SONY

FCB-HD Series

The built-in 30x optical zoom and back-illuminated CMOS sensor with 0.01 lx minimum illumination allow capturing of high-fidelity images even at night or in low-light environments, which is very useful for security applications.





Dimensions : $50.0(W) \times 60.0(H) \times 89.7(D)$ mm

FCB-EV Series High Sensitivity Model Full HD (1080p/60)

FCB-EV7520A
Optical Zoom 30x

ExmorR

STARVIS

Back-illuminated CMOS sensor

1/2.8-type Exmor R[™] CMOS image sensor provides full high-definition and high-quality images. Fine, high-quality images can be captured even at night or in dark places.

High-performance 30x lens

The camera is equipped with a bright lens with 30× optical zoom and F1.6 aperture.

Compatibility with previous models

As a successor of FCB-EV7520, this camera has specifications and a mechanical design compatible with the original model. Therefore, current FCB-EV7520 users can use the camera as a replacement camera.

Highly advanced ISP

Using the image signal processor (ISP), the following images can be obtained.

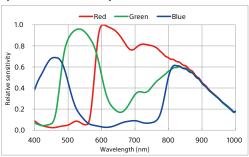
- Full HD 60 fps output image
- Low focal plane distortion image using the highspeed readout of imager

Exmor R back-illuminated CMOS sensor

The back-illuminated CMOS image sensor almost doubles sensitivity*¹ and reduces noise compared to traditional front-illuminated CMOS image sensors. Light is received on the back side of the silicon board to effectively capture fine, high-quality images at night or in dark places, which could not be achieved by the image element structure of traditional front-illuminated sensors.

*1: Comparison of our back-illuminated CMOS image sensor and traditional (front-illuminated) sensors that have the same image element size (1.75 μm)

Spectral Sensitivity Characteristics



Use the graph as a reference value. (We can not guarantee these values.) This data is measured when the IR cut filter is removed and the characteristics of the lens and optical source characteristics are ignored.

■ Image output

HD:Digital (LVDS)

■ Wide Dynamic Range (Wide-D)

Wide Dynamic Range mode is a function for dividing an image into several blocks and correcting blocked-up shadows and blown-out highlights in accordance with the intensity difference. It enables you to obtain images in which portions ranging from dark to light can be recognized, even when capturing a subject with a large intensity difference that is backlit or includes extremely light portions.





■ Visibility Enhancer (VE)

Depending on the imaging scene, the Visibility Enhancer function makes the darker part of a camera image brighter, and automatically correct brightness and contrast to show bright parts clearly.

■ Defog (low/mid/high)

When the surrounding area of the subject is foggy and low contrast, the defog mode will reduce the effects of the fog and make the subject appear clearer. You can select from four levels: OFF, Low, Middle and High. The effect level can be automatically adjusted according to the fog density.

ON





Low Focal Plane Distortion Image

The FCB-EV7520A capatures a high-speed moving image with distortion reduction.

Conventional Model (With CMOS sensor)

FCB-EV7520A





■ Noise Reduction (NR)

The NR function removes noise (both random and nonrandom) to provide clearer images.

Privacy Zone masking

Privacy Zone masking protects private objects and areas such as house windows, entrances, and exits which are within the camera's range of vision but not subject to surveillance. Privacy zone masking can be masked on the monitor to protect privacy.

- Mask can be displayed on 8 places per screen
- · Individual on/off zone masking settings.

Image Stabilizer

Switching On the Image Stabilizer function reduces image blurring caused by, for example, vibration, which allows you to obtain images without much blurring. A correction effect is possible for a vibration frequency of around 10 Hz.

■ StableZoom™

"StableZoom" is a function for performing correction using the Image Stabilizer function in accordance with the zoom ratio, and smoothly zooming up to approximately 36× using a combination of the optical zoom and digital zoom.

■ Picture Effect

• E-FLIP

This function reverses the video output from the camera vertically and horizontally.

• Freeze

This function captures an image in the field memory of the camera so that this image can be output continuously.

Black & White (Monochrome Image)

Auto ICR

Auto ICR Mode automatically switches the settings needed for attaching or removing the IR Cut Filter. With a set level of darkness, the IR Cut Filter is automatically disabled (ICR On), and the infrared sensitivity is increased. With a set level of brightness, the IR Cut Filter is automatically enabled (ICR Off).

■ AE (Auto Exposure Mode)

A variety of AE functions are available for optimal output of subjects in lighting conditions that range from low to high.

Full Auto

Iris, Gain and Shutter Speed can be set automatically.

