SDOMEO4802701

Outdoor Day/Night Speed Dome with built in Sony CCD 27x optical zoom camera

SDOME4802201

Indoor Day/Night Speed Dome with built in Sony CCD 22x optical zoom camera

User's Guide

Safety Attention Notes

- Please read the instructions thoroughly before installing or operating the unit.
- Please do not put the machine on an unstable table or mounting bracket.
- Please prevent all liquids or other contaminating material from entering into the dome housing.
- When connecting to the power source, please follow all electric safety standards and only use the power supply designated for this device. The speed dome's RS-485 and video signal uses TVS technology to protect it from strong electric surges. This technology prevents damage to the device resulting from impulse signals such as lightning strikes or surges under 500W power. Allow for enough distance between the RS-485 and video signals and high-voltage equipment or cables during the transmission process. Please do not power the unit until all connections are secure and installation is complete.
- Avoid shooting very bright objects directly into the camera's CCD (such as the sun or light fittings).
- When the machine is not operating properly, do not casually repair it. Refer to the instructions for information about how to service or repair your speed dome.
- Please protect the unit against extremes of vibration, pressure or dampness while transporting unit. Damage can occur from improperly packaging the unit while shipping.
- Please only install the outdoor dome camera system in outdoor environments.

Contents:

1 Introduction

Congratulations on purchasing our speed dome, an intelligent, high-speed dome camera with a high-performance DSP camera and sophisticated zoom lens. It is an advanced technological surveillance product combining an all-direction variable speed dome and digital decoder all in one unit. It can aim quickly and scan continuously, making omni-directional and non-blind-spot monitoring into reality. Additionally, it can quickly adapt to changing environments with its 18x optical and 12x digital zoom with precise stepping motors. The advanced stepping motor technologies enable the dome to rotate smoothly, respond sensitively and aim precisely. The speed dome camera has memorizing function when the power cuts off, can auto resume to previous working status before the power cuts off. Use the high-performance speed dome "When it *Counts*."

All of the features make the intelligent high-speed dome camera fit for a wide range of applications such as intelligent building, bank, street of city, airport, station etc.

2 Technical Data

2.1 Technical Parameter of Intelligent High-speed Dome

Model	Outdoor Day/Night Speed Dome	Indoor Speed Dome
Power Supply	AC24V	DC12V, 3A
Operating temperature	-40°C~+60°C	0°C~+40°C
Operating moisture	≤95%	
Power consumption	20W	
Communication	RS485 bus	
Communication transmission speed	1200/2400/4800/9600bps	
Horizontal rotation speed	0.4°- 280° (1-64 grade shift gears)	
Horizontal rotation range	360° unlimited rotation	
Tilt rotation range	90°	
Auto f lip	Rotates 180° when camera tilts to the vertical position	
Auto zoom speed control	Control speed auto-adjusted according to zoom length changing	
2 points scan	Can set freely	
2 points scan speed	1 - 64 grade available	
Dwell time(2 points scan)	1 - 60s available	
Preset Positions	128 pcs	
Running to preset speed:	1 - 64 grade available, 0.4° - 280°	
Dwell time at preset position	1 - 60s available	
Cruise Tour:	8 group	
Cruise Points Qty per cruise group	16 preset positions	
Fan, Heater	Fan and heater auto-starts 12VAC	NIL

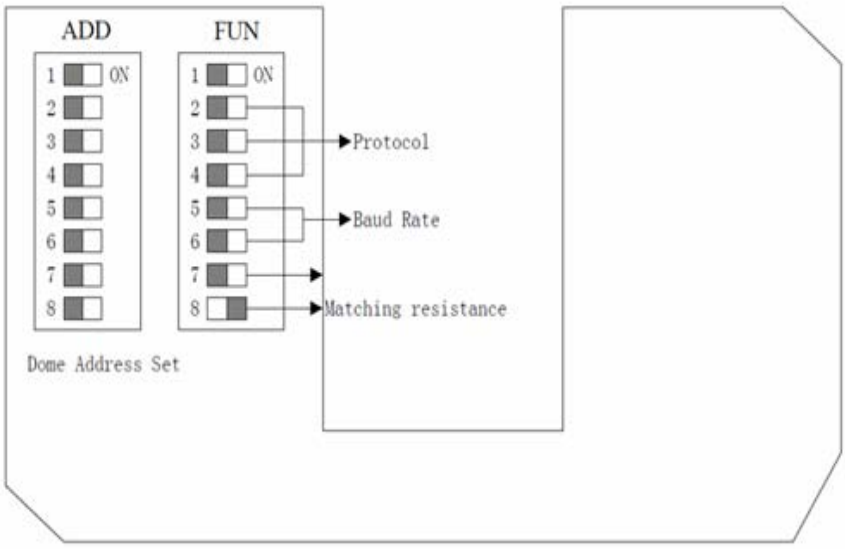
2.2 2.2. Camera Parameter for High-speed Dome:

Model	Outdoor Day/Night Speed Dome	Indoor Speed Dome
Mode	¼" Sony Exview (Day/Night) CCD	¼" Sony Exview (Day/Night) CCD
Scan	2:1 Interlace	2:1 Interlace
Resolution	>480 lines	>480 lines
Minimum illumination	0.8lux/0.01lux (b/w mode)	1lux/0.01lux (b/w mode)
Iris	Auto/manual	Auto/manual
Focus	Auto/manual	Auto/manual
Zoom	27x optical	22x optical
Focal length	f=4 – 88mm	f=3.25 – 88mm
Angle of view	44° (wide), 2° (Tele-)	52° (wide), 2° (Tele-)
Backlight compensation	Backlight compensation	Backlight compensation
White balance	Auto	Auto
Gain	Auto	Auto
Signal	PAL/NTSC	PAL/NTSC
S/N ratio	>55dB	>55dB
Video signal output	1.0 ± 0.2Vp-p	1.0 ± 0.2Vp-p

3 Setting, Installation, Connection

3.1 Dome Address, Transmission Speed, Protocol Setting

Before the dome is installed, the communication protocol, baud rate and dome address, should be confirmed. Set the code switch, keeping the setting consistent with the control system. The relative code switch site and connecting wire are diagrammed below for reference.

