

**PS20 Medium-Duty  
Indoor/Outdoor Scanner**

**Installation/  
Operation Manual**

**C361M-A (8/02)**



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International: Tel: 1-559/292-1981 • Fax: 1-559/348-1120

## 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. Installation shall be done in accordance with all local and national electrical and mechanical codes using only approved materials.
3. 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.
4. The camera and lens combined weight shall not exceed 35 pounds (16 kg).
5. Only use replacement parts recommended by Pelco.
6. 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.
7. Use only installation methods and materials capable of supporting four times the combined weight of the enclosure, scanner, camera, and lens.
8. An ALL-POLE MAINS SWITCH with a contact separation of at least 3 mm in each pole shall be incorporated in the electrical installation of the building.
9. For 24 VAC models only, use a UL Listed, Class 2 power source.

## DESCRIPTION

The PS20 Series scanner is a medium-duty indoor/outdoor unit designed to operate with a maximum load of 35 pounds (16 kg). The scanner features stepper motor technology, three selectable speed settings, easy-to-adjust limit stops, and pan rotation of 380 degrees.

The PS20 scanner is capable of continuous and random operation when connected directly to a power source. If a Pelco MPTAZ Series control is used, the scanner can operate continuously, randomly, and manually.

## MODELS

PS20	Medium-duty scanner, 120 VAC
PS20-24	Medium-duty scanner, 24 VAC
PS20/230	Medium-duty scanner, 230 VAC

## INSTALLATION

**NOTE:** *A terminal box or compartment shall be provided in which mains supply connections are to be made and shall be such that these connections are capable of being readily made and inspected without disturbing the wiring or the apparatus after the unit is installed.*

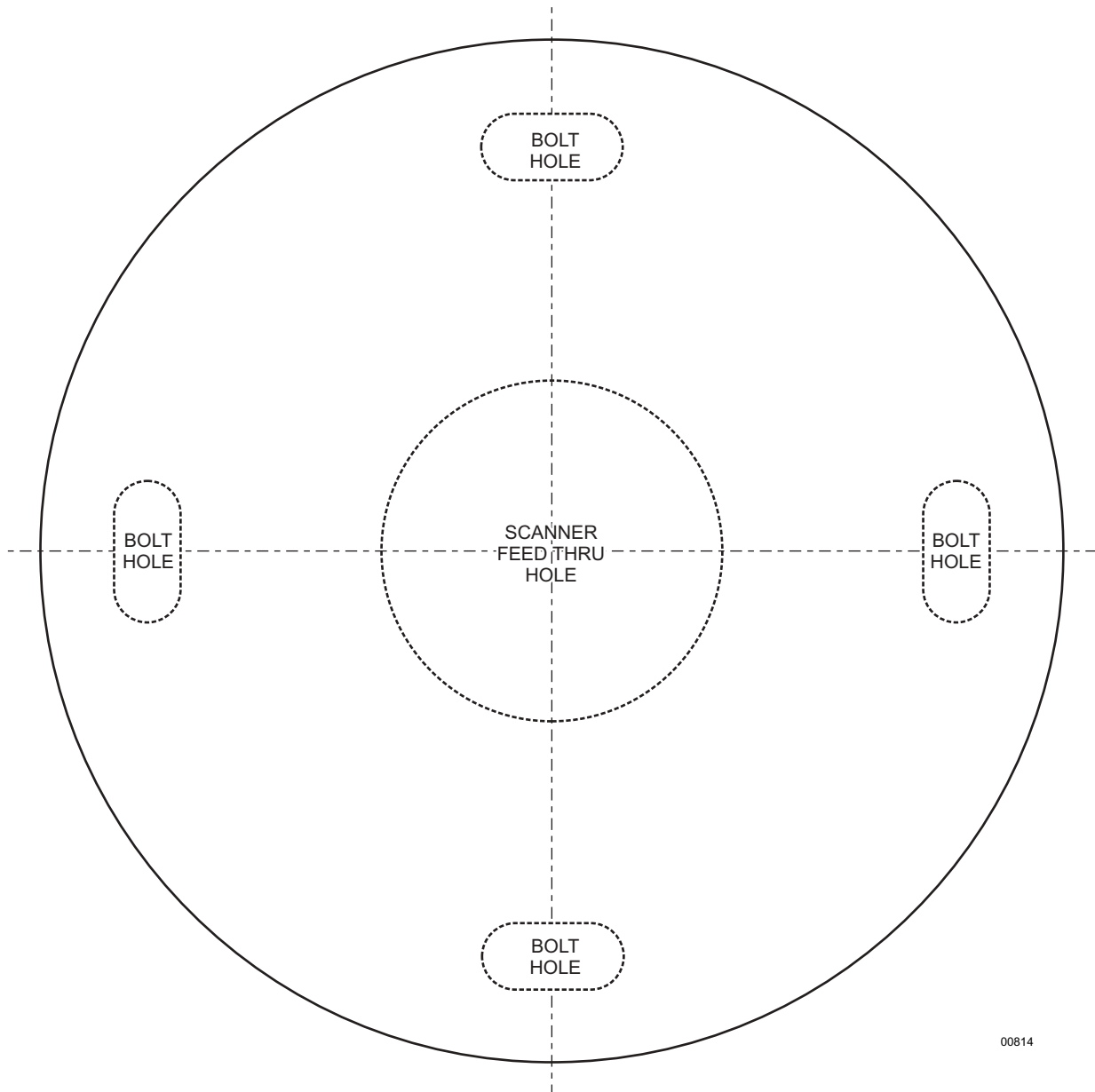
The PS20 scanner can be mounted to any flat surface in an upright or inverted position. If the scanner is to be attached to a wall/ceiling/pedestal mount, follow the instructions provided with the mount.

