

**Installation and Operation
Manual**

for

High Speed Dome Camera

SONY MOUDLE

VER:1.0

Please read the operation manual carefully
before installing and using this unit

Indoor Dome Packing List

No.	Name	QTY/ Unit	Remark
1	Speed Dome Camera	1	
2	Dome Camera mounting base	1	
3	AC24V power supply adapter	1	
4	English Operation Manual	1	
5	Plastic ring	1	
6	Plastic ring Joint board	2	
7	Screw 4×45	4	Fix up mounting base
8	Screw 3×7	4	Fix up plastic ring joint accessories
9	M4x10 Crossed screw	2	Fix up plastic ring

Outdoor Dome Packing List

No.	Name	QTY/ Unit	Remark
1	Speed Dome Camera	1	
2	AC24V power supply adapter	1	
3	English Operation Manual	1	
4	Wall Mount	1	
5	M6×14 stainless steel hexagon socket screw	4	
6	φ6 spring washer	4	
7	φ6 flat washer	4	
8	5mm Hexagon socket wrench	1	
9	3mm Hexagon socket wrench	1	

SPECIFICATION

Zoom Camera	FCB-EX990	FCB-EX1010
Image Sensor	1/4" SONY EX-View HAD CCD	
Picture Elements	NTSC: 768(H) x 494(V) / PAL: 752(H) x 582(V)	
Resolution	530TV Line	
Video Signal Output	1 Vp-p Composite Video (75 ohm)	
SYNC System	Internal / External (V-Lock)	
Lens	3.5mm~ 91mm, F1.4~F3.8	3.4mm ~ 122.4mm, F1.6~F4.5
Zoom	312X, 26x Optical, 12x Digital	432X, 36x Optical, 12x Digital
S/N Ratio	50dB	
Minimum Illumination	0.09 lux (1/4s NTSC) / 0.01 lux (1/4s NTSC ICR ON)	0.1 lux (1/4 NTSC) / 0.01 lux (1/4s NTSC ICR ON)
Shutter	1/4~1/10000s (NTSC), 20 Step	
White Balance	ATW / Indoor / Outdoor / Manual / AWB / One Push WB	
Gain	Auto / Manual	
WDR	ON/OFF	
Protocol	Pelco D/P, Total 19 Protocols Selectable	
Pan	Pan Range 360 Degree, Speed 0.5~300 Degree/s	
Tilt	Tilt Range 0~96 Degree, Speed 0.5~150 Degree/s	
Preset	128 Preset Positions (Max)	
Patrol	4 patrol tour(Max 2min.)	
Auto Cruise	5 Auto Cruising Tracks (Max)	
Power Source	AC24V / 2A	
Operating Temp.	0°c- +50°c(15-CD55)	-30°c- +50°c(15-CD55W)
Weight	Approx 2.3Kg(15-CD55)	Approx 5Kg(15-CD55W)
Dimensions	Φ133 × 216.5mm (H)(15-CD55)	Φ200 × 280mm (H)(15-CD55W)

CONTENTS

1. PRECAUTIONS-----	2
2. CHARACTERISTICS-----	4
3. CAMERA RESET-----	4
4. CONSTRUCTION-----	5
5. SETTING-----	7
5.1 MENU SETTING-----	7
5.2 AUXILIARY FUNCTIONS SETTING-----	22
5.3 ID SETTING-----	24
5.4 PROTOCOL SETTING-----	25
5.5 INDICATOR LIGHT SETTING-----	26
6. TROUBLESHOOTING-----	26
7. CONNECTION OF RS485 BUS AND TERMINATION RESISTOR-----	26
8. INSTALLATION-----	29
8.1 INDOOR-----	29
8.2 OUTDOOR-----	30

Warnings!

Lightning proof equipment must be installed when the speed dome camera is installed in open area.

- Make sure the input voltage and normal rated power before powered up.



Relation Table of 24VAC Cable Diameter and Transmission distance

When the cable diameters equal, and voltage wastage rate of 24VAC is under 10%, the maximum transmission distance is recommended. (As to AC equipments, the maximum allowed voltage wastage rate is 10%) For example: An equipment with rating power of 80VA and installed at 10 meters away from transformer demands the maximum cable diameter of 0.8mm (square meter).

Cable Diameter (mm) Square Meter

VA (W)	Feet(m)	0.8000	1.000	1.250	2.000
10		283 (86)	451 (137)	716 (218)	1811 (511)
20		141 (42)	225 (68)	358 (109)	905 (275)
30		94 (28)	150 (45)	238 (109)	905 (275)
40		70 (21)	112 (34)	179 (54)	452 (137)
50		56 (17)	90 (27)	143 (43)	362 (110)
60		47 (14)	75 (22)	119 (36)	301 (91)
70		40 (12)	64 (19)	102 (31)	258 (78)
80		35 (10)	56 (17)	89 (27)	226 (68)
90		31 (9)	50 (15)	79 (24)	201 (61)
100		28 (8)	45 (13)	71 (21)	181 (55)
110		25 (7)	41 (12)	65 (19)	164 (49)
120		23 (7)	37 (11)	59 (17)	150 (45)
130		21 (6)	34 (10)	55 (16)	139 (42)
140		20 (6)	32 (9)	51 (15)	129 (39)
150		18 (5)	30 (9)	47 (14)	120 (36)
160		17 (5)	28 (8)	44 (13)	113 (34)
170		16 (4)	26 (7)	42 (12)	106 (32)
180		15 (4)	25 (7)	39 (11)	100 (30)
190		14 (4)	23 (7)	37 (11)	95 (28)
200		14 (4)	22 (6)	35 (10)	90 (27)

1. PRECAUTIONS

1 Do not attempt to disassemble the camera.

To prevent electric shock, do not remove screws or covers.

There are no user-serviceable parts inside.

Ask qualified service personnel for servicing.

2 Handle the camera with care.

Do not abuse the camera. Avoid striking, shaking, etc. The camera could be damaged by improper handling or storage.

3 Do not use strong or abrasive detergents when cleaning the camera body.

Use a dry cloth to clean the camera when it is dirty.

When the dirt is hard to remove, use a mild detergent and wipe gently. Care should be taken not to scratch the dome when wiping it.

Afterwards, wipe off the remained part of the detergent in it with a dry cloth.

4 Never face the camera towards the sun.

Do not aim the camera at bright objects. Whether the camera is in use or not, never aim it at the sun or other extremely bright objects. Otherwise, blooming or smear maybe caused.

5 Never face the camera towards a place exposed to light sources for a long time.

If light sources such as spot light cause burn-in on the display screen, part of image may discolor due to deterioration of color filter in CCD when changing aim of the camera etc.

6 Do not install this camera upside down.

This camera is designed for mounting on the ceiling or wall. Using this camera installed upside down, for example, mounted on the floor, may cause malfunction.

7 Do not operate the camera beyond the specified temperature, humidity or power source ratings.

Do not use the camera in an extreme environment where high temperature or high humidity exists. Do not place near heat sources such as radiators, stoves or other units that produce heat.

Use the Indoor Speed Dome camera under conditions where temperature is between -10°C - +40°C, and humidity is below 90 %. The input power source is AC24V.

8 Do not install the camera near the air out-let of an air conditioner.

The lens may become cloudy due to condensation if the camera is used under the following conditions.

- Rapid temperature fluctuations by switching the air conditioner on and off

- Rapid temperature fluctuations due to frequent door opening and closing
- Use in an environment where eyeglasses become foggy
- Use in a room filled with cigarette smoke or dust.

If the lens becomes cloudy due to condensation, remove the dome cover and wipe all moist surfaces with a soft cloth.

9 Consumables

Parts having contacts such as the lens-drive motors, cooling fan motor and slip-rings built inside the camera are subject to wear with time. About replacement and maintenance of such parts, please ask the nearest service center.

10 Do not aim the camera at the same object for a long time.

Burn-in of an image may be caused on the fluorescent screen of CRT.

2. CHARACTERISTICS

- Integrative Speed Dome Camera
- 470 line horizontal definition
- 360°Continuous Rotation
- 128 Preset Positions
- Remote Adjustment through RS485 Communication
- Alarm Input
- Multiple Models
- Menu Display
- Self-study Function
- Privacy Zone
- Multiple Models Camera

	SPEED DOME CAMERA TECHNICAL PARAMETER
Video Input	1.0Vp-p
Panning Range	360°endless
Pan Speed	0.5°~300°/sec
Tilt Range	0°~96°
Tilt Speed	0.5°~150°/sec
Communication	RS485
Preset Position	128 Preset Positions
Auto Scan	ON/OFF
Cruising track	5(4 track can be set, 1is seq.)
Power Source	AC24V / 20W

※ When the temperature reached 40 degrees, the fan started to work; until the temperature dropped to 25 degrees, the fan stop working.

When the temperature is as low as 4 degrees, the heater work; until the temperature raised to 10 degrees, the in heat stop working.

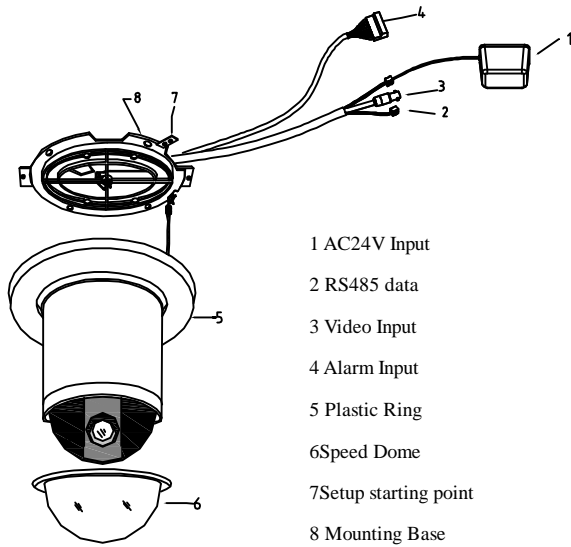
The temperature difference is under 2 degrees

3. CAMERA RESET

The dome camera should be set to reset because it may result in accumulative deviation in parameters and deviation in preset position after serving a long period. So the preset position that has been set should be deleted and reset a new one.

