

USER MANUAL

# Wide Dynamic Slim Dome Camera



• DSF120PX



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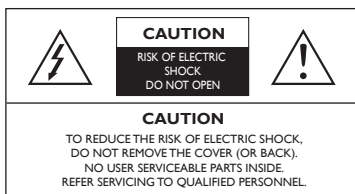
[www.geniecctv.com](http://www.geniecctv.com)



Please read this manual carefully before installation and operation of the product.

## Dear Customer

By selecting this product, you have chosen to use a professional camera that guarantees high quality and reliability. We would like to thank you very much for your confidence and request that you read the following instructions carefully before installation and operation. You can then take full advantage of all the advanced features of this product.



The lighting flash with an arrowhead symbol, within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

## INFORMATION

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

## WARNING

Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

## CAUTION – To prevent electric shock and the risk of fire hazards

\*Do NOT use a power source other than that specified.

This installation should be made by a qualified service person and should conform to all local codes.

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## 1. Precautions

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- Please read the manual carefully before the installation in order to make use the camera to be set up correctly and to have the best picture quality.
- Please keep the manual in good condition for your future reference and service application.
- Installation and services should only be carried out by an authorized personnel according to local safety regulations.
- If any liquid or solid matter gets into the housing, immediately disconnect the camera from power supply and have it checked by your authorized dealer before reusing.
- Avoid installing the camera at extremely hot or cold places.
- If you are not a certified person, never try to dismantle the camera. To avoid electric shock, never remove the screws or covers. There are no parts inside that need maintenance by the user. All maintenance should be carried by qualified personnel.
- Avoid installing the camera at a place of high humidity.
- Avoid installing the camera at the place exposed to gas or oil.
- Keep the top glass of the lens always clean in order to obtain the best picture quality all the time. Be careful not to be stained by fingerprint.
- Please give a special attention to keep the unit from dangerous drop or external shock during the process of transportation or handling.
- Never try to touch the camera in wet hand. It may cause an electric shock.
- Do not expose the camera to radioactivity. It causes a serious damage on the sensor.

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## 2. Limitation of liability

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This publication is provided "AS IS" without warranty of any kind, either express or implied, including but not limited to, the implied warranties of merchantability, fitness for any particular purpose, or noninfringement of the third party's right. This publication could include technical inaccuracies or typographical errors. Changes are added to the information herein, at any time, for the improvements of this publication and/or the corresponding product(s).

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## 3. Disclaimer of warranty

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In no event shall seller be liable to any party or any person, except for replacement or reasonable maintenance of the product, for the cases, including but not limited to below :

- (1) Any damage and loss, including without limitation, direct or indirect, special, consequential or exemplary, arising out of or relating to the product;
- (2) Personal injury or any damage caused by inappropriate use or negligent operation of the user;
- (3) unauthorized disassemble, repair or modification of the product by the user;
- (4) Inconvenience or any loss arising when images are not displayed, due to any reason or cause including any failure or problem of the product;
- (5) Any problem, consequential inconvenience, or loss or damage, arising out of the system combined by the devices of third party.
- (6) Any claim or action for damages, brought by any person or organization being photogenic subject, due to violation of privacy with the result of that surveillance-camera's picture, including saved data, for some reason, becomes public or is used for the purpose other than surveillance.

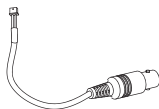
## 4. Package



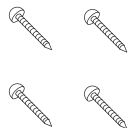
Wide Dynamic  
Slim Dome Camera IEA



Instruction manual  
IEA



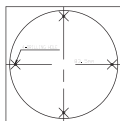
Extra Video output cable  
IEA



Tapping screws  
4EA



Plastic anchor  
4EA

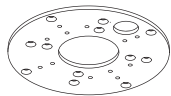


Drilling template  
IEA

[Option]



