



PT1260EX Series Explosion-Proof Pan/Tilt



C368M-E (6/04)

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IMPORTANT SAFEGUARDS AND WARNINGS

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

1. Installation and servicing should be done only 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. The installation method and materials should be capable to supporting four times the weight of the enclosure, camera, and lens combination.
5. The total load on tilt table shall not exceed 100 lb (45 kg) with the center of gravity at 5 inches above the tilt table surface. The weight and stiffness of explosion-proof cabling must be included in this weight calculation.
6. If used in marine applications, the installation shall be in accordance with the Electrical Engineering Regulations of the U.S.C.G., Subpart J, C.G. 259 (46 CFR Parts 110-113).
7. This enclosure has not been evaluated for use on vessels less than 65 feet (19.81 m) in length.
8. 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.
9. PT1260EX pan/tilts are not designed to be operated in continuous motion applications. Operating PT1260EX pan/tilts in such a manner could result in premature failure and/or serious damage to the equipment. Any repairs made necessary by reason of misuse are not covered under Pelco's standard warranty.

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.



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

DESCRIPTION

Pan/tilts in the PT1260EX Series have been engineered to meet the rigorous requirements of explosion-proof and dust-ignition-proof electrical equipment and are built in accordance with the National Electric Code Class I, Division I, Groups C, D, and Class II, Division I, Groups E, F, G.

The pan/tilt is capable of handling loads up to 100 pounds (45 kg), the PT1260EX Series features internal limit stops, rugged high torque A.C. motors, and adjustable worm gear final drives to ensure long operational life as well as drift-free operation.

The pan/tilts are manufactured from plate aluminum and all internal parts are constructed of corrosion-protected steel or aluminum. External parts are hard anodized aluminum for corrosion protection; fasteners are stainless steel. PT1260EX Series units are suitable for use in salty conditions such as aboard ships and on sea coasts.

MODELS

PT1260EX	Explosion-proof, 120 VAC operation pan/tilt for loads up to 100 lb (45 kg).
PT1260EX/220	Same as PT1260EX except 230 VAC operation
PT1260EX/PP	Same as PT1260EX except supplied with preset position (PP) modification
PT1260EX/PP/230	Same as PT1260EX/PP except 230 VAC operation

INSTALLATION

To ensure proper wiring and system operation of all components, it is highly recommended that the pan/tilt and the associated control equipment be tested at your facility before field installation is attempted. Refer to the *Electrical Installation*, *Cable Connections and Sealing Fitting*, and *Limit Stop Adjustment* sections for instructions.

MOUNTING

Follow the instructions provided with the mount. Make sure the mounting surface and the selected mount can support the combined weight of the pan/tilt and camera/lens assembly. The camera/lens must be correctly mounted and balanced on the tilt table for proper operation.



CAUTION: Pan/tilts in the PT1260EX Series are designed for upright or inverted operation and should never be mounted horizontally.

CAMERA/ENCLOSURE MOUNTING

1. Center (balance) the camera/lens, or enclosure/camera/lens load on the tilt table. Adjust the positioning as needed to align the mounting holes. A minimum of two 1/4-20 x 5/8-inch hex head fasteners must be used. Secure the load to the tilt table.
2. Make all necessary electrical connections. Be sure to leave an adequate loop of cables between the enclosure and the pan/tilt, and the enclosure and the rigid mount to prevent binding and/or strain on the cables. Refer to the *Electrical Installation* and *Cable Connections and Sealing Fitting* sections.

ELECTRICAL INSTALLATION

Cable distances should not exceed the distances specified in Table A. The following are some recommended common installation practices:

1. Always use jacketed, stranded, multiconductor interconnecting cable between the control and the pan/tilt, with more conductors available than needed, for future servicing and/or additions.
2. Always use color-coded conductors for ease of wiring and to identify functions at a later date.
3. Keep a wiring diagram with the system for later use and reference.

