

**EH3508/EH3512/  
EH3515 Series  
Environmental  
Enclosure**

**Installation/  
Operation Manual**

**C478M-L (11/03)**



## IMPORTANT SAFEGUARDS AND WARNINGS

Prior to installation and use of this product, the following WARNINGS should be observed.

1. Installation and servicing should only be done by qualified service personnel and conform to all local codes.
2. Unless the unit is specifically marked as a NEMA Type 3, 3R, 3S, 4, 4X, 6 or 6P enclosure, it is designed for indoor use only and it must not be installed where exposed to rain and moisture.
3. Only use replacement parts recommended by Pelco.
4. After replacement/repair of this unit's electrical components, conduct a resistance measurement between line and exposed parts to verify the exposed parts have not been connected to line circuitry.
5. The installation method and materials should be capable of supporting four times the weight of the enclosure, pan/tilt, camera and lens combination.

The product and/or manual may bear the following marks:



This symbol indicates that dangerous voltage constituting a risk of electric shock is present within this unit.



This symbol indicates that there are important operating and maintenance instructions in the literature accompanying this unit.

**CAUTION:**

RISK OF ELECTRIC SHOCK.  
DO NOT OPEN.

Please thoroughly familiarize yourself with the information in this manual prior to installation and operation.

## DESCRIPTION

The EH3508/EH3512/EH3515 Series are indoor/outdoor light-duty camera enclosures designed for use with various cameras on the market and accommodate fixed focal length or motorized zoom lenses, with or without auto-iris operation.

The lid of the enclosure is hinged in the front providing easy access during installation and when camera and lens adjustments are necessary. The camera sled also serves as an elevation block. You can remove, flip, and then reinstall the sled to elevate the camera. All wiring and cabling is brought into the enclosure through adjustable glands at the bottom rear of the enclosure.

The rear link-lock latch can be used with a padlock of suitable size for applications requiring additional security.

## MODELS

EH3508	Enclosure, indoor/outdoor, 8.75-inch (22.23 cm) lower body length. (CE)
EH3508-1	Same as EH3508 except unit is supplied with 120 VAC heater and defroster, 13 watts.
EH3508-2	Same as EH3508 except unit is supplied with 24 VAC heater and defroster, 13 watts. (CE)
EH3508-3	Same as EH3508 except unit is supplied with 230 VAC heater and defroster, 13 watts.
EH3512	Enclosure, indoor/outdoor, 12.75-inch (32.38 cm) lower body length. (CE)
EH3512-1	Same as EH3512 except unit is supplied with 120 VAC heater, defroster, and blower, 17 watts.
EH3512-1HD	Same as EH3512 except unit is supplied with 120 VAC heater and defroster, 13 watts.
EH3512-2	Same as EH3512 except unit is supplied with 24 VAC heater, defroster, and blower, 15 watts. (CE)
EH3512-2HD	Same as EH3512 except unit is supplied with 24 VAC heater and defroster, 13 watts. (CE)

EH3512-3	Same as EH3512 except unit is supplied with 230 VAC heater, defroster, and blower, 22 watts.
EH3512-3HD	Same as EH3512 except unit is supplied with 230VAC heater and defroster, 13 watts.
EH3515	Enclosure, indoor/outdoor, 15.75-inch (40.00 cm) lower body length. (CE)
EH3515-1	Same as EH3515 except unit is supplied with 120 VAC heater, defroster, and blower, 27 watts.
EH3515-1HD	Same as EH3515 except unit is supplied with 120 VAC heater and defroster, 23 watts.
EH3515-2	Same as EH3515 except unit is supplied with 24 VAC heater, defroster, and blower, 25 watts. (CE)
EH3515-2HD	Same as EH3515 except unit is supplied with 24 VAC heater and defroster, 23 watts. (CE)
EH3515-3	Same as EH3515 except unit is supplied with 230 VAC heater, defroster, and blower, 32 watts.
EH3515-3HD	Same as EH3515 except unit is supplied with 230 VAC heater and defroster, 23 watts.

