

# CONCEAL-ALARM FA100 & FA900 SERIES

Concealite Fire Alarm Appliance Product

## IMPORTANT SAFEGUARDS

When using electrical equipment, basic safety precaution should always be followed, including the following:

### READ AND FOLLOW ALL SAFETY INSTRUCTIONS

- 1. DO NOT USE OUTDOORS.**
- 2. Do not use this equipment for other than intended use.**
- 3. Servicing of this equipment should be performed by qualified personnel.**

## SAVE THESE INSTRUCTIONS

MODEL: FA100 & FA900  
INSTRUCTIONS FOR  
Installation....Operations....Service

## INSTALLATION INSTRUCTIONS

Failure to follow published installation instructions or any modifications to our product may damage the unit and will void the warranty.

This unit is designed for recessed mounting in a plaster or gypsum board wall or ceiling. Installation into a suspended ceiling will require an independent support bar (Cady #512A) attached to the T bar ceiling system (provided by others) or the optional Concealite suffix T-Bar.

Provide each unit with a total of five (5) terminations for feed-through type connections to a two wire fire alarm annunciator appliance circuit or seven (7) terminations for feed-through type connections to a four wire fire alarm annunciator appliance circuit, rated 16 Volt – 33 Volt DC or 16Volt – 33 Volt FWR. This device was only tested to the operating voltage limit of 16V and 33V. Do not apply 80% and 110% of these values for system operation. Closed loop class A circuits, as well as combination audio / visual appliances may require an additional eight (8) conductors as required for service from a main building fire alarm control system. The wiring should be a permanent installation using metal enclosed raceway. 13/16" diameter knockouts are provided on the top of the backbox to facilitate raceway conductor entrance and pathways.

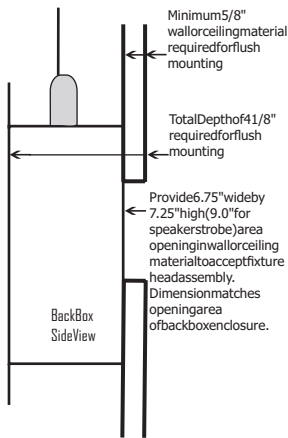
<b>Concealite Life Safety Products</b> <b>202 Elk Street – PO Box 160</b> <b>Elkton, SD 57026</b>	<b>Phone: 605-542-4444</b> <b>Fax: 605-542-3333</b> <b>Website: <a href="http://www.concealite.com">www.concealite.com</a></b>
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## Step #1: Backbox Installation

The recessed backbox is standard. If your installation requires the Surface Mount or Retrofit Backbox, please refer to the separate instructions for backbox installation.

The backbox is designed for recessed mounting in gypsum board or plaster wall or ceiling. When used in plaster wall or ceiling, install plaster trim option.

1. Securely fasten backbox to stud, joist or blocking material using tabs at top and bottom of backbox with screws (not furnished).
2. For Wall Mounting – Mount with knockouts at top end.



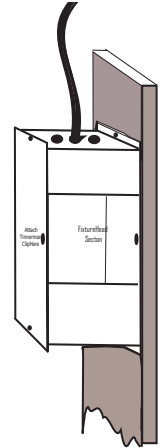
3. For Ceiling Mounting – Mount with opening of backbox downwards.

4. Provide appliance wire leads to the appropriate fire alarm appliance branch circuits (provided by others). Make branch circuit input connections with standard wire nuts. Route branch circuiting in metallic raceway.

5. Install tinnerman clips over oblong holes in sides of backbox flat side inward.

6. Install gypsum board or plaster wall or ceiling material.

7. Provide a 6.75" wide by 7.25" (6.75" X 9.0" for speaker strobe combination) opening in wall or ceiling material to accept fixture head assembly. Dimension matches opening area of back box enclosure.



