

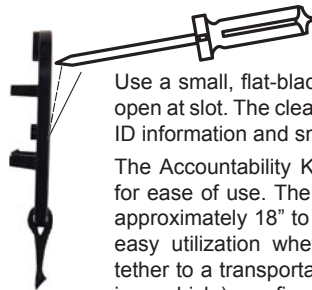
FX5 with Accountability Key in Place

1. To **Reset**, press both side buttons simultaneously when Accountability Key is off unit.
2. To turn **OFF**, replace Accountability Key and press both side buttons simultaneously.



Accountability Key

FX5 Accountability Key can be personalized to the specific identity of the user. The clear Identification Window easily snaps into place to protect enclosed information (photo, name, number, dept ID, barcodes, etc.) and provide quick identification.

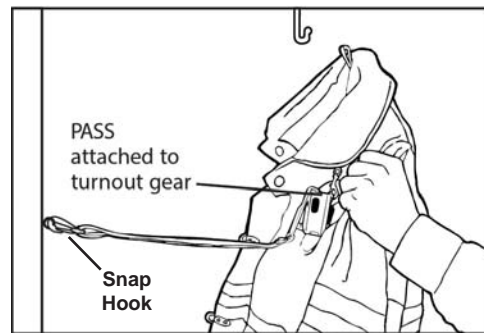


Use a small, flat-blade screwdriver to pry window open at slot. The clear ID Window will release. Add ID information and snap window back in place.

The Accountability Key has an adjustable tether for ease of use. The tether can be adjusted from approximately 18" to 36" in length. This allows for easy utilization whether you are anchoring the tether to a transportation position (such as a seat in a vehicle) or a fixed storage position (such as in the fire station).

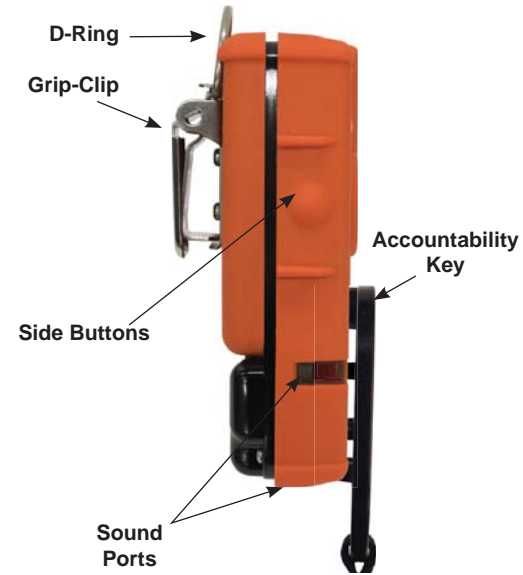
Accountability Keys are available with various length tethers to facilitate operational needs.

Pull Away Tether for Auto-On Activation from Storage Positions

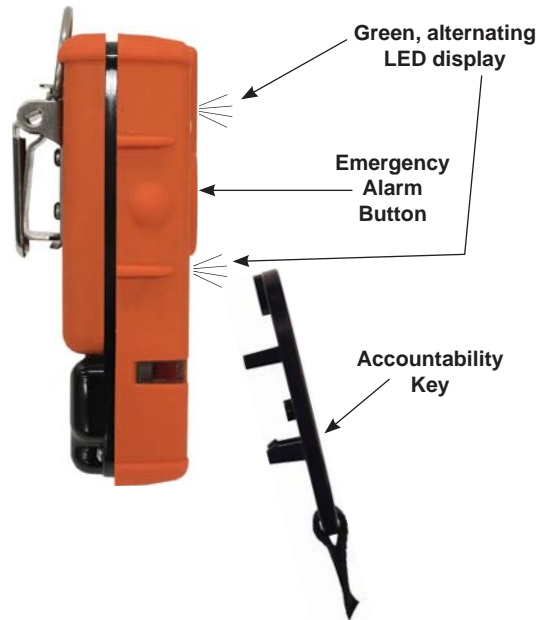


Snap hook attached to Transportation or Fixed Storage Position. Pull turnout gear away, tether tightens and pulls Accountability Key off the FX5, automatically activating FX5 into the Sensing Mode.

