Smoke/CO/Heat Detector with Transmitter Models 360/370

Description:

The Models 360 and 370 are multi-criteria type detectors with an integral transmitter and sounder. The Model 360 is a smoke/heat detector and the Model 370 is a smoke/heat/CO detector. Both models are configurable at the detector for single or multiple detection modes, sounder function and tandem operation. The detectors are fully supervised for alarm and trouble conditions as listed in this manual. The detectors are powered by a two independently monitored 3 volt lithium batteries as listed under the specifications section of this manual and the label on the product. The Models 360/370 are UL listed and intended to be used with CWSI Fire Alarm Control Panels. Refer to the FACP manual for compatibility details and the specification section of this manual for compliance listings.

IMPORTANT: The detectors must be tested and maintained regularly following NFPA 72 requirements. At a minimum, cleaning should be performed annually.

Configuration and Programming:

The 360/370 must be configured and enrolled into the FACP before installation.

NOTE: The Models 360/370 will not report Alarms, Supervisory or trouble signals unless correctly configured and enrolled into a CWSI Fire Alarm Control Panel.

Both Models 360 and 370 contain an 8 position dip switch located under the battery compartment cover as shown in Figure 1. To access the switch first twist and remove the mounting plate then lift open the hinged battery cover.

NOTE: Configuration dip switches must be set to the desired configuration BEFORE installing the batteries. The detectors will not respond to switch changes after power up. If the detector configuration needs to be changed, remove the batteries, wait 20 seconds, set the switches as desired and reinstall the batteries.

The switches are used to set the following detector parameters:

1. Detector mode and type (switches 1-4)
2. Tandem operation (switch 7)
3. Sounder operation (switch 8)
4. Switches 5+6 are unused.

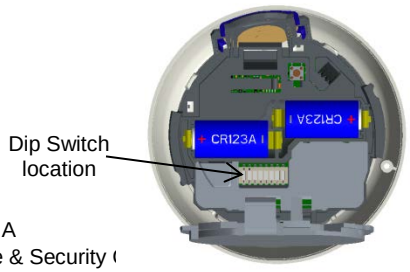

Figure 1

P/N IM-360 Rev. A

Detector Type Configuration

The detectors can be configured with a number of active sensor combinations as well as fixed or rate of rise heat options. Table 1 below shows the switch settings for the detector mode/type selection on the Model 360 and Table 2 shows the detector mode/type settings for the Model 370. The first column lists the applicable Model detector for that rows dip switch setting. The switches in the second column are to be set to the on position to select the active sensor(s) for the detector type listed in the third column in that row.

Model 360 Detector Type switches 1-4

Mode	Switches	Detector Type
0	All off	Smoke*
1	1 on	Heat 135°F Fixed
2	2 on	Heat 135°F Rate of Rise
3	3 on	Smoke/Heat 135°F Fixed*
4	1+3 on	Smoke/Heat 135°F Rate of Rise*

Table 1

***These modes offer heat enhancement of early fire detection. The heat sensor is used in conjunction with the smoke chamber to detect a fire condition.**

Model 370 Detector Type switches 1-4

Mode	Switches	Detector Type
0	All off	Smoke◆
1	1 on	Heat 135°F Fixed
2	2 on	Heat 135°F Rate of Rise
3	1+2 on	Smoke/CO
4	3 on	Smoke/ Heat 135°F Fixed
5	1+3 on	Smoke/Heat 135°F Rate of Rise
6	2+3 on	Smoke/Heat/CO 135°F Fixed
7	1+2+3 on	Smoke/Heat/CO 135°F Rate of Rise
8	4 on	CO
9	1+4 on	Smoke/CO◆
10	2+4 on	Smoke/Heat/CO 135°F Fixed◆
11	1+2+4 on	Smoke/Heat/CO 135°F Rate of Rise◆

Table 2

◆These modes offer CO and Heat enhancement of early fire detection. The CO and heat sensors are used in conjunction with the smoke chamber to detect a fire condition.

