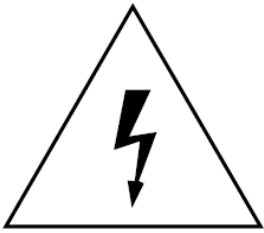


Mini Speed Dome Camera



□ Mini

INSTRUCTION MANUAL



CAUTION

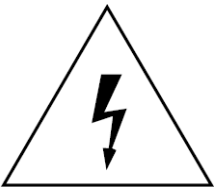
RISK OF ELECTRIC
SHOCK DO NOT OPEN



CAUTION: To reduce the risk of electrical shock, do not open covers.

No user serviceable parts inside.

Refer servicing to qualified service personal.



This lightning flash with arrowhead symbol is intended to alert the user to the presence of un-insulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



This exclamation point symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING : To prevent the risk of fire or electric shock hazard do not expose this camera to rain or moisture.

|| Important Safeguard

1. **Read Instructions**
Read all of the safety and operating instructions before using the product.
2. **Retain Instructions**
Save these instructions for future reference.
3. **Attachments / Accessories**
Do not use attachments or accessories unless recommended by the appliance manufacturer as they may cause hazards, damage product and void warranty.
4. **Water and Moisture**
Do not use this product near water or moisture.
5. **Installation**
Do not place or mount this product in or on an unstable or improperly supported location. Improperly installed product may fall, causing serious injury to a child or adult, and damage to the product. Use only with a mounting device recommended by the manufacturer, or sold with the product. To insure proper mounting, follow the manufacturer's instructions and use only mounting accessories recommended by manufacturer.
6. **Power source**
This product should be operated only from the type of power source indicated on the marking label.

|| Precautions

Operating

- Before using, make sure power supply and others are properly connected.
- While operating, if any abnormal condition or malfunction is observed, stop using the camera immediately and then contact your local dealer.

Handling

- Do not disassemble or tamper with parts inside the camera.
- Do not drop or subject the camera to shock and vibration as this can damage camera.
- Care must be taken when you clean the clear dome cover. Especially, scratch and dust will ruin your quality of camera.

Installation and Storage

- Do not install the camera in areas of extreme temperature, which exceed the allowable range.
- Avoid installing in humid or dusty places.
- Avoid installing in places where radiation is present.
- Avoid installing in places where there are strong magnetic fields and electric signals.
- Avoid installing in places where the camera would be subject to strong vibrations.
- Never expose the camera to rain and water.

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Features

Camera Specifications

- CCD Sensor: 1 / 4 " Interline Transfer CCD
- Zoom Magnification: x 12 Optical Zoom, x 16 Digital Zoom (Max x 192 Zoom)
- Day & Night Function
- Various Focus Mode : Auto-Focus / Manual Focus / Semi-Auto Focus.
- Independent & Simultaneous Camera Characteristic Setup in Preset operation

Powerful Pan/Tilt Functions

- Max. 300° /sec high speed Pan/Tilt Motion
- Using Vector Drive Technology, Pan/Tilt motions are accomplished in a shortest path. As a result, time to target view is reduced dramatically and the video on the monitor is very natural to watch.
- For jog operation using a cont roller, since ultra slow speed 0.05 °/sec can be reached , it is very easy to locate camera to desired target view. Additionally it is easy to move camera to a desired position with zoom-proportional pan/tilt movement.

Preset, Pattern, Swing, Group, Privacy Mask and More...

- MAX. 127 Presets are assignable and characteristics of each preset can be set up independently.
- Max. 8 set of Swing action can be stored. This enables to move camera repetitively between two preset positions with designated speed.
- Max .4 of Patterns can be recorded and played back. This enables to move camera to follow any trajectory operated by joystick as closely as possible.
- Max- 8 set of Group action can be stored. This enables to move camera repetitively with combination of Preset. A Group is composed of max. 16 entities of Preset.
- Privacy Masks are assignable, not to intrude on other's privacy. (8 Privacy Zones)

PTZ(Pan/Tilt/Zoom)Control

- With RS-485 communication, max. 255 of cameras can be controlled at the same time.
- Pelco-D or Pelco-P protocol can be selected as a control protocol in the current version of firmware.

|| OSD (On Screen Display) Menu

- OSD menu is provided to display the status of camera and to configure the functions interactively.
- The information such as Camera ID, temperature, Pan/Tilt Angle, Alarm Input and Preset can be displayed on screen.

|| I/O Functions (for External Mini Model)

- To reject external electric noise and shock perfectly, alarm sensor Input is decoupled with photo coupler.
- Using the dry contact for alarm input.
- If an external sensor is activated, camera can be set to move to the corresponding Preset position.

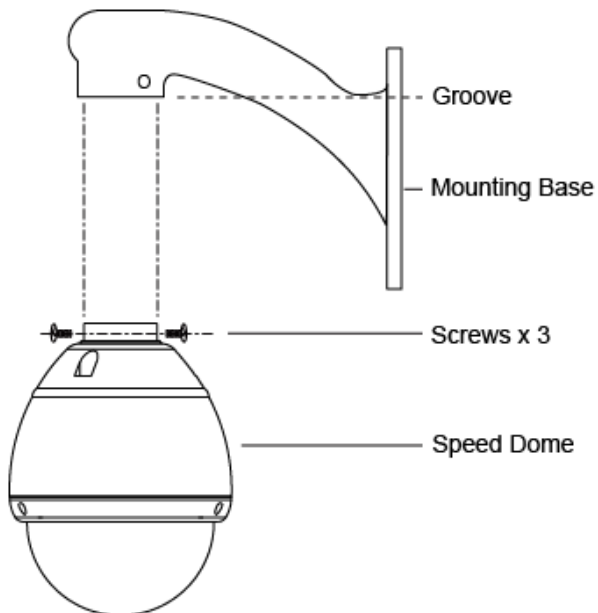
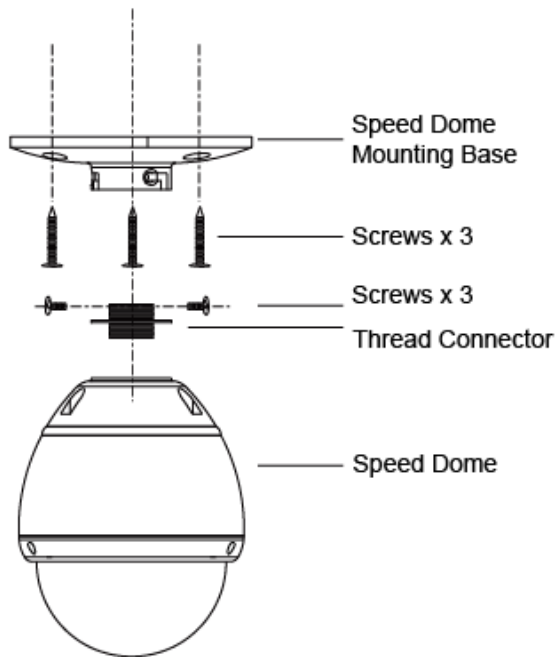
|| Reserved Presets for Special Purpose

- Most camera characteristics can be set up easily and directly with reserved preset, not entering into OSD menu. For more information, refer to “Reserved Preset” in this manual.

