



**AZL-Azmith and Elevation
Read-Out Meter**

**Installation/Operation Manual
C521M (6/95)**

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REVISION HISTORY

<u>Manual #</u>	<u>Date</u>	<u>Comments</u>
C521M	6/95	Original version.

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INSTALLATION/OPERATION MANUAL AZL-AZMITH AND ELEVATION READ-OUT METER

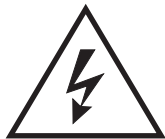
1.0 WARNINGS

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.

The product may bear the following marks:

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



CAUTION:
TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

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.

2.0 SCOPE

The information contained within this manual covers the AZL (Azimuth and Elevation Read-Out Meter).

3.0 DESCRIPTION

The AZL is used to provide a visual read-out (in degrees) of the mechanical position of DC based pan/tilts such as Pelco's P/T1250DC/PP equipped with position feedback pots.

The AZL consists of two easily read Simpson meters mounted on the front panel of the unit along with the power switch and power on indicator.

The fourteen pin CPC connector on the back panel of the unit provides the necessary wiring interface for the unit. This wiring interface is usually integrated with controller wiring at the point where the cabling connection is made to the P/T (reference Figure 1's simplified diagram). The rest of the back panel consists of installation set-up pots for initial meter calibration. A power input cord, input line fuse and a convenient power outlet plug round out the back-panel connections.

4.0 INSTALLATION

Installation consists of installing the interconnecting cable between the AZL and the P/T in use and initial adjustment of the meters for operation.

4.1 CONNECTOR INSTALLATION

Reference Figure 2 and Figure 3. Before connecting the wiring, set the meter module "full scale" adjustment pots (these are the 5K pots) on the back of the AZL unit at the full CW (clockwise) position and set the "center scale" adjustment potentiometers (these are the 1K pots) on the back of the AZL unit at approximately center.

Now, reference the AZL wiring diagram in Figure 2. The wiring for connector pins 2 and 9 go to the "pan feedback" and "tilt feedback lines", respectively, on the P/T, which, in the case of a PT1250DC/PP, share corresponding numbered pinouts. For the rest of the AZL wiring, we have pin 10 - which is AZL common - that is wired to feedback common (pin 10) on the P/T and pin 11 (AZL B+, +5VDC) that is wired to "feedback B+" on the P/T. We assume, of course, that any other additional wiring needed for the system in question has already been done or is also being done at this time (controller wiring, for example). Once the wiring interface is in place, the next thing to consider is AZL meter adjustment.