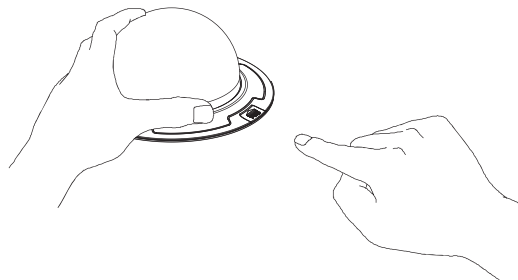
Fixed Screws  
4EA



Adaptor plate  
IEA

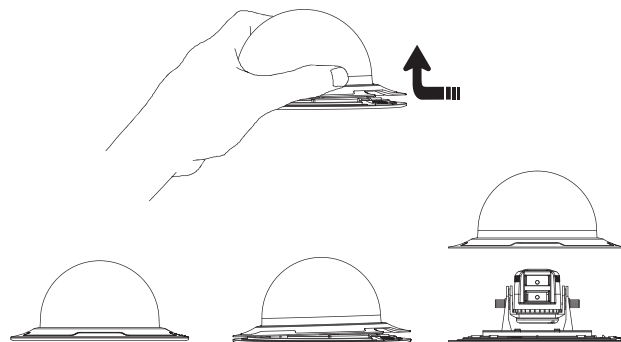
## 5. Installation

### 5-1. Opening the dome



- ① Push the Push Button forward on the Dome Cover.  
(Take off a transparent vinyl on dome curvature when installation)

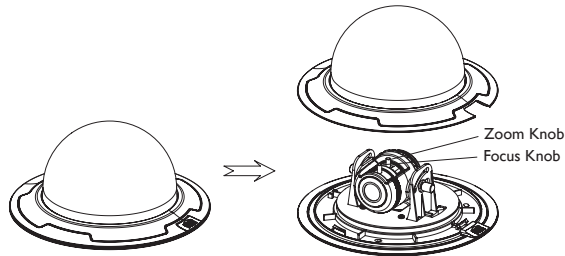
### 5-2. Removing the dome



- ① Pushing the Button forward, unfastens the lock.  
In order to unfasten the forward lock with the Push Button, grasp the dome bubble and take this off, and the cover, by pulling out backward and upward.

## 5. Installation

### 5-3. Varifocal Lens adjustment



- ① Open dome bubble and cover as 5-1 & 5-2.
- ② Unfasten Tilt Locking Lever by turning counter clockwise and adjust Camera to wanted location. And then, fasten Tilt Locking Lever tightly by turning clockwise.
- ③ Adjust focus using Tele-Wide & Near-Far Knob.
- ④ Zoom
  - Unlock the zoom lever by turning counter clockwise.
  - Move the lever to adjust the zoom.
  - Lock the lever by turning clockwise.
- ⑤ Focus
  - Unlock the focus lever by turning counter clockwise.
  - Move the lever to adjust the focus.
  - Lock the lever by turning clockwise.

### 5-4. Tool-free 3-Axis mounting mechanism

Perfect Tri-axis

- Panning axis up to 360° degree
- Tilting axis up to 90° degree
- Rotation axis up to 180° degree

a. Panning 360°

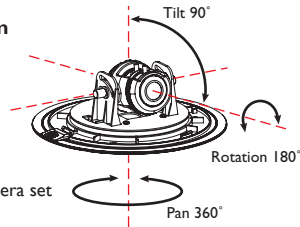
Pan Camera Set by turning post which is a camera set holder.

b. Tilting 90°

Tilt Camera Set by turning Tilt Locking Lever.

c. Rotation 180°

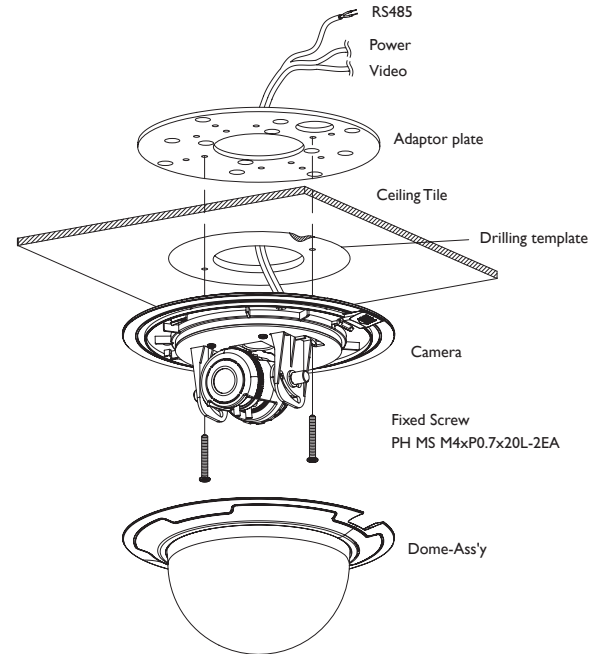
Rotate Camera set by grasping and turning the serration in the front of the camera.