Product & Accessories

► Assembly

* Ceiling bracket is standard for mini PTZ Dome.



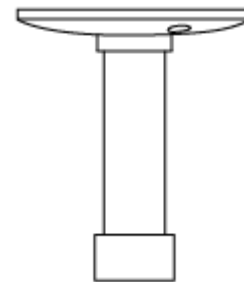
Option

Ceiling Bracket

(Do not support Internal PTZ Dome)

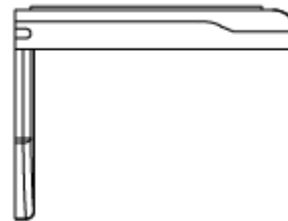


Pendant Bracket



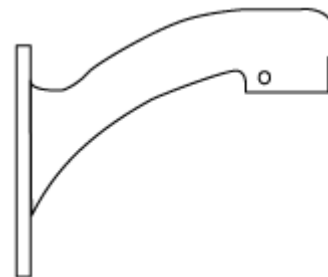
L type

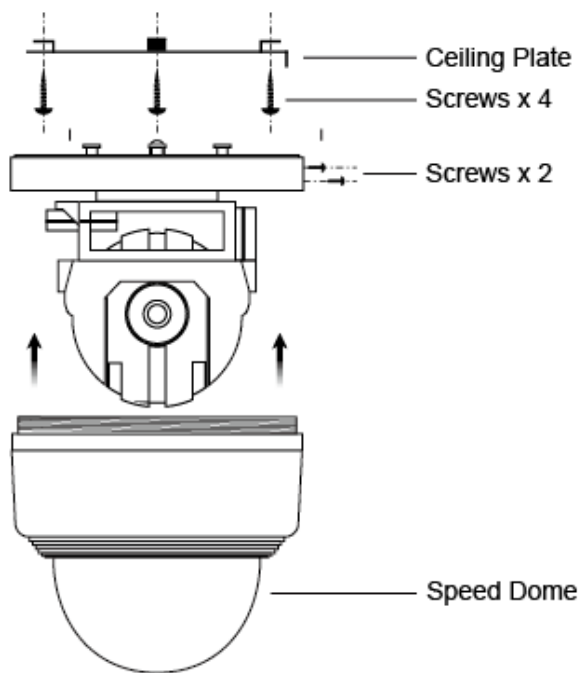
Wall Mount Bracket



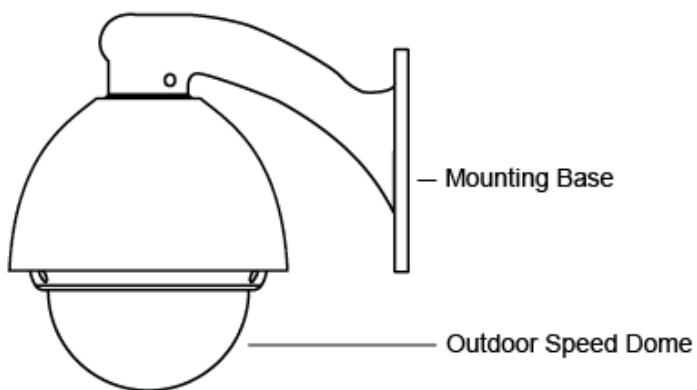
ARM Type

Wall Mount Bracket

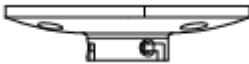
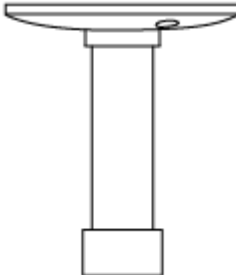

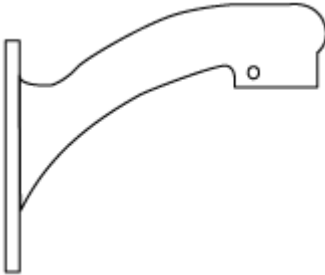




* Internal PTZ Dome built in a ceiling plate for installation.



* ARM Type wall mount bracket is standard for External mini PTZ Dome.

Option
Ceiling Bracket 
Pendant Bracket 
L type Wall Mount Bracket 
ARM Type Wall Mount Bracket 

DIP Switch Setup

Before you install the camera, you should set the DIP switches to configure the camera ID, communication baud rate.

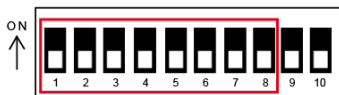
Camera ID

Communication Baud Rate

PIN	1	2	3	4	5	6	7	8	9	10
FUNC.	A0	A1	A2	A3	A4	A5	A6	A7	Baud Rate	
ON	1	2	4	8	16	32	64	128	Refer to	
OFF	0	0	0	0	0	0	0	0	the Manual	

► Camera ID Setup

- ID number of camera is set using binary number. The example is shown below.



PIN	1	2	3	4	5	6	7	8
ID Value	1	2	4	8	16	32	64	128
OSD menu setup	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
ex) ID=5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
ex) ID=10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF

- The range of ID is 1~255. Factory default of Camera ID is 1.
- If you want to control a certain camera, you must match the camera ID with Cam ID setting of DVR or Controller.
- When DIP SW set all off the speed dome can change the ID address and baud rate via OSD menu.