NOTES:

1. **A configuration fault will be displayed on the 360 detector if the switches are set to a combination not listed in Table 1.**
2. **A configuration fault will be displayed on the 370 detector if the switches are set to a combination not listed in Table 2.**
3. **Switches 1-4 not mentioned for each setting must be in the OFF position.**
4. **Switches 5&6 are unused and must remain in the OFF position.**
5. **The CO sensor is monitored for faults in all of the CO enhanced detector types in Table 2.**

Sounder/Tandem Operation and Configuration

The sounder on the detector can be configured to be silent or active during alarms. Table 3 below shows the switch settings for the sounder and tandem configuration. Other sounder functions i.e. survey beeps will not be affected by these switch settings and will always be

active. The detectors can also be configured for tandem operation of the sounder. When tandem is active the sounder on the detector can be activated and silenced remotely in conjunction with active alarms in an installation. When programmed for tandem operation, the detector is not required to be in alarm locally to have its sounder activated. Refer to the FACP manual for tandem activation programming. When configured to be active, the sounder will emit either a Temporal 3 (FIRE) or Temporal 4 (CO) tone pattern automatically corresponding to the active sensors alarming in the detector. In the case of multiple active sensors, the Fire (Temporal 3) pattern will always be priority.

Models 360/370 Sounder/Tandem switches 7&8

Switch 7 (Tandem)	Switch 8 (Sounder)	Sounder/Tandem Mode
Off	Off	Sounder On and Tandem Off
Off	On	Sounder Off and Tandem Off
On	Off	Sounder On and Tandem On*
On	On	Sounder On and Tandem On*

Table 3

***Selecting Tandem switch 7 ON automatically configures the detector for sounder active regardless of switch 8 setting.**

Once the configuration dip switch is set the detectors are ready for enrollment at the control panel or any enrolled repeater. Place the FACP in enrollment mode then install both batteries into the detector while observing polarity. Upon enrollment the detector serial number will be displayed on the FACP. Refer to the control panel installation instructions for further details on enrollment and transmitter programming options. After the Model 360/370 is enrolled proceed to install the detector. If the detector is being enrolled for installation at a later time then remove the batteries and reinstall them at the transmitters intended mounting location at the time of installation.

NOTES:

1. **A change in any detector configuration after it is enrolled to the FACP will require deletion and re-enrollment of the detector to the FACP. Refer to the control panel manual for deletion and enrollment instructions.**
2. **The detector may not function properly with only one battery installed. Always install both batteries into the detector.**

Installation:

Select an accessible location that is not prone to tampering or accidental damage.
The Model 360/370 must be installed and maintained in accordance with the National Fire Protection Association's Standards (NFPA), the National Electrical Code and all local fire and electrical requirements. The mounting surface should be relatively flat and capable of accepting screws or anchors. The smoke detector is to be installed in an indoor dry location.

Determine an acceptable location to mount the detector and perform the signal test described in this manual while holding the detector in that location. If the survey is acceptable then proceed with the mounting of the detector. Install the mounting bracket using the screws supplied. Install both batteries (one at a time) into the battery holders, observing polarity as marked on the holders and verify the LED shows the proper power up sequence shown in Table 1. Close the battery cover and attach the detector to the bracket by turning the detector in a clockwise direction until it clicks into place. Verify the LED's indication has changed to standby condition (all LED's off) and a power up reset trouble is present at the FACP. Perform the signal test and functionally test the detector for alarm as described in **Alarm Testing.**

NOTES:

1. **Exposure to weather or corrosive conditions may damage the unit.**
2. **Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.**
3. **Perform the signal test described in this manual prior to and after permanently mounting the unit. Note:**
4. **If the detector is mounted to a removable ceiling tile, the tile must be secured with the appropriate fasteners to prevent tile removal or mount the detector across a ceiling panel support as shown in Figure 2.**

IMPORTANT:

1. **Both batteries MUST be installed for the detector to operate properly.**
2. **The detector will initiate a low battery trouble if both batteries are not installed within 90 seconds of each other. The detector must be power cycled to clear this fault.**

Figure 2 Proper Mounting to Ceiling Tile

Cautions:

1. Make sure the batteries are firmly installed in the smoke detector battery compartment.
2. The unit must be secured tightly to the wall, so as to not be dislodged.
3. Test the unit after any service, battery change or as often as local or national codes dictate.

