

FCB-4K

FCB-ER8530



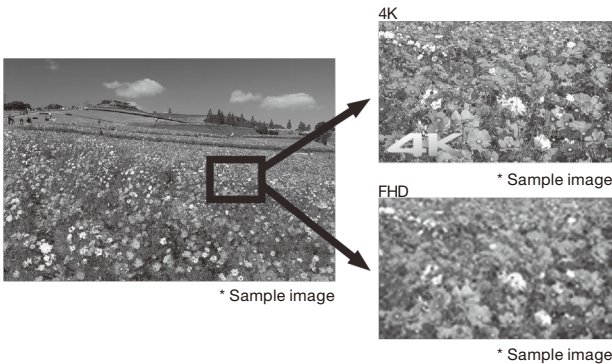
Exmor R 4K

Outline

A 4K camera block series featuring Sony's most advanced Exmor R™ CMOS sensor. FCB-ER8530 is similar in size as the FCB-EV series, full HD models with 30x optical zoom, making them easily interchangeable with each other.

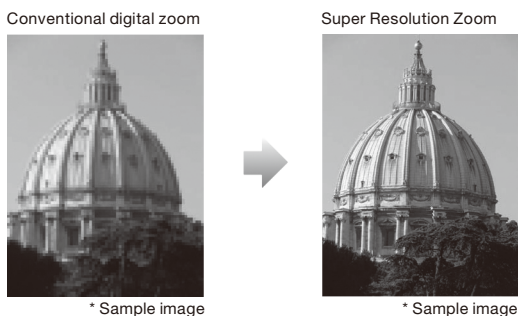
Features

4K
Delivers 4 times higher resolution than Full HD (1080p). Realize a high-definition (fine) image quality that allows users to see the details of images even when viewed on a large screen and realistically reproduces textures that could not be expressed with Full HD.



- Optical Zoom 20x
- Various video outputs from 4K to SD

Super Resolution Zoom
Delivers excellent images while maintaining the resolution without reducing image quality when the image is expanded due to the Sony unique “Full pixel super-resolution imaging technology”. FCB-ER8550/ER8530 has 30x zoom, which is achieved in conjunction with optical 20x zoom.



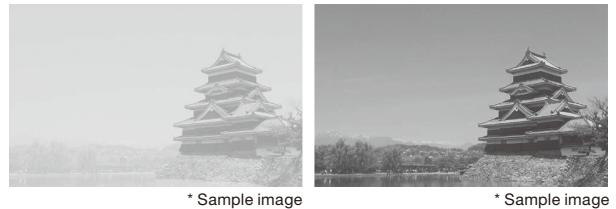
Visibility Enhancer (VE)

Depending on the imaging scene, the Visibility Enhancer function makes the darker part of a camera image brighter, and automatically corrects 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.



Noise Reduction (NR)

The NR function removes noise (both random and non-random) 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 simultaneously.
- 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.

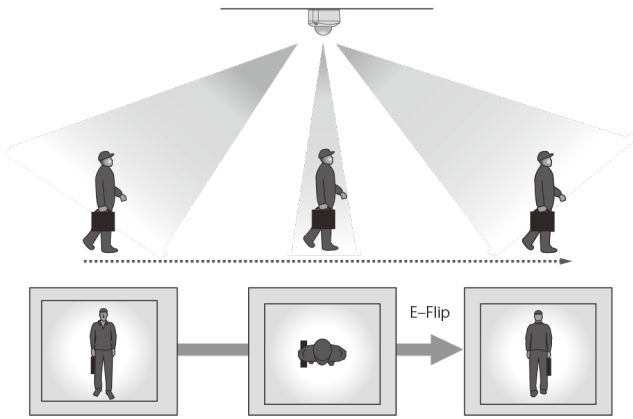
StableZoom™

StableZoom is a function that performs corrections in accordance with the zoom magnification by using the image stabilizer function, and zooms in an image by combining the optical zoom and electronic 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.

- Monochrome

■ 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).

■ 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.

