Before attempting to connect or operate this product, please read these instructions carefully and save this manual for future use.

The design and specifications are subject to be changed without prior notice to improve product’s quality.
The lightning 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.

**TO REDUCE THE RISK OF ELECTRIC SHOCK**
**DO NOT REMOVE COVER (OR BACK)**
**NO USER SERVICEABLE PARTS INSIDE**
**REFER SERVICING TO QUALIFIED SERVICE PERSONNEL**

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 product.

**FCC WARNING** - This equipment may generate or use radio frequency energy. Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual. The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

**REGULATORY INFORMATION : FCC Part 15**
This equipment has been tested and found to comply with the 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.

- A suitable conduit entries, knock-outs or glands shall be provided in the cable entries of this product in the end use.
- Holes in metal, through which insulated wires pass, shall have smooth well rounded surfaces or shall be provided with brushings.

**WARNING** - Do not install this equipment in a confined space such as a bookcase or similar unit.

**WARNING** - Wiring methods shall be in accordance with the National Electric Code, ANSI/NFPA 70.

**WARNING** - This is a class A product. In a domestic environment this product may cause radio interference which may require the user to take adequate measures.

**WARNING** - To reduce a risk of fire or electric shock, do not expose this product to rain or moisture.

**CAUTION** - This installation should be made by a qualified service personel and should conform to all local codes.

**CAUTION** - To avoid electrocal shock, do not open the cabinet. Refer servicing to qualified personnel only.

**CAUTION** - The apparatus should not be exposed to water (dripping or splashing) and no objects filled with liquids, such as vases, should be placed on the apparatus.

**DISPOSAL OF YOUR OLD APPLIANCE**
1. When this crossed-out wheeled bin symbol is attached to a product it means the product is covered by the European Directive 2002/96/EC
2. All electrical and electronic products should be disposed of separately from the municipal waste stream via designated collection facilities appointed by the government or the local authorities
3. The correct disposal of your old appliance will help prevent potential negative consequences for the environment and human health
4. For more detailed information about disposal of your old appliance, please contact your city office, waste disposal service or the shop where you purchased the product.

To disconnect power from the mains, pull out the main cord plug. When installing the product, ensure that the plug is easily accessible.
1. Read these instructions - All these safety and operating instructions should be read before the product is operated.

2. Keep these instructions - The safety, operating and user instructions should be retained for future reference.

3. Heed all warnings - All warnings on the product and in the operating instructions should be adhered to.

4. Follow all instructions - All operating and user instructions should be followed.

5. Do not use this apparatus near water - For example: near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement, near a swimming pool, etc.

6. Clean only with dry cloth - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners.

7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions. - Slots and openings in the cabinet are provided for ventilation, to ensure reliable operation of the product, and to protect it from overheating. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided and the manufacturer’s instructions have been adhered to.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

9. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

10. Only use attachments/accessories specified by the manufacturer.

11. Unplug this apparatus during lightning storms or when unused for long periods of time.

12. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
FEATURES

1/1.8" Sony Global Shutter CMOS Image Sensor
Full HD Resolution
1920x1080p / 60fps(50fps), 1920x1080p / 30fps(25fps)
1280x720p / 60fps(50fps), 1280x720p / 30fps(25fps)
DNR (Digital Noise Reduction, 2D+3D)
DSS (Digital Slow Shutter)
Defog Function
HLC (High Light Compensation)
Privacy mask Function
On Screen Display
Network, HD-SDI, EX-SDI, CVBS video output
C/CS mount lens & DC Iris lens applicable
AD Key port for wired remote controller
Remote control via RS-485
Supports External trigger input and Strobe output
PACKAGE COMPONENTS

- DC 12V CABLE
- SERVICE OUT
- BNC CABLE
- 2P 6P Terminal Block
- C-MOUNT RING
- MANUAL

[Optional Remote Controller]
- Up/Down
- Pan / Tilt
- Menu / Set
- Wide / Zoom
- Near / Left

SYSTEM CONFIGURATION

- DVR/NVR
- Keyboard
- VIDEO
  - (HD-SDI, CVBS)
  - VIDEO
  - RS485
  - RS485

- TV Monitor
**PART NAMES AND FUNCTIONS**

1. **Lens mount cap**
   - The cap is installed to protect the lens mount section. Remove the lens mount cap before installing a lens. (sold separately)