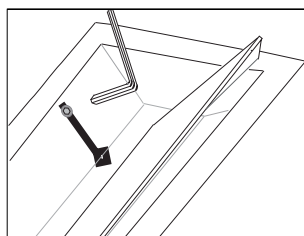
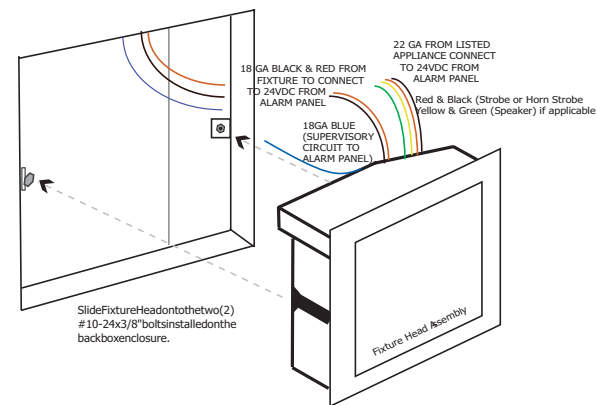
## Step #2: Fixture Head Installation

1. Connect the unit wiring, by first providing audio and/or visual wire leads to the appropriate fire alarm circuit appliance branch circuits (provided by others). Make branch circuit input connections with standard wire nuts. (Refer to the specific wiring diagram furnished with these instructions and coordinate all system wiring interface with the control system provider prior to connections and energizing of the Conceal-Alarm unit).

2. Place the socket head screws and thread screws one or two turns into the tinnerman clips previously installed.

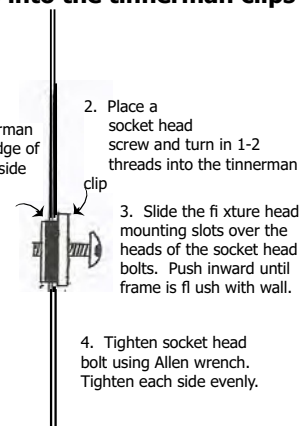
3. Secure the fixture head assembly into the backbox by first rotating the door partially open to the half way point to expose the bolt slide slots on each side of

the unit. Then insert the fixture into the backbox while maintaining alignment of the two side bolt slots with the exposed backbox mounting bolts. Position the fixture flush with the finished mounting surface and securely tighten the two fixture head mounting bolts from within the fixture assembly with the allen wrench (included with backbox mounting hardware).



4. Complete the installation by allowing the rotated door to return to the closed position. Verify that the door swings freely in 180 degrees of rotation from the completely closed position to the completely open position and from open to closed position.

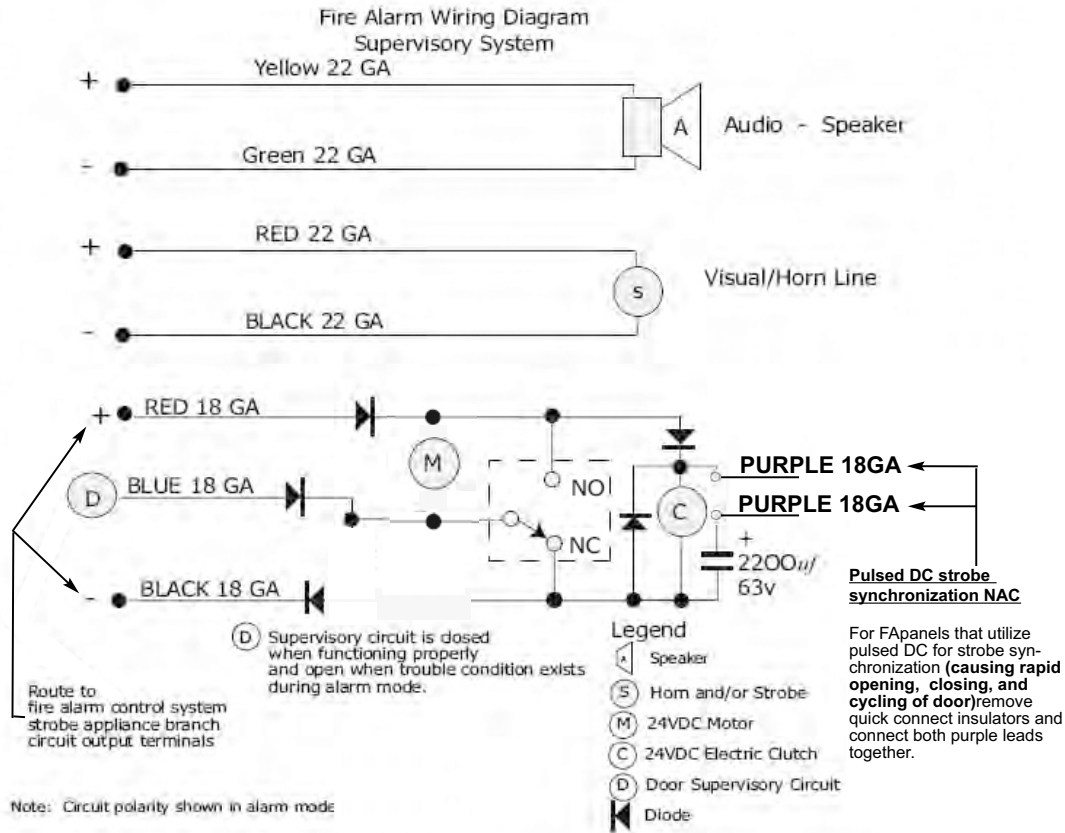
1. Attach a Tinnerman Clip to the each edge of the backbox, fl at side inward.
2. Place a socket head screw and turn in 1-2 threads into the tinnerman clip
3. Slide the fixture head mounting slots over the heads of the socket head bolts. Push inward until frame is flush with wall.
4. Tighten socket head bolt using Allen wrench. Tighten each side evenly.