► Communication Baud Rate Setup

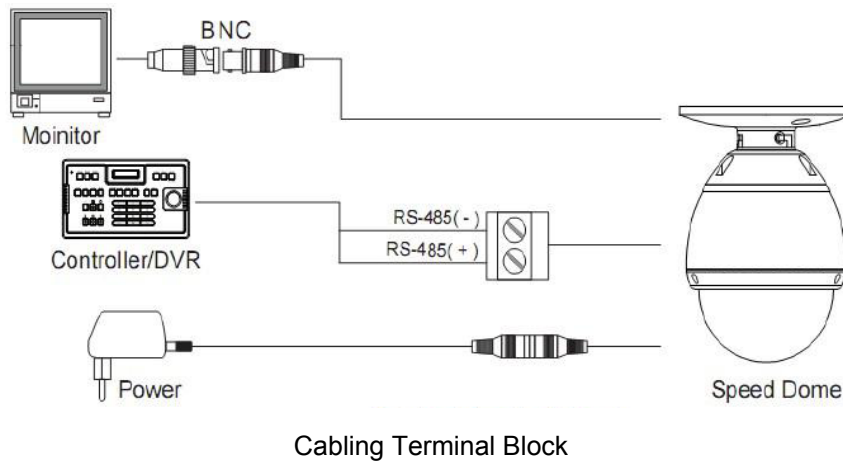


- Select the appropriate Baud Rate with DIP switch combination.

Switch State		Baud Rate
P9	P10	
OFF	OFF	default 2400 bps
ON	OFF	2400 bps
OFF	ON	4800 bps
ON	ON	9600 bps

- If you want to control using DVR or P/T controller, their protocol must be identical to camera. Otherwise, you can not control the camera.
- If you changed camera protocol by changing DIP S/W, the change will be effective after you reboot the camera.
- Factory default of baud rate is 2400 bps. You can change it in OSD menu.
- **Speed dome will detect the Pelco-D or Pelco-P automatically in the Present conditions.**

|| Cabling



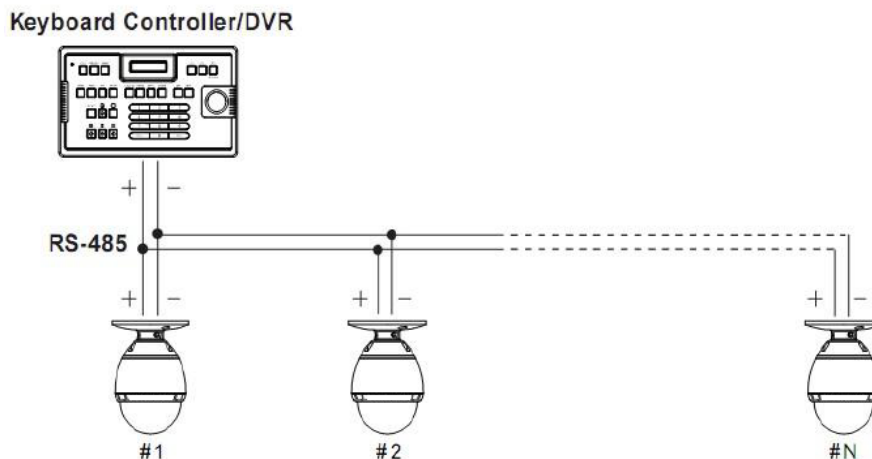
► Power Connection

- Please, check the voltage and current capacity of rated power carefully.
Rated power is indicated in the back of main unit.

Rated Power	Input Voltage Range	Current Consumption
DC 12V	DC 11V~13 V	0.8A

► RS-485 Communication

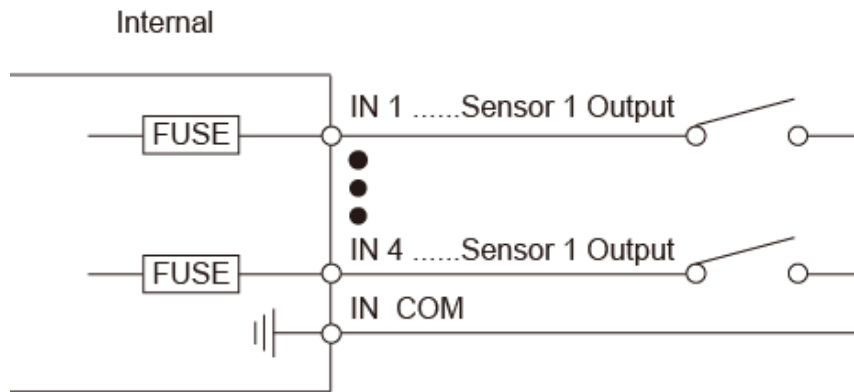
- For PTZ control, connect this line to keyboard and DVR.
To control multiple cameras at the same time,
RS-485 communication lines of them is connected in parallel as shown below.



► **Video Connection**

- Connect with BNC coaxial cable.

► **Alarm input**



Signal	Description
IN COM	Common point for alarm
IN1-,IN2-,IN3-, In4-,	Alarm input signal

Speed dome can detect the status of alarm input (NO or NC) automatically.

Normal Open and Normal Close define as below

⊙ Normal Open	No contact between alarm input and common point
⊙ Normal Close	Keeping contact between alarm input and common point

Check points before operation

- Before power is applied, please check the cables carefully.
- The camera ID of the controller must be identical to that of the target camera. The camera ID can be checked by reading DIP switch of the camera.
- If your controller supports multi-protocols, the protocol must be changed to match to that of the camera.
- If you changed camera protocol by changing DIP switch, the change will be effective after you reboot the camera.
- Since the operation method can be different for each controller available, refer to the manual for your controller if camera can not be controlled properly. The operation of this manual is based on the standard Pelco® Controller.

Preset and pattern Function Pre-Check

- Check how to operate preset and pattern function with controller or DVR in advance to operate camera function fully when using controller or DVR.
- Refer to the following table when using standard Pelco® R protocol controller.

<Go Preset>	Press [Call] input [Preset number]and press [Enter]
<Set Preset>	Press [Preset] input [Preset number] and press [Enter]
<Run Pattern>	Press [Call] input [Pattern number] and press [Enter]
<Set Pattern>	Please refer to the pattern setup, turn to “Pattern Setup”

- If controller or DVR has no pattern button or function, use shortcut keys with preset numbers. For more information, refer to “Reserved Preset” in this manual.

