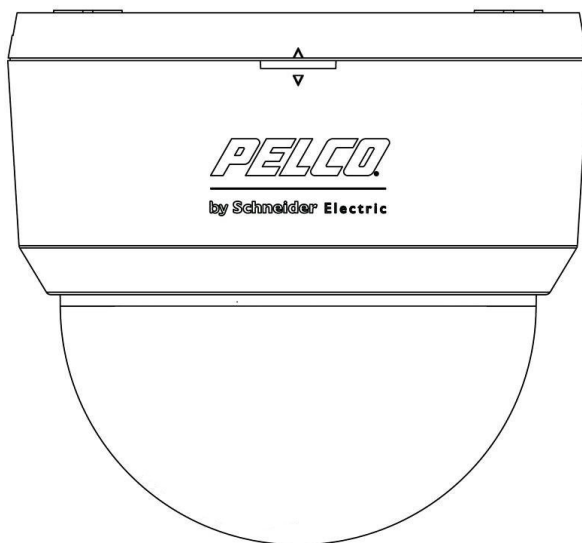


FD1 Series 540 TV lines

High Resolution Camera Installation/Operation Manual



(FD1-F Series)



(FD1-IR Series)

C3909M-EN (03/12)

Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.

FD1-F Series: FD1-F3-4(X), FD1-F4-4(X)
FD1-IR Series: FD1-IRF4-4(X), FD1-IRV9-4(X)

CONTENTS

Important Safety Instructions	3
Troubleshooting Tips	4
Regulatory Notices	5
1. Introduction.....	6
1.1 Package Contents.....	6
1.2 Dimensions	6
1.3 Names of Camera Parts	7
1.4 Routine Maintenance	8
2. Installation	9
2.1(A) Inserting Screw Anchors	9
2.2(A) Connecting the Wiring.....	9
2.3(A) Mounting the Camera	9
2.4(A) Adjusting the Camera Position	10
2.5(A) Locking (fixing) the Camera Body.....	11
2.1(B) Disassembling the Camera.....	12
2.2(B) Connecting the Wiring.....	13
2.3(B) Mounting the Camera	13
2.4(B) Adjusting the Camera Position	14
2.5(B) Adjusting the Lens (if equipped with varifocal lens)	15
2.6(B) Completing the Installation.....	15
3. Specifications	16
PRODUCT WARRANTY AND RETURN INFORMATION	18

Important Safety Instructions

1. **Read Instructions.** All the safety and operating instructions should be read before the camera is operated.
2. **Retain Instructions.** The safety and operating instructions should be retained for future reference.
3. **Heed Warnings.** All warnings on the camera and in the operating instructions should be adhered to.
4. **Follow Instructions.** All operating and use instructions should be followed.
5. **Cleaning:** Unplug the power unit from the wall 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 your appliance dealer, as they may cause hazards.
7. **Water and Moisture:** Do not use the camera in any location in which it may be exposed to water or moisture. (For example, dripping, splashing, or liquid near equipment etc.)
8. **Accessories:** Do not place the camera on an unstable cart, stand, tripod, bracket, or table. The camera may fall, causing serious injury to a child or adult, and serious damage to the camera. Use only with mounting accessories recommended by your appliance dealer or sold with the camera. Any mounting of the camera should follow your appliance dealer's instructions.



S3125A

The camera must be installed in a location or on a piece of equipment that can withstand three times the total weight of the camera, including the lens, camera, mount, adapter, etc.

9. Any 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.
10. **Ventilation:** The camera should never be placed near or over a radiator or heat register. The camera should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or your appliance dealer's instructions have been adhered to.
11. **Power Sources:** The camera should be operated only from the type of power source indicated on the rating plate. If you are not sure of the type of power supply for your installation site, consult your appliance dealer or local power company.
12. **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 at plugs, convenience receptacles, and the point where they exit from the camera.
13. **Lightning:** For added protection for the camera 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 camera due to lightning and power line surges.
14. **Overloading:** Do not overload the wall outlet and extension cord, as this can result in a risk of fire or electric shock.
15. **Object and Liquid Entry:** Never push objects of any kind into the camera 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 camera.
16. **Servicing:** Do not attempt to service the camera yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. **Damage Requiring Service:** Unplug the power unit from the wall outlet. Refer servicing to qualified service personnel under the following conditions.

Important Safeguards and Warnings

- a. When the power supply cord or plug is damaged.
 - b. If liquid has been spilled or objects have fallen into the camera.
 - c. If the camera has been exposed to rain or water.
 - d. If the camera 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 camera to its normal operation.
 - e. If the camera has been dropped or the cabinet has been damaged.
 - f. When the camera exhibits a distinct change in performance. This indicates a need for service.
18. Replacement Parts: When replacement parts are required, be sure the service technician has used replacement parts specified by a qualified dealer or that have the same characteristics as the original part.
- Unauthorized substitutions may result in fire, electric shock, or other hazards.
19. Safety Check: Upon completion of any service or repairs to the camera, ask the service technician to perform safety checks to determine that the camera is in proper operating condition.

Troubleshooting Tips

- Ensure that all power cords are attached.
- Ensure that all power switches are in the ON position.
- Ensure that all cables are installed in the proper location and are fully seated.

Regulatory Notices

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.

RADIO AND TELEVISION INTERFERENCE

This equipment has been tested and found to comply with the limits of a Class A digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Changes and Modifications not expressly approved by the manufacturer or registrant of this equipment can void your authority to operate this equipment under Federal Communications Commission's rules.

In order to maintain compliance with FCC regulations shielded cables must be used with this equipment. Operation with non-approved -equipment or unshielded cables is likely to result in interference to radio and television reception.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

Operating Notes:

Connect to DC12V power adapter.

Operating Conditions

- Avoid viewing very bright objects (example, light fixtures) for extended periods.
- Avoid operating or storing the unit in the following locations:
 - Extremely humid, dusty, hot/cold environments where the operating temperature is outside the recommended range of 14°F to 122°F (-10°C to +50°C)
 - Close to sources of powerful radio or TV transmitters
 - Close to fluorescent lamps or objects reflecting light
 - Under unstable light sources (may cause flickering)

1. Introduction

The dome camera series are ideal for indoor installation in commercial environment. With 2 or 3-axis mount support, it provides flexible installation: 2 axis mounts on ceilings only and 3 axis mounts on a ceiling or wall even at an angle.

