

**SS30/SS3000/  
SS3002 Dome  
Enclosures**

**Installation/  
Operation Manual**

**C428M-B (2/98)**

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## REVISION HISTORY

<b>Manual #</b>	<b>Date</b>	<b>Comments</b>
C428M	3/87	Original version.
C428M	5/90	Rev. A. Revised Section 4.3, Connector Assembly, procedures; Section 4.5, Adjustments, for addition of fixed limit stop; and Section 6.0, Mechanical Part List. Figure 1 parts listed revised
C428M-B	6/95	Rev. B. Revised Section 4.1, Conductor & Cable Requirements, cable requirements and distances; Section 4.4.1, Ceiling/Wall Mounting, instructions for "Schneider" ring; and Section 6.0, Mechanical Parts List, updated parts. Figure 1 revised to show safety ground wire as "green".
	8/96	Revised Section 6.0, Mechanical Parts List, regarding part numbers for lower domes. Added item 14.
	2/98	Revised Section 4.0, Maintenance. Changed manual to new format.

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## 1.0 GENERAL

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### 1.1 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.

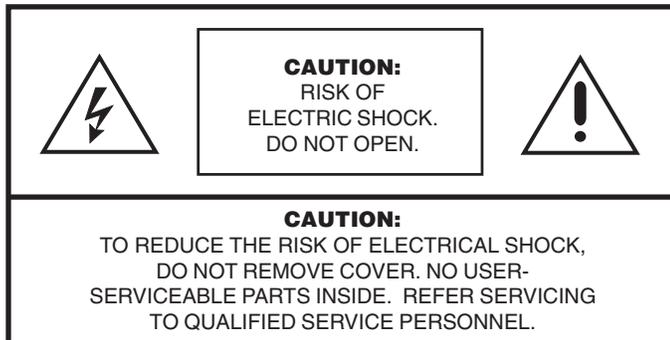
#### The product and/or manual may bear the following marks:



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.



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

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## 2.0 DESCRIPTION

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Pelco's SS30/SS3000 series is a full-sphere, discreet surveillance enclosure designed to be suspended from a ceiling and to complement the interior decor of businesses, hotels, and offices.

The smoked finished lower dome effectively camouflages a CCTV security/surveillance system without compromising the quality of the video picture. An optional mirrored lower dome (SS3002) is available.

The SS3000 Series has been engineered for ease of installation, serviceability, and relocation. The lower dome quickly and easily detaches from the upper dome for convenient access to the camera and pan/tilt.

### 2.1 MODELS

SS30	Full-sphere enclosure with black opaque lower dome with smoked viewing window and fixed camera mount
SS3000	Full-sphere enclosure supplied with a black opaque lower dome with smoked viewing window. Fixed camera mount not supplied. This dome is designed for use with an optional pan/tilt assembly (PT280 series).
SS3002	Same as SS3000 except supplied with mirrored lower dome with 2 f-stop light loss.

### 2.2 OPTIONS

PT280-24P	Light duty indoor pan/tilt, 24 VAC
PT280-24P/PP	Same as PT280-24P except has preset position (PP) option
PT280-24SL	Light duty indoor pan/tilt with continuous 360° operation
PT280-24SL/PP	Same as PT280-24SL except has preset position (PP) option
MRWA	Wall mount adapter
MRCA	Ceiling mount adapter

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## 3.0 INSTALLATION

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Save the shipping carton and plastic packing in case the unit has to be returned for credit or repair.

### 3.1 CONDUCTOR AND CABLE REQUIREMENTS

Before installing the pan and tilt, determine the conductor requirements and length of cable you will need to run based on the following:

Conductor requirements for the pan and tilt are as listed below, plus coax cable:

	<u>Pan/Tilt</u>	<u>Lens</u>	<u>Cam AC</u>
PT280-24P/PT280-24SL	5+ grnd	4	2
PT280-24P/PP	9+ grnd	8	2
PT280-24SL/PP	10+ grnd	8	2

(Camera power, lens functions and video are fed through the input connector on the base of the pan/tilt.)

The following are the cable requirements for the PT280 series pan and tilts:

	<u>5 Conductor</u>	<u>6 Conductor*</u>
20 Awg	110 ft (33.53m)	210 ft (64.01m)
18 Awg	180 ft (54.86m)	330 ft (100.58m)
16 Awg	290 ft (88.39m)	530 ft (161.54m)

\* Using 2 wire common

### 3.2 WIRING INSTRUCTIONS

To install and test the pan/tilt you will need to assemble the connector parts provided. Refer to Section 3.3 for connector assembly.

The PT280 series pan/tilts are prewired for all control functions (pan/tilt, motorized zoom lens, 24 VAC camera power, and video. All connections are made at the input connector, eliminating the need for wiring harnesses made in the field. When using Coaxitron Control Systems, consider using the C1906, C1906/PP, C1925 or C1925/PP factory assembled pretested cables which are wired for inverted applications. Wire the control cable per the wiring diagram provided in the PT280 Series Pan/Tilt manual, C324M, for the specific pan/tilt you are using. (The PT280-24P basic pan/tilt wiring diagram is included in this manual for reference only.)

