

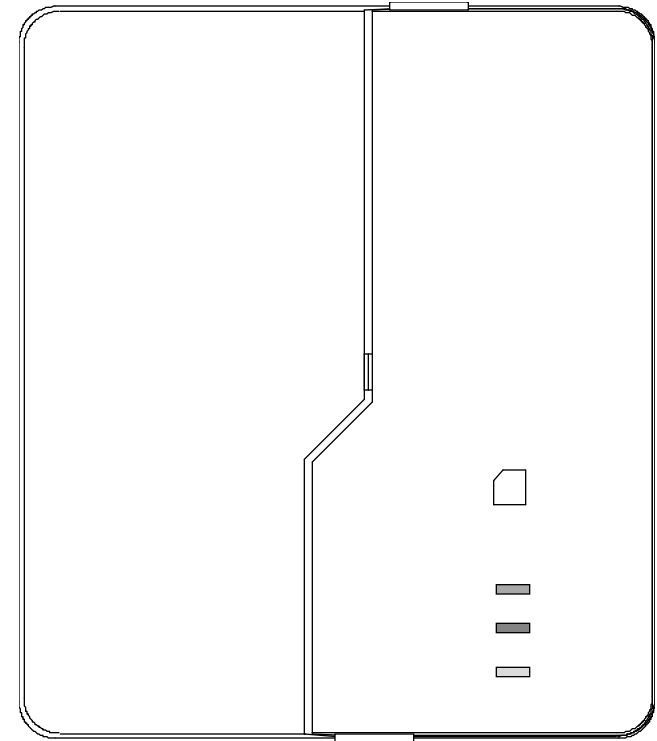
# Installation Instructions

## **FlexGuard™ PLUS**

**MODEL: FGW-725**

*A battery powered, dual technology glassbreak detector designed to work with virtually any transmitter.*

- Powered by one 9V battery or two 3.6V AA size lithium batteries
- Common sensor / transmitter power source guarantees battery supervision integrity
- Universal battery holder with no flying leads
- Separate microphones for audio and flex detection
- Sensing is entirely acoustic (through air) and does not rely on shock pick up.
- Advanced acoustic filter prevents microphone overload
- Unique service door for easy access to change the battery and test the sensor.



# Table of Contents

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Congratulations on your purchase of the FGW-725 FlexGuard PLUS sensor. This sensor provides high false-alarm immunity and superior glassbreak protection. In addition, it can be used with virtually *any* transmitter on the market today.

In this manual we have tried to supply wiring diagrams for virtually all RF (Radio Frequency) transmitters on the market. To find a specific transmitter wiring diagram, refer to the Table of Contents below.

## Table Of Contents

Transmitter Compatibility .....	3
Description .....	4
General Procedure .....	5
Installing the Transmitter .....	6
Wiring the Transmitter .....	9
Ademco® 5716 .....	10
Ademco® 5817 .....	11
Apex IR-20 .....	12
Capricorn (CEI) T-80 .....	13
Honeywell™ 24760084 .....	14
Linear® D-24A .....	15
Linear® T-90 .....	16
Linear® ST Supervised .....	17
Radionics™ D 7121 / D 7122 .....	18

Visonic WT-100 .....	19
"Other" Model Transmitter .....	20
Battery Installation .....	21
Mounting Location .....	23
Set-up and Test Procedure .....	25
Flex Adjustment .....	26
Testing the FGW-725 .....	27
Additional Test Features .....	28
Alarm LED Latch .....	28
Disabling the LEDs .....	28
Low Battery .....	28
Permanent Mounting .....	29
Appendix A: Electrical Interface Diagram .....	30
Specifications .....	31

# Transmitter Compatibility

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The table below lists transmitters that are compatible with the FGW-725. Also listed are products that contain a factory integrated FGW-725 and transmitter. Contact C&K Systems for information on transmitters not listed below.

ADEMCO 5716	see page 10	LINEAR D24A	see page 15
ADEMCO 5817	see page 11	LINEAR T-90	see page 16
APEX IR-20	see page 12	LINEAR supervised	see page 17
CAPRICORN T-80	see page 13	RADIONICS D7121 & D7122	see page 18
C&K SN950-GLASS	<i>Factory integrated FGW-725 &amp; C&amp;K SN930 transmitter available from C&amp;K Systems*</i>		VISONIC WT-100 see page 19
HONEYWELL 24760084	see page 14		
ITI 60-582	<i>Factory integrated FGW-725 &amp; ITI transmitter available from ITI*</i>		

*\* Housing color is the same as the transmitter manufacturer's other products.*

# Description

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The FGW-725 is a battery powered, dual technology glassbreak detector designed to work with virtually any RF (Radio Frequency) transmitter on the market today.

The glassbreak sensor features separate microphones for detecting flex and audio frequencies. The flex microphone is also equipped with an advanced acoustic filter specially designed to prevent microphone overload caused by very loud sounds.

Each microphone is sensitive to different frequencies. The flex microphone is sensitive to ultra low frequencies, the kind generated by a blow to a glass window. The audio microphone detects the higher frequencies of breaking glass.

The sensor's audio technology remains inactive until the flex technology detects a blow to the glass. For an alarm condition to occur, the audio must detect the frequency of breaking glass within a defined time-window *after* the flex detects a blow to the glass.

Because both technologies must detect and verify glass breakage, **false alarms are virtually eliminated.**

The FGW-725 is a fully self-contained unit. The transmitter is mounted inside the housing, on the same surface as the sensor's printed circuit board.

For most installations, both the transmitter and the FGW-725 are powered by a common internal battery(ies).

The unit also features clear access to three sides of the installed transmitter, and clear access to the sensor's terminal strip. Wiring is easy, with little risk of wires folding over the transmitter when closing the case.

Included is an installation kit (725-KIT) that contains the fasteners, wires, connectors, etc. to install your transmitter inside the FGW-725 housing and mount the sensor/transmitter unit to a wall or ceiling.

# General Procedure

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Use the following procedure to install the FGW-725:

1. Prepare the FGW-725 for transmitter installation. (See page 6.)
2. Fasten the transmitter inside the FGW-725 housing. (See page 8.)
3. Wire the transmitter to the FGW-725. (See pages 10 through 20.)
4. Install the correct battery(ies). **Important:** Read all battery precautions on pages 21 & 22.
5. Test the RF transmitter. (It is much easier to test, adjust, and if necessary, replace the transmitter before mounting the unit.)
6. Determine the optimum location for the sensor/transmitter unit. (See pages 23 & 24.)
7. Temporarily mount the unit, then test it and make any necessary adjustments. (See pages 25 through 27.)
8. After determining the location is appropriate, permanently mount the unit. (See page 29.)
9. Re-test the sensor and transmitter to ensure proper operation. (See page 27.)

## IMPORTANT General Precautions

1. Use ONLY the type of battery recommended by the RF transmitter manufacturer.
2. Double-check the wiring of the RF transmitter to the glassbreak sensor BEFORE installing the battery(ies).
3. ***If anything (including a battery) gets HOT, disconnect the battery(ies) immediately!***
  - a. Any battery that continues to heat itself is defective and should NOT be used.
  - b. The most likely cause of hot transmitter components is a reversed battery connection. (The glassbreak sensor is reverse polarity protected.)
  - c. The most likely cause of a hot battery is an unintentional short.
4. Carefully review all transmitter mounting restrictions. For example, older technology transmitters must be kept away from metal.
5. Review all Mounting Location guidelines to determine the best location for both the RF transmitter and the glassbreak sensor. (See pages 23 & 24.)
6. A small filter covers the unit's microphone. The filter should NOT be removed.

