# SALRAYWORKS

## focalSHOT UltraLatency

Full-HD (3G/HD-SDI,HDMI) 2.16MP Mini-Broadcast POV
Camera with CS Mount Lens

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## Precautions

⚠ **WARNING** — Do not use the camera if fumes, smoke or a strange odor is emitted from the unit, or if it seems to not function correctly. Disconnect the power source immediately and consult your supplier.

⚠ **CAUTION** — Always follow the instructions in the installation guide when applying power. Fire and equipment damage can occur if power is applied incorrectly. For the correct power supply, refer to the specification sheet.

⚠ **CAUTION** — Do not install or operate in small, unventilated areas. Heat build up can significantly reduce the performance and operating life of the product and may cause a fire.

⚠ **CAUTION** — To prevent damage, do not drop the camera or subject it to strong shock or vibration.

⚠ **CAUTION** — If installed close to a TV, radio transmitter, magnet, electric motor transformer or audio speakers the magnetic field generated may interfere with or distort the image.

⚠ **CAUTION** — Whether or not the camera is used outdoors, never point it toward the sun. Use caution when operating the camera in the vicinity of spot lights or other bright lights and light reflecting objects.

⚠ **CAUTION** — Do not use the camera in extreme environments where high temperatures or high humidity exists. Use the camera under conditions where temperatures are between 14°F ~ 122°F (-10°C ~ 50°C), and humidity is below 90%.
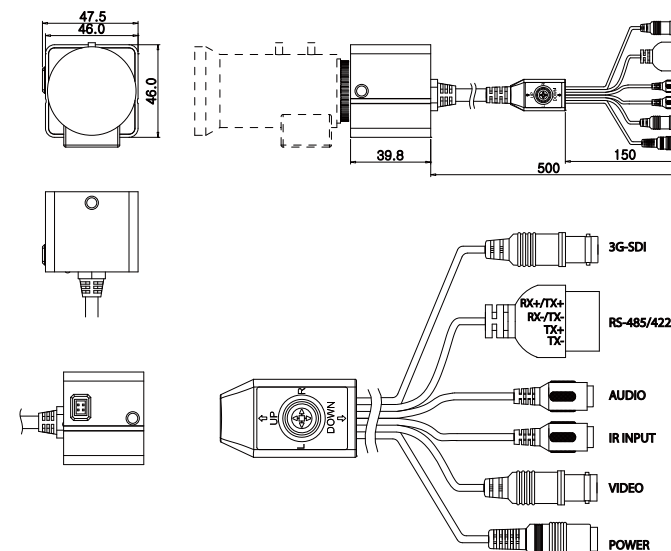
## Specifications

| | | | |
|---|---|---|---|
| SENSOR | Image Sensor | 1/2.8″ Exmor R CMOS (Approx. 2.16 mega) | |
| | Scanning System | 16:9 Progressive | |
| | Sync. System | Internal | |
| | Effective Pixel | 1945 (H) X 1097 (V) approx.. 2.13M pixels | |
| | Min. Illumination | Color : 0.1 lx (1/30 sec), B&W : 0.01 lx (1/30 sec) | |
| Optics | Lens | CS-055D | CS-2712D |
| | | 5.0 ~ 50mm (Focal Length), H(51˚ ~ 6.1˚) | 2.7 ~ 12mm (Focal Length), H(108.78˚ ~ 30.62˚) |
| Functions | EXPOSURE | BRIGHTNESS / SHUTTER / SENS-UP / AGC | |
| | BACKLIGHT | HLC/BLC/WDR | |
| | DAY&NIGHT | AUTO / COLOR / B&W / EXTERN | |
| | WHITE BALANCE | AUTO (3,000°K~8,000°K) / AUTOext (1,900°K~11,000°K) / PRESET / MANUAL | |
| | Electronic Shutter | NTSC: 1/30~1/30000, PAL: 1/25~1/30000, SENS-UP ( ~X64) | |
| | Functions | Privacy Mask, Image Mirror, 3DNR, GAMMA Control, Lens Shading, Flickerless, Sharpness, Defog, Intelligent Motion Detection | |
| Video output | SDI (BNC) | SMPTE 292M (1.485Gbps): 1080p@25/30, 1080i@50/60, 720p@50/60, 720p@25/30 SMPTE 424M (2.97Gbps) : 1080p@50/60 | |
| Audio Input | MIC Input | Mic Level (1Vrms). 2.5V Mic bias Audio On / Off | |
| CONTROL | RS422/485 REMOTE CONTROL | 2400~115200bps PELCO, D/P, VISCA | |
| General | Operation Temperature | 0℃ ~ 50C | |
| | Power Input | 12VDC (7VDC to 15VDC) | |
| | Power consumption | Max 3.6W | |
| | Dimensions | 47.5(W) x 46(H) x 39.8(D) mm (Without Lens) | |
| | Net Weight | Approx. 200g | |

## Features

- 2.16 Megapixel 1/2.8" Exmor R CMOS Sensor
- CS Mount Type Lens installed (interchangeable)
- CS-055D : 5.0 ~ 50mm (Focal Length), H(51˚ ~ 6.1˚)
- CS-2712D : 2.7 ~ 12mm (Focal Length), H(108.78˚~30.62˚)
- V-CVS/CVH(50/60) : 1920x1080p60/50/30/25, 1920x1080i60/50,1280x720p60/50/30/25fps
- V-CVS/CVH(59.94) : 1920x1080p59.94/29.97, 1920x1080i59.94, 1280x720p59.94/29.97fps
- 3G/HD-SDI (BNC) CABLE built into rear panel
- Audio Mic Stereo (TRS) input embedding
- OSD Menu Joystick, RS-422/485 connectable (PELCO/VISCA)