## INSTALLATION

The following items are supplied to mount the enclosure:

- 2 1/4-20 x .500-inch hex head screws
- 2 Flat washers
- 2 Split washers

The following items are supplied to mount the camera:

- 2 1/4-20 x .375-inch Phillips-head screws

Perform the following steps to install the enclosure, camera, and lens:

1. Unlatch and open the lid.
2. Remove the camera sled from the rail.
  - a. Loosen the screws that hold the camera sled in place.
  - b. Slide the sled forward so it can be lifted out over the screws.
  - c. Remove the sled.
  - d. Remove the parts tied to the sled.
3. If you are wiring the enclosure with cable, remove the glands and nuts from the parts bag and install them in the bottom of the enclosure. If you are wiring the enclosure with conduit, do not install the glands.
4. Attach the enclosure body to the appropriate mount using the instructions provided with the mount.

Attach the enclosure through the threaded mounting holes in the bottom of the enclosure. Use the 1/4-20 x .500 screws and washers provided (in the parts bag). Completely tighten the screws to attach the enclosure body to the mounting surface.

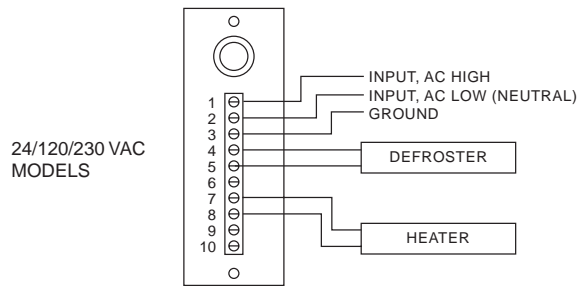
5. Attach the camera to the sled with the 1/4-20 x .375-inch Phillips-head screws provided (in the parts bag). You can attach the camera to either side of the sled. The side of the sled to which you mount the camera depends on the type of camera and lens you are attaching.

The edges of the sled are bent—one side up and the other side down. On one side of the sled, the lip is wide; on the other side of the sled, the lip is narrow. In a typical installation, you mount the camera so that the holes in the wide lip of the sled fit over the sled mounting screws.

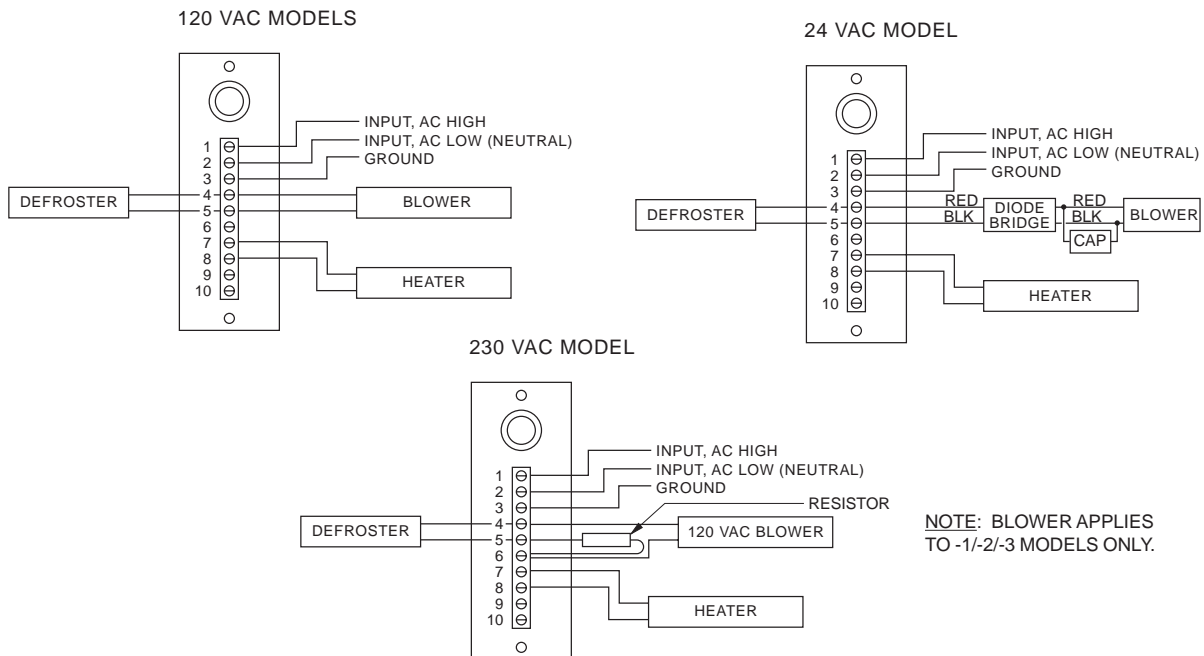
However, you can elevate the sled if you are installing a camera with a low optical center line or a camera with a large diameter lens. To elevate the sled (and therefore elevate the camera), flip the sled over so that the holes in the narrow lip of the sled fit over the sled mounting screws.

