



FCB-EH6300



FCB-EH3400



FCB-EH3300

# FCB-EH Series

High Definition Color Block Cameras

# INTRODUCTION

Sony, a leader in high-definition (HD) technology, is expanding its FCB Block Camera Series with the addition of three new HD resolution cameras. In response to the growing demand for high-quality and high-resolution images that only HD can offer, the FCB- EH Series offers a range of 20x to 28x optical zoom lens options with outstanding features for surveillance, intelligent traffic, unmanned vehicles, photo booths, police vehicles, low vision and videoconferencing applications.

The flagship FCB-EH6300 camera incorporates a 1/2.8-type Exmor™ CMOS image sensor with 1080p resolution. The FCB-EH3400 and FCB-EH3300 cameras incorporate a 1/4-type Exmor CMOS image sensor with 720p resolution. All three cameras inherit a multitude of features from Sony's world-renowned FCB Series such as Wide-D, Auto ICR and Spherical Privacy Zone Masking. With this breadth of choices, it has never been easier to select the right Sony camera for your specific imaging applications.

	FCB-EH6300	FCB-EH3400	FCB-EH3300
Imager sensor	1/2.8-type	1/4-type	1/4-type
Lens	20x	28x	20x
Picture Quality	Full HD 1080p (1920 x 1080)	HD 720p (1280 x 720)	
Minimum illumination*	0.5 lx (F1.6, 50%)	0.25 lx (F1.35, 50%)	
Digital zoom	12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)
Wide-D (Wide dynamic range)	●	●	●
Image stabilization		●	
StableZoom		●	
Auto ICR (Auto IR-cut Filter Removal)	●	●	●
Spherical privacy zone masking	●	●	●
Noise reduction	●	●	●
Slow AE response	●	●	●

\* High sensitivity mode

## KEY FEATURES

### Excellent high-definition (HD) picture quality

The Exmor CMOS sensor realizes high image quality and high sensitivity

### Powerful zoom capability

### Bright, fast and robust 28x zoom lens

The FCB-EH3400 incorporates a new 28x bright zoom lens with  $f=1.35$ . This lens has a fast zooming capability (approx. 2.6 seconds from tele end to wide end) and high durability.

### Various output modes

#### ■ HD

Analog: Component (Y/Pb/Pr)

Digital: Y/Cb/Cr 4:2:2 via LVDS (Y: 8-bit, C: 8-bit, V-sync, H-sync, Field and Clock)

#### ■ SD

VBS

### Simple connection - one cable, one connector

- Covering video, VISCA communication and power supply with a single cable.
- Supports both 30-pin micro coaxial (digital and analog output) and 24-pin FFC (analog output only) interfaces.

### Image Stabilization\*

The FCB-EH3400 is equipped with an image-stabilization function which minimizes the appearance of shaky images caused by low-frequency vibration. This function is useful for outdoor surveillance and traffic monitoring applications.

\* When image stabilization is activated, residual movement may appear at the top and bottom of the image.

### StableZoom™ Mode

The FCB-EH3400 adopts a new method of image stabilization by using the digital zoom. In StableZoom mode, this function starts naturally without bringing an abrupt change to the horizontal angle of view.

## Video Mode Change on The Fly

Without any power cycle, it is possible to change the video mode from 1080p/29.97 mode to 720p/59.94 mode for example.