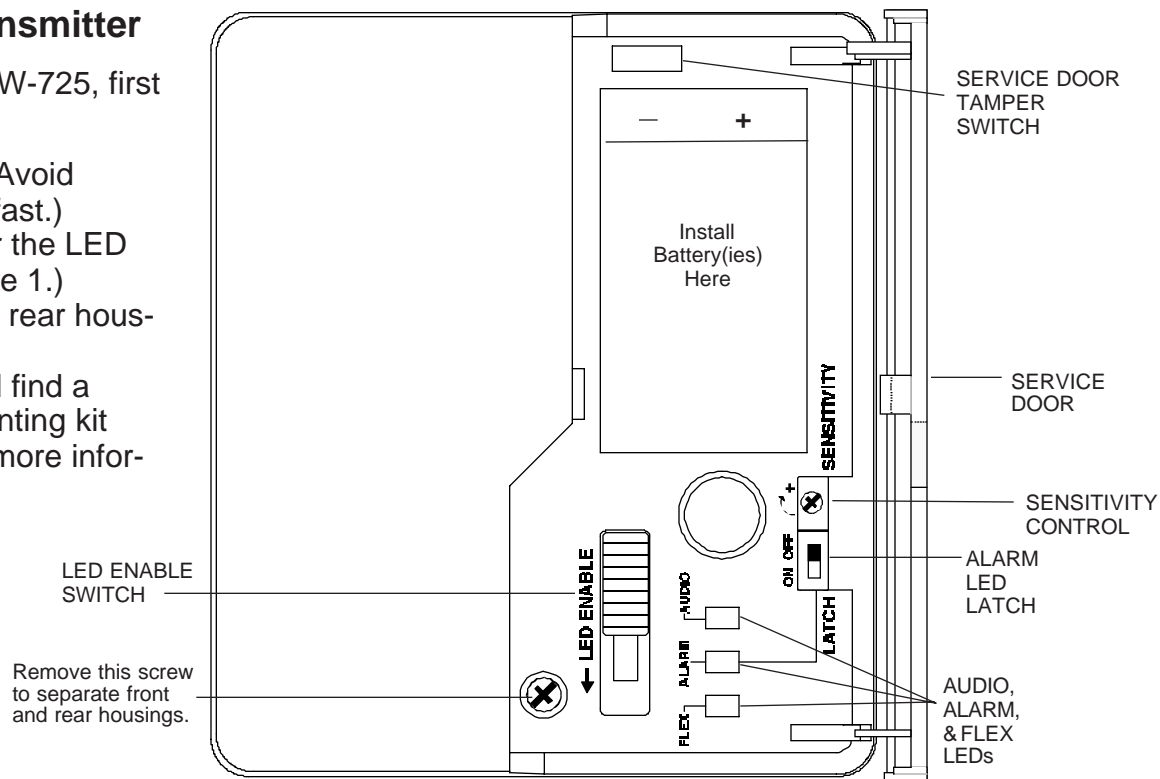
# Installing the Transmitter

## Preparations for installing the transmitter

To install the transmitter inside the FGW-725, first remove the front housing as follows:

1. Swing open the service door. (Avoid opening the door too far or too fast.)
2. Remove the screw located near the LED ENABLE switch. (Refer to Figure 1.)
3. Carefully separate the front and rear housings.
4. Inside the FGW-725 you should find a transmitter installation and mounting kit (725-KIT). Refer to page 7 for more information on this kit.

**Figure 1** *FGW-725 with the Service Door Open*



# Installing the Transmitter

The transmitter installation kit ("725-KIT") includes:

For transmitters that use 9 V batteries	For transmitters that use 1/2 AA batteries	For ALL transmitters	For mounting
<ul style="list-style-type: none"><li>• One 9 Volt battery lead, 2.5" (6 cm) reversed<ul style="list-style-type: none"><li>- Connects the sensor terminal strip to the transmitter battery connection.</li></ul></li></ul>	<ul style="list-style-type: none"><li>• One 4" (10 cm) Black 22 AWG wire<ul style="list-style-type: none"><li>- Connects the sensor terminal (-) to the transmitter terminal (COM).</li></ul></li><li>• One dummy 1/2 AA battery<ul style="list-style-type: none"><li>- Connects the sensor terminal strip to transmitter battery terminal (+).</li></ul></li></ul>	<ul style="list-style-type: none"><li>• One 4" (10 cm) Brown 22 AWG wire<ul style="list-style-type: none"><li>- Connects the sensor signal to the transmitter.</li></ul></li></ul> <p>For fastening the transmitter inside the FGW-725:</p> <ul style="list-style-type: none"><li>• One 2" (5 cm) piece of hook tape (with double-sided foam tape attached).</li><li>• One 2" (5 cm) strip of self-adhesive loop tape</li></ul>	<ul style="list-style-type: none"><li>• Two 3" (7.6 cm) strips of double-sided foam tape<ul style="list-style-type: none"><li>- Used to temporarily mount the FGW-725.</li></ul></li><li>• Two panhead mounting screws [size: #8, 3/4"]<ul style="list-style-type: none"><li>- Used to permanently mount the FGW-725.</li></ul></li></ul>

**Note:** If the transmitter installation kit is misplaced, replacement kits can be ordered from C&K Systems  
Call 800-928-6532, and order "725-KIT" (part number 2-300-044-01).

# Installing the Transmitter

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## General Transmitter Fastening Instructions

Fasten your transmitter to the inside of the rear housing in the space next to the sensor circuit board. Most transmitters are fastened inside the FWG-725 housing with hook and loop tape. This tape ensures a secure installation and simplifies maintenance. Note that due to size, certain transmitters must be fastened with thinner, double-sided tape. The installation kit (725-KIT) contains both hook and loop and double-sided tapes.

The recommended fastening method is specified in each transmitter's wiring instructions. (See pages 10 thru 20).

### **Fasten transmitter with hook and loop tape as follows:**

1. If necessary, separate the hook and loop tapes.
2. On the hook tape, remove the protective paper to expose the adhesive, then stick it to the back of the transmitter.

**Note:** Make sure the tape does not cover the antenna, test switch or components that are needed during test and routine maintenance.

3. Determine the best position to locate the transmitter inside the FGW-725 rear housing.

**Important:** Locate the transmitter as far from the sensor circuit board as possible. Locate the transmitter antenna as close to the outside edge of the housing, and as far from the sensor terminal strip, as possible.

4. Remove the paper backing from the loop tape and stick it to the inside of the FGW-725 rear housing. Position the loop tape so it will line-up with the transmitter hook tape.
5. Until the final installation is done, press the hook and loop tapes loosely together to temporarily secure the transmitter inside the FGW-725.



# Wiring the Transmitter

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## General Transmitter Wiring Instructions

Pages 10 through 20 provide wiring diagrams and instructions to connect various RF transmitters to the FGW-725 sensor. Also, make sure to review all instructions that came with your transmitter. If the transmitter you want to install is not included in this manual or you experience problems, contact C&K Systems at 800-928-6539. **Before wiring your transmitter, review the following general wiring instructions:**

1. Observe wire color coding:

BLACK - Common; usually same potential as negative ( - ) battery pole. Black wire is typically connected between sensor ( - ) terminal and either transmitter battery ( - ) terminal or a negative-ground (COM) terminal.

RED - Positive battery (+) pole. Red wire is typically connected between sensor (+) terminal and transmitter battery (+) terminal. **Important:** For transmitters that operate on a single 1/2 AA battery, install dummy battery (included in 725-KIT) and connect red wire to sensor as specified in wiring diagram.

BROWN - Alarm signal. Brown wire is typically connected between the sensor alarm output (N.O. or N.C.) and transmitter alarm input (IN) terminal.

2. Use at least 22 AWG for transmitter-sensor wiring.
3. Most transmitters use the "N.O." connection. Some can use either "N.O." or "N.C." Still others must be configured to one or the other. (For some transmitters, using a "N.C." connection may result in an unacceptable increase in power consumption.) Review the manufacturer's instructions for specific transmitter requirements.
4. Use the transmitter manufacturer's manual for primary information and specific details on the transmitter.

