE	Yellow
Access Level	Level 3 active	Level 2 active	Yellow
Password	NONE	It indicates that the Operation Code password can be entered	Yellow
Zone Fire	NONE	Shows that the zone is in fire status	Red
Zone Fault / Disable /Test	Shows that the zone is disabled or in test status	Shows there is a fault in the zone	Yellow

## 5 - Installation

This chapter describes the mechanical and electrical connection methods for TFP-440X series panels.

Caution: Do not start mounting before having read the entire manual!

### 5.1 - Recommended Cables

It is recommended that cables with the properties described in "**Table 4 Properties of the Recommended Cables**" are used with the cabling installations and in all the electrical connections.

*Table 4 Properties of the Recommended Cables*

Cable	Cable Properties	Maximum
Supply	3 x 1,5mm <sup>2</sup>	N/A
Zone Lines	2 x 0,8+0,8J-Y(St)Y	0 – 500 meters
	2 x 1,0+1,0J-Y(St)Y	500 – 1000 meters
	2 x 1,5+1,5J-Y(St)Y	1000 – 1500 meters
	2 x 2,5+2,5J-Y(St)Y	1500 – 2500 meters
Siren Lines	2 x 0,8+0,8J-Y(St)Y	0 – 500 meters
	2 x 1,5+1,5J-Y(St)Y	500 – 1500 meters

### 5.2 - Mounting

For mounting, one should select a clean and dry area, which is easily accessible by the user, where the panel is not subjected to jolts and vibrations. The panel should be placed on a level surface at the eye level and it should not be placed in another cabinet or someplace close to heat sources. There are cable inlets from the top and rear for mounting convenience.

- 1 Loosen the A1 screws shown in "**9.1 Appendix-Mechanical / Figure 2 Panel Front Cover Mounting**" with the Allen key provided with the device.
- 2 Using the panel as the template, mark the wall from the A2 screw holes shown in "**9.1 Appendix-Mechanical / Figure 3 Mounting Screw Holes**".
- 3 Drill the holes marked on the wall and complete the fixing process with minimum 8-mm dowel and 4-mm screws.
- 4 Then proceed to battery and cable connection processes.

### 5.3 - Supply Input

The panel main supply input should be connected to the 195~250 VAC 50 Hz mains voltage and earth connection must be made. It should be ensured that grounding resistance is less than 10 ohms. The main supply input fuse of the panel must be 2A. Also, the panel supply cable must be of the type 3x1.5 NYM or 3x1.5 NYA. The electrical connection should be made in accordance with the tag as shown in "**9.1 Appendix-Mechanical / Figure 4 Electrical Connections**".

**WARNING!**  
**Do not remove or connect any connections when the system is energized.**

**WARNING!**  
**This device should not be used without appropriate grounding.**

## 5.4- Battery Connection

The panel is supplied with 2 x 12V 7Ah or 2 x 12V 7.2Ah sealed lead acid batteries and should be used with batteries of this kind.

For battery mounting, the posts should be placed facing each other as shown in "**9.1 Appendix-Mechanical / Figure 5 Battery Connection**" and the battery cable tie as B1 should be securely fastened without any movement.

Two batteries are connected to each other in series. For battery connection, the terminals indicated as B4 and B5 in "**9.1 Appendix-Mechanical / Figure 5 Battery Connection**" are connected to each other using the battery jumper cable provided with the panel. Then, the terminals indicated as B2 and B3 are connected to the battery supply cable.

System used the main supply as the primary power supply. Smart charging circuits are designed to keep batteries always at full capacity.

In the case that main supply is interrupted, the smart charging unit automatically opens the battery connections and shut down the system to prolong the useful lifetime of the batteries when the battery voltage drops below 20.5V. If the main supply is restored, the batteries automatically return to charging status.

## 5.5- Battery Charge Voltage Check

Two batteries are connected in series with each other. Battery charge voltage is set at the factory as 27.6 VDC at 20°C. There fore there is no need to readjust the battery charge voltage. But if problems occur with battery charge, the following steps should be taken:

- 1 After the battery is disconnected and the panel displays the error "No Battery", no voltage should be seen at the battery connector of the panel.
- 2 The front cover of the panel should be opened and device shall be taken to Access Level-3. At this level, heat compensation of the smart charging system is deactivated.
- 3 The output voltage of the main supply should be checked. In this case the output voltage should be 27.75  $\pm$ 50mV. If the output voltage is not at this level, the output voltage should be brought to this level via the adjustment potentiometer located near the power supply.
- 4 When the adjustment of the output voltage of the power supply is completed, the panel should be brought back to access level-1.
- 5 When an empty battery (~22V) is reconnected to the panel, it must be seen that voltage between the battery poles rise rapidly. If not, there is a problem with the battery or the panel.

## 5.6- Inputs and Outputs

**Relay Outputs:** The panel has 2 dry-contact relay output that can withstand a current of 2A at 30 VDC. These dry-contact relays are fire relay (normally non-energized) and fault relay (normally energized).

**Important Note:** The relays of the fire alarm panel are signal relays. If these relays are to operate a device as command relays, a contactor should be place in between. If a contactor is not used when the relay outputs are used in an application that draws high current, then the panel may be damaged and this situation is outside the warranty scope.

**Siren Outputs:** The panel has 2 siren outputs of 24 VDC 500 mA with automatic return and fuse protection. Drawing too much current through this output causes to panel to give out faults. This output is monitored by the end-of-line resistance against open circuits and short circuits. The cable of the siren supply line must a 2x1.5mm2 cable. The connections are shown in "**9.2 Appendix-Electrical / Figure 6 Siren Connection**".