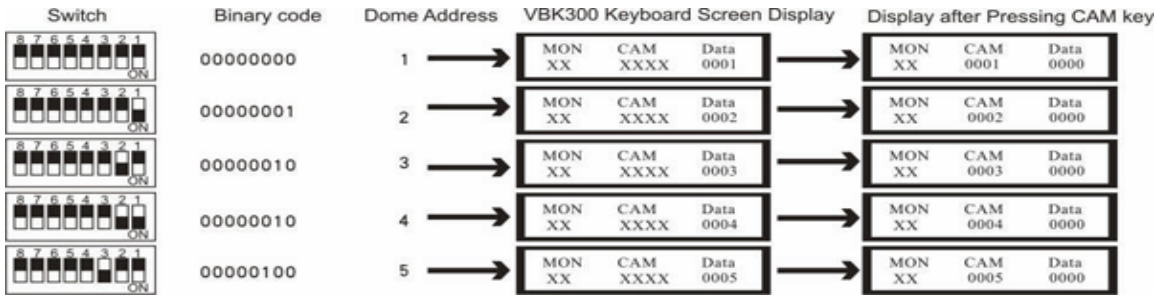


Note: Internal version has only 6 SW2 switches.

3.1.1 Speed Dome Camera Address Setting

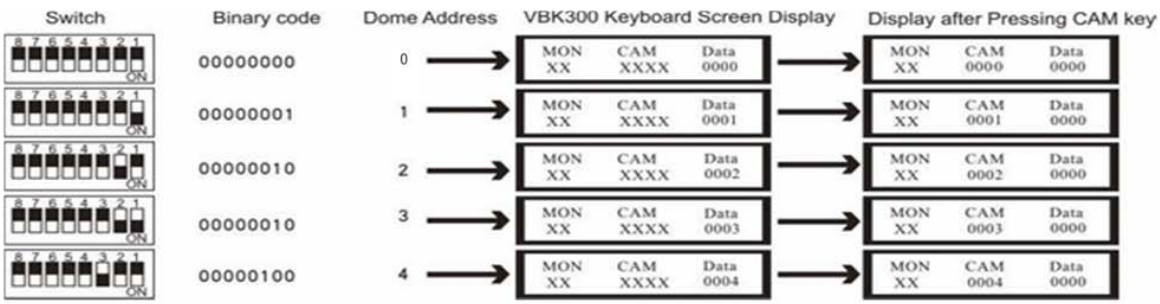
The address code for the speed dome should be properly set before use to ensure accurate operating order of the controller at the control centre and to control many dome cameras. The address code is made up of ADD (8 bits) on PCB board. The 8 bits switch uses the 8421 binary coded decimal system. The largest value is established at 256. 1 means ON status and 0 means OFF status. Each dome address code and keyboard relative screen display mode is represented in the chart below (see the following figure and the address/digits in following chart)

SW 2 switch (Address settings for PELCO P):



With reference to the above chart: When all code switches are under "OFF" status on speed dome, address code is 1. When you input Numerical key No.1 on control keyboard, then press CAM key for confirmation showing that set keyboard address as No.1 control address., At this time, keyboard can control speed dome camera(its control address is 0001). Other address is to be set as above.

SW 2 switch (Address settings for PELCO D):

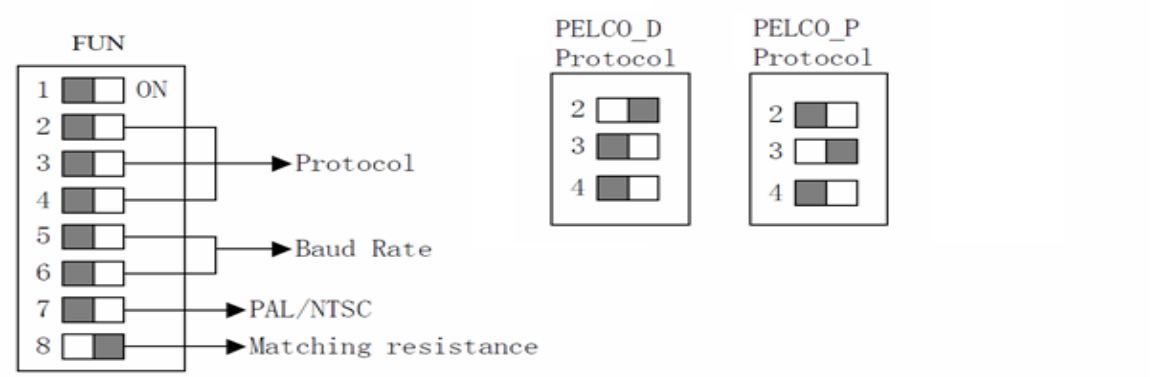


- When "DATA" column not showing "0", "DATA" column means the address of dome camera
- When "DATA" column showing "0", "CAM" column means the address of dome camera

After establishing the address, please restart the unit to save changes.

3.1.2 Speed Dome Camera Communication Protocol Setting

SW 1 switch:



The 2st, 3nd and 4rd bits in FUN are used to set communication protocol (see following figure)

After establishing the communication protocol, please restart the unit to save changes.

3.1.3 Speed Dome Camera Transmission Speed Setting (Baud Rate Setting)

The 5th and 6th bits of FUN on the PCB board are used to set the baud rate (see following figure). The default baud rate setting is 9600.

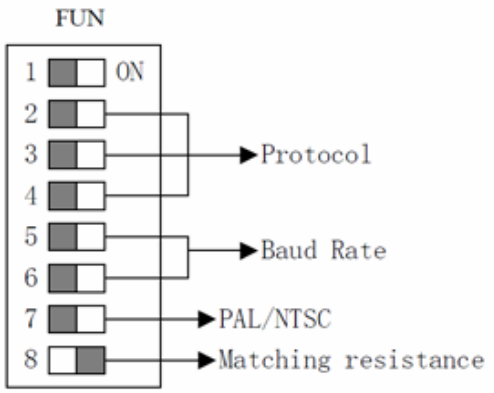
SW1 switch:

Baud Rate Options: 1200BIT/S 、2400BIT/S 、4800BIT/s、9600BIT/s

After establishing the transmission speed , please restart the unit to save changes.

3.1.4 RS-485 Bus Matching Resistance

For central controlling, the matching resistance should be set for the device that is furthest away from the controller. There is an end matching resistance switch on FUN. The 8th bit of FUN shows ON status (see chart below) which means the BUS matching resistance has been connected.



When dome is out of control or doesn't work under RS-485 BUS control status, please set switch of matching resistance as ON status so that we can clear up bad phenomenon.

If dome address, baud rate and communication protocol is required to be reset after finish installation, please ensure dome is under is under power off status.

3.2 Installation, Connection

Attention!

1. Installation should only be handled by a qualified CCTV expert.
2. For detailed connection information, please refer to silk-screen print instruction on PCB and installation guide or manuals.
3. Because the dome is a high-grade optical unit, please never touch any of the optical components.
4. For a clear image, the dome cover should be cleaned periodically. When cleaning, position your hand to hold dome's outer loop to prevent finger sweat acidity from corrupting the surface of the dome. If the dome is scratched, it will affect image quality. Therefore please use a soft dry cloth or similar products to clean its outer surface. If the dust is heavy, you can use a neutral cleanser. Any advanced furniture cleanser can be used to clean the dome exterior.