## Dimensions



47.5
46.0
46.0
39.8
500
150

3G-SDI

RX+/TX+
RX-/TX-
TX+
TX-
RS-485/422

AUDIO

IR INPUT

VIDEO

POWER

| SETUP | SUB MENU | SUB MENU | DESCRIPTION |
|---|---|---|---|
| EDGE DET | | ON/OFF | Edge detection allows you to easily adjust focus. |
| EXPOEURE | BRIGHTNESS | 0~20 | Adjust the screen brightness. The bright control function adjusts gain, to keep a brightness level. |
| | SHUTTER | AUTO | Shutter controls exposure automatically. Shutter control has the exposure control priority |
| | | MANUAL | Shutter speed is fixed. The exposure control priority is given to other resources. |
| | | FLICKER | Use this function when you experience picture flicker, this happens when there is a conflict with the installed lighting frequency. |
| | SENS-UP(DSS-Digital slow shutter) | NOT USED | NOT USED |
| | AGC | 0~20 | A function which controls the amplification/gain process automatically if the illumination falls under the usable level. Camera raises up gain to selected gain limit when dark conditions. |
| BACKLIGHT | HLC | | Highlight the bright area with a masking box with a selected color. Adjust the masking level (0~20). |
| | BLC | | Enable a back light compensation feature. |
| DAY&NIGHT | MODE | AUTO / COLOR / B&W / EXTERN | AUTO : Auto mode allows to switch between COLOR and B&W automatically depending on day and night. COLOR : The camera keeps color mode constantly. B&W : The camera keeps black/white mode constantly. EXTERN : In case illuminance sensor is mounted, you can switch between COLOR and B&W by its signal.(OPTION) |
| | IR LED(OPTION) | OFF/FULL | You can modulate brightness level of externally mounted IR LED. |
| | ANTI-SAT(OPTION) | 0~20 | In case external IR LED is used, saturated image by light can be decreased by level. |
| | EXTREN SW(OPTION) | LOW/HIGH | In case external illuminance sensor is mounted, you can match COLOR and B&W by level of its signal. |
| | D>N THRES | 0~20 | You can modulate illuminance point from DAY to NIGHT. |
| | N>D THRES | 0~20 | You can modulate illuminance point from NIGHT to DAY. |
| | DELAY | LOW/MIDDLE/HIGH | Select the checking time of light condition to confirm to change from the day mode to the night mode. When you change DAY mode to NIGHT mode, or NIGHT mode to DAY mode, converting time can change to three levels in order to avoid hunting. |
| COLOR | AWB | AUTO/AUTOext/ PRESET/MANUAL | AUTO : Color temperature is automatically adjusted to 3,000°K ~ 8,000°K AUTOext : Continuously adjusts camera color balance in accordance with any change in color temperature. Compensates for color temperature changes within the range of 1,900K to 11,000K. PRESET : Color temperature will be manually adjusted by pushing the OSD button. Place the white paper in front of the camera when OSD button is pressed to obtain the optimum result. Manual : Select color temperature from 3000°K, 5000°K or 8000°K. |
| | COLOR GAIN | 0~20 | Adjust the color level value for a fine color tune. |
| DNR | LOW/MIDDLE/HIGH | | This feature will reduce the video noise at low ambient light. |
| IMAGE | SHARPNESS | 0~10 | Adjust the sharpness of the image. As you increase this value, the picture outline becomes stronger and clearer. |
| | GAMMA | 0.45 ~ 0.75 | This feature will adjust video output brightness (0.45 ~ 0.75). |
| | MIRROR | ON/OFF | Video output is rotated horizontally. |
| | FLIP | ON/OFF | Video output is rotated vertically. |
| | D-ZOOM | NOT USED | NOT USED |
| | DIS | NOT USED | NOT USED |
| | ACE | OFF/LOW/MIDDLE/HIGH | Brightness correction of the dark image area. |
| | DEFOG | ON/OFF | Auto : This feature will help increase visibility in extreme weather conditions, such as fog, rain or in a very strong luminous intensity. Manual : Set the level of defogging function (LOW, MIDDLE, HIGH). |
| | SHADING | ON/OFF | This feature will correct the inconsistent brightness level in the image. |
| | PRIVACY | ON/OFF | Mask an area you want to hide on the screen with sub menu. |
| IMOTION | | | This feature will observe the object movement by motion zone and sensitivity that are pre-set with sub menu. |
| SYSTEM | COMM | CAM ID | Select the camera ID number for RS-422/485 communication. |
| | | BAUDRATE | Set the baud rate of RS-485 communication (2400, 4800, 9600, 19200, 38400, 57600, 115200). |
| | OUTPUT | FRAME RATE | Change video output format. |
| | | FREQ | Change video output frequency. |
| | | SDI MODE | On/off |
| | | CVBS | On/off |
| | IMAGE RANGE | FULL/COMP/USER | Change video image range. |
| | COLOR SPACE | HD-CbCr/YUV/SD-CbCr | Change video color space. |
| | AUDIO MIC | ON/OFF | Audio output is select. |
| | COLOR BAR | ON/OFF | On/off |
| | LANGUAGE | ENG/CHN/CHN(S)/JPN/KOR | Select the menu language. |
| | CAM TITLE | OFF/RIGHT UP/LEFT DOWN | The camera title can be entered and it will appear over the video output. |
| | RESET | | Reset the camera settings to the factory default. |