

FYRNETICS

PHOTOELECTRIC SMOKE AND FIRE ALARM USER'S GUIDE

MODEL PE120

A.C. Wire-in Single and/or Multiple Station (24 units maximum)
Photoelectric Smoke Alarm with 9 Volt Battery Back Up

Thank you for purchasing this Fyrnetics smoke and fire alarm. It is an important part of your family's home safety plan. You can trust Fyrnetics to provide the highest quality safety products. We know you expect nothing less when the lives of your family are at stake.

***For your convenience, write down the following information.
If you call our Consumer Hotline, these are the first questions
you will be asked.***

Smoke Alarm Model Number (located on back of detector):

*Date Code (located on back of detector). Manufacturer recommends
replacing this alarm ten years from the date code:*

Date of Purchase:

Where Purchased:



WARNING! REMOVAL OF THE SMOKE ALARM BATTERY AND DISCONNECTING OR LOSS OF A.C. POWER WILL RENDER THE SMOKE ALARM INOPERATIVE.

ELECTRICAL RATING: 120 VAC, 60HZ, 80mA maximum per detector (maximum 80mA for originating unit with 24 alarms interconnected).

IMPORTANT! READ ALL INSTRUCTIONS BEFORE INSTALLATION AND KEEP THIS MANUAL NEAR THE ALARM FOR FUTURE REFERENCE.

CONTENTS OF THIS MANUAL

- 1 -- RECOMMENDED LOCATIONS FOR SMOKE ALARMS
- 2 -- LOCATIONS TO AVOID
- 3 -- INSTALLATION INSTRUCTIONS
- 4 -- OPERATION AND TESTING
- 5 -- NUISANCE ALARMS
- 6 -- MAINTENANCE
- 7 -- LIMITATIONS OF SMOKE ALARMS
- 8 -- GOOD SAFETY HABITS
- 9 -- NFPA PROTECTION STANDARD 72, SECTION 2-2.1
- 10 -- SERVICE AND WARRANTY

Do not try to repair the smoke alarm yourself. Refer to the instructions in Section 11 for service.

1. RECOMMENDED LOCATIONS FOR DETECTORS

- Locate the first alarm in the immediate area of the bedrooms. Try to protect the exit path as the bedrooms are usually farthest from the exit. If more than one sleeping area exists, locate additional alarms in each sleeping area.
- Locate additional alarms to protect any stairway as stairways act like chimneys for smoke and heat.
- Locate at least one alarm on every floor level.
- Locate an alarm in every bedroom where a smoker sleeps.
- Locate an alarm in every room where electrical appliances are operated (i.e. portable heaters or humidifiers).
- Locate an alarm in every room where someone sleeps with the door closed. The closed door may prevent the alarm from waking the sleeper.
- Smoke, heat, and combustion products rise to the ceiling and spread horizontally. Mounting the smoke alarm on the ceiling in the center of the room places it closest to all points in the room. Ceiling mounting is preferred in ordinary residential construction.
- For mobile home installation, select locations carefully to avoid thermal barriers that may form at the ceiling. For more details, see MOBILE HOME INSTALLATION below.
- When mounting an alarm on the ceiling, locate it at a minimum of 4" (10 cm) from the side wall and 2 feet (60.96 cm) from any inside corner (see Diagram A).
- When mounting the alarm on the wall, it is best to use an inside wall with the top edge of the alarm at a minimum of 4" (10 cm) and a maximum of 12" (30.5 cm) below the ceiling, and at least 2 feet (61 cm) from any inside corner (see Diagram A).
- Put smoke alarms at both ends of a bedroom hallway or large room if the hallway or room is more than 30 feet (9.1 m) long.

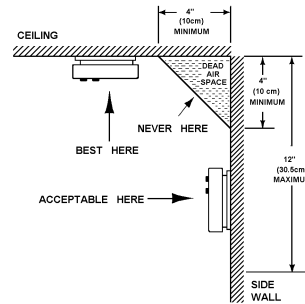
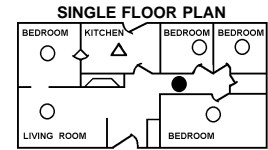
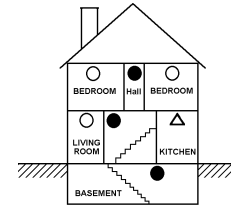


DIAGRAM A



MULTIPLE FLOOR PLAN



- Smoke Alarms for Minimum Protection
- Smoke Alarms for Maximum Protection
- △ Smoke Alarms with "HUSH" Control

DIAGRAM B

MOBILE HOME INSTALLATION

Mobile homes built in the past five to seven years have been designed to be energy efficient. Install smoke alarms as recommended above (refer to RECOMMENDED LOCATIONS and Diagram A).