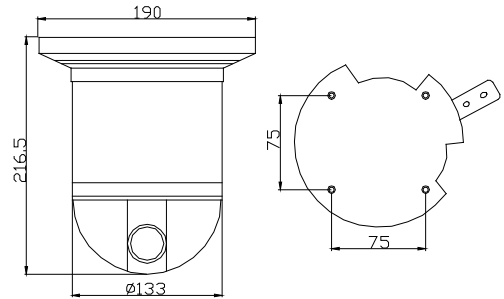
4. Construction

Indoor Speed Dome Camera:

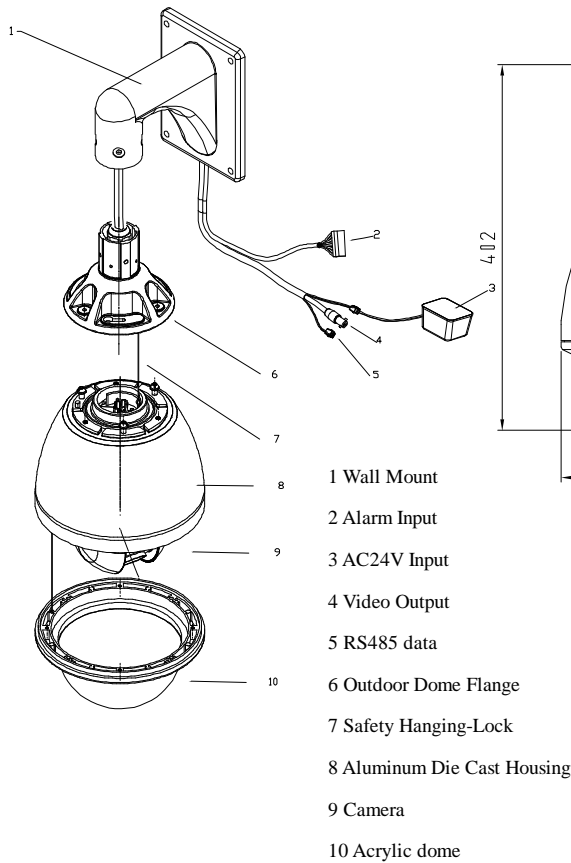


- 1 AC24V Input
- 2 RS485 data
- 3 Video Input
- 4 Alarm Input
- 5 Plastic Ring
- 6 Speed Dome
- 7 Setup starting point
- 8 Mounting Base

Dimension:

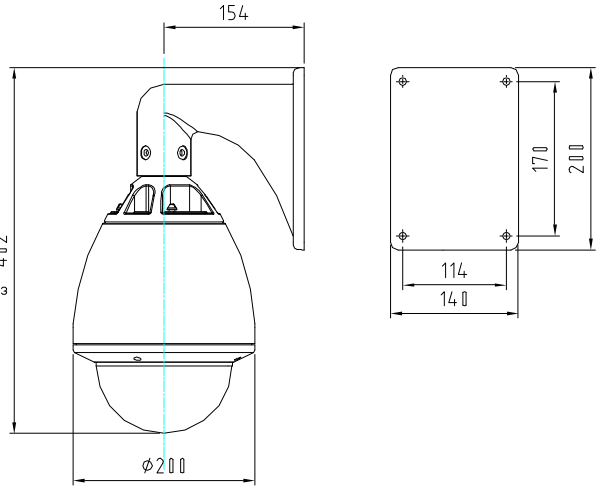


Outdoor Speed Dome Camera:

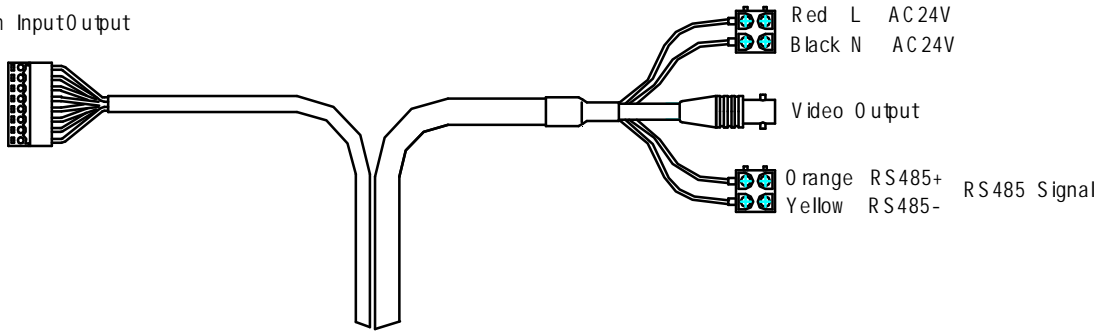


- 1 Wall Mount
- 2 Alarm Input
- 3 AC24V Input
- 4 Video Output
- 5 RS485 data
- 6 Outdoor Dome Flange
- 7 Safety Hanging-Lock
- 8 Aluminum Die Cast Housing
- 9 Camera
- 10 Acrylic dome

Dimension:



Alarm InputOutput



Alarm Input

Red	Alarm 1
Orange	Alarm 2
Yellow	Alarm 3
Green	Alarm 4
Black	Alarm COM

Alarm Output

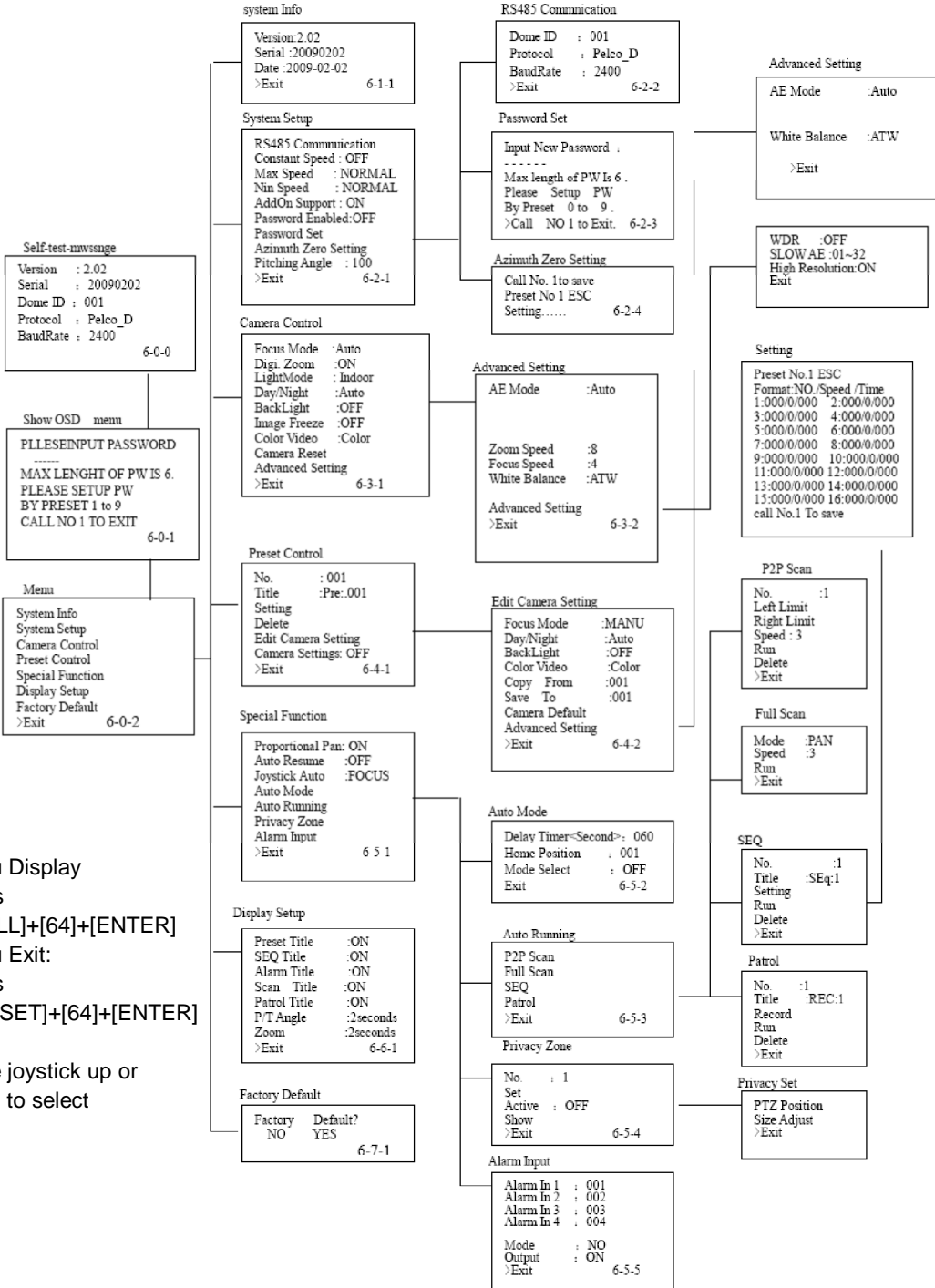
Pink	NC	Normal Close
White	COM	Normal COM
Blue	NO	Normal Open



Note
When powered up, the dome camera will perform a self-check (including one panning, tilting, zooming and focusing operation.)