**NOTE:** *If you are not using the C1906, C1906/PP, C1925, or C1925/PP pretested cable you must reverse the left/right and up/down function pins as shown in Figure 1.*

Cable distances should not exceed the distances specified in Section 3.1. The following are some recommended common installation practices.

1. Always use jacketed stranded multi-conductor interconnecting cable between the control and the pan/tilt, with additional conductors 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.

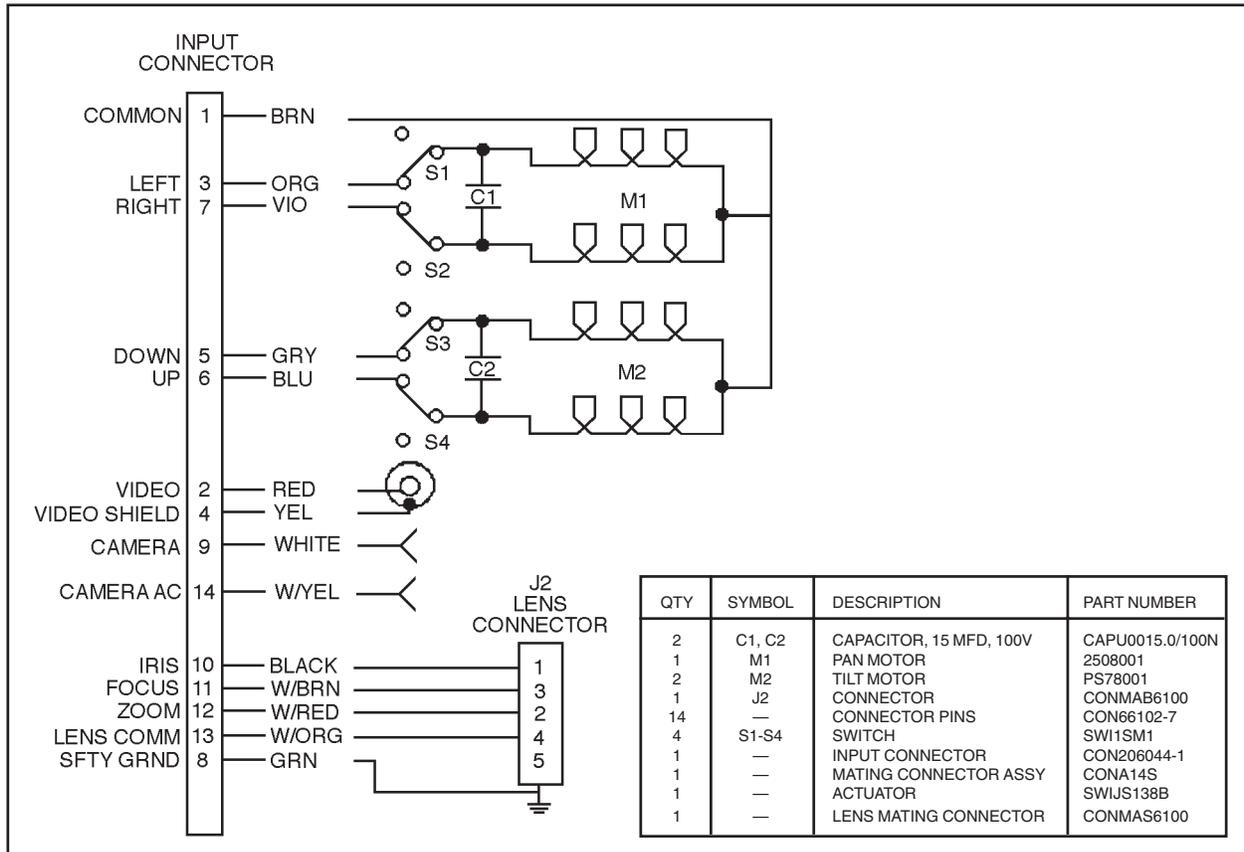


Figure 1. PT280-24P Wiring Schematic

### 3.3 CONNECTOR ASSEMBLY

Installation and/or testing will require you to assemble the connector parts provided. Fabricate the interconnecting cable according to the following steps (reference Figure 2).

1. Slide part A of the cable clamp (item 1) over the end of the cable (item 1, part C) with the threaded end of the cable clamp facing the connector (item 5).
2. If the cable has a diameter less than 1/2 inch (1.3 cm), slide the rubber boot (item 2) over the end of the cable and pull through the cable clamp to so that the boot encases the cable and forms a good seal.
3. Strip back the cable jacket approximately 1-1/4 inches (3.2 cm) and separate the individual conductors (item 3).
4. The contact pins supplied with the mating connector are the "crimp" type which may also be soldered if you so desired (item 4).
5. After crimping or soldering the contact pins to the conductors, push them into the proper holes in the connector until they snap in place.
6. Slide part A of the cable clamp toward the connector and screw the parts together. Attach part B (item 1) onto part A and connect both parts with the screws provided.
7. Connect the cable assembly to the unit and seat the connector by twisting the locking collar until it snaps into position.