## 5. Installation

### 5-5. Installation overview

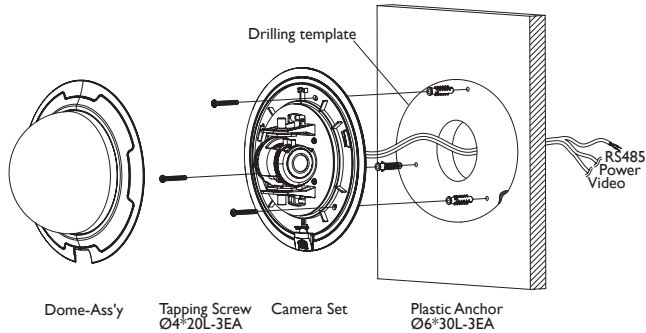
#### (I) Ceiling mount



- ① Drill holes on the ceiling after doing paste a drilling template to wanted spot.
- ② Put Fixed Screws supplied in the screw hole on the Dome Base and penetrate drilling holes on the Ceiling Tile. And then, assemble them to the holes on the Adaptor Plate.
- ③ After fixing the location of the Camera, push the Dome Ass'y (Dome Bubble and Cover) to the Dome Base.

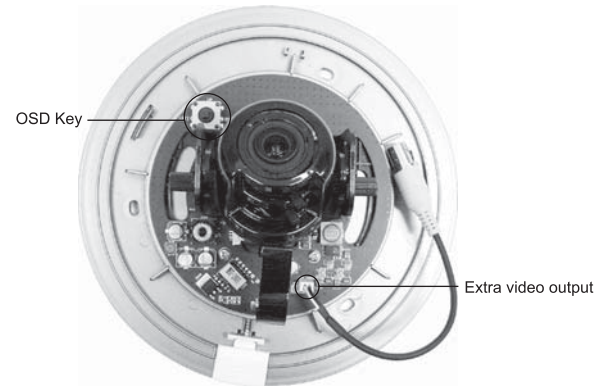
## 5. Installation

### (2) Wall or Slope mount



- ① Drill holes on the wall after pasting a drilling template to the desired position.
- ② Fix Plastic Anchors in the holes.
- ③ Fix the Dome Base to the wall using self-tapping Screws supplied.
- ④ After fixing the location of the Camera push the Dome Ass'y (Dome Bubble and Cover) to the Dome Base.

## 6. Name and function of each part



## 7. State-of-the-art image enhance technologies

### 7-1. Powerful Wide Dynamic range



Conventional CCD cameras are unable to process images with simultaneously bright and dark areas, even with BLC. However, this unit utilises a Pixim WDR digital imaging device and can do this, as in the above picture. It's suitable for bright, bright reflecting areas & locations with lots of windows, such as Banks, Airports etc.



When conventional CCD cameras face directly toward strong light there are smear and blooming effects on the picture. However, this unit with its Pixim WDR digital imaging device provides clear subject recognition without such artifacts.

## 7. State-of-the-art image enhance technologies

### 7-2. Maximum sensitivity with the best sensor and the latest technology



Using the latest Pixim WDR sensor, this unit provides the highest light sensitivity of 0.03 Lux/F1.4 (DSS On). In addition, the built-in Day/Night function completely removes the colour signal noises for an ultra clear night time image quality.

### 7-3. Wide range of Automatic White Balance (2,000°K~ 11,000°K)



Automatic White Balance of this unit provides an extensive range of colour temperature control that covers from 2,000°K to 11,000°K, generating a natural colour image without being red or blue in varying light conditions.

### 7-4. Sens-up



The DSS function means the camera can display bright images even in extreme darkness.

Important Tips : Sensitivity can be much more improved when <DSS> is set 2x ~ 32 x.