2. **Camera installation bracket**
   - The bracket can be fixed at the top or bottom of the camera.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1]</td>
<td>IEEE802.3af PoE/LAN</td>
</tr>
<tr>
<td>[3]</td>
<td>IP RESET</td>
</tr>
<tr>
<td>[4]</td>
<td>CVBS Out</td>
</tr>
<tr>
<td>[5]</td>
<td>Power : DC12V</td>
</tr>
<tr>
<td>[6]</td>
<td>Control Terminal</td>
</tr>
<tr>
<td>[7]</td>
<td>Power LED</td>
</tr>
<tr>
<td>[8]</td>
<td>AD Key : OSD Control</td>
</tr>
<tr>
<td>[9]</td>
<td>DC Auto IRIS Control</td>
</tr>
</tbody>
</table>

---

**DIAGRAM**

- [Part 1: Lens mount cap]
- [Part 2: Camera installation bracket]
Basic connection
The peripheral devices (DVR, monitor, lens, etc), DC adaptor and cables are not supplied.

1. Connecting the monitor.
Make the video signal connection between the camera and the monitor or DVR/NVR.

2. Use a commercially available DC12V adaptor.
Connect DC 12V power source to the DC 12V input terminal or using 802.3af PoE power with network connection.

3. Insert the plug of this power cord into a wall outlet.
The POWER indicator will light. Adjust the picture on the monitor using the Brightness and Contrast controls etc.

Connect video output (BNC / LAN) to the monitor or PC or NVR.

RS-485 COMMUNICATION
Connect to an external controller of RS-485 format.
Note: Use a relay unit if the voltage or current of the connected device exceeds the ratings.

OPTD : External trigger input and stobe output.

<table>
<thead>
<tr>
<th>PIN</th>
<th>Signal Name</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Trigger Input</td>
<td>Anode of opto coupler(*)</td>
</tr>
<tr>
<td>G</td>
<td>Trigger/Strobe Return</td>
<td>Cathode of opto coupler</td>
</tr>
<tr>
<td>O</td>
<td>Strobe Out</td>
<td>Open Collector of opto coupler</td>
</tr>
</tbody>
</table>

(*) Serial resistors 375Ω inside camera
※ The recommended termination circuitry is drawn below:
- A current of 2.5mA is recommended for the strobe output.
- For the trigger input a current of 10mA is recommended.
1. Remove the lens mount cap from the camera.

2. Install the auto-iris lens.
   **CS Mount Lens**
   Install the CS Mount Lens by attaching the lens straight to the camera lens holder then slowly turn the lens until it is in place.

3. Connect the lens plug to the lens iris output connector (LENS) on the rear of the camera.
   When using lenses from other makers, the plug shape may not correspond to the terminal on the camera.
   In such a case, remove the original plug and using a soldering iron, connect a lens iris plug according to the diagram. (Refer to next page.)

### Pin layout for the lens iris output connector

<table>
<thead>
<tr>
<th>No.</th>
<th>DC type lenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Damping -</td>
</tr>
<tr>
<td>2</td>
<td>Damping +</td>
</tr>
<tr>
<td>3</td>
<td>Drive +</td>
</tr>
<tr>
<td>4</td>
<td>Drive -</td>
</tr>
</tbody>
</table>

### Rewire the lens iris plug

1. Cut off the plug of the lens cable, cut off approximately 8mm of the insulation, and then strip approximately 2mm of the ends of the cable sheaths.

2. Solder the ends of the cable wires to the ends of the pins, and then attach the cover of the lens iris plug.
FLANGE-BACK ADJUSTMENT

The adjustment is required only when a lens without focus-adjusting mechanism is mounted, or when a lens with adjusting mechanism is mounted and focus that is more accurate is needed.

1. With the included Wrench unscrew the Set Screws on the right and bottom of the camera.
2. Adjust the focus while watching the video by adjusting the Mount Adapter.
3. After adjusting to the desired focus level use the included Wrench to fasten the Set Screws.

Note:
The object may be out of focus when using a source of near-infrared light than using the visible light.

WRENCH
M2 SET SCREW
MOUNT ADAPTER

This camera utilizes an on-screen user MENU. To set items on the menu, use the remote controller.

Tele(Up) button : Zoom in, Tele (Moves the cursor upwards. Use this button to select an item or adjust the parameters.)
Wide(Down) button : Zoom out, Wide (Moves the cursor downwards. Use this button to select an item or adjust the parameters.)
Far(Right) button : Adjust focus in Manual Mode (Moves the cursor to the right. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.)
Near(Left) button : Adjust focus in Manual Mode (Moves the cursor to the left. Use this button to select or adjust the parameters of the selected item. The parameter changes each time this button is pressed.)
Set button : Executes selections and displays a submenu for an item with the \[\] mark.
Setting IP address
Using NVTManagement enables to set network settings.