6. Move the sled so that the sled mounting screws extend through the narrow part of sled mounting holes, and partially tighten the sled mounting screws.

7. Pull the video and power cables through the glands or conduit on the bottom of the enclosure. Refer to Tables A and B to determine the size of power wire to use. Refer to Table C for the type of video coaxial cable to use.
  8. Attach the cables to the camera.
  9. If the enclosure has accessories that require power, connect the power to pins 1 and 2 on the PC Board (refer to Figures 1, 2, and 3 for information about accessory wiring). Connect ground to pin 3 if required.
- You can connect the camera power to the PC board if the voltages are the same between the accessories and camera. If you want to connect the camera power to the PC board, connect the camera power to pins 1 and 2. Connect ground to pin 3 if required.
10. If the camera lens is adjustable, extend the lens to its maximum length; verify that the camera is adjusted with the lens a minimum of 1/2 inch from the enclosure window.
  11. Tighten the screws that secure the sled to the enclosure.
  12. Adjust the glands for a tight fit around the cables.
  13. Close the enclosure lid, and latch.
  14. Adjust the camera focus and iris if necessary. If you need to adjust the focus and iris manually, open the enclosure lid, adjust the focus and iris, and close the enclosure lid.



**Figure 1.** EH3508-1/-2/-3 Wiring Diagram



**Figure 2.** EH3512-1/-1HD/-2/-2HD/-3/-3HD Wiring Diagram

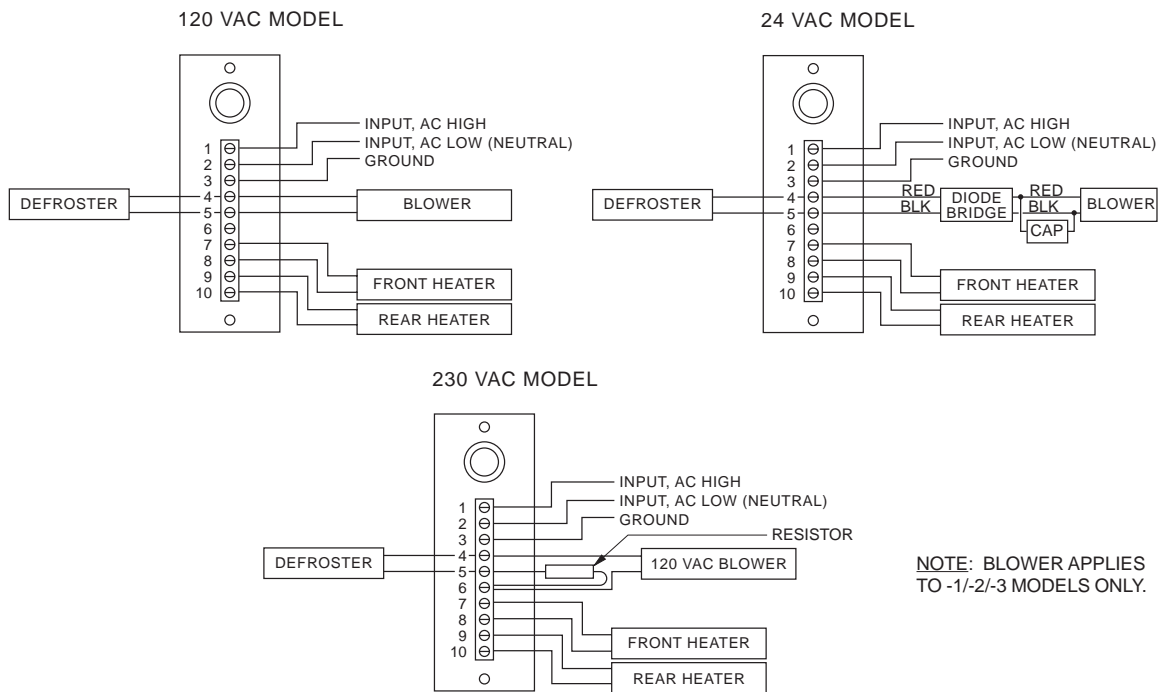


Figure 3. EH3515-1/-1HD/-2/-2HD/-3/-3HD Wiring Diagram