Installation requires a mounting surface or mount with a center feed through hole. Use a suitable wiring compartment/terminal box for connection with the AC mains supply and attach the PS20 scanner directly to the mounting surface.

## PREPARE MOUNTING SURFACE

**NOTE:** *Minimum recommendation for mounting hardware is 1/4-20 X 5/8 Hex Head Bolt Stainless Steel, 1/4" Split Lock Washer Stainless Steel, and 1/4" Flat Washer Stainless Steel with 1" Outer Diameter.*

1. Determine the mounting location. Make sure the mounting surface can support four times the combined weight of the scanner and the camera and lens or enclosure, camera, and lens. Refer to the manuals for your enclosure, camera, and lens for the weights of those units.
2. If mounting directly to a flat surface, use Figure 1 as a template and mark the bolt and cable/wire feedthrough positions onto the installation surface. Prepare the mounting surface and pull cable/wiring for the scanner.



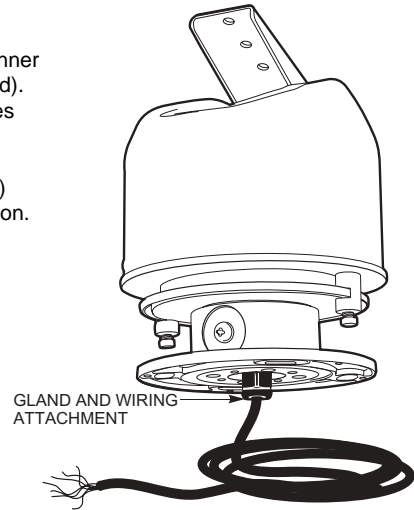
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**Figure 1.** PS20 Surface Mount Template

## WIRING

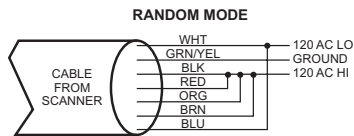
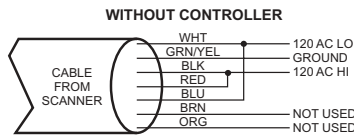
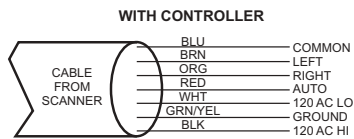
Make electrical connections as required for scanner operation. If required use the wire nuts (provided). Cable distances should not exceed the distances specified in Table A.

Refer to the following wiring diagrams (Figure 3) and select the correct diagram for your installation.

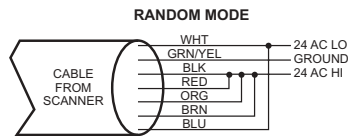
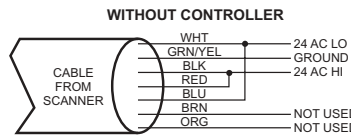
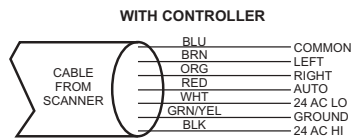


**Figure 2.** Bottom View, Wire Attachment

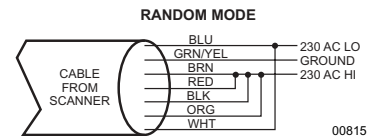
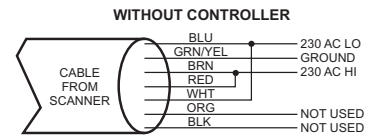
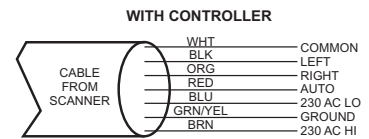
### 120V MODEL