Starting OSD Menu

- Function Using the OSD menu, Preset, Pattern, Swing, Group and Alarm Input function can be configured for each application.
- Enter Menu Press <Call> + Preset Number [95] +<Enter>

Reserved Preset

- Description Some Preset numbers are reserved to special functions.
- Function
 - <Call> [95]<Enter> : Enters into OSD menu
 - <Call>[131~134]<Enter> : Runs Pattern Function 1~4
 - <Call>[141~148]<Enter> : Runs Swing Function 1~8
 - <Call>[151~158]<Enter> : Runs Group Function 1~8
 - <Call>[200]<Enter> : Runs the minimum angle of Horizontal scanning.
 - <Call>[160]<Enter> : Sets Alarm ON
 - <Call>[161]<Enter> : Sets Alarm OFF
 - <Call>[170]<Enter> : Sets Camera BLC Mode to OFF
 - <Call>[171]<Enter> : Sets Camera BLC Mode to ON
 - <Call>[174]<Enter> : Sets Camera Focus Mode to AUTO
 - <Call>[175]<Enter> : Sets Camera Focus Mode to Manual
 - <Call>[176]<Enter> : Sets Camera Focus Mode to SEMI-AUTO
 - <Call>[177]<Enter> : Sets Day & Night Mode to AUTO
 - <Call>[178]<Enter> : Sets Day & Night Mode to NIGHT
 - <Call>[179]<Enter> : Sets Day & Night Mode to DAY
 - <Call>[190]<Enter> : Sets OSD Display Mode to AUTO
(Except Privacy Mask)
 - <Call>[191]<Enter> : Sets OSD Display Mode to OFF (Except Privacy Mask)
 - <Call>[192]<Enter> : Sets OSD Display Mode to ON (Except Privacy Mask)
 - <Call>[193]<Enter> : Sets all Privacy Mask Display to OFF
 - <Call>[194]<Enter> : Sets all Privacy Mask Display to ON

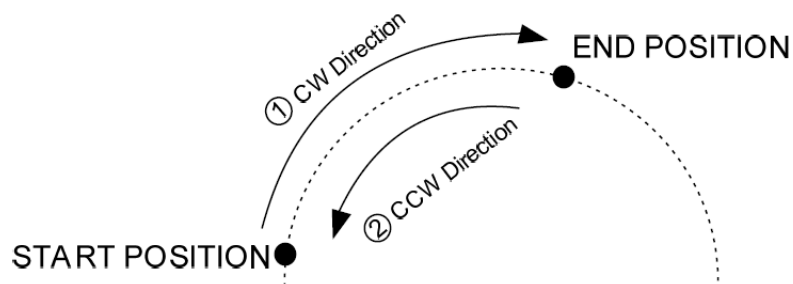
|| Preset

- Function Max 127 positions can be stored as Preset position. The Preset number can be assigned from 1 to 128, but 95 is reserved for starting OSD menu.
- Set Preset <Preset>[1~128] <Enter> (Except [95])
- Run Preset <Call>[1~128] <Enter> (Except [95])
- Delete Preset To delete Preset, use OSD menu.

<DOME CAMERA SETUP>→<PRESET SETUP>→<CLR PRESET>

|| Swing

- Function By using Swing function, you can make camera to move between 2 Preset positions repeatedly. When swing function runs, camera moves from the preset assigned as the 1st point to the preset assigned as the 2nd point in CW (Clockwise) direction. Then camera moves from the preset assigned as the 2nd point to the preset assigned as the 1st point in CCW(Counterclockwise)direction.



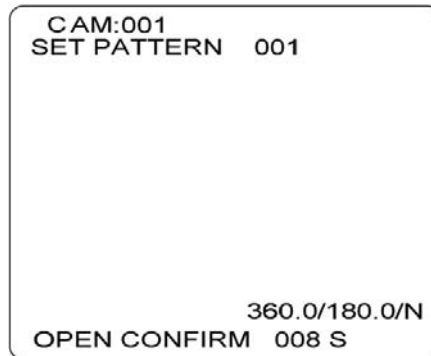
Speed can be set up from 1° /sec to 180° /sec.

- Set Preset To set Swing, use OSD menu.
<DOME CAMERA SETUP>→<SWING SETUP>
- Run Swing Ex: Run the first swing <Call>[141]<Enter>
Ex: Run the second swing <Call>[142]<Enter>
- Delete Swing To delete Swing, use OSD menu.

<DOME CAMERA SETUP>→<SWING SETUP>→<CLEAR SWING>

|| Pattern

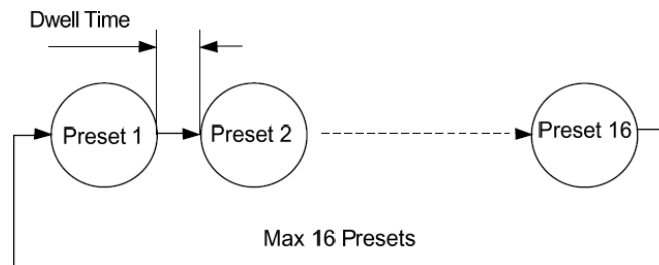
- Function Pattern Function is that a camera memorizes the path (mostly curve path) by joystick of controller for assigned time and revives the path exactly as it memorized.
4 Patterns are available and Maximum 150~180S or 500 communication commands can be stored in a pattern.
- Setup Pattern <DOME CAMERA SETUP>→<PATTERN SETUP>→<EDIT PATTERN>
 - Pattern editing screen is displayed as bellow.



- Movement by Joystick and preset movement can be memorized in a pattern.
 - The recording time will be shown on the right-down corner
(Max 150~180S or 500 commands)
 - To save the recording, press OPEN key to save.
-
- Run Pattern Ex) Run Pattern 1: <Call>[131]<Enter>
Ex) Run Pattern 2: <Call>[132]<Enter>
 - Delete Pattern Use OSD menu to delete Pattern
<DOME CAMERA SETUP>→<PATTERN SETUP>→<CLR PATTERN>

Group

- Function The group function allows running sequence of Presets Max 8 group can be stored.
Each group can have max 16 preset can be set up in Group setup.
Dwell time between actions can be set up also.



- Set Group Use OSD Menu to create a Group
- Run Group Ex) Run Group 1: <Call>[151]<Enter>
Ex) Run Group 2: <Call>[152]<Enter>
- Delete Group Use OSD Menu to delete
<DOME CAMERA SETUP>→<GROUP SETUP>→<CLR GROUP>

Other Functions

- Power Up Action

This function enables to resume the last action executed before power down. Most of actions such as Preset, Pattern, Swing and Group are available for this function but jog actions are not available to resume.

- Auto Flip

In case that tilt angle arrives at the top of tilt orbit (90°), zoom module camera keep moving to opposite tilt direction (180°) to keep tracing targets. As soon as zoom module camera passes through the top of tilt direction (90°), images should be reversed automatically.

- Parking Action

This function enables to locate the camera to specific position automatically if operator doesn't operate the controller for a while. The Park Time can be defined as an interval from 3 to 240 seconds.

- Home Place

This function enables to adjust the camera in the best condition as the Home Place.

