

FCB-4K Series

FCB-ER8300



Exmor R 4K

Outline

The new FCB-ER8300 block camera incorporates a 1/2.3-type Exmor R sensor capable of 4K resolution (3,840 x 2,160, QFHD) at up to 29.97p.

The camera features a high-quality 12x optical zoom lens which – when combined with super resolution zoom – can maintain 4K resolution at up to 20x zoom, providing enhanced 4K visibility within a compact form factor. This camera also inherits some of the unique features of Sony's popular FCB Series cameras such as auto ICR, privacy zone masking, noise reduction and visibility enhancement, supporting use under challenging lighting conditions. These outstanding features and benefits make the FCB-ER8300 ideal for demanding wide-area surveillance applications such as transportation, sports event monitoring, video conferencing, and much more.

Features

■ Superb Picture Quality with 4K CMOS Sensor

The FCB-ER8300 employs a 1/2.3-type 4K CMOS sensor that offers a resolution four times higher than Full HD (1080p) for excellent detail and image quality.

■ Super Resolution Zoom

Unique to Sony, the super resolution zoom feature means the FCB-ER8300 can retain a compact size but achieve the equivalent of 20x zoom at full 4K resolution by intelligently combining the 12x optical lens with digital zoom for superb image quality over distance.

■ Video outputs from HD to 4K

The FCB-ER8300 supports a 4K video format in 4K resolution with output flexibility. So depending on your application and configuration, you can select the format that's right for you with up to twelve video formats from HD to 4K.

■ Low Power Consumption and Compact Design

This compact block camera is low in power consumption. In addition, the compact and lightweight body means you can install the FCB-ER8300 in many different space-restricted environments.

■ 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.

OFF



* Sample image

ON

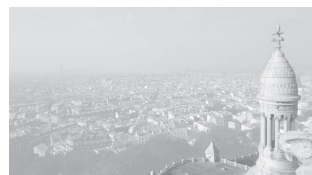


* Sample image

■ Defog (low/mid/high)

When the surrounding area of the subject is foggy and low contrast, the defog mode will eliminate the fog and make the subject appear clearer. The effect level can be automatically adjusted according to the fog density.

OFF



* Sample image

ON



* Sample image

■ 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.

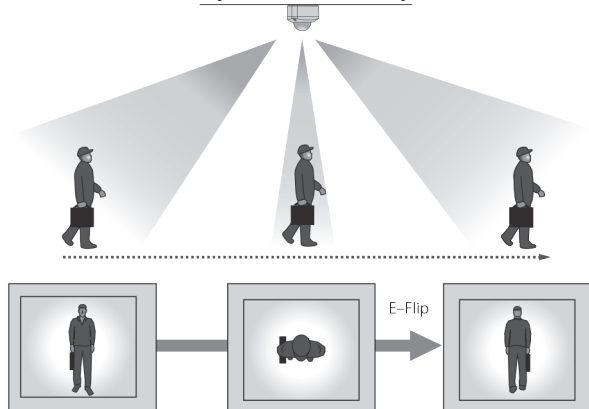
■ StableZoom™

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.



Monitor

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). Also, on systems equipped with an IR light, the internal data of the camera is used to make the proper decisions to avoid malfunctions. Auto ICR Mode operates with the AE Full Auto setting.

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

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).

Spot Focus

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.

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.

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) Function

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 16 (horizontally) \times 8 (vertically) blocks.

You can set up to four frames.

When the motion is detected in the set frame, the Alarm Replay VISCA Command is sent.



* Sample image

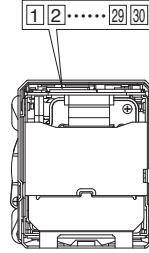


* Sample image

Pin Assignment (CN701)