Installation Preparation

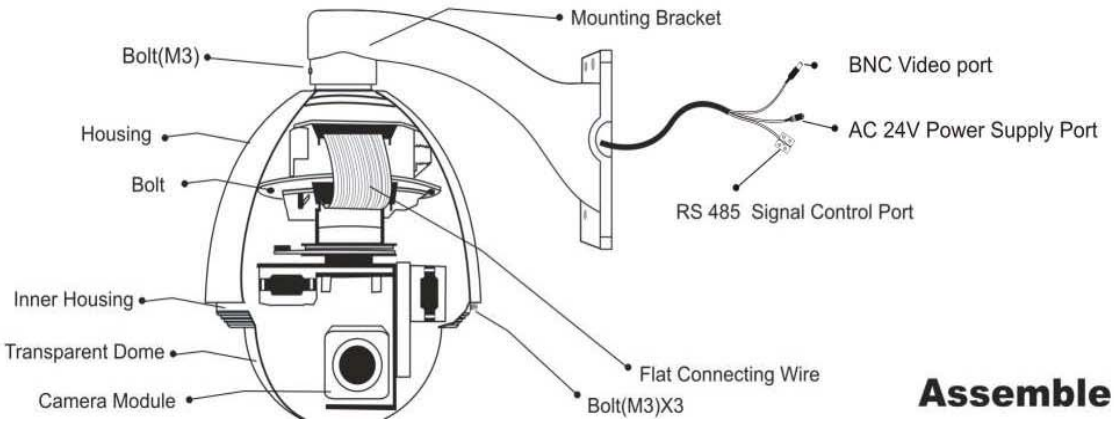
3.2.1 Installation Requirement

- Installation should be handled by a qualified service agent and should comply with all local regulations, Service personnel should forecast potential problem such as falling objects, outer breach, building vibration or other similar conditions.
- Check for all necessary materials, and ensure if the selected installation location is suitable for the speed dome.

3.2.2 Outdoor Speed Dome Camera Wall Hanging Installation

– Wall Hanging Installation

ATTN: Installation locations should endure 5 times weight of total weight (dome camera, mounting bracket and mounting base) to avoid in shaken images.



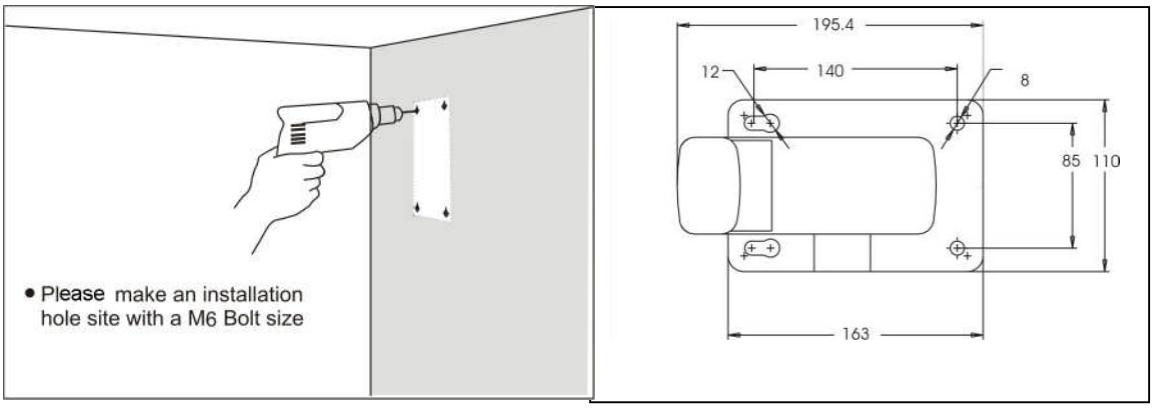
Assemble Sketch

a. Set wall bracket mounting on the wall. Draw out center site of the hole on the wall against bracket sample

b. Use drill to make 4 holes with the M8 size at the designated site. Screw in M8 bolt for mounting

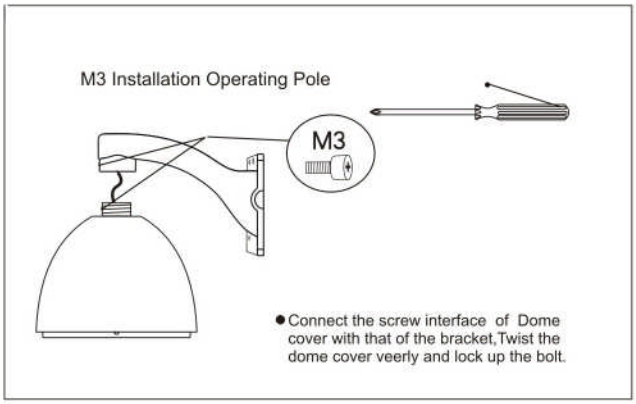
c. Put power, communication and video lines through bracket hole, leaving enough wire length Maneuverability.

d. Fix the bracket to the wall with 4 M8 bolts and mounting tray.



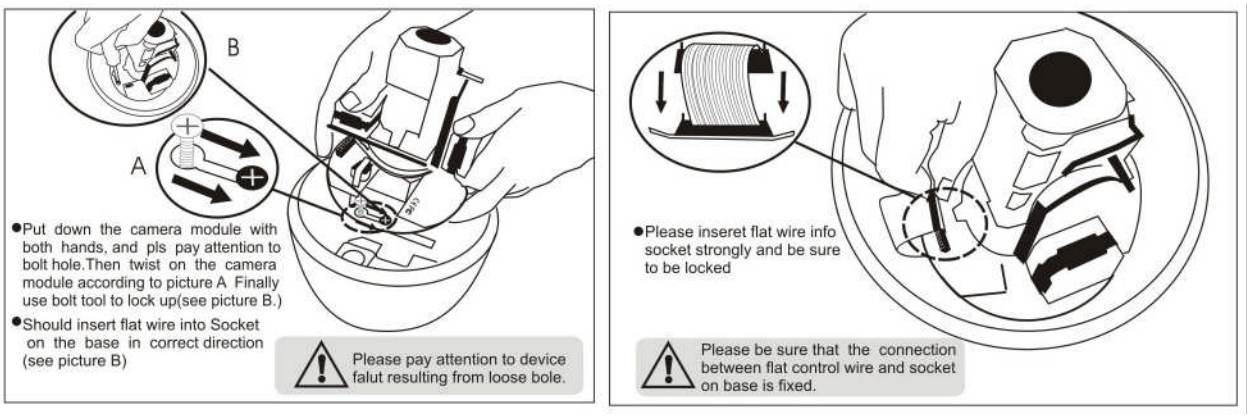
− Housing Installation

a. Remove housing from the packing and put the cable into the bracket from bracket top. Install G1 1/2 bolt on the top of housing into the bolt of wall bracket. At the same time, use two M8 bolt to secure in place.