In mobile homes that are not well insulated compared to present standards, extreme heat or cold can be transferred from the outside to the inside through poorly insulated walls and roof. This may create a thermal barrier which can prevent the smoke from reaching an alarm mounted on the ceiling. In such units, install the smoke alarm on an inside wall with the top edge of the alarm at a minimum of 4" (10 cm) and a maximum of 12" (30.5 cm) below the ceiling (see Diagram A).

If you are not sure about the insulation in your mobile home, or if you notice that the outer walls and ceiling are either hot or cold, install the alarm on an inside wall. For minimum protection, install at least one alarm close to the bedrooms. For additional protection, see SINGLE FLOOR PLAN in Diagram B.

WARNING: TEST YOUR SMOKE ALARM OPERATION AFTER R.V. OR MOBILE HOME VEHICLE HAS BEEN IN STORAGE, BEFORE EACH TRIP AND AT LEAST ONCE A WEEK DURING USE.

2. LOCATIONS TO AVOID

Alarms *must not* be located within 3 feet of the following:

- Supply and return registers used for forced air heating and air conditioning.
- Ceiling fans and other high air flow areas.
- Bathrooms which contain a tub or shower.

In general, alarms should not be located:

- In the garage. Products of combustion are present when you start your automobile.
- In an area where the temperature may fall below 40°F or rise above 100°F.
- In dusty areas. Dust particles may cause nuisance alarms or failure to alarm.
- In very humid areas or near a bathroom. Moisture or steam can cause nuisance alarms.
- Near fluorescent lights. Electronic "noise" may cause nuisance alarms.

3. INSTALLATION INSTRUCTIONS

WIRING REQUIREMENTS

- This smoke alarm should be installed on a U.L. listed or recognized junction box. All connections should be made by a qualified electrician and must conform to article 760 of the U.S. National Electrical Code, NFPA 72 and/or any other codes having jurisdiction in your area.
- The appropriate power source is 120 Volt A.C. Single Phase supplied from a non-switchable circuit which is not protected by a ground fault interrupter.

WIRING INSTRUCTIONS FOR A.C. QUICK CONNECT HARNESS

CAUTION! TURN OFF THE MAIN POWER TO THE CIRCUIT BEFORE WIRING THE ALARM.

- For units that are used as single station, DO NOT CONNECT THE RED WIRE TO ANYTHING. Leave the red wire insulating cap in place to make certain that the red wire cannot contact any metal parts or the electrical box.
- When alarms are interconnected, all interconnected units must be powered from a single circuit.
- A maximum of 24 Lifesaver devices may be interconnected in a multiple station arrangement. The interconnect system should not exceed the NFPA interconnect limit of 12 smoke alarms and/or 18 alarms total (smoke, heat, carbon monoxide, etc.) With 18 alarms interconnected, it is still possible to interconnect up to a total of 6 remote signaling devices and/or relay modules.
- When mixing models which have battery backup (1275, 1275H, 1285, HD135F) with models without battery backup (1235, 120X, SL177i, FYCO 31) be advised that the models without battery backup will not respond during an AC power failure.
- The maximum wire run distance between the first and last unit in an interconnected system is 1000 feet.
- Figure 1 illustrates interconnection wiring. Improper connection will result in damage to the alarm, failure to operate, or a shock hazard.
- Make certain alarms are wired to a continuous (non-switched) power line. NOTE: Use standard UL listed household wire (18 gauge or larger as required by local codes) available at all electrical supply stores and most hardware stores.

