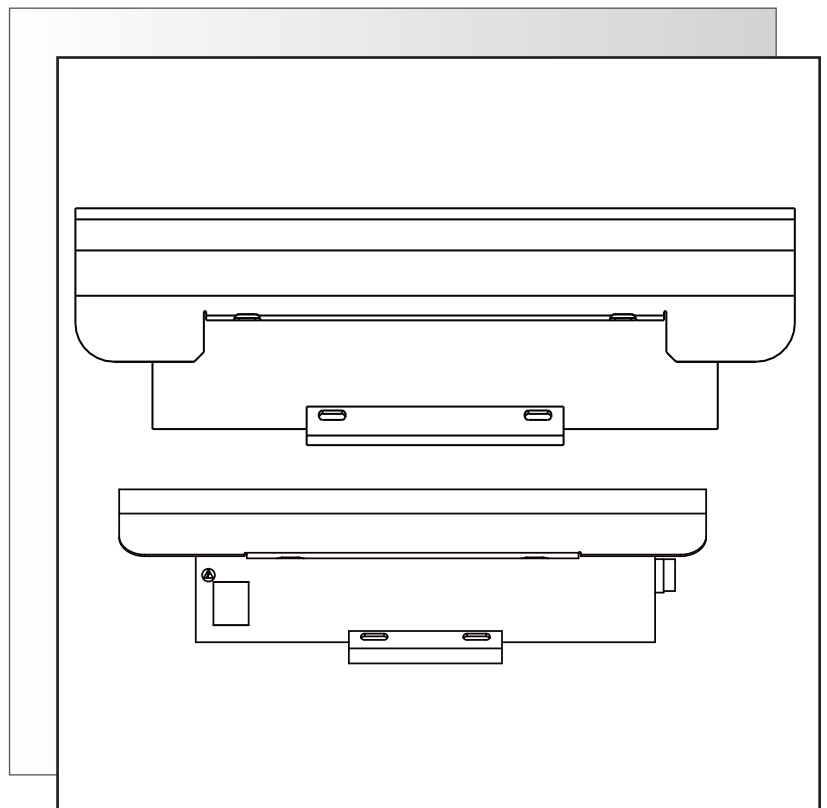


EXTRA LARGE OUTDOOR HOUSINGS



HS9392 & HS9396 SERIES

IMPORTANT SAFEGUARDS

1. Read Instructions - All the safety and operating instructions should be read before the unit is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions - All operating and use instructions should be followed.
5. Cleaning - Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. Attachments - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
7. Accessories - Do not place this unit on an unstable stand, tripod, bracket, or mount. The unit may fall, causing serious injury to a person and serious damage to the unit. Use only with a stand, tripod, bracket, or mount recommended by the manufacturer or sold with the product. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.

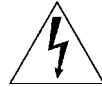


An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.

8. Ventilation - Openings in the enclosure, if any, are provided for ventilation, to ensure reliable operation of the unit, and to protect it from overheating. These openings must not be blocked or covered. This unit should not be placed in a built-in installation unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
9. Power Sources - This unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply you plan to use, consult your dealer or local power company. For units intended to operate from battery power or other sources, refer to the operating instructions. This equipment is to be isolated from the mains supply by a limited power source as specified in EN60950:1992 Clause 2.11.
10. Grounding or Polarization - This unit may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug. Alternately, this unit may be equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This plug will only fit into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding-type plug.
11. Power Cord Protection - Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the appliance.
12. Power Lines - An outdoor system should not be located in the vicinity of overhead power lines or other electric light or power circuits or where it can fall into such power lines or circuits. When installing an outdoor system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal. U.S.A. models only - refer to the National Electrical Code Article 820 regarding installation of CATV systems.
13. Overloading - Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.
14. Object and Liquid Entry - Never push objects of any kind into this unit through openings, as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
15. Servicing - Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
16. Damage Requiring Service - Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the unit.
 - c. If the unit has been exposed to water and/or inclement weather (rain, snow, etc.).
 - d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
 - e. If the unit has been dropped or the cabinet has been damaged.
 - f. When the unit exhibits a distinct change in performance--this indicates a need for service.
17. Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.
18. Safety Check - Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.