5.SETTING

5.1 Menu Setting



Note:
 Menu Display
 Press [CALL]+[64]+[ENTER]
 Menu Exit:
 Press [PRESET]+[64]+[ENTER]
 Move joystick up or down to select

Menu Description:

After powered up, the speed dome camera will conduct a self-check. The monitor will display as following: (fig. 6-0-0)

Version	:	2.01b	
Serial	:	070101	
Dome ID	:	001	
Protocol	:	Pelco D	
BaudRate	:	2400	6-0-0

Display system version number;
Display system serial number;
Display Dome ID code;
Display Dome protocol code;
Display baudrate;

※If there is any alteration, please according to actual product edition.

The information will be disappeared after the self-check is finished.

Enter main menu: [CALL]+[64]+[ENTER], the monitor should display as:

PLEASE INPUT PASSWORD: ▶ ----- MAXLENGHT OF PW IS 6 PLESE SETUP PW BY PRESET 0 TO 9 CALL NO. 1 TO EXIT	6-0-1
---	-------

Description: If the password is set as: (Password Enable: ON), the monitor will display as (fig. 6-0-1).

Otherwise the monitor will display as (fig. 6-0-2). In (fig. 6-0-1), position the cursor to input password. Max length of PW is 6. Please setup PW by preset 0 to 9.

- ※ It provide two levels of passwords to protect menu, first-level password “000000” can not change submenu of the system setting. The two levels of passwords please see last page of this manual. Please clip it out along the broken line and keep it for safe!
- ※ The camera has multilevel menus. If you need to exit from the submenu, you can press [preset]+[64]+[enter]
- ※ No operation in 5 minutes after you enter the main menu, the system will auto exit.

Step: Move the joystick and position the cursor to the password input. (PW may be the any number from 0 to 9). Input password by setting preset position (NO. 0-9 preset positions in password input stand for numbers from 0 to 9) For instance: if you want to input “456789”, you can move joystick right and make the first “*” of input area coruscate, then set NO. 4 preset position, which stands for 4. Move joystick right and input other passwords; after finishing the input, move joystick right to enter the menu; call NO. 1 preset position will exit the menu.

Note ①: It doesn't influence preset positions setting until entering the menu; “0” can be leaped over and move joystick to next input position while some systems can not set NO. 0 preset position.

②: Move joystick to right continuously and system will recognize original first level password as default value to enter the main menu; the monitor will display as following: (fig. 6-0-2):

③: In the menu, only options of System Setup limit the operation of first level passwords.

System Info
System Setup
Camera Control
Preset Control
Special Function
Display Setup
Factory Default
▶ Exit
6-0-2

System Information→(fig. 6-1-1)
 System Setup→(fig. 6-2-1)
 Camera Control→(fig. 6-3-1)
 Preset Control→(fig. 6-4-1)
 Special Function→(fig. 6-5-1)
 Display Setup→(fig. 6-6-1)
 Factory Default (cautious operation)→(fig. 6-6-1)

◆ **System Information**

Move the joystick up or down, position the cursor to system info and move joystick right to enter the submenu:

Version : 2.01b
Serial : 070101
Date : 2007-01-01
▶ Exit 6-1-1

Display system version number
 Display system serial number
 Display date

※If there is any alteration, please according to actual product edition.

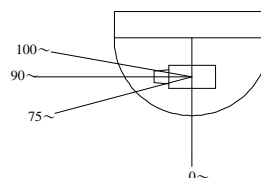
◆ **System Setup**

Move joystick up or down, position the cursor to system setup, and move joystick right to enter the submenu:

Note: It need high-level password to enter into the submenu and change the setting.

Rs485 Communication
Constant Speed : OFF
Max Speed : NORMAL
Min Speed : NORMAL
AddOn Support : ON
Password Enabled : ON
Password Set
Azimuth Zero Setting
Pitching Angle : 100
▶ Exit 6-2-1

Enter the communication submenu (fig. 6-2-2)
 OFF/1/2/3/4/5/6/7/8
 NORMAL/HIGH
 NORMAL/LOW
 ON/OFF“realize auxiliary functions by setting preset positions”;
 Set menu password, ON/OFF.
 Alter password (fig. 6-2-3)
 Set azimuth zero (fig. 6-2-4); Cursor turns to “Pitching Angle’ after setup, Set pitching angle (It can be set from 75° to 100°).



- 1) Position the cursor to RS485 Communication. Move the joystick right to enter a submenu. It is shown as: (fig. 6-2-2):

Dome ID : 001	Display dome ID code ;
Protocol : Pelco D	Display protocol code;
BaudRate : 2400	Display baudrate;
▶ Exit 6-2-2	

- 2) Move the joystick up or down and position the cursor to Constant Speed, move joystick right to enter input area. Move joystick up or down to select and move right to confirm. Move joystick left to exit.
- 3) Same setting to Max Speed、Min Speed、AddOn Support、Password Enabled、Pitching Angle according to the description of point 2.
 Note: Password Enabled can be set “ON” or “OFF”. When it is set “OFF”, it does not need to input password to enter menu and can enter with high-level password; when it is set “ON”, it need input password to enter menu. “OFF” is factory default.
- 4) Move joystick up or down and position the cursor to Password Set, move joystick right to enter the submenu (password alter menu). The monitor will display as following: (fig. 6-2-3):

INPUT NEW PASSWORD :	
▶ -----	
MAX LENGTH OF PW IS 6.	
PLEASE SETUP PW	
BY PRESET 0 TO 9.	
CALL No.1 TO EXIT. 6-2-3	

INPUT NEW PASSWORD :	
□□□□□□	
□□□□□□	
PW HAS BEEN MODIFIED	
CALL No.1 TO EXIT. 6-2-3a	

Description: In fig. 6-2-3, system information requests to input new password. The max length of password is 6. Password may be 0-9.

New password altered with high level password keeps the right of high level password; password could be altered with first level password, but the new password only keep the right of common password

Setting Steps:

- ① Input new password in the block where the cursor flashes, (detailed input mode sees the input mode of “login password” please) , and the system will require to input new password again to confirm; if the two inputs are same , the system will display successful information of new password modification as fig. 6-2-3a, otherwise it will require to input new password over again.
- ② Call NO. 1 preset position to return previous menu;
- 5) Move joystick up or down and position the cursor to Azimuth Zero Setting , move right to enter the submenu. The monitor should display as (fig. 6-2-4):

Call No 1 to Save	
Preset No 1 ESC	
Setting..... 6-2-4	

The monitor will display as (fig. 6-2-4); adjust pan unit of camera and aim at datum mark of horizontal Azimuth by controlling keyboard; call No. 1 preset position to confirm and exit, other orders are unavailable.

Azimuth Zero Setting Description:

When advanced code enters the menu of Azimuth Zero Setting, the operation is set as origin of azimuth angle of pan unit, which will be set by user when installation and commissioning;

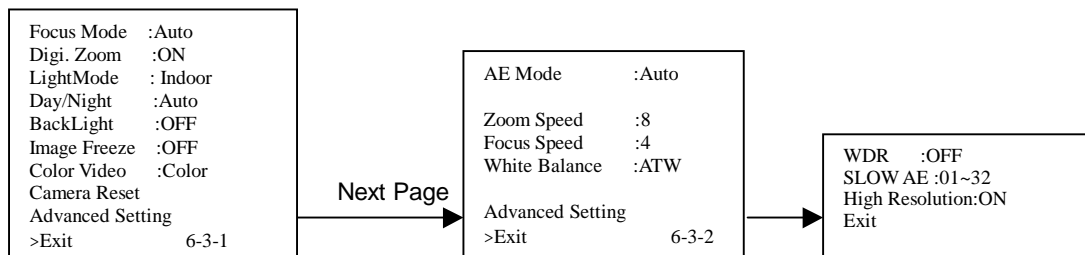
When elementary code enters the menu of Azimuth Zero Setting, the operation drives pan unit to return current origin, the magnification of camera maintains constant; azimuth angle will display as the position as datum mark and with degree as unit.

For example: The character of "200/-40" shown on the lower left of screen presents the horizontal azimuth angle of pan unit is 200 degree away from origin, and vertical angle is -40 degree away from the origin; display control shall be set in the submenu of Display Setup.

◆ Camera Control

Position the cursor to Camera Control. Move the joystick right to enter a submenu. It is shown as:

Sony Camera Control:



Menu Description:

- ◇ **Focus Mode:** set focus mode, AUTO (default), MANU/Trigger (optional). When pan unit is operated in AUTO mode or MANU mode, the focus will be controlled by one option of "Special Function", Joystick Auto: FOCUS / IRIS / NONE / BOTH.
- ◇ **Digi.zoom:** set digital zoom, ON (default), OFF (optional)
- ◇ **LightMode:** OutDoor (default), InDoor (optional)
- ◇ **Day/Night:** set day/night function, AUTO (default), MANU/ON/OFF (optional). When it is set "AUTO", AE Mode must be set "AUTO". If it is changed to "MANU", "ON" or "OFF", AE Mode can not recover.
- ◇ **BackLight:** set backlight, OFF (default), ON (optional).
- ◇ **Image Freeze:** set image freeze, OFF (default), ON (optional).
- ◇ **Color Video:** set color video, COLOR (default), NEG.ART and B/W (optional).
- ◇ **Camera Reset:** reset to factory default
- ◇ **Advanced Setting:** enter the next page of the menu
- ◇ **Exit:** exit the menu

Description of next page menu:

- ◇ **AE Mode:** AUTO (default), MANU/Bringt/IRIS/Shutter (optional).

When AE Mode is set “MANU”, these adjustable parameters will be supplied: Shutter Speed、 IRIS Adjust、 AGC Adjust. Range of choice is shown below.

