4 INCH IR SPEED DOME CAMERA

User Manual

Power Supply DC 12V

Factory Configuration: PELCO-D/P protocol, Baud rate 2400, address code 1

Please read carefully before use; please well keep the manual for reference when needed
1. NOTICE

Congratulations on purchasing our product. According to the insurance description, we are responsible for free maintenance or spare parts replacement in common use within the insurance period. In the insurance period, besides the maintenance or replacement of housing, bracket and other outer connecting wire, we will also maintain and replace the spare parts for free if the damage or malfunction is caused in common use after the exam of our technical staff.

We will not offer free maintenance if below situation happened:

1. malfunction and damage caused by any illegal repair or refit.
2. damage caused in the customer's transportation.
3. damages like fall, press, damp, and erosion caused by the customer that didn't use and maintain the dome according to the manual.
4. damages caused by unsuitable working environment or overload; superficial damages caused in the use.
5. damages caused by natural disasters.

Notice: to achieve product's full function, please do the compatibility test before using the third-party's product in the system.

2. PRODUCT CHARACTER

- New design, streamlined appearance, fine work, professional function and patent protected.
- The new structure of high-strength aluminum alloy. IP66 weatherproof rating.
- Special park function, timing test the dome camera running status, to prevent dome camera working and save user setting.
- Cooling devices: semiconductor refrigeration + circulative wind + aluminum slice.
- 128 preset positions, 8 cruising tracks, each cruising track consisting 16 preset positions.
- Zoom rate, dome speed depend on zoom depth, to ensure clear best image resolution.
- DOME SPEED
  - IR low dome: 360° unlimited rotation, horizontal 20°/S, vertical 25°/S
  - IR high dome: 360° unlimited rotation, horizontal 180°/S, vertical 100°/S

- LED QUANTITY
  - IR low dome: 42°9pcs, infrared distance of 60 meters
  - IR high dome: 42°9pcs, infrared distance of 60 meters
- Can work with SONY, LG, SAMSUNG... Camera Module.
- Self-recovery after power reconnected, inside protector for surge and thunder.

3. DIMENSION

- Camera's Size of wall bracket
4. MAJOR TECHNICAL PARAMETER

<table>
<thead>
<tr>
<th>Working Power</th>
<th>DC12V-5A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Movement</td>
<td>IR low dome: 1/4&quot; SONY CCD, 420TVL, Low Illuminance&lt;br&gt;IR medium dome: 1/4&quot; SONY CCD, 480TVL, Low Illuminance&lt;br&gt;IR high dome: 1/4&quot; SONY CCD, 480TVL, with IR cut, Low Illuminance&lt;br&gt;Laser speed dome: 1/3&quot; SONY CCD, 560TVL, with auto iris, with IR cut, Low Illuminance</td>
</tr>
<tr>
<td>Power</td>
<td>IR low dome: 42°9pcs, infrared distance of 60 meters&lt;br&gt;IR high dome: 42°9pcs, infrared distance of 60 meters</td>
</tr>
<tr>
<td>Cooling Devices</td>
<td>Semiconductor refrigeration + aluminum slice&lt;br&gt;Circutive wind + aluminum slice</td>
</tr>
<tr>
<td>LED Quantity</td>
<td>IR low dome: 42°9pcs, infrared distance of 60 meters&lt;br&gt;IR high dome: 42°9pcs, infrared distance of 60 meters</td>
</tr>
<tr>
<td>Pan Speed</td>
<td>180°/s&lt;br&gt;20°/s</td>
</tr>
<tr>
<td>Pan Range</td>
<td>360°/continuous rotation&lt;br&gt;25°/s</td>
</tr>
<tr>
<td>Tilt Range</td>
<td>100°/s&lt;br&gt;25°/s&lt;br&gt;90° or 180° turn rotation</td>
</tr>
<tr>
<td>Communication Format</td>
<td>RS485</td>
</tr>
<tr>
<td>Communication Protocol</td>
<td>PELCO-D/P</td>
</tr>
<tr>
<td>Baud Rate</td>
<td>2400bps / 4800bps / 9600bps / 19200bps</td>
</tr>
<tr>
<td>Address Range</td>
<td>1~256</td>
</tr>
<tr>
<td>Preset</td>
<td>128</td>
</tr>
<tr>
<td>Dwell Time of preset</td>
<td>4 / 6 / 9 / 10 / 12sec</td>
</tr>
</tbody>
</table>