- Privacy Zone Mask

To protect privacy, MAX. 8 Privacy Masks can be created on the arbitrary position to hide objects such as windows, shops or private house. With Spherical Coordinates system, powerful Privacy Zone Mask function is possible.

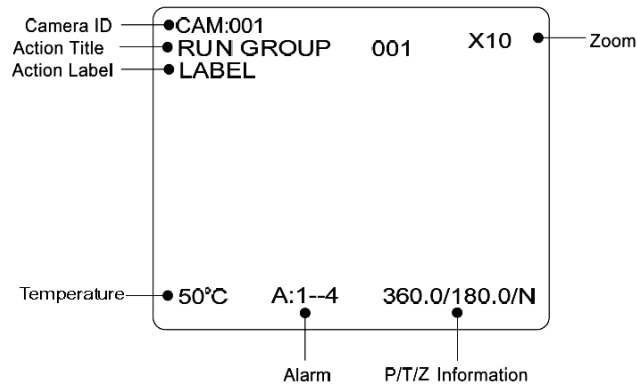
- Global/Local Image Setup

WB(White Balance) and AE (Auto Exposure) and Brightness (1 to 100) can be set up independently for each.

- SemiAuto Focus

This mode exchanges focus mode automatically between Manual Focus mode and Auto Focus mode by operation. Manual Focus mode activates in preset operation and Auto Focus mode activates during jog operation. With Manual mode at presets, Focus data is memoried in each preset in advance and camera calls focus data in correspondence with presets as soon as camera arrives at a preset. It should shorten time to get focuses. Focus mode changes to Auto Focus mode automatically when jog operation starts.

OSD Display of Main Screen



- P/T/Z Information Current Pan/Tilt angle in degree and a compass direction.
- Camera ID Current Camera ID (Address).
- Action Title Following are possible Action-Titles and their meaning.
 - "SET PRESET xxx" When Preset xxx is stored
 - "GOTO PRESET xxx" When camera reach to Preset xxx
 - "RUN PATTERN x" When Pattern x is in action
 - "RUN SWG x / GROUP xxx" When Swing is in action
 - "xxxxxx ERROR xxx" When undefined function is called to run
- Action Label The Label stored for specific Preset and Pattern and Group.
- Alarm Input <for External Mini Model>

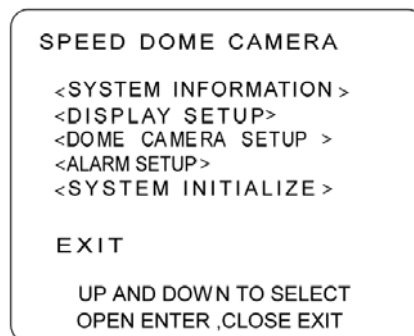
This information shows current state of Alarm Input. If an Input point is ON state it will show a number corresponding to each point If an Input point is OFF state, ' - ' will be displayed

Ex) Point 2 & 3 of inputs are ON, OSD will show as below
- Temperature Shows Show current speed dome internal temperature.

General Rules of Key Operation for Menu

- The menu items surrounded with () always has its sub menu.
- For all menu level, to go into sub menu, press OPEN key or use joystick in the right.
- To go to up-one-level menu, press CLOSE key or use joystick in the left.
- To move from items to item in the menu, use joystick in the Up/Down.
- To change a value of an item, use Up/Down of the joystick in the controller.
- Press OPEN key or use joystick in the right to save values and Press CLOSE key or use joystick in the left to cancel Values.

Main Menu



- System Information Displays system information and configuration.
- Display Setup Enable/Disable of OSD display on Main Screen
- Dome Camera Setup Configure various functions of this camera.
- Alarm Setup Configure alarm action.
- System Initialize Initializes system configuration and sets all data to factory default configuration

Display Setup

```
<DISPLAY SETUP>
CAMERA ID      ON
PTZ INFO      AUTO
ACTION TITLE   AUTO
ALARM INPUT    AUTO
TEMPERATURE    AUTO
<SET NORTH DIRECTION>
<PRIVACY ZONE>
BACK
EXIT
UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT
```

This menu defines Enable/Disable of OSD display on Main Screen.

If an item is set to be AUTO, the item is displayed only when the value of it is changed.

- Camera ID [ON/OFF]
- PTZ Information [ON/OFF/AUTO]
- Action Title [ON/OFF/AUTO]
- Alarm Input [ON/OFF/AUTO]
- Temperature [ON/OFF/AUTO]

```
<DISPLAY SETUP>
CAMERA ID      ON
PTZ INFO      AUTO
ACTION TITLE   AUTO
ALARM INPUT    AUTO
TEMPERATURE    AUTO
<SET NORTH DIRECTION>
<PRIVACY ZONE>
BACK
EXIT
180.0/0.0/S
OPERATE PTZ,OPEN CONFIRM
```

■ Compass Direction Setup

Set North to assign compass direction as criteria. Move camera and press OPEN button to save.

Privacy Zone Mask Setup

<DISPLAY SETUP>→<PRIVACY ZONE>

```

<PRIVACY ZONE>

MASK NO.
  STATE      UNDEFINED
DISPLAY     OFF
CLEAR MASK  CANCEL
<EDIT MASK>

BACK
EXIT

UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT
  
```

Select area in image to mask.

- Mask No [1~8]
Select Mask number. If the selected mask has already data, camera moves as it was set. Otherwise, "UNDEFINED" will be displayed under "Mask No".
- Display [ON/OFF]
Sets if camera makes mask shows or not on images
- Clear Mask [CANCEL/OK]
Deletes data in the selected mask NO.

Privacy Zone Area Setup

<DISPLAY SETUP>→<PRIVACY ZONE>→<EDIT MASK>

- Move camera to area to mask. Then the menu to adjust mask size will be displayed.
- By Pressing "OPEN" to enter, then press "OPEN" again, the menu to adjust mask size will be displayed.

```

180.5/50.0/NW
OPEN PTZ ,OPEN CONFIRM
  
```

Privacy Zone Size Adjustment

Adjust mask size. Use joystick or arrow buttons to adjust mask size.

