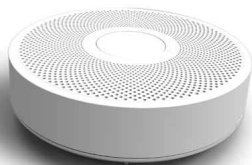




FW2-SMK

TWO WAY WIRELESS
SMOKE DETECTOR



INSTALLATION INSTRUCTIONS
P/N 7102316 REV. B (D.Z.)

INTRODUCTION

The FW2-Smoke detector is an advanced, fully supervised low-current wireless detector that includes a FW2 transceiver for reliable system operation.

The FW2-Smoke detector includes special chamber structure for best smoke detection performances.

The FW2-Smoke detector uses smart message control, which verifies that all messages are successfully transmitted, so that no smoke or any other event will be uninformed to the base.

The FW2-Smoke detector includes series of messages for full communication administration (Supervision, Tamper Status, Battery Status, Alert, etc.) as well as test transmission signals.

FEATURES

- Freewave FW2 ISM protocol.
- Low current Technology.
- Powered by 3V Lithium battery pack.
- Battery life: >10 years.
- Audible Warning by a built-in horn (three beeps) in Test mode or Alarm.
- Frequency Band: 868.35MHz or 916.5MHz.
- Tamper Open/Close transmission.
- Supervision transmission.
- Battery status transmission.
- Bi-Color LED indications.
- Range up to 500m on open space.

OPERATION

This FW2-Smoke detector transmits the following events data:

SUPERVISION – A periodical transmission (configurable) indicating detector's presence.

ALARM – Alarm transmission triggered by the device indicating Smoke detection. The Red LED will blink once.

LOW BAT – Whenever the battery reaches the low level (2.5V), a Battery Low signal will be sent. When Battery level drops below Cut Off level (2.3V) the device will stop functioning and the Red LED will blink for 10 seconds and then turned Off.

TAMPER – Whenever the cover is removed from Bracket or the device is tear off from the ceiling, a message will be transmitted with "Tamper ON" signal. When the device will be returned to its place a "Tamper OFF" signal will be transmitted.

INSTALLATION LOCATIONS

Smoke detectors shall be installed in accordance with NFPA Standard 74. Here are few useful tips for complete coverage in residential units:

- Install a smoke detector in the hallway outside every separate bedroom area. Two detectors are required in homes with two bedroom areas.
- Install a smoke detector on every floor of multi-floor home or apartment.
- Install a minimum of two detectors in any household.
- Install a smoke detector inside every bedroom.
- Install smoke detectors at both ends of bedroom hallway if hallway is more than 12m (40ft) long.
- Install a smoke detector inside every room where one sleeps with the door partly or completely closed, since smoke could be blocked by the closed door and a hallway alarm may not wake up the sleeper if the door is closed.
- Install basement detectors at the bottom of the basement stairwell.

INSTALLATION LOCATIONS (Continue)

- Install second-floor detectors at the top of the first-to-second floor stairwell.
- Be sure no door or other obstruction blocks the path of smoke to the detector.
- Install additional detectors in your living room, dining, family, attic, utility and storage rooms.
- Install smoke detectors as close to the center of the ceiling as possible. If this is not practical, put the detector on the ceiling, at least 10 cm (4 inch) away from any wall or corner.
- If ceiling mounting is not possible and wall mounting is permitted by your local and state codes, the wall-mounted detectors shall be installed between 10cm to 15cm (4 - 6 inches) from the ceiling.
- If some of your rooms have sloped, peaked, or gabled ceilings, try to mount detectors 0.9 m (3feet) measured horizontally from the highest point of the ceiling.

WRONG INSTALLATION LOCATIONS

False alarms occur when smoke detectors are installed where they will not work properly. To avoid false alarms, do not install smoke detectors in the following situations:

- Combustion particles are by-products of something burning. Do not install smoke detectors in or near areas where combustion particles are present, such as kitchens with poor ventilation, garages where there may be vehicle exhaust, near furnaces, hot water heaters and space heaters.
- Do not install smoke detectors less than 6 m (20 feet) away from places where combustion particles are normally present. If a 6 m (20 feet) distance is not possible try to install the detector as far away from the combustion particles as possible, preferably on the wall. To prevent false alarms, provide good ventilation in such places.