1.1 Package Contents

Check that the items received match those listed on the order form and packing slip. The dome camera series packing box includes:

- One fully assembled camera
- One Installation manual
- Two screw anchors
- Two TP4x15mm tapping screws
- One guide pattern (FD1-IR series only)
- One TP1.7x3mm tapping screw (FD1-F series only)

If any parts are missing or damaged, contact the dealer you purchased the camera from.

1.2 Dimensions

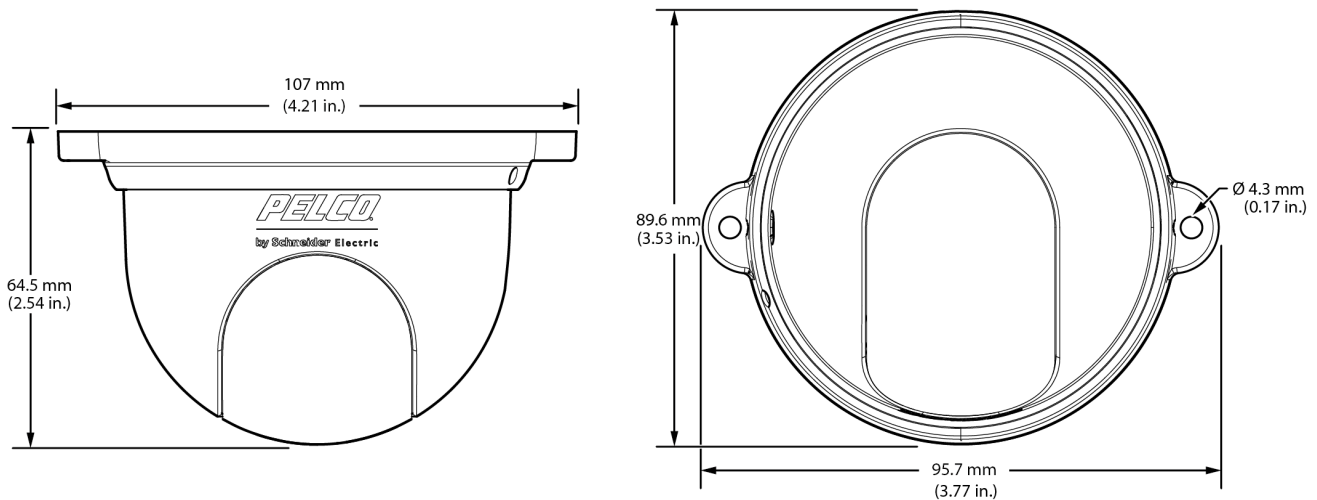


Figure 1-1 FD1-F3-4(X)/FD1-F4-4(X)

Introduction

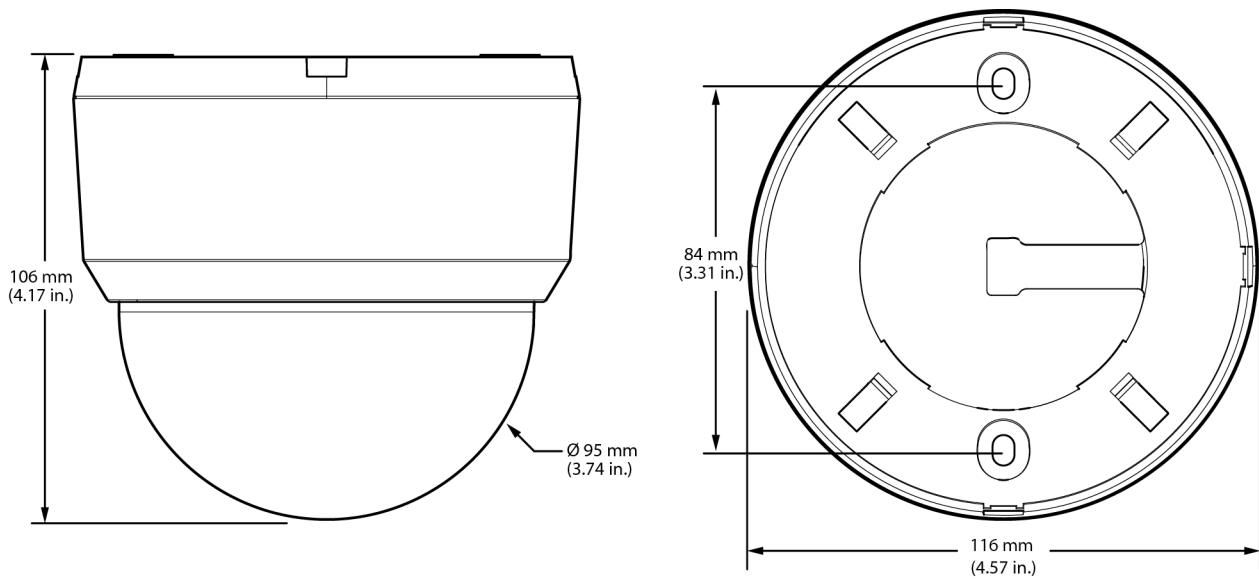


Figure 1-2 FD1-IRF4(X)/FD1-IRV9(X) (typical)

1.3 Names of Camera Parts

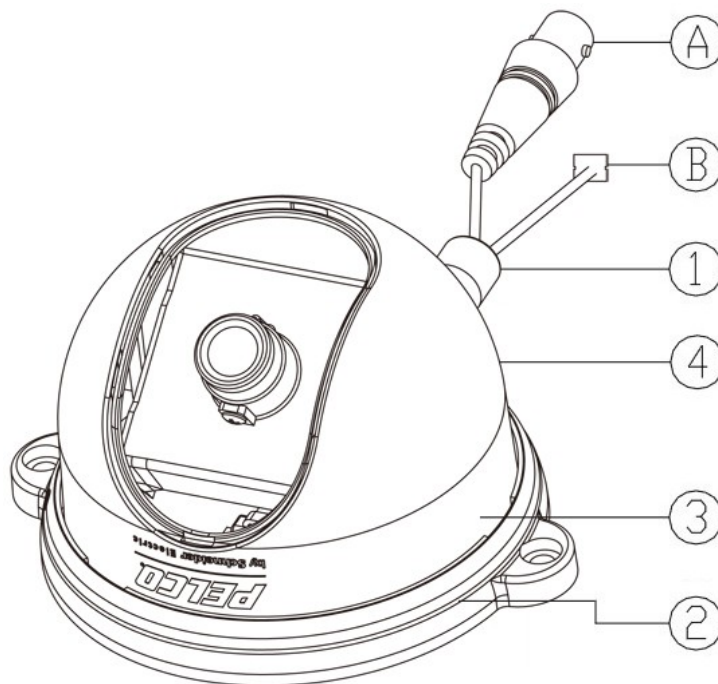


Figure 1-3 FD1-F3-4(X)/FD1-F4-4(X)