5. CAMERA'S DIAL-UP AND SWITCH SETTING

Before installing the dome camera, the communication protocol, the baud rate and the dome address should be confirmed, then set the DIP switch, keeping the setting consistent with control system, the corresponding DIP switch and connecting wire diagramed as below:

5.1 Address setting

The speed dome camera should be set dome address before use. 1 to 8 bits of 10-bit DIP switch is used to set dome address. The switch uses the 8421 binary coded decimal system. The largest value is established at 128. DIP switch appropriated for "ON" means "1", DIP switch appropriated for "OFF" means "0". As follows form 1.
5.2 Transmission Speed Setting

9 to 10 bits of 10-bit DIP switch is used to set baud rate. As follows form 2.

Form 2: Baud rate setting form

<table>
<thead>
<tr>
<th>Baud rate</th>
<th>2400 bps</th>
<th>4800 bps</th>
<th>9600 bps</th>
<th>19200 bps</th>
</tr>
</thead>
<tbody>
<tr>
<td>9</td>
<td>OFF</td>
<td>ON</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>10</td>
<td>OFF</td>
<td>OFF</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

5.3 Protocol Setting

Protocol is auto identify PELCO_D and PELCO_P.

6. Basic Operation

(Note: Different manufacturers keyboard preset keys are different, the keyboard manufacturer.)

6.1 Setting and Adjusting Preset Position

The preset function is the dome’s default level angle, lens angle and camera focal length in memory. In dome camera by 1-128 digital, by using this saved parameter, the dome and camera can run to the preset positions when it is required. Operator can save and adjust preset positions by using the control keyboard, the speed dome can support 128 preset positions.

6.1.1 Setting Preset Position

Adjust the speed dome camera to the desired position using the keyboard joystick (including location, camera zoom, focus and iris), and then input the required preset position number + "PRESET". The preset position was set successfully.

For example: Set NO.1 preset position
A. Adjust the speed camera to the desired position including location, camera zoom, focus and iris.
B. Enter preset position "1" + "PRESET".

When set preset position for the far objects, can use manually set the focus, the camera adjusted to the far distance, through the control keyboard keys FOCUS far and FOCUS near get the best image storage, to avoid interference from other objects make the image no clear.

6.1.2 Call Preset Position

Call preset position is let the dome camera run to the preset positions was stored previously. Enter the preset position NO and press "CALL" key, the dome camera will move to the target point.

For example: Call NO.1 preset position
A. Press "1" + "CALL" key.

6.2 Multiple Scan

Multiple scan is an important function for speed dome camera, using the control keyboard you can set the cruise route, only an outer command unit can transfigure the speed dome camera into a pattern tour program route. Speed dome camera has the capacity to set up to 6 group multiple scan. Max 16 points/each group, dwell time and speed at each preset position can be different.

6.2.1 Call Multiple Scan

To start NO.1 cruise (to-and-from mode) Call number 41 preset, input "41" and press "CALL".
To start NO.2 cruise (to-and-from mode) Call number 42 preset, input "42" and press "CALL".
To start NO.3 cruise (to-and-from mode) Call number 43 preset, input "43" and press "CALL".
To start NO.4 cruise (to-and-from mode) Call number 44 preset, input "44" and press "CALL".
To start NO.5 cruise (to-and-from mode) Call number 45 preset, input "45" and press "CALL".
To start NO.6 cruise (to-and-from mode) Call number 46 preset, input "46" and press "CALL".
To start NO.7 cruise (to-and-from mode) Call number 47 preset, input "47" and press "CALL".
To start NO.8 cruise (to-and-from mode) Call number 48 preset, input "48" and press "CALL".