19. Coax Grounding - If an outside cable system is connected to the unit, be sure the cable system is grounded. U.S.A. models only--Section 810 of the National Electrical Code, ANSI/NFPA No.70-1981, provides information with respect to proper grounding of the mount and supporting structure, grounding of the coax to a discharge unit, size of grounding conductors, location of discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.
20. Lightning - For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power line surges.

SAFETY PRECAUTIONS



CAUTION

RISK OF ELECTRIC SHOCK. DO NOT OPEN!



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



This symbol indicates the presence of uninsulated "dangerous voltage" within the product's enclosure. This may constitute a risk of electric shock.



The user should consult the operating and maintenance (servicing) instructions in the literature accompanying the appliance.



Attention: Installation should be performed by qualified service personnel only in accordance with the National Electrical Code or applicable local codes.



Power Disconnect. Units with or without ON-OFF switches have power supplied to the unit whenever the power cord is inserted into the power source; however, the unit is operational only when the ON-OFF switch is in the ON position. The power cord is the main power disconnect for all units.

CABLE REQUIREMENTS

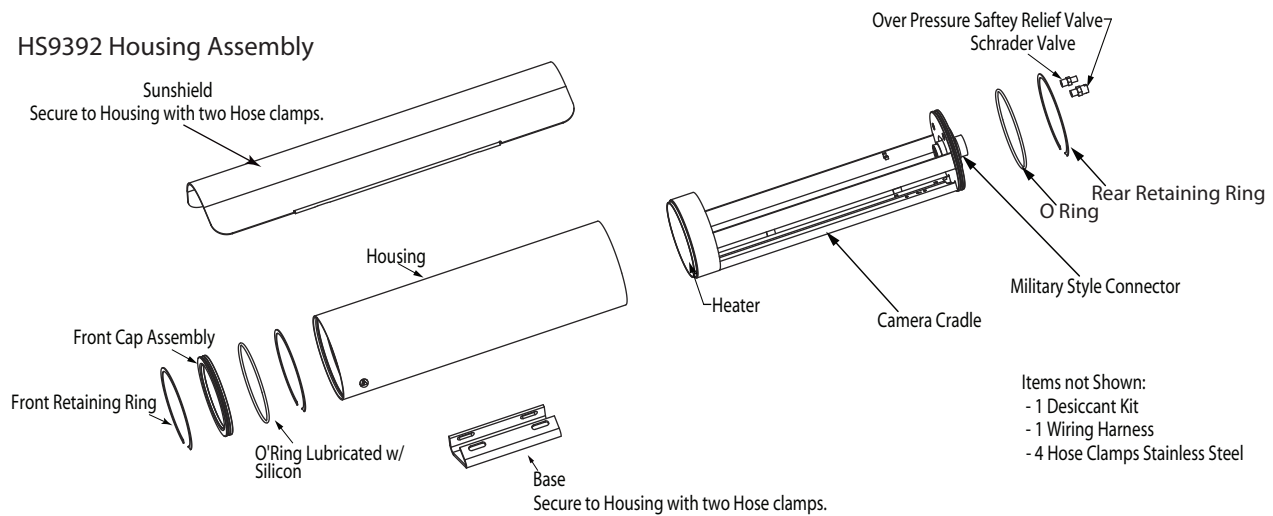
The HS9392 and HS9396 series housings do not permit cable entry into the housing. Connections are made via a Military-Style connector on the rear of the unit. The standard models include shell size 20 connector with 16 pins (20-16 connector).

All external connections are made by the customer via a mating connector and crimp pins (both included in the hardware kit). The crimp pins accept wire gauges between 20AWG and 16AWG. All customer-supplied external wiring must conform to these specifications.

If you have purchased a non-standard unit with a different connector, please refer to the Addendum provided with the unit, or contact Aegis Mechntronics for the wiring specifications for the supplied crimp pins.

