WIRELESS FIRE ALARM SYSTEMS

Teknim Wireless Fire Alarm Systems with TLPWAN Technology can be used in all places such as museums, historical sites, historical churches and mosques, hotels, factories, which require a fire alarm system and where structural wiring is not possible or cable pollution is not desired.

Wireless system basically consists of four main components; Fire alarm control panel, Wireless Coordinator, Wireless Repeater, and wireless end units (Detector, Siren, Button, Input / Output Modules etc.) can be integrated into Teknim Addressable Fire systems and a completely wireless or hybrid structure can be created according to the needs of the project.

In addition, wireless products can work safely and highly compatible with all other brands in conventional systems. Thus, according to the need, you can provide an effective protection with either conventional or addressable wireless fire alarm system.

TLPWAN TECHNOLOGY

The main features of the TLPWAN wireless fire detection system are:

- The system can work with Teknim addressable fire alarm panels or with all other brands of conventional fire alarm panels.
- Supports up to 2500mt communication distance at open space
- Supports up to 31 device per coordinator (26 Device + 5 Repeater)
- Supports tamper warning for all devices
- Supports link test feature for all devices
- Supports firmware update feature for all devices

- Teknim Low Power Wide Area Network
- IEEE 802.15.4 Standard
- Low Power Consumption
- Bidirectional Communication
- AES-128 Encryption Algorithm
- Layer ACK Structure

TLPWAN NETWORK LIMITS
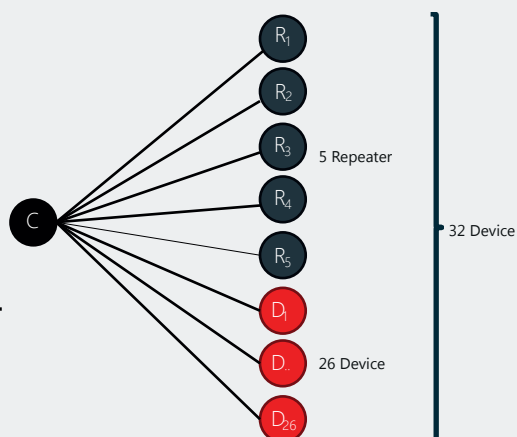
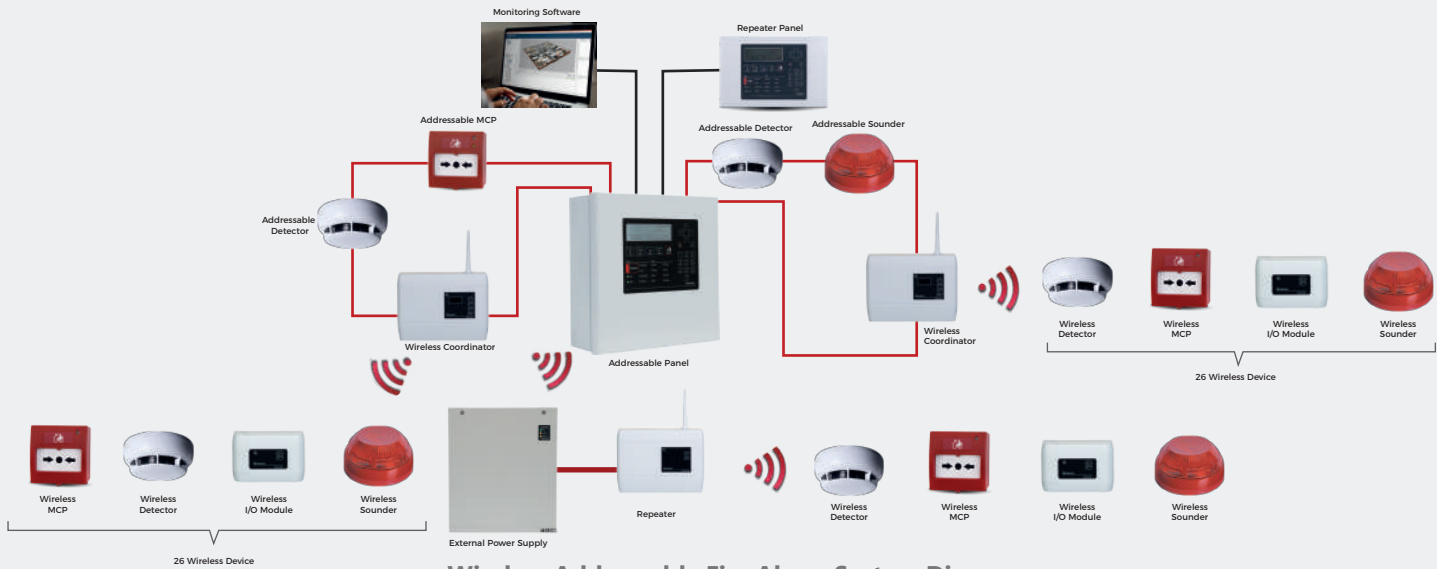All devices can be connected to the last layer or distributed in all layers.
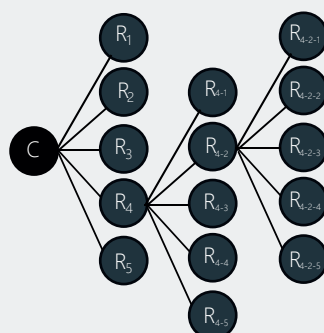
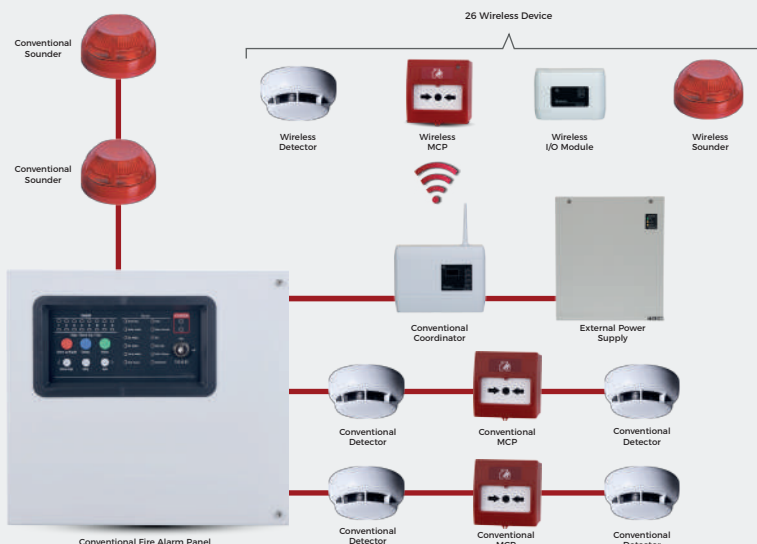Up to 4 repeaters can be connected consecutively to a coordinator.