**NOTE:** *Contacts cannot be removed from the connector without the use of the appropriate AMP extraction tool which is available from Pelco.*

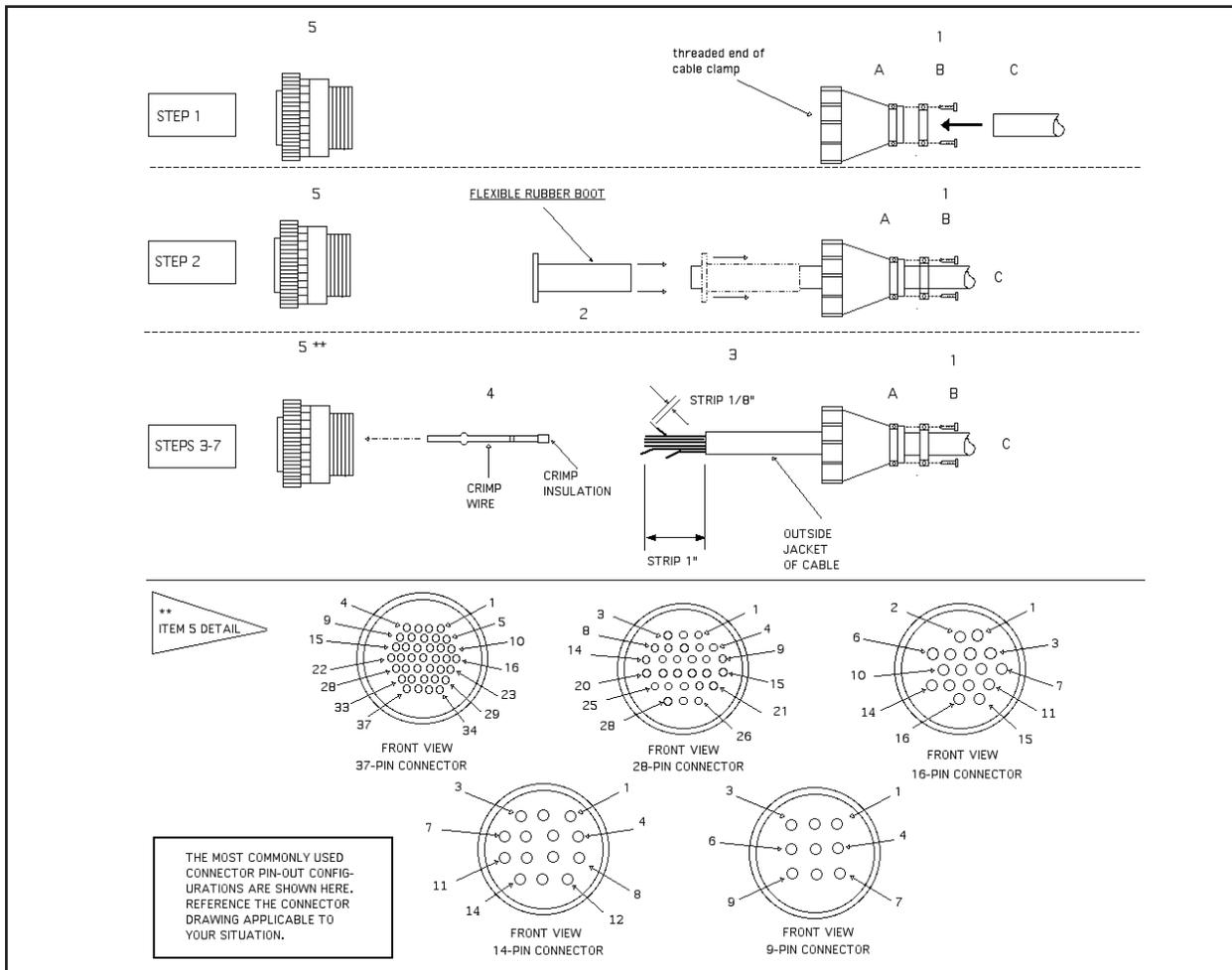
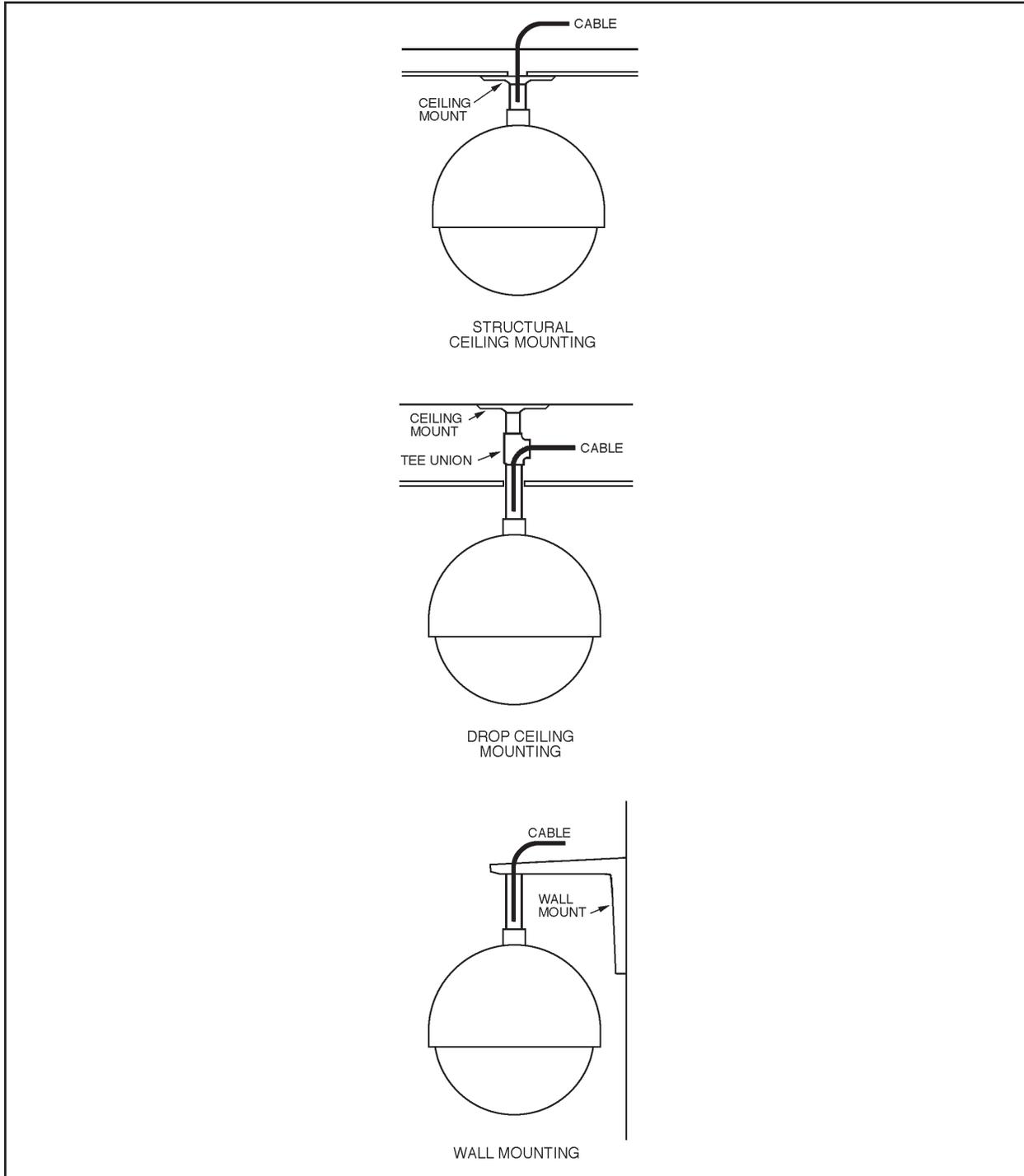