Introduction

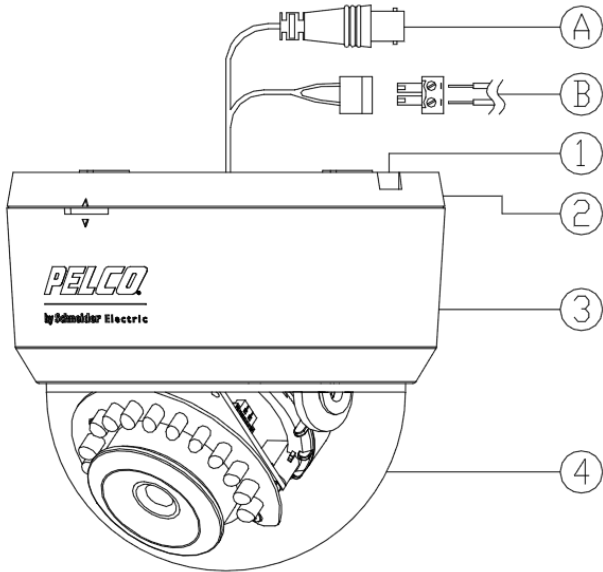


Figure 1-4 FD1-IRF4

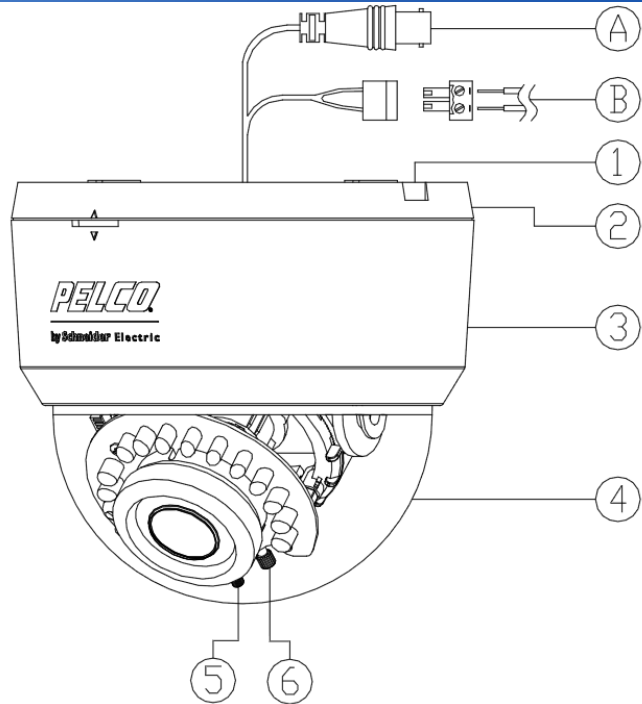


Figure 1-5 FD1-IRV9

1. **FD1-F series: Cable Y** used for surface run power/video connector

FD1-IR series: Conduit hole used for surface run power/video connector

2. **Bottom case**
3. **Camera housing**
4. **Dome cover**

5. **Zoom lever**

6. **Focus lever**

A. Video Output Terminal

B. DC12V Power Connector (Red+/Black-)

Note: See Figure 2-3 for camera board controls.

1.4 Routine Maintenance

- The dome cover is an optical part. Use a soft, dry cloth to remove any fingerprints or dust.
- Clean the camera housing with a soft, dry cloth. For more stubborn stains, use a cloth dampened with a small quantity of neutral detergent, then wipe dry.

Caution: Do not use volatile solvents such as alcohol, benzene or thinners to avoid damaging the surface finish.

2. Installation

Section 2(A) is installation for FD1-F Series.

2.1(A) Inserting Screw Anchors

1. Mark hole positions on the desired location.
2. Drill 2 holes according the two fixing holes in camera bottom case and insert screw anchors provided.

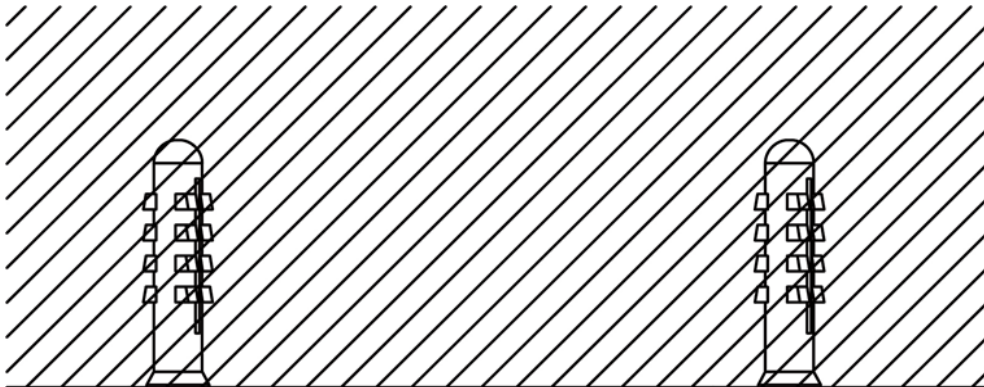


Figure 2-1(A) Insert Screw Anchors

2.2(A) Connecting the Wiring

Refer to Figure 1-3 to connect the video connect output connector (A) and DC12V power connector (B).

Caution: For DC power supply use, make sure the polarity is correct to avoid malfunction and / or camera damage.