**Alarm Relay:** In case of a fire alarm from the detection zones or when the "Alarm On/Off " button on the front of the panel is pressed, it is activated by changing contacts and is used to control another system (for example, in case of automatic opening of the doors and ventilation when fire is detected). In order for the active relay to be restored, the fire status has to be eliminated and the "Reset" button on the panel has to be pressed.

**Trouble Relay:** It is activated by changing contacts in case of a fault alert from the system and when the power is not supplied to the panel (If a warning is requested when an error occurs or when an error is detected, an error warning is received with a warning that will be connected to this output). Trouble relay automatically returns to its previous position with the elimination of the fault status.

**AUX Output (External Supply Output):** The panel has 24VDC 500mA external supply output with automatic fuse protection. In cases of blackouts, the external supply output is supplied until the battery reaches the cutoff voltage.

## 5.7 - Zone Lines

TFP-440X Teknim conventional panels may be viewed under 2 options as 4- or 8-zone devices. Detection circuits provide power (24 VDC) to the detectors and buttons and at the same time ensures that signals like fire alarm, short circuit, and broken line are transmitted to the panel. Maximum 32 detectors or alarm buttons can be connected to a zone line.

For cable distance between 0 – 500 meters, 2x0.8+0.8J-Y(St)Y, for cable distance between 500 – 1000 meters, 2x1.0+1.0J-Y(St)Y, for cable distance between 1000 - 1500 meters, 2x1.5+1.5J-Y(St)Y and for cable distance between 1500 - 2500 meters, 2x2.5+2.5J-Y(St)Y cables should be used.

The form of connection of the zone line with the detector and alarm button is shown in "**9.2 Appendix-Electrical / Figure 7 Zone Connection**". Unused zones should be disabled over the panel or terminated with the termination resistance. If no connections are made to the zone, the panel gives the error "Zone Open Circuit".

## 6 - User Levels

Some features of the panel are restricted with user levels and the panel has 4 user levels.

### 6.1- Level 1

Level 1 is defined as the predefined user level with the most basic features. When power is supplied to the panel, it starts in level 1 position. The authorizations of the Level 1 user are shown in the following list:

- Indicators and Buzzer Test;
- Buzzer muting,
- Displaying disabled zones or sirens,
- Displaying the zones being tested,
- Detail fault display,

### 6.2- Level 2

Level 2 is a level where the responsible person with system control authority can access by entering the designated password. Transition between access levels 1 and 2 is achieved by entering the password set by the authorized user using the buttons on the front side of the panel. To do this, the "Enter" button should be long-pressed to switch the panel to engineering mode. While in engineering mode, the "Password" LED starts flashing. By entering the specified password, access to level 2 is obtained.

The permissions of the Level 2 user are listed below.

- Indicators and Buzzer Test;
- Buzzer muting,
- Displaying disabled zones or sirens,
- Displaying the zones being tested,
- Detail fault display,

To exit Level 2, you can transition from Level 2 to Level 1 by entering the specified password. (Note: If no action is taken while in Level 2, the panel automatically transitions from Level 2 to Level 1 after a certain period of time.)

### 6.3- Level 3

All the authorizations and functions of the system can be performed at this level. The users of this system are authorized persons who have received training on system installation and maintenance. To enter Level-3, first the front cover of the panel should be removed and "Access Level-1 Activation Switch" shown in "**9.3 Appendix-Level / Figure 8 Level-3**" should be brought to "ON" position.

The authorizations of the Level 3 user are shown in the following list:

To leave Level-3, turn the switch into the original position.

- Level-2 authorizations,

- Option to reactivate the sirens for every new fire situation,
- Computer connection (to monitor panel data),
- Hard Reset,

#### **6.4- Level 4**

Level-4 can be entered via a special apparatus provided by the manufacturer. At this level the user can change the memory where the user program is located and the working data of the site.

### **7 - Using the Panel**

In this chapter, information on using the panel is given.

#### **7.1- Disable Mode**

Disable mode is used to isolate an unused zone or siren from the system.

Disable mode settings can be adjusted from access levels-2, 3 and 4.

In order to deactivate a zone or a siren, "Disable" button is pressed for some time. The panel opens the disabling setting after 3 s. "Disable" LED and "Zone-1 Fault/Disable /Test" LED begin to flash. This shows that the panel has started the disabling process and Zone-1 is in selection mode.

The zone or siren to be selected is changed by pressing "Disable (<)" or "Test (<)" keys. When the zone or siren to be disabled is reached, if "Enter" is pressed again, the selected zone starts flashing rapidly. When "Enter" is pressed again, the selected zone starts blinking slowly. Rapid flashing of the selected zone's LED shows that the zone is disabled and slow flashing, then turning off shows that the zone is active.

After the desired zones or sirens are disabled, "Disable" button is pressed again for some time and disabling process is shut down. If a zone or a siren is disabled, "Disable" LED lights up constantly. Otherwise, "Disable" LED turns off.

When the deactivation process is turned on, the faults and test statuses of the zones and sirens are not displayed so as not to cause any confusion. Only the deactivated status is shown.

In order for the user to distinguish between test and disabling statuses, when the "Disable" button is pressed for some time at access level-1, the panel shows for 3 s only the disabled zones.

#### **7.2- Test Mode**

The test mode is used so that the testing of the fire detection system can be conducted by a single person. When a fire signal is received from the detectors or fire alarm buttons from a zone being tested, the panel enters into fire status. If sirens are selected in the test mode, the panel activates also the panel outputs and resets itself after 10 s.

Test mode settings can be adjusted from access levels-2, 3 and 4.