Caution :When DSS is adjusted to more than 8 times(8x), the picture becomes brighter but the frame rate becomes slower resulting in the picture being displayed in slow motion.

## 8. Other features

### 8-1. Camera ID setting

Users can use the camera identification (Camera ID) to assign a name of the camera. The camera ID consists of up to 11 characters.

### 8-2. Privacy zone masking



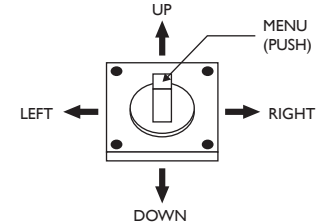
When the unit is observing a wide area, the captured image can be masked for privacy purposes. Users can easily configure the size and position of the required privacy zones.

### 8-3. Dual switching power (w/Auto Line-lock)

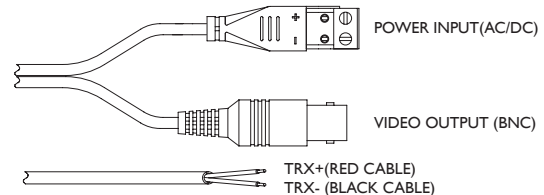
The unit builds in highly efficient switching power control that self configures 12VDC or 24VAC input and 24VAC line pulse automatically (Automatic line-lock). Double insulated power design guarantees no ground loop when used with multiple cameras and system equipment together through one power source.

## 9. OSD Key

### 9-1. Setting up the Menu



### 9-2. Cable Connection



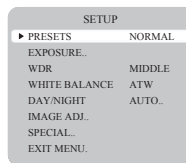
## 10. How to operate key functions

### 10-1. Menu

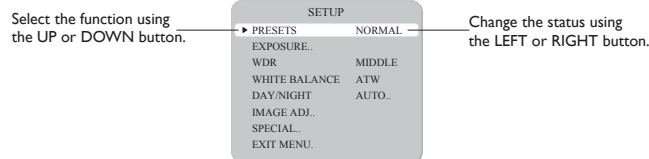
SETUP menu			
PRESETS	· NORMAL	· INDOOR	· OUTDOOR
EXPOSURE	· LENS · EXPOSURE MODE · DNR · COLOR ROLL	· FOCUS · AGC · HIGHLIGHT · SENS-UP	
WDR	· MIDDLE · LOW	· HIGH	· USER
WHITE BALANCE	· ATW · AWB	· INDOOR · MANUAL	· OUTDOOR
DAY/NIGHT	· AUTO	· COLOR	· BW
IMAGE ADJ	· FREEZE · COLOR GAIN	· FLIP · GAMMA	· SHARPNESS
SPECIAL	· CAMERA ID · MOTION · RS485 SETUP	· VIDEO OUT · PRIVACY SETUP · RESET	· DZOOM · SYNC · RETURN
EXIT MENU			

## 10. How to operate key functions

### 10-2. Settings



1. Press the SET button
  - Settings can now be made. The SETUP menu is displayed on the monitor.
2. Select a menu item from the list available by using the UP and DOWN buttons.
  - Functions are selected using up and down buttons.
  - The selected position is displayed in blue.



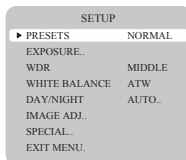
3. Set up a selected item by using the Left and Right buttons.
4. To finish and save the settings, select 'EXIT MENU' and press the SET button.



#### Note

- An item with the .. icon also has sub-menus. To select a sub-menu, press the SET button.

#### ■ PRESETS

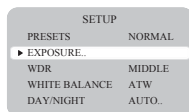


- **NORMAL** : Normal environment.
- **INDOOR** : Indoor environment.
- **OUTDOOR** : Outdoor environment.

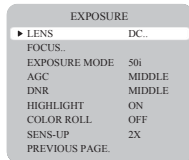


## 10. How to operate key functions

### ■ EXPOSURE



When the SETUP menu screen is displayed, select 'EXPOSURE' by using the Up and Down buttons so that the arrow indicates 'EXPOSURE'.



- DC / Manual : Select Lens Type

- LENS : To adjust the DC and VIDEO lens focus.

- EXPOSURE MODE : To select the number of fields and number of exposure cycles.