6.2.2 Set the Dwell Time

Set the dwell time as 4 sec Set number 51 preset, input "51" and press "presef".
Set the dwell time as 6 sec Set number 52 preset, input "52" and press "presef".
Set the dwell time as 8 sec Set number 53 preset, input "53" and press "presef".
Set the dwell time as 10 sec Set number 54 preset, input "54" and press "presef".
Set the dwell time as 12 sec Set number 55 preset, input "55" and press "presef".

6.2.3 Clear Cruise

To clear NO.1 cruise set number 41 preset, input "41" and press "presef".
To clear NO.2 cruise set number 42 preset, input "42" and press "presef".
To clear NO.3 cruise set number 43 preset, input "43" and press "presef".
To clear NO.4 cruise set number 44 preset, input "44" and press "presef".
To clear NO.5 cruise set number 45 preset, input "45" and press "presef".
To clear NO.6 cruise set number 46 preset, input "46" and press "presef".
To clear NO.7 cruise set number 47 preset, input "47" and press "presef".
To clear NO.8 cruise set number 48 preset, input "48" and press "presef".

6.3 Scan A-B and 360° Scan

Scan A-B point is the dome camera scan at A & B points, the preset A, B dwell time/scan speed can be set.
360° scan continuous scanning as pre-set speed.

6.3.1 Set Scan A-B

Set Position A

Move Dome Camera to desired position, adjust zoom/focus parameter, set number 35 preset, input "35" and press "presef"
6.3.2 Call Scan A-B or 360° Scan Function

6.3.3 Clear Scan A-B

6.3.4 Set Scan Speed

6.4.1 Set Watch

6.4.2 Set Scan Speed

Set Scan Speed as 6'/sec Set number 61 preset, input "61" and press "preset".

Set Scan Speed as 9'/sec Set number 62 preset, input "62" and press "preset".

Set Scan Speed as 15'/sec Set number 63 preset, input "63" and press "preset".

Set Scan Speed as 40°/sec Set number 64 preset, input "64" and press "preset".

6.4 Watch Position

Watch function is an important position that the speed dome camera will come back to automatically when there is no operation for defined period.

6.4.1 Set Position

Call number 101 preset, input "101" and press "CALL".

6.4.2 Enable Watch Position

Call number 105 preset, input "105" and press "CALL".

6.4.3 Disable Watch Position

Set number 105 preset, input "105" and press "preset".

6.5 Factory reset

"Call, according to preset button"

For example: Factory reset

Call 115 preset positions

7. CAMERA/LENS SETTINGS MENU

Camera menu can set all parameter for integrative camera module (different camera module with different features, whether use of the parameter depend on the camera module)

Press IRIS-key enter camera menu, the screen will display:

8. SIMPLE TROUBLESHOOTING TABLE

<table>
<thead>
<tr>
<th>Failure</th>
<th>Possible Cause</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity without action, no images, light does not shine.</td>
<td>Connected the wrong power cord</td>
<td>Corrections</td>
</tr>
<tr>
<td>Power supply is damaged</td>
<td>IR uniform ball address code, the baud rate setting does not</td>
<td>To re-set the high-speed dome address code and baud rate</td>
</tr>
<tr>
<td>No video output</td>
<td>Power in on IR</td>
<td>Check wiring RS485 control line</td>
</tr>
<tr>
<td>High-speed operation</td>
<td>Power is not enough</td>
<td>Replacement to meet the requirements of the power supply, it is best to power the ball on the near-infrared uniform</td>
</tr>
<tr>
<td>Power is not enough</td>
<td>Video line connection is bad</td>
<td>Exclusion</td>
</tr>
<tr>
<td>Power is not enough</td>
<td>Manual focus on the state</td>
<td>Operation of any infrared uniform ball or call a preset point</td>
</tr>
<tr>
<td>No video output</td>
<td>Power is not enough high-speed Dome</td>
<td>Replacement to meet the requirements of the power supply, it is best to power the high-speed ball in the vicinity</td>
</tr>
<tr>
<td>IR control of a uniform-speed ball non-stop or delay</td>
<td>Check control of the most distant high-speed ball match to the resistance</td>
<td>The most far away from the control of the ball-type cameras by adding matching resistor</td>
</tr>
<tr>
<td>Converter 48S is not enough driving force</td>
<td>Far from 48S the signal attenuation</td>
<td>Bold Line of Control</td>
</tr>
</tbody>
</table>

9. INSURANCE CARD

Warranty Description:
1. This product is free of charge warranty period of one year, during the warranty period any product quality problems occur, so doing the warranty card for free (non-human damage), life-long maintenance.

2. A result of improper use or other reasons as well as the failure of products outside the warranty period can be so doing card repair, free of maintenance, only the income component costs.

3. Product required maintenance should be a copy of this card and the invoice with the product delivery of the Company or the local special maintenance department.

4. Secretly open the machine casing, tearing up letters labeling, according to the provisions of collecting maintenance fees and components and other expenses.

5. Does not accept any modification or installation of other functions due to failure after the machine.

The following conditions will not be free of charge Warranty:
1. Due to normal wear and tear caused by periodic inspection, maintenance, repair or replacement parts.

2. As the fall, extrusion, scaling, damp, and other man-made damage.
3. Because of flood, fire, lightning and other natural disasters or force majeure of the factors that damage.

4. By non-authorized repair centers repair the machine off.

5. Listed above, if changes to the relevant provisions shall prevail.

<table>
<thead>
<tr>
<th>Model Number</th>
<th>Serial number</th>
<th>The date of manufacture</th>
<th>Company</th>
<th>Name</th>
<th>Address</th>
<th>Telephone</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Maintenance date</th>
<th>Failure case</th>
<th>Maintenance site</th>
<th>Maintenance result</th>
</tr>
</thead>
</table>

Remark: ____________________________________________

<table>
<thead>
<tr>
<th>Serial #</th>
<th>part</th>
<th>Qty(pcs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dome Camera</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>Power cord</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>DC12V 5A</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>Wall or ceiling bracket</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Manual</td>
<td>1</td>
</tr>
</tbody>
</table>

Safety Precautions

1. Careful Transport
Transport, storage and installation process, we need to prevent stress, severe vibration and damage to the product immersion.

2. Careful installation of movement
To be especially careful, light-light, do not force squeezing movement and the structural components, so as to avoid the ball machine trouble. For security reasons, do not cover the ball is not installed electricity.

3. The power, video lines and control lines
Power lines, video lines and control lines preferable to use shielded cable and is independent of routing, can not blend together with other lines.

4. Electrical Safety
In use must comply with all electrical safety standards, the ball machine or signal transmission line should work with high-voltage equipment or cables to maintain a sufficient distance (at least 50 meters), if necessary, do a good job against lightning, surge and other protective measures.

5. Cleaning
Cleaning the camera housings, please use the dry soft cloth, such as severe dirt, use neutral cleaning agent gently wipe. Do not use strong or with abrasive cleaning agents, so as not to scratch jacket, affecting image quality.

6. Note that strictly sealed to prevent liquid splashing into or foreign bodies falling into the ball machine, otherwise it will result in permanent damage to the device.

7. Do not be a long time the camera toward a strong light source, such as the sun. Spotlight and other light sources will cause screen aging. A long time the camera toward a strong light source may be due to the color filters on CCD damage caused by loss of color images.