Shutter Priority

Adjust with Variable Shutter Speed, Auto Iris and Gain.

Iris Priority

Adjust with Variable Iris, Auto Gain and Shutter speed.

Manual

Adjust with Variable Shutter, Iris and Gain.

Slow AE Response

The slow AE Response function allows you to reduce the exposure response speed. Usually the camera is set up so that the optimum exposure can be obtained automatically within about 1 second.

In Spot AE, a particular section of the subject can be designated, and then that portion of the image can be weighted and a value computed so that Iris and Gain can be optimized to obtain an image.

White Balance

Various modes

Auto

This mode computes the white balance value output using color information from the entire screen.

ATW

Auto Tracing White balance

- Indoor
- Outdoor
- Outdoor Auto

This is an auto white balance mode specifically for outdoors.

One Push WB

The One Push White Balance mode is a fixed white balance mode that may be automatically readjusted only at the request of the user (One Push Trigger), assuming that a white subject, in correct lighting conditions, and occupying more than 1/2 of the image, is submitted to the camera.

- Manual WB
- Sodium Vapor Lamp Auto
- Sodium Vapor Lamp (Fix)
- Sodium Vapor Lamp Outdoor Auto

■ Focus

Auto Focus Mode

The Auto Focus (AF) function automatically adjusts the focus position to maximise the high frequency content of the picture in a center measurement area, taking into consideration the high luminance and strong contrast components.

Manual Focus Mode

Manual Focus has both a Standard Mode and a Variable Mode. Standard Mode focuses at a fixed rate of speed. Variable Mode has eight speed levels.

• One Push Trigger Mode

When a Trigger Command is sent, the lens moves to adjust the focus for the subject.

Near Limit

Can be set in a range from 1000 (∞) to F000 (10 mm). (Initial value: D000h (30 cm))

■ Temperature Readout

The camera unit's internal temperature can be read from temperature sensor in stabled in the circuit board. Use it as a reference value.

Custom Preset

The camera shooting conditions can be stored and recalled. The settings are recalled when the power is turned on.

* For the setting values, refer to the technical manual.

■ Memory (Position preset)

Using the position preset function, 16 sets of camera shooting conditions can be stored and recalled. This function allows you to achieve the desired status instantly, even without adjusting the various items each time.

* For the setting values, refer to the technical manual

■ Title Display

- You can set a title of up to 11 lines. One line can contain up to 20 characters.
- You can set display on/off, the horizontal position of the first character, blinking state and color for each line.

■ Motion Detection (MD)

This function instructs the camera to detect movement within the monitoring area and then send an alarm signal automatically.

- You can set a frame for the detection range of 17 (horizontally) × 15 (vertically) blocks.
- You can set the frame by assigning the starting point and terminating point vertically and horizontally. You can set up to four frames.
- · When the motion is detected in the set frame, the Alarm Replay VISCA Command is sent.

VISCA/RS-232C

Overview of VISCA

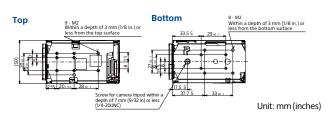
In VISCA, up to seven peripheral devices like the FCB camera can be connected to one controller using communication conforming to the RS-232C standard.

Dimensions



Right side

Left side 2 - M2 Within a depth of 3 mm (1/8 in.) or less from the side a depth of 3 mm (1/8 in.) o



ExmorR

The Exmor R is a Sonys CMOS image sensor with significantly enhanced imaging characteristics including sensitivity and low noise by changing fundamental structure of Exmor pixel adopted column parallel A-D converter to back-illuminated type.

STARVIS

The STARVIS is back-illuminated pixel technology used in CMOS image sensors for surveillance camera applications. It features a sensitivity of 2000 mV or more per $1\,\mu\text{m}^2$ (color product, when imaging with a 706 cd/m² light source, F5.6 in 1s accumulation equivalent), and realizes high picture quality in the visible-light and near infrared light regions.