When AE Mode is set ‘Bringt’, these adjustable parameters will be supplied: BringtNess, brightness default is “09”. Range of choice is shown below.

When AE Mode is set “IRIS”, these adjustable parameters will be supplied: IRIS Adjust, F5.6 (default), Range of choice is shown below.

When AE Mode is set “Shutter”, these adjustable parameters will be supplied: Shutter Speed, 50 is default. Range of choice is shown below.

Parameter Item	Adjust Range of Parameter
Shutter speed	3/6/12/25/50*/75/100/120/150/215/300/425/600/1000/1250/1750/2500/3500/6000/10000。
IRIS Adjs	MANU/F1.4/F1.6/F2.0/F2.4/F2.8/F3.4/F4.0/F4.8/F5.6*/F6.8/F8.0/F9.6/F11/F14/F16/F19/F22/CLOSE。
AGC Adjust	-3 dB/0*/2/4/6/8/10/12/14/16/18/20/22/24/26/28 。
Bringtness	0-9*-31

Note: The number marked with“*”are defaults.

When AE Mode is not set “AUTO’, Day/Night only can be set “MENU/ON/OFF”.

- ◇ **Zoom Speed:** 8 (default), range:1-8。
- ◇ **Focus Speed:** 4(default), range: 1-8。
- ◇ **White Balance:** ATW(default), AUTO / MANU / Indoor / Outdoor / Trigger / OnePush (optional).

When MANU is set, these adjustable parameters will be supplied:

R Gain: 209 (default), 0-255 (optional);

B Gain: 145 (default), 0-255 (optional);

- n **WDR : ON/OFF**
- n **SLOW AE : 01~32**
- n **High Resolution : ON/OFF**

Note of Manual Control:

Note 1 When IRIS Adjust is set Manu, iris can be set by the key of “OPEN” and “CLOSE” on the keyboard. Adjustment result fails to be memorized.

Note 2 When Day/Night is set Manu, you can keep Minimum illumination on or Minimum illumination off by setting auxiliary functions with keyboard. The result of manual adjustment is not memorized; if you need to memorize assigned mode, you can set “ON” or “OFF” in the menu directly.

Note 3 When Focus Mode is set Manu, zoom can be set by the keys of NEAR and FAR on the keyboard.

◆ Preset Control

In fig. 6-0-2, move joystick up or down and position the cursor to Preset Control; then move joystick right to enter the submenu: (fig. 6-4-1):

No.	:	001
Title	:	Pre:.001
Setting		
Delete		
Edit Camera Setting		
Camera Settings	:	OFF
▶ Exit		6-4-1

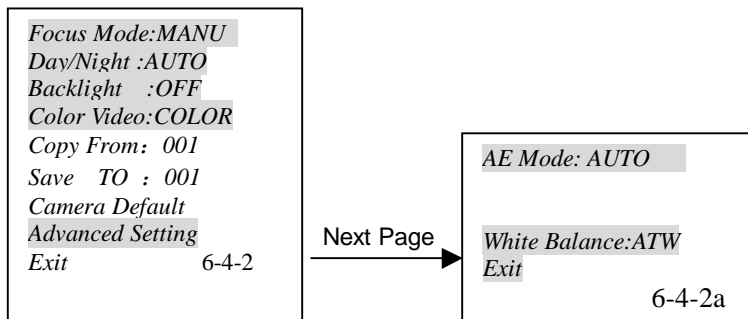
Description: the menu is used to set preset positions (fig. 6-4-1):

- ◇ **No.:** set current preset position or call the preset position that has been set; preset positions are capable of going to 001-128;
 - ◇ **Title:** set preset position title; Pre:.nnn title is default; max length of characters is 8;
 - ◇ **Setting:** set preset position;
 - ◇ **Delete:** delete preset position ;
 - ◇ **Edit Camera Setting:** set camera information of current preset position;
 - ◇ **Camera Settings:** set camera function of current preset position, OFF is default, ON is optional;
- Users can adjust and set the image function of every preset position to achieve best image effects according to the different situation of each preset position.

Setting Steps:

- 1) In fig. 6-4-1, position the cursor to No. and move joystick right to enter the input area; move joystick up or down to select input value and move joystick to confirm; range of input value is 1-128 ;
- 2) Title is use to set and call title information of the current preset position; max length of characters is 8; it can choose 0-9, 26 English characters, "-"and blank space, and the blank space will display as "."; the arrangement order of title characters is as below: 0-9, a~z, A~Z, "-", blank space: all 64 characters appear circularly.
- 4) Move joystick up or down and position the cursor to Edit Camera Setting, move joystick right to enter setting area. The monitor should display setting state.

SONY camera information:



Description:

- ◇ **Copy From:** copy “No. nnn” preset position data, range: 1-128, CAM; CAM is the parameter set for the camera.
- ◇ **Save To:** Camera data will be saved to “ nnn” preset position.
- ◇ **Camera Default :** Reset of factory default

Note: The functions shadowed in the menu are the same with aforementioned function of same type camera, and unnecessary to be explained here.

- 5) Move joystick up or down and position the cursor to **Camera Settings**, move joystick right to enter setting area and select ON or OFF of the camera function in this preset position.
- 6) Move joystick up or down and position the cursor to Exit after the setting is finished. Move joystick right to exit.

◆ **Special Function**

In fig. 6-0-2 menu, move joystick up or down and position the cursor to Special Function, then move joystick right to enter the menu below: (fig. 6-5-1):

Proportional Pan	: ON
Auto Resume	: OFF
Joystick Auto	: FOCUS
Auto Mode	
Auto Running	
*Privacy Zone	
Alarm Input	
▶ Exit	6-5-1

- Go to submenu→(fig. 6-5-2)
- Go to submenu→(fig. 6-5-3)
- Go to submenu→(fig. 6-5-11)
- Go to submenu→(fig. 6-5-13)

Description:

- ◇ **Proportional Pan:** ON (default), OFF (optional);
- ◇ **Auto Resume:** OFF (default), ON (optional), corresponding setting in the Auto Mode menu;
- ◇ **Joystick Auto:** Focus (default), IRIS/BOTH/NONE (optional);

Setting steps are as above; menu description is as below.

1. **Auto Mode**

In fig. 6-5-1, position the cursor to Auto Mode (implement after setting vacant time) , move joystick right to enter setting area, the monitor will display as: (fig. 6-5-2):

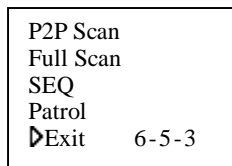
Delay Timer<Second>	: 060
Home Position	: 001
Mode Select	: OFF
▶ Exit	6-5-2

- ◇ **Delay Timer<Second>**: when delay time reach setting value, implement the selected mode
(Note: delay timer is 5 second at least while 300 second at most; default value is 60 second);
the monitor will display different titles after entering timer setting because of different scan
modes
- ◇ **Home Position**: any preset position is available; auto home position function will be
implemented when effective preset position has been selected and set, as well as Mode Select
is set "HOME";
- ◇ **Mode Select**: OFF (default), no any operation at this time;
(Optional: PTZ: the camera scan by horizontal and vertical directions
alternatively
HOME: operate to HOME POSITION
P2P SCAN: to scan between the two positions of the first line of camera
AUTO PAN: operate 360°horizontal scan
AUTO TILT: vertical scan
SEQ: implement first SEQ
PATROL: implement first PATROL)

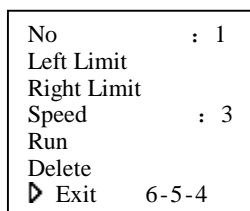
△ The camera will display the unset information and don't have action when preset position, No. 1
P2P SCAN, No. 1 SEQ or No. 1 PATROL is not set.

2. Auto Running

In fig. 6-5-1, position the cursor to Auto Running, and move joystick right to Auto Running menu
(fig. 6-5-3):



1) P2P scan function allows the camera move back and forth automatically, at a preset speed
between 2 preset positions; move joystick right to enter the submenu. The monitor will display as (fig.
6-5-4):



Setting Steps:

- ① Move joystick up or down and position the cursor to No. (scan number; it is used to support multi-line
scan; 1-4 are optional) ; move joystick right to enter input area where cursor flashes; move joystick up or
down to alter;
- ② In fig. 6-5-4, move joystick up or down and position the cursor to Left Limit (to scan pan unit
against the clockwise); move joystick right to enter the submenu; the monitor will display as: (fig.
6-5-5):

Call No.1 To Save Preset No.1 ESC. Setting.....6-5-5
--

Description: Fig. 6-5-5 displays the state of left limit and flashing “Setting.....”promotes left limit is in set state; call No. 1 preset position to confirm and save information, then exit after setting left limit; No. 1 preset setting will not be saved;

- ③ Same setting to Right Limit according to step 2;
 - ④ Move joystick up or down and position the cursor to Speed (1 default, 1 min, 8 max); move joystick right to enter input area where cursor flashes; move joystick up or down to alter the value and move right to confirm; move joystick left to exit;
 - ⑤ Move joystick up or down and position the cursor to Run; move joystick right to select Run and enter auto scan mode (only action when left limit and right limit have been set, otherwise the camera will not implement scan order);
- The operation may be ended by NO.52 preset position and controlling joystick when the system operates the P2P; other orders are unavailable.