Camera Module Installation

- Install under the condition that the power is off
- Loosen the two M5 bolts on the bracket, which are located in the inner housing.
- Take the camera module from the packing, and check if connecting wire plugs are loose. Set code switch of the dome.
- Secure the camera module (use one hand to hold stepping motor, preventing it from moving.). Insert the wire terminal into the outlet on the end of camera module. Align two holes on the camera module base with the two M5 bolt of the connecting bridge. Twist the camera module in to place. Ensuring the two M5 bolts reach the end of bar hole. Tighten the two M5 bolts to make camera module fixed on the upper housing.



Connection (Outer connecting wire)

Connect BNC video interface of outdoor speed dome camera with video wire (BNC). Connect power supply line with set power line (AC24V).

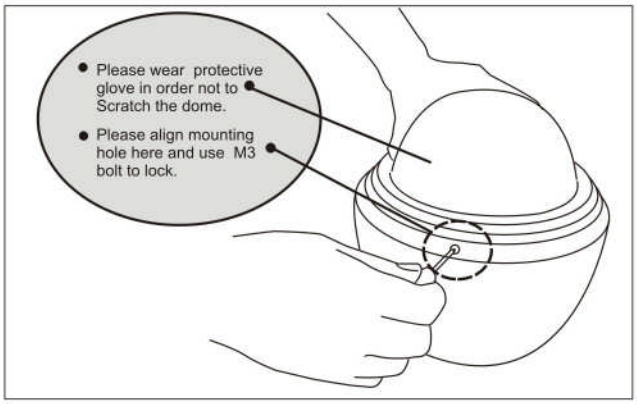
Should not connect positive and negative polarity of RS485 contrarily. A RS485 positive, B RS 485 negative polarity. If connect RS485 contrarily, will not control outdoor speed dome camera

Electricity

- Check the polarity of the plug and outlet, then check all connecting wires
- Domes enter self-inspection, and carry out a replacement program when first powered on. (During the replacement process, self-inspects horizontal and tilt rotation to starting point before camera lens extend, then make a horizontal 360°and tilt 90°rotation). After the dome stops completely, the self-inspection is completed and dome is ready to be controlled.

Dome Mounting

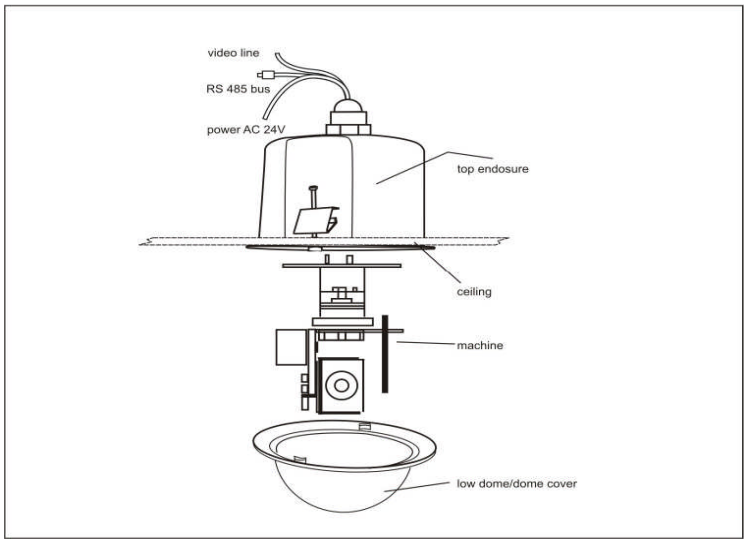
- Please make 3 bolt holes aim at housing bolt holes, and use thee M3 bolts to fix.
- Use soft cloth to wipe off dust and smudges of transparent dome, avoid scratching the dome



Please ensure that the carrying capacity of ceiling, wall and bracket must support above 5 times weight of dome and its installation parts.

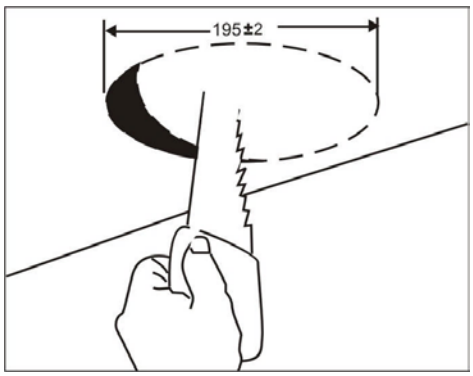
3.2.3 Indoor Hemisphere Dome Camera Recessed Installation

ATTN: Installation locations should endure five times the total weight of the camera assembly (dome camera, mounting bracket and mounting base) to avoid in shaken images. Installation ceiling must be strong and has no peeling phenomenon.



A. Draw out center site of the hole on the ceiling against embedded upper housing sample

B. Use drill to make hole on the ceiling

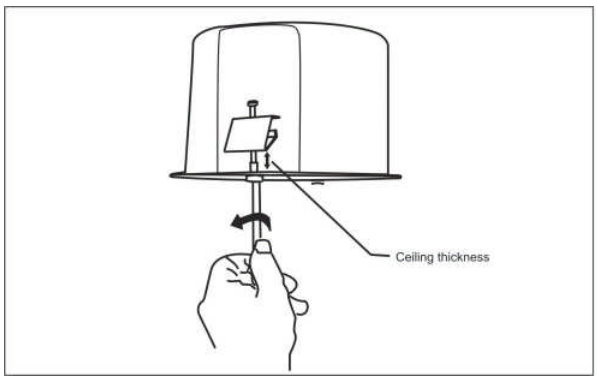


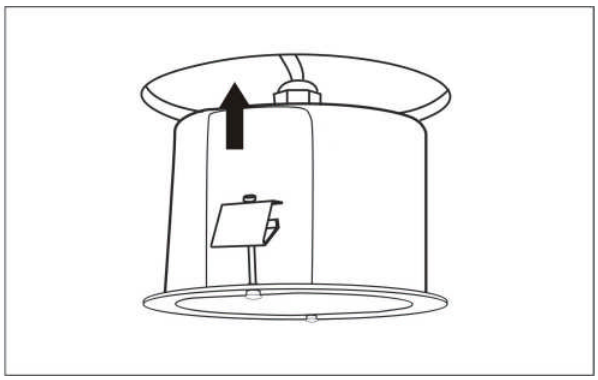
Housing Installation

A Take out the housing from the carton, adjust the thickness of bolt reed more than that of ceiling.

B Stick 3 rings to housing, and install the upper housing in the round hole of the ceiling, connecting flange edge with the ceiling surface closely.