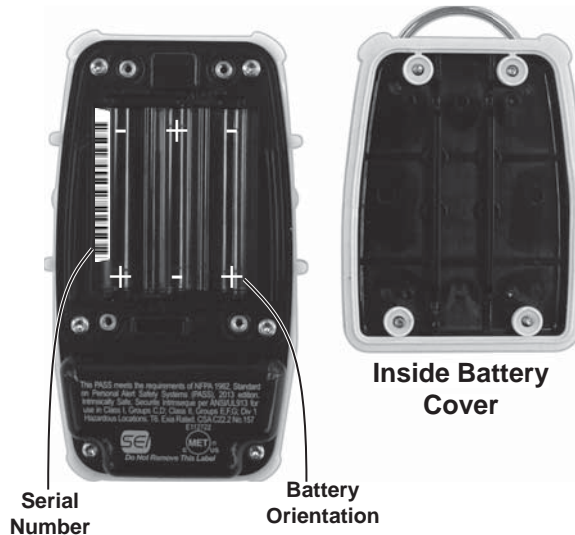
Side View with Accountability Key in Place



Auto-On Activation



Battery Chamber



LED Status Indicators

Note: FX5 only uses the Heat Alarm indicator.



Grip-Clip Maintenance

Grip-clip requires yearly lubrication. Use PTFE lube (CRC 03044 or equivalent) to lubricate the grip-clip along this area.



Warranty Information

Grace Industries, Inc. warrants FX5 to be free from defects in workmanship and materials for a period of one year from date of purchase. This warranty is valid only when the returned FX5 is accompanied by a sales receipt or other proof of purchase that states the date and location of purchase. Grace Industries, Inc. will not repair or replace any merchandise under warranty which has been damaged because of accident, misuse or abuse of the FX5 while in possession or control of the consumer or outside of Grace Industries Inc's control. This warranty is void if any attempt to repair or replace parts was made or attempted by other than qualified Grace Industries, Inc. personnel. This warranty is void if any of the sealed compartments are opened or tampered with. Send all returned merchandise, prepaid and accompanied by proof of purchase to: Grace Industries, Inc., Repair Division, 305 Bend Hill Road, Fredonia, PA 16124. Customer is responsible for return shipping. Grace Industries, Inc. shall not be liable for any direct, incidental or other consequential loss or damage arising out of the failure of the device to operate.

The sole and exclusive remedy under all guarantees or warranties, expressed or implied, is strictly limited to repair or replacement as herein provided. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO, WARRANTIES OF FITNESS AND MERCHANTABILITY, ARE HEREBY LIMITED IN DURATION TO A PERIOD ENDING ONE (1) YEAR FROM THE DATE OF PURCHASE. The warranty and liability set forth in the prior paragraphs are in lieu of all other warranties, expressed or implied, in law or in fact, including implied warranties of merchantability and fitness for a particular purpose. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

The information contained in this booklet is believed to be accurate and reliable. Grace Industries, Inc. provides this information as a guide only.

FX5 technical assistance is available by contacting Grace Industries, Inc. at (724) 962-9231 or by email at info@graceindustries.com.

For training purposes a copy of this information is available by contacting Grace Industries, Inc.

FX5 issues may be reported at any time to Grace Industries, Inc. at 724-962-9231. After working with the manufacturer to resolve any issues, they may be reported to SEI at 703-442-5732.

FX™5

USER'S INFORMATION

Only To Be Removed By End User



MADE IN USA

Front View without Accountability Key in Place

Grace Industries, Inc.
www.graceindustries.com
 Ph. 724-962-9231 • Fax 724-962-3611



Front View with Accountability Key in Place

GRACE
 INDUSTRIES, INC.
 Solutions for Life Safety

www.graceindustries.com

© Grace Industries, Inc. Printed in U.S.A.