**CAUTION:** When using a single power source for both camera and accessories, consider the camera power consumption when determining the wire gauge. Table A does not include camera power.

Table A. Enclosure Accessory Wiring Distances

The following cable sizes are the minimum recommended for use with the heater and defroster combination in enclosures in the EH3508 Series, and the heater, defroster, and blower combination in enclosures in the EH3512 Series and EH3515 Series only.

Model Number	Input Voltage	Accessories	Power Consumption	Cable Size	Cable Distance
EH3508-1 EH3512-1HD	120 VAC at 60 Hz	Heater Defroster	13 watts	20 AWG	5,456 ft (1,662 m)
				18 AWG	8,680 ft (2,645 m)
				16 AWG	13,777 ft (4,199 m)
				14 AWG	21,978 ft (6,698 m)
EH3508-2 EH3512-2HD	24 VAC at 60 Hz	Heater Defroster	13 watts	20 AWG	218 ft (66 m)
				18 AWG	347 ft (105 m)
				16 AWG	551 ft (167 m)
				14 AWG	879 ft (267 m)
EH3508-3 EH3512-3HD	230 VAC at 50 Hz	Heater Defroster	13 watts	20 AWG	20,045 ft (6,109 m)
				18 AWG	31,890 ft (9,720 m)
				16 AWG	50,612 ft (15,426 m)
				14 AWG	80,738 ft (24,608 m)
EH3512-1	120 VAC at 60 Hz	Heater Defroster Blower	17 watts	20 AWG	4,172 ft (1,271 m)
				18 AWG	6,658 ft (2,023 m)
				16 AWG	10,535 ft (3,211 m)
				14 AWG	16,806 ft (5,122 m)
EH3512-2	24 VAC at 60 Hz	Heater Defroster Blower	15 watts	20 AWG	189 ft (57 m)
				18 AWG	300 ft (91 m)
				16 AWG	477 ft (145 m)
				14 AWG	761 ft (231 m)
EH3512-3	230 VAC at 50 Hz	Heater Defroster Blower*	22 watts	20 AWG	11,845 ft (3,610 m)
				18 AWG	18,844 ft (5,743 m)
				16 AWG	29,907 ft (9,115 m)
				14 AWG	47,709 ft (14,541 m)
EH3515-1	120 VAC at 60 Hz	Heater Defroster Blower	27 watts	20 AWG	29 ft (8 m)
				18 AWG	47 ft (14 m)
				16 AWG	75 ft (22 m)
				14 AWG	120 ft (36 m)

\*Blower and resistor are 4.5 watts each for a total circuit power of 9 watts.

