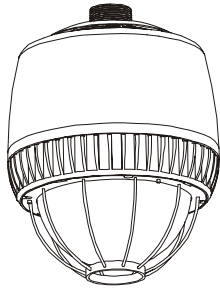


Outdoor Housing Upgrade Kit for Vandal Resistance

Installation Guide

- w/Clear bubble: RHCLRVTKIT
- w/Smoked bubble: RHSMKVTKIT



This document explains how to upgrade an existing outdoor housing for vandal resistance.

Part Required

RHCLRVRKIT (parts with clear bubble)

- Bubble assembly (clear) 0400-1402-01
- Install kit 0352-0111-01, containing:
 - Top cover 0500-8001-02
 - Vandal resistant cover 0505-0313-01
 - Sun shield 0500-7954-02

RHSMKVRKIT (parts with smoked bubble)

- Bubble assembly (smoked) 0400-1402-02
- Install kit 0352-0111-01, containing:
 - Top cover 0500-8001-02
 - Vandal resistant cover 0505-0313-01
 - Sun shield 0500-7954-02

Tools Required

- Tamperproof screwdriver (to remove the bubble)
- Small open-ended wrench (to remove the strain relief)
- Large open-ended wrench (to remove the housing)

Upgrading the Housing

You should have two boxes: one containing replacement and vandal-resistant parts, the other containing the bubble assembly. Protect the bubble assembly by leaving it in its box until you are ready to install it.

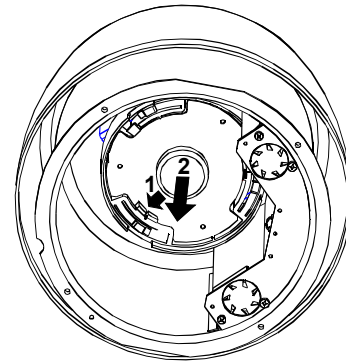


WARNING! Additional instructions for outdoor mounting are supplied with the mounting structure. To maintain the NEMA 4 IP66 rating, follow these instructions.

1. Disconnect ac power from the camera dome.
2. Remove the bubble assembly using a tamperproof screwdriver. Discard the bubble assembly.
3. Detach the camera dome from the housing. Put the dome in a safe place.
4. Detach the environmental PC board from the base. To detach the board:

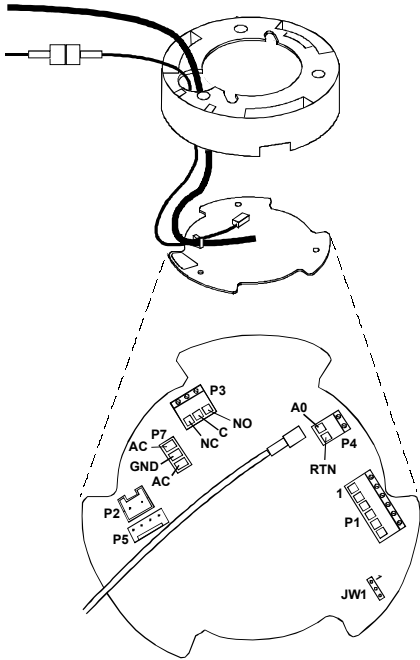
Caution: The environmental PC board is static sensitive. Touch metal of housing to discharge static electricity BEFORE touching board.

- a. Inside the base is a molded plastic spring finger that holds the board in place. Press this finger (1) to remove the board (2).

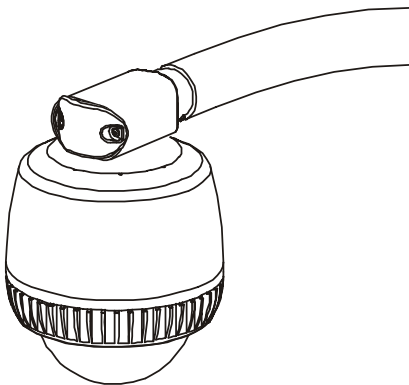


- b. If you have one, place a dust cover over the finger contacts and put the board in a safe, dry place.