CABLE REQUIREMENTS

The following are the maximum recommended cable distances from the control:

Table A. Maximum Cable Distances

	120 VAC	230 VAC
18 AWG	778 ft (237 m)	3,918 ft (1,194 m)
16 AWG	1,235 ft (376 m)	6,218 ft (1,895 m)

NOTE: The minimum recommended wire gauge is 18 AWG. 20 AWG is not recommended.

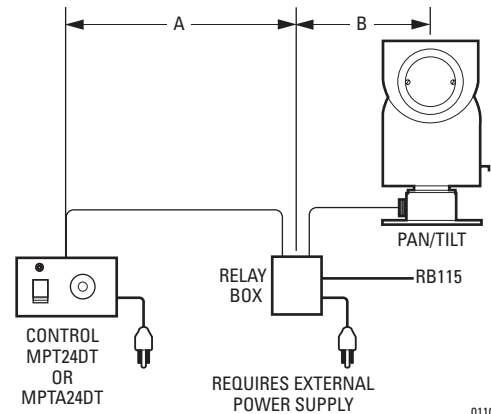
Calculations are made assuming a 10 percent cable loss with both motors running.

When used with the MPT24DT, MPTA24DT, or PT506-24DT control and RB115 relay box, refer to Table B for recommended cable distances. A six-conductor cable using a single common conductor is recommended. Distances are the approximate maximum recommended under the following conditions:

- Maximum rated pan/tilt
- Simultaneous pan/tilt activation

Table B. Recommended Cable Distances, RB115 Relay Box

WIRE SIZE (AWG)	MAXIMUM DISTANCE "A"	MAXIMUM DISTANCE "B"
16	5,800 ft (1,767 m)	489 ft (149 m)
18	8,250 ft (2,515 m)	778 ft (237 m)



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NOTE: Table B is not applicable for model PT1260EX/220.

CABLE CONNECTIONS AND SEALING FITTING

Make the appropriate connections to wire the pan/tilt (refer to Figures 1 through 3). Attach the sealing fitting and pull the camera and accessory cables (if applicable) through the appropriate fitting. Make all final electrical connections. After all testing of the pan/tilt has been completed, seal the fitting according to the instructions in the companion manual C903M.