### CAUTION

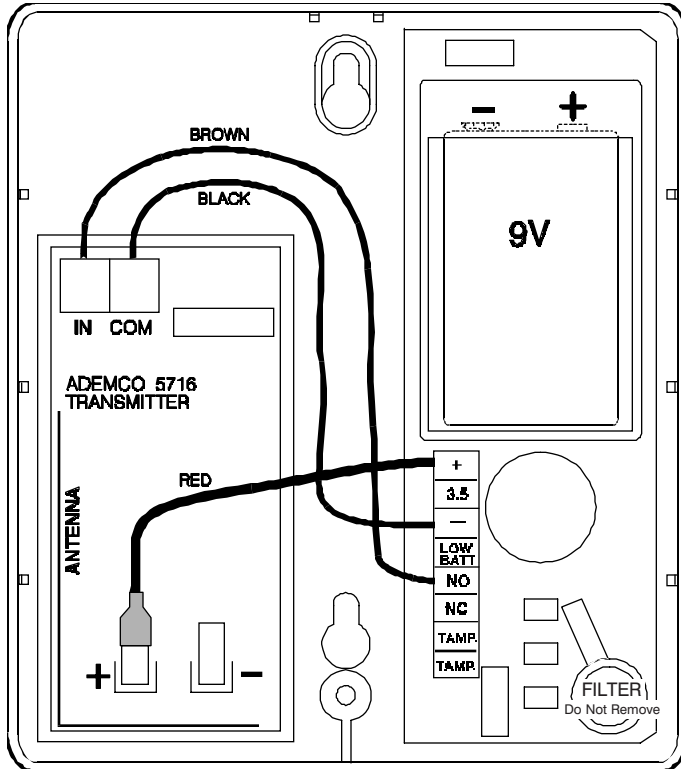
*If it is necessary to solder wires to the transmitter, use a grounded tip soldering tool to prevent damage to transmitter circuitry.*

### CAUTION

*Remove batteries from transmitter and FGW-725 before wiring*

# Wiring the Transmitter

## ADEMCO Model 5716 Transmitter



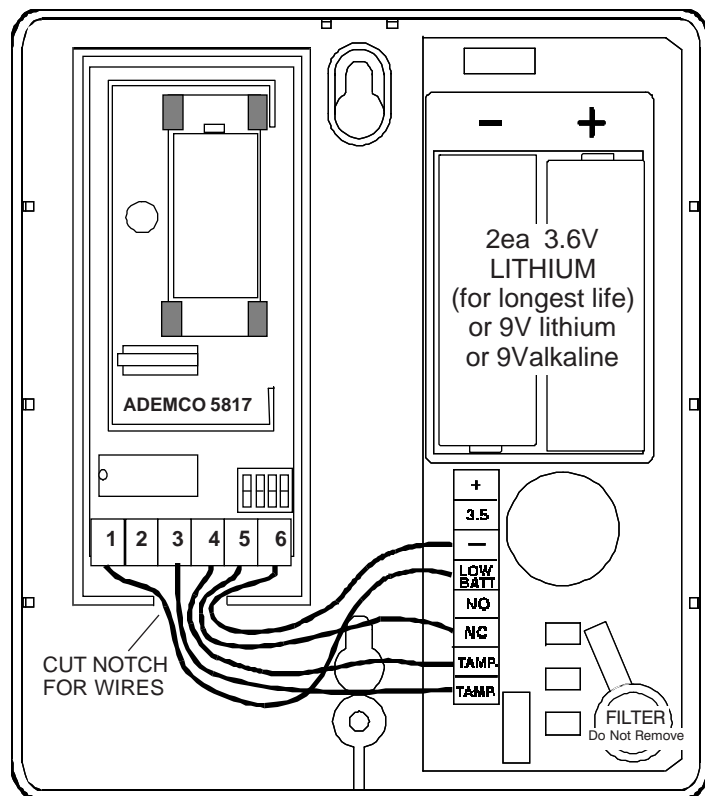
Install the ADEMCO Model 5716 Transmitter as follows:

1. Remove and discard the *top part* of the transmitter case.
2. Fasten the transmitter inside the FGW-725 rear housing with a single piece of double-sided tape.
3. Crimp an appropriate size female spade lug on a Red wire (lug & wire not supplied in 725-KIT).
4. Connect lug end of red wire to transmitter battery (+) terminal; connect other end to FGW-725 (+) terminal.

**Note:** The transmitter battery (+) terminal must be bent to connect lug.

5. Connect the black wire between FGW-725 (-) terminal and transmitter (COM) terminal.
6. Connect the brown wire between FGW-725 (NO) terminal and transmitter (IN) terminal.

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.



Install the ADEMCO Model 5817 Transmitter as follows:

1. Remove transmitter front cover and retain.
2. Cut a notch in the back cover for wire entry.
3. Connect wires (at least 22 AWG) as follows:

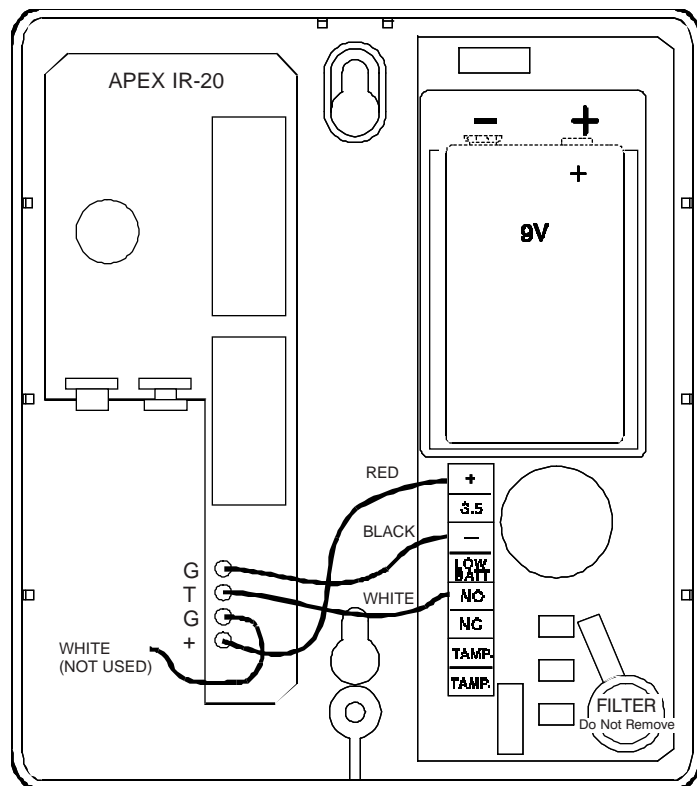
<u>Transmitter terminal</u>	<u>Sensor</u>
1 (primary loop IN)	LOW BATT
3 (aux loop #1 IN)	TAMP
4 (aux loop #1 common)	TAMP
5 (aux loop #2 IN)	N.C.
6 (aux loop #2 common)	- (negative)

4. Configure transmitter primary loop for N.O. operation. (aux #1 & aux #2 are fixed N.C.)
  5. Install transmitter battery.
  6. Attach front cover to transmitter. Note that the transmitter will be trapped firmly in place by the FGW-725 housing.
- Note:**
- a. Sensor LOW BATT must be wired to primary loop as it is the only loop that accepts a N.O. device.
  - b. When servicing low battery, replace both transmitter and sensor batteries.
  - c. The 3 loops can be programmed to independent zones.

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.