At least 5 of the devices to be connected to a coordinator are reserved only for repeaters and at most 26 are reserved for other devices.

Savings of up to 90% in Cable and Labor Costs!!

Monitoring Software

Repeater Panel

Addressable MCP

Addressable Detector   Addressable Sounder

Addressable Detector

Wireless Coordinator

Addressable Panel

Wireless Coordinator

Wireless Detector   Wireless MCP   Wireless I/O Module   Wireless Sounder

26 Wireless Device

Wireless MCP   Wireless Detector   Wireless I/O Module   Wireless Sounder

External Power Supply

Repeater

Wireless Detector   Wireless MCP   Wireless I/O Module   Wireless Sounder

26 Wireless Device

Wireless Addressable Fire Alarm System Diagram

26 Wireless Device

Conventional Sounder

Wireless Detector   Wireless MCP   Wireless I/O Module   Wireless Sounder

Conventional Sounder

Conventional Coordinator   External Power Supply

Conventional Detector   Conventional MCP   Conventional Detector

Conventional Detector   Conventional MCP   Conventional Detector

Conventional Fire Alarm Panel

Wireless Conventional Fire Alarm System Diagram

TWM-1885 Wireless Addressable Coordinator can only be used with Teknim brand addressable fire panels, while the TWM-3885 Wireless Conventional Coordinator can be used with all brands and models of conventional fire panels. In this way, you can design a project completely wireless as in addressable or conventional, you can expand a previously installed system with wireless products, or you can create a hybrid structure by designing the project both wired and wireless from the beginning.

TLPWAN (Teknim Low Power Wide Area Network) is a wireless communication protocol in which devices with low power requirements communicate in a stable and reliable way using 2-way communication in a wide area. Thanks to its advanced addressing mechanism, it enables router devices to join the network easily. This allows the wireless communication area to be expanded easily.
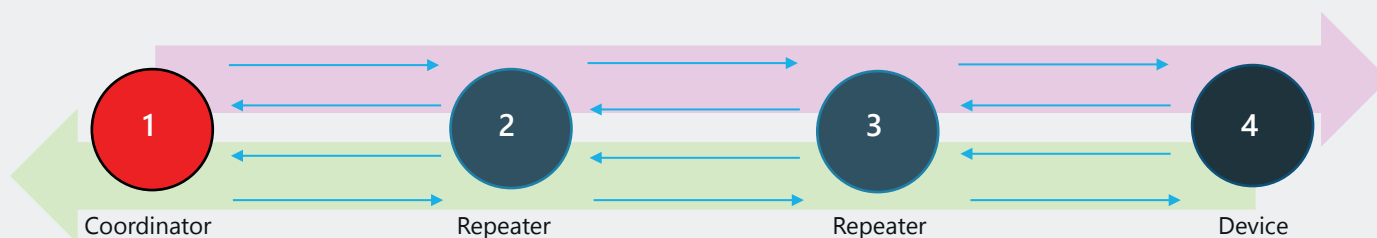

● Coordinator
● Router
● Devices

Star Topology

Tree Topology
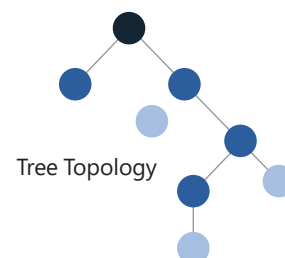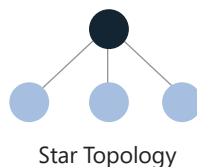
ACK MECHANISM

ACK (Acknowledgment) is a control message that checks whether the data is sent or not and starts the resend mechanism if it is not.