C Use screwdriver to rotate the bolt of the ring, making the ring stick to the ceiling in order to connecting flange edge with the ceiling surface closely.





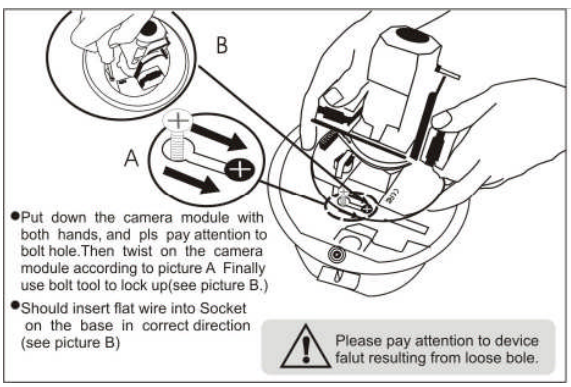
Camera Module Installation

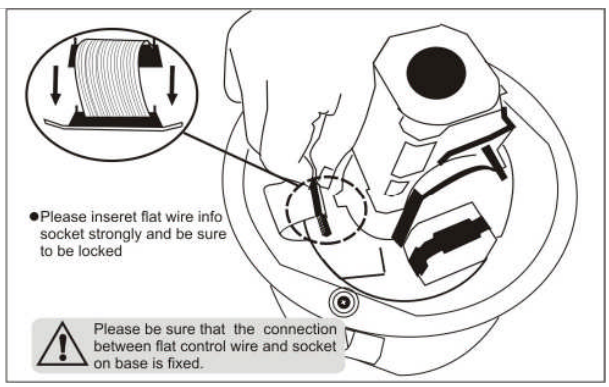
☐ Turn power supply off prior to installation.

☐ Loosen the two M5 screw on the bracket, which are located in the inner housing .

☐ Take the camera module from the packing carton, and check if connecting wire plugs are loose. Set code switch of the dome camera.

☐ Secure the camera module (use one hand to hold stepping motor, preventing it from moving.). Insert the wire terminal into the outlet on the end of camera module. Align two bar holes on the camera module base with the two M5 bolt of the connecting bridge. Twist the camera module upward ensuring the two M5 bolts reach the end of bar hole. Tighten the two M5 bolt to make camera module fixed in the upper housing.





Connection (Outer Connecting Wire)

Connect BNC video interface of dome camera with video wire (BNC) which is finished installing. Connect power supply line with power line (AC24V) which have been set well.

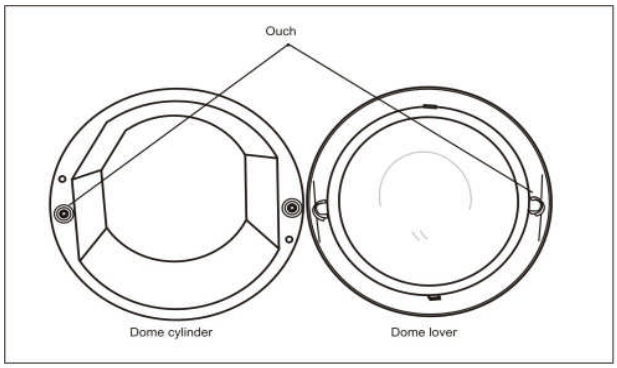
Should not connect positive and negative polarity of RS485 contrarily. A RS485 positive, B RS 485 negative polarity. If connect RS485 contrarily, will not control indoor speed dome camera

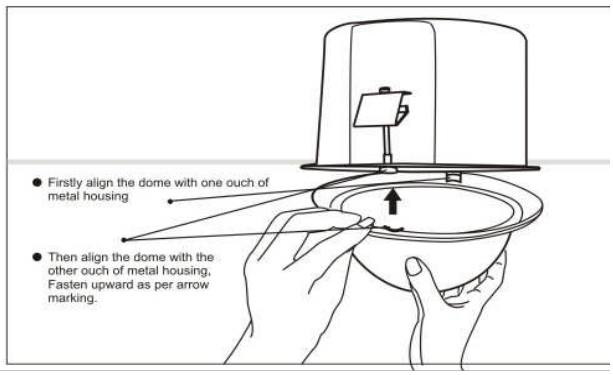
Electricity

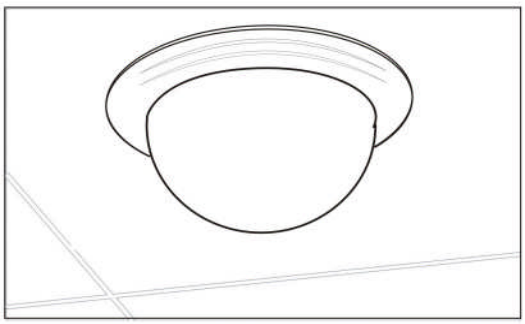
- Check the polarity of the plug and outlet, then check all connecting wires.
- Domes enter self-inspection, and make a horizontal 360° and tilt 90° rotation to test camera lens, dome horizontal and tilt electronic& mechanical structure. Then carry out a replacement program rotating to starting point. After the dome stops completely, the self-inspection is completed and dome is ready to be controlled.

Dome Mounting

- Use soft cloth to wipe off dust and smudges of transparent dome cover, avoid scratching it
- Align two holes on the dome cover edge with the two connection points of the metal upper housing.







ATTN: Please ensure that the dome cover and metal housing are connected firmly

4 Control Keyboard Control Use Instruction to Speed Dome Camera

Use the keyboard controller to realize the complete potential of the speed dome. (The control keyboard control protocol is set as the default protocol for the speed dome.)

4.1 Setting and Adjusting Preset Position

The Preset function is the dome's default level angle, lean angle and camera focal length in EMS

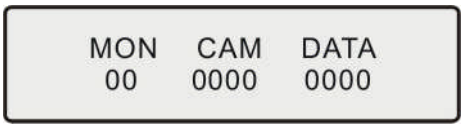
memory. By using this saved parameter, the dome and camera can run to the preset positions when it is required. Operator can save and adjust preset positions by using the control keyboard; the speed dome can support 128 preset positions.

4.1.1 Setting Preset Position

Adjust the speed dome camera to the desired position using the keyboard joystick/rocker (including location, camera zoom, focus and iris), and then input the required preset position number. The inputted preset position value No. is displayed at the bottom of the LCD "DATA" area. Press Shift + Call, to confirm position. The preset position at "DATA" disappears showing that the preset position was set successfully.