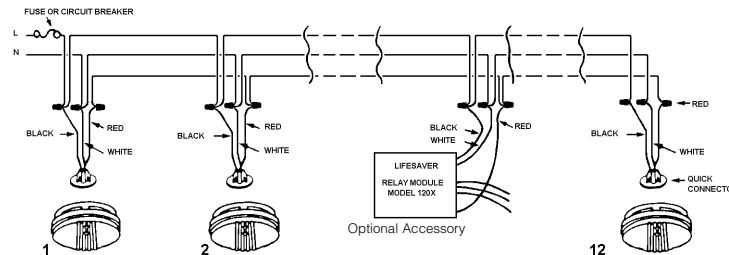


FIGURE 1 INTERCONNECT WIRING DIAGRAM

WIRES ON DETECTOR HARNESS	CONNECTED TO
Black	Hot Side of A.C. Line
White	Neutral Side of A.C. Line
Red	Interconnect Lines (Red Wires) of Other Units in the Multiple Station Set up

BATTERY INSTALLATION

See MAINTENANCE (Section 6) for battery installation.

CAUTION! IF THE BATTERY REMINDER FINGER IS NOT HELD DOWN IN THE BATTERY COMPARTMENT BY THE BATTERY, THE BATTERY DOOR WILL NOT CLOSE, THE A.C. QUICK CONNECTOR WILL NOT ATTACH TO THE DETECTOR, AND THE DETECTOR WILL NOT ATTACH TO THE TRIM RING (SEE SECTION 6, FIGURE 6).

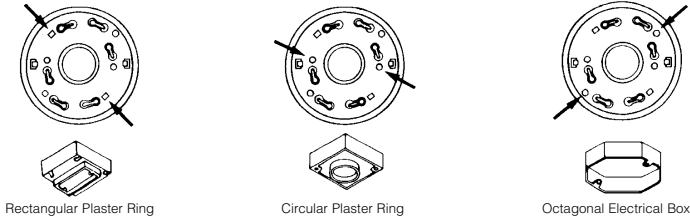
MOUNTING INSTRUCTIONS

CAUTION: THIS UNIT IS SEALED. THE COVER IS NOT REMOVABLE!

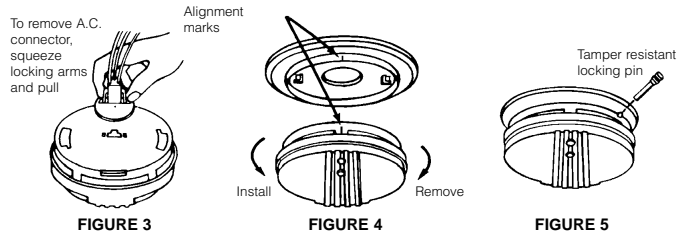
1. Remove the trim ring from the back of the alarm by holding the trim ring and twisting the alarm in the direction indicated by the "OFF" arrow on the alarm cover.
2. After selecting the proper smoke alarm location as described in Section 1 and wiring the A.C. QUICK CONNECT harness as described in the WIRING INSTRUCTIONS, attach the trim ring to the electrical box (see Figure 2).
3. Use a screwdriver to punch out only the pair of holes in the trim ring that match your type of electrical box or plaster ring. Mount the trim ring to the electrical box, using the appropriate holes. NOTE: Use the circle, square and octagon markings near each mounting hole in the trim ring to help you select the correct mounting holes (see Figure 2).
4. Pull the A.C. QUICK CONNECTOR through the center hole in the trim ring and mount the ring, making sure that the mounting screws are positioned in the small ends of the keyholes before tightening the screws (see Figure 2).
5. Plug the A.C. QUICK CONNECTOR into the back of the alarm (see Figure 3), making sure that the locks on the connector snap into place. Then push the excess wire back into the electrical box through the hole in the center of the trim ring.
6. If you have finished all the WIRING, BATTERY INSTALLATION AND TRIM RING MOUNTING STEPS, you can install the alarm on the trim ring. Alignment marks are provided on the side of the alarm and on the trim ring (see Figure 4).
7. Install the alarm on the trim ring with the indicating marks aligned and rotate the alarm in the direction of the "ON" arrow on the cover until the alarm snaps in place (see Figure 4).

8. Turn on the A.C. power. The green A.C. Power On Indicator should be lit when the alarm is operating from A.C. power.

FIGURE 2. SELECT CORRECT MOUNTING HOLES ON TRIM RING



TAMPER RESIST LOCKING PIN: To make your smoke alarm somewhat tamper resistant, a locking pin has been provided with your alarm. Using this pin will deter children and others from removing the alarm from trim ring. To use the pin, insert it into the hole in the side of the alarm after the alarm has been installed on the trim ring (see Figure 5)



NOTE the tamper resist pin will have to be removed in order to change the batteries. Use a long nose pliers to pull the pin out of the hole. It is now possible to remove the detector from the trim ring.