Note: Always use outdoor rated cabling when wiring a outdoor installation. Installations should be performed by a qualified technician and conform to the National Electrical Code and any applicable local codes.

HS9392 Housing Assembly



HS9396 Housing Assembly

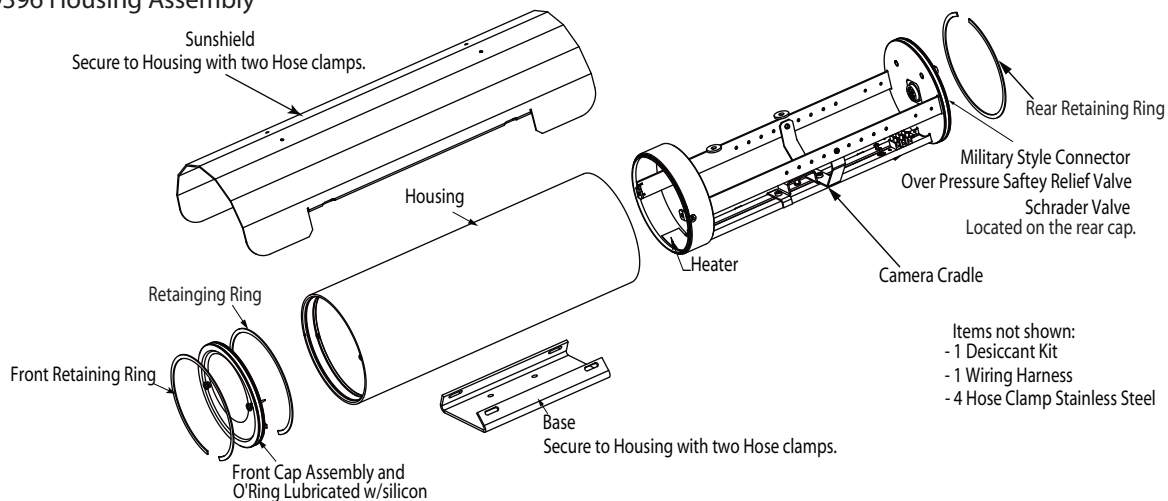


FIGURE 1 Housing Assemblies Exploded View



Part numbers ending in XHP are pressurized
CAUTION - Pressurized container.



DO NOT open these housing units until pressure is removed.



DO NOT exceed 10 PSI (0.69 bar) at one atmosphere.

1 UNPACKING

Unpack carefully. This is electromechanical equipment and should be handled with care. If an item appears to have been damaged in shipment, replace it properly in its carton and notify the shipper. If any items are missing, notify an Aigis Mechtronics Sales Representative or Customer Service. The shipping carton is the safest container in which the unit may be transported. Save it for possible future use. Verify that the parts listed as follows have been included.

Hardware Kit

Quantity	Part Description
4	Cable Ties
1	1/4-20 x 3/8-inch Button Head Cap Screw
2	1/4-20 x 1/2-inch Button Head Cap Screw
2	1/4-20 x 5/8-inch Button Head Cap Screw
2	1/4-20 x 3/4-inch Button Head Cap Screw
2	0.4 mm (0.016 in) Plastic Spacer
2	1.7 mm (0.065 in) Plastic Spacer
2	3.2mm (0.125 in) Plastic Spacer
1	3.9 mm (0.154 in) Plastic Spacer
2	7.4 mm (0.292 in) Plastic Spacer
2	9.7 mm (0.385 in) Plastic Spacer
2	1/4 Flat Washer
2	1/4 Lock Washer
1	Desiccant pack

2 SERVICE

If the unit ever needs repair service, the customer should contact Aigis Mechtronics for return authorization and shipping instructions.

3 CARE AND MAINTENANCE

There are no moving parts in this unit. Regularly scheduled maintenance will help prolong the operational life of this unit. Clean the viewing window as needed with a mild, nonabrasive detergent in water and a soft cloth.