## Security-oriented functions include:

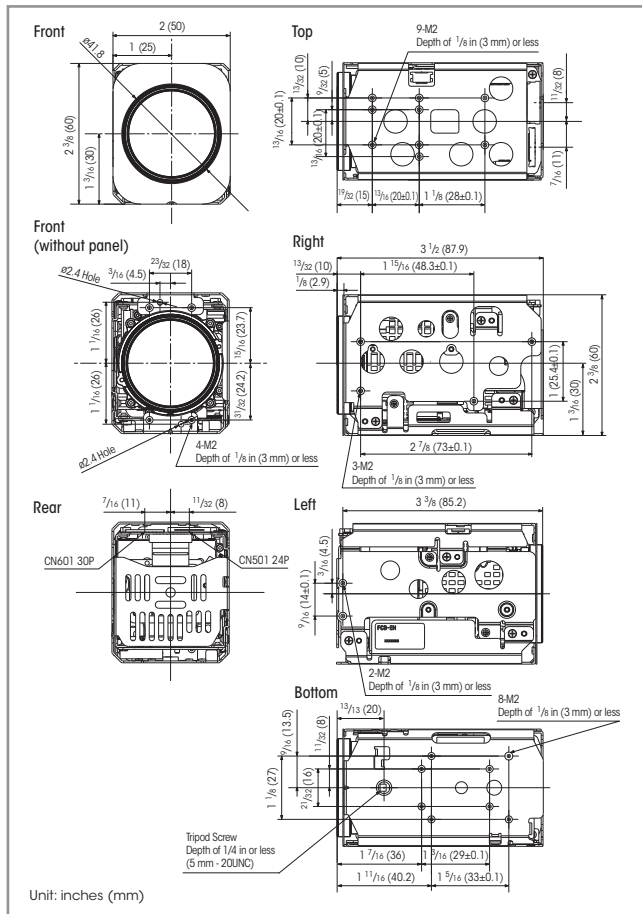
- Wide-D technology (On/Off/Auto/Ratio fix)
- Day/Night function (On/Off/Auto/Threshold enabled)
- Digital noise reduction (Up to 5 levels)
- Spherical privacy zone masking (24 zones with various PTZ controls)
- Motion detection alarm (4 zones with several triggering and threshold modes)

## Other Features

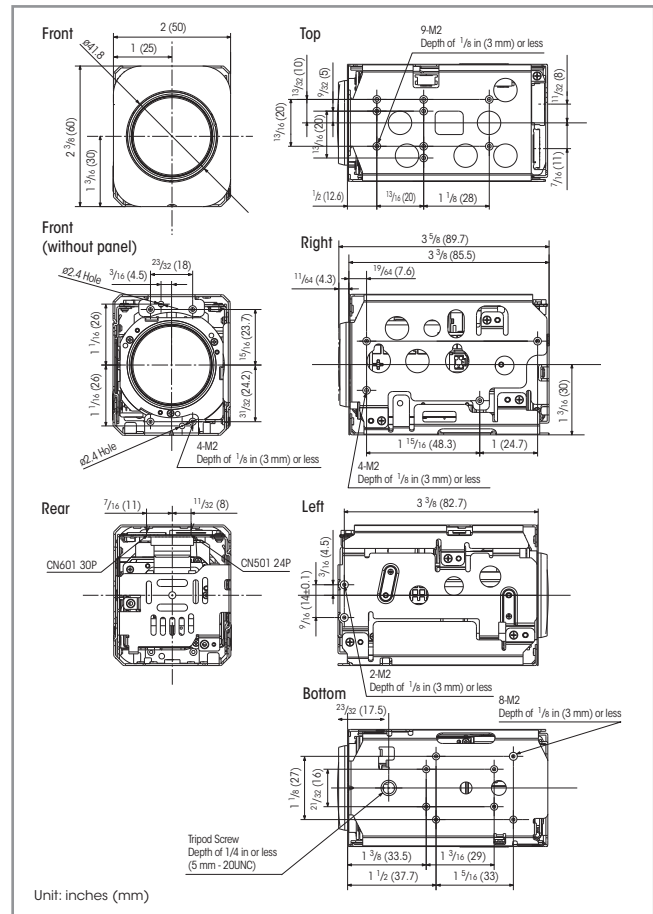
- Various modes for White Balance (Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp Fix/Auto, One-push, Manual)
- Picture effects (E-Flip, Nega Art, Black & White, Mirror Image, Color Enhancement)
- Picture freeze
- Temperature readout
- Slow AE response (Approx. 5 min.)
- Title display (20 characters per line, max. 11 lines)
- Camera mode display (English)
- Electronic shutter/slow shutter
- Spot AE
- High Sensitivity Mode
- IR Focus Correction Function
- 4 Levels of Chrominance Suppression