# Wiring the Transmitter

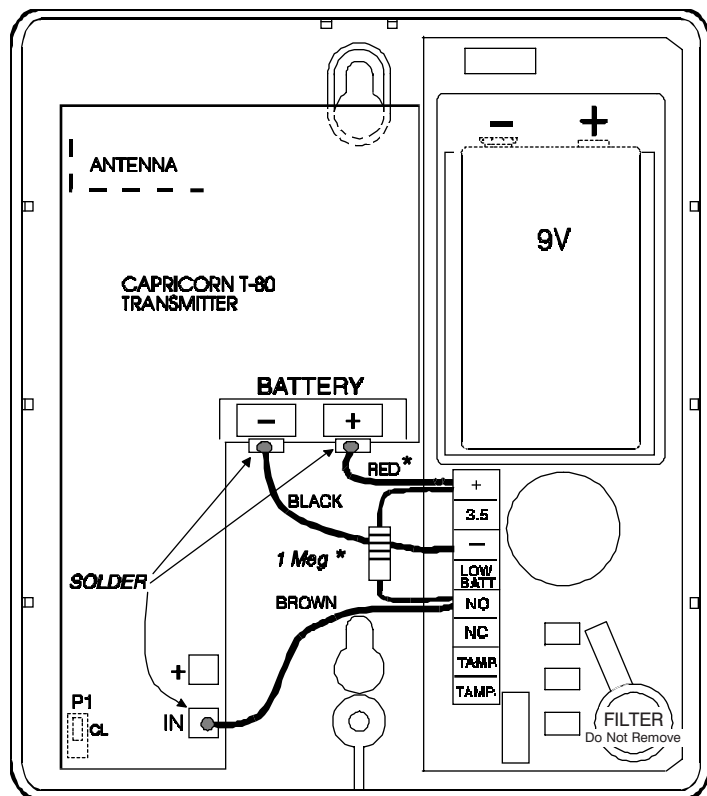
## APEX Model IR-20 Transmitter



Install the APEX Model IR-20 Transmitter as follows:

1. Fasten transmitter to FGW-725 rear housing with double-sided tape (supplied with transmitter).
2. Connect transmitter black wire to FGW-725 (-) terminal.
3. Connect transmitter red wire to FGW-725 (+) terminal.
4. Connect transmitter white wire (at T) to FGW-725 (NO) terminal.
5. The other white wire (at G) is not used; trim the exposed conductor and store out of the way.

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.



Install the CAPRICORN T-80 Transmitter as follows:

1. Remove the transmitter from its case and discard the case.
2. Set transmitter P1 jumper to the C.L. position.
3. Fasten the transmitter inside the FGW-725 rear housing in the *upside-down* position with hook and loop tape (see page 8).

### CAUTION

*All transmitter connections are to be soldered. To prevent damage use a grounded-tip soldering iron.*

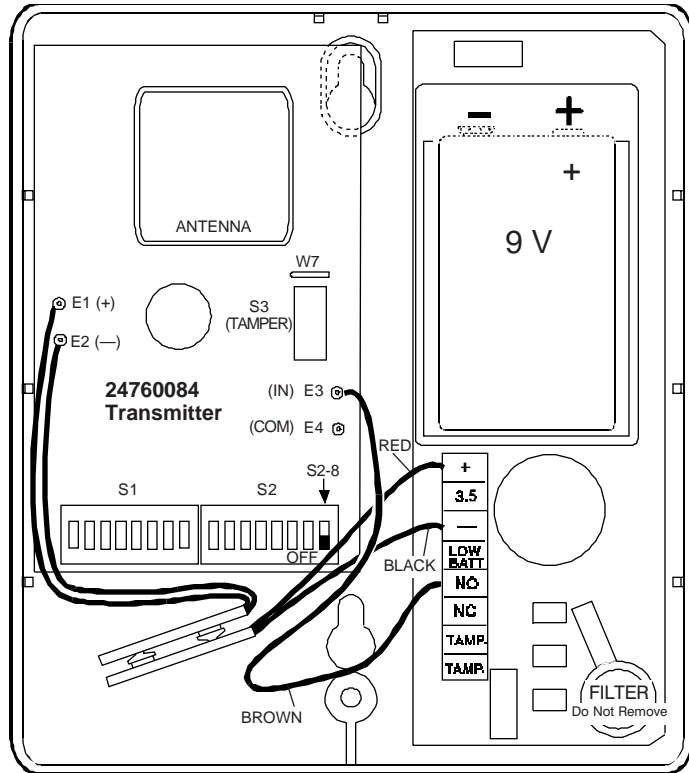
4. Connect the black wire between the FGW-725 (-) terminal and the transmitter battery (-) connector.
5. Connect a red wire\* between FGW-725 (+) terminal and the transmitter battery (+) connector.
6. Connect the brown wire between the FGW-725 (NO) terminal and the transmitter (IN) terminal.
7. Connect a 1 megohm resistor\* between the FGW-725 (+) and (NO) terminals.

\* Not part of 725-KIT; customer supplied.

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.

# Wiring the Transmitter

## HONEYWELL Model 24760084 Transmitter

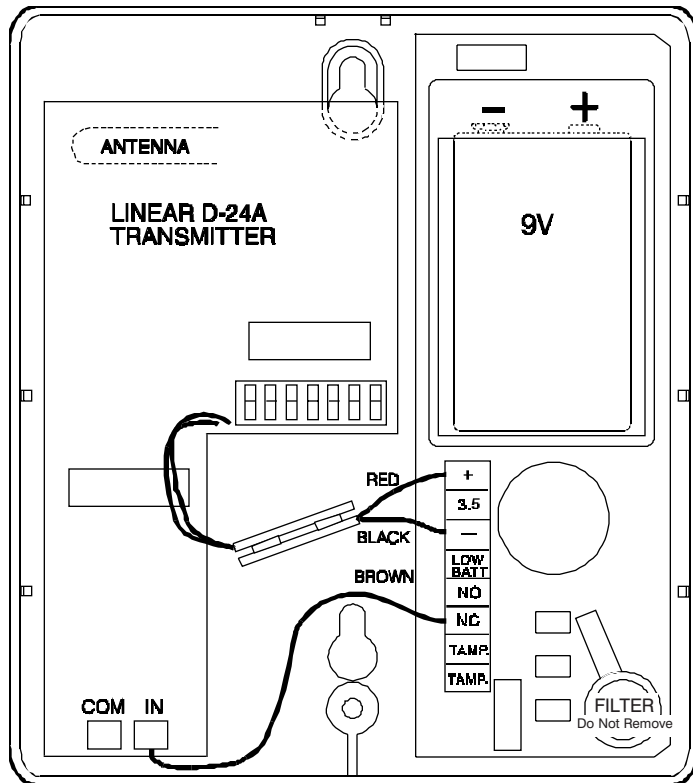


Install HONEYWELL Model 24760084 Transmitter as follows:

1. Remove the transmitter from its case and discard the case.
2. Fasten the transmitter inside the FGW-725 rear housing with hook and loop tape. (See page 8.)
3. Mate the 9 V battery connector (supplied in 725-KIT) to the transmitter battery connector.
4. Connect the red battery wire to the FGW-725 (+) terminal.
5. Connect the black battery wire to the FGW-725 (-) terminal.
6. Connect the brown wire from E3 on the transmitter to the FGW-725 (NO) terminal.
7. For N.O. operation, make sure that W7 is in place on the transmitter, and switch S2-8 is set to the OFF position.
8. The transmitter tamper switch (S3) must be disabled.

**Note:** a. N.O. operation is recommended. The transmitter inactive load is approximately 7  $\mu$ A higher using N.C. ( $\mu$ A = microamps.)

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.