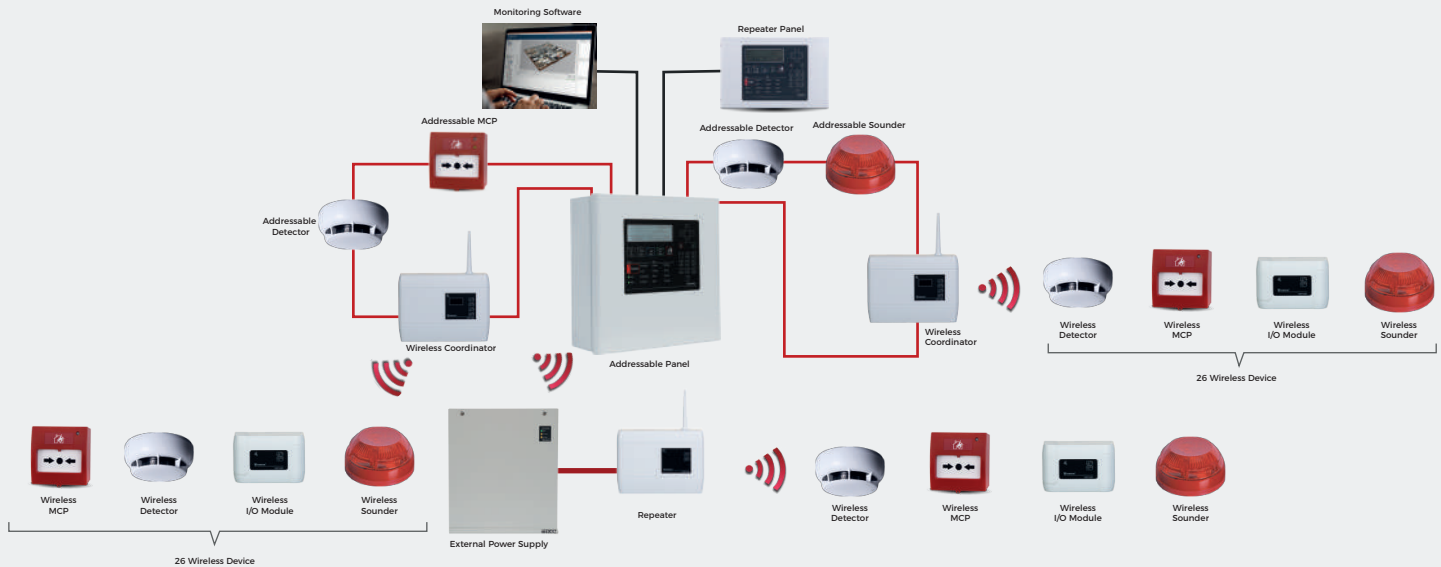TLPWAN uses a 2-layer ACK structure to guarantee the transmission of data.

| 1 | 2 | 3 | 4 |
| Coordinator | Repeater | Repeater | Device |

SIGNAL STRENGTH AND DISTANCE

• Up to 2500m communication distance at open space
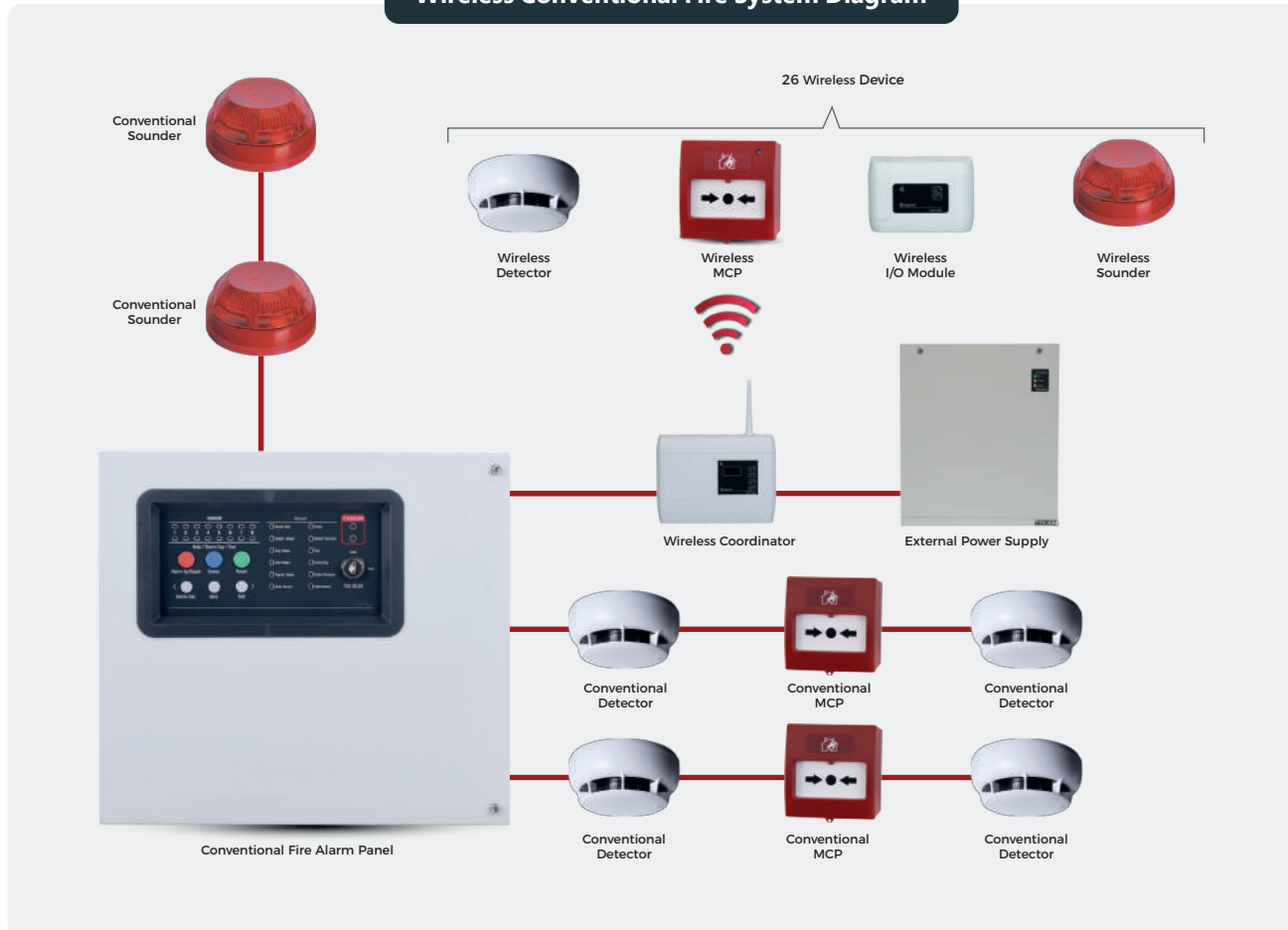