In order to test a zone or a siren, "Test" button is pressed for some time. The panel opens the test operation after 3 s. "Test" LED and "Zone-1 Fault/Disable/Test" LED begin to flash. This shows that the panel has started the test setting process and Zone-1 is in selection mode.

The zone or siren to be selected is changed by pressing "Disable (<)" or "Test (<)" keys. When the zone or siren to be tested is reached, if "Enter" is pressed again, the selected zone starts flashing rapidly. When "Enter" is pressed again, the selected zone starts blinking slowly. Rapid flashing of the selected zone's LED shows that the zone is under test and slow flashing shows that the zone is not being tested.

If it is desired for the sirens to be active during zone test, the sirens have to be selected together with the zone.

After the desired zones or sirens are taken into test mode, "Test" button is pressed again for some time and test mode setting process is shut down. If a zone or a siren is in test mode, "Test" LED lights up constantly. Otherwise, "Test" LED turns off.

When the test process is turned on, the faults and disabled statuses of the zones and sirens are not displayed so as not to cause any confusion. Only the test status is displayed.

In order for the user to distinguish between test and disabled statuses, when the "Test" button is pressed for some time at access level-1, the panel shows for 3 s only the zones being tested.

If no alarm comes from the tested zone for a period of 1 hour, then panel automatically takes the tested zone out of the test mode.

### 7.3 - Siren Resound Option

As a factory default setting, when the panel enters the first fire condition and the sirens are silenced by the "Alarm On/Off" button, if any new alarm is detected from a different zone, the sirens will be automatically reactivated. The option to enable or disable the siren reactivation is accessed through the manufacturer's specified operation codes section and requires entering the corresponding passwords.

Changing this setting is optional. If modified, the sirens will not be reactivated for each new alarm detected after they have been silenced by the "Alarm On/Off" button.

To make this adjustment:

- 1 The "Access Level-3" shown in **"9.3 Appendix-Level / Figure 8 Level-3"** should be set to the "ON" position.
- 2 Enter the specified password in the operation codes and activate the "siren reactivation" option.
- 3 Change the access level back to 1.

### 7.4 - System Error

TFP-440x Teknim conventional panels are microcontroller-based systems. As per EN54-2 Article 13.3, the microcontroller is controlled by another completely independent system. In the case that the microcontroller fails to carry out program flow for any reason, the panel automatically takes itself into secure status. In this case, the following occur:

- 1 General Error and System Error LEDs light up constantly. System On LED turns off.
- 2 Buzzer rings constantly. The buzzer can be silenced using the "Mute" button.
- 3 Energy to the zones and sirens is disconnected so as not to cause any false detection.
- 4 Trouble relay is activated.

**WARNING!**  
**In case of a system error, contact your dealer or authorized service station.**

### 7.5 - Detailed Error Definitions

In case of a fault, "General Error" LED and the related fault LED flashes. Situations detected as faults are given in Table 6.

*Table 5 Knows Errors*

LED name	Errors that may occur
General Fault	Any faults
System Fault	If the microcontroller is not operational for any reason If the system voltage is below 14V
Supply Fault	If there is no main power supply If the battery charging circuit is faulty
Battery Fault	If there is no battery If the battery is empty If the battery internal resistance is greater than 1.5 ohms
Earth Fault	If the earth voltage is high If the earth voltage is low
Siren Status	If the siren is open-circuited If the siren is short-circuited
Zone Fault/Disable/Test	If the zone is open-circuited If the zone is short-circuited

Open-circuit or short-circuit faults of the zones that might occur in installation is shown in more detail by the panel for the convenience of the installer.

When the "Enter" button is pressed, the panel shows the details of the zone faults in more detail for 3 seconds. During these 3 seconds, if the fault LED lights up constantly the zone is short-circuited and if it flashes the zone is open-circuited.

## 7.6 – Operation Codes

Reaching the Access Level 2 is done through operation codes. In addition, disable, test and delay operations of all zones and sirens can be easily adjusted via the operation codes.

The transition between access levels 1 and 2 is provided by entering the password using the buttons on the front of the panel. For this, the "Enter" key should be pressed for a long time and the panel should be switched to engineering mode. When the panel is in engineering mode, the "Password" led starts to blink. Also, when the panel is in engineering mode, the user can switch to access level 2 by entering a password at access level 1, or configure the panel by entering the codes in the table titled "Operation Codes" at access levels 2 and 3.

*Table 6 Operation Codes*

Level 2 Default Password (factory setting)	5	5	5	
Level 2 Quit Password	4	4	4	4
Level 2 Password Change	1	1	1	2
Panel Factory Setting	1	1	1	3
All Zones Normal	2	1	5	5
Zone 1 Enab. – Normal	2	2	1	1
Zone 2 Enab. – Normal	2	2	1	2
Zone 3 Enab. – Normal	2	2	1	3
Zone 4 Enab. – Normal	2	2	1	4
Zone 5 Enab. – Normal	2	2	2	1
Zone 6 Enab. – Normal	2	2	2	2
Zone 7 Enab. – Normal	2	2	2	3
Zone 8 Enab. – Normal	2	2	2	4
All Zones Disable	2	2	5	5
Zone 1 Test – Normal	2	3	1	1
Zone 2 Test – Normal	2	3	1	2
Zone 3 Test – Normal	2	3	1	3
Zone 4 Test – Normal	2	3	1	4
Zone 5 Test – Normal	2	3	2	1
Zone 6 Test – Normal	2	3	2	2
Zone 7 Test – Normal	2	3	2	3
Zone 8 Test – Normal	2	3	2	4
All Zones Test	2	3	5	5
Siren Disable – Normal	3	2	5	5
Siren Test - Normal	3	3	5	5
Activate Siren Resound	3	5	1	1
Disable Siren Resound	3	5	1	2



## 8 - Maintenance

Maintenance and repair on Teknim TFP-440X series fire systems should be carried out by authorize people in accordance with the instructions.