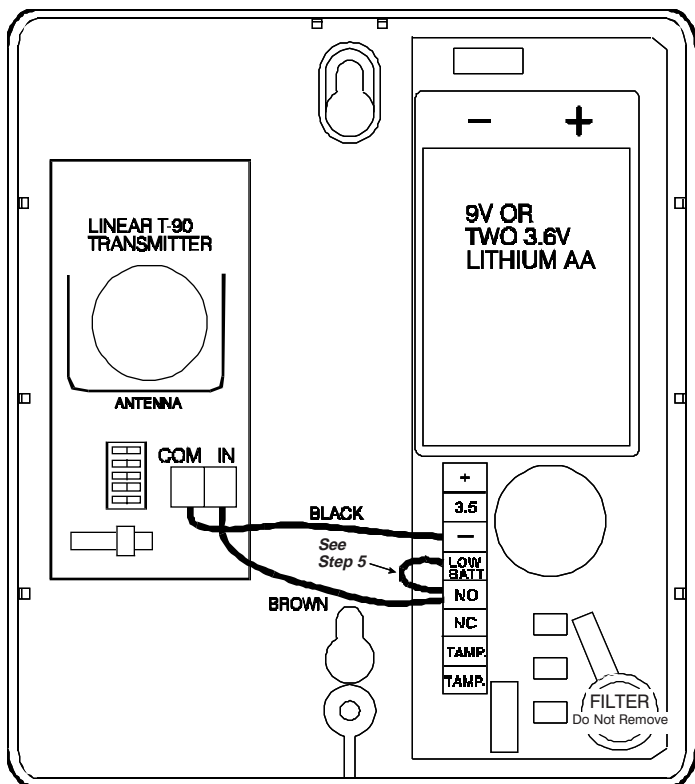
Install the LINEAR Model D-24A Transmitter as follows:

1. Remove the transmitter case and discard the case.
2. Fasten the transmitter inside the FGW-725 rear housing with hook and loop tape. (See page 8.)
3. Mate the 9V battery connector (supplied in 725-KIT) to the transmitter battery connector.
4. Connect the black battery connector wire to FGW-725 (-) terminal.
5. Connect the red battery connector wire to FGW-725 (+) terminal.
6. Connect the brown wire between the FGW-725 (NC) terminal and the transmitter (IN) terminal

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.

# Wiring the Transmitter

## LINEAR Model T-90 Transmitter



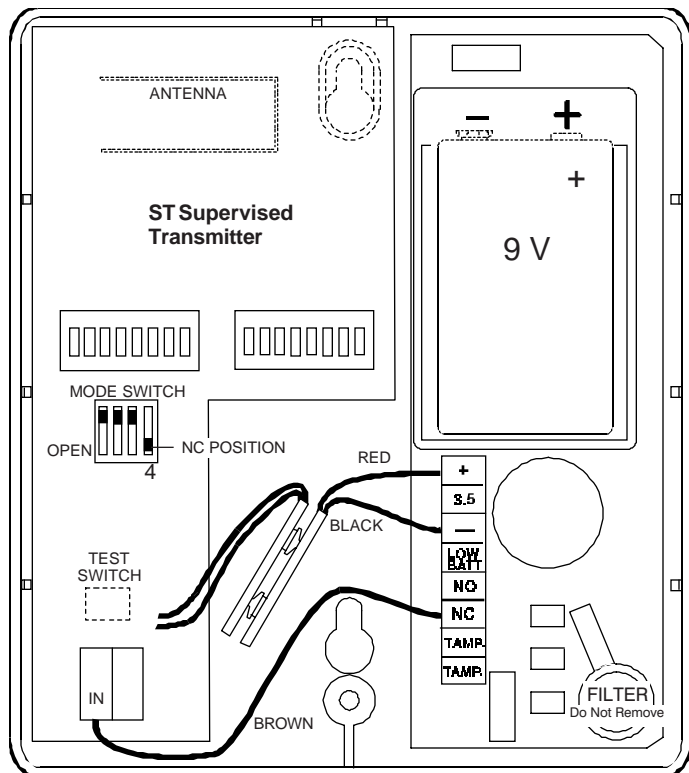
Install the LINEAR Model T-90 Transmitter, as follows:

1. Remove the transmitter cover and retain for reference data printed inside the cover.
2. Fasten transmitter inside the FGW-725 rear housing with hook and loop tape. (See page 8.)
3. Connect the black wire between FGW-725 (-) terminal and transmitter (COM) terminal.
4. Connect the brown wire between FGW-725 (NO) terminal and transmitter (IN) terminal.
5. If battery supervision is required, install a jumper (see Note b) between the FGW-725 (LOW BATT) and (NO) terminals. Note that N.O. operation is required for battery supervision. Omit this jumper for non-supervised battery.

- Note:**
- a. N.O. operation is recommended as transmitter inactive load is slightly higher for N.C. operation.
  - b. Jumper wire is not part of 725-KIT; customer supplied.
  - c. Separate batteries are required in transmitter and FGW-725.

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.





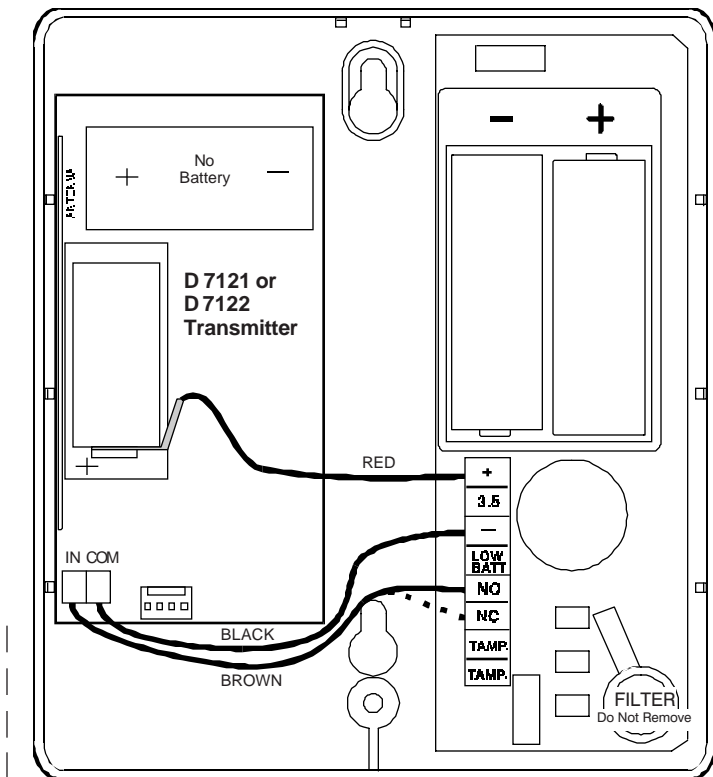
Install the LINEAR ST Supervised Model Transmitter as follows:

1. Remove the transmitter from its case and discard the case.
2. Fasten the transmitter inside the FGW-725 rear housing with hook and loop tape. (See page 8.) ***Make sure the mounting tape does not cover the antenna or test switch.***
3. Mate the 9 V battery connector to the transmitter battery connector.
4. Connect the red battery wire to the FGW-725 (+) terminal.
5. Connect the black battery wire to the FGW-725 (-) terminal.
6. Connect the brown wire between the transmitter sensor input (IN) terminal and the FGW-725 (NC) terminal.
7. For N.C. operation, make sure transmitter Mode Switch #4 is set to the OPEN position.

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.

