Mini Speed Dome Camera

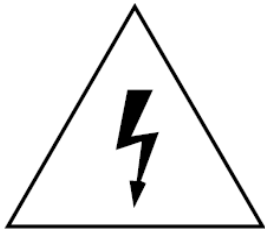☐ **Mini**   ☐ **Internal**   ☐ **External**

INSTRUCTION
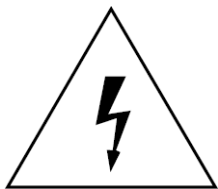
MANUAL

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.

▮▮ 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. 300⁰ /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 ⁰/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

►<u>Assembly</u>

* Ceiling bracket is standard for mini PTZ Dome.

—	Speed Dome Mounting Base
—	Screws x 3
—	Screws x 3
—	Thread Connector
—	Speed Dome

—	Groove
—	Mounting Base
—	Screws x 3
—	Speed Dome
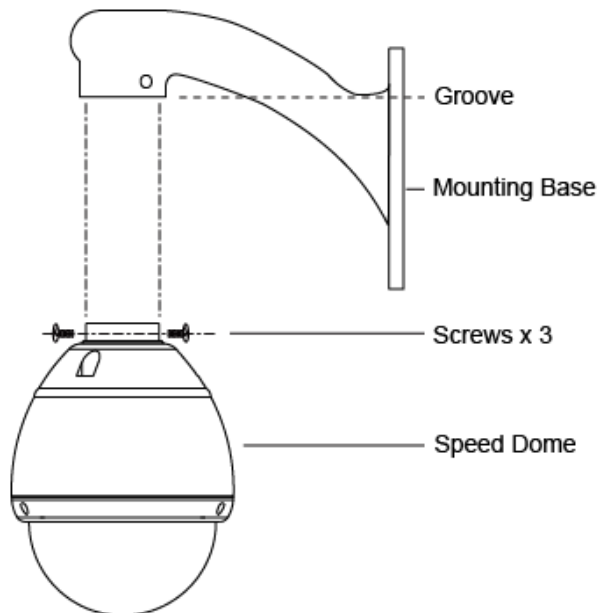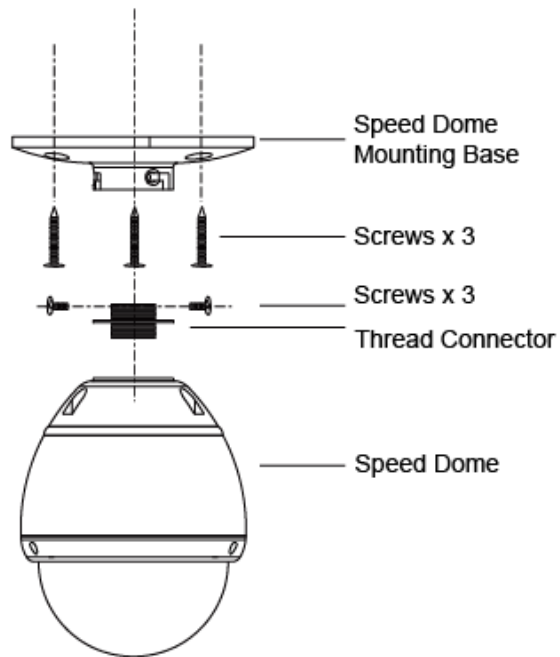
Option

Ceiling Bracket
(Do not support Internal PTZ Dome)