500m   500m   500m   500m   500m
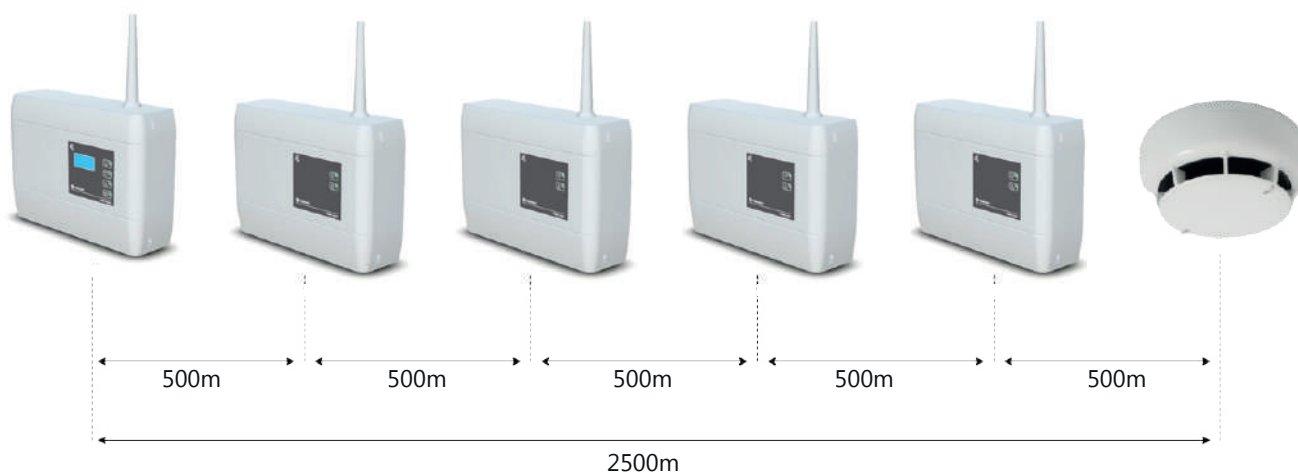
2500m

• Up to 2500m communication distance at open space
• Significant decreases in the signal power level may occur in places with high mobility such as parking lots, warehouses, factories, workshops, or in difficult structures such as multi-column and beam, thick walls, or in areas where metal and glass objects are predominant.
• It is not possible to talk about a certain communication distance in inside areas. .

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Wireless Addressable Fire System Diagram

Monitoring Software

Repeater Panel

Addressable MCP

Addressable Detector

Addressable Sounder

Addressable Detector

Wireless Coordinator

Addressable Panel

Wireless Coordinator

Wireless Detector

Wireless MCP

Wireless I/O Module

Wireless Sounder

26 Wireless Device

Wireless MCP

Wireless Detector

Wireless I/O Module

Wireless Sounder

External Power Supply

Repeater

Wireless Detector

Wireless MCP

Wireless I/O Module

Wireless Sounder

26 Wireless Device

Wireless Conventional Fire System Diagram

26 Wireless Device

Conventional Sounder

Wireless Detector

Wireless MCP

Wireless I/O Module

Wireless Sounder

Conventional Sounder

Wireless Coordinator

External Power Supply

Conventional Fire Alarm Panel

Conventional Detector

Conventional MCP

Conventional Detector

Conventional Detector

Conventional MCP

Conventional Detector

Intelligent Addressable Fire Alarm Panels

Teknim wireless addressable devices are used with Teknim addressable control panels. Wireless addressable systems, designed according to EN54 standards, allow a completely wireless or hybrid system design with existing Teknim addressable control panels. The functions and settings of all wireless devices can be made on the addressable panel.