# Wiring the Transmitter

## RADIONICS Model D 7121 / D 7122 Transmitter

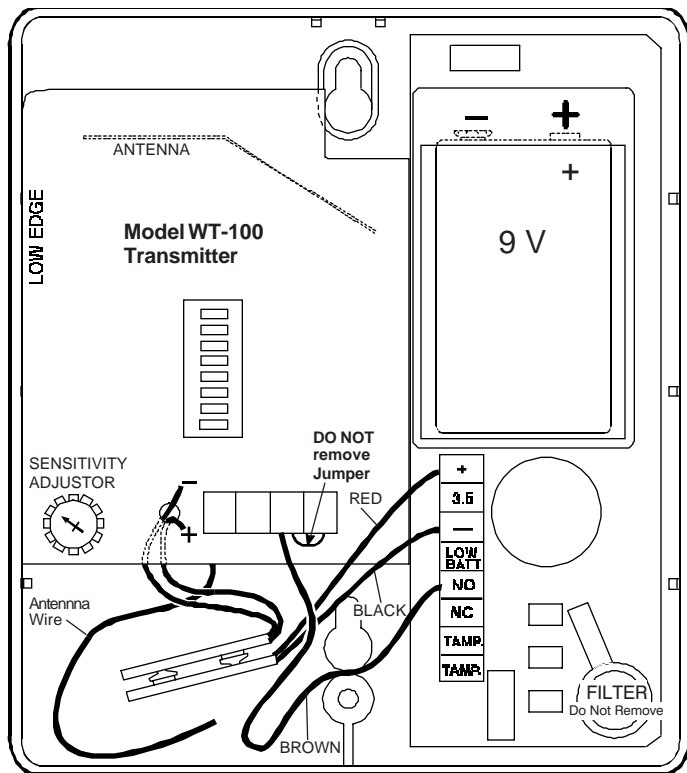


Install the RADIONICS Model D 7121 or D 7122 Transmitter as follows:

1. Remove the transmitter from its case and discard the case.
2. Fasten the transmitter inside the FGW-725 rear housing with hook and loop tape. (See page 8.)
3. Connect the brown wire between the transmitter (IN) terminal and the FGW-725 (NO) or (NC) terminal.
4. Connect the black wire between the transmitter (COM) terminal and the FGW-725 (-) terminal.
5. Install the *dummy* 1/2 AA battery in the transmitter and connect the red wire to the FGW-725 (+) terminal.

**Note:** N.O. operation is recommended. The transmitter inactive load is slightly higher using N.C.

The transmitter information above is only a general guideline. Please use the manufacturer's manual for primary information and specific details on the transmitter.



Install the VISONIC Model WT-100 Transmitter as follows:

1. Remove the transmitter from its case and discard the case.
2. Install the transmitter inside the FGW-725 rear housing with hook and loop tape. (See page 8.)

**Tip:** The transmitter mounts at a slight angle in the FGW-725 housing. Install the "low edge" at the outside edge of the housing (see illustration).

3. Mate the 9 V battery connector to the transmitter battery connector.
4. Connect the red battery wire to the FGW-725 (+) terminal.
5. Connect the black battery wire to the FGW-725 (-) terminal.
6. Connect the brown wire between the transmitter terminal (as shown in illustration) and to the FGW-725 (NO) terminal.

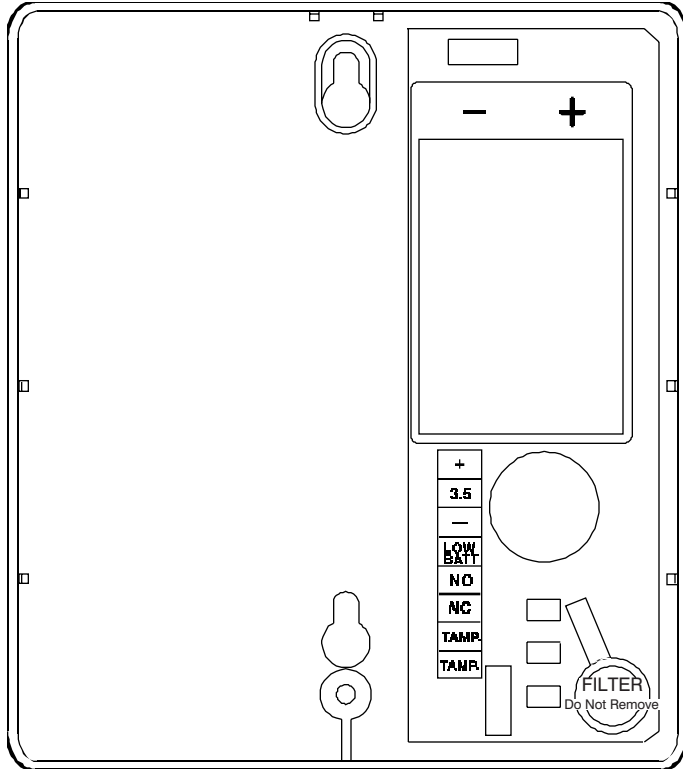
**Do NOT remove the jumper from the transmitter terminal.**

7. Do not detach the "Antenna Wire." Store it inside the FGW-725.

- Note:**
- a. There is a one minute delay between transmissions with this transmitter.
  - b. Adjusting the transmitter sensitivity (Sensitivity Adjustor) has no effect on transmitter operation in this configuration.
  - c. DO NOT attempt to operate in the N.C. mode.

# Wiring the Transmitter

Model \_\_\_\_\_ Transmitter



Install the \_\_\_\_\_ Transmitter as follows:

**Note:** Refer to the manufacturer's instruction manual for information pertaining to proper transmitter installation.

# Battery Installation

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## PRECAUTIONS

- **DO NOT** install the battery backward. (If the battery gets hot, it may be installed backward.)
- If battery continues to self heat when not installed in the unit, it has failed and should **NOT** be used.
- **ONLY** use battery type recommended by the RF transmitter manufacturer (configurations where sensor and transmitter share common battery).
- When servicing a low battery condition, **ALWAYS** replace both the transmitter battery(ies) and the sensor battery(ies) together (configurations where sensor and transmitter use separate batteries).

The FGW-725 battery holder can hold either one 9 Volt battery or two AA size 3.6 Volt Lithium batteries.

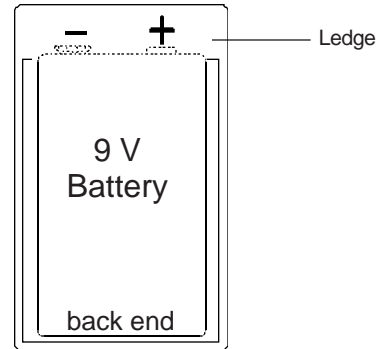
### To install a 9 Volt battery:

1. Check for correct battery orientation (see illustration).
2. Put the battery into the battery holder, under the ledge first.
3. Push the battery down until it is securely seated in the holder.

### To remove a 9 Volt battery:

1. Pry up the back end of the battery with a screwdriver until it can easily be pulled from the holder.

**Important:** After installation, allow 30 seconds for the sensor to warm up.



# Battery Installation

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## To install two AA size 3.6 Volt Lithium batteries:

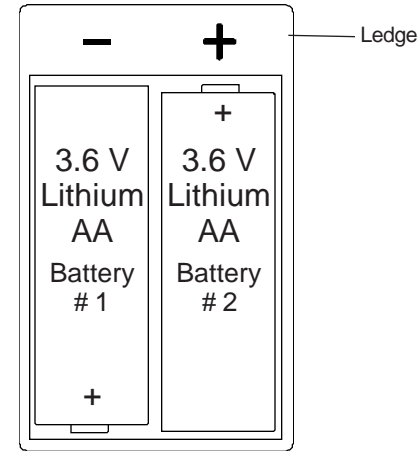
1. Check for correct battery orientation (see illustration).
2. Slide the batteries into the battery holder, under the ledge first.
3. Push the batteries down until they are securely seated in the holder.

**Note:** If the transmitter requires two 1/2 AA batteries, two of the *same type* batteries should be installed in the sensor battery holder. **NO** batteries should remain in the transmitter battery holder.

## To remove the 3.6 Volt batteries:

1. Pry up the back end of battery #2 with a screwdriver until it can easily be pulled from the holder.
2. Gently pull battery #1 from the holder.

**Important:** After installation, allow 30 seconds for the sensor to warm up.



## MOUNTING LOCATION

The FGW-725 can be mounted on flat surfaces, such as ceilings and walls. The unit is not orientation sensitive and can be mounted to optimize transmitter performance.