After installation, TEST your alarm by pressing and holding the test button for several seconds, or by blowing smoke into the alarm. This should sound the alarm.

CAUTION! Early warning fire detection is best achieved by the installation of fire detection equipment in all rooms and areas of the household as follows: A smoke alarm installed in each separate sleeping area (in the vicinity of - but outside of the bedroom), and heat or smoke alarms in the living room, dining room, kitchen, hallways, attic, furnace room, closets, utility storage room, basement, and attached garage.

4. OPERATION AND TESTING

OPERATION: The smoke alarm is operating once A.C. power is applied, fresh batteries are installed and testing is complete. When the smoke alarm's photoelectric chamber senses products of combustion, the horn will sound a loud (85db) pulsing alarm until the sensing chamber is cleared of smoke particles.

FLASHING LED LIGHT: This smoke alarm is equipped with a flashing red indicator LED. The LED is located under the test button and has three modes of operation.

- Standby Condition** The red LED will flash every 30-40 seconds to indicate that the smoke alarm is operating properly.
- Alarm Condition** When the alarm senses products of combustion and goes into alarm, the red LED will flash rapidly (2-3 times per second). The rapid flashing LED and pulsating alarm will continue until the air is cleared.
- Low Battery Condition** The LED flash will be accompanied by an audible chirp. Replace the battery when this condition occurs.

SMOKE SENSING CHAMBER OPERATION: This alarm will "chirp" if any of the components in the smoke sensing chamber fail. This chirp will occur **between** the flashes of the red LED indicator light. (If the chirp occurs *at the same time* as the red LED flash, see Section 6 for low battery information.)

WHEN UNITS ARE INTERCONNECTED, only the red LED of the unit which senses the smoke or is being tested (the originating unit) will flash rapidly. All other units in the interconnect system will sound an alarm but their red LED's will NOT flash rapidly.

TESTING: Test by pushing the test button on the cover and hold it down for a minimum of 5 seconds. This will sound the alarm if all the electronic circuitry, horn and battery are working. If no alarm sounds, check the fuse or circuit breaker supplying power to the alarm circuit. If the alarm still does not sound, the unit has defective batteries or other failure. You can also test the alarm by blowing smoke into it.

TEST THE ALARM WEEKLY TO ENSURE PROPER OPERATION. Erratic or low sound coming from your alarm may indicate a defective alarm, and it should be returned for service (see Section 11).

5. NUISANCE ALARMS

Smoke alarms are designed to minimize nuisance alarms. Cigarette smoke will not normally set off the alarm, unless the smoke is blown directly into the alarm. Combustion particles from cooking may set off the alarm if the alarm is located close to the cooking area. Large quantities of combustible particles are generated from spills or when broiling. Using the fan on a range hood which vents to the outside (non-recirculating type) will also help remove these combustible products from the kitchen.

If the alarm does sound, check for fires first. If a fire is discovered, get out and call the fire department. If no fire is present, check to see if one of the reasons listed in Section 2 may have caused the alarm.

6. MAINTENANCE

ALARM REMOVAL

IF TAMPER RESIST PIN HAS BEEN USED, REFER TO TAMPER RESIST LOCKING PIN IN SECTION 3 FOR PIN REMOVAL INSTRUCTIONS.

To replace the battery, remove the alarm from the trim ring by rotating the alarm in the direction of the "OFF" arrow on the cover (see Section 3, Figure 4) To disconnect the A.C. power harness, squeeze the locking arms on the sides of the Quick Connector while pulling the connector away from the bottom of the alarm (see Section 3, Figure 3).

BATTERY INSTALLATION AND REMOVAL

To replace or install the batteries you must first remove the alarm from the trim ring by following the ALARM REMOVAL instructions at the beginning of this section. After alarm has been removed, you can open the battery door and install or replace the battery. Battery installation instructions are provided on the inside of the battery door.

When installing the battery, press the battery reminder finger down into the battery compartment and install the battery (see Figure 6).