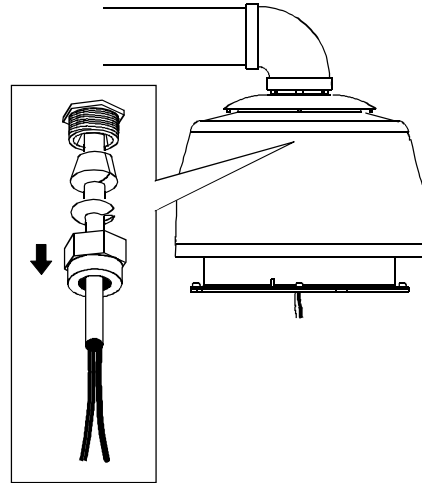
5. Disconnect the cables from the environmental PC board. If the housing is attached to a pipe, skip steps 6 and 7.



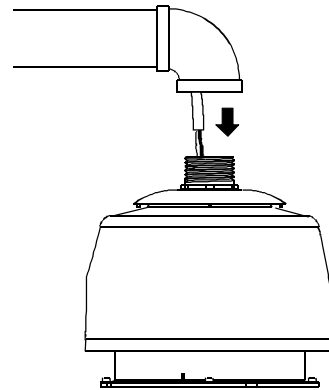
6. Detach connectors from the cables. The connectors will be needed again. Put them in a safe place.
7. If the housing is attached to the mounting structure shown, skip step 8.



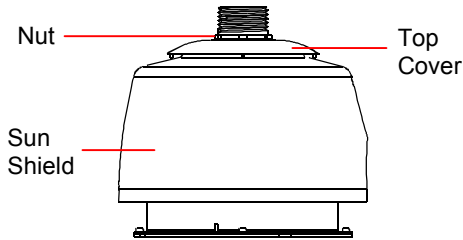
8. Free cables:
 - a. Unscrew the finger-tight machined cap from the strain relief assembly. If the cap cannot be removed by hand, use a 1-1/8in open-ended wrench or pliers to remove it.
 - b. Remove the bushing and strain relief ring.
 - c. Slip cables out of the strain relief assembly and put the assembly pieces in a safe place; they will be needed later.



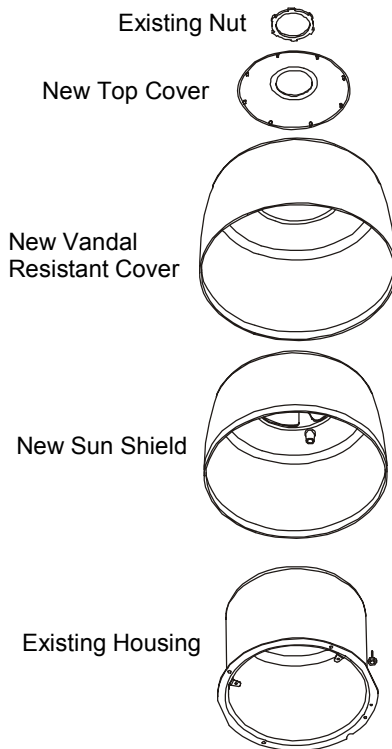
9. Untighten the setscrews. Then turn the entire housing to free it from the pipe elbow of the mounting structure. Then feed cables up and out of the housing. Put the strain relief in a safe place; it will be needed later.



10. Remove the following parts:
 - a. Remove the 1-1/2 NPT nut from the top of the housing. Put the nut in a safe place; it will be needed later.
 - b. Lift the top cover off the sun shield and discard.
 - c. Pry the fingers of the sun shield to remove it from the housing and discard.



11. Install the new parts.
 - a. Slip the new sun shield over the existing housing.
 - b. Slip the new vandal-resistant cover over the sun shield.
 - c. Place the new top cover over the cover.
 - d. Thread the 1-1/2 NPT nut onto the pipe at the top of the assembly to secure the parts in place.

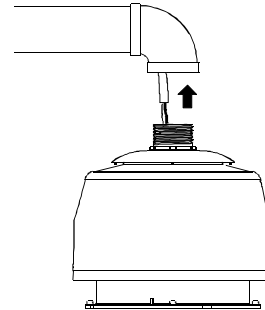


Reassembling the Housing

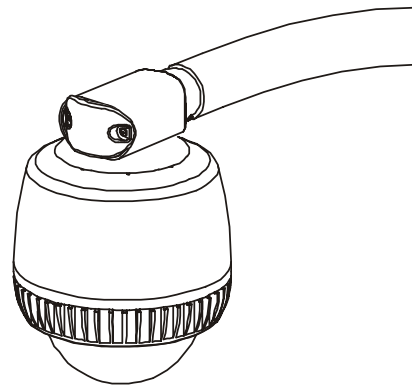
1. Feed cables back into the housing assembly and through the strain relief. Then rethread the assembly onto the pipe structure and tighten setscrews.