■ 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

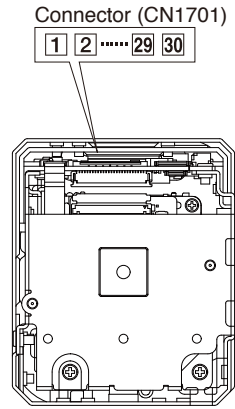
- Sodium Vapor Lamp Auto

- Sodium Vapor Lamp (Fix)

- Sodium Vapor Lamp Outdoor Auto

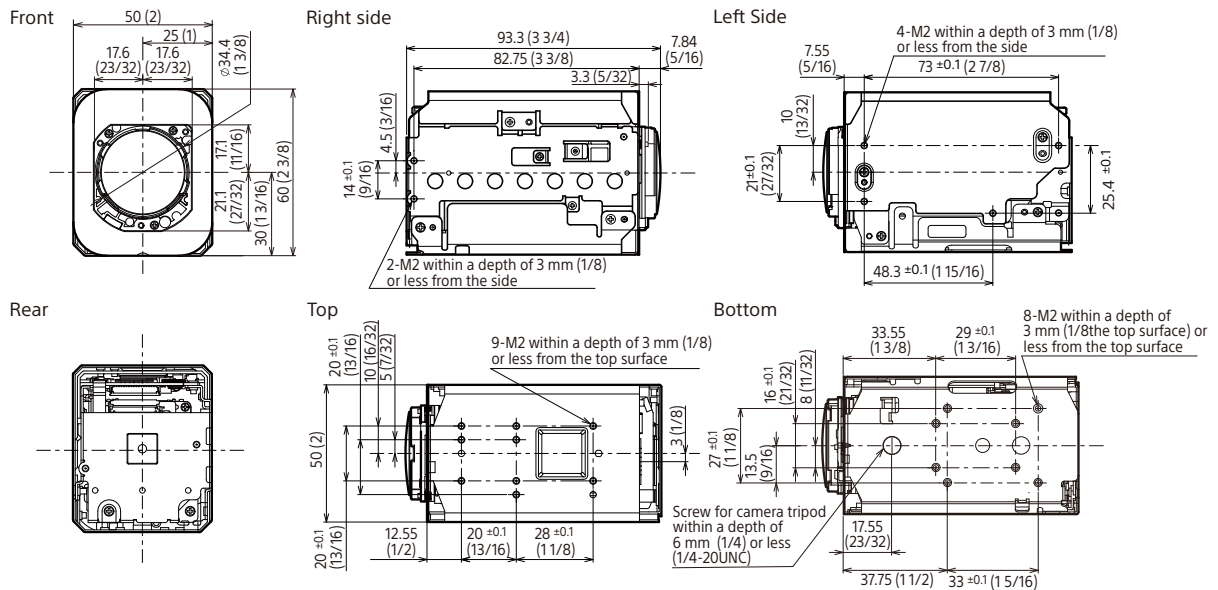
Pin Assignment (CN1701)

Pin No.	I/O	Name	Level
1	—	GND	
2	O	TMDS Clock —	
3	O	TMDS Clock +	
4	—	GND	
5	O	TMDS Data 0 —	
6	O	TMDS Data 0 +	
7	—	GND	
8	O	TMDS Data 1 —	
9	O	TMDS Data 1 +	
10	—	GND	
11	O	TMDS Data 2 —	
12	O	TMDS Data 2 +	
13	—	GND	
14	—	—	Open (Non connection)
15	—	—	Open (Non connection)
16	—	—	Open (Non connection)
17	I	Hot Plug Detect	TMDS Out : 5V DC TMDS Stop : Open or GND
18	O	+ 5V Power	
19	I	USB_VBUS	USB communication active : 5V DC USB communication inActive : Open or GND
20	—	GND	
21	I/O	USB_D —	
22	I/O	USB_D +	
23	—	GND	
24	I	VISCA_RxD	CMOS 3.1V (High : Min 2.3 [V], Low : Max 1.0 [V])
25	O	VISCA_TxD	CMOS 3.1V (High : Min 2.7 [V], Low : Max 0.4 [V])
26	I	RESET	Reset operation : Low (GND) Reset cancel : Open (High Impedance)
27	I	DC IN	6 to 12 V DC
28	I	DC IN	6 to 12 V DC
29	I	DC IN	6 to 12 V DC
30	I	DC IN	6 to 12 V DC



- * It is assumed that Pin No. 18 is used as the 5 V power supply of HDMI**.
- * When you use the USB communication, connect VBUS of the USB host to Pin No. 19. If you cannot prepare VBUS, connect Pin No. 18 to Pin No. 19.
- ** Video is output in the TMDS signal format used by HDMI.