- ⑥ Delete means to delete the original setting; Exit means to exit the setting area.
- 2) In fig. 6-5-3, move joystick up or down and position the cursor to Full Scan; move joystick right to enter the submenu. The monitor will display as: (fig. 6-5-6):

Mode	:	PAN
Speed	:	3
Run		
▶ Exit		6-5-6

Setting Steps:

- ① Move joystick up or down and position the cursor to Mode(Pan (default), Titl (optional); Both(namely is to scan in horizontal and counterclockwise direction with 360°; and to scan up and down, and combined with horizontal and vertical directions.)), and move joystick right to enter input area where cursor flashes; move joystick up or down to alter the value and move right to confirm; move joystick left to exit;
 - ② same setting to Speed (3 default, 1 min, 8 max) according to step 1;
 - ③ Move joystick up or down and position the cursor to Run; move joystick right to select Run and enter auto run mode;
- 3) In fig. 6-5-3, position the cursor to SEQ; move joystick right to enter the submenu. The monitor will display as: (fig. 6-5-7):

No.	:	1
Title	:	SEQ:1
Setting		
Run		
Delete		
▶ Exit		6-5-7

Setting Steps:

- ① Move joystick up or down and position the cursor to No., move right to enter input area where cursor flashes; move joystick up or down to alter the value (1-4 are available); move joystick right to confirm and move left to exit;
- ② Same setting to Title (SEQ:n title is default) according to step 1;
- ③ Move joystick up or down and position the cursor to Setting; move joystick right to select and enter the MAP that can display 16 positions including No. Speed, Delay Timer; operation method sees step 1. The monitor will display as (如 fig. 6-5-8):
- ④ Move joystick up or down and position the cursor to Run; move joystick right to select Run and enter scan state (only action when track and preset position included are set; otherwise the camera will not implement the patrol order)

Preset	No. 1 ESC.
Format: No./Speed/Time	
1: 000/0/000	2: 000/0/000
3: 000/0/000	4: 000/0/000
5: 000/0/000	6: 000/0/000
7: 000/0/000	8: 000/0/000
9: 000/0/000	10: 000/0/000
11: 000/0/000	12: 000/0/000
13: 000/0/000	14: 000/0/000
15: 000/0/000	16: 000/0/000
Call No.1 To Save	6-5-8

Note: In fig.6-5-8, 'No.' means preset position number; the system will reset automatically when No. is set bigger than biggest preset position number and TIME is set bigger than 255 seconds; SPEED can be set from 1 to 8 (if any option is 0, the preset positions from this one will not be called while operation) .

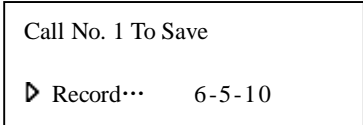
Description: To call No. 1 preset position means to save setting and exit; to set NO. 1 preset position means not to save setting and exit;

- 4) In fig. 6-5-3, move joystick up or down and position the cursor to Patrol; move joystick right to enter the submenu. The monitor will display as: (fig. 6-5-9):

No.	: 1
Title	: REC:1
Record	
Run	
Delete	
▶ Exit	6-5-9

Setting Steps:

- ① Move joystick up or down and position the cursor to No., move joystick right to enter input area where cursor flashes; move joystick up or down to alter the value (1-4 are available) ; move joystick right to confirm and move left to exit;
- ② Same setting to Title according to step 1 (REC:n title is default) ;
- ③ Move joystick up or down and position the cursor to Record; move joystick right to enter study function and implement the record order. The monitor will display as: (fig. 6-5-10):

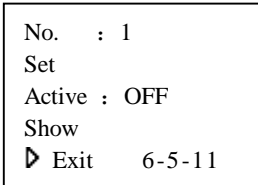


Move joystick to enter Record, and the process of operation will be recorded; call No. 1 preset position to confirm and exit after the action is over; it will be exit automatically when record time exceeds 2 minutes;

- ④ Move joystick up or down and position the cursor to Run; move joystick right to select Run and enter Patrol; (only action when track and preset position included are set ; otherwise the camera will not implement the scan order);

3. Privacy Zone (V2.30 version does not support display)

In fig. 6-5-1, move joystick up or down and position the cursor to Privacy Zone, move joystick right to enter the submenu; (fig. 6-5-11)



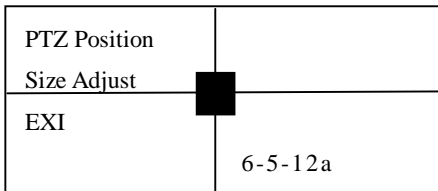
Display the privacy zone number; display 1, (from 1 to 8);
 Set the masking area; position and size are optional→(fig. 6-5-12)
 Set "ON" or "OFF" of the privacy zone ;
 Show the N masking area;

Setting Steps:

- ① Move joystick up or down and position the cursor to No., move joystick right to enter input area; move joystick up or down to alert the input value (1-8); move joystick right to confirm and move left to exit.

- ② Position the cursor to Set and enter the submenu; the monitor will display as below: (fig. 6-5-12):

SONY Camera Display



Setting Steps:

A In fig. 6-5-12b, Move joystick up or down and position the cursor to PTZ Position; move joystick right to enter input area where "PTZ Position" flashes; use keyboard to adjust the area where should be covered and make it displayed in the center of the screen; call No. 1 preset position to exit;

B Move joystick up or down and position the cursor to Screen Position; move joystick right to enter setting area where "Screen Position" flashes; set privacy position by keyboard or joystick and exit;

C Move joystick up or down and position the cursor to Size Adjust; move joystick right to enter setting area where "Size Adjust" flashes; adjust the size of privacy zone by keyboard and joystick and call No. 1 to exit;

D The setting will be saved after selecting EXIT to exit, and system will adjust the size of privacy zone according to setting position to ensure full shield of areas that should be covered in any situation;

- ③ Same setting to Active OFF according to step 1 (set privacy zone "ON" or "OFF") ;
- ④ Move joystick up or down and position the cursor to Show; move joystick right to select Show and display the image of privacy zone assigned by privacy number (only action after setting privacy number and privacy zone, otherwise unit span will not implement the order)

Description: Black area in fig. 6-5-12 is privacy zone

In order to make privacy target in privacy zone, the three points below should be followed:

·Magnification of picture lens shall be no more than 2 times.

1 / 9 Shielding target area shall be no bigger than 1/9 of picture.

Size of privacy block shall be bigger than 2.5 times of shielding target area.

4. Alarm Input

In fig. 6-5-1, move joystick up or down and position the cursor to Alarm Input, move right to enter the submenu: (fig. 6-5-13):

Alarm In 1	: 001
Alarm In 2	: 002
Alarm In 3	: 003
Alarm In 4	: 004
Mode	: NO
Output	: ON
EXIT	6-5-13

Note: In fig. 6-5-13, Mode and Output are not available. Normal open is default; alarm output will be produced when alarm signal is received.

Setting Steps:

- ① In fig. 6-5-13, position the cursor to Alarm In 1 and move joystick right to enter input area; move joystick up or down to alter the input value and move joystick right to confirm (range of input value is from 001 to 128). (OFF is to close alarm, NO. 1-128 are preset positions)
- ② Same setting to Alarm In 2、Alarm In 3、Alarm In 4 according to step 1.

◆ Display Setup

In fig. 6-0-2, move joystick up or down and position the cursor to Display Setup, move right to enter the menu: (fig. 6-6-1):

<i>Preset Title</i>	: ON
<i>SEQ Title</i>	: ON
<i>Alarm Title</i>	: ON
<i>Scan Title</i>	: ON
<i>Patrol Title</i>	: ON
<i>P/T Angle</i>	: 2seconds
<i>Zoom</i>	: 2seconds

Description:

- ◇ **Preset Title:** ON (default), OFF (optional);
- ◇ **SEQ Title:** ON (default), OFF (optional);
- ◇ **Alarm Title:** ON (default), OFF (optional);
- ◇ **Scan Title:** ON (default), OFF (optional);
- ◇ **Patrol Title:** ON (default), OFF (optional);
- ◇ **P/Z Angle:** Constant (default), OFF/2seconds/5seconds (optional);
- ◇ **Zoom:** Constant (default), OFF/2seconds/5seconds (optional).

◆ **Factory Default**

In fig. 6-0-2, position the cursor to Factory Default, move joystick right to enter submenu: (fig. 6-7-1):

Factory Default?		
No	Yes	6-7-1

Description: In fig. 6-7-1, it will ask that whether factory default should be set or not, and NO is default; if factory default need to be set, move joystick right to select YES and confirm. The system will reset factory default and exit to main menu in 5 second.

When user enters the menu by elementary code, only the function item set by the code can be resumed to factory setting state (except privacy);
When user enters the menu by advanced code, all function items shall be resumed to factory setting state except the code. Please be cautious with the function!