Caution: When turning the assembly, be careful not to tangle the cables with wires inside the housing.

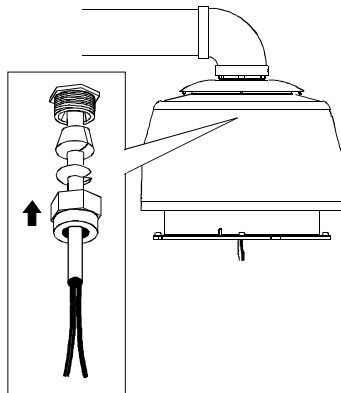


2. Verify the cable length; the ends of the cables should hang 3cm (1in) below the bottom of the housing assembly.
3. If the housing is attached to the housing shown, skip to step 5.



4. Reassemble the strain relief:

- Spread the split bushing and strain relief and place them around the cable. Slip these parts up into the body of the strain relief assembly.
- Slip the cap over the cable, slide it up to the body of the strain relief assembly, and thread it into place. Simultaneously, push up the cable until the end of its jacket is flush with the surface of the cap. Once finished, just the cable wires should be exposed.
- Turn the cap by hand until it is tight.



5. Reattach connectors to cables (if necessary) and cables to the environmental PC board (or to the board's pigtail cable).

- Connect video cable to BNC connector P8 on I/O board.
- Connect Manchester, RS422, or SensorNet 485 data wires to connector P1. If using a Pelco Coaxitron or Panasonic UTC protocol, no data wires are connected, just power.

Manchester

Pin	Color	Designation
1-4	—	Not used.
5	Black	Manchester (+)
6	White	Manchester (-)

RS422

Pin	Color	Designation
1	Orange	RS422 Data In High (+)
2	Green	RS422 Data In Low (-)
3	Yellow	RS422 Data Out High (+)
4	Brown	RS422 Data Out Low (-)
5-6	—	Not used.

SensorNet

Pin	Color	Designation
1-4	—	Not used.
5	Orange	SensorNet (unshielded)
6	Yellow	SensorNet (unshielded)

- Connect the relay output cable, if used, to the P3 connector.

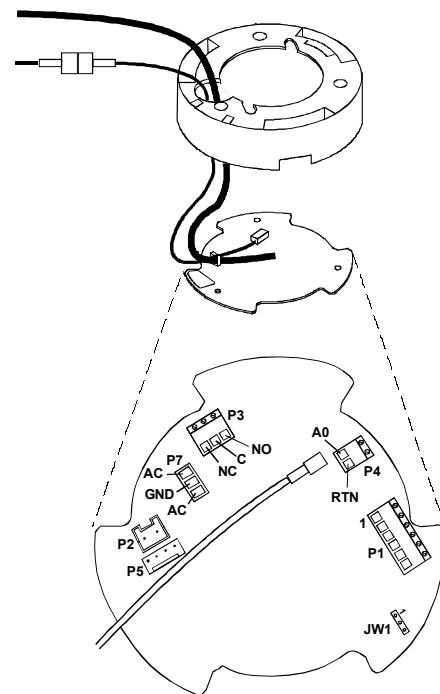
Pin	Color	Designation
1	—	Normally Open (3.5mA sink)
2	—	Common
3	—	Normally Closed

- Connect the alarm input cable, if used, to the P4 connector.

Pin	Color	Designation
1	—	Alarm 3 input (3.5mA sink)
2	—	Ground

- Connect power to P7 connector.

Pin	Color	Designation
1	Black	24 Vac
2	Red	Ground
3	White	24 Vac



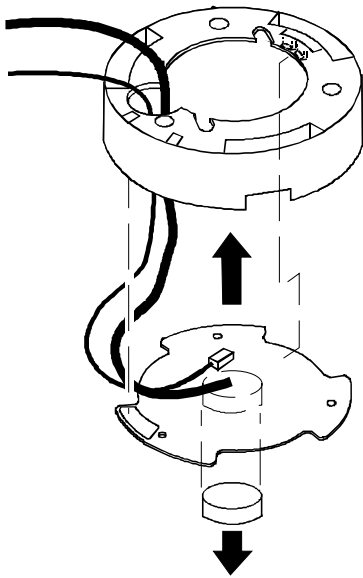
6. Insert the environmental PC board back into the base.