4 DESCRIPTION

The HS9392 and HS9396 Series of environmental housings are designed to accommodate CCTV cameras with large motorized zoom lenses that need to be installed in harsh environments. The HS9392 series housings are 5 inches in diameter (internal) and the HS9396 housings are 7.5 inches in diameter (internal). Both types of units include an integral heater and a Military style connector on the rear of the unit for external cable connections. The Pressurization option reduces water and dust ingress into the enclosure.

4.1 Model Designation

Model No.	Input Voltage (Vac)	Input Voltage Range (VAC)	Standard Features	Nominal Power
HS9392-2HC	24	21.6 to 26.4	Heater, Sunshield, Military Connector	50W
HS9392-2HP				
HS9396-2HC				
HS9396-2HP				
HS9392-5HC	230	207 to 253		
HS9392-5HP				
HS9396-5HC				
HS9396-5HP				
HS9392-6HC	115	108 to 132		
HS9392-6HP				
HS9396-6HC				
HS9396-6HP				

Notes:

1. Thermostatically controlled heater consumes 40 Watts.
2. All units supply 24VAC to the camera.
3. Housings compatible with IP cameras are available. Contact factory for details.

5 INSTALLATION



CAUTION: This installation should be made by a qualified service person and conform to all local codes. Do Not Exceed 30VAC Input on 24VAC models. Operation above 30VAC violates low voltage operation (Class 2 Specifications). Normal operation is 24VAC

5.1 Tools Required

Flat blade screwdriver
5/32" Allen wrench (long)

5.2 Disassembly

5.2.1 Remove the Sunshield

1. Using a flat blade screwdriver, remove the sunshield from the housing by loosening the hose clamps on each strap and gently lifting the sunshield off the housing tube. Be careful not to scratch the housing with the straps. Set sunshield aside. See **Figure 2**.

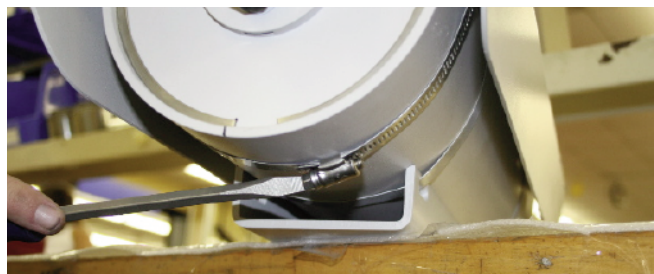


FIGURE 2 Removing the Sunshield

5.2.2 Housing Base

Remove the housing base by loosening the two remaining hose clamps and sliding the base off of the housing. Set the base aside.

5.2.3 De-pressurization

Note: If the unit you ordered has a part number ending in -xHP, the unit can be pressurized. If the unit you received does NOT end in -xHP, skip ahead to **Section 5.2.4**.

Note: Standard housings are shipped un-pressurized from the factory. If you have ordered this unit as part of a camera package, the unit may have shipped from the factory pre-pressurized. Check the packaging for an applicable addendum to this installation manual.



CAUTION
Pressurized container.



DO NOT open the housing unit until pressure is removed.

1. Release all gas pressure from the housing by using the Schrader valve located on the back of the housing. See **Figure 3** for location of the Schrader Valve.
2. Unscrew the Schrader valve and press the plunger inward until gas no longer flows from the housing.

Note: An over-pressurization safety relief valve is mounted on the rear cap along with the Schrader valve. The purpose of the relief valve is to provide a safety pressure blow-off should internal pressure exceed 20 PSI (1.38 bar) at one atmosphere. In the event of a pressure blow-off, the valve will re-seal at or above 11 PSI (0.76 bar).