- 50i /25p selectable

- AGC (AUTO GAIN CONTROL) :

In dark environments, the higher the gain level, the brighter the screen but the higher the noise.

- OFF / LOW / MIDDLE / HIGH selectable

- DNR (Digital Noise Reduction) :

The level of background noise in low light decreases automatically as the level of gain changes.

- OFF / LOW / MIDDLE / HIGH selectable

- HIGHLIGHT : To optimise the scene when high dynamic range lighting is detected.

- ON : bright parts of the image are most visible.
- OFF : dark parts of the image are most visible.

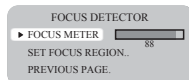
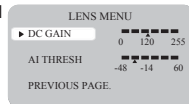
- COLOR ROLL : To control a detector that finds colour fluorescent roll.

- OFF / LOW / MIDDLE / HIGH selectable

- SENS-UP : When it is night or dark, the camera automatically detects the light level and maintains a clear picture if this mode is activated.

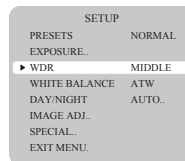
- 2X, 4X, 8X, 16X, 32X

- OFF : Deactivates the SENS-UP function.



## 10. How to operate key functions

### ■ WDR



- WDR : When the image has simultaneous bright and dark areas, the Wide Dynamic Range makes both areas distinct.

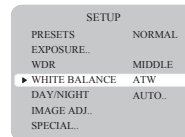
- LOW / MIDDLE / HIGH / USER selectable

### ■ WHITE BALANCE

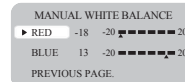
Use the White Balance function to adjust the screen colours.

1. Position the cursor to point to WHITE BAL on the SETUP menu screen, select using the Up and Down buttons.
2. Select the desired mode using the Left and Right buttons.

※ Select one of the following 5 modes, as appropriate.



- ATW : The ATW mode continuously monitors.
- INDOOR : Select when the colour temperature is between 4000°K and 8500°K
- OUTDOOR : Select when the colour temperature is between 2000°K and 11000°K
- AWB : To obtain the optimum state under the current luminance levels, direct the camera to point toward a sheet of white paper and press the SET button. If the environment changes, including the light source, the white balance will require re-adjustment.
- MANUAL : Select to "fine-tune" the White Balance manually. Set White Balance first using the ATW or AWB mode. Afterwards switch to MANUAL mode, fine-tune the White Balance and then press the SET button.

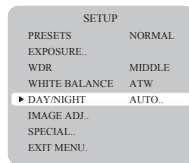


### Note

- Under the following conditions White Balance may not work properly. In such cases, select the AWC mode.
  - ① When the colour temperature of the subject environment has a very high temperature range (e.g. clear sky, or sunset)
  - ② When the ambient illumination of the subject is low.
  - ③ If the camera is directed toward a fluorescent light, or is installed in a place where illumination changes dramatically, the White Balance operation may become unstable.

## 10. How to operate key functions

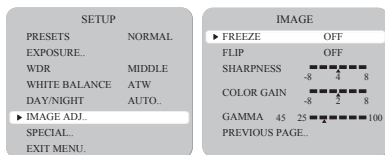
### ■ DAY/NIGHT



- **AUTO** : This camera has an IR Cut-Filter and automatically changes to the appropriate mode according to lighting levels. To set up the switching time for the AUTO mode press the SET button.
- **COLOR** : The picture is displayed in colour.
- **B/W** : The picture is always displayed in black and white.

### ■ IMAGE ADJ

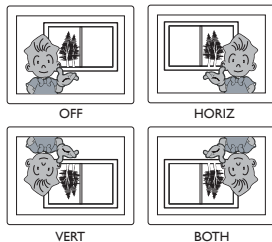
When the SETUP menu screen is displayed, select 'IMAGE ADJ' using the Up and Down buttons.



- **FREEZE** :View still pictures.

• OFF / ON selectable

- **FLIP** : OFF / HORIZ / VERT / BOTH selectable



- **SHARPNESS** :The outline of the video image becomes cleaner and more distinctive as the level of SHARPNESS increases. If the level goes up excessively, however, it may affect the video image and generate noise.

• The available range of level is -8 ~ 8

- **COLOR GAIN** : To control the colour level in the video.