1. Execute NVTManagement.  2. Setting IP address
• Double click NVTManagement.exe
  • Click NVT Scan button to find IP cameras than select the camera.
  • Input IP address, net mask, gateway and name server address than click Apply button.
  • If you have any network information about your network, please ask to your network administrator.

3. Access the camera using web browser.

※ Please contact your vendor for the Login IP&Password.

4. Camera setting
4. 1 Go to setting menu as below.
4. 2 Click Video Source.
4. 3 Go to Camera Control section.

Click Enter button to call OSD menu.
Adjust camera setting using OSD menu.
For more information, please refer the following OSD setting manual.
Camera menu is subject to be changed without prior notice to upgrade and quality increase and we may use slip sheet for the change. Please check the camera version and the slip sheet if the camera menu and this manual menu is not matched.

MAIN MENU

Functions can be setup using “Menu Key Command” of Visca protocol. The menu consists of the “Main Menu” and “Sub Menu”. The main menu is displayed where 7 camera functions can be selected. To the push of each main menu selection, the sub-menu is displayed.

If you want save the menu, select [SAVE]
If you want not save the menu, select [EXIT]
(After select, Power off → on)
If you want default the menu, select [DFLT]

※ In case of M(Monochrome) model, color related menu items will not be supported.

This ‘TRIGGER’ menu should set the ‘MODE’ of the ‘EXPOSURE’ menu to ‘MANUAL’

- Trigger Mode : Select trigger mode ► FreeRun / ExtTrig
  - FreeRun : Continuous image output mode
  - ExtTrig : External trigger synchronous image output mode
- TrigIn Polari : Trigger Input Polarity ► OFF / ON
- StrOut Polari : Strobe Output Polarity ► OFF / ON
- ExtTrig Delay : External Trigger Delay ► 0 ~ 255 steps ► 1step = 1ms
- Strobe Delay : Strobe Output Delay
  ► 1 ~ 29 steps : FreeRun Mode (@ 30fps) ► 1step = 1ms
  ► 0 ~ 255 steps : Trigger Mode ► 1step = 1ms
- Strobe Width : Strobe Output Width
  ► 1 ~ 33 steps : FreeRun Mode (@ 30fps) ► 1step = 1ms
  ► 1 ~ 255 steps : Trigger Mode ► 1step = 1ms
Timing Chart : FreeRun Mode

- Strobe Out Polari (OFF)
- Strobe Delay
- Strobe Width

Frame 1 Data

Frame 2 Exposure Time

Timing Chart : Ext. Trig Mode

- Strobe Out Polari (OFF)
- Strobe Delay
- Strobe Width

Ext. Trip Delay

Frame Exposure Start

Frame Data

Strobe Out Polari (ON)

(FreeRun Mode)
**EXPOSURE**

**LENS**
- Select LENS type
  - DC / MANUAL
  - DC lens mode: Include IRIS
  - Manual lens mode: Except IRIS

**MODE**
- Select AE type
  - AUTO / SHUTTER.PRIORITY / MANUAL

**AGC**
- Select Auto Gain Control
  - OFF / ON
  - Manual Gain
    - Analog gain: 0dB, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 27dB
    - Digital gain: d3X,5,7,9,11,13,15,17,19,21,23,25,27,29,31,d33X
    - ISP gain: PG 1

**SHUT SPEED**
- Can be set in SHUT.P or MANUAL
  - Manual Shutter Speed
    - * 30 / 25 fps mode
    - 1/30(25), 1/60(50), 1/120(100), 1/180(150), 1/240(200), 1/300(250), 1/500, 1/1000, 1/2000, 1/5000, 1/10000 sec

**DSS**
- Select maximum DSS(Digital Slow Shutter)
  - * 30 / 25 fps mode
    - OFF / x2, x3, x4, x5, x6, x7, x8, x9, x10, x12, x15

**FLICKERLESS**
- Select Flickerless mode
  - OFF / ON (remove screen flicker)

**BRIGHTNESS**
- Adjust brightness level
  - 0(dark) ~ 20(bright) steps

**BLC**
- Select BLC(Back Light compensation)
  - OFF / ON
  - AUTO / SHUTTER.PRIORITY / MANUAL
  - OFF / ON
  - Manual Gain
  - Analog gain: 0dB, 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 27dB
  - Digital gain: d3X,5,7,9,11,13,15,17,19,21,23,25,27,29,31,d33X
  - ISP gain: PG 1

