NFPA STANDARD FOR SMOKE-DETECTOR LOCATION

The FIREWOLF FW-2S should be installed in accordance with the National Fire Protection Association (NFPA) Standard 72. For your information, the National Fire Protection Association's Standard 72, reads as follows:

11.5.1 One- and Two-Family Dwelling Units.

11.5.1.1 Smoke Detection Where required by applicable laws, codes, or standards for the specified occupancy, approved single- and multiple-station smoke alarms shall be installed as follows: (1) In all sleeping rooms. Exception: Smoke alarms shall not be required in sleeping rooms in existing one- and two- family dwelling units. (2) Outside of each separate sleeping area, in immediate vicinity of the sleeping rooms. (3) On each level of the dwelling unit, including basements. Exception: In existing one- and two-family dwelling units, approved smoke alarms powered by batteries are permitted.

11.8.3 Are More Smoke Detectors Desirable? The required number of smoke detectors might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke detectors. For this reason, it is recommended that the householder consider the use of additional smoke detectors for those areas for increased protection. The additional areas include the basement, bedrooms, dining room, furnace room, utility room, and hallways not protected by the required smoke detectors. The installation of smoke detectors in kitchens, attics (finished or unfinished), or garages is not normally recommended, as these locations occasionally experience conditions that can result in improper operation.

There exist certain situations where the presence of a smoke alarm is not effective, such as smoking in bed, the testing of gas leaks with a flame or for warning against the existence of high carbon monoxide levels inside a family living unit. Current studies have shown smoke alarms may not awaken all sleeping individuals; it is therefore the responsibility of individuals in the household that are capable of assisting others to provide assistance to those who may not be awakened by the alarm sound and to provide assistance to those who may be incapable of safely evacuating the area unassisted.

For family living units with one or more split levels (i.e., adjacent levels with less than one full story separation between levels), a smoke detector required as above shall suffice for an adjacent lower level, including basements.

Exception: Where there is an intervening door between one level and the adjacent lower level, a smoke detector shall be installed on the lower level.

- Ceiling-mounted smoke alarms should be located in the center of the room or hall, or not less than 4 inches from any wall. When the detector is mounted on a wall, the top of the detector should be 4 to 12 inches from the ceiling.
- Do not install smoke alarms where normal ambient temperatures are above 100°F (37.8°C), below 40°F (4.4°C) or greater than 92% humidity unless the alarm has been determined to be capable of being used at installation points with higher or lower ambient temperatures. Also, do not locate alarm in front of air conditioners, heating registers, or other locations where normal air circulation will keep smoke from entering the detector. Installing smoke detectors in kitchens, garages or furnace rooms is NOT recommended.

All installation wiring must be in accordance with the provisions of Article 210 of the National Electrical Code, ANSI / NFPA 70. All protected premises fire alarm systems shall be maintained and tested (at least once every month) in accordance with NFPA 72.

FIRE PREVENTION AND ESCAPE

The purpose of an early warning smoke alarm is to detect the presence of fire in its early stages, and sound an alarm giving the occupants more time to exit the premise before the smoke reaches a dangerous concentration level.

Fires start even with the best of housekeeping and fire-prevention procedures. Fire is an unexpected event. Early warning detection alerts occupants in time to act.

KNOW FIRE HAZARDS. No detection device can protect life in all situations. Therefore, safeguards should be taken to avoid such potentially dangerous situations as smoking in bed, leaving children home alone, cleaning with flammable liquids such as gasoline.

The best fire protection is minimizing fire hazards through proper storage of materials and general good housekeeping techniques. A cluttered basement, attic, or other storage area is an open invitation to fire.

Careless use of combustible materials and electrical appliances, or overloading of electrical outlets are other prime causes in starting fires.

It is most important that explosive and/or fast-burning materials be eliminated from the home if at all possible. Even after proper precautions have been taken, fires can start. Be prepared.

IN CASE OF FIRE. Leave immediately. Don't stop to pack or search for valuables. In heavy smoke, hold your breath and stay low – crawl if necessary. The clearest air is usually at the floor.