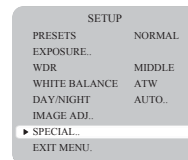
• The available range of level is -8 ~ 8

- **GAMMA** : Users can change the gamma setting between 25 and 100

## 10. How to operate key functions

### ■ SPECIAL

When the SETUP menu screen is displayed, select 'SPECIAL' by using the Up and Down buttons so that the arrow indicates 'SPECIAL'.

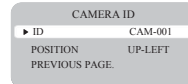
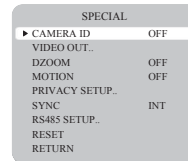


- **CAMERA ID** : User can enter a unique name for the respective camera. The maximum length of the ID is ten characters.

• You can choose the ON and OFF with the selector. If you select ON, the entered camera ID is displayed at the selected position in the video picture (normal operation).

• Please select the setup button while in On mode.

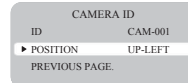
• Select the desired position with the selector.



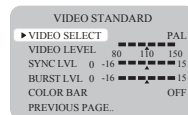
• Move the cursor to the letter required by using the Set-Up button.

• Select an ID from A,B~Y,Z, a,b~y,z, 0,1~8,9 by using the LEFT and RIGHT buttons.

• Repeat the above steps until the ID is complete.



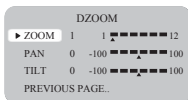
• Select the position where the ID is to be displayed by using the LEFT and RIGHT buttons.



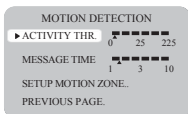
- **VIDEO OUT** : Move the cursor to select the video system

• **VIDEO STANDARD** :You can control NTSC / PAL, Video level, Sync level, Burst level.

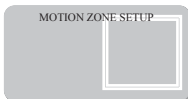
## 10. How to operate key functions



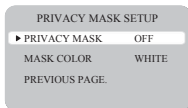
- **DZOOM** : Digital P/T/Z are used to create a zoom lens effect.  
Zoom Factor (1X to 4X),  
Pan (±100%, center of image can be moved to left and right edges of screen),  
Tilt (±100%, center of image can be moved to top and bottom edges of screen)



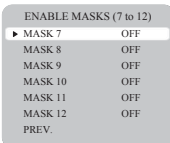
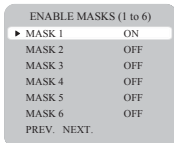
- **MOTION** : This product has a feature that allows you to observe movements of objects in on the screen, hence a single individual can conduct supervision efficiently.  
The camera detects an object's movement by sensing disparity of outline, and level of brightness and colour.



- White : MOTION ZONE Position movement
- Green : MOTION ZONE Size enlargement
- Red : MOTION ZONE Size reduction
- For MOTION ZONE Confirm, long press SET button

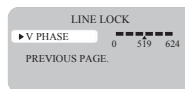


- **PRIVACY SETUP** : Hide an area you want to hide on the screen.



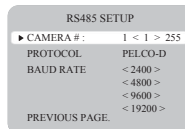
- White : PRIVACY-ZONE Position movement
- Blue : PRIVACY-ZONE Size enlargement or reduction
- For PRIVACY-ZONE Confirm, long press SET button

## 10. How to operate key functions



- **SYNC** : Two synchronisation modes are available, INTERNAL and EXTERNAL LINELOCK.  
In LINE-LOCK mode, it synchronises the video signal between cameras without a synchronous generator.  
The line-lock synchronisation is only used in areas of 60Hz (NTSC) / 50Hz (PAL).

- INT : Internal synchronisation
- LL : External line-lock synchronisation
  - If 'LL' is selected, it can be adjusted to the desired phase.  
Press the SET button.
  - Adjust to the desired phase from 0 to 624.



- **RS485 SETUP** : This function sets up the camera communication status when controlling the camera through an external control device.

- **RESET** : Resets the camera settings to the factory defaults.

### ■ EXIT MENU

Saves all the setting menus and then exits.