★ **Password Protection for Menu Options**

1. First-level default password: 000000 (the password can not change options of system setting menu)
2. High-level default password: 222222

5.2 Auxiliary Function List

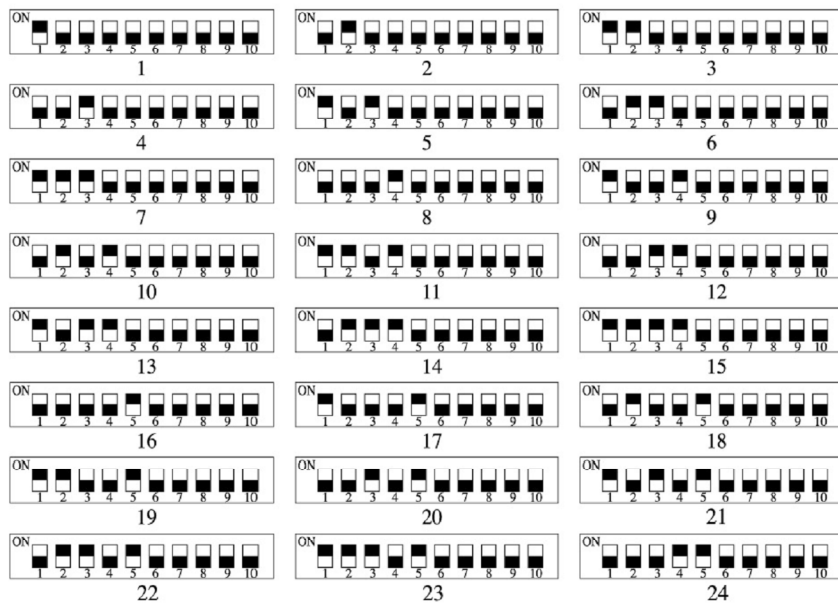
Operation	Function
F1 + 0 + On	No function
F1 + 0 + Off	Camera reset
F1 + 1 + On	Backlight compensation ON
F1 + 1 + Off	Backlight compensation OFF
F1 + 2 + On	Day/Night ON
F1 + 2 + Off	Day./Night OFF
F1 + 3 + On	Display ON
F1 + 3 + Off	Display OFF
F1 + 4 + On	Digital zoom ON
F1 + 4 + Off	Digital zoom OFF
F1 + 5 + On	Keyboard LCD display ON
F1 + 5 + OFF	Keyboard LCD display OFF
F1 + 6 + On	Auto FOCUS
F1 + 6+ Off	Manual FOCUS
F1 + 7 + On	Auto IRIS
F1 + 7+ Off	Manual IRIS
F1 + 8 + On	Auto White balance
F1 + 8+ Off	Manual White balance
F1 + 9 + On	White balance Indoor model
F1 + 9+ Off	White balance Outdoor model
F1 + 10 + On	White balance OnePush model
F1 + 10+ Off	White balance Auto follow model
F1 + 11 + On	Color picture
F1 + 11+ Off	B/W picture
F1 + 12 + On/ Off	Scan speed: running in lowest
F1 + 13 + On/ Off	Scan speed: running in medium
F1 + 14 + On/ Off	Scan speed: running in high

Operation	Function
Call + 51+ Enter	Scan start
Preset + 51+ Enter	Set the start position of scan
Call + 52+ Enter	Scan stop
Preset + 52+ Enter	Set the end position of scan
Call + 53 + Enter	Auto cruise from No.1 preset position to NO.16 preset position
Preset + 53+ Enter	Do self-test
Preset + 54+ Enter	Camera reset
Call + 55+ Enter	Backlight compensation ON
Preset + 55+ Enter	Backlight compensation OFF
Call + 56+ Enter	Day/Night ON
Preset + 56+ Enter	Day/Night OFF
Call + 57+ Enter	Display ON
Preset + 57+ Enter	Display OFF
Call + 58+ Enter	Digital zoom ON
Preset + 58+ Enter	Digital zoom OFF
Call + 59+ Enter	Auto FOCUS
Preset + 59+ Enter	Manual FOCUS
Call + 60+ Enter	Auto IRIS
Preset + 60+ Enter	Manual IRIS
Call + 61+ Enter	Auto White balance
Preset + 61+ Enter	Manual White balance
Call + 62+ Enter	Image Freeze ON
Preset + 62+ Enter	Image Freeze OFF
Call + 63+ Enter	Image Mirror ON
Preset + 63+ Enter	Image Mirror OFF
Call + 64+ Enter	Enter menu
Preset + 64+ Enter	No show of operation
Call + 67+ Enter	Color video
Preset + 67+ Enter	B/W video

Operation	Function
Call + n + Enter	To call the number N preset position
Preset + n + Enter	To set the number N preset position
Preset + n + Off	Delete the number N preset position
Cam + n + Enter	Set the dome address “n”
Shot + n + On	To set the cruise tracks
Shot + n + Enter	To call the cruise tracks
Shot + n + Off	Stop the cruise tracks
Shot + n + Off [long press]	Delete the cruise tracks
Auto + On	Set the start position of auto pan
Auto + Off	Set the end position of auto pan
Auto + Enter	The camera will move from the auto pan start position to the auto pan end position
Wide	ZOOM wide
Tele	ZOOM tele
Far	FOCUS far
Near	FOCUS near
Open	IRIS open
Close	IRIS close

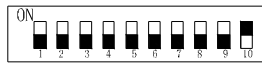
5.3 ID SETTING

ID of this speed dome can be set through the switch with 10 codes. Below is the detail of setting ID code:





Note: Control cables can connect multiple speed dome cameras in parallel provided that No. 10 ID code of the farthest camera is set to “ON”. It will put through a 120 Ω impedance offset resistance. So the operation is also required when the control distance is quite far.



The No. 10 ID code should be set to “ON” for the last camera connected to the daisy chain.

5.4 PROTOCOL SETTING

Protocol of this speed dome can be set through a switch with 5 protocol codes. Below is the detail of setting protocol code:

Note: All setting must be operated after power off.

Power on until it is completed.!



Pelco D9600



Pelco D4800



5.5 INDICATOR LIGHT DESCRIPTION

There is each green light and red light besides protocol switch and ID switch. Below is the function:

Red Light: on----power on

Green Light: Be light after powered up; if it flashes, it means it has received right order, otherwise it means the order is not right or not received.

6. TROUBLESHOOTING

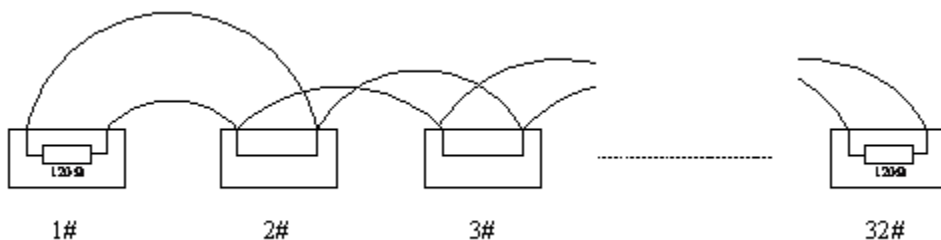
Trouble	Possible Causes	Solution
No action, no video after powered up	Power supply is not well connected	Replace
	Engineering cable failure	Eliminate
	The power supply is not well connected	Correct
Self-check isn't normal, but image is normal and obstacle found in operation.	Machine failure	Repair
	The camera is declining	Put straight
	Voltage is low	Change power and place it near the camera The distance between AC24V power supply to dome camera must be less 50 meters
Self-check is normal but no image	The contact of video cables is incorrect	Correct
	The contact of video cables is loose	Eliminate
	Camera is damaged	Replace
Self-check is normal but it is uncontrollable	The connection of control signal is incorrect	Correct
	Camera number is not set correctly.	Reinstall
	Protocol setting is incorrect	Correct
	RS485 cable A+&B- connection is not correct	Correct
	RS485 cable is too long	The maximum cable for RS485 communication is 1.2km
	RS485 signal network is star configuration	Star distributor is used at junction of connection
Instable image	The contact of video cables is loose	Eliminate
	Voltage is low	Replace
The camera is uncontrollable and running unceasingly	Dropout occurs due to low voltage	Check ID address settings
	Self-check is abnormal	Power up again
	The operation of mainframe is not correct	Power up again
	RS485 bus line isn't equipped with matched resistance, or the resistance is not matched.	Correct
Abnormal video	Extremely bright video	No termination or high resistance

7. CONNECTION OF RS485 BUS AND TERMINATION RESISTOR

1. Characteristics of RS485 Bus

As specified by RS485 standards. RS485 Bus is of half duplexed data transmission cables with characteristic impedance as 12. The maximum load is 32 unit loads (including main controller and controlled equipment.)

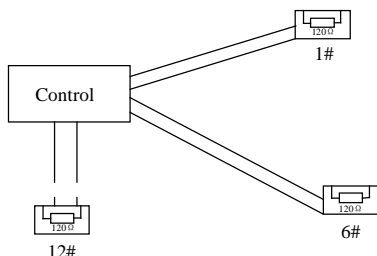
2. The RS485standarda require a daisy-chain connection between the equipment. There must be termination resistor with 120 ohms impedance at both ends of the connection (refer to the following FIGURE)



When No. 10 bit of the Dip is set to "ON", the 120 ohms termination resistor is connected.

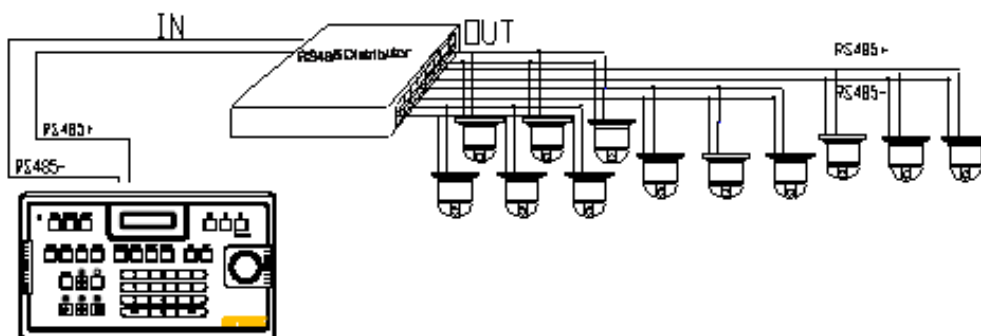
3. Problem in Practical Connection

In some circumstances user adopts a star configuration in practical connection. The termination resistors must be connected to the two equipments (No. 6 and No. 10) that are farthest away from each other. But the connection does not meet the RS485 standards.



When the cable distance of equipments are far away, some problems, such as signal reflection, anti-jamming ability decrease are easily occur and result in the reliability decline of control signal. The resulted phenomena represent that the camera is out of control completely or interruptedly or operates automatically and fails to stop, etc. In such circumstances the factory recommends the RS485 Signal Distributor. The distributor can change the star configuration connection to the mode of connection stipulated in the RS485 standards. The new connection achieves reliable data transmission.