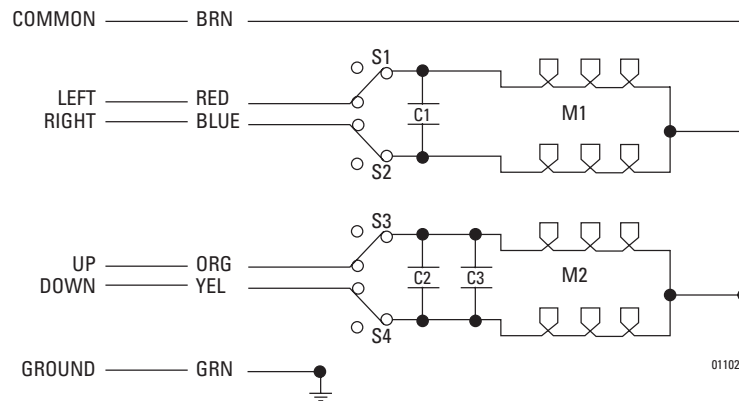


Figure 1. PT1260EX Wiring Schematic

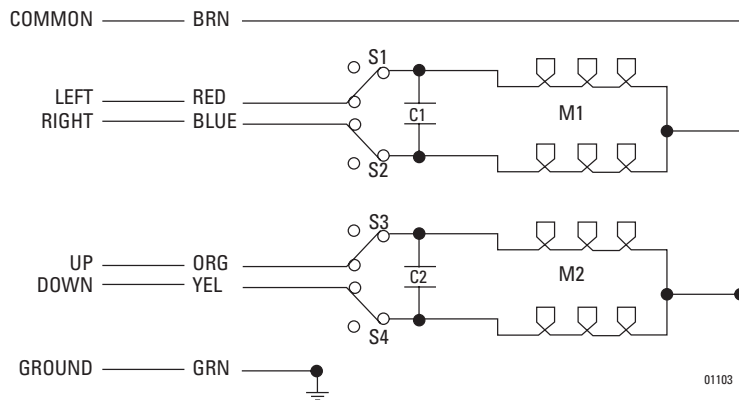


Figure 2. PT1260EX/220 Wiring Schematic

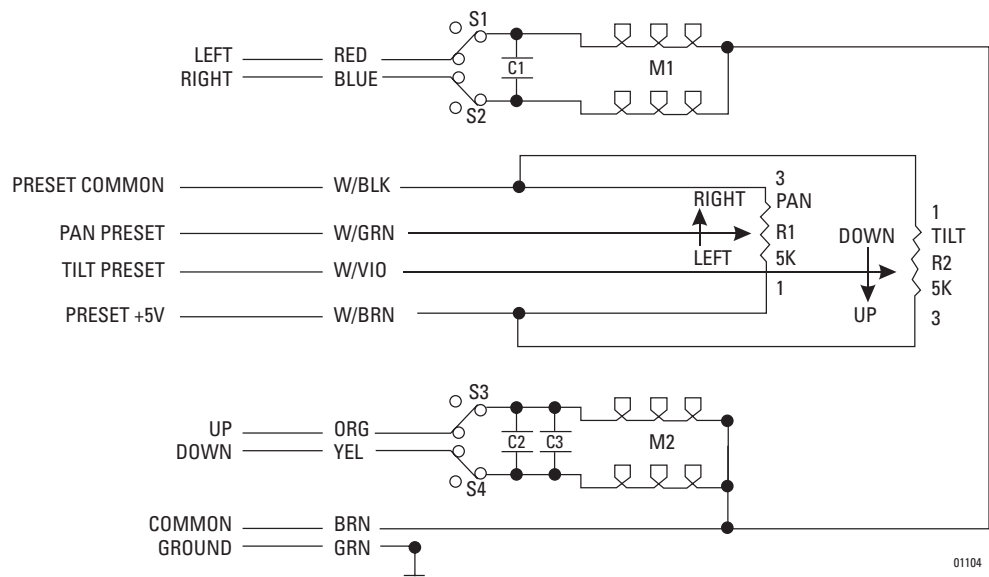


Figure 3. PT1260EX/PP and PT1260EX/PP/230 Wiring Schematic

LIMIT STOP ADJUSTMENT



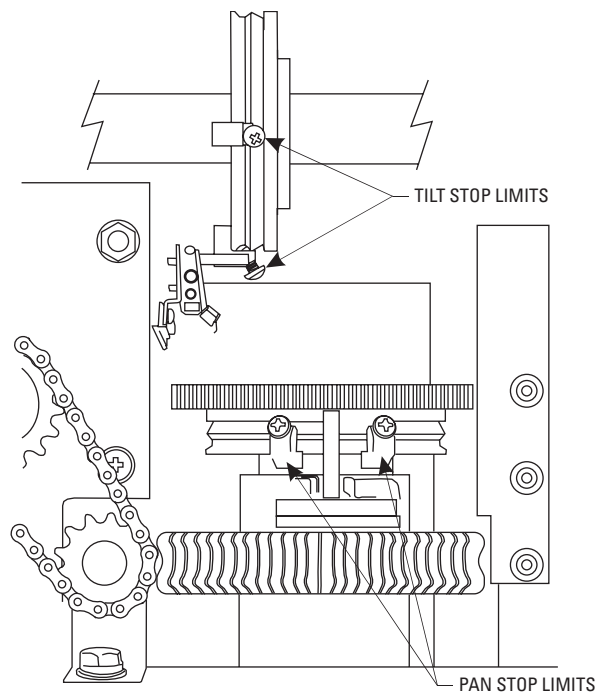
WARNING: When adjusting limit stops with power applied, the unit cannot be in a Class I, Class II, or Class III hazardous environment.