**POSITION**
- Adjust the window position

**SIZE**
- Adjust the window size

* Can’t use MD&PM, HLC and BLC at the same time.
  - (When MD&PM, HLC On, BLC is Off. And when BLC is On, others is Off)
WHITE BALANCE

AWB : Select WHITE BALANCE mode
  ▶ AUTO / ONE PUSH - / MANUAL / INDOOR / OUTDOOR
  ▶ AUTO : Automatically adjusts color according to the available lighting.
  ▶ ONE PUSH : It is a fixed white balance mode that may be automatically readjusted only by pressing ONE PUSH
  ▶ MANUAL - : Color can be corrected when the user increases or decreases "RED GAIN" or "BLUE GAIN".
  ▶ INDOOR : Set color temperature to be Indoor light (3700°K)
  ▶ OUTDOOR : Set color temperature to be Outdoor light (5100°K)
  ▶ RED GAIN : Adjust R gain value ► 0 ~ 20 steps
  ▶ BLUE GAIN : Adjust B gain value ► 0 ~ 20 steps
  ▶ CHROMA : Adjust CHROMA gain value ► 0 ~ 20 steps
  ▶ HUE : Adjust HUE gain value ► 0 ~ 20 steps

HLC : Select High Light Compensation.
When extremely bright light is projected to the camera masking is used on the portion to prevent partial saturation on the monitor.
  ▶ MODE : OFF / ON : LEVEL : 0 ~ 20 steps
  ▶ POSITION : Adjust the window position ▶ SIZE : Adjust the window size
  ※ Can’t use MD&PM, HLC and BLC at the same time.
  (When MD&PM, HLC On, BLC is Off. And when BLC is On, others is Off)

DNR : Select Digital Noise Reduction
  ▶ OFF / 2D / 3D / 2D+3D
  ▶ LEVEL : AUTO / LOW / MIDDLE / HIGH
**IMAGE**

- **MIRROR**: Select a flip mode
  - OFF / H / V / H&V
  - H: You can flip the picture horizontally on the screen
  - V: You can flip the picture vertically on the screen
  - H&V: You can flip the picture horizontally & vertically on the screen
- **SHARPNESS**: Adjust sharpness level
  - 0 ~ 10 steps
- **ACE**: Select Digital WDR (Wide Dynamic Range)
  - OFF / MANUAL
  - LEVEL: 0 ~ 11 steps
- **DEFOG**: Carry out defog function
  - OFF / MANUAL
  - LEVEL: 0 ~ 11 steps
- **SHARPNESS**: Adjust sharpness level
- **FREEZE**: Select real or still mode
  - OFF / ON
- **GAMMA**: Select GAMMA
  - 0.45 / 0.55 / 0.65 / 0.75
- **E.ZOOM**: Select E.ZOOM
  - OFF / ON
  - LIMIT: Max x1.0 ~ x6.0
  - POSITION: Select maximum digital zoom magnification.

**INTELLIGENCE**

- **PRIVACY**: Hide an area you want to hide on the screen
  - OFF / ON
    - MASK#: Select mask area number (1 ~ 8)
    - MODE: Mask enable or disable (OFF / ON)
    - POSITION: Adjust the mask position
    - SIZE: Adjust the mask size
    - COLOR: Select mask color (0 ~ 14)
INTELLIGENCE

- **MOTION**: When there is movement of the subject in the screen, there will be a motion detection
  - OFF / ON
  - AREA#: Setting 4 areas (1~4) of motion detection
  - MODE: OFF / ON (Limit and define areas of motion detection)
  - AREA DISPLAY: OFF / ON (Event areas of motion detection)
  - POSITION: Adjust the Area position
  - SIZE: Adjust the Area size
  - MOTION VIEW: Show the detection event
  - SENSITIVITY: Adjust sensitivity of MD (0 ~ 35 steps)
  - INTERVAL TIME: Select the alarm interval time of Motion Detection Out (0 ~ 255sec)
  - DWELL TIME: Select the duration time of Motion Detection Out about changing MD mode (0 ~ 255sec)
  - DIS: Select Digital Image Stabilizer mode
  - OFF / ON