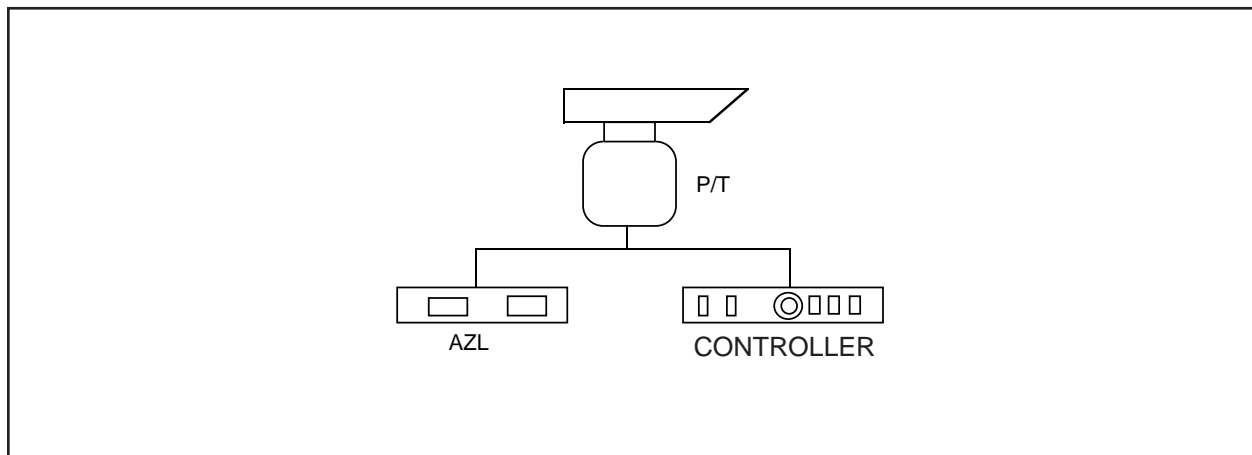


Figure 1. Installation/Block Diagram

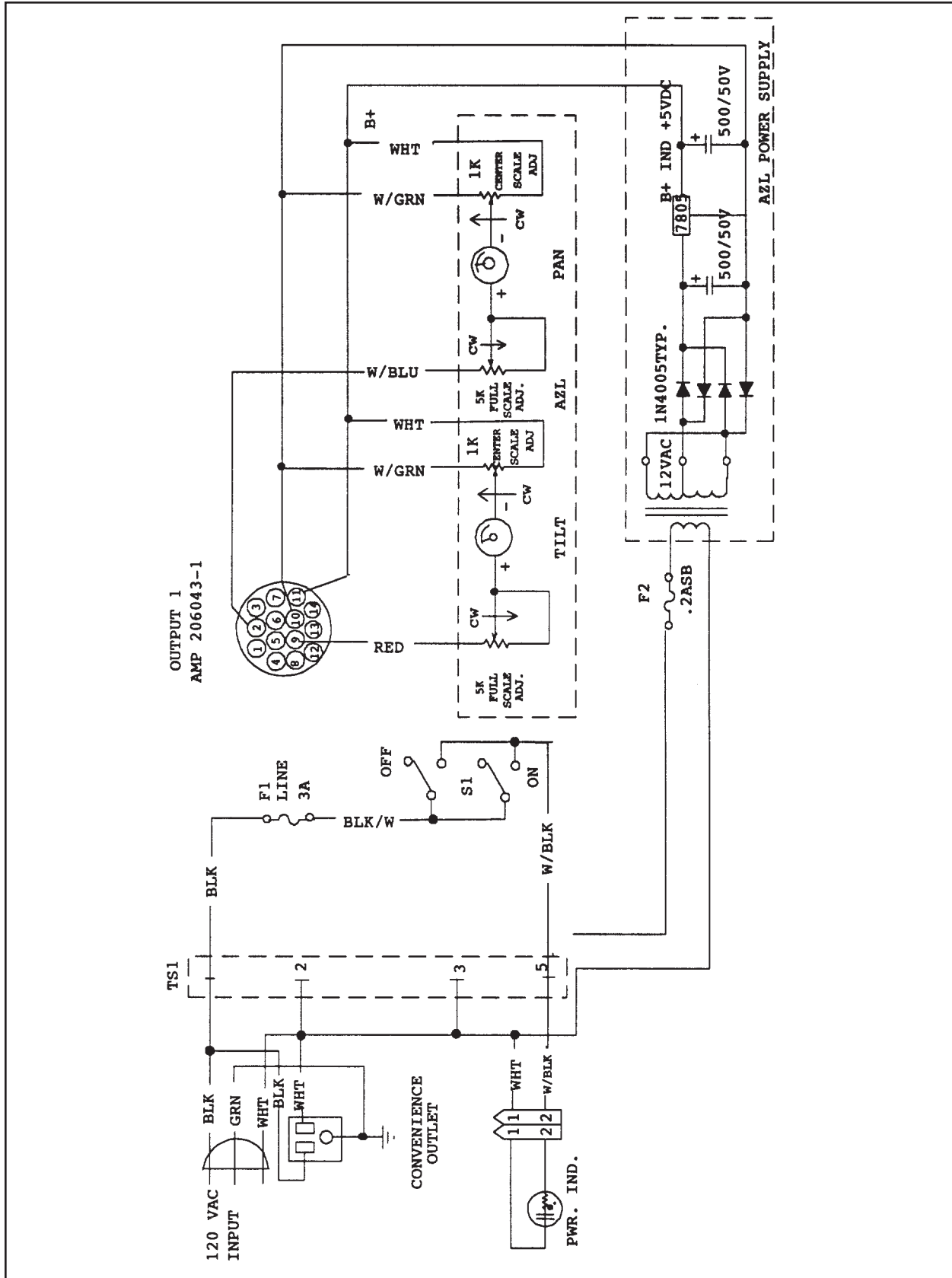


Figure 2. AZL Wiring Diagram

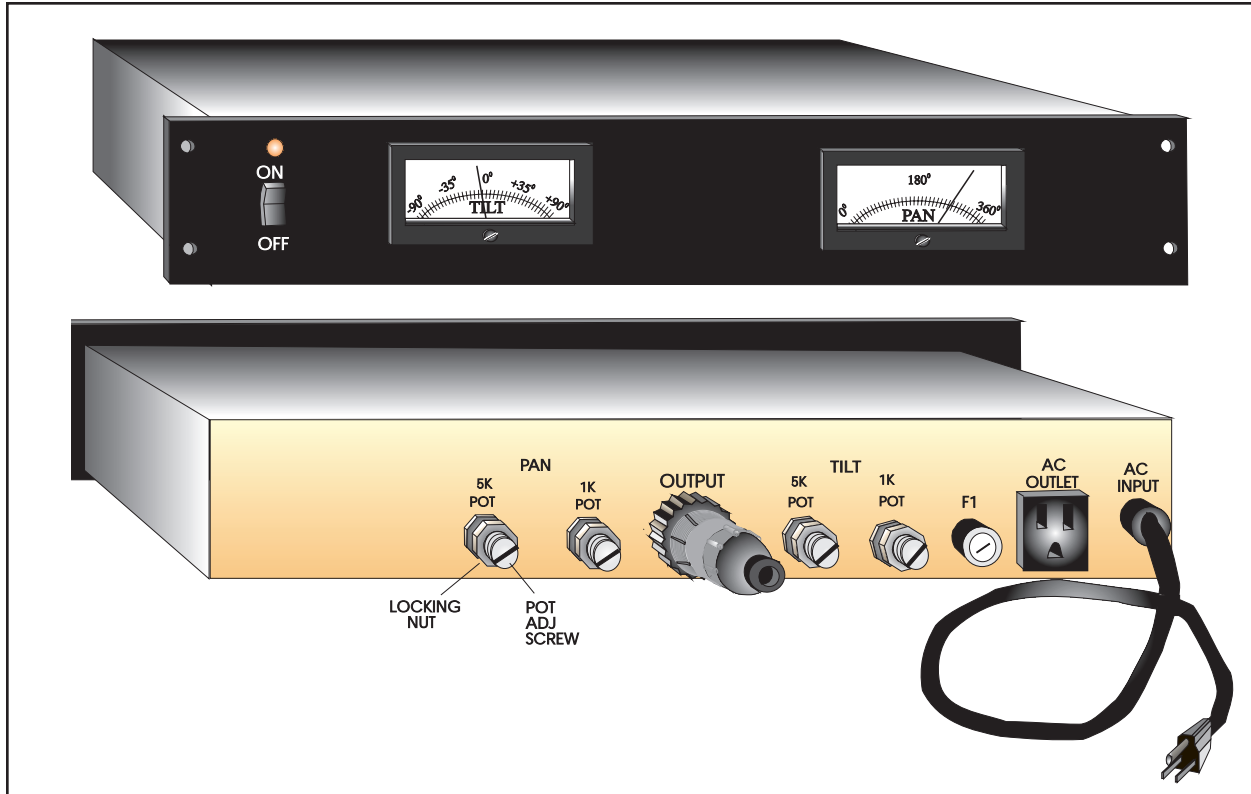


Figure 3. AZL Front and Rear Views

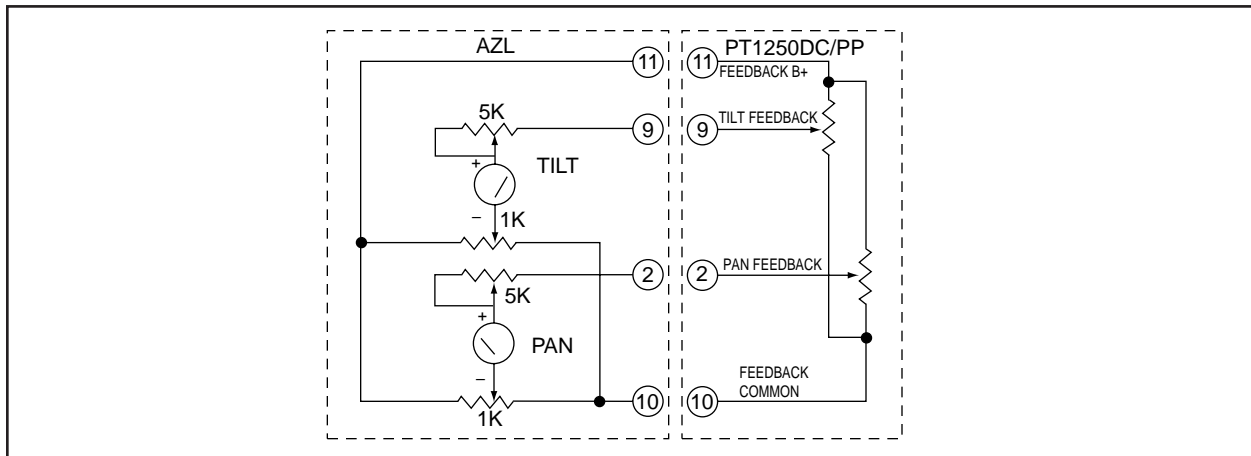


Figure 4. AZL Wiring Interface to P/T

4.2 AZL METER ADJUSTMENT

4.2.1 Preliminary Remarks

Figure 3 is a diagram of the internal wiring (minus power supplies, etc.) of that part of the AZL unit related to meter adjustment. Shown there are the full and center scale pots for pan and tilt on the AZL as they would be wired to the respective position feedback pots on a Pelco P/T1250DC/PP. Interconnections between the two units

are shown as circled numbers. As shipped, the pan/tilt unit is mechanically configured to be resting at horizontal in the tilt position and at approximately 180° in the pan position.

The meter adjustment procedure for both the pan and tilt meters follows the same method. Assuming you have already performed the connector and pot adjustments indicated in Section 4.1, the step-by-step procedure for meter adjustment is as follows:

4.2.2 Pan Meter Adjustment

1. Turn on the power switch. There should be a slight noticeable change in the meter reading.
2. Activate the PAN LEFT switch and observe the pan meter reading. The AZL pan meter readout should approach "0" as the unit rotates. The unit will stop at the extreme left position. Note the meter reading. For our example, let's assume the reading is 60° (see Fig. 5a).
3. Note the meter reading and activate the PAN RIGHT switch until the unit reaches the extreme right position. Note the meter reading. For our example, let's assume the reading is 330° (see Fig. 5b).
4. These two meter readings define the "deflection range" of the meter (in our case $330^\circ - 60^\circ = 270^\circ$, see Fig. 5c) and mirrors mechanical pan movement of the P/T between its extremes. This "range" must now be shifted (in our case, to the left) by adjusting the "center scale potentiometer" (PAN 1K pot, see Fig. 3) on the AZL back-panel to obtain a balanced meter deflection at both ends. The simplest method of calculating what the balanced meter deflection should be at both ends is to subtract the "deflection range" from the total meter range and divide by 2.

In our example:

$$360^\circ - 270^\circ / 2 = 90^\circ / 2 = 45^\circ$$

In other words, the entire range should be shifted to the left enough so that the difference between the deflection range reading made at the PAN LEFT operation and 0° and the difference between the PAN RIGHT operation and 360° are equal and have a value of 45°. In our example, then, we require the PAN RIGHT meter reading to be $(360^\circ - 45^\circ)$, or 315°. The current meter reading is at 330°, so you must now adjust the "center scale pot" (PAN 1K pot, see Fig. 3) until you obtain a meter reading of 315°. This shifts or "rotates" the entire deflection range for a balanced meter deflection at both ends as indicated in Figure 5d.

5. Now adjust the "full scale potentiometer" (PAN 5K Pot, see Fig. 3) on the back of the AZL unit to obtain a reading of 360°.
6. Finally, activate the PAN LEFT switch until the unit reaches the extreme left position. Verify the meter reading to be "0" degrees. Make minor adjustments as necessary.