2.3(A) Mounting the Camera

1. In order to get a suitable position and angle, please adjust the pan/tilt angle.
2. Secure the bottom case to the wall or ceiling with the TP4 x 15 mm tapping screws supplied (#2).

Note: Depending on the material of your mounting surface, you may require different screws and anchors than those supplied.

Installation

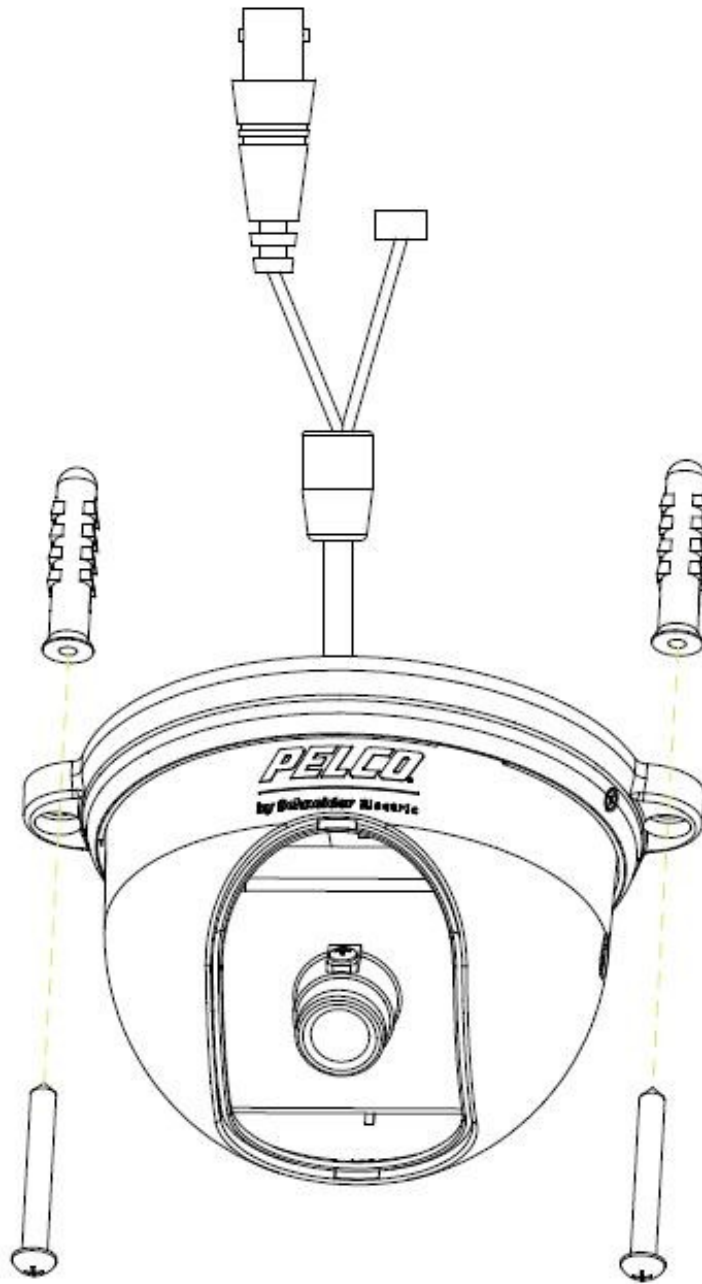


Figure 2-2(A) Camera Installation

2.4(A) Adjusting the Camera Position

The dome camera has two axes for positioning the camera. While monitoring the picture on the monitor, adjust the camera position as follows:

- **Pan Adjustment:** Rotate 3D assembly in the base. Do not turn assembly more than 360° as this may cause the internal cables to twist and disconnect or break.
- **Tilt Adjustment:** After loosening the screw on the bracket, position the camera as desired, then tighten the screw back to the bracket.

Installation

2.5(A) Locking (fixing) the Camera Body

Adjust the camera position and lock the camera body by tightening screws.