RS485 Distributor



Each connection can connect 32 terminations, and practical connections must be considered.

★ Password Protection for Menu Options

1. First-level default password: 000000 (the password can not change the option of the system setting menu.)
2. High-level default password: 222222

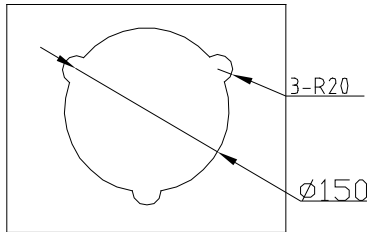
★ Whereas the safety of password, users should clip it out along the broken line and keep it appropriately. It suggests changing the high level password when it is in use.

8. INSTALLATION

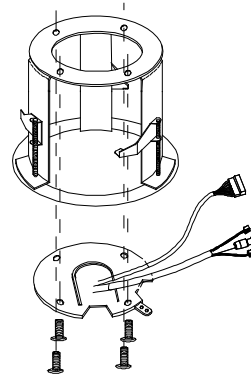
8.1 Indoor Speed Dome Camera

Indoor Embedded Mount(Option)

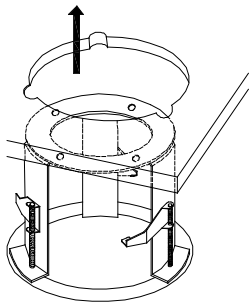
① Cut a hole on the ceiling.



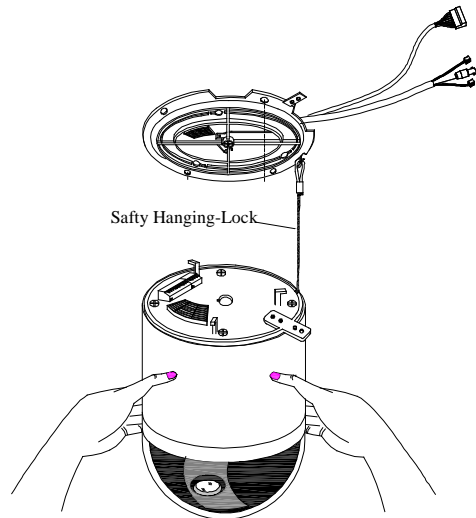
② Mount the mount base on the embedded bracket with 4 screws.



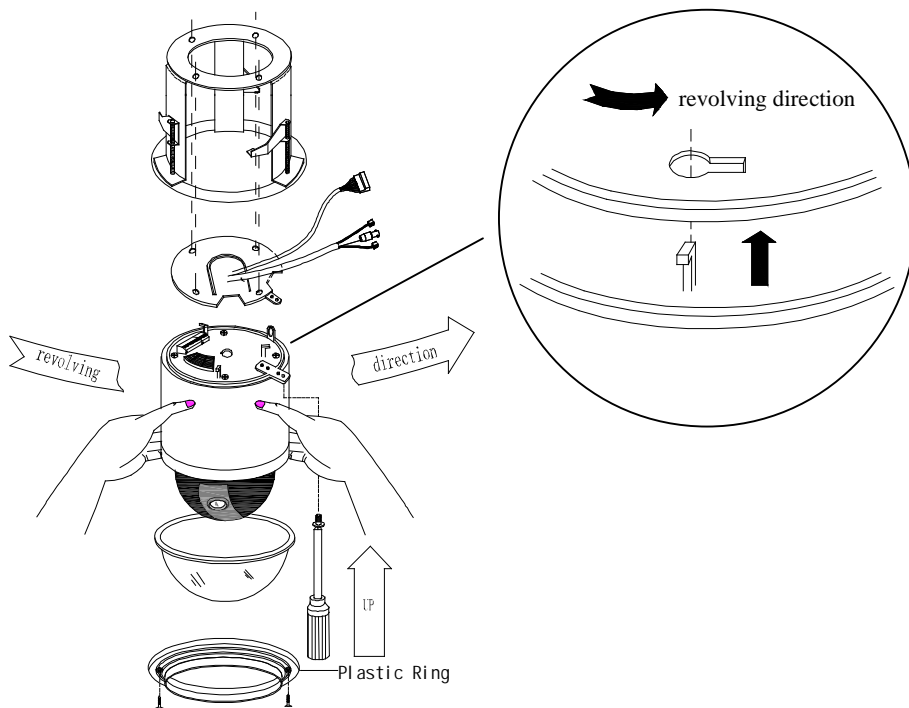
③ Mount the embedded bracket into the mounting holes and adjust 3 presser feet. Fix the embedded bracket.



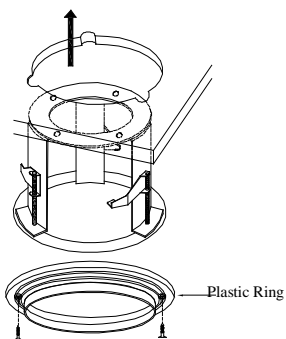
④ Fix the safety hanging-lock to the hook of the mount base.



⑤ Mount the camera to the mount base and tighten the screws.



⑥ Mount the plastic ring to the camera mounting base.



8.2 Outdoor Speed Dome Camera

Note: Protocol and ID code (fig. 1)

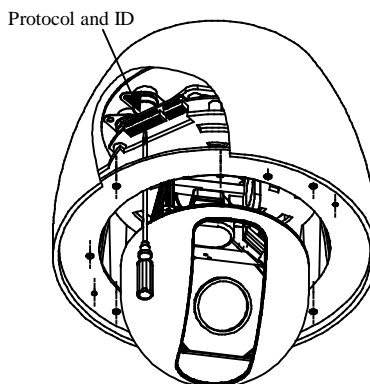


Fig. 1

A. OUTDOOR WALL MOUNT

A1 WITHOUT POWER BOX

① Disassemble the outdoor flange and dome housing with wrench. Decide the protocol and ID code (fig.1), and mount the dome housing as following.

② Fix the wall bracket and connect it with outdoor flange with screws and wrench. Tighten the screws as following.

③ Connect all the cables as required.

④ Mount the Safety Hanging-Lock of the outdoor flange on the outdoor speed dome. Aim the guide pin of mounting base at the longest curved chute of outdoor flange. Fix the speed dome on the outdoor flange. Tighten the screw as following.

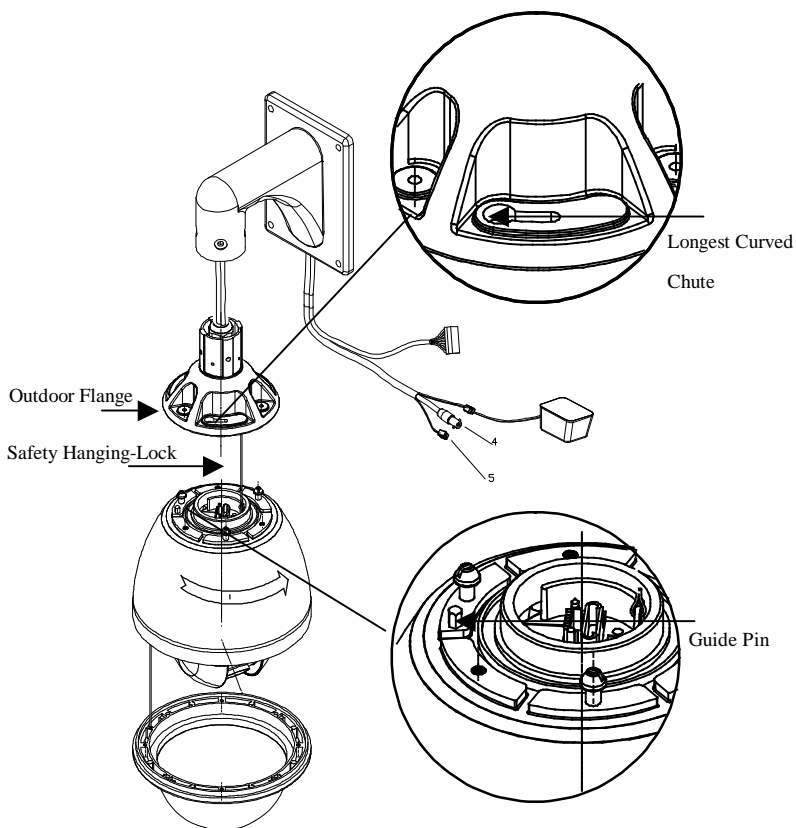


Fig. 2

A2 WITH POWER BOX(OPTION)

① Disassemble the Outdoor Flange and dome housing with wrench. Decide the protocol and ID code(fig.1) and mount the dome housing as following.

② Mount the power box on a solid ceiling. Mount the wall bracket on the power box.

③ Fix the wall bracket to the outdoor flange with screws and wrench. Tighten the screws as following.

④ Connect all the cables as required.

⑤ Mount the Safety Hanging-Lock of the outdoor flange on the outdoor speed dome. Aim the guide pin of mounting base at the longest curved chute of outdoor flange. Fix the speed dome on the outdoor flange. Tighten the screw as following.