WRONG INSTALLATION LOCATIONS

- The path of fresh air intake. The flow of fresh air in and out can drive smoke away from the smoke detector; thus reducing its efficiency.
- In damp or very humid areas or near bathrooms with showers. Moisture in humid air can enter the sensing chamber, then turns into droplets upon cooling, which can cause nuisance alarms. Install smoke detectors at least 3 m (10 feet) away from bathrooms.
- In very cold or very hot areas, including unheated buildings or outdoor rooms. If the temperature goes above or below the operating range of smoke detector, it will not work properly.
- In very dusty or dirty areas, dirt and dust can build up on the detector's sensing chamber, to make it overly sensitive. Additionally, dust or dirt can block openings to the sensing chamber and keep the detector from sensing smoke.

WRONG INSTALLATION LOCATIONS

- Near fresh air vents or very drafty areas like air conditioners, heaters or fans. Fresh air vents and drafts can drive smoke away from smoke detectors.
- In "Dead Air" spaces like at the top of a peaked roof, or in the corners between ceilings and walls. Dead air may prevent smoke from reaching a detector.
- In insect-infested areas. If insects enter a detector's sensing chamber, they may cause a nuisance alarm. Where bugs are a problem, get rid of them before installing the detector.
- Near fluorescent lights, electrical "noise" from fluorescent lights may cause nuisance alarms. Install smoke detectors at least 1.5 m (5 feet) from such lights.

PAIRING PROCESS

1. Separate the Smoke from its bracket by rotating the device counterclock wise.
2. If not done so before, shortly press the Pairing button to power up the device. This activity shall be done only once during the product life time.
3. Wait until the Red LEDs stops blinking.
4. Refer to your control panel manual for learning mode procedure.
5. When registration process is successfully completed the Green LEDs will constantly light On for 3 seconds and then turn Off.
6. If registration process failed the Red LEDs will blink. wait for few seconds (~10sec) and repeate the pairing process from step 4 above.

TESTING THE DEVICE

ALARM TEST

Press shortly the "Test" button (See Figure 4) - the smoke detector shall respond with "Bip-Bip-Bip" sound, indicating that the device is in the normal mode. If the test fails, stop using the detector immediately.

WARNING

DON'T TEST IT WITH FIRE !!!

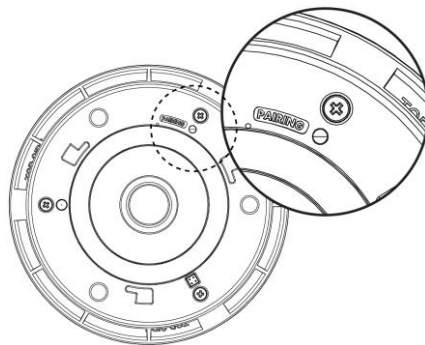
TAMPER TRANSMISSION TEST

Attaching / Removing the device to / from its bracket will cause tamper transmissions. Verify receiving the indication on your Application / Base.

IDENTIFICATION TRANSMISSION TEST

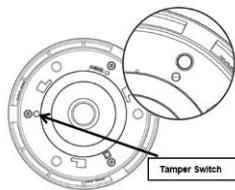
Use your Application / Base to send Identification Request to the Smoke. The Smoke will blinking the Green & Red LEDs alternately – 5 times.