DO NOT Install Detectors in the Following Areas:

- In or near areas where particles of combustion are normally present such as kitchens; in garages; near furnaces, hot water heaters, or gas space heaters.
- In an area where cross-interference gasses are present. Cross interference gasses include but are not limited to: Methane, Butane, Heptane, Ethyl Acetate, Isopropyl Alcohol, Carbon Dioxide, Ammonia, Ethanol, Toluene, Trichloroethane and Acetone.
- Within 10 feet of a flame fueled appliance.
- In any area that is out of the detectors environmental specification range.
- In wet or excessively humid areas, or next to bathrooms with showers.
- In dusty, dirty, or insect-infested areas.
- Near fresh air inlets or returns or excessively drafty areas.

NOTE: Consult NFPA 72, NFPA 720, the local Authority Having Jurisdiction (AHJ), and/or applicable codes for specific information regarding the spacing and placement of smoke and/or CO detectors. Refer to technical bulletins part numbers IM-300-TB-RevB and IM-350-TB-Rev A for more information.

Tamper-Resistant Feature
The Model 360/370 includes a tamper-resistant feature that prevents removal of the detector from the mounting base without the use of a tool. To engage the tamper-resistant feature, cut the small plastic tab located on the mounting base (Figure 3), and then install the detector. To remove the detector from the base once it has been made tamper resistant, insert a small screwdriver or similar tool (2mm max diameter) into the detector cover hole. Push the tool far enough into the hole shown in Figure 3 to depress the tamper release tab located on the skirt of the mounting base and turn the detector counterclockwise.

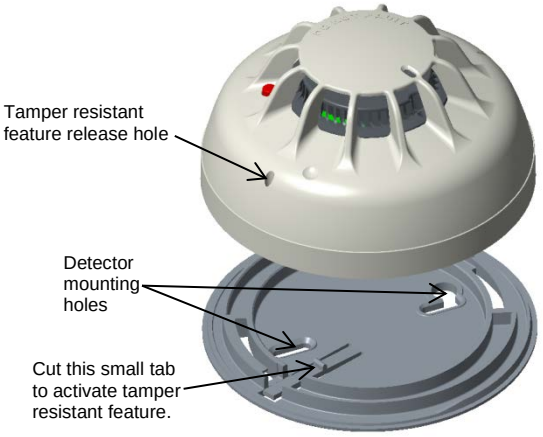

Figure 3 Tamper Resistant Feature

LED and Sounder Operation:

The 360/370 detectors are equipped with a tricolor LED status indicator and a sounder* to provide local visual and audible indication of the detector's status. The table below explains the LED and sounder functions.

LED Status and Sounder Operation

Condition	Green LED	Red LED	Yellow LED	Sounder	Transmitted Signal to FACP
Power up	Blink 5 times***	Off	Blink 7 times***	Off	Power up reset
Standby	Off	Off	Off	Off	Test (check in) every 90s
Smoke Alarm	Off	On Steady	Off	Temporal 3*	Smoke Alarm
Heat Alarm	Off	On Steady	Off	Off	Heat Alarm
CO Alarm	Off	Blink every 1s	Off	Temporal 4*	CO Alarm