### 8.1 - Situations requiring Maintenance, Repair or Servicing

In case of malfunction or in the following situations, contact your dealer or authorized service station.

- If the power cable or wire is damaged,
- If any liquid penetrates into the device or an object falls inside,
- If it is exposed to water or rain,
- If the device is dropped or the housing is damaged,
- If there are noticeable performance changes in the device.
- If the device does not operate normally in line with the operating instructions in the operation manual, call the service station because faulty interventions may cause other malfunctions.

#### **WARNING!**

**Do not attempt to repair the device. You may be subjected to electrical shock when you open the cover of the device. In case of malfunction, contact your dealer or authorized service station. Only qualified and authorized servicing personnel should carry out technical interventions on the device. The device should be cleaned with a dry cloth. No chemicals should be used.**

### 8.2 - Routine Checks

#### 8.2.1- Daily

The authorized person should check the device daily for any fault statuses. The green "Energy" and "System On" LEDs on the panel should be lit.

#### 8.2.2- Weekly

Fire alarm systems should be tested weekly.

Each week, a normally operational alarm button should be activated weekly and it should be noted if there are any problems in the fire detection and warning system of the panel.

The tests should be conducted on the same day of the week and a different alarm button shall be used for each test. Test results should be kept under record.

After the test is completed, the activated alarm button should be returned to its original status.

**Important Note:** Before testing the fire alarm system , auxiliary outputs should be isolated from the system.

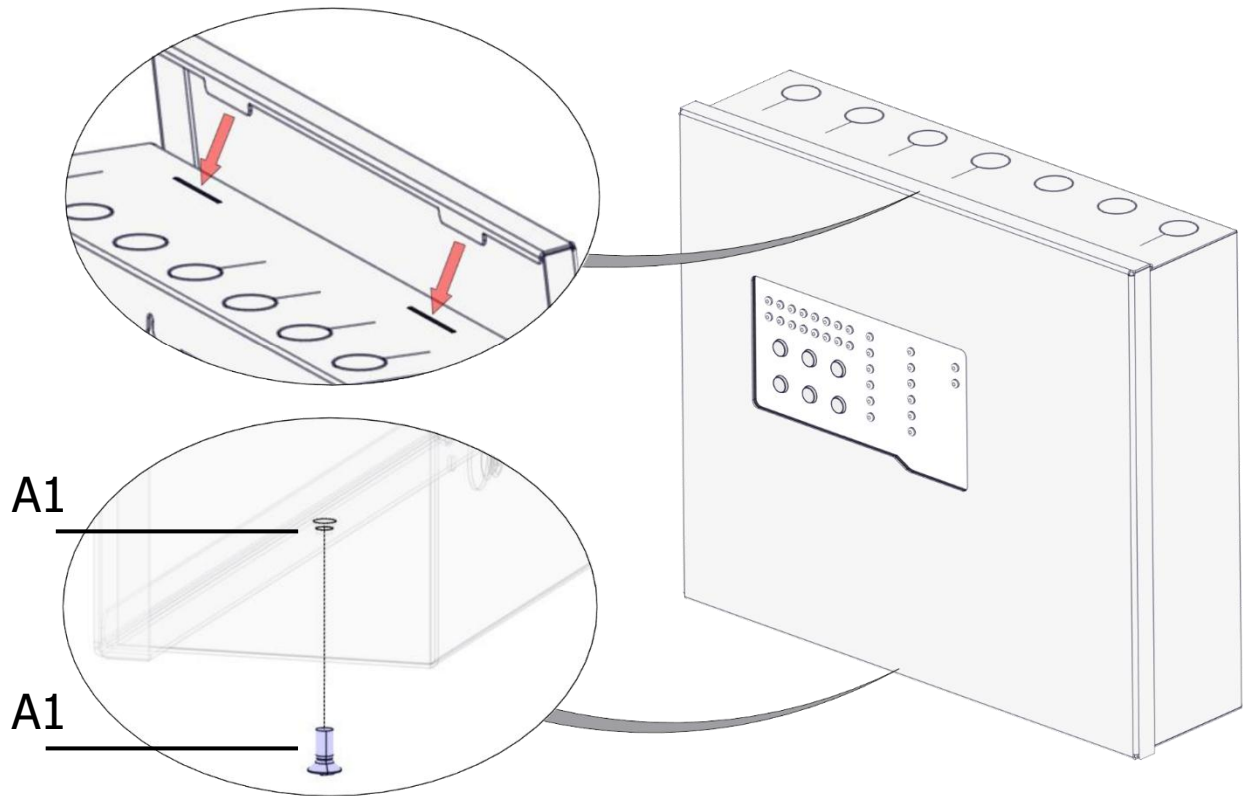
#### 8.2.3- 4 Years

TFP-440X series conventional fire detection panels contain 2 sealed lead acid batteries as a redundant power supply against an interruption of the main supply. The average lifetime of these batteries is 4 years. Batteries should be replaced after this period.

## 9 - Appendices

The Appendices are divided into 4 categories a Mechanical, Electrical, Level and Maintenance Tables.