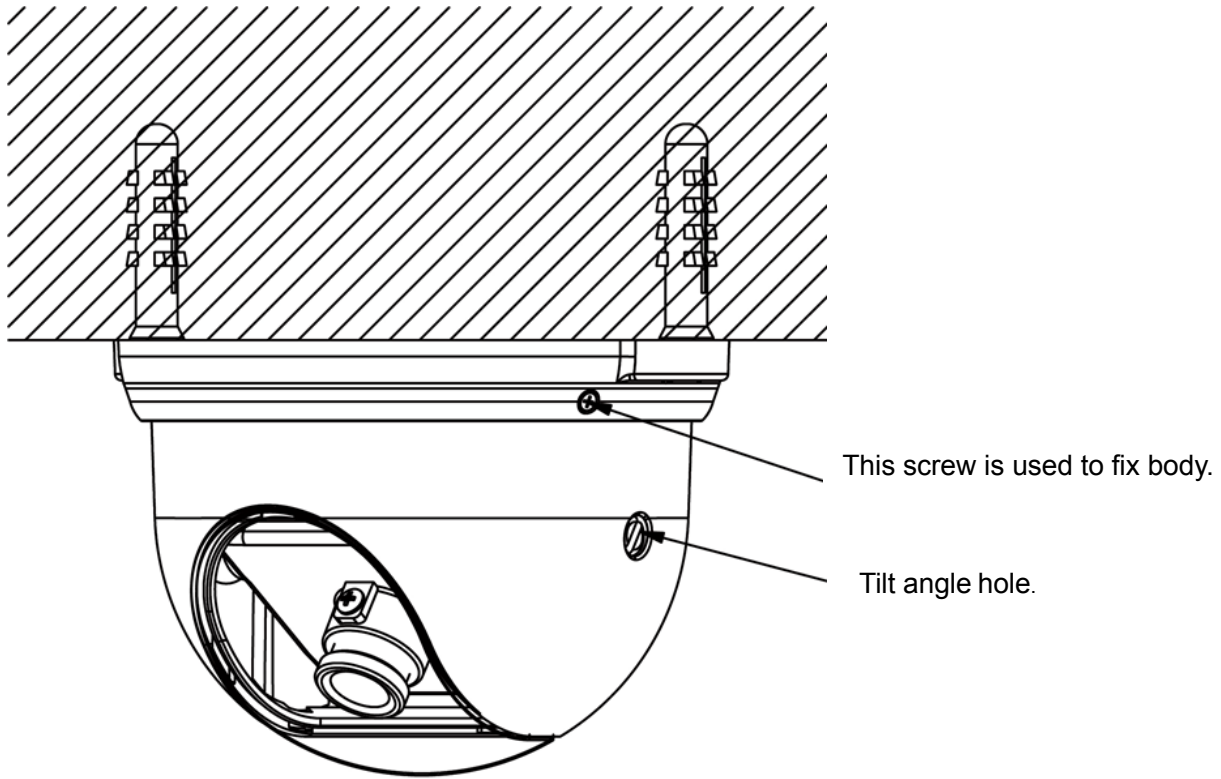


Figure 2-3(A) Completing the Installation

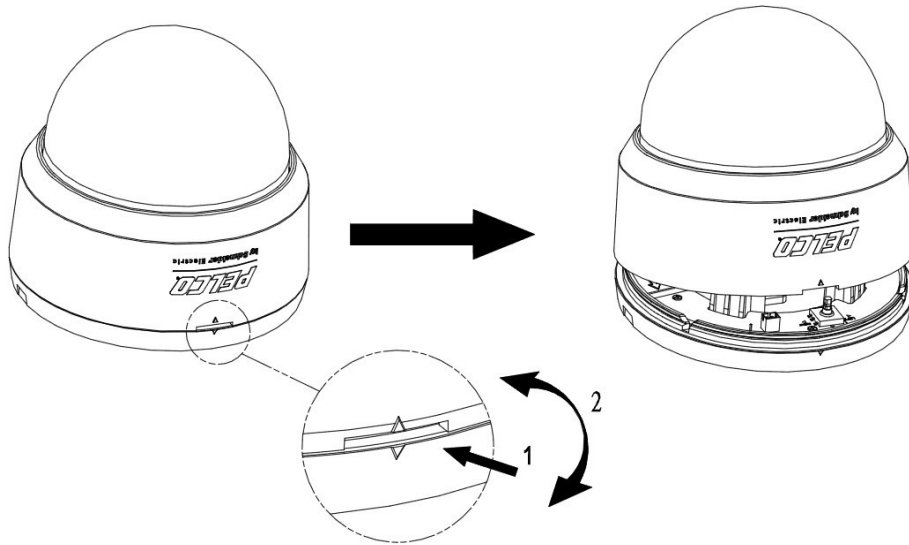
Installation

Section 2(B) is installation for FD1-IR Series.

2.1(B) Disassembling the Camera

Before you mount and adjust the camera, follow these steps to disassemble the camera.

1. Insert a coin or flat tool to the side hole and twist to remove the dome cover.



2. Remove the dome cover (#3) by gently pulling it free from the tilt adjustment bracket (#2).

3. Set the dome cover (#3) aside.

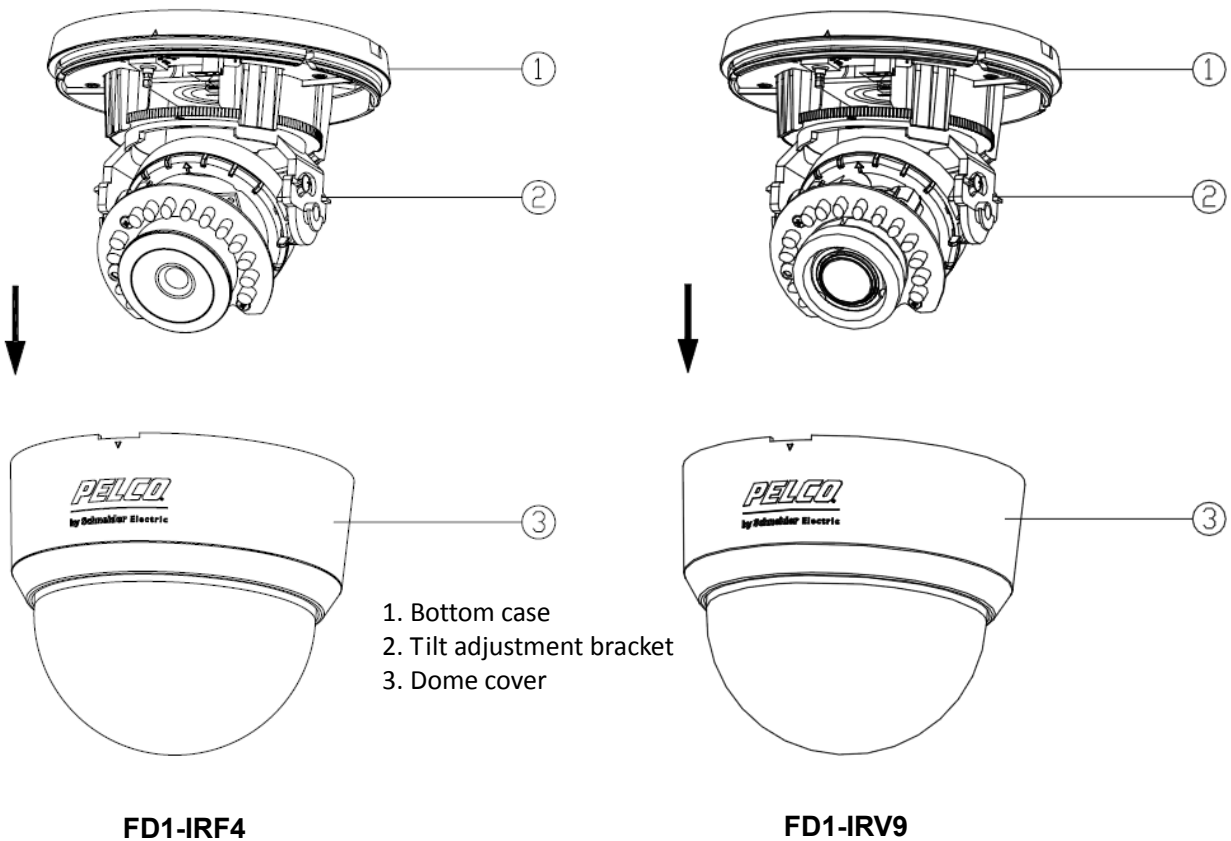


Figure 2-1(B) Disassemble the Camera

Installation

2.2(B) Connecting the Wiring

Refer to Figure 1-4 and Figure 1-5 to connect the video connect output connector (A) and DC 12V power connector (B).