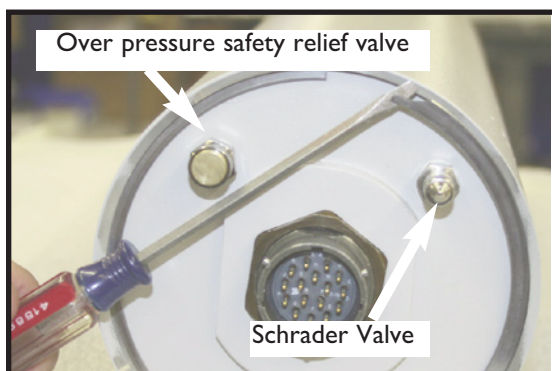


FIGURE 3 Rear Cap View

5.2.4 Cradle Removal

1. Remove the outer retaining ring at the rear of the housing by using a flat blade screwdriver. Gently lift the retaining ring at the opening and pry forward and lift up. The ring will lift slightly. Remove the ring from the housing.

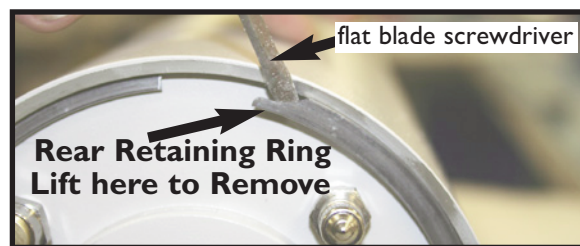


FIGURE 4 Remove Rear Retaining Ring

2. Remove the Cradle Assembly by using the flat blade screwdriver; gently insert it into the slot in the endcap

and pry up. The cradle will pop loose and can be pulled completely out of the housing tube.

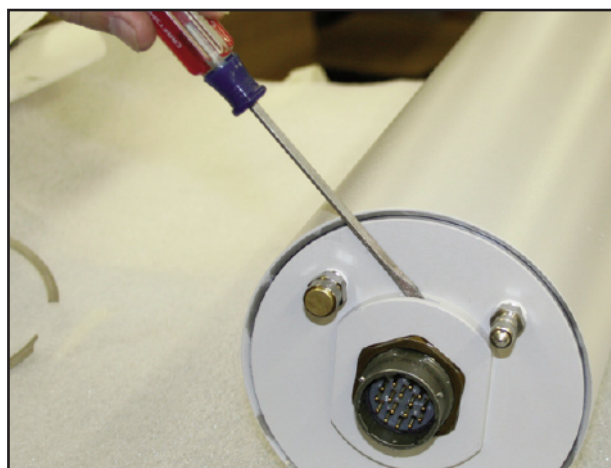


FIGURE 5 Open Housing Assembly

3. Slowly pull the cradle assembly out of the housing. Rotate the cradle assembly as needed to allow mounting screws and grounding contacts to clear the internal retaining ring. Make sure to keep the o-ring on the rear cradle cap clean. Dust or debris on the o-ring will cause the seal to fail when re-pressurized on pressurized units.

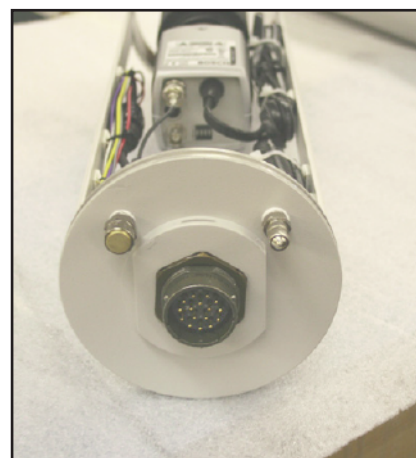


FIGURE 6 Cradle Assembly Removed

5.3 Camera/Lens Installation

Refer to the appropriate section below depending on the model you purchased when installing the camera and lens.

Several different sizes of 1/4-20 BHCS (Button Head Cap Screws) are provided to accommodate a variety of spacer combinations. Select the appropriate screw to ensure the camera/lens combination is mounted securely.

5.3.1 HS9392 Versions

1. Screw the lens onto the camera pursuant to the instructions provided with those units. On a workbench, determine how high above the rail the lens needs to be positioned so it is centered in the viewing window. Select the appropriate spacers required to raise the lens to this position.