- ◀ ▶ (TILT/WIDE) Adjusts mask width.
- ▲ ▼ (FAR/NEAR) Adjusts mask height.

```

UP DOWN LEFT RIGHT MOVE
TILT WIDE FAR NEAR SET
OPEN CONFIRM
  
```

► Camera Setup

```

<CAMERA SETUP>
FOCUS MODE      SEMIAUTO
IRIS MODE       SEMIAUTO
DIGITAL ZOOM    OFF
DAY/NIGHT      AUTO
<WHITE BALANCE SETUP>
<AUTO EXPOSURE SETUP>
BACK
EXIT

UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT

```

<DOME CAMERA SETUP>→<CAMERA SETUP>

Setup the general functions of zoom camera module

- Focus Mode [AUTO/MANUAL/SEMIAUTO]

Sets camera focus mode.

- **SEMIAUTO Mode**

This mode exchanges focus mode

automatically between Manual Focus mode and

Auto Focus mode Manual Focus mode

activates in preset operation and Auto Focus

mode activates when jog operation Starts.

With Manual mode at presets, Focus data is

memorized in each preset in advance and

camera calls focus data in correspondence with

presets as soon as camera arrives at a preset

- IRIS Mode [AUTO/MANUAL/SEMIAUTO]

Sets camera IRIS mode.

- Day/Night [AUTO/DAY/NIGHT]

Sets camera day or night mode.

- Digital Zoom [ON/OFF]

Sets digital zoom function to ON/OFF. If this is

set to OFF, optical zoom function runs but zoom

function stops at the end of optical zoom

magnification.

```

<WHITE BALANCE SETUP>
WB MODE      AUTO
RED ADJUST  ----
BLUE ADJUST  ----

BACK
EXIT

UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT

```

- **White Balance Setup**

<DOME CAMERA SETUP>→<CAMERA SETUP>

→<WHITE BALANCE SETUP>

- WB Mode [AUTO/MANUAL]

In Manual mode, Red and Blue level can be set

up manually

- Red Adjust [50~200]

- Blue Adjust [50~200]

```

<AUTO EXPOSURE SETUP>
BACKLIGHT          OFF
BRIGHTNESS        50
SHUTTER           DEFAULT
  SHUTTER VALUE    1/250
AGC               HIGH
SSNR             MIDDLE
SENS UP          ON
  SENS UP LIMIT    000
BACK
EXIT
  UP AND DOWN N TO SELECT
  OPEN ENTER ,CLOSE EXIT

```

■ Auto Exposure Setup

<Dome Camera Setup>→<Camera Setup>

→<Auto Exposure Setup>

- Backlight [HIGH/NORMAL/OFF]
Sets Backlight Compensation
- Brightness [0~100]
Adjusts brightness of images. Iris, Shutter Speed and Gain are adjusted automatically in correspondence with this value
- Shutter [DEFAULT/MANUAL/A.FLK]
If Shutter Speed is set to A. Flicker, to remove Flicker, Shutter Speed should be set to 1/100 secretary.
for NTSC and 1 / 120 for PAL.
- AGC [HIGH/MIDDLE/LOW/OFF]
Enhances image brightness automatically in case that luminance level of image signal is too low.
- SSNR [OFF/LOW/MIDDLE/HIGH]
Enhances images by deducting noises when gain level of images is too high.
- SENS-UP [ON/OFF]
Activates Slow Shutter function when luminance of Image (signal) is too dark
It is possible to set up the maximum number of frames piled up one on another by Slow Shutter function.
- SENS-UP [0~11]
The user can configure Sens-Up limit by increasing/decreasing the shutter speed.

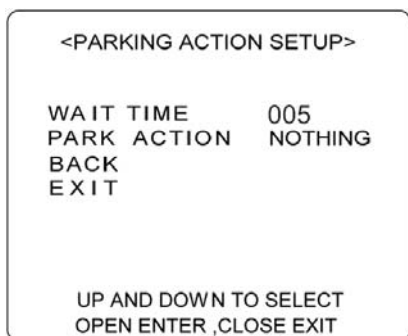
|| Motion Setup

```
<MOTION SETUP>
MOTION LOCK      OFF
PWR UP ACTION    NOTHING
AUTO FLIP        OFF
H.REVERSE        OFF
JOG DIRECTION    NORMAL
JOG MAX SPEED    300
FRZ IN PRESET    OFF
<PARKING ACTION SETUP>
BACK
EXIT
  UP AND DOWN TO SELECT
  OPEN ENTER ,CLOSE EXIT
```

<DOME CAMERA SETUP>→<MOTION SETUP>

Setup the general functions of Pan/Tilt motions.

- Motion Lock [ON/OFF]
Group. It is possible only to run those functions.
To set up and delete those functions, enter into OSD menu.
- Power Up Action [NORTH/GROUP/PATTERN/SWING]
Refer to "Other Functions" section.
- Auto Flip [ON/OFF]
Refer to "Other Functions" section.
- H.REVERSE [ON/OFF]
Flip horizontal
- Jog Direction [INVERSE/NORMAL]
If you set this to 'Inverse', the view in the screen is moving same direction with jog tilting. If 'Normal' is selected, the view in the screen is moving reversely.
- Jog Max Speed [1° /sec~300° /sec]
Sets maximum jog speed. Jog speed is inversely proportional to zoom magnification.
As zoom magnification goes up, pan/tilt speed goes down
- Freeze in Preset [ON/OFF]
At start point of preset movement, camera starts freezing the image of start point. Camera keeps displaying the image of start point during preset movement and does not display the images which camera gets during preset movement. As soon as camera stops at preset end point, camera starts displaying live images which it gets at preset end point.
This function availability should be different by models.



■ Parking Action Setup

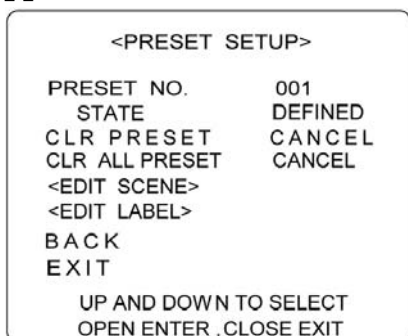
<DOME CAMERA SETUP>→<MOTION SETUP>

→<PARKING ACTION SETUP>

If Park Enable is set to ON, camera runs assigned function automatically if there is no PTZ command during assigned "Wait Time".