(Continued on next page)

**Table A. Enclosure Accessory Wiring Distances (Continued)**

Model Number	Input Voltage	Accessories	Power Consumption	Cable Size	Cable Distance
EH3515-2	24 VAC at 60 Hz	Heater Defroster Blower	25 watts	20 AWG	128 ft (39 m)
				18 AWG	204 ft (62 m)
				16 AWG	323 ft (98 m)
				14 AWG	516 ft (157 m)
EH3515-3	230 VAC at 50 Hz	Heater Defroster Blower*	32 watts	20 AWG	21 ft (6 m)
				18 AWG	34 ft (10 m)
				16 AWG	55 ft (16 m)
				14 AWG	88 ft (26 m)
EH3515-1HD	120 VAC at 60 Hz	Heater Defroster	23 watts	20 AWG	21 ft (6 m)
				18 AWG	66 ft (20 m)
				16 AWG	54 ft (16 m)
				14 AWG	87 ft (26 m)
EH3515-2HD	24 VAC at 60 Hz	Heater Defroster	23 watts	20 AWG	108 ft (32 m)
				18 AWG	172 ft (52 m)
				16 AWG	274 ft (83 m)
				14 AWG	437 ft (133 m)
EH3515-3HD	230 VAC at 50 Hz	Heater Defroster	23 watts	20 AWG	11 ft (3 m)
				18 AWG	18 ft (5 m)
				16 AWG	28 ft (8 m)
				14 AWG	45 ft (13 m)

\*Blower and resistor are 4.5 watts each for a total circuit power of 9 watts.

**Table B. 24 VAC Wiring Distances**

The following are the recommended maximum distances for 24 VAC applications and are calculated with a 10-percent voltage drop. (Ten percent is generally the maximum allowable voltage drop for AC-powered devices.)

Total VA consumed	Wire Gauge						Maximum distance from transformer to load
	20 AWG (0.5mm <sup>2</sup> )	18 AWG (1.0mm <sup>2</sup> )	16 AWG (1.5mm <sup>2</sup> )	14 AWG (2.5mm <sup>2</sup> )	12 AWG (4.0mm <sup>2</sup> )	10 AWG (6.0mm <sup>2</sup> )	
10	283 (86)	451 (137)	716 (218)	1142 (348)	1811 (551)	2880 (877)	
20	141 (42)	225 (68)	358 (109)	571 (174)	905 (275)	1440 (438)	
30	94 (28)	150 (45)	238 (72)	380 (115)	603 (183)	960 (292)	
40	70 (21)	112 (34)	179 (54)	285 (86)	452 (137)	720 (219)	
50	56 (17)	90 (27)	143 (43)	228 (69)	362 (110)	576 (175)	
60	47 (14)	75 (22)	119 (36)	190 (57)	301 (91)	480 (146)	
70	40 (12)	64 (19)	102 (31)	163 (49)	258 (78)	411 (125)	
80	35 (10)	56 (17)	89 (27)	142 (43)	226 (68)	360 (109)	
90	31 (9)	50 (15)	79 (24)	126 (38)	201 (61)	320 (97)	
100	28 (8)	45 (13)	71 (21)	114 (34)	181 (55)	288 (87)	

**Table C. Video Coaxial Cable Wiring Distances**

Cable Type*	Maximum Distance
RG59/U	750 ft (229 m)
RG6/U	1,000 ft (305 m)
RG11/U	1,500 ft (457 m)

\* Minimum cable requirements:  
75 ohms impedance  
All-copper center conductor  
All-copper braided shield with 95% braid coverage

**EXAMPLE:** An enclosure that requires 80 VA and is installed 35 feet (10 m) from the transformer would require a minimum wire gauge of 20 AWG.

**NOTE:** Distances are calculated in feet; values in parentheses are meters.

## OPERATION

If your enclosure has a thermostatically controlled heater, the thermostat is set to turn on at 50°F (10°C) and to turn off at 80°F (27°C).

If your enclosure has a blower and/or defroster, they operate continuously.

## MAINTENANCE

Regularly scheduled maintenance prolongs the operational life and appearance of the equipment. Clean the window regularly with a soft cloth using a mild, nonabrasive detergent and water to maintain picture clarity.

## SERVICE MANUAL

If you need to repair the camera enclosure, obtain a service manual in one of the following ways:

- Go to Pelco's web site at <ftp://www.pelco.com> and find service manual C478SM.
- Call Pelco's DataFax service at 1-800-289-9108 or 1-559-292-0435 and request document number 24788.
- Contact Pelco's Literature Department and request service manual C478SM.