Figure 2. Connector Assembly

### 3.4 MOUNTING

The SS3000 enclosure is designed to be suspended from a suitable length of 1-1/2" pipe threaded at both ends. This pipe can be interfaced to either a Pelco MRWA wall adapter, MRCA ceiling adapter, or coupled to a longer length of pipe (see Figure 3).



**Figure 3.** Mounting Configurations

### 3.4.1 Ceiling/Wall Mounting

**NOTE:** The “Schneider” ring referred to in these instructions is a 10-inch black aluminum ring designed to fit around the square portion of the upper dome. Use of this ring helps to camouflage movement of the dome.

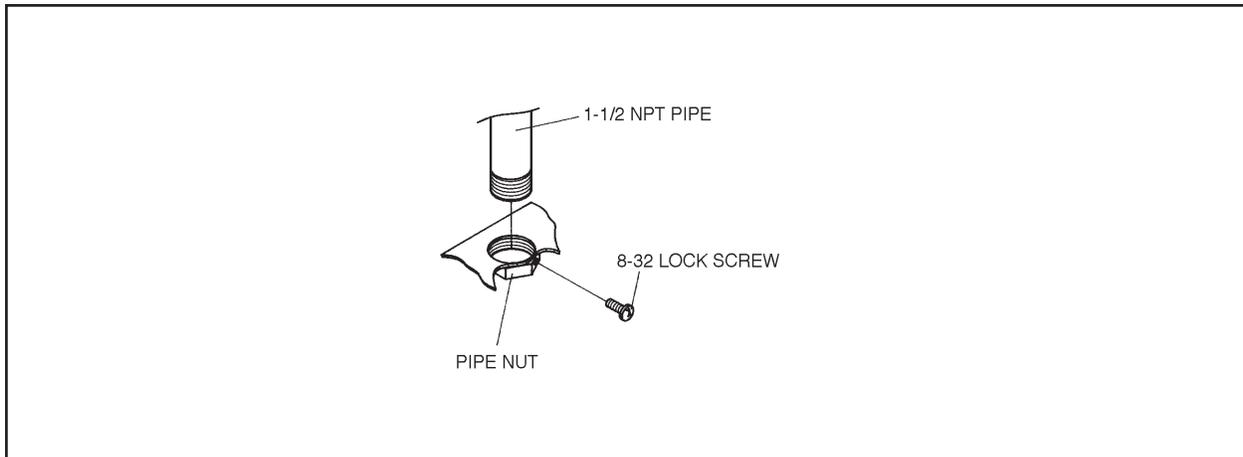
**NOTE:** Disregard step 3 if using the PT280-24SL pan/tilt.