If you have to go through a closed door, carefully feel the door and door knob to see if undue heat is present. If they seem relatively cool, brace your foot against the bottom of the door with your hip against the door and one hand against the top edge. Open it slightly. If a rush of hot air is felt, slam the door quickly and latch it. Unvented fire tends to build up considerable pressure. Be sure all the household realizes and understands this danger.

Use your neighbor's phone or a street fire alarm box. The job of extinguishing the fire should be left to the professionals. Too many unforeseen things can occur when inexperienced people try to extinguish a fire.

BE PREPARED. Perform fire drills regularly. Use them to assure recognition of an alarm signal. For your protection, simulate different circumstances (smoke in hall, in living room, etc.). Then have everyone react to the situation.

Draw a floor plan and show two exits from each room. Frequently, a knotted rope or ladder from a window will serve this purpose. It is important that children be instructed carefully, because they tend to hide in times of crisis.

It is imperative that one meeting place outside the home be established. You should insist that everyone meet there during an alarm. This will eliminate the tragedy of someone reentering the house for a missing member who is actually safe.

If you have children and/or invalids residing in your household, you can help your fire department. Most fire departments have window decals available for use in children's or invalid's bedrooms. Properly used, these decals will quickly identify sleeping quarters of these individuals and show the department where to look first for members of your household.

Additional information on Household Fire Warning is available at nominal cost from The National Fire Protection Agency, Batterymarch Park, Quincy, MA 02269. Request Standard No. NFPA 72.

A smoke alarm should be located between the sleeping area and the rest of the family living unit.

A smoke detector should be located on each story

In family living units with more than one sleeping area, a smoke alarm should be provided for each separate sleeping area.

FIREWOLF™ BY NAPCO

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These installation instructions are for the **FW-2S FIREWOLF Smoke Detector** with internal sounder, **FW-2SHEAD** and **FW-2SBASE.**

CAUTION
Install this and all life safety devices in accordance with applicable NFPA standards, local codes, and the authorities having jurisdiction. Failure to follow these instructions may result in failure of the detector to initiate an alarm condition. Napco Security Systems, Inc. and the original equipment manufacturer, are not responsible for detectors that have been improperly installed, tested, or maintained.

For testing and cleaning information, refer to these instructions and/or call the NAPCO fax request line at (631) 842-3291. Also refer to NFPA-72 Chapter 5 for Automatic Fire Detectors for installation guidelines and Chapter 7 for testing and maintenance requirements.

SPECIFICATIONS	SMOKE DETECTOR DATA
Detector Model	FW-2S
Detector Head Model	FW-2SHEAD
Detector Base Model	FW-2SBASE
Type of Detector	Photoelectric
Working Voltage	8.5 - 14VDC
Voltage Waveform	Filtered DC 15% ripple max.
Maximum Surge Current	100µA
Average Standby Current	43.6µA @ 12VDC
Maximum Alarm Current	60mA
Compatibility Identifier	FW-2S
Sensitivity Test Feature	Built-In Test Feature
Control Panel Compatibility	See control panel installation instructions

Note: As per UL listing requirements, open-area smoke detectors are intended for mounting on a ceiling no less than 6 inches from a wall or mounting on a wall no less than 4 inches and no more than 12 inches from a ceiling.

The National Fire Protection Association (NFPA) states that a duct smoke detector must not be used as a substitute for open-area smoke detectors. Duct smoke detectors are solely intended for use in the air handing equipment for such purposes like dampers or shutting down the air handing units.

FW-2S Wiring Diagram
Connect wiring to the bases as shown in the wiring diagram at right.

CAUTION: Do not mix smoke detector types or dry contact closure devices (including thermal detectors, pull station or water flow devices) on the same zone.

CAUTION: Connect wiring to terminals as shown. Do not loop wire under terminals. Break wire run to provide supervision.