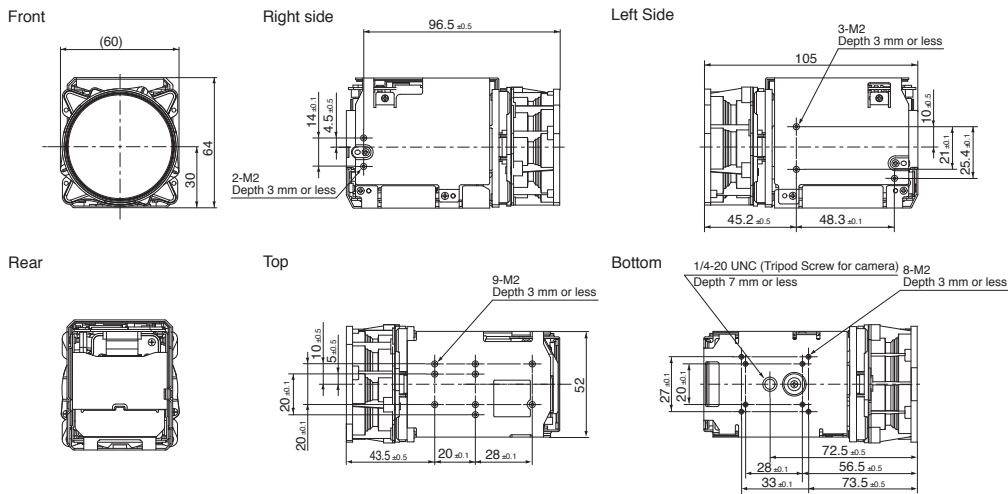
Pin No.	I/O	Name	Level
1	-	GND	
2	O	TMDS Clock -	
3	O	TMDS Clock +	
4	-	GND	
5	O	TMDS Data 0 -	
6	O	TMDS Data 0 +	
7	-	GND	
8	O	TMDS Data 1 -	
9	O	TMDS Data 1 +	
10	-	GND	
11	O	TMDS Data 2 -	
12	O	TMDS Data 2 +	
13	-	GND	
14	-	NC	
15	-	NC	
16	-	NC	
17	I	Hot Plug Detect	TMDS Out : 5V DC TMDS Stop : Open or GND
18	O	+ 5V Power	
19	-	USB_VBUS	USB Active : 5V DC USB InActive : Opensor GND
20	O	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	
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

Connector (CN701)



Connector: USL00-30L-C (KEL Co.)

Dimensions



Unit: mm

Specifications

		FCB-ER8300
Basic specifications		
Image Sensor		1/2.3 type Exmor R CMOS
Image Sensor (Number of Effective Pixels)		Approx. 8.93 Mega Pixels
Signal System	4K	2160p/29.97, 2160p/25
	FHD/HD	1080p/59.94, 1080p/50, 1080p/29.97, 1080p/25, 1080i/59.94, 1080i/50, 720p/59.94, 720p/50, 720p/29.97, 720p/25
Minimum Illumination (50%, High Sensitivity Mode)		Color: 0.75 lx (F1.8, AGC on, 1/30 s)
Minimum Illumination (50%, Normal Mode)		Color: 3 lx (F1.8, AGC on, 1/30 s)
Recommended Illumination		100 lx to 100,000 lx
SNR		-
Gain		Auto/Manual (0 dB to 33 dB) Max. Gain Limit (9 dB to 33 dB)
Shutter Speed		1/1 s to 1/10,000 s, 22 steps
Sync System		Internal
Exposure Control		Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation
Backlight Compensation		Yes
Aperture Control		16 steps
White Balance		Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto/Outdoor Auto), One-push, Manual
Lens		12x optical zoom, f = 3.9 mm (wide) to 46.8 mm (tele) F1.8 to F2.0
Digital Zoom		12x (144x with optical zoom)
Focusing System		Auto (Sensitivity: normal, low), One-push AF, Manual, Interval AF, Zoom Trigger AF, Focus compensation in ICR on
Horizontal Viewing Angle (2016p Mode)		70.7° (wide end) to 6.2° (tele end)
Horizontal Viewing Angle (1080p Mode)		70.7° (wide end) to 6.2° (tele end)
Horizontal Viewing Angle (720p Mode)		70.7° (wide end) to 6.2° (tele end)
Horizontal Viewing Angle (SD)		-
Minimum Object Distance		10 mm (wide end) to 2,100 mm (tele end)
Camera Features		
Auto ICR		Yes
Wide-D ^{*1}		-
Visibility Enhancer		Yes
Defog		Yes (low/mid/high)
High Light Compensation		Yes
Noise Reduction		Yes (3D+2D) /Independent (3D, 2D)
Progressive Scan Mode		Yes
Image Stabilization		Yes
StableZoom ^{*1}		Yes
Digital Output		Yes
Spherical Privacy Zone Masking		Yes
Motion Detection		Yes
Alarm (Auto ICR)		Yes
Slow AE Response		Yes
Picture Effects		E-Flip, Black & White, Mirror image
Picture Freeze		Yes
Slow Shutter		Yes
Temperature Readout		Yes
Title Display		20 characters/line, max. 11 lines
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
Camera Control Interface		VISCA (CMOS 3.1 V level), Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps, 57.6 Kbps, 115.2 Kbps, Stop bit: 1 bit
General		
Power Requirements		6.0 V to 12.0 V DC
Power Consumption		2.9 W (zoom/focus inactive), 3.7 W (zoom/focus active)
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)		60.0 x 64.0 x 105.0 mm (2 ³ / ₈ x 2 ⁵ / ₈ x 4 ¹ / ₄ inches)
Mass		Approx. 385 g (Approx. 13.6 oz)

*1 StableZoom: Stable zoom incases the magnification is that combined optical zoom and digital zoom.