CAUTION! IF THE BATTERY REMINDER FINGER IS NOT HELD DOWN IN THE BATTERY COMPARTMENT BY THE BATTERY, THE BATTERY DOOR WILL NOT CLOSE, THE A.C. QUICK CONNECTOR WILL NOT ATTACH TO THE ALARM, AND THE ALARM WILL NOT ATTACH TO THE TRIM RING.

This smoke alarm uses a 9V carbon zinc back up battery (alkaline and lithium batteries may also be used). A fresh battery should last for one year under normal operating conditions.

This alarm has a low/missing battery monitor circuit which will cause the alarm to "chirp" approximately every 30-40 seconds for a minimum of seven (7) days when the battery gets low. Replace the battery when this condition occurs.

USE ONLY THE FOLLOWING 9 VOLT BATTERIES FOR SMOKE ALARM REPLACEMENT.

Carbon-zinc type	EVEREADY 216 OR 1222; GOLD PEAK 1604P OR 1604S
Alkaline type	EVEREADY 522; DURACELL MN1604; GOLD PEAK 1604A; MX1604
Lithium type	ULTRALIFE U9VL

NOTE: REGULAR TESTING IS RECOMMENDED!

WARNING! BE SURE TO FOLLOW BATTERY INSTALLATION INSTRUCTIONS PRINTED ON THE INSIDE OF THE BATTERY DOOR AND USE ONLY THE BATTERIES SPECIFIED. USE OF DIFFERENT BATTERIES MAY HAVE A DETRIMENTAL EFFECT ON THE SMOKE ALARM.

CLEANING YOUR ALARM

To clean your alarm, remove it from the mounting bracket as outlined in the beginning of this section. You can clean your alarm by using compressed air or your vacuum cleaner hose to blow or suck air through the openings around the perimeter of the alarm. The outside of the alarm can be wiped with a damp cloth.

After cleaning, reinstall your alarm. Test your alarm by using the test button and check that the green LED is on.

7. LIMITATIONS OF SMOKE ALARMS

WARNING: PLEASE READ CAREFULLY AND THOROUGHLY

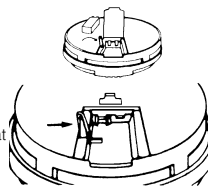


FIGURE 6

- Smoke alarms are devices that can provide early warning of possible fires at a reasonable cost; however, alarms have sensing limitations. Ionization type alarms offer a broad range of fire sensing capabilities but are better at detecting fast flaming fires than slow smoldering fires. Photoelectric alarms sense smoldering fires better than flaming fires. Home fires develop in different ways and are often unpredictable. Neither type of alarm (photoelectric or ionization) is always best, and a given alarm may not always provide warning of a fire.
- A battery powered alarm must have a battery of the specified type, in good condition and installed properly.
- A.C. powered alarms will not operate if the A.C. power has been cut off, such as by an electrical fire or an open fuse.
- Smoke alarms must be tested regularly to make sure the batteries and the alarm circuits are in good operating condition.
- Smoke alarms cannot provide an alarm if smoke does not reach the alarm. Therefore, smoke alarms may not sense fires starting in chimneys, walls, on roofs, on the other side of a closed door or on a different floor.
- If the alarm is located outside the bedroom or on a different floor, it may not wake up a sound sleeper.
- The use of alcohol or drugs may also impair one's ability to hear the smoke alarm. For maximum protection, a smoke alarm should be installed in each sleeping area on every level of a home.
- Although smoke alarms can help save lives by providing an early warning of a fire, they are not a substitute for an insurance policy. Home owners and renters should have adequate insurance to protect their lives and property.

8. GOOD SAFETY HABITS

DEVELOP AND PRACTICE A PLAN OF ESCAPE

- Make a floor plan indicating all doors and windows and at least two (2) escape routes from each room. Second story windows may need a rope or chain ladder.
- Have a family meeting and discuss your escape plan, showing everyone what to do in case of fire.
- Determine a place outside your home where you all can meet if a fire occurs.
- Familiarize everyone with the sound of the smoke alarm and train them to leave your home when they hear it.
- Practice a fire drill at least every six months. Practice allows you to test your plan before an emergency. You may not be able to reach your children. It is important they know what to do.