Specifications

sic Specifications	FCB-EV7520A
Image Sensor	1/2.8-type Exmor R CMOS Sensor (2130K pixels)
(Number of effective pixels)	
Output Pixels (H × V)	1920x1080,1280x720 1080p/60,1080p/59.94,1080p/50,1080p/30,1080p/29.97,1080p/25,1080i/60,1080i/59.94,1080i/50,
Signal System	720p/60,720p/59.94,720p/50,720p/30,720p/29.97,720p/25
Minimum Illumination	ICR-Off mode : 0.01 x (Shutter Speed : 1/30 s), 0.0013 x (1/4 s or 1/3 s)
(50%, High Sensitivity Mode ON) Minimum Illumination	ICR-On mode : 0.0015 lx (Shutter Speed : 1/30 s), 0.0008 lx (1/4 s or 1/3 s, 30%) ICR-Off mode : 0.1 lx (Shutter Speed : 1/30 s), 0.013 lx (1/4 s or 1/3 s)
(50%, High Sensitivity Mode OFF)	ICR-01 mode: 0.006 kr (Shutter Speed: 1/430 s)
Recommended Illumination	100 lx to 100,000 lx
Gain	Auto / Manual (0 dB to 50.0 dB), 0 to 28 steps
Shutter Speed	1/1 to 1/10000 s, 22 steps
Sync System	Internal
Exposure Control	0 dB to ± 10.5 dB, 15 steps
Backlight Compensation	Yes
Gamma	Standard / Straight gamma
Aperture Control	16 steps
White Balance	Auto, ATW, Indoor, Outdoor, One Push WB, Manual WB, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto)
AE (Auto Exposure Mode)	Full Auto, Manual, Priority mode (shutter/iris), EV compensation, Spot Exposure, Slow AE
Lens (wide to tele)	30x optical zoom f=4.2 mm to 120 mm
Zoom Mode	f = 4.3 mm to 129 mm, F1.6 to F4.7 Standard Mode / Variable Mode / Direct Mode
Digital Zoom	12x (360x with optical zoom)
Zoom Movement Speed	τελ (200λ πιτη ορτικά ευστή)
	5.0 s (Focus Tracking ON)
Optical wide to Optical tele	2.5 s (Focus Tracking OFF)
Optical wide to Digital 12 x tele	7.0 s (29.97p/59.94p)
-	7.4 s (25p/50p) 2.1 s (29.97p/59.94p)
Digita wide to Digital 12 x tele	2.5 s (25)(50p)
Focusing System	Auto Focus (Normal AF, Interval AF, Zoom Trigger AF [Sensitivity:normal, low]),
	Manual (Standard, Variable, Direct), One Push Trigger, Near Limit, Full Scan One Push Trigger, IR Correction
Focus Movement time Horizontal Viewing Angle	∞ to Near: 1.1 s
Horizontal Viewing Angle (1080p/1080i)	62.7%
(wide end to tele end)	63.7° to 2.3°
Horizontal Viewing Angle (720p) (wide end to tele end)	63.7° to 2.3°
Minimum Object Distance	10 mm to 1200 mm
(wide end to tele end) mera Features	
Auto ICR	Yes
Wide Dinamic Range(Wide-D)	163
(Auto mode)	Yes' ¹
Visibility Enhancer	Yes
Defog	Yes (low/mid/high)
Noise Reduction	Yes (3D+2D / Independent setting (3D, 2D))
Image Stabilization	Yes
StableZoom* ²	Yes
Digital Output	Yes
Motion Detection	Yes
Spherical Privacy Zone Masking	Yes
	Yes
MIdIIII	Yes
Alarm Slow AE Response	
Slow AE Response	Black & White (Monochrome Image)
Slow AE Response Picture Effects	Black & White (Monochrome Image) Yes
Slow AE Response Picture Effects Picture Freeze	Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP)	Yes Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image	Yes Yes Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter	Yes Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout	Yes Yes Yes Yes Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display	Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout	Yes Yes Yes Yes Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display Camera Mode Display	Yes
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Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display Camera Mode Display erface Video Output (HD) Camera Control Interface	Yes
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Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display Camera Mode Display terface Video Output (HD) Camera Control Interface Interval Power Requirements Power Consumption	Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display Camera Mode Display erface Video Output (HD) Camera Control Interface Ineral Power Requirements Power Consumption Operating Temperature	Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display Camera Mode Display verface Video Output (HD) Camera Control Interface Interval Power Requirements Power Consumption Operating Temperature Storage Temperature	Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display Camera Mode Display terface Video Output (HD) Camera Control Interface Ineral Power Requirements Power Consumption Operating Temperature Storage Temperature Operating Humidity	Yes
Slow AE Response Picture Effects Picture Freeze Electronic-Flip (E-FLIP) Mirror image Slow Shutter Temperature Readout Title Display Camera Mode Display verface Video Output (HD) Camera Control Interface Interval Power Requirements Power Consumption Operating Temperature Storage Temperature	Yes

^{*1} Wide-D (Wide dynamic range): When Wide-D is activated, it automatically switch to Auto mode.

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Please visit Sony's professional website or contact your Sony representative
for specific models available in your region.

^{*2} StableZoom increases the magnification by combining optical zoom and digital zoom.