Pendant Bracket

L type Wall Mount Bracket

ARM Type Wall Mount Bracket

	Option
	Ceiling Bracket
	Pendant Bracket
	L type **Wall Mount Bracket**
	ARM Type **Wall Mount Bracket**
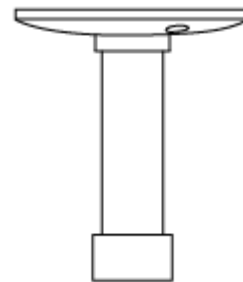
— Ceiling Plate
— Screws x 4
— Screws x 2
— Speed Dome
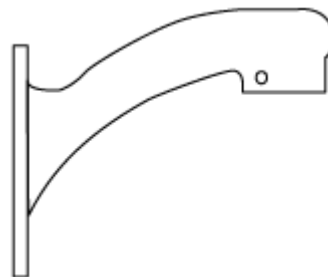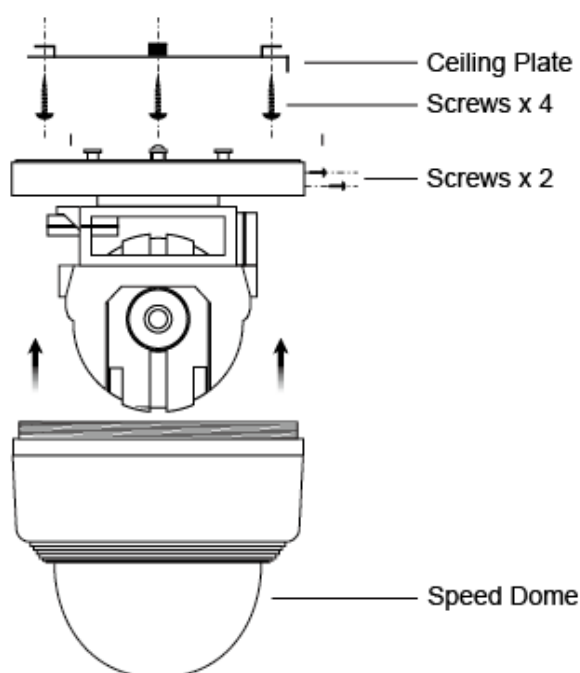
* Internal PTZ Dome built in a ceiling plate for installation.

— Mounting Base
— Outdoor Speed Dome
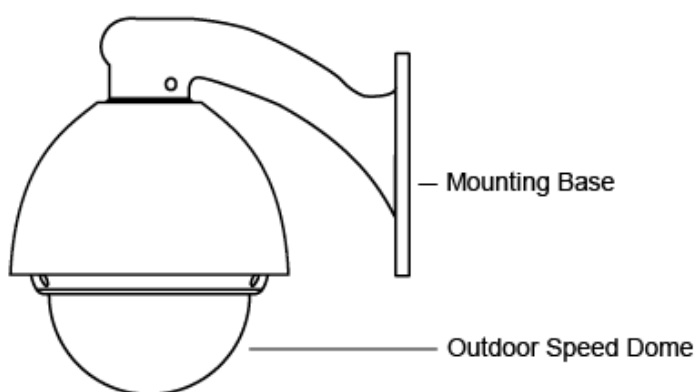
* ARM Type wall mount bracket is standard for External mini PTZ Dome.
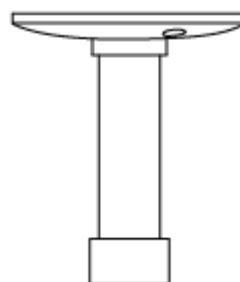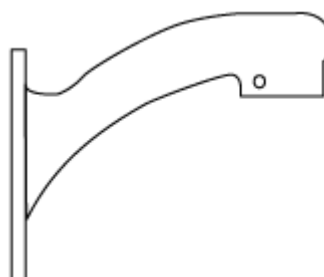
▌▌ DIP Switch Setup

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

<table>
<tr><td colspan="5">Camera ID</td><td colspan="6">Communication Baud Rate</td></tr>
<tr><td colspan="11"></td></tr>
<tr><th>PIN</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th></tr>
<tr><td>FUNC.</td><td>A0</td><td>A1</td><td>A2</td><td>A3</td><td>A4</td><td>A5</td><td>A6</td><td>A7</td><td colspan="2">Baud Rate</td></tr>
<tr><td>ON</td><td>1</td><td>2</td><td>4</td><td>8</td><td>16</td><td>32</td><td>64</td><td>128</td><td colspan="2">Refer to</td></tr>
<tr><td>OFF</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td colspan="2">the Manual</td></tr>
</table>