ADDITIONAL CAUTIONS:
- Do not use looped wire under terminals 2 and 5. Break wire run to provide supervision of connections.
- Do not attempt to disassemble this factory-sealed smoke detector. The detector is not intended to be opened for servicing. Opening the detector head will void the warranty.
- To prevent detector contamination and subsequent warranty cancellation, smoke detector must remain covered until installation area is clean and dust free.
- See the FACP installation instructions for the maximum number of detectors permitted per zone and for specific wiring terminal numbers.
- Not suitable for installation in areas where air velocities exceed 300 ft/min.
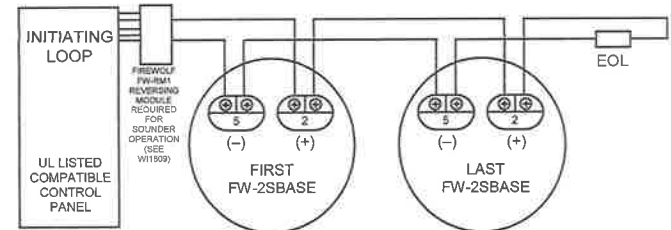- Ensure the end-of-line device shown in Fig. 1 (and 1a) is compatible with the control panel.

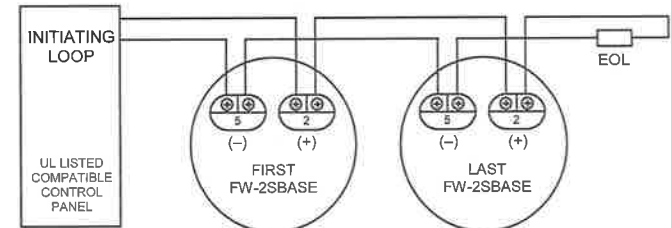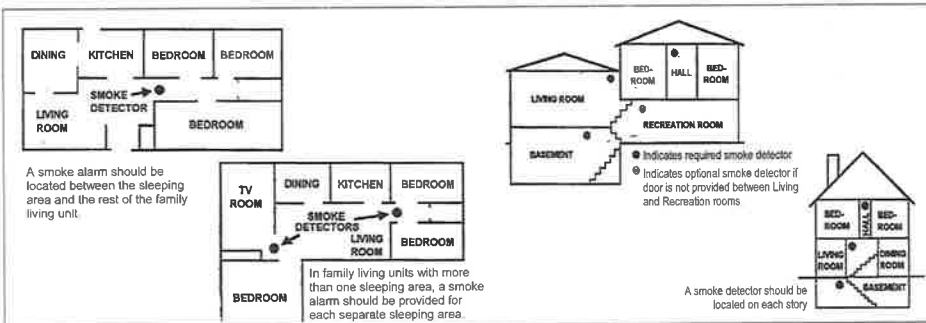Fig. 1. Two-Wire Multiple-station smoke detectors

Fig. 1a. Two-Wire Multiple-station smoke detectors when not using internal sounder.

BEFORE YOU BEGIN

Carefully remove the unit from its factory packaging. Examine the FW-2S to identify the *base, trim ring* and *detector head*. Closely examine the base and locate terminals 2 and 5. The trim ring and detector head are turned counterclockwise to remove from the base. To ease installation, raised alignment tabs are impressed into the base, trim ring and detector head; take a moment to find these alignment tabs (see Figs. 2 - 4).
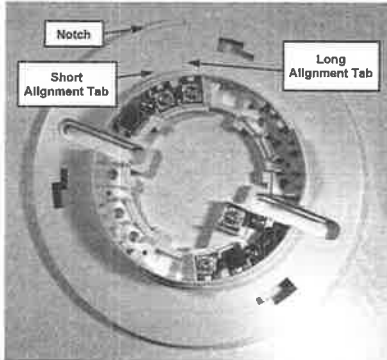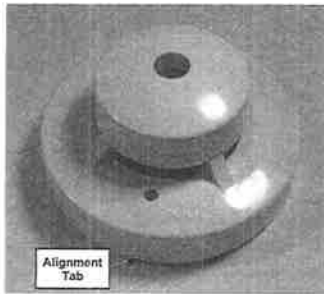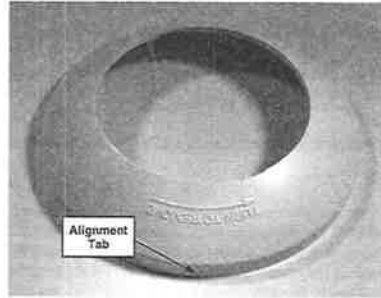

Fig. 2. FW-2SBASE

Fig. 3. FW-2SHEAD

SELECT THE SMOKE DETECTOR LOCATION

Referring to the NFPA standard that follows, select a suitable location to mount the FW-2S. As per UL listing requirements, open-area smoke detectors are intended for mounting on a ceiling no less than 6 inches from a wall or mounting on a wall no less than 4 inches and no more than 12 inches from a ceiling.