Caution: For DC power supply use, make sure the polarity is correct to avoid malfunction and / or camera damage.

2.3(B) Mounting the Camera

1. Attach the mounting template to the wall or ceiling.
2. Drill two holes, then insert the screw anchors (#1) into the holes.
3. Secure the bottom case to the wall or ceiling with the TP4 x 15 mm tapping screws supplied (#2).

Note: Depending on the material of your mounting surface, you may require different screws and anchors than those supplied.

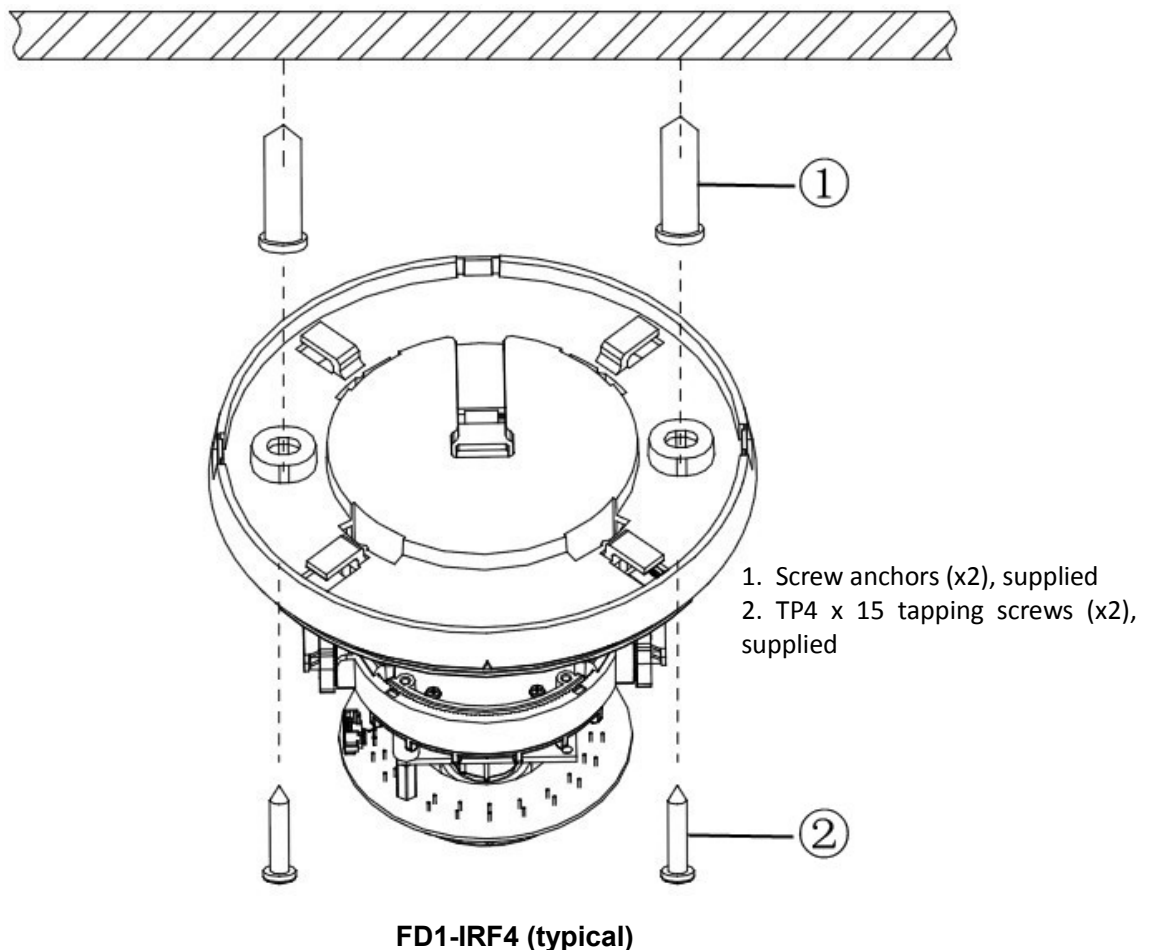


Figure 2-2(B) Camera installation

Installation

2.4(B) Adjusting the Camera Position

The dome camera has three axes for positioning the camera. While monitoring the picture on the monitor, adjust the camera position as follows:

- **Pan Adjustment:** Rotate 3D assembly in the base. Do not turn assembly more than 360° as this may cause the internal cables to twist and disconnect or break.
- **Tilt Adjustment:** After loosening the screw on the bracket, position the camera as desired, then tighten the screw back to the bracket.
- **Horizontal Rotation:** For wall mount and tilted ceilings, rotate the lens base (maximum 360°) until you are satisfied with the field of view.