►Camera ID Setup

- ID number of camera is set using binary number. The example is shown bellow.
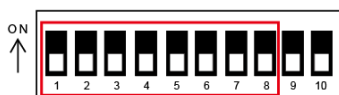
PIN	1	2	3	4	5	6	7	8
ID Value	1	2	4	8	16	32	64	128
OSD menu setup	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF
ex) ID=5	ON	OFF	ON	OFF	OFF	OFF	OFF	OFF
ex) ID=10	OFF	ON	OFF	ON	OFF	OFF	OFF	OFF

- 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

Cabling Terminal Block
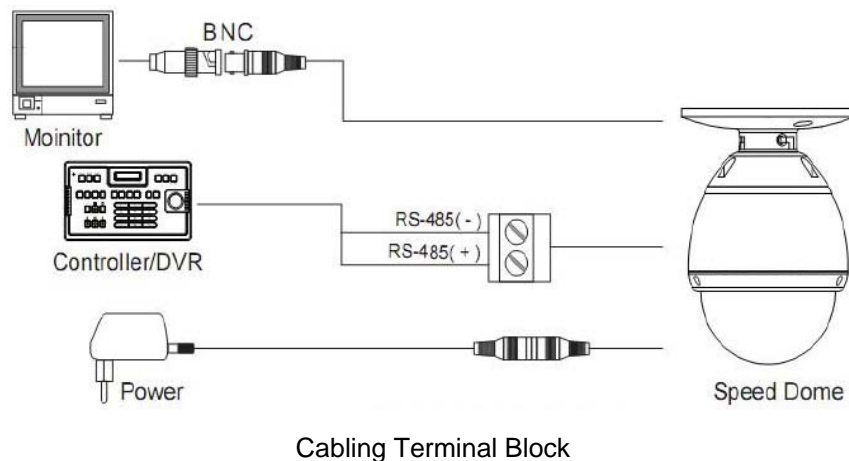
►Power Connection

- ● 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.
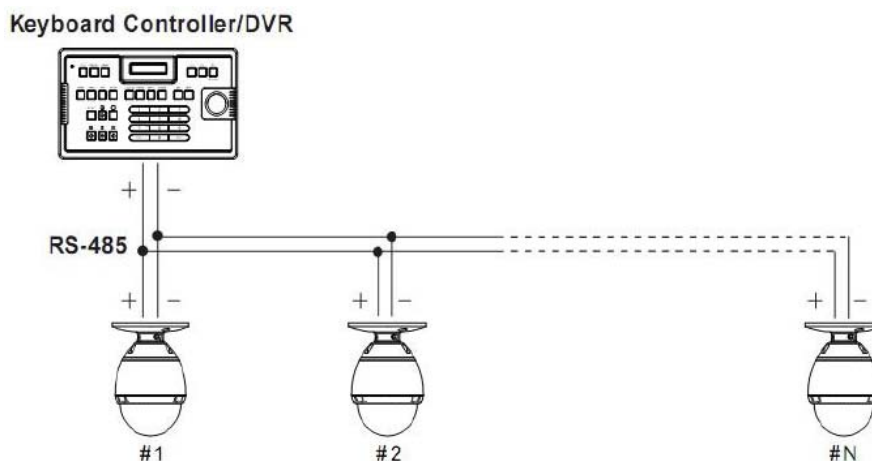
►Video Connection

- Connect with BNC coaxial cable.