**Note: DO NOT ACTIVATE THE FIRE ALARM SYSTEM POWER UNTIL THE INSTALLATION IS COMPLETE.**

**PLACING THE UNIT IN SERVICE**

Please determine your type of unit (i.e, strobe only, horn/strobe, speaker only, speaker strobe) for wire designation shown below



**Note:** This diagram demonstrates all possible wiring combinations: Please choose the appropriate wire to attach to the leads provided from the fire alarm panel. All units will utilize the 18ga Red & Black for the motor & the 18ga Blue Supervisory lead. Use the 22ga Red & Black for a strobe or horn/strobe, the 22ga Yellow & Green for a speaker only, all 22ga leads are required for a speaker/strobe.

After completing the wiring connections and installing the door assembly, the branch circuit power should be activated. The Concealite Conceal-Alarm unit along with the alarm appliance is to be tested as a complete fire alarm control system.

**OPERATION CYCLE**

When activated, the Concealite Conceal-Alarm’s door rotates 180 degrees triggering a micro-switch which disengages the motor and begins the signaling operation. The door is held open by a magnetic clutch system which remains operational until the device is deactivated. Deactivating the alarm disengages the magnetic clutch and door returns to the closed position by way of a mechanical spring.

**Supervisory System**

The supervisory system is a standard feature of the Concealite Conceal-Alarm. This feature allows the option of audio and/or visual indicator monitoring of the open and/or closed position at the fire alarm system annunciator display location. This monitoring system can also be configured to monitor the position of an individual door, or to monitor any multiple of doors.

The supervisory circuit includes a dry contact with a common negative (-) point that allows a separate power source to operate the supervisory indicator.

## **ROUTINE CARE**

**The Concealite Conceal-Alarm is designed for trouble free long life service under normal operating condition. All electrical components within the unit are considered to be maintenance free, with the exception of the audio/visual appliance(s) which are subject to routine care and maintenance as specifically determined by the appliance manufacturer. Periodically the Concealite Conceal-Alarm unit should be inspected and cleaned if necessary to remove any build up of debris, dirt, dust or foreign materials in the door assembly pathway that may hinder operation of door.**

## **TEST CYCLING**

**The Concealite Conceal-Alarm unit along with the fire alarm appliance shall be tested at intervals in compliance with all federal, state and local codes.**

## **WARRANTY**

**All Concealite Life Safety Products fixtures are tested and are guaranteed to be free from defective materials and workmanship for a period of three years from date of shipment under normal operations and proper use. Correction of all defects shall be by replacement or repair (at our option) and shall constitute fulfillment of all manufacturer's obligations.**

**Concealite does not allow any charge for labor, materials, etc that does not have our written approval before the work is begun.**

**Damage incurred in handling or in transit is not covered by this guarantee. Any other warranty, expressed or implied, is hereby void.**