At the same time as you are testing the pan/tilt, you may want to adjust the limit stops. Adjust the stops as follows:

1. Remove pan/tilt sideplate covers and observe where the limit stops are located inside (refer to Figure 4).
2. Turn the control unit on. Pan the unit to the right until the desired position is located.
3. Loosen the pan limit stop and slide it against the pan limit switch actuator until you hear a click, indicating the opening of the limit switch. Tighten the setscrew to lock the limit stop in place.
4. Pan the unit to the desired left position, and set the stop in the same manner as in step 3.
5. Pan right and left once again to check the limit stops for exact positioning; repeat steps 3 and 4 if needed.
6. Loosen the tilt limit stops from the tilt limit stop ring. Remove heat sink, if necessary, from pan motor. Tilt the table, using the joystick, to the desired up position.
7. Slide the up limit stop against the tilt limit switch actuator until you hear a click, indicating the opening of the limit switch. Tighten the setscrew to lock the stop in place.
8. Tilt the table to the desired down position, and set the stop in the same manner as in step 7.
9. Tilt the table up and down once again to check the limit stops for exact positioning; repeat steps 6 through 8 if needed.
10. Replace the pan motor heat sink (if removed) and the sideplate covers.



WARNING: Never operate pan/tilts without limit stops. NEVER reposition the fixed limit stop. Operating the pan/tilt after moving the fixed limit stop WILL DAMAGE the wiring harness and, if the pan/tilt has preset positioning, WILL BREAK the pan potentiometer.



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Figure 4. Limit Stops

TROUBLESHOOTING

Some common problems encountered with pan/tilt systems include miswiring, overloading, and not using the units for the correct application. If the pan/tilt unit fails to operate, do the following:

1. Check the fuse in the control unit. If the fuse is bad, replace it.
2. If the fuse blows after replacing it, check the control cable between the control unit and the pan/tilt for shorts, high resistance, or opens.
3. If the control cable is good, reconnect it to the control unit but not to the pan/tilt. Replace the fuse and operate the control unit. If the fuse blows again, the fault is in the control.

Refer to Figures 1-3 for the following steps.

4. If the control unit is good, check the wiring harness in the pan/tilt for shorts.
5. If the wiring harness is good, check the motor starting capacitors.
6. If the starting capacitors are good, check the motors for opens and shorts. There should be low resistance between the windings.
7. Check the limit switches for opens and shorts.

MAINTENANCE

Inspect the pan/tilt unit every six months to ensure trouble free operation and an extended product life. Harsh environments and/or continuous motion applications may require more frequent maintenance.

Do the following:

- Check the tension of the drive chains and adjust as necessary.
- Verify that there is lubricant on the gears.
- Change the brakes on the pan motor.

Please be familiar with the instructions that follow before servicing the pan/tilt.

To begin, remove the pan/tilt side plate covers to gain access to the pan and tilt motor assemblies.

REMINDER: The warranty on any pan/tilt operated in continuous motion applications is six months after date of shipment.

TIGHTENING DRIVE CHAINS

Check the pan and tilt drive chains for tension. A movement of 1/32 of an inch to 3/32 of an inch in the chains is acceptable. If the movement of a chain exceeds 3/32 of an inch, adjust the chain as follows:

1. Loosen the screws securing the motor to the mounting frame.
2. Pry on the motor to apply tension to the chain. Do not over-tension the drive chain.
3. Keep tension on the chain while tightening the screws.

CHAIN DRIVE LUBRICATION

Gears and chains should be well greased. If necessary, lubricate the pan and tilt gears and chain drive assemblies as follows with a high quality grease capable of withstanding temperatures from -50° to 170° F (-46° to 77° C). Do the following:

1. Liberally apply grease to the pan and tilt drive gears, worm gears, and sprockets (refer to Figure 5).
2. Operate the pan and tilt motors to spread the grease across the parts.
3. Apply additional grease if necessary.