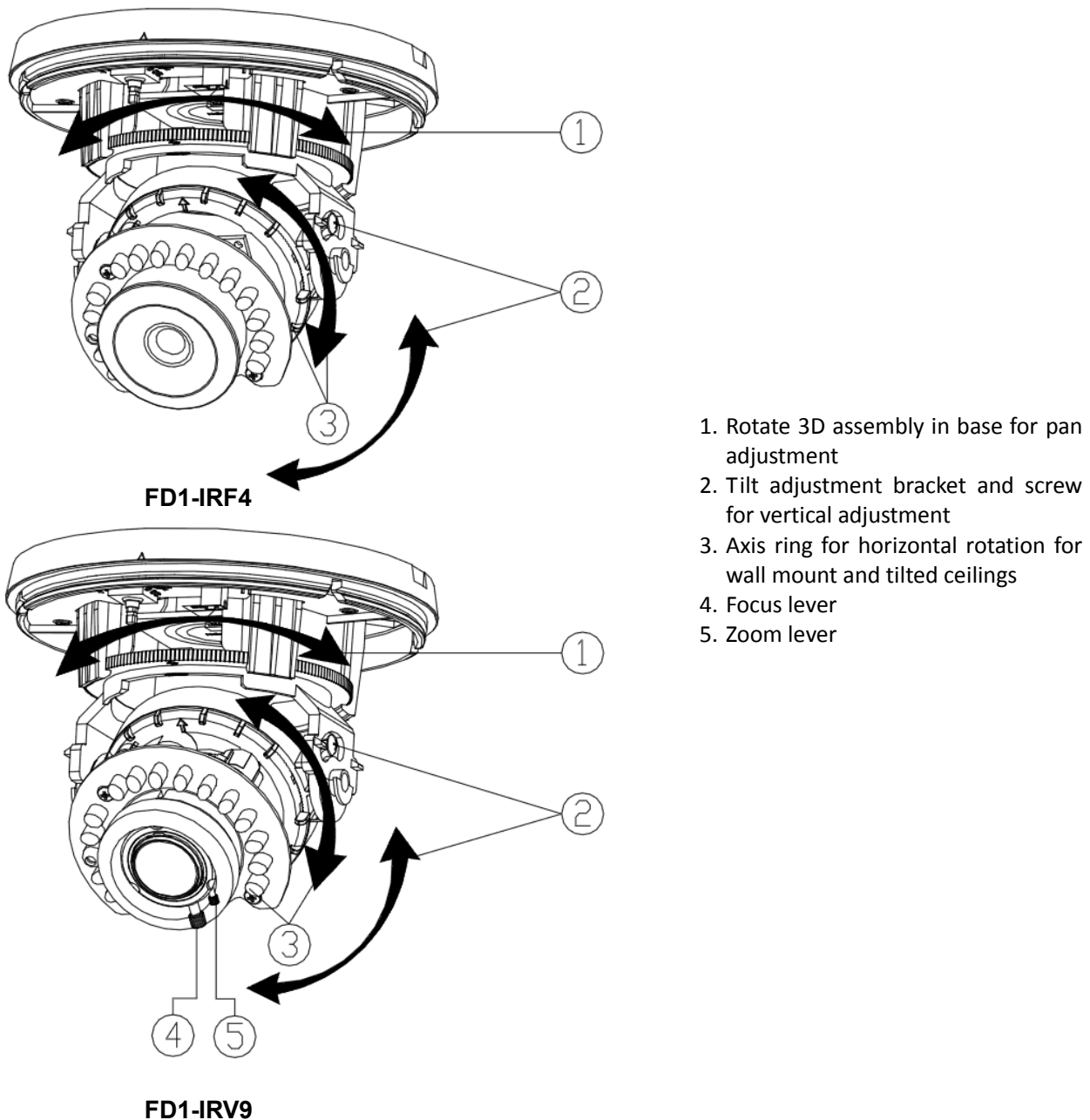


Figure 2-3(B) Camera Adjustment

Installation

2.5(B) Adjusting the Lens (if equipped with varifocal lens)

Refer to Figure 2-3(B), for FD1-IRV9, please carry out the following steps to adjust the lens:

1. Loosen the zoom lever (#5) counter-clockwise a little, then rotate the zoom lever and determine the image view.
2. Loosen the focus lever (#4) counter-clockwise a little, then adjust the focus for optimum picture sharpness.
3. Re-tighten the zoom lever and focus lever after adjustment.

Note: It is important that you lock the zoom and focus levers after making adjustments. This will avoid the positions moving (for example, from temperature changes or vibrations).

2.6(B) Completing the Installation

Once all adjustments are done, attach and secure the camera housing:

1. Use a soft, lint-free cloth to wipe the dome cover clean and remove fingerprints.
2. Attach the dome cover (#3) to the tilt adjustment bracket (#2). Push down until it clicks into place.
3. Assemble the dome cover (#3) and the bottom case (#1).