P/N: FX5 UI 1119

READ INSTRUCTIONS BEFORE USE

FX5 Intended Use

FX5 is a motion-sensing PASS device designed for use by firefighters, first-responders, and industrial users engaged in firefighting, rescue, and other hazardous duties. FX5 provides distinct audible and visual alarms for indicating a user distress or panic alarm. FX5 has a very loud audio alarm, allowing rescue personnel to rapidly pinpoint the location of the firefighter or worker in distress.

It is highly recommended that all personnel be thoroughly trained in the proper use and operation of FX5 prior to use. Always inspect and test FX5 prior to use. Failure to do so may expose the user to serious injury or loss of life.

FX5 Features

- Auto-On Activation by Removal of Accountability Key
- Panic Button Alarm Activation
- Pre-Alert: Audible Warning Before Full Alarm
- Audible and Visual Indicators for all Modes of Operation

Operating Instructions

ACTIVATING FX5: When the FX5 is removed from a storage position, the Accountability Key automatically detaches, activating FX5 into the motion **Sensing Mode**.

During activation, an operational signal of escalating audio tones will be heard and an alternating display of two Green LEDs indicates the FX5 is in **Sensing Mode**.

In motion sensing mode, FX5 will strobe two Green LEDs in opposing corners, alternating to the opposite corners when motion is sensed.

PRE-ALERT MODE: After approximately 18 to 23 seconds of no motion, FX5 begins an audible Pre-Alert sound and an alternating Green and Yellow LED display. The Pre-Alert sound progressively becomes louder, indicating FX5 is closer to going into **Alarm**.

ALARM MODE: There are two methods of activating the Alarm Mode.

1) MOTION-ALARM: After 30 to 35 seconds of no motion, FX5 enters the **Alarm Mode**.

2) PANIC ALARM: PASS user can activate **Alarm Mode** at any time (from **Sensing Mode** or **Off Mode**) by pressing the Emergency Alarm Button.

ALARM MODE is indicated by a rapid pulsing of four front Red LEDs while sounding a loud audio alarm.

Reset the Alarm Mode and return FX5 to **Sensing Mode** by simultaneously pressing both side buttons.

TURN OFF: To turn FX5 **OFF**, replace Accountability Key and press both side buttons simultaneously.

FX5 Mounting and Attachment

FX5 is equipped with a high-strength grip-clip designed for secure attachment to a firefighter's turnout-gear such as to an SCBA vertical strap on the upper left or right shoulder and in the horizontal position with the sound port facing out to the side, or on the right hip area. **However, the ideal wearing position of FX5 is often best determined by the end user for ease of**

access and operation.

Visual / Audio Mode Display

OFF

- Accountability Key in place with no LED display.

ON (Sensing Mode)

- Accountability Key removed, a series of escalating, loud audio tones.
- Followed by an alternating display of front Green LEDs.

PRE-ALERT

- No motion sensed for 18 - 23 seconds.
- Alternating Green and Yellow LED display.
- Accompanied by progressively louder audio tones.

ALARM

- No motion sensed for 30 - 35 seconds.
- Rapid pulsing of four front Red LEDs.
- Accompanied by a loud (95+ dBA) audio alarm.
- Audio alarm signal is current NFPA sound signature.

LOW BATTERY

- Alternating Green and Yellow pulsing LED display.
- Series of two audio beep tones enunciated every 23 seconds.

Mode Selection

AUTO-ON

- When FX5 is removed from storage position, the Accountability Key detaches and **Sensing Mode** is activated.

ALARM

- **Alarm Mode** can be manually activated at any time (from **Sensing Mode** or **Off Mode**) by pressing the Emergency Alarm Button.