**NOTE:** When installing a PT280-24SL pan/tilt with the slip ring option you will need to remove one (1) of the 1/4-20 fasteners holding the mounting flange to the SL2800 bracket. Pivot the pan/tilt assembly to one side to allow the connector and cable to pass through. After the connection is made, pull the connector back up into the pipe and reattach the mounting flange.

**NOTE:** When mounting a long camera/lens assembly (13" to 15") into a SS3000 enclosure, it must be mounted to the pan/tilt backwards so the lens is to the rear of the pan/tilt. This is to allow full downward tilt of the long lens. This must also be taken into consideration when wiring the unit, as the motions will be reversed.

**NOTE:** The small hole in the upper dome (for safety chain attachment) should be positioned at the back (connector) end of the camera.

1. Select an appropriate length of 1-1/2" NPT pipe for the mount you have selected. Once the mount is installed, insert and tighten the pipe to approximately 30 ft lb, then tighten the 8-32 screw in the pipe nut to lock the pipe threads. Slide the black 10"OD “Schneider” ring over the pipe and then slide the upper dome onto the pipe and lock it out of the way with a suitable retainer.
2. Screw the mounting flange (item 4, Figure 5) onto the pipe and tighten to approximately 20 ft lb. Tighten the 8-32 screw in the pipe nut to lock the pipe threads (refer to Figure 4).
3. Align the three-hole pattern in the pan spindle (PT280-24P) with the holes in the lower bracket (item 5, Figure 5) and attach with 1/4-20 x 5/8" hex head bolts and lock washers provided. Tighten firmly.
4. Assemble the lower bracket and pan/tilt to the mounting flange (item 4, Figure 5) using 1/4" x 5/8" hex head bolts, flat washers, and hex nuts provided.
5. Attach the upper (drive) bracket (item 3) to the bottom (spindle side) of the pan/tilt using four (4) 10-32 x 1/2" pan head screws and lock washers provided. Refer to Figure 5 for proper orientation.
6. Feed the main cable from the control or receiver through the center of the 1-1/2" pipe and connect it to the cable of the pan/tilt. Pull the cable and connector back up into the pipe so that it does not get caught on the rotating parts.
7. Install the camera/lens assembly onto the tilt table of the pan/tilt. Connect the proper cables (camera, lens function).
8. Remove the retainers from the upper dome and lower it until it seats itself on the upper (drive) bracket.