FIGURE 1 – PAIRING BUTTON



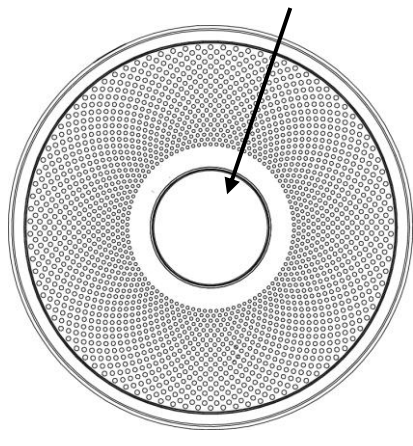
MOUNTING THE DETECTOR

1. Hold the mounting bracket against the ceiling and mark the center of each slot. Drill 2 holes and install the bracket with the screws – Fig 2
2. Verify the Smoke detector is learned into the control panel by pressing the Tamper button (see below Figure) and verify receiving suitable message in the Base.



3. Push the Smoke detector toward the bracket and turn it clockwise to adjust the detector to the bracket – see Figure 3.

FIGURE 4 – THE TEST BUTTON



REGULATORY APPROVALS

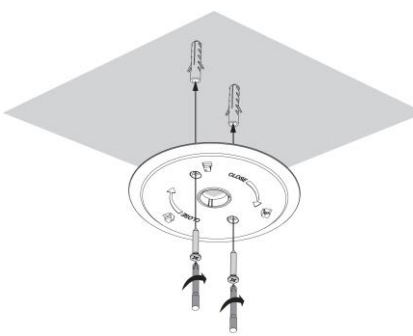
The FW2-SMK conforms to the essential requirements set out by:

- EMC directive: 2014/30/EU
- LVD directive: 2014/35/EU
- RE directive (RED): 2014/53/EU
- RoHS2 directive: 2011/65/EU

Harmonized Standards applicable to these product are:

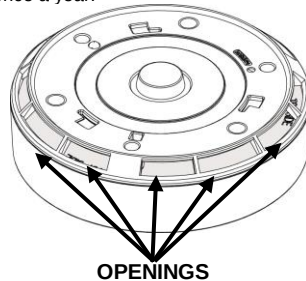
- EN 301 489-3: V1.6.1(13)/V2.1.1(17)
- EN 50130-4: 2011/A1(14)
- EN 61000-6-3: 2007/A1(11)/AC(12)
- EN 301 489-1: V1.9.2(11)/V2.1.1(17)
- EN 300 220-2: V3.1.1(17)
- EN 60950-1: 2006/A11(09)/A1(10)/A12(11)/A2(13)
- IEC60950-1: 2005/A1(09)/A2(13)
- EN 14604: 2005/A1(08)

FIGURE 2 – DETECTOR MOUNTING



REGULAR MAINTENANCE – CLEANING

Never use water, cleaners or solvents to clean your smoke alarm since they may damage the unit. Use a soft brush only. Remove the Smoke detector from its bracket and carefully remove any dust from the Smoke's openings around the device (see below Figure) at least once a year.



OPENINGS

TECHNICAL SPECIFICATIONS

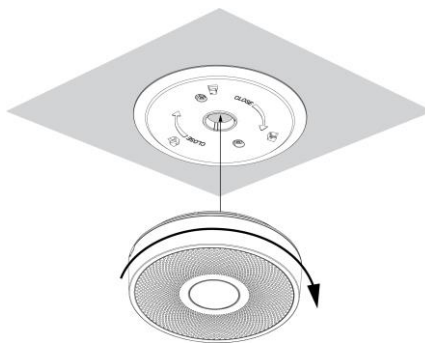
RF Protocol	FREEMAN 2 ISM
Modulation Type	GFSK
Frequency	868.35MHz or 916.5MHz
Event Transmission	Alarm, Tamper, Supervision, Battery status.
Detection Sensitivity:	EN standard 0.125±0.075 dB/m
Alarm Sound Level:	85 db at 3 m (10 feet)
Range in open space	>500m
Battery	Pack of 2 Lithium 3V, Size: AA.
Battery life	>10 years

Current Consumptions:

Standby	5µA
Average	15µA (1 Keep Alive per Hour)
Maximum (TX)	400mA
Low Battery	2.5VDC
Cut Off Battery	2.3VDC
Transmit Power (Typ.):	23dBm

Tamper Switch	Back Tamper
Operating temperature	-10°C to +55°C
Dimensions	125mm diameter x 37mm deep
Weight (inc. battery)	235 gr.