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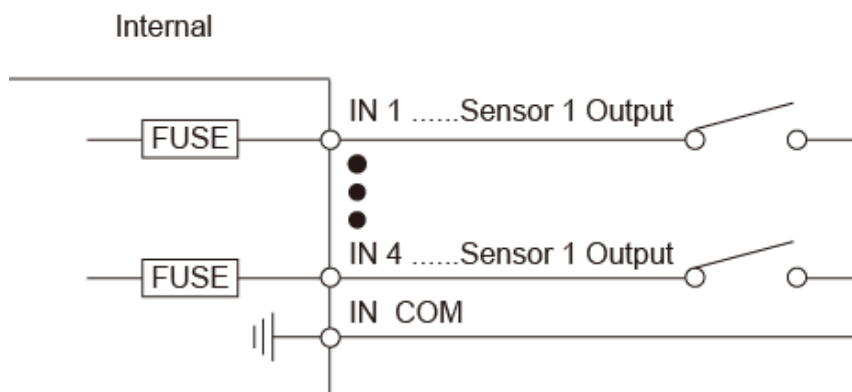
Signal	Description
IN COM	Common point for alarm
IN1-,IN2-,IN3-, In4-,	Alarm input signal

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
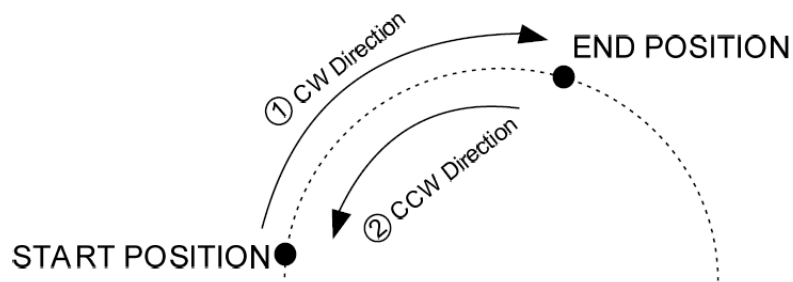
▋▋ Preset

- 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.

```
 CAM:001
 SET PATTERN    001




                      360.0/180.0/N
 OPEN CONFIRM   008 S
```
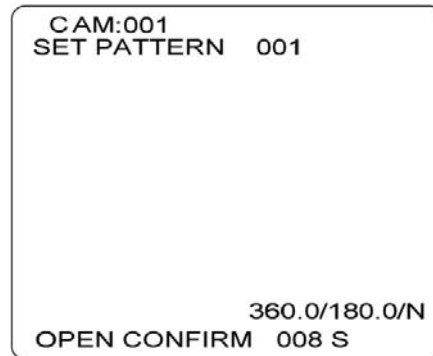
                      □ Movement by Joystick and preset movement can be memorized in a pattern.
                      □ The recording time will be shown on the right-down corner
                        (Max 150~180S or 500 commands)
                      □ To save the recording, press OPEN key to save.

- ● 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.
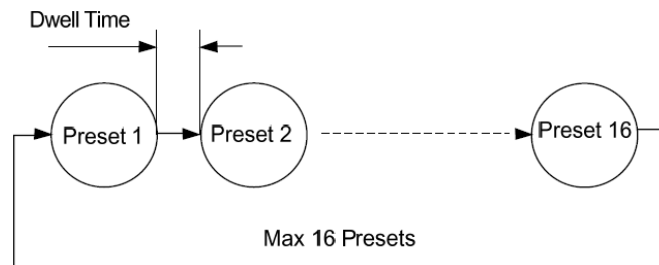
● Set Group   Use OSD Menu to create a Group

● 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 (90º), zoom module camera keep moving to opposite tilt direction (180º) to keep tracing targets. As soon as zoom module camera passes through the top of tilt direction (90º), 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
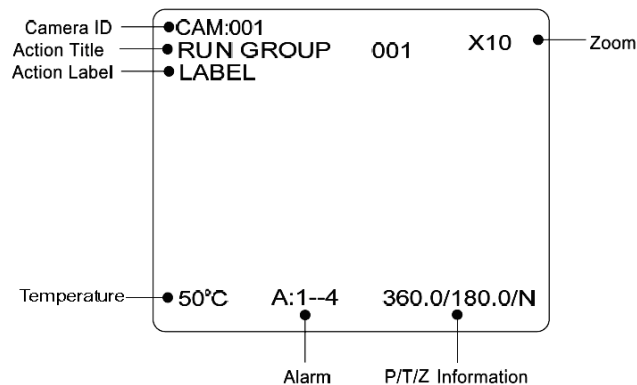
- ● P/T/Z Information   Current Pan/Tilt angle in degree and a compass direction.