GENERAL FEATURES

- EN 54-2 and EN 54-4 Certified 1,2 and 4 Loop Options
- Wireless Device Support With TWM-1885 Wireless Addressable Coordinator
- 72 Programmable Zones
- Cable Distance Up To 2.5Km Per Loop
- 16 Panel Network Support
- Easy to read, 240*64 Wide LCD Graphic Display and User-friendly Interface
- Storing up to 12.000 Events History

Technical Specifications	TFP-1211	/	1212	/	1214
Standard	EN54-2, EN54-4				
Display	240x64 Graphic Display				
Loops	1		2		4
Number of Devices Supports Per Loop	240		240		127
Total Device Support	240		480		508
Number of Zones	72				
Network	16 Panel				
Number of Monitored Siren Outputs	2 Adet 500mA				
General Error Relay	1x NC/NO 30V 2A				
Fire Alarm Relay	1x NC/NO 30V 2A				
Operating Temperature	-10°C ~ 55°C				
Dimensions (mm)	385x380				
Humidity	95% RH				
Protection Class	IP30				

TWM-1885
Wireless Intelligent Addressable Coordinator

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Teknim TWM-1885 Addressable Coordinator is an interface that enables wireless devices such as detectors, MCPs, I/O Modules and sounders to be operated with Teknim addressable fire alarm panels. Teknim wireless fire alarm systems provide a flexible solution by completely wireless or hybrid structure as well as allowing existing wired structures to be expanded wirelessly especially where wiring infrastructure is not possible.

GENERAL FEATURES

• EN 54-18 and EN 54-25 Certified
• Fully Compatible with Teknim Addressable Fire Alarm Panels
• Fully Wireless or Hybrid System Design Options
• Easy and Fast Installation, Commissioning and Usage
• Supports 31 Wireless Devices per Coordinator (26 Device and 5 Repeater)

Technical Specifications	TWM-1885
Standard	EN54-18, EN54-25
Operating Frequency	868 mHz
Number of Channel	10
Number of Consecutive Repeater Connections	4
Total Number of Single Repeater Connections	5
Total Wireless Device Support	31 (26 Device and 5 Repeater)
Power	From Loop Line
Screen	OLED
Programming	From Control Panel and Onboard Control Buttons
Consumption	10mA
Built-in Isolator	Yes
Operating Temperature	-10°C ~ 55°C
Dimensions (mm)	150 x 110 x 42 mm, Antenna: 70mm
Weight	185gr
Humidity	95% RH
Protection Class	IP65

TWM-3885
Wireless Conventional Coordinator

Teknim TWM-3885 Conventional Coordinator is an interface device that enables wireless devices to be operated with conventional fire alarm panels. The Wireless Conventional Coordinator module, which can work in full compatibility with all brand and model conventional fire panels by using the desired end of line resistor, processes the signals it receives from all wireless devices and enables the warning and notification functions in the control panel.
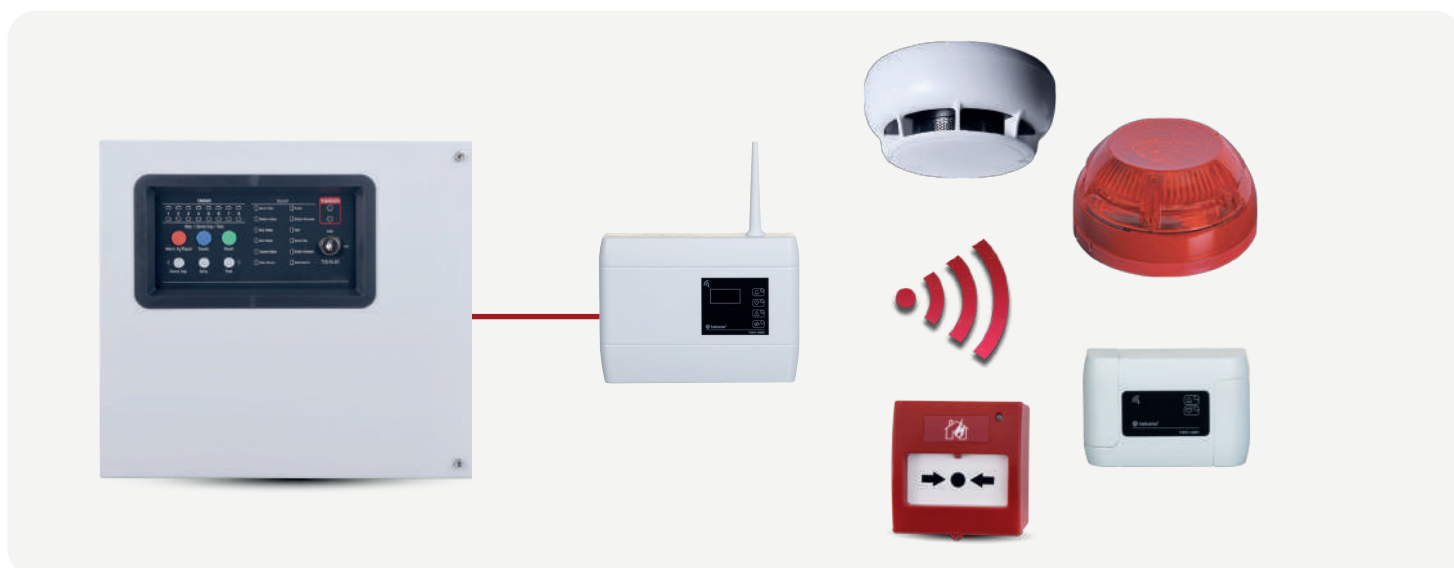
GENERAL FEATURES