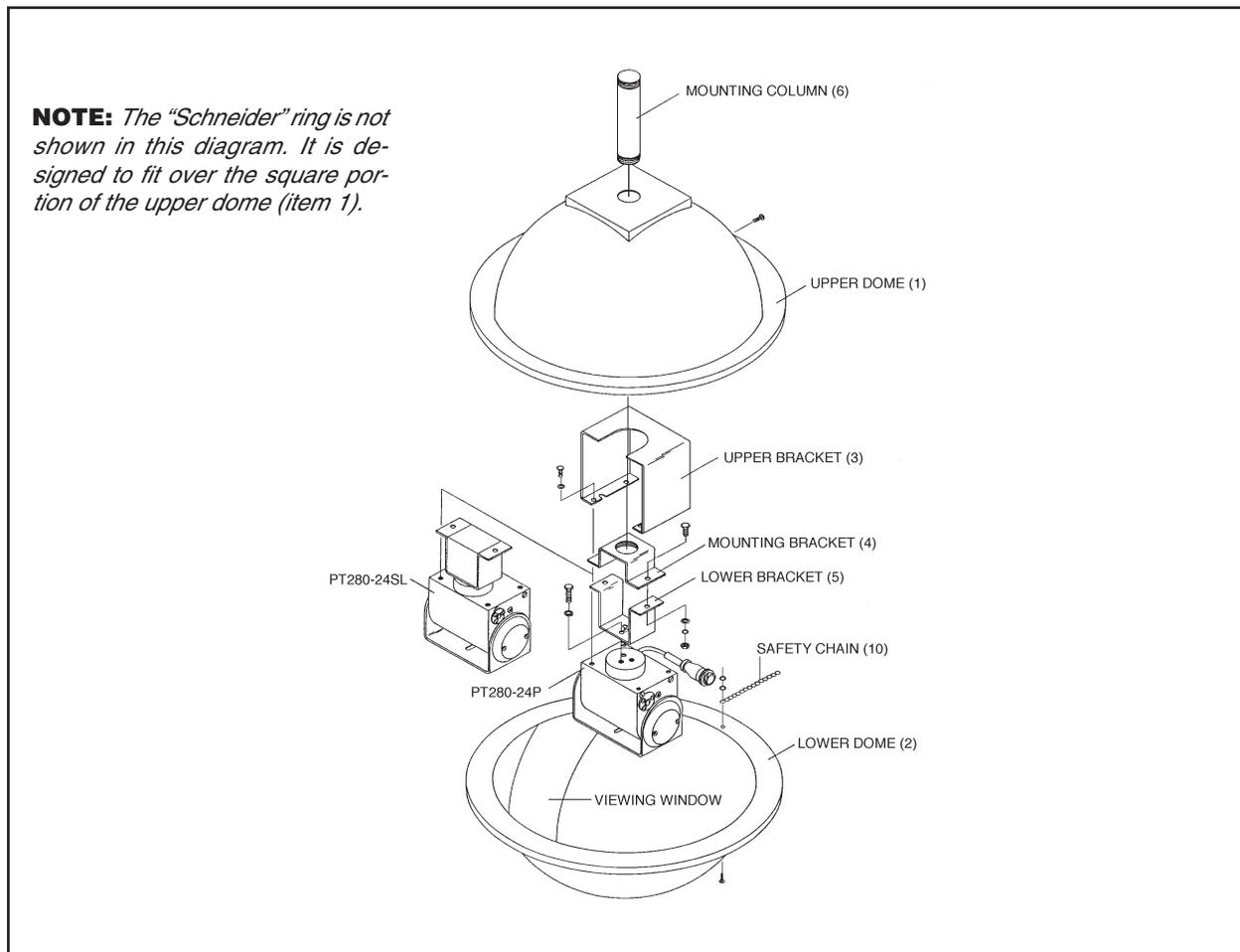


**Figure 4.** Locking the Pipe Nut



**CAUTION:** *The lower dome will shatter if dropped. Always operate with the safety chain attached. Do not rotate pan/tilt by hand. Rotate by controller only.*

9. Turn the system on and rotate the pan/tilt. Check for cable interference. Tilt the camera up and down and check for clearance of all moving parts.
10. After all tests have been done and the system is functioning properly, attach the safety chain to the upper dome with the fasteners provided. Install the lower dome, being careful to align the viewing window.
11. Check for sufficient clearance between the lens and the lower dome.



**Figure 5.** SS3000 Exploded Assembly Diagram

### 3.5 ADJUSTMENTS



**CAUTION:** Do not attempt to adjust limit stops when pan/tilt is in operation. Damage to the equipment can result. Also, do not operate equipment without limit stops. Do not remove or reposition fixed limit stop on the PT280-24P pan/tilt. **DAMAGE WILL OCCUR.**

To adjust the pan/tilt limits, perform the following steps. Refer to Figure 6 for limit stop locations.

1. Factory pan limits are set to 0-355° and tilt limits at  $\pm 45^\circ$ . Pan to the right using the joystick control until the desired RIGHT pan limit is reached.
2. Adjust the pan limit stop until the actuator clicks. Lock the limit into position.
3. Pan to the desired left position, adjust the pan limit stop until the actuator clicks, and lock into position.
4. Pan to the left and right to verify exact positioning and tighten both stops securely.
5. Remove the left cover plate by removing the two screws for access to the tilt limit stops.
6. Loosen the screws and move the DOWN limit stop to the furthest position. Using the joystick control, tilt the unit to the desired down position.
7. Move the DOWN limit stop until the actuator clicks. Lock the limit into position.
8. Adjust the UP limit stop in the same way.
9. Tilt up and down to verify exact positioning and tighten both stops securely.