Test Switch Pressed and released within 3s (normal standby)	Off	On Steady	Off	2 cycles of Temporal 3	None
Test Switch Pressed more than 3s (Fast Test)	Off	On Steady then every 1s upon detecting CO gas	Off	Temporal 4*	CO Alarm Upon detecting CO gas
Test Switch pressed (in low batt)	Off	Off	Blink every 45s	Silenced for 12 hours	Low Battery every 90s
Test Switch pressed (in alarm)	Off	On Steady	Off	Silenced for 5 minutes	Alarm every 60 seconds
Maintenance or Fault	Off	Off	Blink every 5s	Off	Maintenance Required Trouble Every 90s
Hardware Fault	Off	Off	Blink every 5s	Off	Hardware Flt
CO-Cell Trouble	Off	Off	Blink every 5s	Chirp every 45s	CO-Cell Trouble Every 90s
CO-Cell End of Life	Off	Off	Blink every 10s	Chirp every 45s	CO-Life Trouble Every 90s
Freeze	Off	Off	Off	Off	Freeze Trouble Every 90s
Tamper	Off	Off	Off	Off	Tamper Trouble Every 90s
Low Battery	Off	Off	Blink every 45s	Chirp every 45s 7 days after low battery detection	Low Battery Trouble Every 90s
Dip switch config error	Off	Off	Blink every 2s	Off	None

Table 1

***Sounder will activate if the detector is configured for sounder on. Temporal 4 will sound continuous for 4 minutes then change to once every 60 seconds.**

**** A signal test will be transmitted.**

***** When the unit powers up, you will see a sequence of 7 yellow LED flashes followed by 5 green LED flashes. The 5 green flashes will not occur if the detector has a fault.**

Smoke Alarm Operation:

When the detector senses smoke the Red LED turns on steady, the internal sounder* turns on in the temporal 3 pattern and the following occurs:
1. An initial alarm signal is transmitted.
2. A 60 second delay occurs. If smoke clears the detector during this delay the alarm condition is reset and a restore signal is sent ending the alarm cycle.
3. The continued alarm condition causes a repeat alarm transmission.
4. Another 60 second delay as in step 2 occurs.
5. Step 4 repeats at 60 second intervals until the detectors alarm condition is cleared.
*If the detector is configured as sounder on.

CO Alarm Operation:
When the detector senses CO toxic gas which exceeds minimum alarm levels, the Red LED blinks, the internal sounder* turns on in the temporal 4 pattern and the following occurs:
1. An initial alarm signal is transmitted.
2. A 60 second delay occurs. If CO gas clears the detector during this delay the alarm condition is reset and a restore signal is sent ending the alarm cycle.
3. The continued alarm condition causes a repeat alarm transmission.
4. Another 60 second delay as in step 2 occurs.
5. Step 4 repeats at 60 second intervals until the detectors alarm condition is cleared.
*If the detector is configured as sounder on. Temporal 4 will sound continuous for 4 minutes then change to once every 60 seconds.

Heat Alarm Operation:
When the heat thermistor senses temperature in excess of 135 F, the internal sounder* turns on in the temporal 3 pattern and the following occurs:
1. An initial alarm signal is transmitted.
2. A 60 second delay occurs. If the temperature at the heat sensing thermistor falls under 135 F during this delay, the alarm condition is reset and a restore signal is sent ending the alarm cycle.
3. The continued alarm condition causes a repeat alarm transmission.
4. Another 60 second delay as in step 2 occurs.
5. Step 4 repeats at 60 second intervals until the detectors alarm condition is cleared.
*If the detector is configured as sounder on.

Tandem Sounder Feature
The detector can be installed in both living and common areas. When it is installed in common areas do not program the tandem feature. The model 360/370 allows the detectors piezo sounder to be turned on or off in tandem with an RF command signal from the FACP. This enables an installation to be programmed so that when an alarm is received from any detector in alarm the FACP can activate the sounder in one or more detectors that are not in alarm. When activated, the sounder will turn on in either temporal 3 or temporal 4 patterns depending on what detector type generated the alarm. **Note: Only the detector in alarm will transmit an alarm signal.** This detector must be configured for tandem on and the feature must be programmed into the FACP to function. Refer to the FACP manual for additional information and programming instruction. If the detector is in alarm due to local detection the tandem silence signal or reset from the control panel will not silence the sounder. If the detector is in alarm due to local detection and it receives the tandem on signal the sounder will remain active even if the detector clears locally. A tandem silence signal or FACP reset will be required to turn off the sounder.