• EN 54-18 and EN 54-25 Certified
• Fully Compatible with All Brand Conventional Panels
• Fully Wireless or Hybrid System design Options
• Easy and Fast Installation, Commissioning and Usage
• Support for 31 Wireless Devices per Coordinator (26 Device and 5 Repeater)
• Approx. 500mt Wireless Coverage (Open Area)

Technical Specifications	TWM-3885
Standard	EN54-18, EN54-25
Operating Frequency	868 mHz
Number of Channel	10
Number of Consecutive Repeater Connections	4
Total Number of Single Repeater Connections	5
Total Wireless Device Support	31 (26 Device and 5 Repeater)
Power	18 - 35VDC (External)
Screen	OLED
Zone Resistor	Determined According to the Conventional Panel
Sounder Monitoring Input	1
Programming	Onboard Control Buttons
Consumption	10mA
Operating Temperature	-10°C ~ 55°C
Dimensions (mm)	150 x 110 x 42 mm Antenna: 70mm
Weight	185gr
Humidity	95% RH
Protection Class	IP65

TWM-1886
Wireless Repeater

TWM-1886 Wireless Repeater allows the wireless network area to be expanded by connecting to the coordinator or another repeater. It is mainly used to increase the communication distance between the wireless coordinator and wireless devices.

It is suitable for use with both TWM-1885 Wireless Addressable Coordinator and the TWM-3885 Wireless Conventional Coordinator.

Technical Specifications	TWM-1886
Standard	EN54-18, EN54-25
Operating Frequency	868 mHz
RF Power	14 dBm (25 mW)
Number of Channel	10
Number of Consecutive Router Connections	4
Total Number of Single Router Connections	5
Total Wireless Device Support	31 (26 Device and 5 Router)
Coverage	500mt (Açık Alan)
Programming	Onboard Control Buttons
Consumption	10mA
Operating Temperature	-10°C ~ 55°C
Dimensions (mm)	150 x 110 x 42 mm Antenna: 70mm
Weight	185gr
Humidity	95% RH
Protection Class	IP65

GENERAL FEATURES

- EN 54-18 and EN 54-25 Certified
- Fully Compatible with TWM-1885 and TWM-3885 Coordinators
- External Power 18-35 VDC
- Easy and Fast Installation, Commissioning and Usage
- Approx. 500mt Wireless Coverage (Open Area)

TWD-1850
Wireless Multi Detector (Smoke and Heat)

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TWD-1850 Wireless Multi Detector offers excellent wireless solutions with wide coverage and long-term battery life, especially in places where wiring is costly or impossible.

The wireless multi detector offers different types of detection options in a single detector. In this way, the confusion caused using detectors with different product codes in projects is prevented, and different types of detection needs are provided with software settings to be made in a single detector.

GENERAL FEATURES

- EN54-5, EN54-7 and EN 54-25 Certified
- Approx. 500mt Wireless Coverage (Open Area)
- 8 Years Battery Lifetime with Two CR123A Battery
- Different Type of Detection in a Single Detector;
  - o Only Optical Smoke
  - o Only Fixed Heat
  - o Only Heat Rise
  - o Smoke and Fixed Heat
  - o Smoke or Fixed Heat
  - o Smoke and Heat Rise
  - o Smoke or Heat Rise
- Special software algorithms to eliminate false alarms
- Easy to Clean Smoke Chamber

Technical Specifications	TWD-1850
Standard	EN54-5, EN54-7, and EN54-25
Operating Frequency	868 mHz
RF Power	14dBm (25mW)
Number of Channel	10
Coverage	500mt (Open Space)
Battery	8 Years With 2X CR123A Battery
Consumption	25uA
Detection Types	Smoke Fixed Heat Heat Rise Smoke and Fixed Heat Smoke or Fixed Heat Smoke and Heat Rise Smoke or Heat Rise
Smoke Detection Level	H:0,12 – m:0,15 – l:0,18 dB/m
Heat Detection	A2S, A2R
Operating Temperature	-10°C ~ 70°C
Dimensions (mm)	Ø109,6- h48,1
Weight (With and Without Base)	183 gr / 125 gr
Humidity	95% RH
Protection Class	IP30

Link/Test Button

CR123A Battery

Tamper Switch

2R : 109,6 mm

48.1 mm

Programming Connector
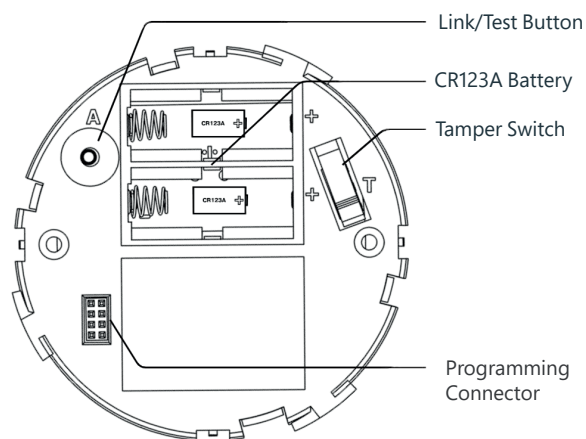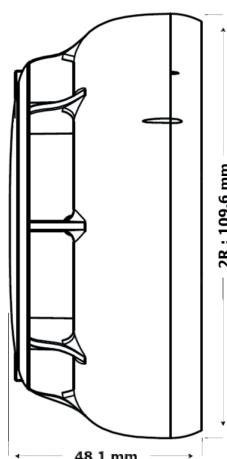
TWB-1866 is a wireless manual call point used to create manual warning in case of fire. It communicates completely wirelessly with the control panel.