- **LENS SHADING**: Improve light fall-off observed towards the edges of an images.
- **DEFECT**: Compensates for bad pixels that may occur. Occurs when the whole screen is in full black or if there is bad pixelation and it changes the THRS values until the screen is fixed.
- **SYSTEM**: Select NTSC(60/30fps) or PAL(50/25fps).
- **HD FORMAT**: Select Digital output (1080p 60/50/30/25fps, 720p 60/50/30/25fps)
- **EX-SDI**: Select EX-SDI mode.
  - OFF (HD-SDI) / 270M V1.0 / 135M V2.0
- **Out Select**: Select signal output
  - IP/SDI, IP/CVBS, SDI/IP, SDI/CVBS

SPECIAL FUNCTION

- **TRIGGER**
- **EXPOSURE**
- **WHITE BAL**
- **IMAGE**
- **INTELLIGENCE**
- **SPECIAL FUNC**
- **DISPLAY**
- [EXIT] [SAVE] [DFLT]

- **LENS SHADING**: Improve light fall-off observed towards the edges of an images.
- **DEFECT**: Compensates for bad pixels that may occur. Occurs when the whole screen is in full black or if there is bad pixelation and it changes the THRS values until the screen is fixed.
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  - OFF (HD-SDI) / 270M V1.0 / 135M V2.0
- **Out Select**: Select signal output
  - IP/SDI, IP/CVBS, SDI/IP, SDI/CVBS

※ CVBS ➔ BT.1120 mode change hotkeys are “Left-Left-Left-Right”
SPECIAL FUNCTION

- COMM / COMM IP: Set up the camera ID, baud rate, protocol
  - ID: Select the camera ID
    - 1 ~ 255
  - BAUD RATE: Select serial communication speed
    - 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200bps
  - PROTOCOL: Select operating protocol
    - VISCA / PELCO-D / PELCO-P

DISPLAY

- DISP SEL: Select display item.
  - OFF / ON
  - ID: OFF / ON
  - TITLE: OFF / ON
  - ZOOM RATIO: OFF / ON
  - SYSTEM MSG: OFF / ON (MD Alarm and Wait message)
- SET TITLE: Select camera title menu (Text edit – max 40 characters)
- INIT SEL: Select display initial message.
  - OFF / ON
  - ID: OFF / ON
  - BAUDRATE: OFF / ON
  - PROTOCOL: OFF / ON
  - VERSION: OFF / ON
  - INIT MSG: OFF / ON

COMM / COMM IP: Set up the camera ID, baud rate, protocol

<table>
<thead>
<tr>
<th>MODEL</th>
<th>D&amp;N</th>
<th>EXPOSURE</th>
<th>WHITE BAL</th>
<th>IMAGE</th>
<th>INTELLIGENCE</th>
<th>SPECIAL FUNC</th>
<th>DISPLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

[EXIT] [SAVE] [DFLT]
**DISPLAY**

- SET INIT MSG: modify initial message. (Text edit – max 40 characters)
- LANGUAGE: Select language.
- English / Simplified Chinese / Traditional Chinese / Japanese

* Character Table of Text edit Mode

| A B C D E F G H I J K L M N O P Q R S T U V W X Y Z a b c d e f g h i j k l m n o p q r s t u v w x y z | 0 1 2 3 4 5 6 7 8 9 + - = ! @ *
|---------------------------------------------------------------|