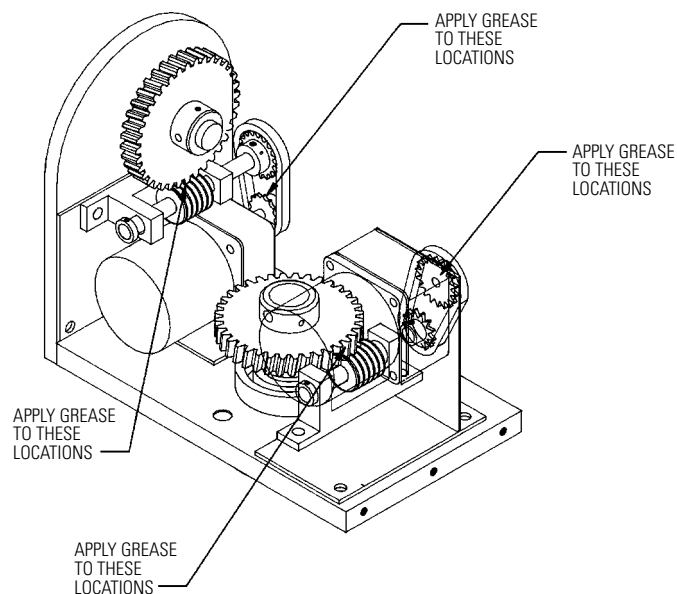


Figure 5. Servicing the Pan and Tilt Drive and Worm Gears

MOTOR BRAKE REPLACEMENT

To order replacement motor brakes, specify part number 1250BRAKE. The kit consists of four springs, four Teflon pads, two screws, and a small knife blade for removing the old brake pads.



WARNING: The knife blade included in the brake kit is very sharp. It should be handled carefully and disposed of properly after use.

1. Remove the large rectangular heat sink and bracket from the back of the pan motor. Remove the four springs.
2. Use the knife blade to remove the worn pads, as follows:
 - a. Insert the knife blade into the opening and press firmly to engage the knife blade with the brake pad.
 - b. Before trying to remove the brake pad, twist the knife blade. This will loosen the worn pad and make removal easier.
 - c. Gently twist the blade as you pull the worn pad out.
3. Insert the four new brake pads and four springs. Replace the heat sink using the new screws.

Inspect the gasket on each sideplate cover and replace if necessary (order part number 1250EX10002). Reinstall the cover.

SPECIFICATIONS

MECHANICAL

Pan:	0-355° movement in horizontal plane
Speed:	6°/sec $\pm 1^\circ$ (no load condition)
Torque:	50 ft-lb with specified voltage
Tilt:	$\pm 90^\circ$ movement in vertical plane
Speed:	3°/sec $\pm 5^\circ$ (no load condition)
Max. Load:	100 lb (45 kg) at 5 inches (12.7 cm) from tilt table surface to center of gravity
Gearing:	Adjustable worm gear final drive to prevent drift and minimize backlash
Bearings	
Pan:	Heavy duty ball bearings
Tilt:	Olite bronze bushing
Braking:	Mechanical
Duty Cycle:	50% duty cycle; 30-minute rating

ELECTRICAL

Input Voltage:	120 VAC, 50/60Hz, or 230 VAC required for pan/tilt	
Power		
Requirements:	120 VAC	230 VAC
Running:	Pan: .48 amp (57.5 VA)	.19 amp (43.7 VA)
	Tilt: .48 amp (57.5 VA)	.27 amp (62.1 VA)
Starting:	Pan: .60 amp (72.5 VA)	.19 amp (43.7 VA)
	Tilt: .60 amp (72.5 VA)	.27 amp (62.1 VA)
Connector:	Explosion-proof sealing fitting (supplied)	
Motors:	Two-phase induction type, instantaneous reversing	
Limit Switches		
Pan:	5 amp, internal adjustment	
Tilt:	5 amp, internal adjustment	
Conductor		
Requirements:	6, unshielded (functions: left, right, up, down, motor common, safety ground)	