2. Select the spacers required to raise the camera up to the appropriate height so that the camera/lens combination is level.
3. Determine which 1/4-20 BHCS are required to secure the camera and lens. Insert the head of both screws into the Channel between the cradle rails (see **Figure 7**).
4. Once the screws are in position, stack the appropriate plastic spacers on the threaded end of the screws as shown in **Figure 7**.
5. Beginning with the screw that will hold the camera, use a 5/32-inch Allen wrench to access the head of the screw from underneath the cradle. Hold the screw flush against the channel rails while lowering the camera onto the screw. Do not fully tighten the screw until the lens screw is in position and the camera/lens combination is adjusted (see **Section 5.3.3**).
6. Align the screw that will hold the lens in the channel similar to step 5. Lower the lens onto the screw and begin to tighten; do not tighten fully. Proceed to **Section 5.3.3** to adjust the camera/lens combination.

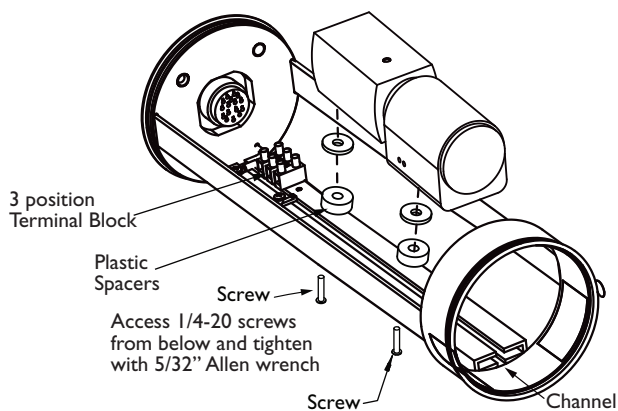


FIGURE 7 HS9392 Camera/Lens installation

5.3.2 HS9396 Versions

1. Screw the lens onto the camera pursuant to the instructions provided with those units. On a workbench, determine how high above the rail the lens needs to be positioned so it is centered in the viewing window. Select the appropriate spacers required to raise the lens to this position.
2. Determine if the Camera Bracket (see **Figure 8**) needs to be adjusted back or forth on the rails. Remove the four screws described in **Figure 8** to adjust the camera bracket.
3. Select the spacers required to raise the camera up to the appropriate height above the camera brackets so that the camera/lens combination is level.
4. Determine which 1/4-20 BHCS are required to secure the camera and lens. Insert the camera screw and washer up through the slot in the camera bracket as shown in **Figure 8**. Place the necessary spacers onto the screw and insert a long 5/32-inch Allen wrench into the screw by accessing it from below (between the slot in the rails).

5. Hold the screw flush against the camera bracket while lowering the camera onto the screw. Do not fully tighten the screw until the lens screw is in position and the camera/lens combination is adjusted (see **Section 5.3.3**).
6. Insert the head of the lens screw and washer into the Channel between the cradle rails (see **Figure 8**). Place the appropriate spacers onto the threads of the screw. Use the 5/32-inch Allen wrench to hold the screw flush against the cradle rails. Lower the lens onto the screw and begin to tighten; do not tighten fully. Proceed to **Section 5.3.3** to adjust the camera/lens combination.

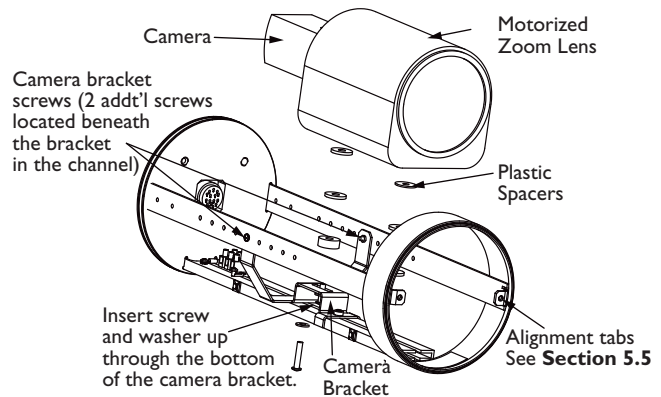


FIGURE 8 HS9396 Camera/Lens installation

5.3.3 Positioning the Camera/Lens Combination

Fixed Lens Cameras: Position the camera/lens 1mm (0.04-inch) away from the faceplate. The camera/lens is secured to the cradle with a 1/4-20 button BHCS and the appropriate plastic spacer. Connect BNC cable.