### 9.1 - Appendix-Mechanical



*Figure 2 Panel Front Cover Mounting*

**A1** Screw and Mounting Hole

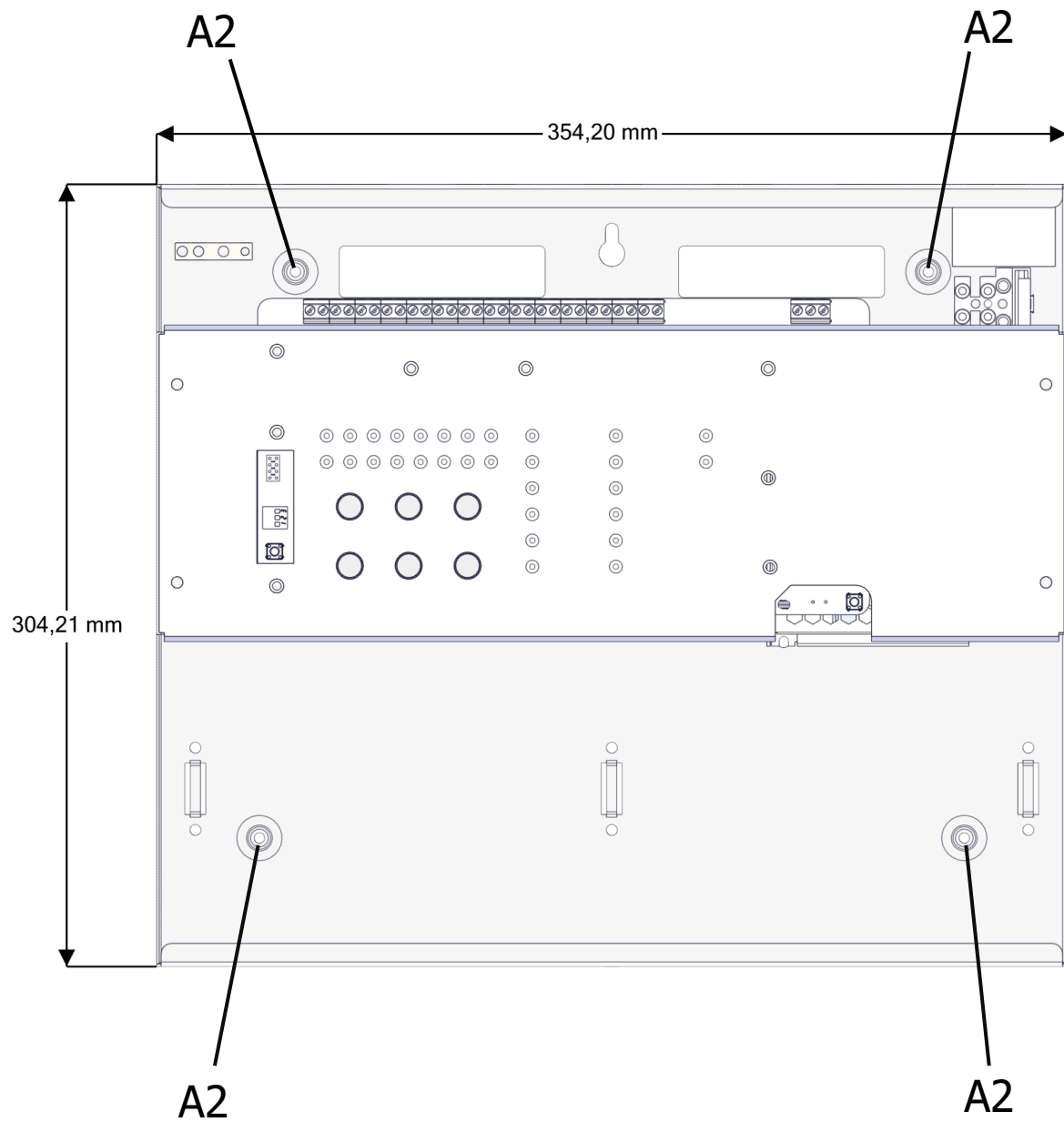


Figure 3 Mounting Screw Holes

**A2** Mounting Screw Hole

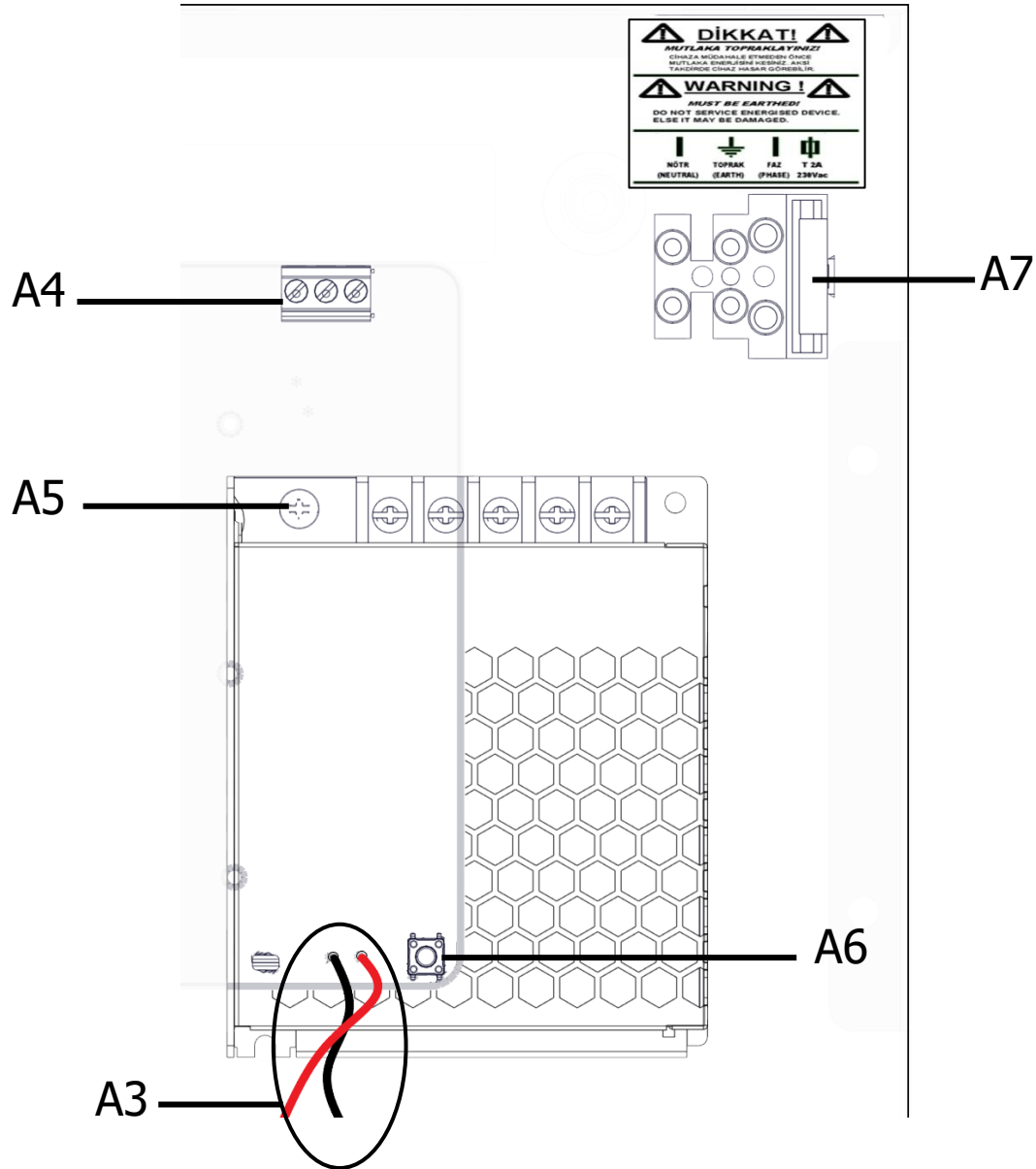
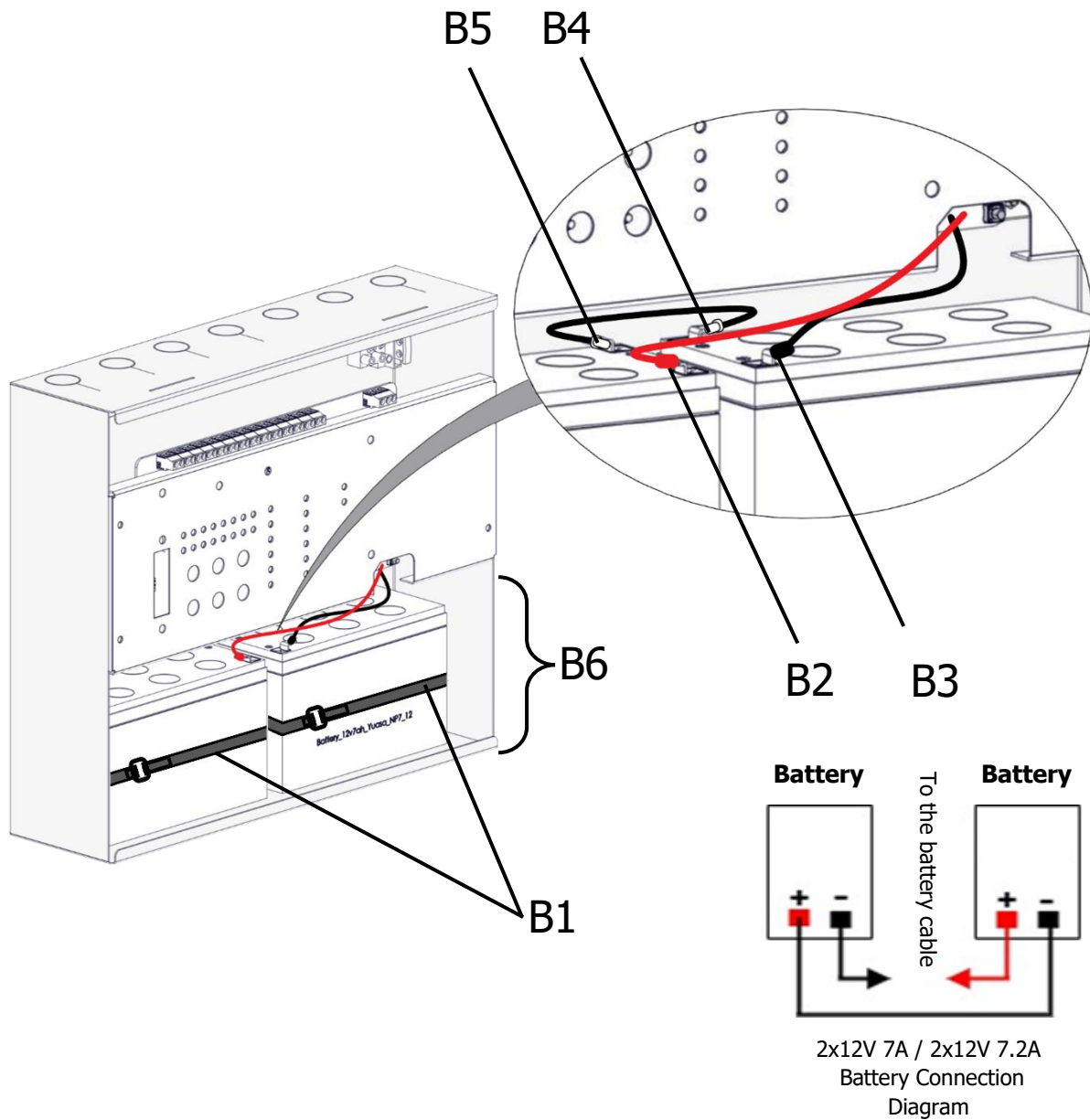


Figure 4 Electrical Connections

- A3** Battery Cable
- A4** Power Connection Connector 195~250VAC 50Hz.
- A5** Main Supply Voltage Adjustment Potentiometer
- A6** Battery Start Button Battery (Batt) Start Switch When 195~250VAC. 50Hz. Is Not Available
- A7** Mains Fuse 2A.