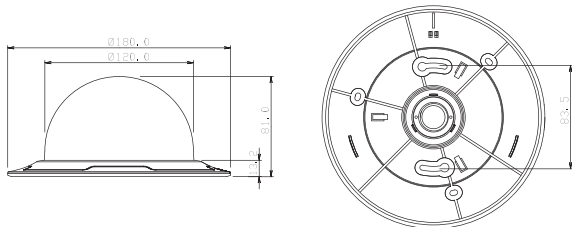
## 11. Trouble shooting guide

Before sending the camera back for repair, check the items below.

If the problem persists after checking these items, contact your distributor.

Problems	Troubleshooting
<b>Nothing appears on the screen.</b>	<ul style="list-style-type: none"> <li>• Check the power connections.</li> <li>• Check the video signal line connection.</li> </ul>
<b>The video image is not clear.</b>	<ul style="list-style-type: none"> <li>• Make sure the lens and dome cover are clean.</li> <li>- Dirt or fingerprints affect the image and can cause blooming or reflection. Gently wipe any dirt or fingerprints from the lens and dome using a soft cloth.</li> <li>• Check and adjust the monitor contrast.</li> </ul>
<b>The screen is dark.</b>	<ul style="list-style-type: none"> <li>• Check and adjust the monitor contrast.</li> <li>• If there is any intermediate equipment, check and set the Hi-z terminations correctly.</li> <li>• Check that the power supply is within specification.</li> <li>- If the power cable is too long, it may require a higher rated power supply or additional power or video amplification.</li> </ul>
<b>The camera's surface is too hot and black stripes appear on the screen.</b>	<ul style="list-style-type: none"> <li>• Check if the power supply is regulated and is within the standard requirement of the product.</li> </ul>
<b>Colours are not quite right.</b>	<ul style="list-style-type: none"> <li>• Check the &lt;white balance&gt; setting.</li> </ul>
<b>Weak power level.</b>	<ul style="list-style-type: none"> <li>• Check if the distance of the cable installation is too long, and the cable is UL standard. Using a low grade cable or a long distance cable installation can cause a serious voltage drop. Check the voltage output level at the cable and change the power source if necessary. Take special care not to supply too much power to the camera as this is equally damaging.</li> </ul>

## 12. Dimension (mm)



## 13. Specification

DSFI20PX	
<b>Image Sensor</b>	1/3" Pixim WDR digital imaging device
<b>Effective Pixels</b>	410,000 pixels 758(H) x 540(V)
<b>H.Resolution</b>	690 HTVL effective
<b>Sync System</b>	Internal
<b>Scanning System</b>	NTSC/PAL - compatible
<b>Video Output</b>	1.0Vp-p composite, 75 Ohms
<b>S/N Ratio</b>	More than 50 dB (AGC Off)
<b>Min. Illumination</b>	0.1Lux at F1.4 (DSS off), 0.01Lux at F1.4(DSS on)
<b>Noise Reduction</b>	3D DNR Motion Adaptive, 2D DNR(ON/OFF)
<b>Camera ID</b>	CAMI~CAM255 selectable by OSD
<b>Gamma Correction</b>	Standard r=0.45
<b>White balance</b>	2,000°K~11,000°K ATW / Indoor / Outdoor / AWB / MANUAL selectable by OSD
<b>Smear Effect</b>	0.005%
<b>Power Source</b>	12VDC, 12VDC/24VAC Dual Power
<b>Operating Current (Max)</b>	12VDC : 200mA, 12VDC/24VAC Dual Power : 300mA at 12VDC/150mA at 24VAC
<b>Lens</b>	3.3~12mm Varifocal Lens (F1.4)
<b>Operating Temperature</b>	14°F~122°F (-10°C~ + 50°C)
<b>Humidity</b>	Within 90% RH
<b>Measurement (mm)</b>	180(φ)x81(H)
<b>Weight (Approx.in grams)</b>	500g
<b>OSD MENU</b>	
<b>WDR</b>	Low/Middle/High/User(0~36)
<b>White balance</b>	ATW/AWC/MANUAL - User selectable
<b>Gain Control</b>	26dB/28dB/34dB/38dB/40dB/42dB/45dB/47dB/50dB/ selectable by OSD
<b>Sens-up</b>	Off/2x~32x(DSS)
<b>Day/Night</b>	Auto/Colour/BW

Specifications are subject to change without prior notice.