---

**SPECIFICATION**

- **Image Sensor**: 1/1.8" Sony Global Shutter CMOS Sensor
- **Total Pixels**: 2,064(H) x 1,554(V) = 3.21M Pixels
- **Recording pixels**: 1,920(H) x 1,080(V) = 2.07M Pixels
- **Scanning system**: Progressive Scan
- **Shutter Mode**: Global Shutter
- **Resolution**: Digital: 1080p/60(50), 1080p/30(25)fps, 720p/60(50)fps, 720p/30(25)fps
  - Analog: 700TVL
- **Min. Illumination**: Color(1/100s): TBD lux, Color DSS(1/7.5s): TBD lux
  - BW(1/30s): TBD lux, BW DSS(1/7.5s): TBD lux
- **Video Output**: HD: HD-SDI, EX-SDI / SD: CVBS (optional) / IP: H.265, H.264, MJPEG
- **Trigger Input**: Polarity / Programed
- **Strobe Out**: Polarity / Width / Delay
- **Lens**: DC / Manual
- **Lens Mount**: C/CS-Mount
- **Backlight**: 0 – 20 steps
- **Shutter Speed**: Auto / Manual (1/10(1/25) – 1/10,000 sec.)
- **Digital Slow Shutter (DSS)**: Off / x2 / x4 / x8 / x16 / x32 / x64 / x128 / x15
- **Gain Control (AGC)**: Off / On
- **Flickerless**: Off / On
- **BLC**: Off / On
- **Day & Night**: Color Model: Day / Mono Model: Night
- **White Balance**: Auto / One Push / Manual / Indoor / Outdoor
- **HLC**: Off / On
- **DNR**: Off / 2D / 3D / 2D+3D (Auto/Low/Middle/High)
- **Mirror**: Off / H / V / H & V
- **Sharpness**: 0 – 20 steps
<table>
<thead>
<tr>
<th><strong>SPECIFICATION</strong></th>
<th><strong>SPECIFICATION</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ACE</strong></td>
<td>Off / Manual (0 ~ 11 steps)</td>
</tr>
<tr>
<td><strong>Defog</strong></td>
<td>Off / Manual (0 ~ 11 steps)</td>
</tr>
<tr>
<td><strong>Freeze</strong></td>
<td>Off / On</td>
</tr>
<tr>
<td><strong>Gamma</strong></td>
<td>0.45 / 0.55 / 0.65 / 0.75</td>
</tr>
<tr>
<td><strong>E.Zoom</strong></td>
<td>Off / On (x1 ~ x6)</td>
</tr>
<tr>
<td><strong>Privacy Mask</strong></td>
<td>Off / On (8 positions)</td>
</tr>
<tr>
<td><strong>Motion Detection</strong></td>
<td>Off / On (4 positions)</td>
</tr>
<tr>
<td><strong>Defeat DET</strong></td>
<td>One push</td>
</tr>
<tr>
<td><strong>System</strong></td>
<td>NTSC / PAL</td>
</tr>
<tr>
<td><strong>HD Format</strong></td>
<td>1080p (10/25/50/60p), 1080p (10/25/50/60p), 720p (60/50/25/25p)</td>
</tr>
<tr>
<td><strong>Comm.</strong></td>
<td>ID: 1 ~ 256, Baud Rate: 2400 / 4800 / 9600 / 19200 / 38400 / 57600 / 115200</td>
</tr>
<tr>
<td><strong>Disp Sel (Off / On)</strong></td>
<td>Text Edit</td>
</tr>
<tr>
<td><strong>Set Title</strong></td>
<td>Text Edit</td>
</tr>
<tr>
<td><strong>Set Init Sel (Off / On)</strong></td>
<td>Text Edit</td>
</tr>
<tr>
<td><strong>Set Init Msg</strong></td>
<td>Text Edit</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>English / Chinese / Japanese</td>
</tr>
<tr>
<td><strong>Power Source</strong></td>
<td>DC12V±10% / 802.3af PoE</td>
</tr>
<tr>
<td><strong>Power Consumption</strong></td>
<td>550mA</td>
</tr>
<tr>
<td><strong>Power Input</strong></td>
<td>Connector</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>-10°C ~ +50°C (Humidity: 0%RH ~ 90%RH)</td>
</tr>
<tr>
<td><strong>Storage Temperature</strong></td>
<td>-20°C ~ +60°C (Humidity: 0%RH ~ 90%RH)</td>
</tr>
<tr>
<td><strong>External Dimension</strong></td>
<td>59.2(W) x 62.2(H) x 99.4(D) mm</td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>285g</td>
</tr>
</tbody>
</table>

*Design and specifications are subject to change without notice.*
If there are problems in operation, please refer to the items below.
If the problem persists, please contact the agent you purchased this product from.

**Trouble shooting**

- Nothing appears on the screen.
  - Please check the power connection.
  - Please check the video signal line connection.

- The video image is not clear.
  - Please clean the lens with a clean cloth or brush.
  - Please adjust the screen is not exposed directly to a bright light.
  - Please move the camera if necessary.

- The screen is dark.
  - Please adjust the contrast feature of the monitor.
  - If you have an intermediate device, set the 75 Ω / Hi-Z properly, and check the terminals.
  - Please adjust the brightness level.

- The MOTION DETECTION function is not working.
  - Please check if "MOTION DETECTION" mode is turned on.
  - Please check if the MD Sensitivity is too high.
  - Please check the setting of the MD AREA.

- The WDR function is not working.
  - Please check if the WDR Level is too low.
  - Please check if the AE Mode is set to MANUAL. The WDR doesn’t work in MANUAL, Shutter priority Exposure mode.

- Colors are not quite right.
  - Please check if the camera is facing directly into sunlight or fluorescent light.

- The Day/Night function doesn’t work.
  - Please check if the AGC of EXPOSURE menu is set to OFF.
  - The Auto Day/Night doesn’t work in AGC OFF status.