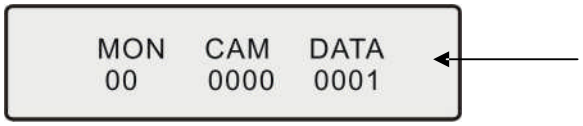
For example: Set No.1 preset position

1. In the Main Menu screen, Press CLR to Clear the data. The keyboard displays:



2. Enter the Preset Position Number you wish to set

Ex. Set Preset Position No. 1, the keyboard displays:



Displays the Preset Position Number (1-128)

3. Adjust the speed camera to the desired position including location, camera zoom, focus and iris.

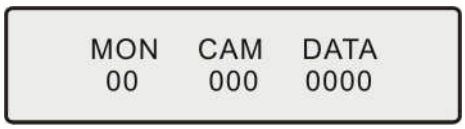
4. Press Shift + Call for final confirmation.

4.1.2 View Preset Position

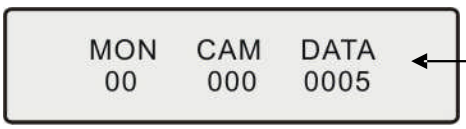
Use the keyboard to view the preset position. (Preset positions are saved in advance). Input the preset position you would like to view, Data area will display preset position number. Press Call key, the dome will move to the target place.

For example: View No.5 preset position

1. In the Main Menu, Press CLR to clear the data.



2. Input the preset position you would like to view. Example: View preset position No. 5



Displays the Preset Position Number (1-128)

3. Press the CALL key. The dome will move to the Preset Position No. 5

4.2 Dome Pattern Tours

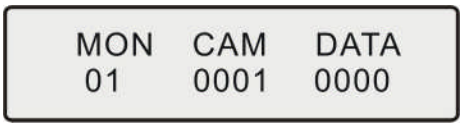
Pattern Tours are a key function of the speed dome camera. You can layout the preset position order in the pattern tours through our advanced program. Using the control keyboard you set the rotation speed for each preset position and dwell time at each preset position. Only an outer command unit can transfigure the speed dome camera into a pattern tour program route.

4.2.1 Preset Position Parameter Setting

speed dome camera has the capacity to set up to 128 preset positions through the keyboard. It can set a running speed at each preset position from 0.4/s to 280/s (1-64grades) and dwell time from (1-60seconds).

Note: speed dome can rotate at low speeds and at fast speeds. Its speed can be divided into 64 grades. 1 is the lowest speed and 64 is the fastest speed.

To get to the control keyboard Main Menu Press Exit until the screen displays:



1. In the Main Menu, Press the SHIFT+EXIT key. Keyboard displays:

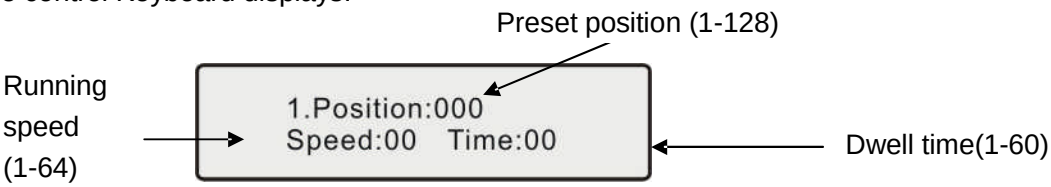
Press CLR to delete previous data. Input required SPEED DOME address code XXXX（1-1024）for control. Press Enter for

2. Enter the correct Speed Dome Unit and Press Enter.

Example: Preset Position for Speed Dome 3. Keyboard displays:

Displays the Speed Dome Address (1-1024)

3. Now the control Keyboard displays:



Press Shift+MON key **key on the keyboard to move the cursor up and down**

4. Press CLR key to delete previous data before programming to a new preset position.
5. Enter desired Preset Position and Press Enter.
6. Press Shift+MON to get to Speed. Using the number keys enter the desired running speed.
7. Press Shift+MON to get to Time. Using the number keys enter the desired dwell time.

For example: Set the running speed of preset position No. 6 as Grade 64 (fastest speed), dwelling time is 5 seconds. Set the running speed of preset position No.2 as Grade 10, dwelling time is 10seconds.

1. Press the SHIFT+EXIT key.
2. Press CLR to clear the data.
3. Input 06 (Note: Setting the Preset Position No. 6) press the Enter Key to Confirm.
4. Press the Shift+MON key to move the cursor to Speed:00←
5. Input 64, press Enter
6. Press the Shift+MON key to move the cursor to Time:00←
7. Input 05, press Enter

8. Press Shift+MON to move the cursor back to 1.Position:001←
9. Press CLR to delete 0006
10. Input 02, press Enter
11. Press the Shift+MON key to move the cursor to Speed:64←
12. Press CLR to delete 64
13. Input 10, press Enter
14. Press the Shift+MON key to move the cursor to Time:05←
15. Press CLR to delete 05
    Input 10, press Enter

4.2.2 Sequence Setting

This function can realize that camera can scan from No.1 preset position to No.16 preset position, every 16 preset positions are treated as one sequence, there are 128 preset positions for speed dome camera, so there are 8 sequences.

Setup sequence:

First, you need to setup preset position (shift + call + Preset No.) and give every position a number and name them, such as No.1, No.2.....No.128, every 16 preset position as one sequence.

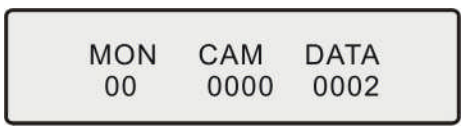
When sequence is ok, to press "call+ preset Number" will pick up preset position,
press "call+ 98" to pick up sequence of "No1-No16";
press "call+80" to pick up sequence of " No17-No 32 preset position";
press "call+81" to pick up sequence of "No 33- No 48";
press " call+82" to pick up sequence of "No49-No64".....
press " call +86 " to pick up sequence of "No 113-No 128 preset position.

4.3 Auto Scanning (2points scanning, 360° scanning)

The operator can also run a simple point-to-point scan (also called back-and-forth scanning). To do this, set Preset Point A first (at the same time set the dwell time at Point A), and then set Present Point B (at the same time set the dwell time at Point). Finally execute an outer command to scan between points A and B.

4.3.1 2 Points Scan

1. To set Point A. Move the joystick to the desired position.
2. In the Main Menu enter a dwell time for Point A. Example: If Dwell time is 2 seconds the control keyboard displays:



3. Press PAN A.
4. To set Point B. Move the joystick to the desired position.
5. In the Main Menu enter a Dwell time for Point B.
6. Input the grade Speed (1-64) and Press AUTO

Example: Set dwell time of Point A as 2 seconds, dwell time of Point B as 3 seconds. Make the scanning at 32-grade speed between the two points

a) Move control joystick to Point A of scanning

b) Input 02, then press Pan-A on the keyboard after two seconds c)

Move control joystick to Point B of scanning

d) Input 03, then press SHIFT+Pan-A on the keyboard after two seconds e)

Input 32 grade, then press AUTO key.