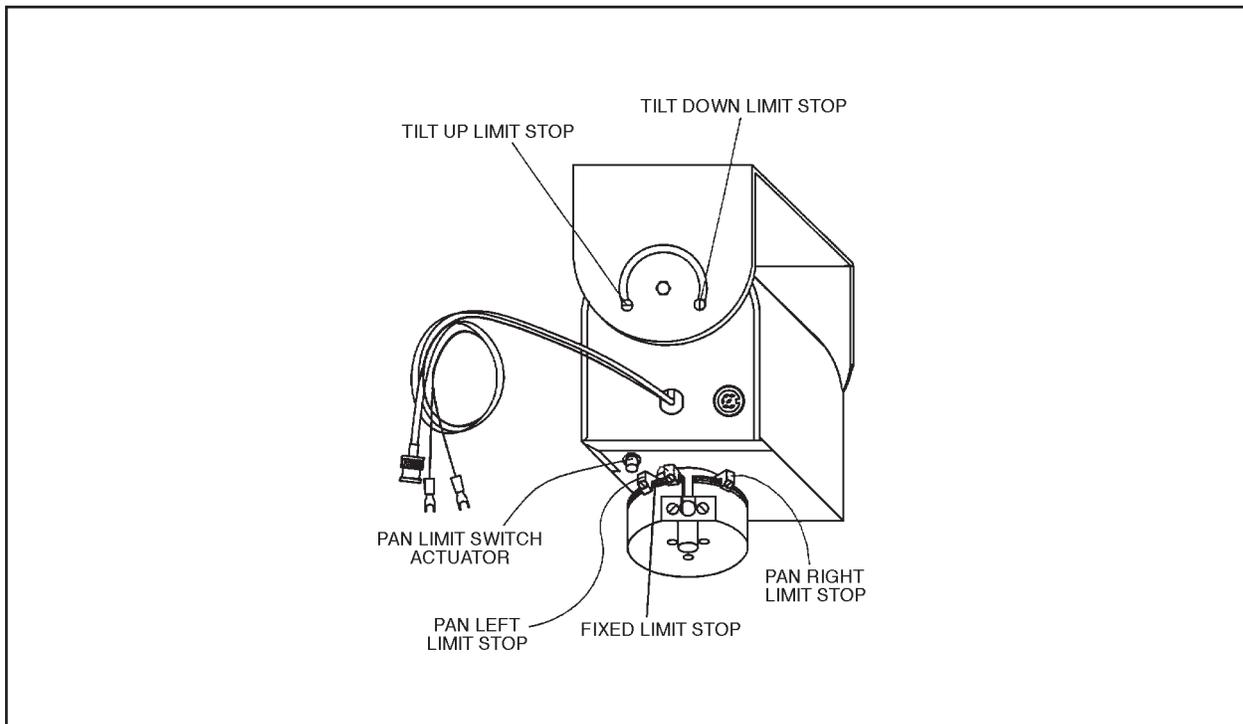


Figure 6. PT280-24P Limit Locations

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## 4.0 MAINTENANCE

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Clean the acrylic lower dome as necessary to maintain a clear picture. Be careful not to scratch the surfaces of the dome.

**Exterior Surface** - Clean the dome's exterior surface with a nonabrasive cleaning cloth and cleaning agent that is safe for acrylic plastic. Either liquid or spray cleaner/wax suitable for fine furniture is acceptable.

**Interior Surface (Except Chrome)** - Clean the same as the exterior surface.

**Interior Surface (Chrome)** - The inside surface of a chrome dome is easily scratched. Use the following precautions to maintain the dome's surface.

- a. Always handle the dome from the outside of its circular flange.
- b. Never touch the coated inside surface. The acid in your fingerprints will eventually etch the coating if the fingerprints are not carefully removed according to the recommended cleaning procedure in item "e."
- c. If dust or other contaminants accumulate on the dome's interior, remove the debris with compressed air. Compressed air cans are available from photographic equipment or electronic supply dealers.
- d. If heavy residue accumulates and cannot be removed with air pressure, rinse with water and immediately dry with air pressure so that water spots will not remain. Avoid wiping the coated surface with direct hand pressure - it will easily abrade unless extreme care is taken. Once scratched, the dome cannot be recoated.
- e. If internal wiping is necessary, avoid hand rubbing. Instead, make a wick as follows:

Use a very soft paper towel. Roll a section into a tightly wound tube. Tear the tube in half, and wet the fuzzy end of the wick with a solution of isopropyl alcohol diluted with water. Hold the dome with its opening facing downward and wipe the interior of the dome with the wet end of the wick. Use a circular motion, starting from the outside and spiraling into the center. Use a new wick for each two passes over the dome.

## 5.0 MECHANICAL PARTS LIST

**Table A.** SS3000 Exploded Assembly Diagram (Corresponds to Figure 5)

Item No.	Quantity	Description	Part Number
1	1	Dome, upper	SS300010000
2	1	Dome, lower, smoked (SS30, SS3000)	SS300010001*
		Dome, lower, chrome (SS3002)	SS331100*
3	1	Bracket, upper drive (SS3000/SS3002)	SS30004000COMP
4	1	Bracket, mounting (hanging weld assy)	SS300031001WA
5	1	Bracket, lower (SS3000/SS3002)	PM200C4000COMP
6	1	Pipe, mounting	SS34002COMP
7	—	Not used	—
8	—	Not used	—
9	16	Velcro, black, 5/8" wide x inch (not shown)	TV10002
10	1	Chain, #16 single jack x 6" length	SB2511000
11	7	Trim edge, black/chrome (not shown)	SS300010004
12	1	Snap body for chain assembly (not shown)	SB2511001
13	1	Ring, Schneider, 10" OD x 9.812" ID (not shown)	SS30004100COMP
14	78	Velcro, black, 5/8" wide x inch (not shown)	TV10003

\* Part number is for the dome only. To order a complete lower dome assembly, specify the part numbers SS30004003COMP (smoked) and SS334200COMP (chrome). These part numbers include items 2, 10, 12, and 14.

**Table B.** Parts for SS30 Fixed Mount Dome Only (Not Shown in Figure 5)

Item No.	Quantity	Description	Part Number
1	1	Tilt table, fixed, black	CM14004100BCOMP
2	1	Pedestal spacer, black	CM30004001COMP
3	1	Dome support bracket	CM30024000COMP
4	1	Fixed bracket, black	EM14004001BCOMP
5	1	Pedestal mount, fixed	PM74000COMP

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## 6.0 SPECIFICATIONS

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### **ELECTRICAL**

Input voltage: 24 VAC required for pan/tilt

#### Power

Requirements	Running	Starting
Pan:	.31 amp (7.5 vA)	.47 amp (11.2 vA)
Tilt:	.38 amp (9.2 vA)	.56 amp (13.5 vA)

#### Connectors

Pan/Tilt: AMP CPC type (mate supplied)  
Lens: Hirschmann MAB6100  
Video: BNC  
Camera Power: Spade lugs

Motors: Two-phase induction type, instantaneous reversing

Limit Switches: 5 amp, external adjustment

#### Conductor

Requirements: See Section 3.1

### **MECHANICAL**

(for detailed specifications refer to PT280 series product manual, C324M.)