Dimensions



Specifications

FCB-ER8530	
Basic specifications	
Image Sensor (Number of effective pixels)	1/2.5-type Exmor R CMOS Sensor (8510K pixels)
Output Pixels (H x V)	3840x2160 (QFHD), 1920x1080 (Full HD), 1280x720 (HD), 720x480/576 (SD)
Signal System	2160p/29.97, 2160p/25, 2160p/23.98, 1080p/59.94, 1080p/50, 1080p/29.97, 1080p/25, 1080p/23.98, 1080i/59.94, 1080i/50, 720p/59.94, 720p/50, 480p/59.94, 576p/50
Minimum Illumination (50%, High Sensitivity Mode)	0.4 lx (Shutter Speed (1/30 s) 0.06 lx (Shutter Speed (1/4 s or 1/3 s))
Recommended Illumination	100 lx to 100,000 lx
SNR	50 dB
Gain	Auto / Manual (0 dB to 48.0 dB), 0 to 16 steps
Shutter Speed	1/1 to 1/10000 s, 28 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), Bright, EV Compensation
Lens	20x optical zoom, f= 4.4 mm to 88 mm, F2.0 to F3.8
Zoom Mode	Standard Mode / Variable Mode / Direct Mode
Super Resolution Zoom	QFHD: 1.5x (max. 30x with optical zoom) Full HD/HD: 2.0x (max. 40x with optical zoom)
Digital Zoom	12x (max. 240x with optical zoom)
Zoom Movement Speed	
Optical wide to Optical tele	3.0 s (Focus Tracking ON)
Optical wide to Super resolution zoom tele	3.4 s
Optical wide to Digital zoom tele	5.0 s
Focusing System	
Focus Movement time	Auto Focus (Normal AF, Interval AF, Zoom Trigger AF [Sensitivity:normal, low]), Manual (Standard, Variable, Direct), One Push Trigger, Near Limit, Spot Focus, IR Correction ∞ to Near: 0.1 s
Horizontal Viewing Angle (QFHD/Full HD/HD) (wide end to tele end)	Approx. 70.2° to 4.1° (Image stabilizer OFF) Approx. 60.0° to 3.5° (Image stabilizer ON)
Minimum Object Distance (wide end to tele end)	80 mm to 800 mm
Camera Features	
Auto ICR	Yes
Wide Dinamic Range (Wide-D) (Auto mode)	—
Visibility Enhancer	Yes
Defog	Yes (low/mid/high)
Noise Reduction	Yes (3D+2D / Independent setting (3D, 2D))
Image Stabilization	Yes
StableZoom *1	Yes
Digital Output	Yes
Spherical Privacy Zone Masking	Yes
Motion Detection	—
Alarm	Yes
Slow AE Response	Yes
Picture Effects	Monochrome
Picture Freeze	Yes
Electronic-Flip (E-FLIP)	Yes
Mirror image	Yes
Slow Shutter	Yes
Temperature Readout	Yes
Title Display	Yes
Date/Time Display	—
Camera Mode Display	Yes (English)
Key Switch Control	—
Camera Operation Switch	—
Interface	
Video Output (QFHD, FHD, HD)	Digital: Y/Cb/Cr 4:2:2 8bits component, R/G/B 4:4:4 8bits component, Comparable to CEA-861-F *2
Camera Control Interface	VISCA protocol (CMOS 3.1V) PTP USB 9.6 kbps, 19.2 kbps, 38.4 kbps, 115.2 kbps, Stop bit:1 bit
General	
Power Requirements	6.0 V to 12.0 V DC
Power Consumption	3.0 W (When the motor operates:4.0 W)
Operating Temperature	-5 °C to +60 °C (23 °F to 140 °F)
Storage Temperature	-20 °C to +60 °C (-4 °F to +140 °F)
Operating Humidity	20% to 80% (Absolute humidity : 36 g/m ³)
Storage Humidity	20% to 95% (Absolute humidity : 36 g/m ³)
Dimensions (W x H x D)	50.0 x 60.0 x 93.3 mm (2 x 2 3/8 x 3 3/4 inches)
Mass	Approx. 275 g (10 oz.)

*1 StableZoom increases the magnification by combining optical zoom and digital zoom.

*2 For supported video formats, refer to Signal System.