Napco Security Technologies, Inc.
333 Bayview Avenue, Amityville, NY 11701
Phone: (800) 645-9445 (631) 842-9400 Fax: (631) 789-3383
For Technical Service, (800) 645-9440

Fig. 4. Trim Ring

INSTALLING THE FW-2SBASE

The smoke detector base can be mounted directly onto an electrical junction box such as an octagonal (3", 3.5" or 4"), round (3"), or square (4" length) box without using any type of mechanical adapter.

1. Use the two screws and anchors provided to attach the base to the wall or ceiling. **NOTE:** Do not install on removable surfaces such as ceiling tiles.
2. To ensure proper installation of the detector head to the base, all wires should be properly addressed at installation. Position all wires flat against terminals and fasten the wires away from connector terminals.

INSTALLING THE FW-2SHEAD

Do not install the detector head until the installation area is thoroughly cleaned of construction debris, dust, etc. If you used a jumper wire to short terminals 2 and 5 when testing the detector loop continuity, ensure the jumper wire is removed prior to installing the detector head.

1. Align the detector head *Alignment Tab* shown in Fig. 3 with the *Short Alignment Tab* shown in Fig. 2.
2. Mate the detector head onto the base and twist clockwise until it securely locks into place. The detector head *Alignment Tab* shown in Fig. 3 must align with the *Long Alignment Tab* shown in Fig. 2.

INSTALLING THE TRIM RING

The trim ring covers the mounting screws and base. **Note:** The trim ring can be installed before or after the detector head.

1. Align the trim ring *Alignment Tab* shown in Fig. 4 anywhere within the *Notch* shown in Fig. 2.
2. Press in and mate the trim ring onto the base and twist clockwise until it securely locks into place.

TESTING THE UNIT (Test Weekly)

1. All central station services, releasing devices and extinguisher systems must be disengaged during the test period and must be re-engaged immediately after testing.
2. After energizing the detector head for approximately one minute, check to see the indicator two red LED's flashing once every 7-10 seconds. If red LED fails to flash, it indicates a non-functioning detector or faulty wiring. Re-check the wiring or replace the detector if necessary.
3. Position the "Test Magnet" against the side of the detector housing marked "TEST" for at least 5 seconds. The detector should trigger an alarm (as indicated by a rapidly flashing red LED light and siren sounding). Reset the control unit to return to normal operation.
4. Allow smoke from a cotton wick or punk to enter the detector-sensing chamber for at least 5 seconds. When sufficient smoke has entered the chamber, an alarm signal will be triggered (as indicated with a continuous red LED light). After alarm is triggered, reset each detector and/or control unit before attempting to test additional detectors in the same zone. If the alarm fails to trigger an alarm, it indicates a defective unit.

CLEANING THE UNIT
MAINTENANCE WARNING

The smoke detector will warn that it must be cleaned when the unit flashes the red LED every 5 seconds and the unit does not pass the weekly test by the user (see **TESTING THE UNIT** at left). To clean the smoke detector, vacuum the outside of the unit at least once a year (preferably every six months) using a soft brush attachment. Do not attempt to clean the unit in any other way. If this maintenance procedure fails to clean the unit sufficiently, call for service and/or replace the unit.

COMPATIBLE CONTROL PANELS

GEM-X255, GEM-P3200, GEM-P9600, GEM-P800, GEM-P801, GEM-P816, GEM-P1632, GEM-P1664, Freedom F-64, NAPCO Express XP-600. **Note:** For cross listings with additional manufacturers and models pending, contact the NAPCO Technical Support department for the latest listings at (800) 645-9440.

Also available online at www.napcosecurity.com (click the following to download file "FW2_WI1009F.05_ADDM.pdf"):

- *Support*
- *Manuals for Napco's Firewolf fire products*