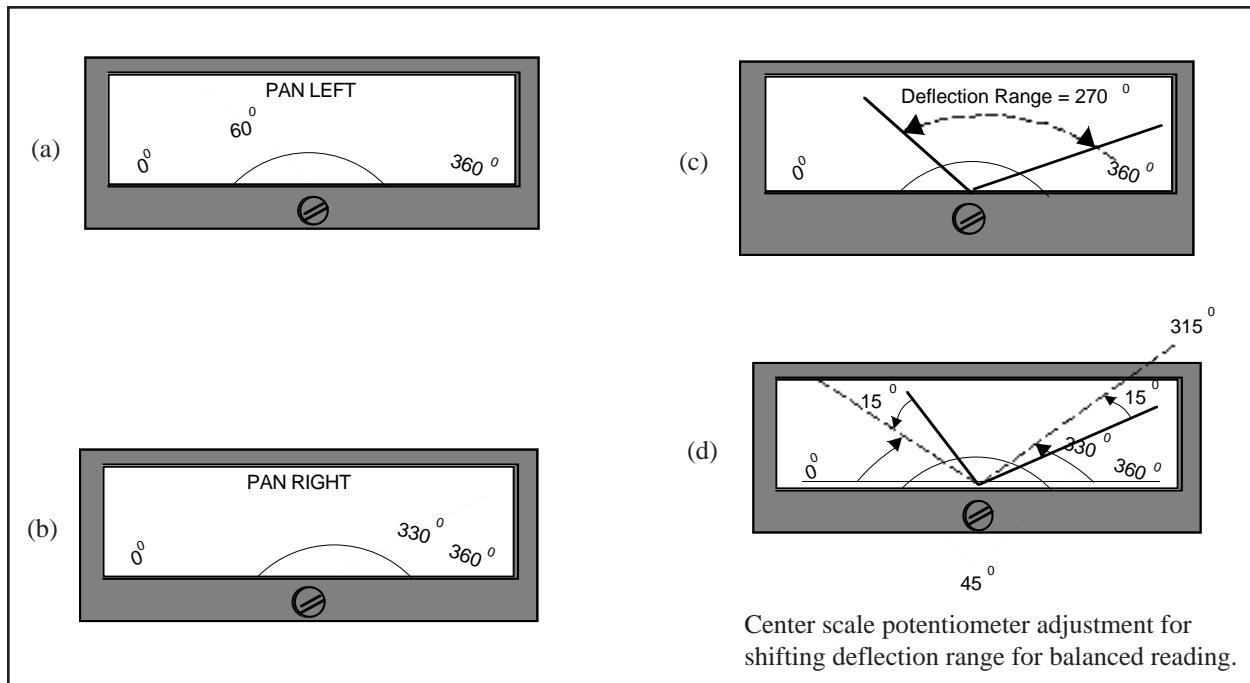


Figure 5. Meter Adjustment

4.2.3 Tilt Meter Adjustment

Use the same methods for the tilt adjustment as those just employed for the pan meter adjustment.

Once the procedure is complete, the extreme electrical rotation limits can be reset down from the factory maximum settings.

5.0 OPERATION

When power is applied to the unit the power LED on the front panel lights.

The pan and tilt meters on the front of the AZL unit will give a direct, visual, real-time readout, in degrees, of the physical orientation of the pan/tilt to which it has been electrically connected.

6.0 SPECIFICATIONS

ELECTRICAL

Input Voltage:	120 VAC, 50/60 Hz
Power Cord:	3-wire grounded #18 Awg
Fuse Protection:	F1--3A F2--2/10ASB
Connectors:	14-pin AMP CPC connector 120 VAC convenience outlet

GENERAL

Construction	
Cover:	Steel, powder-coated, black
Chassis:	Metal sheet, galvanized
Panel	
Front:	Aluminum, black, white silk screen
Rear:	Alodine aluminum plate
Dimensions:	3.0"H x 15.55"W x 10.19"D (7.62 cm x 39.50 cm x 25.88 cm)
Weight:	12 lbs (5.4 kg)

7.0 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 (1) year after the date of shipment. Exceptions to this warranty are as noted below:

- Two (2) years on all standard motorized and fixed focal length lenses.
- Two (2) years on Legacy®, Intercept®, CM8500/CM9500/CM9750 Matrix and DF8 Fixed Dome products.
- Two (2) years on WW5700 series window wiper (excluding wiper blades).
- Two (2) years on cameras.
- Six (6) months on all pan and tilts, scanners or preset lenses used in continuous motion applications (e.g., preset scan, tour and auto scan modes).

Pelco will warranty 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.

Ship freight prepaid to: Pelco
300 West Pontiac Way
Clovis, CA 93612-5699

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). Goods returned for repair or credit should be clearly identified with the assigned CA/RA number and freight should be prepaid. All merchandise returned for credit may be subject to a 20% restocking and refurbishing charge.

Ship freight prepaid to: Pelco
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