WHAT TO DO WHEN THE ALARM SOUNDS

- Leave immediately by your escape plan. Every second counts, so don't waste time getting dressed or picking up valuables.
- In leaving, don't open any inside door without first feeling its surface. If hot, or if you see smoke seeping through cracks, don't open that door! Instead, use your alternate exit. If the inside of the door is cool, place your shoulder against it, open it slightly and be ready to slam it shut if heat and smoke rush in.
- Stay close to the floor if the air is smoky. Breathe shallowly through a cloth, wet if possible.
- Once outside, go to your selected meeting place and make sure everyone is there.
- Call the fire department from your neighbor's home - not from yours!

- Don't return to your home until the fire officials say that it is all right to do so.
- There are situations where a smoke alarm may not be effective to protect against fire as stated in the NFPA Standard 72. For instance:

- a) smoking in bed
- b) leaving children home alone
- c) cleaning with flammable liquids, such as gasoline

Further information on fire safety can be obtained in a pamphlet titled "IN A FIRE SECONDS COUNT" published by the NFPA, Batterymarch Park, Quincy, MA 02269

9. NFPA REQUIRED PROTECTION

The National Fire Protection Association's Standard 72 reads as follows:

2-2.1.1.1 Smoke alarms shall be installed outside each separate sleeping area in the immediate vicinity of the bedrooms and on each additional story of the family living unit, including basements and excluding crawl spaces and unfinished attics. In new construction, a smoke alarm shall be installed in each sleeping room.

A-2.5.2.1 Smoke Detection - Are More Smoke Detectors Desirable? The required number of smoke alarms might not provide reliable early warning protection for those areas separated by a door from the areas protected by the required smoke alarms. For this reason, it is recommended that the householder consider the use of additional smoke alarms 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 alarms. The installation of the smoke alarms in the kitchen, attic (finished or unfinished), or garage is normally not recommended, as these locations occasionally experience conditions that can result in improper operation.

This equipment should be installed in accordance with the National Fire Protection Association's Standard 72 (NFPA, Batterymarch Park, Quincy, MA 02269).

NOTIFY YOUR LOCAL FIRE DEPARTMENT AND INSURANCE COMPANY OF YOUR SMOKE ALARM INSTALLATION.

10. SERVICE AND WARRANTY

If after reviewing this manual you feel that your smoke alarm is defective in any way, do not tamper with the unit. Return it for servicing to: Fyrnetics 1394 South Third St., Mebane, N.C. 27302. (See Warranty for in-warranty returns)

FIVE YEAR LIMITED WARRANTY

Fyrnetics warrants to the original purchaser that the enclosed smoke alarm (but not the battery) will be free from defects in material and workmanship or design under normal use and service for a period of five years from the date of purchase. The obligation of Fyrnetics under this warranty is limited to repairing or replacing the smoke alarm or any part which we find to be defective in material, workmanship or design, free of charge to the customer, upon sending the smoke alarm with proof of date of purchase, postage and return postage prepaid, to Warranty Service Department, Fyrnetics 1394 South Third St., Mebane, N.C. 27302.

This warranty shall not apply to the smoke alarm if it has been damaged, modified, abused or altered after the date of purchase or if it fails to operate due to improper maintenance or inadequate A.C. or D.C. electrical power.

THE LIABILITY OF FYRNETICS OR ANY OF ITS PARENT OR SUBSIDIARY CORPORATIONS ARISING FROM THE SALE OF THIS SMOKE ALARM OR UNDER THE TERMS OF THIS LIMITED WARRANTY SHALL NOT IN ANY CASE EXCEED THE COST OF REPLACEMENT OF SMOKE ALARM AND, IN NO CASE, SHALL FYRNETICS, INC. OR ANY OF ITS PARENT OR SUBSIDIARY CORPORATIONS BE LIABLE FOR CONSEQUENTIAL LOSS OR DAMAGES RESULTING FROM THE FAILURE OF THE SMOKE ALARM OR FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, EVEN IF THE LOSS OR DAMAGE IS CAUSED BY THE COMPANY'S NEGLIGENCE OR FAULT.

Since some states do not allow limitations on the duration of an implied warranty or do not allow the exclusion or limitation of incidental or consequential damages, the above limitations or exclusions may not apply to you. While this warranty gives you specific legal rights, you may also have other rights which vary from state to state.

Also, Fyrnetics makes no warranty, express or implied, written or oral, including that of merchantability or fitness for any particular purpose, with respect to the battery.

The above warranty may not be altered except in writing signed by both parties hereto.



FYRNETICS

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