*Figure 5 Battery Connection*

- Place the batteries in the area indicated by B6.
- The batteries are secured to the panel with the battery securing strap shown in B1.
- Connect the batteries to each other using the battery jumper cables shown in B4 and B5.
- Connect the battery power cables shown in B2 and B3 to the battery power socket.
- Do not use batteries that have reached the end of their service life or have deteriorated below a certain level; batteries become defective when they are below 20.5 VDC. The device does not charge batteries that have a voltage level below 20.5 VDC.

## 9.2 - Appendix- Electrical

TFP-440X series conventional fire alarm panels have 2 siren outputs.

Each siren output gives maximum output of 24VDC. 500mA. Sirens are connected in parallel to the system. 4.7K resistor should be used as the end-of-line resistor.

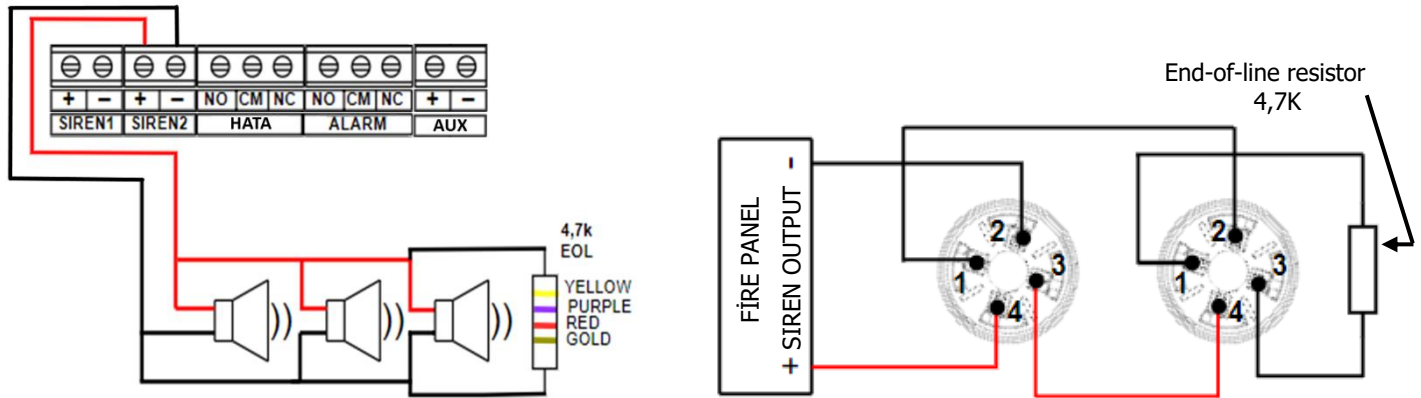


Figure 6 Siren Connection

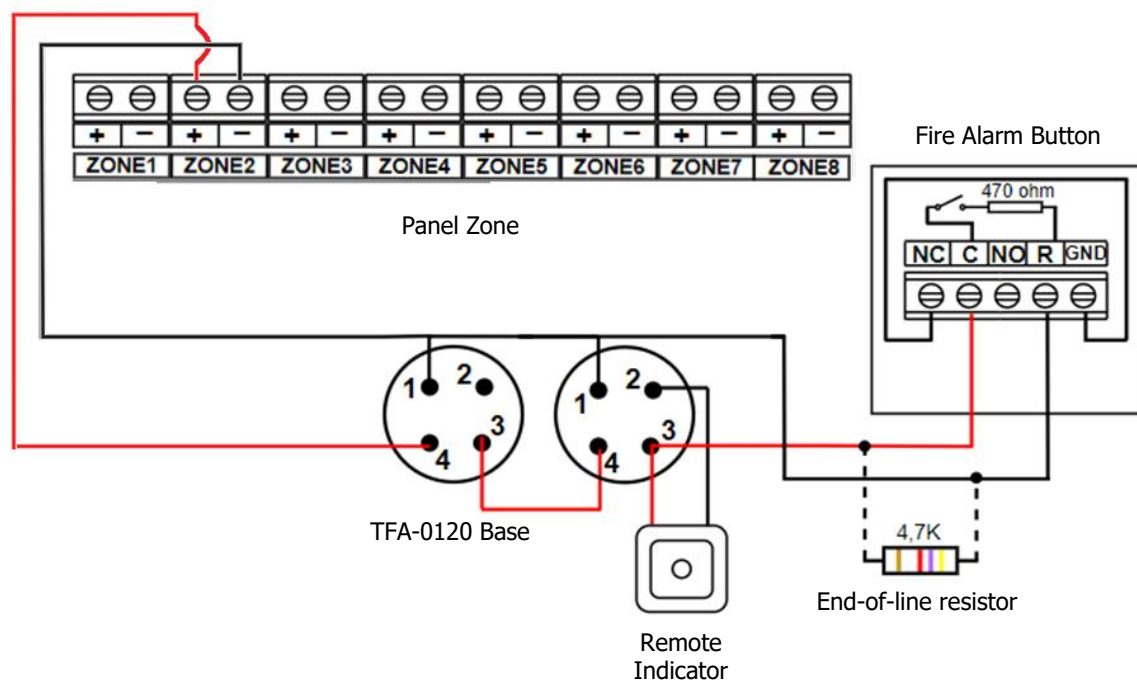


Figure 7 Zone Connection

### 9.3- Appendix-Level

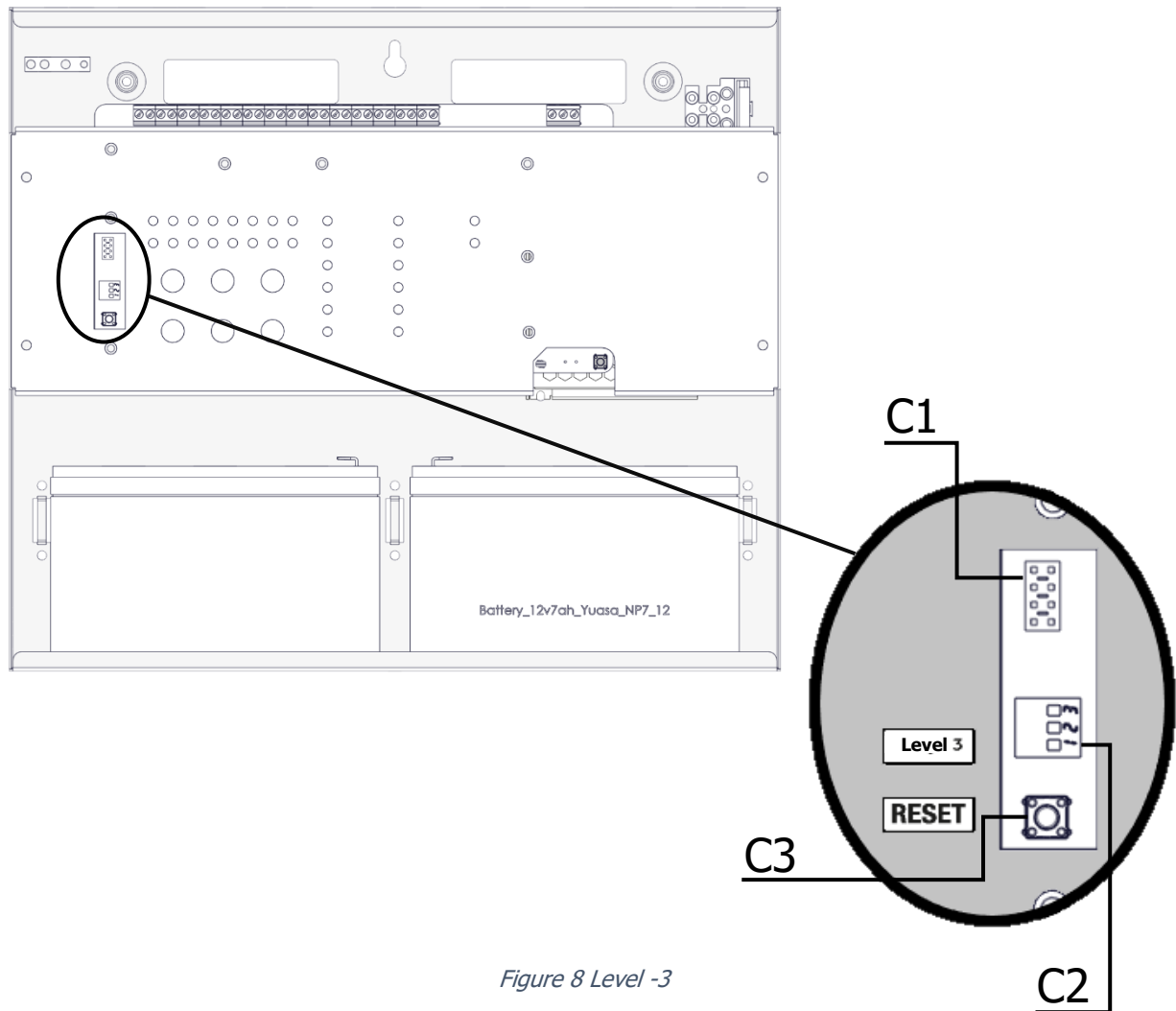


Figure 8 Level -3

- C1** The ID connector enables establishing a connection between the computer and the panel for "ID" identification.
- C2** By switching the Access Level-3 Activation Switch to the "ON" position, Level 3 is activated.
- C3** Hardware Reset. (It is a button that allows the panel to be reset hardware-wise independently of the software).

**9.4- Appendix - Maintenance Table**

Date	Tested Device	Device Position	Remarks



Date	Tested Device	Device Position	Remarks

Date	Tested Device	Device Position	Remarks

Date	Tested Device	Device Position	Remarks

## 10 - Issues to be considered

### 10.1 - Maintenance, Repair and Cleaning to be carried out by the Consumer

There are no maintenance or repair that the consumer can perform individually. You may be subjected to electrical shock when you open the cover of the device. The device should be cleaned with a dry cloth. No chemicals should be used.

### 10.2 - Information on Faulty Usage

Do not allow unauthorized people to open or to change the settings of your device. Otherwise, your device may operate differently than it did originally.

### 10.3 - Transportation and Shipping

The device should be carried carefully so as not to subject it to any external impacts and to prevent liquid penetration. Malfunctions arising due to improper handling are outside the scope of warranty.

## MANUFACTURER and SERVICE

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