- a. Push the board up toward the base. As you do, loop the cable along side of the housing opposite the heater assembly.



WARNING! Keep cables entering the housing away from the heater assembly.

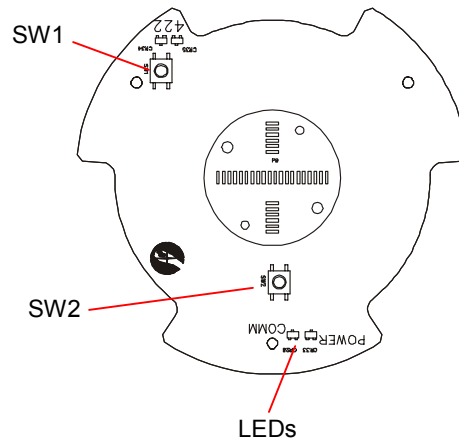
- b. Align the ground pad on the PC board with the access hole above and insert the board under the spring fingers. The board is keyed; it will only fit in the base one way. Press on the dust cover to snap the board in place.
- c. Gently remove the red dust cover from the 32-pin connector and inspect the finger contacts. For reliable connections, all contacts should be at least 2mm above the surface of the connector.



7. Check LEDs on the environmental PC board to verify that power and data are reaching the housing.

- a. Press and hold switch SW2 and observe green (ac power) and yellow (comm.) LEDs. The green LED glows steadily and the yellow LED glows steadily (RS422) or blinks (SensorNet).
- b. For RS422 data, press and hold data test switch SW1 and observe nearby red and green LEDs; they indicate the following:

LED Response	What it means.
Constant green, Blinking red	RS422 line is correctly wired.
Constant green, No red	RS422 "Data In -" is shorted to ground.
Constant red, Blinking green	"Data In + /-" wires are reversed.
Blinking red, Green off	"Data In +" is shorted to ground.
Both LEDs off	"Data In +/-" wires are shorted or open.



8. Ensure both slot covers are removed. If not, remove them from the eyeball as follows.
 - a. Carefully swivel the eyeball so a slot cover is totally exposed.



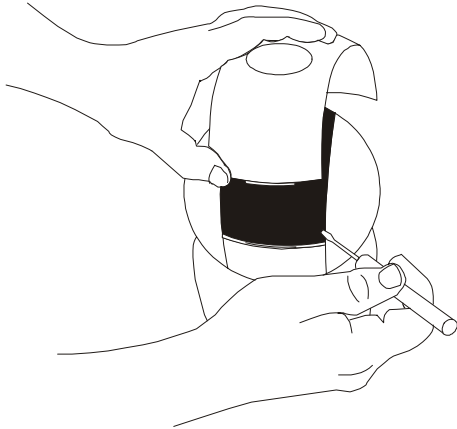
CAUTION: Swiveling fast can damage gears.

- b. Insert a small slotted screwdriver into the space between the cover and eyeball. Carefully pry the slot cover loose.



CAUTION: Once slot covers are removed, avoid touching the camera lens.

- c. Carefully swivel the eyeball so the remaining slot cover is totally exposed. Lift the cover off.



9. Reattach the camera dome.

Attaching the Trim Ring/Bubble Assembly

Referring to the figure below:

1. Remove the vandal-resistant bubble assembly from the package and ensure the bubble is clean and free of debris.
2. Attach the coiled lanyard from the bubble to the outdoor housing. Attach the lanyard to threaded stud on the housing using the thumbnut.
3. Attach the bubble assembly.
 - a. Remove the “CAUTION: Remove slot covers” tag. Ensure the slot covers are removed.
 - b. Align the key on the inside of the bubble assembly with the detent on edge of the outdoor housing.
 - c. Secure the bubble assembly to the housing using the four tamperproof screws. Use the drive (taped inside bubble) to tighten the screws.



CAUTION: To maintain the integrity of the gasket seal between the housing flange and the trim ring, do not let the lanyard get caught between these two pieces as you secure the bubble assembly to the housing.

4. Connect ac power to the dome