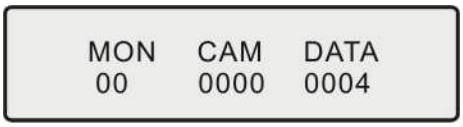
This will scan starting at Point A to Point B at a scanning rate of 32 grade stopping at Point A for 2 seconds and Point B for 3 seconds.

4.3.2 360° Scan

The Operator can also start an auto cruise scan. This scan will rotate 360° from the desired position.

1. In the Main Menu, input desired cruise group No.

Example: Desired Group No. is 4 the control keyboard displays:



2. Press Shift + Scan to place PTZ into cruise scanning.

OR

1. Move the joystick to desired position.
2. Input the running speed (1-64) and then input Shift + AUTO key.

Note: When speed dome camera is under the auto scanning status, you can use the joystick if you want it to stop scanning.

4.4 Objective Tracking

A user can rotate the camera lens up, down, left and right to view objects through the field of vision using the control keyboard. In addition, a user can adjust focal length to change the angle of view or the size of the objects. When in auto - iris and auto-zoom mode, the camera adjusts automatically to get a clear picture with changing image environments.

Focus/Rotate Auto Speed Controls

When manually adjusting the zoom length or focal distance at longer ranges, a typical PTZ dome may move too quickly resulting in the loss of important images. The out door speed dome is especially designed to adjust the sensitivity of the Pan and Tilt controls making navigation easy and intuitive at these long ranges.

Auto Flip

The speed dome's auto-pan rotation with 180-degree flip capabilities automatically rotates the camera 90° when the camera tilts to the vertical position. This feature enables the continuous monitoring of an object as it passes through the field of vision.

4.5 Camera Control

4.5.1 Zoom Control

The user can adjust the advanced zoom feature to acquire needed image through control keyboard. The speed dome features a 216x zoom magnification (18x Optical and 12x Digital).

4.5.2 Focus Control

The speed dome's default setting is for auto-adjust focusing. Under special conditions, a user can adjust the focus manually meet the required image effect.

The speed dome will not auto -focus the target object under the following conditions:

a. The object is not on the center of the picture.
b. Attempting to view images that are far and near at the same time
c. Object is strongly lighted object, such as neon lamp, focus lamp and etc.
d. Objects behind the glass covered by beat and dust.
e. Objects moving quickly
f. Objects within large area and single color such as wall
g. Objects that are too dark or faint

4.5.3 Iris Control

- The speed dome's default setting is for auto-adjust iris. It can make an adjustment quickly through auto detecting the beam change.
- User can adjust iris size manually through control keyboard to get required image brightness.
- User can renew auto iris after moving the joystick or sending additional commands through the controller (Attn: Suggest users to use auto iris).

Remark: When controlling the iris manually, the dome locks in its current control position and will not reset the auto-iris even if current object changes. You need to move the joystick or send control order to reset the auto iris.

4.5.4 Auto Backlight Compensation

Camera is divided into six areas to realize auto backlight compensation. In lighting conditions where a strong backlight exists, the speed dome will adjust the light levels relative to the foreground and background objects in order to achieve the highest resolution image. The camera is divided to 6 zones to best handle these unique lighting conditions.

4.5.5 Auto White Balance

The speed dome will automatically adjust the white balance to contrast the changing background lighting conditions to achieve the truest digital color image.

5 Camera Menu Setting

Through the control keyboard , you can enter the speed dome camera menu setting.

V.1 Camera Menu （LGCamera · CNB Camera · J270zoom Camera）

Operating Key	Function
Set 95 preset postion	Enter Camera menu
ZoomWide	Cursor up
ZoomTele	Cursor down
FocusFar	Increase of data(or select the item)
FocusNear	Decrease of data(or select the item)

V.2 Camera Menu (Sony Camera,Pelco protocol)

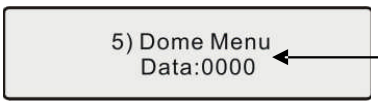
Operating Key	Function
Set 95 preset postion	Enter into camera menu
Set 96 preset postion	Cursor(up)
Set 97 preset postion	Cursor(down)
Set 98 preset postion	Menu Data Select
Set 99 preset postion	Menu data confirm

V.3 Camera Menu (Sony Camera,Matri protocol)

1. Press "MPX"or"Auto", control keyboard displays:

→ Press Enter key

2.Press "MPX"or"Auto", control keyboard displays:



← Displays Speed Dome Address

3. Press CLR to delete Original Data
4. Input desired speed dome Address, Press Enter

01. Use MPX key (Page up) and Auto key(page down) to select camera OSD. Press DVR key (confirmation), Pan_A (Select).

PELCO-D、PELCO-P、SAMSUNG、KALATEL protocol：Adjust preset position:No.55 and enter menu. Please refer to VI.

02. Take example for SONY camera to introduce each menu function

1)CAM ID (camera marking No.)

2)DZOOM：OFF (Digital zoom switch)

Press down PAN_A key · status from OFF ⟷ ON change

3)FOCUS：AUTO (Auto Focus)

Press down PAN_A key, status from AUTO(auto) ⟷ MAN(Manual) change

4)MIRROR：OFF（Right-Left shift）

Press down PAN_A key，status from OFF ⟷ ON change

5)NEGATIVE：OFF

Press down PAN_A key，status from OFF ⟷ ON change

6)ICR：AUTO（B/W —color auto shift）

Press down PAN_A key, status from AUTO(auto) ⟷ OFF change

Then select AUTO status, the Day/Night dome camera will shift B/W image when the illumination is low. When select OFF, will not shit as B/W image.

7)COLOR：OFF（Color display）

Press down PAN_A key，status from OFF ⟷ ON change

8)FREEZE：ON（Picture Freeze）

Press down PAN_A key，status from OFF ⟷ ON change

9)DISPAY：OFF（Screen display）

Press down PAN_A key，status from OFF ⟷ ON change

10)BACKLIGHT：ON

Press down PAN_A key，status from OFF ⟷ ON change

11)WBC MODE：AUTO（whit balance）

Press down PAN_A key, status from AUTO ⟷ INDOOR ⟷ OUTDOOR ⟷ MAN

12)BRIGHT：

13)RGAIN（Red gain）

14)BGAIN（Blue gain）

15)LOST POWER SAVE（Save set）

Press down DVR key and save set

16)EXIT MENU

Press down DVR key and exit the menu

17)SET PRIVACY ZONE

This function can be optional.