Detector Testing
Detectors must be tested after installation and following maintenance or battery replacement. **NOTE: Before testing, notify the proper authorities that maintenance is being performed and the system will be temporarily out of service**. Place the FACP in test to prevent any unwanted alarms. Perform all of the applicable tests below based on the

configuration of active sensors to properly test the 360/370 detector. If a detector fails any of the tests below, it should be cleaned as outlined in the Maintenance section and retested. If the detector still fails, it should be replaced.

Smoke Alarm Testing
Perform both tests A and B below. This test will only function if the detector has been configured with an active smoke sensor.

A. Test Switch
Note: This test will only function if the detector is operating within its proper sensitivity limits and is not in a trouble condition.
The purpose of this test is to check the functionality of the circuitry. It **will not** cause an alarm signal to be transmitted.

1. Locate the test switch opening on the detector housing. (Figure 4)

2. Insert a small screwdriver or similar tool (2mm max.) into the test switch opening; push and hold for 2-3 seconds then release. If the button is held more than 3 seconds the detector will enter the CO fast test. If this occurs, wait 20 seconds and the detector will go back to normal then repeat step 2.

3. If the detector is within the listed sensitivity limits, the following will occur:
   a. The red LED turns on steady.
   b. The sounder activates with the temporal 3 pattern. **Note: The sounder for this test will activate even if the detector is configured for sounder off.**

4. Perform step B below.

B. Smoke Entry Test
Warning: This test will cause an alarm signal to be transmitted. Wait at least two minutes after power up before performing this test.

1. Hold a smoldering punk stick or cotton wick at the side of the detector and gently blow smoke through the detector until the unit alarms. Canned aerosol smoke is also an acceptable method

2. Verify the alarm signal was received at the control panel.

3. Verify the red LED turns on steady and the sounder turns on in the temporal 3 pattern. (only if the detector is configured for sounder on).

4. If both test A+B pass, remove the panel from test mode and notify the proper authorities when the system is back in service.

5. If the detector failed either of the tests, it should be cleaned as outlined in the Maintenance section. Rerun the test. If the detector still fails, it should be replaced.

CO Alarm Testing
Warning: This test will cause an alarm signal to be transmitted. This test will only function if the detector is operating within its proper sensitivity limits and is not in a trouble condition. The purpose of this test is to check the functionality of the CO sensor and circuitry. This test will only function if the sensor has been configured with an active CO sensor. The model 370 has a functional gas test mode which can be used to verify the detector's ability to sense carbon monoxide gas.

To perform the alarm/functional gas test, follow the steps below:

1**.** Locate the detector test switch opening located on the detector cover (Figure 4).

2. Insert a small screwdriver or similar tool (2mm max.) into the test switch opening; push and hold for 2-3 seconds then release.

3. The red LED will begin to blink as an indication of fast test mode.

4. While the LED is blinking spray a very small amount of canned CO gas tester such as **Solo brand C6 canned CO** into the detector chamber area located on the top center area of the detector (figure 4).

5. Upon successful gas entry and if functioning properly, the detector will alarm by blinking the red LED once a second and the sounder turns on in a Temporal 4 pattern. (only if the detector is configured for sounder on).

6. The alarm condition at the detector will time out in 20 to 60 seconds or when the CO gas has cleared.

7. If gas entry is unsuccessful, the test will time out after 20 seconds.

8. When testing of the CO detector(s) is completed, remove the panel from test mode and notify the proper authorities when the system is back in service.

9. If the detector failed the tests, it should be cleaned as outlined in the Maintenance section. Rerun the test. If the detector still fails, it should be replaced.