### 24V MODEL



### 230V MODEL



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**Figure 3.** Wiring Diagrams - 120V, 24V and 230V Models

**Table A.** Maximum Operating Distances

Model	20 AWG (0.5 mm <sup>2</sup> )	18 AWG (1.0 mm <sup>2</sup> )	16 AWG (1.5mm <sup>2</sup> )
PS20	2,300 ft (701 m)	3,700 ft (1,127 m)	5,900 ft (1,798 m)
PS20-24	5,600 ft (1,706 m)	9,000 ft (2,743 m)	14,300 ft (4,368 m)
PS20/23	1,400 ft (426 m)	2,300 ft (701 m)	3,600 ft (1,097 m)

## MOUNTING

Attach the scanner to a flat surface or compatible wall/ceiling/pedestal mount using four bolts (not provided).

## CAMERA/ENCLOSURE MOUNTING

1. Center (balance) the camera and lens, or enclosure, camera, and lens load on the tilt table. Adjust the positioning as needed to align the mounting holes.
2. Attach the camera or enclosure to the tilt table with two 1/4-20 hex head bolts (not supplied).
3. Position the tilt table at the desired angle and tighten the manual tilt adjustment bolts (refer to Figure 3) to secure the table.
4. Make all camera, enclosure, and lens connections. Refer to the manuals supplied with the equipment. Leave enough slack in the cable/wiring so that the camera, enclosure, and lens connections do not interfere with the operation of the scanner.

## SPEED SETTING

The PS20 Series scanner has selectable speed settings for 3 degrees, 6 degrees, and 12 degrees per second. The default speed setting is 6 degrees per second. To decrease or increase the speed setting do the following:

1. Loosen the screw that secures the speed setting cover. The cover is located on the side of the scanner (refer to Figure 3).
2. Remove the speed setting cover.
3. Set the switch to the desired speed setting.
4. Replace the cover and tighten the screw.

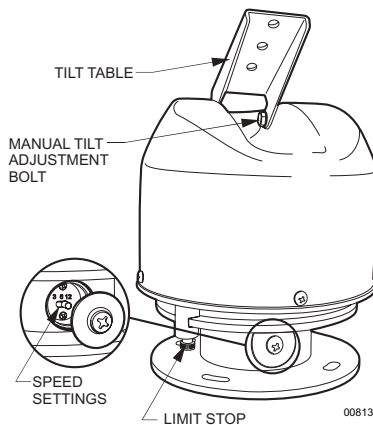


Figure 4. Scanner Adjustments and Settings

## LIMIT STOP ADJUSTMENT

To set pan limit stops, perform the following steps:

1. Loosen the right and left limit stops.
2. Operate the scanner. Pan the unit to the right until the desired right pan limit is reached.
3. Move the right limit stop to the selected position and secure in place.
4. Pan the unit to the desired left position. Slide the left limit stop to the selected position and secure in place.
5. Pan left and right to both limit stops to check for exact positioning. Tighten both stops securely.

To pan the scanner 380 degrees, remove one limit stop from the scanner. Only one limit stop is removable. The other limit stop is fixed to the scanner; it can be adjusted but not removed.

## SPECIFICATIONS

### **MECHANICAL**

Pan:	0-380° movement in horizontal plane
Speed:	3°, 6°, or 12° per sec $\pm$ .5°
Maximum Load:	35 lb (16 kg) centered
Operation:	Upright or inverted
Bearings:	Heavy-duty ball bearings
Overload Protection:	Thermal protected

### **ELECTRICAL**

Input Voltage	
PS20:	120 VAC
PS20-24:	24 VAC
PS20/230:	230 VAC
Power Requirements	
PS20:	0.175 A (20 vA)
PS20-24:	0.600 A (15 vA)
PS20/230:	0.130 A (30 vA)
Connectors:	Wire nuts provided
Motors:	Stepper motor, continuous duty, instantaneous reversing
Limit Switches:	Auto scan switching, external adjustment
Conductors:	7, unshielded (functions: left, right, auto, common, safety ground, AC Line, AC Neutral)

### **GENERAL**

Construction:	Aluminum
Finish:	Gray polyester powder coat
Environment:	Indoor/outdoor; -10° to 120°F (-23° to 49°C)
Unit Weight:	9.9 lb (4.5 kg)

## REGULATORY NOTICES

This equipment has been tested and found to comply with the limits of a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

## 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/MC3700 Series); two years on all other cameras.
- Three years on Genex® Series (multiplexers, server, and keyboard).
- Two years on cameras and all standard motorized or fixed focal length lenses.
- Two years on Legacy®, Camclosure® Camera Systems, CM6700/CM6800/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
C361M	6/01	Original version.
C361M-A	8/02	Revised installation instructions. Added certifications.