### Basic mounting location guidelines:

- The unit must have a direct line-of-sight to, and a clear view of, the protected glass.
- Locate the unit within 25' (7.6 meters) of the glass to be protected.
- Do not mount the unit in front of air ducts or forced air fans, or close to bells measuring 2" (or larger) in diameter.
- Curtains, blinds, and other window coverings will absorb energy from breaking glass. Heavy curtains, for example, will effectively block the sound signal. In these cases, mount the unit on the window frame behind the window covering, or above the window. **Make sure to test the unit thoroughly for proper detection.**
- Mounting on free-standing posts or pillars is not recommended.

### Do NOT mount the unit in the following locations:

- Near doors and windows that can be slammed.
- Where furniture can be placed between the sensor and the glass.
- Where a door can be closed between the sensor and the glass, or where an open door can obstruct the sensor's view.
- So low that it can be accidentally impacted. (Most acoustic/shock sensors will alarm if hit by a broom handle, for example.)

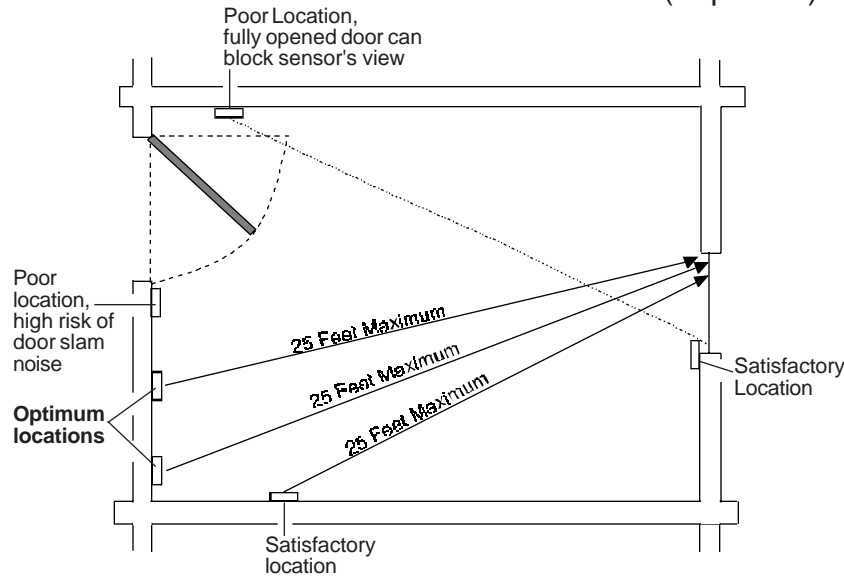
For optimum mounting locations, refer to page 24.

# Mounting Location

## Optimum Mounting Locations:

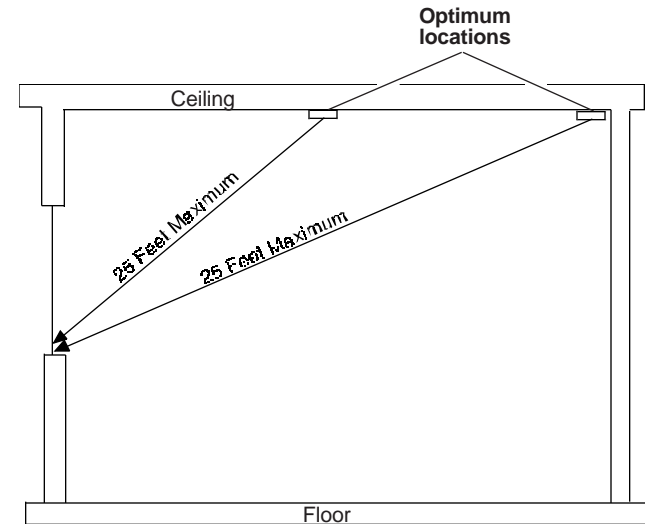
- Mounted at 7' or higher, on a wall facing the window to be protected.

**Wall Mount: (Top View)**



- Mounted on the ceiling with a clear line-of-sight to all protected glass (within 25' from the glass).

**Ceiling Mount: (Side View)**





# Set-up and Test Procedure

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**Note:** We highly recommend you test the glassbreak function **before** permanently mounting the FGW-725. Use the appropriate battery(ies) for power. Tape the sensor to the desired mounting location. Refer to the FLEX ADJUSTMENT and TESTING THE FGW-725 sections to determine which location will be most suitable.

## GENERAL SET-UP AND TEST PROCEDURE

After installing and testing the RF transmitter, use the following procedure to set-up and test the FGW-725 sensor:

1. Select a mounting location. (See pages 23 & 24.)
2. Temporarily mount the unit with the double-sided foam tape provided.
3. Set the FLEX sensitivity. (See page 26.)
4. Test the Audio and Flex Ranges. (See page 27.)
5. Perform tests to avoid possible false alarms. (See Final Testing on page 27.)
6. Once you have determined which location is most suitable, mount the unit permanently. (See page 29.)

**Note:** When an alarm is triggered, the alarm LED stays on for only one second. If you want it to stay on until you reset it, enable the Alarm LED Latch feature. (See page 28.)

# Flex Adjustment

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## FLEX ADJUSTMENT

The FGW-725 has a detection range of up to 25' (7.6 m). The flex sensitivity can easily be adjusted at the location labeled "SENSITIVITY" on the front housing, behind the Service Door. (Refer to page 6.)

### To adjust the flex technology:

1. If the front housing is attached, carefully open the Service Door. (Avoid opening the door too far or too fast.)  
**Note:** Because the FGW-725 is an acoustic sensor, opening and closing the Service Door too forcefully can cause the unit to alarm. An alarm can also occur when the LED ENABLE switch is moved in or out too forcefully.
2. Enable the LEDs for test purposes by sliding the LED ENABLE switch in the direction the arrow is pointing. (When the LEDs are enabled, an orange flag will protrude from the side of the FGW-725.)
3. Use a small screwdriver to turn the SENSITIVITY control clockwise as far as it will go (MAXIMUM).
4. Turn on any heating/air conditioning system in the vicinity, and observe the yellow flex LED for approximately 1 minute. Excessive subsonic (inaudible) noise typically produced by air handling systems may cause the flex LED to flash randomly. (Operate *all* equipment within the sensor's vicinity, and make sure the flex LED does not flash.)
5. If the flex LED flashes randomly, turn the SENSITIVITY control counterclockwise just until the flashing stops.

# Testing the FGW-725

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## TESTING THE AUDIO AND FLEX RANGES

Use the FG-700 or FG-701 Glassbreak Simulator (from C&K Systems) to test the FGW-725 detector.

### To Test The Audio Range:

Activate the simulator in MANual mode at the farthest point of the glass to be protected (25' maximum). If the green LED on the detector flashes, the audio technology will detect breaking glass at that distance.

### To Test The Flex Range:

Test the flex technology by carefully striking the glass with a cushioned tool. If the yellow LED on the detector flashes, the flex technology will be sensitive enough to detect a blow to the glass at that distance.

Switch the FG-700/701 simulator to the FLEX mode and push the red button to arm the simulator. Generate a flex signal by carefully striking the glass within 30 seconds after arming the simulator. The simulator will automatically

generate a burst of glassbreak sound, and the red LED should light to indicate an alarm condition. For additional testing information, refer to the FG-700/701 Operating Instructions.

## FINAL TESTING

To ensure maximum protection against false alarms, activate any device in the area that may automatically cycle: pumps, generators, heating/air conditioning units, etc. If the cycling devices trigger an alarm, mount the unit in a different location.

**Note:** There is no need to relocate the detector if the cycling only briefly triggers the flex technology (the yellow LED flashes).

**Important:** Make certain to *disable the LEDs* after permanently mounting and final testing the unit. If LEDs are enabled during normal operation, battery life will be shortened significantly.