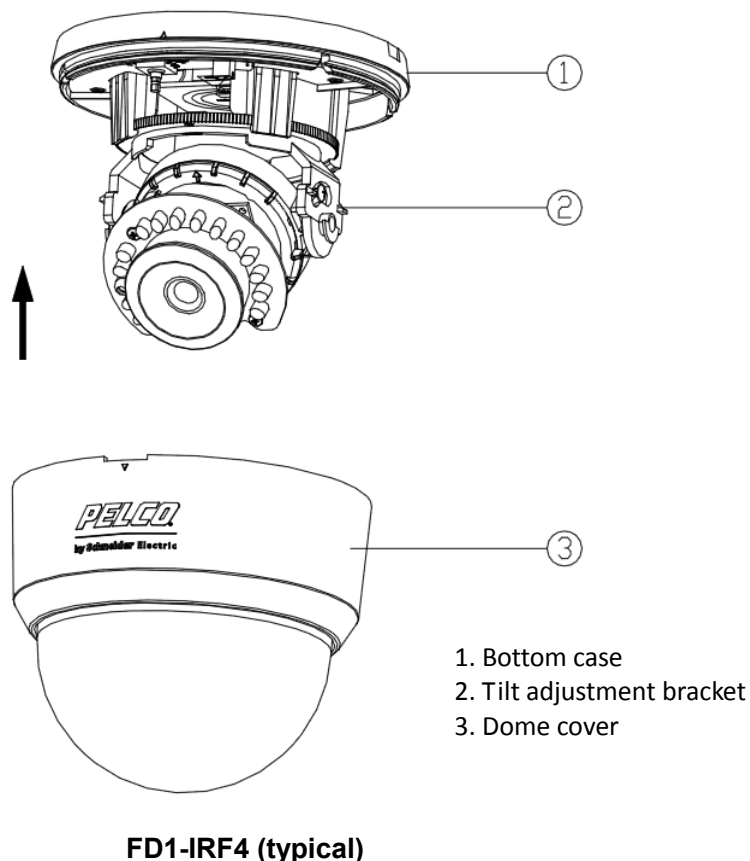


Figure 2-4(B) Completing the Installation

Specification

3. Specifications

FD1-F Series

Camera System Type	FD1-F3-4	FD1-F3-4X	FD1-F4-4	FD1-F4-4X
Format	NTSC	PAL	NTSC	PAL
Optical System				
Image Size	1/3"			
IR Cut Filter	Fixed			
Electronic				
Synchronization	Internal			
Horizontal resolution	540 TVL			
Field Of View	Horizontal: 90° Vertical: 80°		Horizontal: 72° Vertical: 52°	
Min. Object Distance	1.2m~∞			
Lens Options	F2.0, f 2.8mm		F2.0, f 3.6mm	
Sensitivity	f/2.0; 2,850°K; 30IRE Color (17 ms) 0.2 Lux	f/2.0; 2,850°K; 30IRE Color (20 ms) 0.2 Lux	f/2.0; 2,850°K; 30IRE Color (17 ms) 0.2 Lux	f/2.0; 2,850°K; 30IRE Color (20 ms) 0.2 Lux
Shutter	NTSC: Auto: 1/60~1/10,000, only PAL: Auto: 1/50~1/10,000, only			
Noise Reduction	2D			
Languages	Manual only English, Spanish, no OSD			
Connection/Termination	Flying leads (through the back)			
Power supply				
Power	12VDC (+10%/-15%)			
Power consumption	1W			
Environment				
Operating temperature	-10°C ~ 50°C (14 °F ~ 122 °F)			
Operating humidity	20% ~ 80% non-condensing			
Mechanism				
Back Box Construction	ABS Plastic			
Bubble Diameter	<86mm			
Easy adjustment	Manual 2 Axis Gimble			
Dimension	107mm x 64.5 mm			
Weight (unit)	120g			

Specification

FD1-IR Series

Camera System Type	FD1-IRF4-4	FD1-IRF4-4X	FD1-IRV9-4	FD1-IRV9-4X
Format	NTSC	PAL	NTSC	PAL
Optical System				
Image Size	1/3"			
IR Cut Filter	Dual band OLPF			
Electronic				
Synchronization	Internal			
Horizontal resolution	up to 540 TVL			
Lens Options	F2.0, f3.6mm		F1.2, 3-9mm, DC AI	
Field Of View	Horizontal: 72° Vertical: 52°		fW 3mm Horizontal: 85.3° Vertical: 63.8° fT 9mm Horizontal: 31.5° Vertical: 23.7°	
Min. Object Distance	1.2m~∞		0.5m~∞	
Sensitivity	f/2.0; 2,850°K; 30 IRE Color (17 ms) 0.2 Lux Mono (with IR) 0 Lux	f/2.0; 2,850°K; 30 IRE Color (20 ms) 0.2 Lux Mono (with IR) 0 Lux	f/2.0; 2,850°K; 30 IRE Color (17 ms) 0.13 Lux Mono (with IR) 0 Lux	f/2.0; 2,850°K; 30 IRE Color (20 ms) 0.13 Lux Mono (with IR) 0 Lux
IR Illumination Type	Standard			
IR Illumination Distance	15 meters		20 meters	
IR Sensitivity	850nm >40% Peak Response			
Low Light Technology	LED only			
Shutter	Auto: 1/60~1/10,000, only	Auto: 1/50~1/10,000, only	1/60 only	1/50 only
Noise Reduction	2D			
Languages	Manual only English, Spanish, no OSD			
Connection/Termination	Flying leads (through the back)			
Power supply				
Power	12VDC (+10%/-15%)			
Power consumption	2.7W			
Environment				
Operating temperature	-10°C ~ 50°C (14 °F ~ 122 °F)			
Operating humidity	20% ~ 80% non-condensing			
Mechanism				
Back Box Construction	ABS Plastic			
Bubble Diameter	< 101mm			
Easy adjustment	Manual 3 Axis Gimble			
Dimension (L W H)	116mm X 106mm			
Weight (unit)	250g		260g	

PRODUCT 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:
 - Fiber optic products
 - Unshielded Twisted Pair (UTP) transmission products
 - CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models
- Three years:
 - FD Series and BU Series analog camera models
 - Fixed network cameras and network dome cameras with Sarix® technology
 - Sarix thermal imaging products (TI and ESTI Series)
 - Fixed analog camera models (C20 Series, CCC1390H Series, C10DN Series, C10CH Series)
 - EH1500 Series enclosures
 - Spectra® IV products (including Spectra IV IP)
 - Spectra HD dome products
 - Camclosure® Series (IS, ICS, IP) integrated camera systems
 - DX Series video recorders (except DX9000 Series which is covered for a period of one year), DVR5100 Series digital video recorders, Digital Sentry® Series hardware products, DVX Series digital video recorders, and NVR300 Series network video recorders
 - Endura® Series distributed network-based video products
 - Genex® Series products (multiplexers, server, and keyboard)
 - PMCL200/300/400 Series LCD monitors
 - PMCL5xxF Series and PMCL5xxNB Series LCD monitors
- Two years:
 - Standard varifocal, fixed focal, and motorized zoom lenses
 - DF5/DF8 Series fixed dome products
 - Legacy® Series integrated positioning systems
 - Spectra III™, Spectra Mini, Spectra Mini IP, Esprit®, ExSite®, ExSite IP, and PS20

scanners, including when used in continuous motion applications

- Esprit Ti and TI2500 Series thermal imaging products
 - Esprit and WW5700 Series window wiper (excluding wiper blades)
 - CM6700/CM6800/CM9700 Series matrix
 - Digital Light Processing (DLP®) displays (except lamp and color wheel). The lamp and color wheel will be covered for a period of 90 days. The air filter is not covered under warranty.
- Six months:
 - All pan and tilts, scanners, or preset lenses used in continuous motion applications (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 a Pelco designated location. 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 that does not fall under the warranty conditions stated above, please include a

PRODUCT WARRANTY AND RETURN INFORMATION

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.

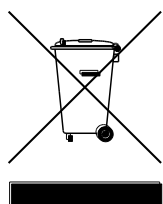
RETURNS

To expedite parts returned for repair or credit, please call Pelco 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) and designated return location.

All merchandise returned for credit may be subject to a 20 percent 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.



This equipment contains electrical or electronic components that must be recycled properly to comply with Directive 2002/96/EC of the European Union regarding the disposal of waste electrical and electronic equipment (WEEE). Contact your local dealer for procedures for recycling this equipment.



www.pelco.com

Pelco by Schneider Electric 3500 Pelco Way Clovis, California 93612-5699 United States
USA & Canada Tel (800) 289-9100 Fax (800) 289-9150
International Tel +1 (559) 292-1981 Fax +1 (559) 348-1120