RESET

- When in **Alarm**, the FX5 can be reset to **Sensing Mode** by simultaneously pressing both side buttons.

OFF

- Turn OFF FX5 by replacing the Accountability Key and then pressing both side buttons simultaneously.

Maintenance

FX5 requires minimum maintenance and will provide years of service.

Please Observe These Guidelines

- At the end of each use, clean unit with a damp cloth. **DO NOT use cleaning solvents.**
- After each use, inspect unit for signs of physical damage. **Remove FX5 from service if physical damage is observed.**
- Grip-Clip Maintenance: grip-clip requires yearly lubrication with PTFE lube (CRC 03044 or equivalent as shown in grip-clip drawing).
- Store FX5 in a dry, well ventilated area consistent with battery manufacturer requirements. Recommended storage conditions are: 50° to 77°F (10° to 25°C) at no more than 65% relative humidity.
- Units contaminated by chemical or radioactive

materials must be disposed of or decontaminated in accordance with all applicable regulatory standards.

- Replace batteries approximately every 3 to 4 months or sooner if indicated by Low Battery Alarm.
- **DO NOT mark or apply paint to FX5.**

Specifications

Dimensions: 2.75" wide, 5" high, 2" deep.

Weight: 14 ounces with batteries (without key).

Alarm Audio Output: 95+ dBA at 1 meter.

Case: Rugged, high temperature, impact resistant, engineered plastic with high temperature silicone over-mold.

Attachment: Large, stainless steel grip-clip and D-ring.

Batteries: Three approved AA (LR6), 1.5 volt, alkaline batteries.

Battery Life: Estimated at 200 hours in **Sensing Mode**; 24 to 28 hours in **ALARM Mode**.

Product Life: Approximately 3 to 5 years or longer, depending on fitness for use. Fitness for use is best determined by the end user through a proper inspection and maintenance program. **Product should be retired from service when damaged or determined unfit for use.**

Limitations

To reduce risk of serious injury or loss of life, ensure FX5 is fully operational by testing and inspecting the unit prior to use. Use of a FX5 maintenance and training program including replacement of exhausted or low batteries is required for safe and proper use.

If proper operation of FX5 is questionable, remove unit from service and contact Grace Industries for assistance.

Temperature Sensing

FX5 is equipped with internal temperature sensing to alert the user of internal temperature rise inside the FX5, and to warn of potential heat-stress for the user. The Heat Alarm function has a three stage alert feature to provide the user with a relative indication of internal FX5 temperature rise.

Stage 1 Heat Alert: When the internal FX5 temperature reaches **120°F**, the top Red LED (above the flame icon) begins to flash briefly.

Stage 2 Heat Alert: Begins when the internal FX5 temperature reaches **130°F**. The flame icon LED will flash brighter and longer, accompanied by loud 2-tone audio alerts once every 1 minute.

Stage 3 Heat Alert: When the internal FX5 temperature exceeds 140°F, the heat alert becomes an Alarm. The flame icon LED stays ON and is accompanied by loud 2-tone audio alerts once every 10 seconds. Stage 3 Heat Alarm information is recorded in the FX5 internal data-log. The audible alarm sound of Stage 3 Heat Alarm can be temporarily muted for up to 1 minute by simultaneously pressing both side buttons.

As FX5 cools, the Heat Alert Stage will decrease when the internal temperature drops below the respective temperature levels. The flame icon LED will stop flashing when the internal temperature falls below 110°F.

NOTE: The flame icon LED flashes proportionally

to the FX5 internal temperature between 120° and 140°F.

WARNING! The FX5 internal temperature sensing is NOT intended to determine a "temperature safe" firefighter environment, and should NOT be relied on to warn the user of excess environmental temperature or possible flash-over conditions.

Battery Installation and Replacement

To change batteries, remove the four screws securing the back cover. Remove and dispose of the exhausted batteries and insert new batteries. Observe polarity for proper (+) and (-) placement. Dispose of used batteries in accordance with national or local regulations.