**Important:** Test for normal operation at least once each year.

# Additional Test Features

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## ALARM LED LATCH

The FGW-725 is equipped with a latching circuit for the Alarm LED. When the latching circuit is activated, an alarm condition will set the latch. When the latch is set and the LEDs are enabled, the sensor's red Alarm LED will stay on until you clear the latch circuit. This feature is helpful during testing, and is particularly helpful in determining which unit alarmed in a multiple detector installation.

To activate the Alarm LED latch circuit, use a small screwdriver to move the LATCH switch to the ON position. (See Figure 1 on page 6.)

To clear the Alarm LED latch circuit, move the LATCH switch to the OFF position.

**Important:** The Alarm LED Latch feature effects the Alarm LED only; it has *no effect* on the sensor alarm signal.

## DISABLING THE LEDs

After testing, you can disable the LEDs without opening the Service Door. Simply push the orange LED ENABLE flag gently back into the FGW-725. (The unit will alarm if the flag is pushed in too forcefully.)

**Note:** Before disabling the LEDs, make sure the alarm (red) LED is not latched on. Disabling the LEDs **does not** clear the latch circuitry. To clear the latch, set the LATCH switch to the OFF position (see Figure 1 on page 6).

## LOW BATTERY

If you observe the FLEX LED (yellow) flashing continuously (at the rate of approximately once per second), the battery voltage is critically low. Replace the battery at once.

# *Permanent Mounting*

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## **PERMANENT MOUNTING PROCEDURE**

After installing the transmitter and testing the FGW-725, mount the unit in the selected location.

**Use the following procedure to mount the unit:**

1. The front housing should be removed from the FGW-725 before mounting. (Refer to page 6.)
2. If necessary, move the transmitter out of the way by gently pulling apart the hook and loop tape.
3. Use the rear housing as a template to mark the mounting holes on the wall or ceiling.
4. Drill the holes and insert the mounting screws part way into the wall or ceiling.
5. Place the rear housing on the screws and slide the the narrow part of the mounting holes onto the screws.
6. Tighten the screws to secure the unit in place.
7. If you had to move the transmitter, replace it in its original location inside the housing. Make sure that all connections are still secure.
8. Replace and fasten the FGW-725 front housing.
9. To ensure proper detection, re-test the FGW-725 sensor and make any necessary adjustments. (Refer to the *Flex Adjustment* and *Testing the FGW-725* sections.)

**Recommendation:** To guarantee the integrity of the whole system, disable the LEDs and test the sensor and transmitter to the control panel.

# Appendix A

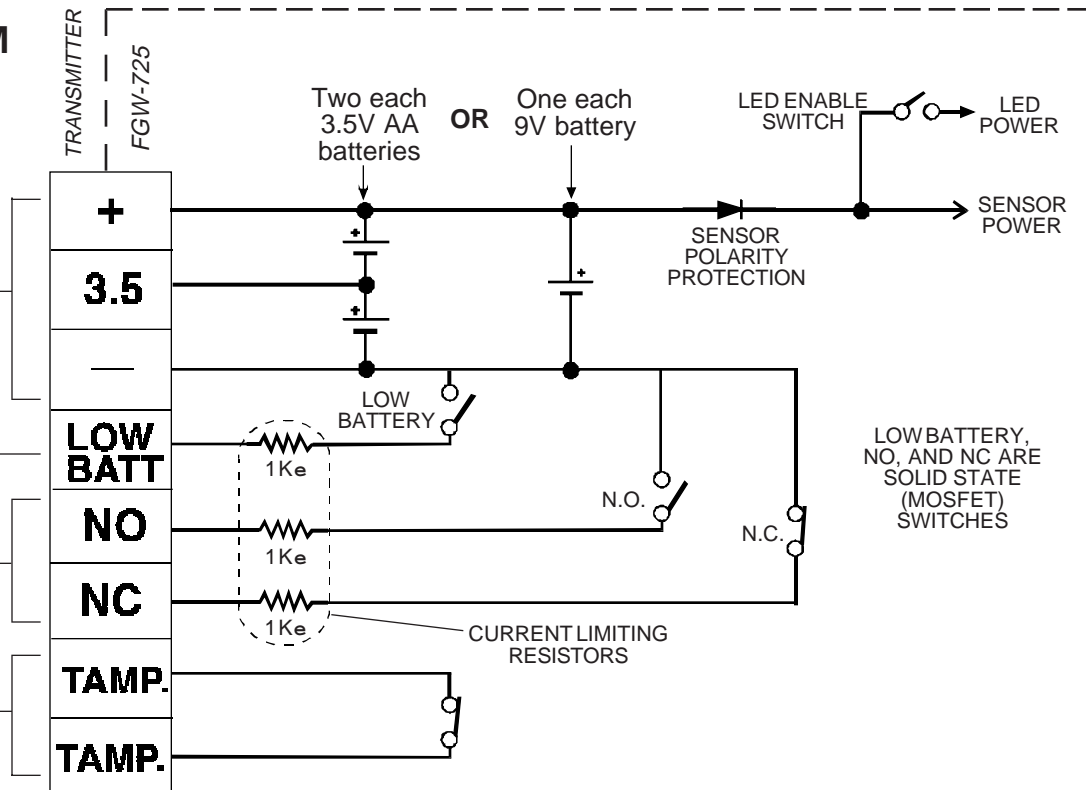
## ELECTRICAL INTERFACE DIAGRAM

These connections provide power to the transmitter. The "3.5" connection is used only for transmitters that operate on a single 3.5V battery, and only works when two 3.5V AA batteries are installed.

The low battery switch closes typically when the battery voltage is down to 6.1V (5.8V to 6.4V range). This connection is for installations where independent monitoring of sensor power is needed.

The alarm outputs are solid state switches. Current limiting resistors prevent damage due to misconnection.

The tamper switch is an isolated switch that closes when the cover is in place and the service door is closed.



## SPECIFICATIONS

### **Range:**

25' (7.6 m) maximum,  
omnidirectional

### **Power requirements:**

One 9 V battery  
Recommended types: Same type as  
recommended by the transmitter  
manufacturer  
or  
Two 3.6 V AA-size lithium  
batteries, 1.8 AH nominal rating  
Recommended types: Same type as  
recommended by the transmitter  
manufacturer

### **Tamper switch:**

Ratings: Form A (NC)  
50 mA, 30VDC

### **Alarm outputs:**

Solid state

### **Alarm duration:**

1 second

### **Alarm current:**

50  $\mu$ A maximum (transient)

### **Standby current:**

25  $\mu$ A typical,  
30  $\mu$ A maximum

### **Operating temperature:**

-4° F to 131° F  
(-20° C to 55° C)

### **Relative humidity:**

0% to 95% (non-condensing)

### **Glass types:**

1/8" and 1/4" plate;  
1/4" tempered;  
1/4" laminated; 1/4" wired;  
minimum size: 10-7/8" x 10-7/8",  
(280 mm x 280 mm)  
single pane

### **Housing material:**

Flame-retardant ABS plastic

### **RF immunity:**

20 V/m, 1 MHz to 1000 MHz

### **Dimensions:**

4.75" x 4.13" x 1.25"  
(122 mm x 105 mm x 33 mm)

### **Weight:**

5.5 oz (160 g)  
[without batteries or transmitter]

### **Max. transmitter size:**

4.55" x 2.25" x 1.2"  
(116 mm x 45 mm x 28 mm)

### **Accessories:**

725 KIT - transmitter installation kit  
(included).  
FG-700 & FG-701 - glassbreak simulator  
(not included).

### **Approvals:**

 Recognized

**NOTE:** The FGW-725 detects shattering of framed glass by a direct impact. It may not consistently detect breakage by blows that only crack the glass, by high velocity projectiles such as bullets, or glass broken without an impact.



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The content of this manual has been revised. For your convenience,  
dashed lines have been added to the margins of the document to note the  
locations of the changes.

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