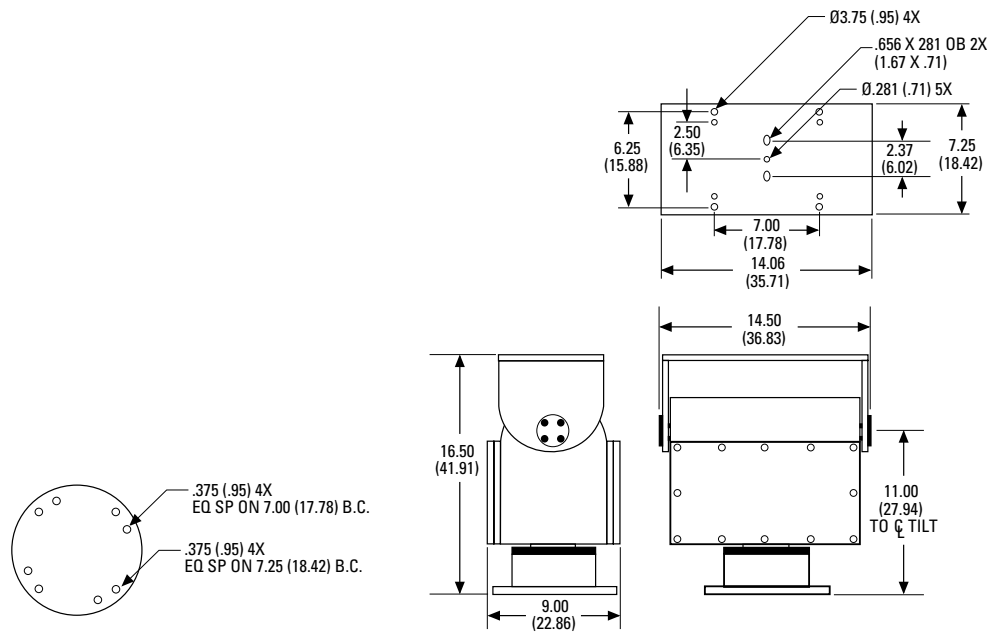
GENERAL

Construction:	Aluminum plate; all internal and external parts corrosion-protected; stainless steel fasteners
Finish:	Gray polyester powder coat
Environment:	Indoor/outdoor operation
Temperature:	-10° to 140°F (-23° to 60°C)
Weight:	69 lb (31.03 kg)
Shipping Weight:	
120 VAC	
Models:	76 lb (34.20 kg)
230 VAC	
Models:	77 lb (34.65 kg)
Dimensions:	See Figure 6

CERTIFICATIONS

- For use in Class I, Div. I (Groups C and D) and Class II, Div. I (Groups E, F, and G) hazardous locations as defined by the National Electrical Code
- Meets NEMA Type 4X standards
- Meets IP 56 standards
- UL listed to Standard 1203 (model PT1260EX and PT1260EX/PP)

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



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

Figure 6. PT1260EX 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 the following fixed camera models: CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X.
- Three years on all other fixed camera models (including Camclosure™ Integrated Camera Systems) and Genex™ Series (multiplexers, server, and keyboard).
- Two years on all standard motorized or fixed focal length lenses.
- Two years on Legacy™, CM6700/CM6800/CM8500/CM9500/CM9700 Series 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 and NVR300 network 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, send goods to:

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

If you are located outside the continental U.S., Alaska, Hawaii or Puerto Rico and are instructed to return goods to the USA, you may do one of the following:

If the goods are to be sent by a COURIER SERVICE, send the goods to:

Pelco
3500 Pelco Way
Clovis, CA 93612-5699 USA

If the goods are to be sent by a FREIGHT FORWARDER, send the goods to:

Pelco c/o Expeditors
473 Eccles Avenue
South San Francisco, CA 94080 USA
Phone: 650-737-1700
Fax: 650-737-0933

REVISION HISTORY

Manual #	Date	Comments
C368M	9/94	Original version.
C368M-A	12/94	Removed item 44 from parts list. Added item UU. Revised exploded assembly diagram, Figure 10.
C368M-B	8/97	Added #9 to section 1.0. Expanded Section 4.0 to include Motor Brake Replacement procedure and sideplate-cover gasket inspection. Documented replacement brake kit (part # 1250BRAKE) addition.
C368M-C	12/98	Added certifications. Revised installation instructions. Moved exploded assembly diagram and parts lists to maintenance and service manual.
C368M-D	8/01	Updated manual to new format. Revised manual per ECO #01-7128 to state that pan/tilts can be used in salty conditions.
C368M-E	5/03	Added warning to <i>Limit Stop Adjustment</i> section. Updated manual to new format.
	6/04	Removed agency logo from cover; updated Warranty and Return information.



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