Always use approved AA (LR6) 1.5 volt alkaline batteries. Batteries may be any of the following brands but DO NOT MIX battery brands and/or part numbers:

Approved Alkaline Batteries:

Rayovac, Rayovac-Fusion, Energizer E91, Energizer-Industrial EN91, Duracell MN1500, Duracell-Procell PC1500.

Important: To preserve the internal real-time-clock date & time setting, batteries must be replaced within 30 minutes of removing the exhausted batteries.

Before replacing the back cover, inspect and remove any dust or dirt on the mating edges of the back cover and case.

Carefully replace back cover and gently tighten all four screws using a crisscross pattern for even gasket pressure, ensuring a good seal. DO NOT over tighten screws.

Replacing batteries every 3 to 4 months is recommended unless indicated earlier by the **Low Battery Alarm**.

Low Battery Alarm will sound when the batteries have been exhausted to 20% of capacity (indicating approximately 1 hour of Alarm operating time remains). Immediate replacement of the batteries is necessary when the **Low Battery Alarm** sounds.

When FX5 is in **Sensing Mode**, the **Low Battery Alarm** is easily recognized by an alternating Green and Yellow LED pulsing display, accompanied by a series of two audio beep tones enunciated every 23 seconds.

Grace Industries, Inc. assumes no liability for mechanical, electrical, or other types of battery failure.

Safety Certifications

FX5 meets the requirements of NFPA 1982, Standard on Personal Alert Safety Systems (PASS), 2018 edition.

Intrinsically Safe per ANSI/UL913 6th edition for use in Class 1, Groups C, D; and Class II, Groups E, F, G; Division 1 Hazardous Locations.

Certified to CSA C22.2 No.157-92 3rd edition.

Intrinsically Safe, Sécurité Intrinsèque WARNINGS!

WARNING! Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

WARNING! To prevent ignition of a hazardous atmosphere, batteries must only be changed in an area known to be nonhazardous.

WARNING! To reduce the risk of explosion, do not mix new batteries with used batteries, or mix batteries from different manufacturers.

WARNING! Substitution of components may impair intrinsic safety. After battery replacement, always test FX5 to ensure proper operation.

AVERTISSEMENTS!

AVERTISSEMENT! Les changements ou modifications non expressément approuvés par la partie responsable de la conformité pourraient annuler l'autorité de l'utilisateur à utiliser cet équipement.

AVERTISSEMENT! Afin de prévenir les inflammations des atmosphères dangereuses, ne changer les batteries que dans des emplacements désignés non dangereux.

AVERTISSEMENT! Pour réduire le risque d'explosion, ne pas mélanger des piles neuves avec des piles usagées, ou mélanger des piles de fabricants différents.

AVERTISSEMENT! La substitution de composants peut compromettre la sécurité intrinsèque. Après le remplacement de la batterie, toujours tester FX5 pour assurer un fonctionnement correct.

Internal Data Logger

The internal data logging function meets and exceeds NFPA requirements. The data logger timestamps, dates and stores over 2,000 of the most recent events.

Recorded FX5 events include: Power On, Pre-Alert, Motion Alarm, Panic Alarm, Alarm Reset, Power Off, Heat Alarm and Low Battery indications. Data-log information can be downloaded to a PC using the datalog-transfer software and USB cable available from Grace Industries, Inc.

Internal Clock Status

Clock is Set: Accountability Key removed to activate unit, a series of loud escalating audio tones. Followed by an alternating display of Green LEDs indicating PASS is operational and ready for use.

Clock NOT Set: Accountability Key removed to activate unit, a series of four audio tones (da, da, da, dat). Followed by a steady ON display of upper left Amber LED indicating PASS is not operational and should not be used.

* For information on how to reset the internal clock please visit our website at www.gracefirefighter.com

NOTE: This user's information also applies to FX5X that have the optional telemetry functions Not Activated.