FIGURE 3 – DETECTOR MOUNTING



LIMITATIONS OF SMOKE ALARMS

1. United States NFPA72 tells that the safety of life is to be noticed by alarms before fire, to confirm the correct escape way. The fire systems help half of residents escape. Help to old people, women and children shall be given since they are always the victims.
2. Smoke alarms are not foolproof, they can't prevent or extinguish fires, and they are not a substitute for property or life insurance. You need buy some firefighting facilities.
3. Sometimes the smoke is blocked by objects and can't reach the detector, and if the wind blows the smoke away from the detector, the unit won't work either.

WARNING!!!

CHANGES OR MODIFICATIONS TO THIS EQUIPMENT NOT EXPRESSLY APPROVED BY THE PARTY RESPONSIBLE FOR COMPLIANCE (CROW ELECTRONIC ENGINEERING LTD.) COULD VOID THE USER'S AUTHORITY TO OPERATE THE EQUIPMENT.

CROW ELECTRONIC ENGINEERING LTD. ("Crow") - WARRANTY POLICY CERTIFICATE

This Warranty Certificate is given in favor of the purchaser (hereunder the "Purchaser") purchasing the products directly from Crow or from its authorized distributor.

Crow warrants these products to be free from defects in materials and workmanship under normal use and service for a period of 24 months from the last day of the week and year whose numbers are printed on the printed circuit board inside these products (hereunder the "Warranty Period").

Subject to the provisions of this Warranty Certificate, during the Warranty Period, Crow undertakes, at its sole discretion and subject to Crow's procedures, as such procedures are from time to time, to repair or replace, free of charge for materials and/or labor, products proved to be defective in materials or workmanship under normal use and service. Repaired products shall be warranted for the remainder of the original Warranty Period. All transportation costs and in-transit risk of loss or damage related, directly or indirectly, to products returned to Crow for repair or replacement shall be borne solely by the Purchaser.

Crow's warranty under this Warranty Certificate does not cover products that is defective (or shall become defective) due to: (a) alteration of the products (or any part thereof) by anyone other than Crow; (b) accident, abuse, negligence, or improper maintenance; (c) failure caused by a product which Crow did not provide; (d) failure caused by software or hardware which Crow did not provide; (e) use or storage other than in accordance with Crow's specified operating and storage instructions.

There are no warranties, expressed or implied, of merchantability or fitness of the products for a particular purpose or otherwise, which extend beyond the description on the face hereof.

This limited Warranty Certificate is the Purchaser's sole and exclusive remedy against Crow and Crow's sole and exclusive liability toward the Purchaser in connection with the products, including without limitation - for defects or malfunctions of the products. This Warranty Certificate replaces all other warranties and liabilities, whether oral, written, (non-mandatory) statutory, contractual, in tort or otherwise.

In no case shall Crow be liable to anyone for any consequential or incidental damages (inclusive of loss of profit, and whether occasioned by negligence of the Crow or any third party on its behalf) for breach of this or any other warranty, expressed or implied, or upon any other basis of liability whatsoever. Crow does not represent that these products can not be compromised or circumvented; that these products will prevent any person injury or property loss or damage by burglary, robbery, fire or otherwise; or that these products will in all cases provide adequate warning or protection. Purchaser understands that a properly installed and maintained product may in some cases reduce the risk of burglary, fire, robbery or other events occurring without providing an alarm, but it is not insurance or a guarantee that such will not occur or that there will be no personal injury or property loss or damage as a result.

Consequently, Crow shall have no liability for any personal injury, property damage or any other loss based on claim that these products failed to give any warning.

If Crow is held liable, whether directly or indirectly, for any loss or damage with regards to these products, regardless of cause or origin, Crow's maximum liability shall not in any case exceed the purchase price of these products, which shall be the complete and exclusive remedy against Crow.



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These instructions supersede all previous issues in circulation prior to December 2017