- Wait Time [003~240S]
The time is displayed with "XXX S" format and you can change this joystick or keyboard..
- Park Action [NOTHING/PATTERN/SWING/GROUP]
Ex) If you set park action is HOME, the camera will move to home position when there is no PTZ command during assigned "Wait Time".

|| Preset Setup



<DOME CAMERA SETUP>→<PRESET SETUP>

- Preset Number [1~128] (Except [95])
If a selected preset is already defined, camera moves to pre- defined position. If a selected preset is not defined. "UNDEFINED" shows on monitor.
- Clear Preset [CANCEL / OK]
Delete current Preset data (include edit label)
- Clear all Preset [CANCEL / OK]
Delete all current Preset data (include edit label)
- Edit Scene
Redefine current Preset scene position Using Joystick move camera to desired position, By pressing OPEN to save current PTZ data.
- Edit Label
Edits Label to show on monitor when preset runs MAX. 18 alphabets are allowed. Enter edit label, "?" cursor will be displayed on the screen, using up/down of joystick to select character, and using left/right to move cursor. After inputting, press "OPEN" key to save and exit the setting.

|| Swing Setup

```
<SWING SETUP>
SWING NO .    001
START POSITION
END POSITION
STATE        UNDEFINED
SWING SPEED  20
CLEAR SWING  CANCEL
RUN SWING
BACK
EXIT

UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT
```

<Dome Camera Setup>→<Swing Setup>

- Swing Number [1~8]
Selects Swing number to edit.
- Start Position
Set up the 2 position for Swing function if a End Position selected preset is not defined, "UNDEFINED" will be displayed.
When swing function runs, camera moves from the preset assigned as the start point to the preset assigned as the end point in CW (Clockwise) direction. The camera moves from preset assigned as the start point to preset assigned as the end point CCW(Counterclockwise) direction. Then camera moves from the preset assigned as the endpoint to the preset assigned as the start point in CCW (Counterclockwise) direction.
- Swing Speed[001~180]
Sets Swing speed from 001 to 180.
- Clear Swing [CANCEL/OK]
Deletes current Swing data
- Run Swing Run current Swing

Pattern Setup

```

<PATTERN SETUP>
PATTERN NO.    001
STATE          DEFINED
CLR PATTERN    CANCEL
LABEL DISPLAY  OFF
EDIT PATTERN   CANCEL
<EDIT LABEL>
RUN PATTERN
BACK
EXIT
UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT
  
```

<DOME CAMERA SETUP>→<PATTERN SETUP>

- Pattern Number [1~4]
Selects Pattern number to edit.
If a selected pattern number is not defined, "UNDEFINED" will be displayed under selected pattern number.
- Clear Pattern[CANCEL/OK]
Deletes data in current pattern
- Label Display [ON/OFF]
- Edit Pattern [OK/CANCEL]
OK: Edit the pattern function
Cancel: Don't execute the pattern function.

Edit Pattern

```

CAM:001
SET PATTERN  001

360.0/180.0/N
OPEN CONFIRM 008 S
  
```

- Edit Pattern
Starts editing pattern. By using Joystick, move to start position with appropriate zoom. To start pattern recording, press OPEN key. To exit this menu, press CLOSE key. Move camera with joystick of controller or run preset function to memorize the path (mostly curve path) in a selected pattern. Maximum 500 commands can be stored in a pattern
- Edit Label
Edits Label to show on monitor when preset runs MAX. 18 alphabets are allowed. Enter edit label, "?" cursor will be displayed on the screen, using up/down of joystick to select character, and using left/right to move cursor, After inputting, press "OPEN" key to save and exit the setting.
- Run Pattern Run current Pattern

Group Setup

```

<GROUP SETUP>
GROUP NO.      001
STATE          DEFINED
CLR GROUP      CANCEL
LABEL DISPLAY  OFF
<EDIT GROUP>
<EDIT LABEL>
RUN GROUP
BACK
EXIT

UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT
  
```

<Dome Camera Setup>→<Group Setup>

- Group Number [1~8]

Selects Group number to edit.

If a selected Group number is not defined, "UNDEFINED" will be displayed under selected Group number.
- Clear Group [CANCEL/OK]

Deletes data in current Group
- Edit Group Starts editing Group.
- Edit Label

Edits Label to show on monitor when preset runs MAX. 18 alphabets are allowed. Enter edit label, "?" cursor will be displayed on the screen, using up/down of joystick to select character, and using left/right to move cursor, After inputting, press "OPEN" key to save and exit the setting.
- Run Group Run current Group

Edit Group

```

<EDIT GROUP>
ID  PRESET  SPEED  TIME
1   000    240   005S
2   000    240   005S
3   000    240   005S
4   000    240   005S
5   000    240   005S
6   000    240   005S
7   000    240   005S
8   000    240   005S

UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT
  
```

<Dome Camera Setup>→<Group Setup>→<Edit Group>

1. Press OPEN key to start Tour setup.
2. Note that MAX. 16 "Presets" are allowed in a Tour. Move cursor up/down and press OPEN key to set up.
3. Set up Action, Dwell time and Speed is optional. Time value from displayed in reverse. Move cursor Left/Right to select items and 3 sec To 240 sec. Speed value from 50 to 300. Move cursor Left/Right to select items and move cursor Up/Down to change each value.

Alarm Input Setup (For External mini PTZ Dome only)

```
<ALARM SETUP>
ALARM ENABLE   ON
ALARM NO.      001
  ALARM ACT     NOTHING
RELEASE TIME    003S
START FAN       050°C
START HEATER    001°C

BACK
EXIT

UP AND DOWN TO SELECT
OPEN ENTER ,CLOSE EXIT
```

<DOME CAMERA SETUP>→<ALARM SETUP>

Match the Alarm sensor input to one of Preset Positions /Home/Auto Scan/Group/Pattern/Swing. If an external sensor is activated, camera will corresponding command position when this item is predefined.

- Alarm Enable [ON/OFF]
Establish the current passage reports to the police open of function with pass
- Alarm No. [001~004]
Select alarm channel number
- Alarm x Action [NOTHING/PRESET/PATTERN/SWING/ GROUP]
Assign counteraction Preset position to each Alarm input.
- Release Time [001~240 S]
Alarm output time is postponed to a certain time, adjustable range is 0 sec t 240 sec.
- Start Fan [20~60°C]
Ex) If set start fan is 30°C, the dome will start fan when above 30°C, and it will stop to fan when temperature is lower than set value 5°C.
- Start Heater [-20~10°C]
Ex) If set start fan is -10°C, the dome will start heat when above -10°C, and it will stop to heat when temperature is higher than set value 5°C.