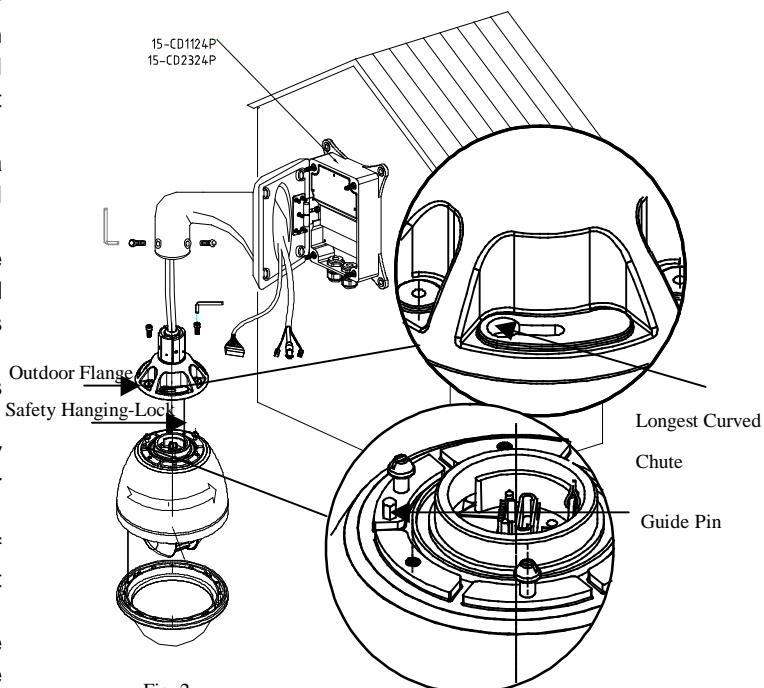


Fig. 2

B. OUTDOOR CEILING MOUNT(Optional)

- ① Disassemble the Outdoor Flange and dome housing with wrench. Decide the protocol and ID code(fig.1), and mount the dome housing as following.
- ② Fix the ceiling bracket and connect it with outdoor flange with screws and wrench. Tighten the screws as following.
- ③ Connect all the cables as required.
- ④ Mount the Safety Hanging- Lock of the outdoor flange on the outdoor speed dome. Aim the guide pin of mounting base at the longest curved chute of outdoor flange. Fix the speed dome on the outdoor flange. Tighten the screw as following.

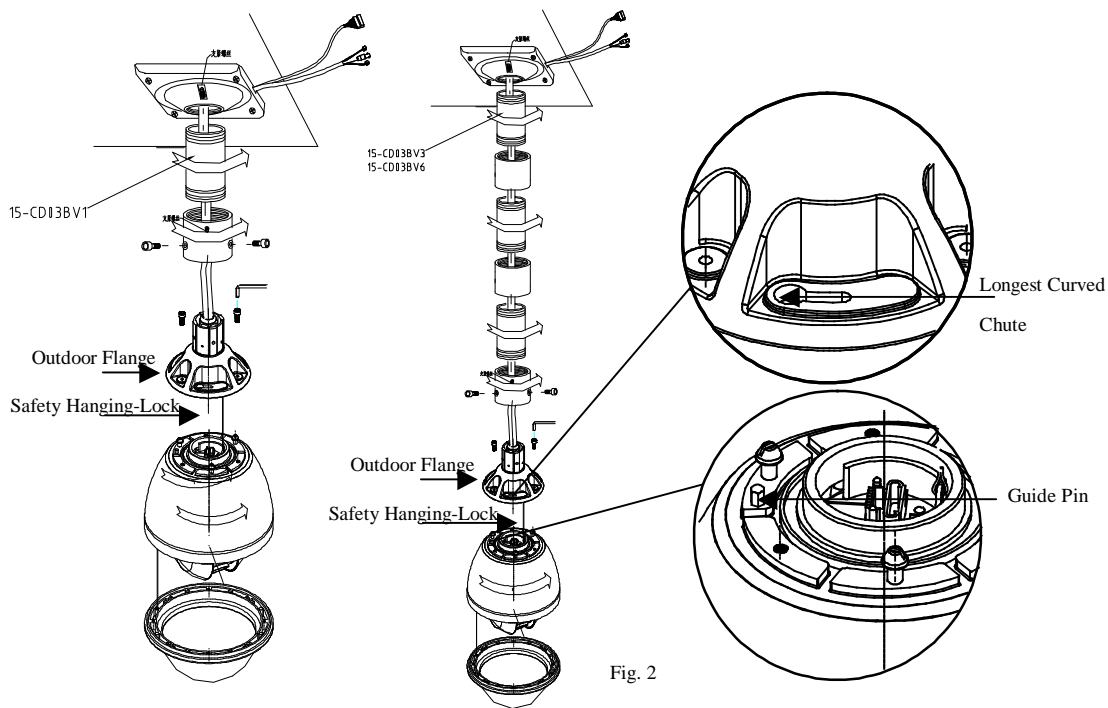


Fig. 2

Fig. 2

C. OUTDOOR WALL MOUNT(Optional)

15CD03BVR

- ① Disassemble the outdoor flange and dome housing with wrench. Decide the protocol and ID code (fig.1), and mount the dome housing as following.
- ② Fix the wall bracket and connect it with outdoor flange with screws and wrench. Tighten the screws as following.
- ③ Connect all the cables as required.
- ④ Mount the Safety Hanging-Lock of the outdoor flange on the outdoor speed dome. Aim the guide pin of mounting base at the longest curved chute of outdoor flange. Fix the speed dome on the outdoor flange. Tighten the screw as following.

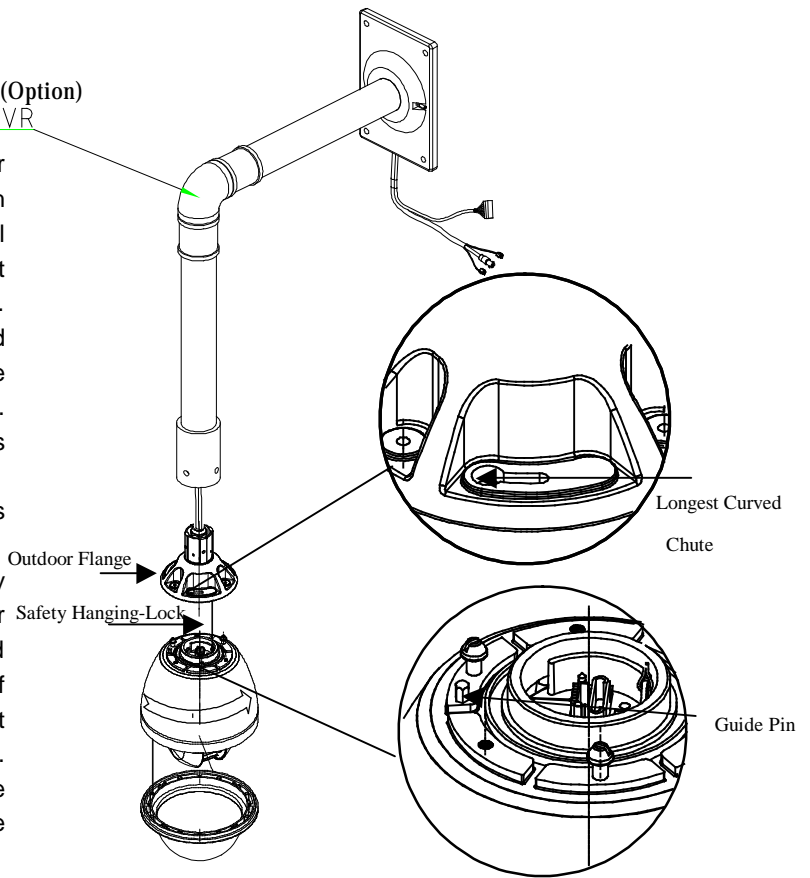


Fig. 2

D. OUTDOOR POLE MOUNT(Optional)

- ① Disassemble the outdoor flange and dome housing with wrench. Decide the protocol and ID code(fig.1), and mount the dome housing as following.
- ② Fix the pole bracket and mount it to the wall bracket with screws. Mount the outdoor flange to the wall bracket. Tighten the screws as following.
- ③ Connect all the cables as required.
- ④ Mount the Safety Hanging-Lock of the outdoor flange on the outdoor speed dome. Aim the guide pin of mounting base at the longest curved chute of the outdoor flange. Fix the speed dome on the outdoor flange. Tighten the

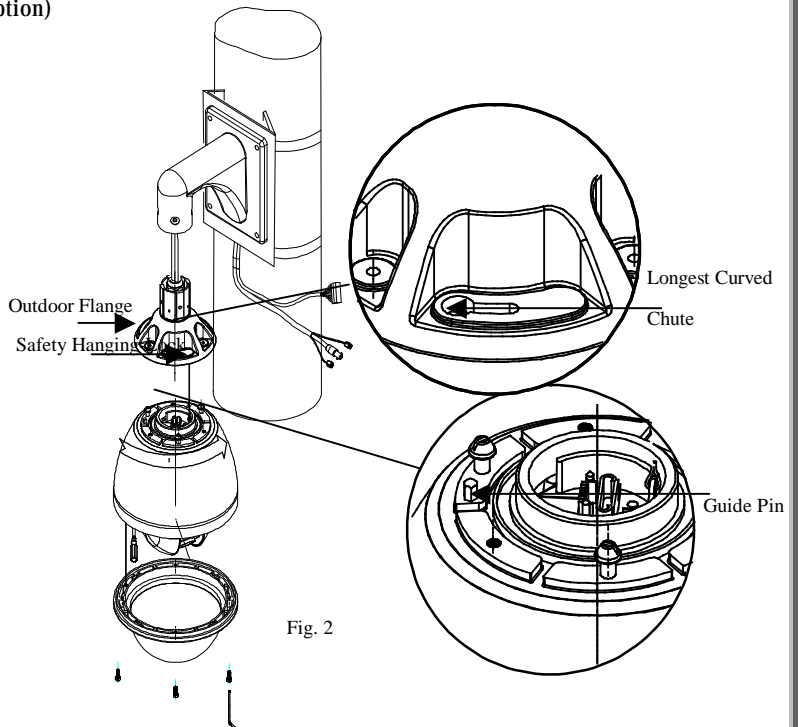


Fig. 2