TWB-1866 can operate 4 years with single battery or 8 years with two battery. It supports resettable type of operation and additional protection cover can be implemented to avoid situations that may cause false alarms.
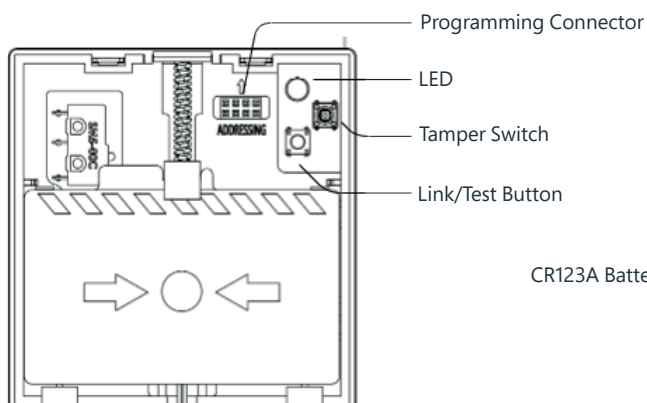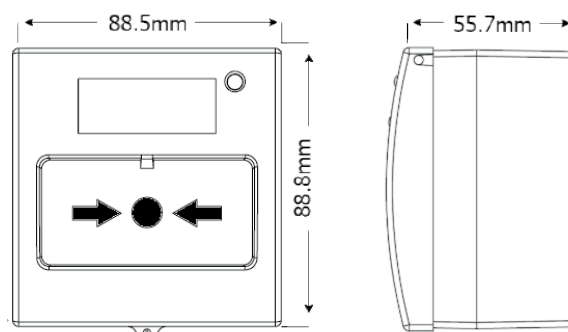
GENERAL FEATURES

- EN54-11 and EN 54-25 Certified
- Approx. 500mt Wireless Coverage (Open Area)
- 8 Years Battery Lifetime with Two CR123A Battery
- Resettable Type of Operation
- Optional Protection Cover
- Flush or Surface Mounting Option

Technical Specifications	TWB-1866
Standard	EN54-11 and EN54-25
Operating Frequency	868mHz
RF Power	14dBm (25mW)
Number of Channel	10
Coverage	500mt (Open Space)
Battery	8 Years With 2X CR123A Battery
Average Consumption	25µA
Operation Type	Resettable
Operating Temperature	-10°C ~ 55°C
Dimensions (mm)	86x55x88 mm
Humidity	95% RH
Protection Class	IP30

88.5mm   55.7mm   88.8mm

Programming Connector

LED

Tamper Switch

Link/Test Button

CR123A Battery
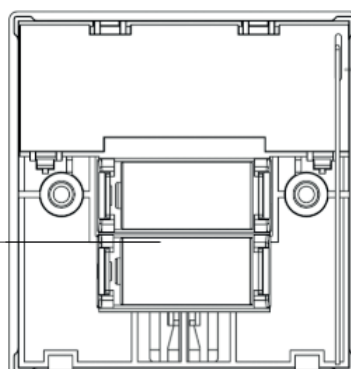
TWM-1887 Wireless input / output module is used to connect 3rd party wired products to the control panel wirelessly or to control a 3rd party device wirelessly. Input terminal is monitored for connection errors. Input and output can be programmed to be used in any scenario through the panel.
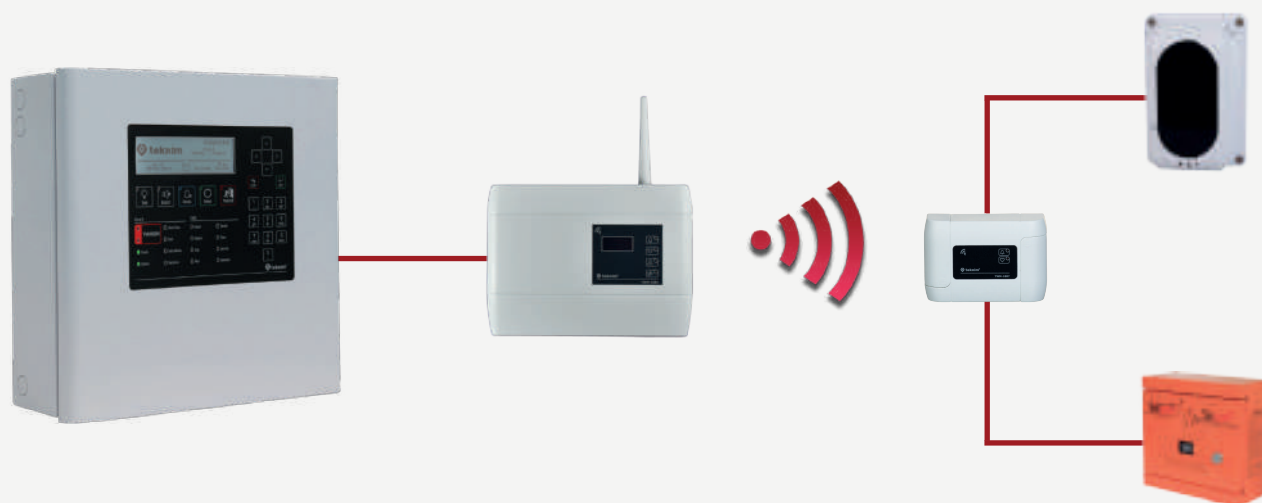
GENERAL FEATURES