Zoom Lens Cameras: **Zoom Lens:** When installing a new zoom lens, adjust the lens focus to extend the lens to its longest size and then make sure that the front of the lens is at least 0.150" (3.8 mm) behind the front edge of the cradle front ring. Secure both the camera and the lens to the cradle with the 1/4x20 BHCS and appropriate plastic spacer. Connect BNC cable.

5.3.4 Wiring the Camera and Lens

Both HS9392 and HS9396 units are similar in their wiring configurations. No internal transformer is provided. The designation of each wire in the internal wire harness is detailed in **Section 5.4**.

Connect the BNC plug from the internal wiring harness to the Video Output BNC jack on the camera. Accessory wires are provided and pin assignments are provided in **Section 5.4**. Use these accessory wires to hook up any lens wires or alarm wires as needed.

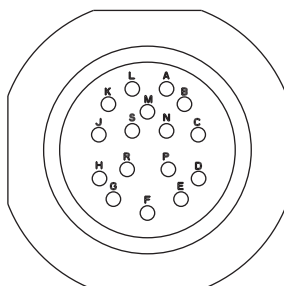
Pins J, K, and L or the military connector are used for power and are terminated into a 3-position terminal block located on the camera cradle. The heater is pre-wired. 115VAC and 230VAC units include a 3-prong power cord inside the unit for quick device hookup. If desired, the power cord can be removed and customer-supplied hook up wire can be used to power the devices.

Note: Do not attempt to supply a different voltage to the housing other than the type designated by the housing's part number (i.e. -2H and -2HP housings accept 24VAC \pm 10%, and -6H and -6HP housings accept 115VAC \pm 10%).

5.4 Wiring Diagram, Electrical Connections

All electrical connections are made via the single corrosion-resistant connector on the rear panel. A mating connector and crimp pins are supplied. The pins will accept wire from a minimum of 0.5 mm² (20 AWG) to a maximum of 1.5 mm² (16 AWG). Crimp the wire to the connector using an appropriate crimp tool.

Pin	Connection	Color	Gauge
A	Accessory	White	20 AWG
B	Accessory	Red	20 AWG
C	Accessory	Gray	20 AWG
D	Focus	Violet	20 AWG
E	Accessory	Brown	20 AWG
F	Video Shield	Black	20 AWG
G	Video Output	Coax	20 AWG
H	Accessory	Orange	20 AWG
J	Ground	Green/Yellow	18 AWG
K	AC Neutral	White	18 AWG
L	AC Line	Black	18 AWG
M	Accessory	Yellow	20 AWG
N	Accessory	Black	20 AWG
P	Zoom	Blue	20 AWG
R	Lens Common	Green	20 AWG
S	Accessory	White/Black	20 AWG



MS3126F20-16S
16-PIN MATING
CONNECTOR

Tools For Use With Connectors

The following tools are available from:

Daniels Manufacturing Corporation
6103 Anno Avenue
Orlando, FL 32809
407-855-6161

Crimp Tool: AF8 (M22520/1-01).
Crimp Tool Turret: TH1A (M22520/1-02).
Insertion Tool: DAK16B (M81969/17-04).
Removal Tool: DAK16A (M81969/19-08).
<https://www.dmctools.com>

The following tools are available from:

Amphenol Corp.
40-60 Delaware Ave.
Sidney, NY 13838-1395
607-563-5011

Insertion Tool: 11-7401-16 (M81969/17-04).
Removal Tool: 11-7880-16 (M81969/19-08).
<http://www.amphenol-aerospace.com>

