TWD-1850

Wireless Multi Detector
Installation & User Manual

teknim®
Fire and Security Technologies

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Rev:02

Warnings

General

- ✓ Read this manual with care before operating the device and keep it for further reference.
- ✓ Comply with all warnings and measures provided in the manual. Follow all respective operation and usage instructions.
- ✓ Keep the devices away from water and moisture.

Environmental Conditions

Do not operate the device in extremely hot and cold environments other than the following conditions.
Temperature: Between -10°C and +55°C
Relative Humidity: Max. 95% RH

Service

Do not attempt to repair the device on your own, you may be exposed to electric shock in case you open the device enclosure.
Contact your dealer or authorized service provider in case of a malfunction. Technical interventions to the device must be carried out by a qualified technician from an authorized service provider.

Warning: Do not attempt to take the board out of its enclosure protection. It is sealed for your safety. Users must avoid intervention.

Failures That Require Service Intervention

Contact your authorized service provider or installer in case of a failure or in following cases.

- ✓ If the power line or power plug is damaged,
- ✓ Any liquid leaking or a foreign substance entering the device,
- ✓ Any exposure to water or rain,
- ✓ Dropping the device or damaging the enclosure,
- ✓ If there is significant performance change in the device,
- ✓ If the device is not operating normally according to the operating instructions in this user manual

Please call your service provider as incorrect operations may cause further malfunctions.

What You Can Do On Your Own

Do not attempt to repair the device on your own, you may be exposed to electric shock in case you open the device enclosure. Contact your dealer or authorized service provider in case of a malfunction. Technical interventions to the device must be carried out by trained technical personnel of authorized service. The device must be cleaned with a dry cloth. No chemical substances must be used for cleaning purposes.

Handling and Transportation

The device should be handled carefully so that it is not exposed to shocks and liquid ingress. Damages that may occur during incorrect transportation are not covered by the warranty.

Human and Environment Health

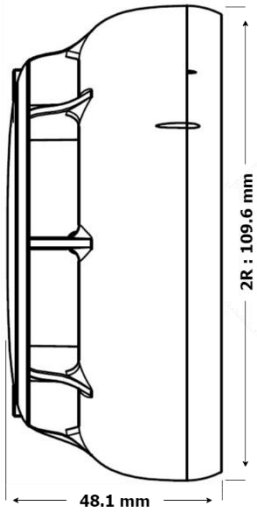
This device does not contain any chemical or biological substance that may harm human health.

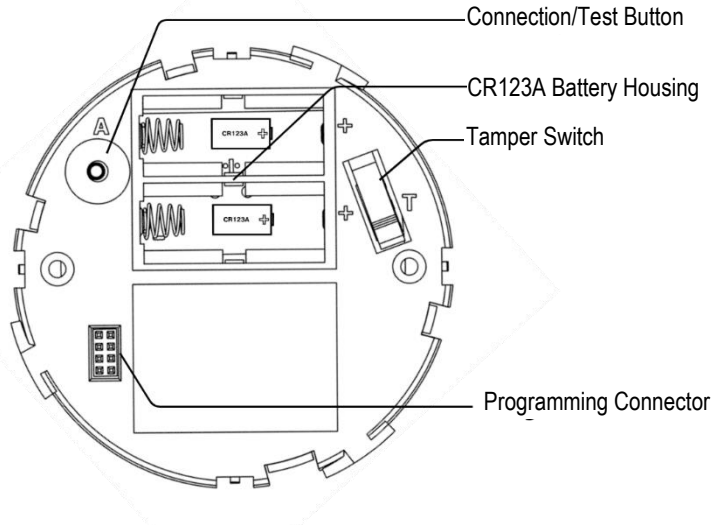
General Features

- ✓ TLPWAN low power consumption, two-way safe and stable wireless communication protocol
- ✓ Advanced smoke detection algorithm minimizing false alarms
- ✓ Advanced heat detection algorithm with two NTC
- ✓ Rejection of transient signals that can be detected as alarms.
- ✓ Adaptive protection by continuously sampling the respective environment.
- ✓ Easy to clean smoke chamber.
- ✓ Pollution algorithm and warning.
- ✓ Low battery warning.
- ✓ Tamper warning.
- ✓ Two LEDs for 360° status indication.
- ✓ 15sec. starting time
- ✓ Three different sensitivity settings adjustable on the control panel.
- ✓ Selection of different operation modes through the control panel (for addressable) or through coordinator (for conventional)

Technical Specifications

Communication Distance (via Coordinator or Router)	Up to 500 m (open space)
Operating Frequency	868 MHz
Operating Frequency Channels	10
Output Power	14 dBm (25 mW)
Average Consumption	25uA (@3V)
Battery	2xCR123A (3 Vdc)
Battery Life	Up to 8 years (up to 4 years if single battery is used)
Smoke Alarm Levels (aprx.)	H: 0.12, M: 0.15, L: 0.18 dB/m
Temperature Operating Modes	A2S, A2R
Operating Temperature Range	-10°C ~ 55°C (14°F ~ 131°F)
Humidity	95% RH
Size (mm) – base included	Ø110, h48
Housing Material	White Color, ABS Plastic
Weight (base incl. / base excl.)	183 gr / 125 gr
Starting Time	15 sec.