- EN 54-18 and EN 54-25 Certified
- Approx. 500mt Wireless Coverage (Open Area)
- 8 Years Battery Lifetime with Two CR123A Battery
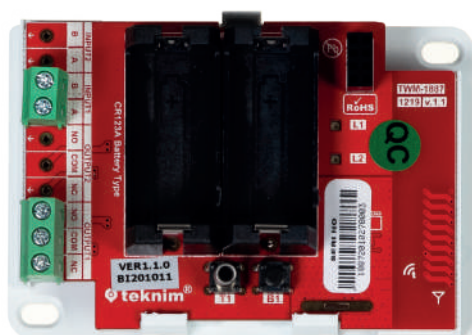
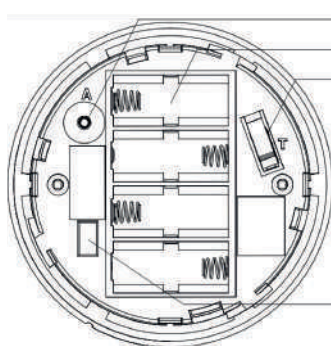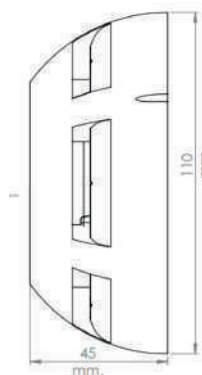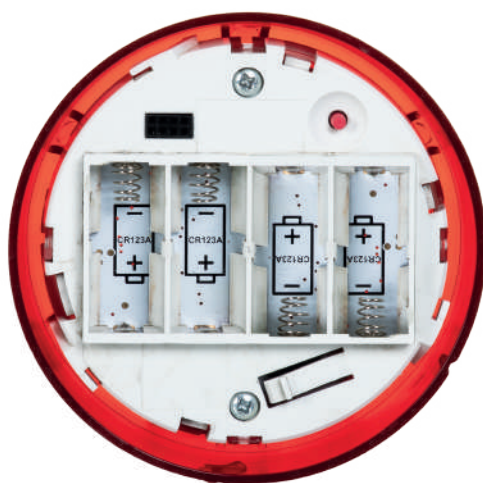| Technical Specifications	TWM-1887
Standard	EN54-18, EN54-25
Operating Frequency	868 mHz
RF Power	14dBm (25mW)
Number of Channel	10
Coverage	500mt (Open Space)
Battery	8 Years With 2X CR123A Battery
Operation	1x Monitored Input 1x Output
Operating Temperature	-10°C ~ 55°C
Consumption	15uA (@3V)
Dimensions (mm)	100x66x33.5 mm
Humidity	95% RH
Protection Class	IP30

TWS-1815
Wireless Sounder with Flasher

TWS-1815 works as sounder, flasher or both options at the same time according to project needs. It operates with 4pcs CR123A battery and communicates completely wirelessly with the control panel.

It has two different color options, white and red. Supports 3 different sound level along with 3 different flasher mode.

GENERAL FEATURES

- EN54-3, EN54-23 and EN 54-25 Certified
- Approx. 500mt Wireless Coverage (Open Area)
- 6 Years Battery Lifetime with 4X CR123A Battery
- Only Sounder, Only Flasher or Both Options can be Operated
- 3 Different Sound Level
- 3 Different Flasher Mode (Slow, Normal, Fast)

Technical Specifications	TWS-1815
Standard	EN54-3, EN54-23, and EN54-25
Operating Frequency	868Mhz
RF Power	14dBm (25mW)
Number of Channel	10
Coverage	500mt (Open Space)
Battery	6 Years With 4X CR123A Battery
Average Consumption	20µA (@12V)
Sound Level	88,4dB / 90,3dB / 95dB ±2 (@12VDC, 1mt.)
Flasher Coverage	W-2,4-4
Sounder Mode	3 Modes (Low-Mid-High)
Sounder Tone Options	42 Different Tone
Flasher Mode	3 Modes (Slow-Normal-Fast)
Operating Temperature	-10°C ~ 55°C
Color and Body Material	RED / White - UL94 non-flammabilityPolycarbonate
Dimensions (mm)	Ø:110mm, h:55mm (Includes Base)
Wight	190gr. (Without Battery)
Humidity	95% RH
Protection Class	IP21C

Link/Test Button
CR123A Battery
Tamper Switch

Programming Connector