**Modifications to the product or failure to follow installation instructions will void the warranty.**

## **On-Site Painting Instructions**

1. The door and frame of the unit have been factory painted with a powder-coated paint with a hard finish. This finish should be roughened with a coarse steel wool or sandpaper before a new finish is applied to ensure the paint adheres to the factory finish. Do not paint the appliance.
2. When the new finish is applied, extreme care should be taken that a seal is not formed between the door and the frame, which would prevent the door from opening. Also, assure that the paint is not so heavy that it runs into the gearing mechanism. This damage will void the warranty on the unit.
3. If the finish is sprayed on, we suggest that a thin cardboard or plastic strip be inserted between the door and the frame to prevent a paint seal from being formed.
4. After the new finish is applied, a sharp edge such as a single edge razor or utility knife may be inserted in the opening between the door and frame and run around the circumference of the unit to ensure that no seal has been formed. The finish should be completely dry before this step is performed.
5. If the unit is being covered with material (wallpaper, cloth, laminate, etc.), allow the mastic used to apply the covering to completely set up. Use a sharp edge such as single edge razor or a utility knife held at a 20 to 30 degree angle against the frame and run the blade around the frame. Repeat this procedure holding the edge against the door. This will provide a beveled edge that will prevent the material from fraying as the unit operates.



## Fixture Models

FA100

FA900

FAFX



## Operation Cycle

When activated, the signaling appliance begins operation, the Conceal-Alarm's door rotates 180 degrees, and the micro-switch disengages the motor. The door is held open by a magnetic clutch system that remains operational until the fire alarm panel is deactivated. Deactivating the alarm mode branch circuit disengages the magnetic clutch and the door returns to a closed position.

## Wiring Needs

Conceal-Alarm units use standard wiring practices, comparable to any alarm system. No additional wiring is necessary.

## Appliance Application

Conceal-Alarm utilizes Wheelock UL Listed fire alarm appliances, i.e., strobes, horns and strobe/horn combination units that operate with any fire system. Installation of optional units are dependent on the following guidelines.

- All Conceal-Alarm units come fitted with a factory fitted wheelock UL listed appliance. Appliances cannot be installed in the field.

## Strobes

Strobes are available in wall and ceiling mount. Candela rating must be specified prior to manufacture. Due to concerns that strobe lights flashing at various times in the same area can trigger health problems, the Conceal-Alarm units are compatible with standard fire system synchronous modules, which cause the strobes to pulse at the same time.

## Horns

The horn portion of the appliance can be set to provide either Continuous Horn or Code 3 Horn. The sound output can be set for High (HI) or Low (LO) dBA. Conceal-Alarm units with the horn feature are shipped with the default settings from the appliance manufacturer, unless requested otherwise.

## Speakers

Speakers may operate with a public address system for use by the fire department, as well as automated messages during emergency situations.

## Back Box Applications

The Conceal-Alarm can be installed in various back boxes depending on the specific requirements. The following back boxes are available:

- **R1** Use in a standard stud wall (FA-100)
- **R1-900** Use in standard stud wall (FA-900)
- **RB** Use in retrofit applications (FA-100)
- **RB-900** Use in retrofit applications (FA-900)
- **RFX** Standard new construction (FX)
- **RBFX** Use in retrofit applications (FX)
- **SM** For surface mount installation (FA-100 only)
- **C-Block** For concrete (cinder) block wall installation (FA-100 only)

For specific dimensions on these back boxes refer to the technical section of the Concealite catalog or view the Back Box technical sheet at [www.concealite.com](http://www.concealite.com).

## Finish

The standard Conceal-Alarm trim and door are white powder coat. As with all Concealite fixtures, custom colors, custom metals and custom finishes are available options. Please contact factory for custom finishes.

## Electrical Requirements

The table below will assist in planning voltage requirements for fire alarm systems:

Model	Voltage	Current Draw (mAmps)*
FA	16 VDC	600
FA	24 VDC	600
FA	33 VDC	600
FA	16 vFWR	600
FA	24 vFWR	600
FA	33 vFWR	600

\* To determine total voltage requirements, select the proper current draw for the Conceal-Alarm from the table above and add the current draw requirements specified by the manufacturer of the appliance to be used within the Conceal-Alarm fixture.

## Draw Requirements

Current draw requirements are available on the cut sheet for the device or on the web site of the manufacturer. Information can be viewed at:

Cooper Wheelock  
[www.cooperwheelock.com](http://www.cooperwheelock.com)

## Limited Warranty

All Concealite equipment is guaranteed against defects in materials and workmanship by the manufacturer for a period of three years from date of shipment under normal operations and proper use. Correction of all defects shall be by replacement or repair (at our discretion) and shall constitute fulfillment of all manufacturer's obligations.

Note: These specifications are subject to change