- ● 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
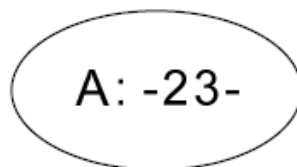
- ● Temperature   Shows Show current speed dome internal temperature.

▊▊ 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

```
SPEED DOME CAMERA

<SYSTEM INFORMATION>
<DISPLAY SETUP>
<DOME CAMERA SETUP >
<ALARM SETUP>
<SYSTEM INITIALIZE>

EXIT

  UP AND DOWN TO SELECT
  OPEN ENTER ,CLOSE EXIT
```
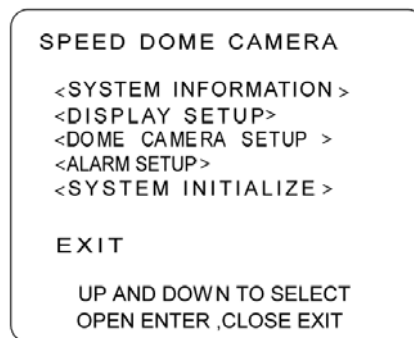
- System Information   Displays system information and configuration.

- 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
```
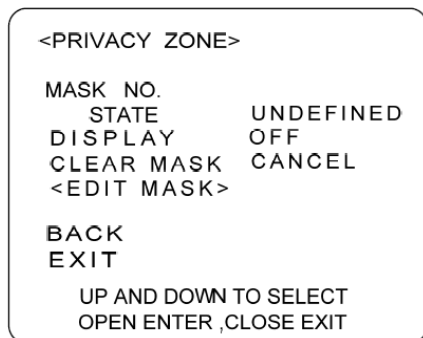
Select area in image to mask.

● 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.

```
                180.5/50.0/NW
OPEN PTZ ,OPEN CONFIRM
```
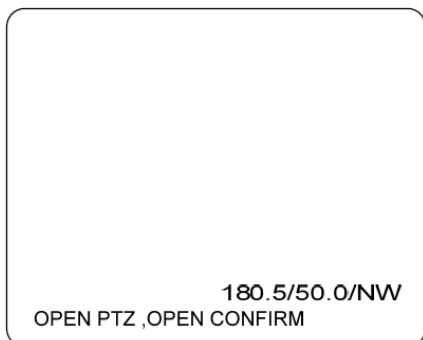
■ Privacy Zone Area Setup

<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.

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

OPEN CONFIRM
```
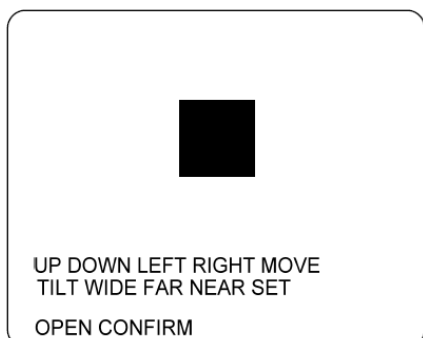
■ Privacy Zone Size Adjustment

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

size.

● ◄ ► (TILT/WIDE)   Adjusts mask width.

● ▲ ▼(FAR/NEAR)   Adjusts mask height.