Indicator LEDs

Condition	Led Signal Pattern
Any error situation (Pollution, Tamper etc.)	Green LED blinks once in every 10 seconds
Device in normal operation mode	Green LED blinks once in every 20 seconds
Alarm mode	Red LED blinks once in every 2 seconds
Low battery warning	Orange LED blinks once in every 20 seconds
Network connection-disconnection Result of the operation	Green LED blinks twice in every 2 seconds Affirmative, green LED lights for 3 seconds Not Affirmative, red LED lights for 3 seconds
Connection Quality	Connection Quality is Good; Green LED blinks 3 times Connection Quality is Medium; Green LED blinks 2 times Connection Quality is Poor; Green LED blinks once No Connection; Red LED blinks once

Network Connection Procedure

In order for a device to join the network, that device must not have been included in any network before. Whether the device has joined any network or not can be determined by the link test. Follow the steps below for connecting the device to a network.

1. The connection permission on the coordinator or on the router must be on before the device is connected to a network. Turn on the connection permission on the coordinator or on the router.
2. Press long (for 5 seconds) on the "Connection/Test" button located under the device.
3. The device will start the connection procedure automatically. This procedure takes about 20 to 60 seconds. The green LED will blink twice every 2 seconds during the procedure.
4. At the end of the procedure, the green LED will light for 3 seconds if the connection procedure is successful, and the red LED will light for 3 seconds if the connection procedure is not successful.

Warning: After adding the device to the network, proceed the link test at the location of the device will work. If there is no connection in the link test, the system will not work properly. In this case, change the location of the device.

Disconnection Procedure

Disconnection of the device from the network can be done both on the coordinator and on the device. Follow the steps below for disconnecting the device from a network.

1. Press long (for 5 seconds) on the "Connection/Test" button located under the device.
2. The device will start the disconnection procedure automatically. The green LED will light for 3 seconds at the end of the procedure.

Link Test

It is possible to measure the link quality between the device and the connected coordinator or router. For this, press shortly on the "Connection/Test" button located under the device. If the device is connected to a network, the LEDs will light as noted below at the end of the procedure:

Link Quality (RSSI)	LED Signal Pattern
RSSI > -60 dBm	Connection Quality is Good; Green LED blinks 3 times
-60 dBm > RSSI > -75 dBm	Connection Quality is Medium; Green LED blinks 2 times
-75 dBm > RSSI > -90 dBm	Connection Quality is Poor; Green LED blinks once
-90 dBm > RSSI	No Connection; Red LED blinks once

Warning: If no LED lights at the end of the Link Test, this means the device is not connected to any coordinator or router.

Heat Test

Providing an air flow having a temperature of 70°C will be enough to carry out the detector test.

1. Turn on the hot air flow and check temperature.
2. Blow the hot air into the device. The device must produce the alarm in 30 sec.
3. Check if the red LEDs light. Reset the detector from the panel after the test completed.

Smoke Test

For the smoke test, let the smoke enter the smoke detection chamber for at least 1 minute with the test aerosol. LED lights will indicate the alarm when sufficient amount of smoke enters into the chamber.

1. Remove the smoke source when the alarm condition is reached.
2. Check if the red LEDs light. Reset the detector from the control panel.
3. If the detector does not generate an alarm within 1 minute, it should be sent to the service provider for technical observation.
4. The system can be activated after the test is completed.

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Bilgi Elektronik San. ve Tic. A.Ş.
Dudullu OSB 1. Cad. İsmet Tarman İş Merkezi
No:1 Kat:2 No:32 Umraniye / Istanbul
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EN 54-7:2018
Point Smoke Detectors (Scattered Light)
EN 54-5:2017+A1:2018
Point Heat Detectors
EN 54-25:2008, EN 54-25:2008/AC:2010, EN 54-25:2008/AC:2012
Components Using Radio Links
TWD-1850

Manufacturer

Bilgi Elektronik San. ve Tic. A.Ş.
Dudullu Organize Sanayi Bölgesi 1. Cadde İsmet Tarman İş Merkezi
No:1 Kat:2 No:32 Umraniye / Istanbul / Turkey

Phone Number: +90 216 455 88 46 **Fax:** +90 216 455 99 06
www.teknim.com
sales@bilgielektronik.com.tr
destek1@bilgielektronik.com.tr

RoHS

*In compliance with AEEE regulations. This product is manufactured with recyclable and reusable high quality parts and materials. Do not dispose of the product together with domestic or other wastes at the end of its service lifetime. Take it to a drop-off point for the recycling of electrical and electronic devices.