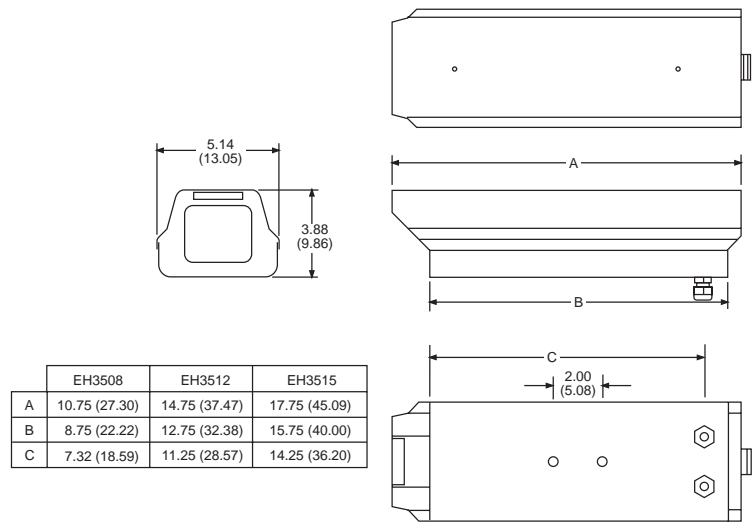
## SPECIFICATIONS

Camera Mounting:	Multiple holes on adjustable camera sled; camera sled mounts in threaded strip for easier removal and can be inverted for additional camera elevation.
Camera and Lens Size	Accommodates camera and lens combinations (including BNC connector) up to 2.87 in. W x 3.00 in. H (7.28 x 7.62 cm) and the following lengths: EH3508: 6.80 in. (17.27 cm) EH3508-1/-2/-3: 5.00 in. (12.70 cm) EH3512: 10.25 in. (26.03 cm) EH3512-1/-2/-3: 9.00 in. (22.86 cm) EH3512-1HD/-2HD/-3HD: 10.00 in. (25.40 cm) EH3515: 13.25 in. (33.66 cm) EH3515-1/-2/-3: 12.00 in. (30.48 cm) EH3515-1HD/-2HD/-3HD: 13.00 in. (33.02 cm)
Viewing Window:	Lexan®, .187-inch (4.75 mm) thick, optically clear, impact-resistant, MR5 coated (U.L. 94HB rated).
Viewing Area	
EH3508/EH3512/ EH3515:	2.25 in. H x 2.63 in. W (5.71 x 6.68 cm)
All other models:	2.00-inch (5.08 cm) diameter circle
Cable Entry:	Two PG13.5 compression glands on bottom at rear of enclosure; maximum cable diameter 0.47-inch (1.19 cm).
Cable Entry Holes:	0.875-inch diameter; will accept 0.50-inch (1.27 cm) conduit fitting when compression gland is removed.
Latch:	Link-lock No. 3, stainless steel, can be secured with padlock (not supplied).

### GENERAL

Construction:	Extruded and die-cast aluminum body
Dimensions:	Refer to Figure 4
Environment:	-10° to 120°F (-23° to 49°C)
Weight	
EH3508:	2.67 lb (1.21 kg)
EH3508-1/-2/-3:	2.76 lb (1.25 kg)
EH3512:	3.40 lb (1.58 kg)
EH3512-1/-2/-3-1HD/-2HD/-3HD:	3.85 lb (1.75 kg)
EH3515:	4.10 lb (1.86 kg)
EH3515-1/-2/-3-1HD/-2HD/-3HD:	4.47 lb (2.03 kg)

*(Design and product specifications subject to change without notice.)*



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES

Figure 4. EH3508, EH3512, EH3515 Dimension Drawing

## WARRANTY AND RETURN INFORMATION

### WARRANTY

Pelco will repair or replace, without charge, any merchandise proved defective in material or workmanship for a period of one year after the date of shipment. Exceptions to this warranty are as noted below:

- Five years on Pelco manufactured cameras (CC3500/CC3600/CC3700 and MC3500/MC3600 Series); two years on all other cameras.
- Three years on Genex® Series (multiplexers, server, and keyboard) and 090 Series Camclosure® Camera System.
- Two years on 100/150, 200 and 300 Series Camclosure® Camera Systems.
- Two years on cameras and all standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM6800E/CM8500/CM9500/CM9740/CM9760 Matrix, DF5 and DF8 Series Fixed Dome products.
- Two years on Spectra®, Esprit®, and PS20 Scanners, including when used in continuous motion applications.
- Two years on Esprit and WW5700 series window wiper (excluding wiper blades).
- Eighteen months on DX Series digital video recorders.
- One year (except video heads) on video cassette recorders (VCRs). Video heads will be covered for a period of six months.
- Six months on all pan and tilts, scanners or preset lenses used in continuous motion applications (that is, preset scan, tour and auto scan modes).

Pelco will warrant all replacement parts and repairs for 90 days from the date of Pelco shipment. All goods requiring warranty repair shall be sent freight prepaid to Pelco, Clovis, California. Repairs made necessary by reason of misuse, alteration, normal wear, or accident are not covered under this warranty.

Pelco assumes no risk and shall be subject to no liability for damages or loss resulting from the specific use or application made of the Products. Pelco's liability for any claim, whether based on breach of contract, negligence, infringement of any rights of any party or product liability, relating to the Products shall not exceed the price paid by the Dealer to Pelco for such Products. In no event will Pelco be liable for any special, incidental or consequential damages (including loss of use, loss of profit and claims of third parties) however caused, whether by the negligence of Pelco or otherwise.

The above warranty provides the Dealer with specific legal rights. The Dealer may also have additional rights, which are subject to variation from state to state.

If a warranty repair is required, the Dealer must contact Pelco at (800) 289-9100 or (559) 292-1981 to obtain a Repair Authorization number (RA), and provide the following information:

1. Model and serial number
2. Date of shipment, P.O. number, Sales Order number, or Pelco invoice number
3. Details of the defect or problem

If there is a dispute regarding the warranty of a product which does not fall under the warranty conditions stated above, please include a written explanation with the product when returned.

Method of return shipment shall be the same or equal to the method by which the item was received by Pelco.

### RETURNS

In order to expedite parts returned to the factory for repair or credit, please call the factory at (800) 289-9100 or (559) 292-1981 to obtain an authorization number (CA number if returned for credit, and RA number if returned for repair).

All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Goods returned for repair or credit should be clearly identified with the assigned CA or RA number and freight should be prepaid. Ship to the appropriate address below.

If you are located within the continental U.S., Alaska, Hawaii or Puerto Rico:

Service Department  
Pelco  
3500 Pelco Way  
Clovis, CA 93612-5699

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico:

**Intermediate Consignee**  
American Overseas Air Freight  
320 Beach Road  
Burlingame, CA 94010  
USA

**Ultimate Consignee**

Pelco  
3500 Pelco Way  
Clovis, CA 93612-5699  
USA

## REVISION HISTORY

Manual #	Date	Comments
C478M-H	6/97	Rev H. Revised to include new models (EH3515, EH3515-1, EH3515-2, EH3515-3).
C478M-I	8/98	Removed installation instructions for heater and blower kits, which have a separate manual. Moved exploded assembly diagram and parts list to new service/maintenance manual. Added certifications.
C478M-J	6/99	Moved the EH3508 Series enclosures from manual C1435M-A. Updated the description, installation instructions, and specifications. Updated wiring diagrams and dimension drawing. Modified per ECO 99-4749, which changed heater and defroster design.
C478M-K	7/99	Incorporated addendum of July 1, 1999. Added watts to model numbers. Added footnote to explain discrepancy of 230 VAC blower wattage. Revised camera and lens dimensions for heater/defroster models.
C478M-L	11/03	Updated certifications and corrected lens size specification.