►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

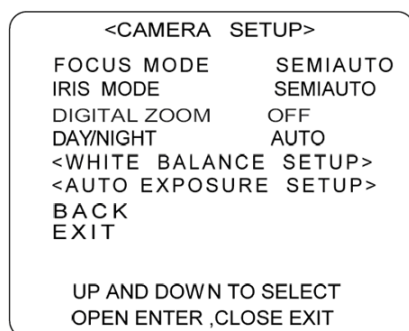● Focus Mode [AUTO/MANUAL/SEMIAUTO]

　　　　　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
```
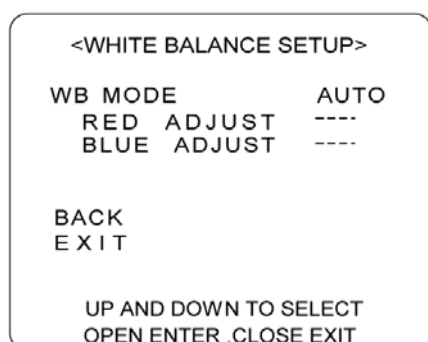
■ **White Balance Setup**

<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 OOO
BACK
EXIT
   UP AND DOWN 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   [1º /sec~300º /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>


WAIT TIME        005
PARK ACTION   NOTHING
BACK
EXIT




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

■ 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

```
        <PRESET SETUP>

PRESET NO.         001
    STATE         DEFINED
CLR PRESET        CANCEL
CLR ALL PRESET    CANCEL
<EDIT SCENE>
<EDIT LABEL>
BACK
EXIT

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

<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 PositionSet 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
                  form 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
B A C K
E X I T

   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
B A C K
E X I T
    UP AND DOWN TO SELECT
    OPEN ENTER ,CLOSE EXIT
```

<Dome Camera Setup>→<Group Setup>

● Croup 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 [20~60ºC]

Ex) If set start fan is 30ºC, the dome will start fan when above 30ºC, and it will stop to fan when temperature is lower than set value 5ºC.

● Start Heater [-20~10ºC]

Ex) If set start fan is -10ºC, the dome will start heat when above -10ºC, and it will stop to heat when temperature is higher than set value 5ºC.

▋▋ 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
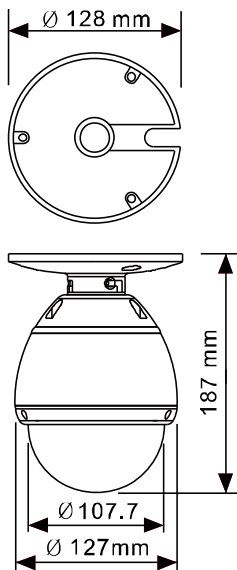
■ Initial Configuration Table

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
Motion Configuration		AGC	HIGH
Motion Lock	OFF	SSNR	MID DLE
Power Up Action	NOTHING	SENS-UP	ON
Auto Flip	OFF	**User Edit Data**	
Jog Max Speed	300º/sec	Preset 1~128	Undefined
Jog Direction	NORMAL	Swing 1~8	Undefined
Freeze In Preset	OFF	Pattern 1~4	Undefined
Park Action	NOTHING	Group 1~8	Undefined

Specifications

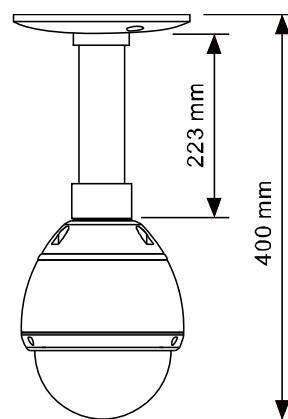| Type	Mini	External mini
Video Signal System	NTSC / PAL	
CCD	1/4" Interline Transfer CCD	
Max. Pixels	NTSC: 811(H)×508(V)410K / PAL: 795(H)×596(V)470K	
Effective Pixels	NTSC: 768(H)×494(V)380K / PAL: 752(H)×582(V)440K	
Horizontal Res.	560 TV Line(Color), 680 TV Line(B/W)	
S/N	Ration 52 dB (AGC Off)	
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

Ø 128 mm

Ø 107.7

Ø 127 mm

187 mm

► Pendant Bracket

223 mm

400 mm

►ARM Type Wall Mount Bracket

200.7 mm

204.4 mm

118

136

80

162.3 mm

136 mm

►L Type Wall Mount Bracket

130 mm

190 mm

180 mm

140 mm

Unit(mm)