Heat Alarm Testing

Warning: This test will cause an alarm signal to be transmitted. This test will only function if the detector is operating within its proper sensitivity limits and is not in a trouble condition. The purpose of this test is to check the functionality of the heat sensor and circuitry. This test will only function if the sensor has been configured with an active heat sensor.

To perform the heat alarm test, follow the steps below:

1. Using a hair dryer or heat gun, direct the heat toward the thermistor in the center face of the detector, holding the heat source 12 inches away to avoid damage to the plastic housing.

2. The LED on the detector will turn on continuously and an alarm signal will be sent to the panel when temperature reaches the 135° F alarm set point. Remove the heat source.

3. Wait for the detector to cool and return to normal standby.

4. If the test passes, remove the control panel from test mode and notify the proper authorities when the system is back in service.

5. If the detector failed the test, it should be cleaned as outlined in the Maintenance section. Rerun the test. If the detector still fails, it should be replaced.

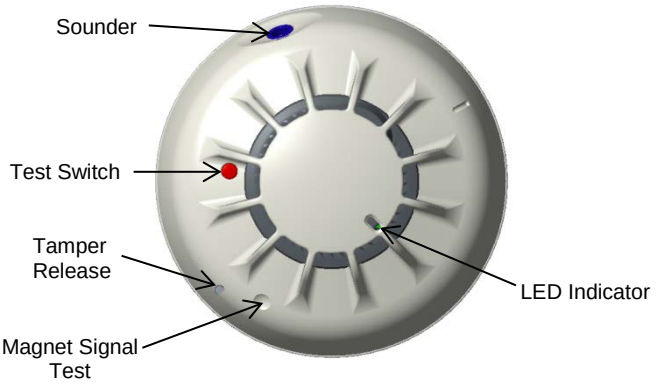

Figure 4 LEDS, Sounder, Test Switch and Signal Test Locations

Signal Test

The test must be performed while the smoke detector is held in its intended mounting location. Install batteries into the smoke detector. Initiate the test by placing a strong magnet on the smoke detector housing at the location shown in figure 3 for 2 seconds. The model 360/370 piezo sounder will beep once. A delay of up to 15 seconds will occur followed by either one or two beeps. One beep indicates an unacceptable location and two beeps indicate an acceptable location. If only one beep is heard then relocate the model 360/370 mounting position closer to the nearest repeater or control panel and perform the test again. Continue this procedure until 2 beeps are achieved. Do not mount the smoke detector unless 2 beeps are heard when performing 5 consecutive signal tests. This test **must** be performed before and after detector installation. Note: A CWSI repeater or FACP must be powered up, installed and enrolled before running this test.

Base Code Clearing

When a detector is enrolled to a control panel a base code is programmed into the detector. Once the base code is programmed the detector will only communicate with a control panel with that specific base code. It may be desirable to clear this base code if the detector is commissioned at a different site and it is necessary to communicate with a different control panel.

To clear the base code:

1. Remove the batteries from the detector and wait 20 seconds before step 2.

2. Reinstall one battery while holding the test switch.

3. Continue to hold the test switch until a sequence of two long and two short beeps are heard from the detector sounder then release.

4. The base code is now cleared.

5. Refer to the control panel manual for more information on base codes.

Test Switch Functions

This switch has multiple functions and is located in an opening on the detector housing as shown in figure 4. To activate the switch insert a small screwdriver or similar tool (2mm max.) into the test switch opening; push and hold for the time associated with the desired test. Pressing this switch will not cause an alarm at the control panel. The functionality of the button will be dependent upon the detector configuration. For example the button will not perform the CO fast test if the detector is configured as a smoke alarm.