Pan:	Movement in horizontal plane:	
	PT280-24P	0-355°
	PT280-24SL	0-360°

Pan Speed: 12°/sec  $\pm$  1° (no load condition)

Tilt:  $\pm$ 90° movement in vertical plane

Tilt Speed: 3°/sec  $\pm$  .5° (no load condition)

Max. Load: 15 lb (6.81 kg) at 5" from tilt table surface to center of gravity

Dome Drive: Lower dome mounts into upper dome with Velcro fasteners; complete assembly is driven by pan/tilt

Max. Camera  
and Lens Length: 16.0 inches (40.6 cm) including BNC connector

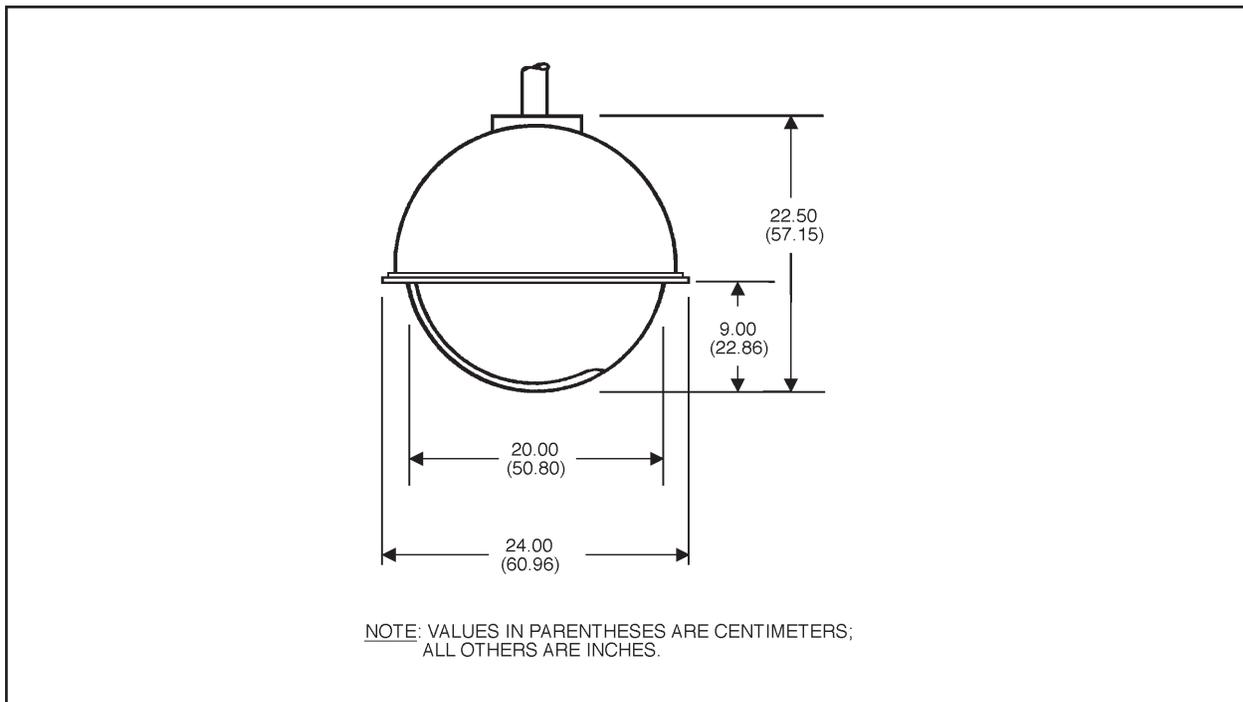
**GENERAL**

- Construction:  
Upper dome: Black, U.L. 94HB rated ABS plastic
- Lower dome: Acrylic hemisphere with distortion free viewing window with light attenuation factor of 1 f-stop (SS30/SS3000) or mirrored lower dome with 2 f-stop (SS3002). Rotates with pan and tilt, camera, and lens
- Environment: Indoor; 32° to 120°F (0° to 48.89°C)
- Unit Weight: 6 lb (2.72 kg) approximate
- Dimensions: See Figure 7

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



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.



**Figure 7.** SS30/SS3000 Dimension Drawing

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## 7.0 WARRANTY AND RETURN INFORMATION

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### 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 FT/FR8000 Series fiber optic products.
- Three years on Genex® Series products (multiplexers, server, and keyboard).
- Three years on Camclosure® and fixed camera models, except the CC3701H-2, CC3701H-2X, CC3751H-2, CC3651H-2X, MC3651H-2, and MC3651H-2X camera models, which have a five-year warranty.
- Two years on standard motorized or fixed focal length lenses.
- Two years on Legacy®, CM6700/CM6800/CM9700 Series matrix, and DF5/DF8 Series fixed dome products.
- Two years on Spectra®, Esprit®, ExSite™, 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, NVR300 Series network video recorders, and Endura™ Series distributed network-based video products.
- 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:

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

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