System Initialize

```

<SYSTEM INITIALIZE>
CLEAR ALL DATA      NO
CLR DISPLAY SET     NO
CLR CAMERA SET      NO
CLR MOTION SET      NO
CLR EDIT DATA      NO
REBOOT CAMERA       NO
REBOOT SYSTEM       NO
BACK
EXIT

UP AND DOWN TO SELECT
OPEN ENTER .CLOSE EXIT
  
```

- Clear All Data Deletes all configuration data such as display, camera, motion setup and so on.
- Clear Display Set Initializes Display Configuration
- Clear Camera Set Initializes Camera Configuration
- Clear Motion Set Initializes Motion Configuration
- Clear Edit Data Deletes Preset Date, Swing Data, Pattern Data and Group Data
- Reboot Camera Reboots Zoom Camera module
- Reboot System Reboots Speed Dome Camera

Initial Configuration Table

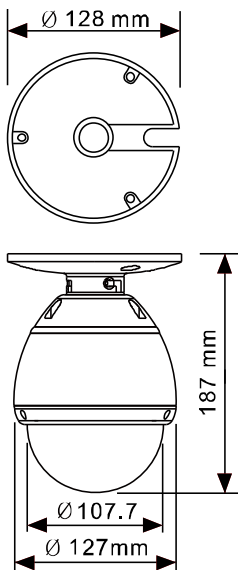
Display Configuration		Camera Configuration	
Camera ID	ON	Focus Mode	SemiAu to
PTZ Information	AUTO	Iris Mode	SemiAu to
Action Title	AUTO	Digital Zoom	OFF
Alarm Input	AUTO	Day & Night	AUTO
Temperature	AUTO	White Balance	AUTO
<Set North Direction>		Backlight	OFF
<Privacy Zone>		Brightness	50
		Shutter	DEFAULT
		AGC	HIGH
		SSNR	MID DLE
		SENS-UP	ON
		User Edit Data	
		Preset 1~128	Undefined
		Swing 1~8	Undefined
		Pattern 1~4	Undefined
		Group 1~8	Undefined
Motion Configuration			
Motion Lock	OFF		
Power Up Action	NOTHING		
Auto Flip	OFF		
Jog Max Speed	300°/sec		
Jog Direction	NORMAL		
Freeze In Preset	OFF		
Park Action	NOTHING		

Specifications

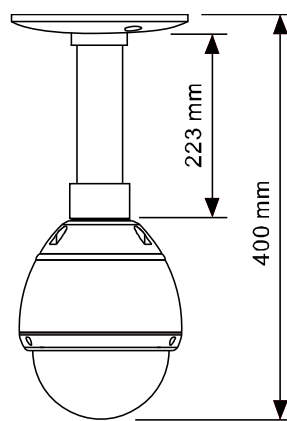
Type	Mini	External mini
Video Signal System	NTSC / PAL	
CCD	1/4" Interline Transfer CCD	
Max. Pixels	NTSC: 811(H)×508(V)410K / PAL: 795(H)×596(V)470K	
Effective Pixels	NTSC: 768(H)×494(V)380K / PAL: 752(H)×582(V)440K	
Horizontal Res.	560 TV Line(Color), 680 TV Line(B/W)	
S/N	Ratio 52 dB (AGC Off)	
Zoom	x12 Optical zoom, x16 Digital Zoom	
Focal length	f=3.94 ~ 46.05 mm (F1.67~1.88)	
Min. Illumination	0.2 Lux /F1.67(50 IRE)Color / 0.02 Lux F1.67 (50 IRE)B/W	
Day & Night	Auto / Day(Color)/ Night(ICR, B/W)	
Focus	Auto / Manual / Semi Auto	
Iris	Auto / Manual / Semi Auto	
Shutter	Pal: x128 ~ 1/120000 sec	
AGC	Low / Middle / High / Off	
White Balance	Auto / Manual(Red, Blue Gain Adjustable)	
BLC	Normal / High / Off	
SSNR UP	ON/OFF	
SSNR	Low / Middle / High / Off	
SSNR Pan/Tilt Speed	Pan : 360°(Endless)	
	Tilt : 1~270°(Auto-Flip)	
Preset	Go to Preset Speed : 1~300°/sec	
	Manual : 0.05~300°/sec	
	127 Preset(Label)	
Pattern	4 Pattern, 500 commands /Pattern	
Swing	8 Swing	
Group	8 Group (16 Presets per Group)	
Direction	INVERSE / NORMAL	
Other Functions	Auto flip, Auto Parking, Power Up Action etc.	
Communication	RS-485(9600, 4800, 2400 Select table or change from OSD menu)	
Protocol	Pelco-D, Pelco-P, Auto identify	
Privacy Zone	8 Zone	
Alarm Input	No	4 Input
OSD	Menu / PTZ information etc	
Fan and Heater	No	Yes
Rated Power	DC 12V / 0.8A	DC 12V / 1.1A
Dimension	Ø128 x 187(H)mm	Ø190 x 144(H)mm
Weight	about 2.4Kg	about 2.6Kg
Operating Temp.	0°C ~ 40°C	-30°C ~ 50°C

Dimension

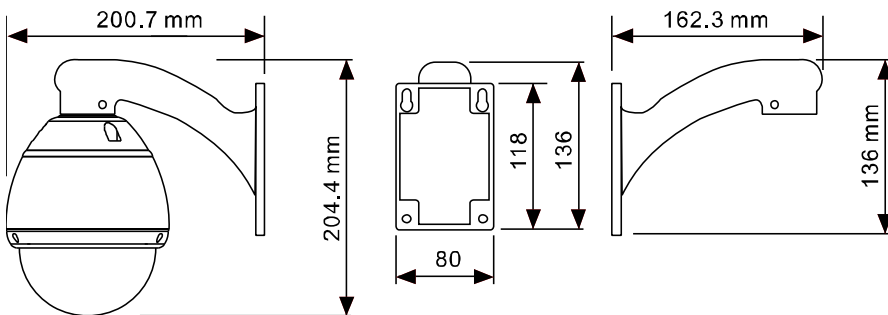
► Ceiling Bracket



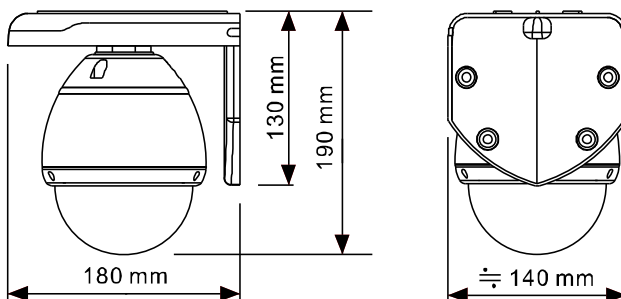
► Pendant Bracket



► ARM Type Wall Mount Bracket



► L Type Wall Mount Bracket



Unit(mm)

V.20111226