The functions of the Test Switch are:

1. Performs a signal test when not in alarm.

2. Test the functionality of the detectors circuitry when pressed for 2 seconds while the detector is in standby.

3. Activate CO fast test mode for 20 seconds when pressed and held for more than 3 seconds.

4. Silence the low battery chirp for 12 hours if pressed during low battery.

5. Silence the detector sounder for 5 minutes if pressed anytime while the sounder is turned on in the temporal pattern.

Low battery
The model 360/370 detector periodically tests each battery for a low battery condition. The voltage on either battery has to be at or below 2.7V nominally for two consecutive battery tests before a low battery trouble condition is transmitted. When a low battery is detected the yellow LED will blink every 45 seconds and a low battery trouble signal will be transmitted and repeated every 90 seconds. Once the low battery condition is present for 7 days, the piezo sounder will begin to chirp once every 45 seconds. This gives the service technician time to replace the battery prior to audible notification. The low battery trouble signal will be transmitted and the piezo sounder will chirp for an additional 7 days. Pressing the smoke detector test button will silence the sounder chirp for 12 hours however the low battery trouble signal will continue to be transmitted every 90 seconds. Where more than one type of trouble exists, all will be repeated in increments of 90 seconds. **Note: When the detector is in low battery trouble the test button will not perform signal survey or detector testing functions in order to conserve power.** When changing the batteries always replace **both** batteries with new ones. Refer to the Battery Installation and Replacement section for instructions on battery replacement.

Battery Installation and Replacement
Warning:

1. **Always install new batteries of one of the approved types as listed in the specifications section of this manual and the product label.**
2. **Always replace both batteries with new ones when a low battery trouble is indicated.**
3. **The detector will initiate a low battery trouble if both batteries are not installed within 90 seconds of each other. The detector must be power cycled to clear this fault.**
4. **When a battery is first inserted, a low battery test is performed. If the battery passes the test, the LED's should indicate normal standby. If the battery does not pass this test, the detector will not power up. Fresh batteries should be installed. If the detector still doesn't power up with known good batteries, replace the detectror.**

To replace the batteries:

1. Place the FACP in Test mode to prevent any unwanted alarms.

2. Remove the detector from its mounting base by twisting the detector counterclockwise. Open the batteries cover and remove and dispose of both batteries properly. If the Tamper Resistant feature was implemented during installation then follow the instructions under that section for removing the detector.

3. To insure proper power down sequence, wait a minimum of 20 seconds before installing new batteries.

4. Install 2 new approved 3 volt lithium batteries in the battery compartment following the polarity markings. The LED's will indicate power up and a power up reset trouble signal should be indicated on the FACP within 60 seconds after installation of the new batteries. A tamper trouble will also be indicated on the FACP if the smoke alarm is not attached to the base.

5. Reinstall the smoke detector onto the mounting base by turning the detector clockwise.

6. The LED's should indicate Normal Standby conditions as shown in the LED status and sounder table. **Note: The detector will initiate a low battery trouble if both batteries are not installed within 90 seconds of each other.**

7. Test the detector for alarm operations described in the **Detector Testing** section of this manual.

8. If the detector does not function as described after battery replacement then start over at step 2. If it still doesn't operate correctly then replace the detector.

9. Remove the panel from test mode.

Tamper
The Models 360/370 contain a built in switch that will cause a tamper signal to be transmitted if the detector is removed from its mounting position. Upon detector removal, a tamper signal is transmitted and repeated every 90 seconds until the detector is mounted on its base. Note: This trouble is self-restoring on some CWSI control panels. Refer to the control panel manual. **Note: This trouble can displayed as a Tamper or Tamper/Maint dependent on FACP compatibility. Refer to the FACP manual for more information.**

Freeze
The Models 360/370 will report a freeze trouble condition when the detectors installed ambient temperature falls below 32°F. This signal is a warning that the detectors operating environment is approaching its lower temperature operating limit. The trouble will self-restore when the temperature rises to 36°F or above. **Note: Indication of this trouble is dependent on FACP compatibility. Refer to the FACP manual for more information.**

Power Up Reset
The Models 360/370 will report this trouble when first powered up. This is normal. If a power up reset reoccurs any time after the initial indication then the detector is malfunctioning. Replace the detector.