6 Protocol Order Chart

6.1 PELCO-D, PELCO-P Protocol Order Chart

P.S.: PELCO protocol has no relative order in control protocol because of part special function. In order to control some special function of dome, we make function shift to usual function. Usually adopt "adjust preset position/set preset position order" to make shift. Order shift chart see as below:

N Code	Keyboard Operations		N Code	Keyboard Operations	
	Adjust preset position: No. N	Set No. N preset position		Adjust preset position: No. N	Set No. N preset position
80	Start the second group preset (17-32preset)	Set watch preset on	89	Start Two point Scan high speed	
81	Start the third group preset (33-48preset)	Set watch preset off	92	Set two point scan start point	Clear Alarm
82	Start the four group preset (49-64preset)	Set watch preset wait time five sec.	93	Set two point scan end point	
83	Start the five group preset (65-79preset)	Set watch preset wait time ten sec.	95		Enter into camera menu
84	Start the six group preset (81-96preset)	Digital zoom ON	96	360ºScan slow speed	Cursor(up)
85	Start the seven group preset (100-112preset)	Digital zoom OFF	97	360º Scan middle speed	Cursor(down)
86	Start the eight group preset (113-128preset)	Auto turn ON	98	Start the second group preset (1-16preset)	Menu Data Select
87	Start Two point Scan slow speed	Auto turn OFF	99	360ºScan high speed	Menu data confirm
88	Start Two point Scan middle speed				

For example: Use control keyboard to control speed dome PELCO protocol.

Set the protocol, address and baud rate to speed dome camera, make it same as that of the keyboard. When Input 51, then input CALL, the dome will make the slow scanning between two points. If input 51, then input SHIFT + CALL, will enter starting point of line scanning(i.e. point 1).

If other some control device to control speed dome camera, Part of special function for Intelligent high speed dome can't be realized because of protocol limitation.

When other control device to control speed dome camera, need set protocol, address and baud rate correctly. When you set address, please set the speed dome protocol 1 more than other control device. For example: DVR address is 1, dome camera address should be set as 2 for normal control.

7 Exception Handling

Issue	Possible Reason	Solution
Power on, no movement, no image, indicator light does not light	Power line connected wrong	Correct it
	Power damaged	Replace
	Blowout	Replace
	Power line be connected bad	Check it
Power on, self check, has image, can't control, indicator light does not flicker	The machine's address code or baud rate is wrong	Reset
	Protocol wrong	Correct it
	RS485 bus be connected wrong	Check it
Camera can't reposition itself. (camera can no longer move)	Mechanical failure	Repair it
	Camera incline	Correct it
	Power is not enough	Replace
Image is not stable	Video line connected bad	Check it
	Power is not enough	Replace
Image is dim	Focus in manual state	Operate the machine or adjust a preset position
	Dome is dirty	Clean it

VIII. Address-Binary code chart

Binary System Code	Matri PELCO-D PELCO-P	Binary System Code	Matri PELCO-D PELCO-P	Binary System Code	Matri PELCO-D PELCO-P
00000000	1	00010000	17	00100000	33
00000001	2	00010001	18	00100001	34
00000010	3	00010010	19	00100010	35
00000011	4	00010011	20	00100011	36
00000100	5	00010100	21	00100100	37
00000101	6	00010101	22	00100101	38
00000110	7	00010110	23	00100110	39
00000111	8	00010111	24	00100111	40
00001000	9	00011000	25	00101000	41
00001001	10	00011001	26	00101001	42
00001010	11	00011010	27	00101010	43
00001011	12	00011011	28	00101011	44
00001100	13	00011100	29	00101100	45
00001101	14	00011101	30	00101101	46
00001110	15	00011110	31	00101110	47
00001111	16	00011111	32	00101111	48

BinarySystem;Code	Matri PELCO-D PELCO-P	Binary System Code	Matri PELCO-D PELCO-P	Binary System Code	Matri PELCO-D PELCO-P
00110000	49	01011001	90	10000010	131
00110001	50	01011010	91	10000011	132
00110010	51	01011011	92	10000100	133
00110011	52	01011100	93	10000101	134
00110100	53	01011101	94	10000110	135
00110101	54	01011110	95	10000111	136
00110110	55	01011111	96	10001000	137
00110111	56	01100000	97	10001001	138
00111000	57	01100001	98	10001010	139
00111001	58	01100010	99	10001011	140
00111010	59	01100011	100	10001100	141
00111011	60	01100100	101	10001101	142
00111100	61	01100101	102	10001110	143
00111101	62	01100110	103	10001111	144
00111110	63	01100111	104	10010000	145
00111111	64	01101000	105	10010001	146
01000000	65	01101001	106	10010010	147
01000001	66	01101010	107	10010011	148
01000010	67	01101011	108	10010100	149
01000011	68	01101100	109	10010101	150
01000100	69	01101101	110	10010110	151
01000101	70	01101110	111	10010111	152
01000110	71	01101111	112	10011000	153
01000111	72	01110000	113	10011001	154
01001000	73	01110001	114	10011010	155
01001001	74	01110010	115	10011011	156
01001010	75	01110011	116	10011100	157
01001011	76	01110100	117	10011101	158
01001100	77	01110101	118	10011110	159
01001101	78	01110110	119	10011111	160
01001110	79	01110111	120	10100000	161
01001111	80	01111000	121	10100001	162
01010000	81	01111001	122	10100010	163
01010001	82	01111010	123	10100011	164
01010010	83	01111011	124	10100100	165
01010011	84	01111100	125	10100101	166
01010100	85	01111101	126	10100110	167
01010101	86	01111110	127	10100111	168
01010110	87	01111111	128	10101000	169
01010111	88	10000000	129	10101001	170
01011000	89	10000001	130	10101010	171

Binary System Code	Matri PELCO-D PELCO-P	Binary System Code	Matri PELCO-D PELCO-P	Binary System Code	Matri PELCO-D PELCO-P
10101011	172	11001000	201	11100101	230
10101100	173	11001001	202	11100110	231
10101101	174	11001010	203	11100111	232
10101110	175	11001011	204	11101000	233
10101111	176	11001100	205	11101001	234
10110000	177	11001101	206	11101010	235
10110001	178	11001110	207	11101011	236
10110010	179	11001111	208	11101100	237
10110011	180	11010000	209	11101101	238
10110100	181	11010001	210	11101110	239
10110101	182	11010010	211	11101111	240
10110110	183	11010011	212	11110000	241
10110111	184	11010100	213	11110001	242
10111000	185	11010101	214	11110010	243
10111001	186	11010110	215	11110011	244
10111010	187	11010111	216	11110100	245
10111011	188	11011000	217	11110101	246
10111100	189	11011001	218	11110110	247
10111101	190	11011010	219	11110111	248
10111110	191	11011011	220	11111000	249
10111111	192	11011100	221	11111001	250
11000000	193	11011101	222	11111010	251
11000001	194	11011110	223	11111011	252
11000010	195	11011111	224	11111100	253
11000011	196	11100000	225	11111101	254
11000100	197	11100001	226	11111110	255
11000101	198	11100010	227	11111111	256
11000110	199	11100011	228		
11000111	200	11100100	229		