5.5 Assembly and Pressurization

- To reassemble install a new desiccant kit and, slide the cradle back into the housing. Align the two Alignment pins on the front of the cradle with the holes in the front cap. The cradle will not seat fully if the pins are mis-aligned (hint: look through the front window to align the pins and holes). Once fully inserted the cradle and front cap can be rotated (if needed) to obtain an optimal viewing angle. Replace the the rear retaining ring by inserting it into the housing groove. This secures the cradle assembly in the housing.
- For Pressurization Models:** The housing is fitted with a standard Schrader valve to allow pressurization with dry nitrogen.
- For Pressurization Models:** An overpressurization safety relief valve is mounted on the rear cap along with the Schrader valve. The purpose of the relief valve is to provide a safety pressure blow-off should internal pressure exceed 20 PSI (1.38 bar) at one atmosphere. In the event of a pressure blow-off, the valve will re-seal at or above 11 PSI (0.76 bar)
- For Pressurization Models:** With both the front and rear outer retaining rings installed, use the Schrader Valve to add 10PSI (0.69 bar) nitrogen to pressurize the housing with dry nitrogen (preferred) or filtered and dry compressed air.

Service Notes:

- Caution:** Failure to provide a dry internal environment within the housing could lead to moisture condensation within the housing under certain conditions, adversely affecting camera and lens performance.
- Desiccant Kit:** A desiccant kit is available to help insure a dry internal environment within the housing. Whenever the housing is opened for service, a new kit should be installed. The desiccant can be placed on the inside surface of the rear cap using the double sided tape provided.
- Purge Moisture:** To purge trapped moisture from inside the housing do the following.
 - Pressurize the housing to 10 PSI (0.69 bar) with a source of dry nitrogen (preferred) or filtered and dry compressed air.
 - Allow the unit to sit for at least two minutes and then release the pressure.
 - Repeat steps i and ii. Each time this cycle is completed, approximately 40% of the trapped moisture is removed from the housing. Complete the cycle 4 times and approximately 13% of the original moisture will remain. Complete the cycle 5 times and approximately 8% of the original moisture will remain.

5.6 Attaching the Mounting Base

1. Review the instructions provided with the mount or pan/tilt unit that the housing Mounting Base will be attached to.
Both HS9392 and HS9396 versions include three center-line holes that accept up to M8 or 1/4-20 screws. Refer to **Dimensional Outlines Base Plate** for exact specifications. The HS9396 versions include four additional holes that accept up to M10 or 5/16" screws. Use the appropriate sized fasteners along with flat washers and lock washers (not supplied) to attach the housing base to the mounting plate (specific to each installation). Use the maximum possible size fasteners and secure each firmly. A diagram of the hole patterns available for mounting the base is provided in **Dimensional Outlines Base Plate**.
2. Attach two hose clamps with stainless steel straps to the base through the base access holes. The base assembly has four clearance holes for mounting.
3. Position the housing tube onto the base with the weight of the housing evenly distributed upon the base for stability.
4. Secure with two hose clamps using a flat blade screwdriver
5. Place the Sunshield on the housing and secure with two hose clamps, being careful to avoid scratching the housing.

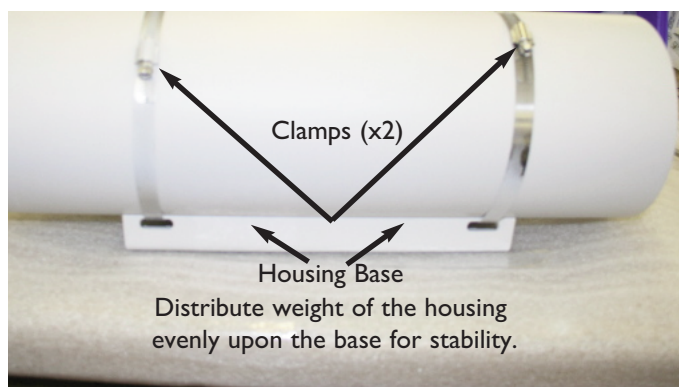


FIGURE 9 Attaching the Mounting Base

Dimensional Outlines