Test Failure
The Models 360/370 transmit a periodic test signal. This trouble condition will be displayed within 200 seconds on the FACP if the test signal is not received. The detector may be out of reception range of a repeater or FACP or the detector may have an internal problem. Perform the signal test described in this manual to determine if there is a reception problem.

Note: This trouble is self-restoring on some CWSI control panels. Refer to the control panel manual.

Hardware Fault
The Models 360/370 monitors the integrity of the hardware and communications between the smoke detector board and the RF transmitter board internal to the smoke detector. A Hardware Flt trouble will be displayed on the FACP if there is a hardware failure or communications failure between the two boards. If this occurs replace the smoke detector.

CO Cell Trouble
The Model 370 monitors the CO cell for CO/toxic gas detection integrity. If the detector reads a fault with the CO cell's ability to detect CO/toxic gas a CO-Cell or Tamper/Maint trouble will be sent and displayed on the FACP. The detectors yellow LED will blink every 5 seconds and the sounder will chirp every 45 seconds. Replace the detector. **Note: Indication of this trouble is dependent on FACP compatibility. Refer to the FACP manual for more information.**

CO End of Life Trouble
The detectors CO cell has a 10 year life limitation before the detector needs to be replaced. The Model 370 monitors the CO cell for end of life timeout and will send a CO-Life or Tamper/Maint trouble to the FACP when end of life is reached. The detectors yellow LED will blink every 10 seconds and the sounder will chirp every 45 seconds. Replace the detector. **Note: Indication of this trouble is dependent on FACP compatibility. Refer to the FACP manual for more information.**

Maintenance Req:
The Models 360/370 contain circuitry that allows the detector to automatically adjust its sensitivity within factory limits when it becomes more sensitive due to contaminants settling in its chamber. If the sensitivity has shifted outside the listed limits the yellow LED will flash every 5 seconds and a maintenance required signal will be sent to the FACP and repeated every 90 seconds until the condition is corrected. Perform maintenance on the detector as described in this manual. If the problem persists, replace the detector.

Maintenance
Perform maintenance yearly or whenever a Maintenance Req. Trouble signal is indicated. **Warning: Never disassemble the detector cover to the chassis containing the circuit boards**.
NOTE: Before performing maintenance on the detector, notify the proper authorities that maintenance is being performed and the system will be temporarily out of service. Place the control panel in test mode to prevent any unwanted alarms.
The batteries must be removed from the detector before performing maintenance of any kind.

1. Place the FACP in Test mode to prevent any unwanted alarms.

2. Remove the detector by turning counterclockwise, open the battery cover and remove the batteries. If the Tamper Resistant feature was implemented during installation then follow the instructions under that section for removing the detector.

3. Vacuum the chamber area or use canned air to remove any dust or debris.

4 Reinstall the batteries and reattach the smoke detector onto the mounting base by turning the detector clockwise.

5. Test the detector as described in the **Detector Testing** section of this manual.

6. If the detector does not function properly during testing then start over at step 2. If it still doesn't operate correctly then replace the entire unit.

7. Remove the panel from test mode.

Specifications:

- Battery Type: Qty. 2 Type - 3 Volt Lithium; Duracell DL123 / Ultra123
- Battery Life: 12 Months Minimum
- Battery Replacement: Upon Low battery report and/or during annual maintenance.
- Average Standby Current: Model 360/370 32.8ua Tandem mode 71.5ua
- Average Alarm Current: Model 360/370 36ma
- Tamper Switch: On base
- Sounder: 85db at 10' temporal 3 and 4 pattern.
- Reset: Automatic
- Sensitivity: 2.0% nominal
- Low battery threshold: 2.7V
- Operating Temperature Range: 32°F to +100°F.
- Operating Humidity Range 0 to 95% RH.
- Testing: Follow this manual and NFPA 72, NFPA 720 or local requirements.
- Transmission: In compliance with FCC part 15
- Test Transmission: Every 90 seconds.
- Mounting base diameter 117.6mm/4.63in.
- Weight 6.4 oz.

FCC Statement

Important: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Disclaimer

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