# DIMENSIONS

FCB-EH6300



FCB-EH3400/FCB-EH3300



# SPECIFICATIONS

		FCB-EH6300	FCB-EH3400	FCB-EH3300
<b>Camera</b>				
Image sensor	Type	1/2.8-type Exmor CMOS	1/4-type Exmor CMOS	1/4-type Exmor CMOS
	Number of effective pixels	Approx. 3.27 Megapixels	Approx. 1.43 Megapixels	Approx. 1.43 Megapixels
Image size (H x V)		1920 x 1080, 1280 x 720, 720 x 480, 720 x 576	1280 x 720, 720 x 480, 720 x 576	1280 x 720, 720 x 480, 720 x 576
Lens		20x optical zoom	28x optical zoom	20x optical zoom
		f=4.7 mm (wide) to 94.0 mm (tele)	f=3.5 mm (wide) to 98.0 mm (tele)	f=3.5 mm (wide) to 70.0 mm (tele)
		F1.6 to F3.5	F1.35 to F3.7	F1.35 to F3.4
Digital zoom		12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)
Angle of view (H)	1080p mode	55.4°(wide end) to 2.9°(tele end)	–	–
	720p mode	37.6°(wide end) to 2.0°(tele end)	55.9°(wide end) to 2.1°(tele end)	55.9°(wide end) to 2.9°(tele end)
Minimum object distance		10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,500 mm (tele end) (Default: 300 mm)	10 mm (wide end) to 1,500 mm (tele end) (Default: 300 mm)
Sync system		Internal	Internal	Internal
Minimum illumination (50%)	High sensitivity mode	0.5 lx (F1.6, ICR off) 0.095 lx (F1.6, ICR on)	0.25 lx (F1.35, ICR off) 0.03 lx (F1.35, ICR on)	0.25 lx (F1.35, ICR off) 0.03 lx (F1.35, ICR on)
	Normal mode	1.7 lx (F1.6, ICR off) 0.3 lx (F1.6, ICR on)	1.0 lx (F1.35, ICR off) 0.1 lx (F1.35, ICR on)	1.0 lx (F1.35, ICR off) 0.1 lx (F1.35, ICR on)
Recommended illumination		100 lx to 100,000 lx	100 lx to 100,000 lx	100 lx to 100,000 lx
S/N ratio		More than 50 dB	More than 50 dB	More than 50 dB
Signal system	HD	1080p/29.97, 1080p/25, 1080i/59.94 (Frame out: 29.97 Psf), 1080i/50 (Frame out: 25 Psf) 720p/59.94, 720p/50, 720p/29.97, 720p/25	720p/59.94, 720p/50, 720p/29.97, 720p/25	720p/59.94, 720p/50, 720p/29.97, 720p/25
	SD	NTSC, PAL	NTSC, PAL	NTSC, PAL
Video output	HD	Analog: Component (Y/Pb/Pr) Digital: Y/Cb/Cr 4:2:2 via LVDS (Signal format conforms to SMPTE274/ SMPTE296.)	Analog: Component (Y/Pb/Pr) Digital: Y/Cb/Cr 4:2:2 via LVDS (Signal format conforms to SMPTE296.)	Analog: Component (Y/Pb/Pr) Digital: Y/Cb/Cr 4:2:2 via LVDS (Signal format conforms to SMPTE296.)
	SD	VBS	VBS	VBS
Camera control interface		VISCA (CMOS 5 V level) Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps Stop bit: 1 bit	VISCA (CMOS 5 V level) Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps Stop bit: 1 bit	VISCA (CMOS 5 V level) Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps Stop bit: 1 bit
Electronic shutter speed		1/1 to 1/10,000 s, total 22 steps	1/1 to 1/10,000 s, total 22 steps	1/1 to 1/10,000 s, total 22 steps
White balance		Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto), One-push, Manual	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto), One-push, Manual	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto), One-push, Manual
Gain		Auto/Manual (-3 dB to +28 dB, +2 dB step/total 16 steps) Max. Gain Limit (+6 dB to +28 dB, +2 dB step/ total 12 steps)	Auto/Manual (-3 dB to +28 dB, +2 dB step/total 16 steps) Max. Gain Limit (+6 dB to +28 dB, +2 dB step/ total 12 steps)	Auto/Manual (-3 dB to +28 dB, +2 dB step/total 16 steps) Max. Gain Limit (+6 dB to +28 dB, +2 dB step/ total 12 steps)
AE control		Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE	Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE	Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE
Focusing system		Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity Interval AF, Zoom Trigger AF, Focus compensation in ICR on	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity Interval AF, Zoom Trigger AF, Focus compensation in ICR on	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity Interval AF, Zoom Trigger AF, Focus compensation in ICR on
EV compensation		No	No	No
Backlight compensation		Yes	Yes	Yes
Aperture control		16 steps	16 steps	16 steps
Preset		6 positions	6 positions	6 positions
<b>Camera Features</b>				
Wide-D (°)		Yes (On/Off/Auto) **	Yes (On/Off/Auto)	Yes (On/Off/Auto)
Image stabilization		No	Yes	No
StableZoom		No	Yes (33x)	No
Digital output		Yes	Yes	Yes
Auto ICR		Yes	Yes	Yes
Spherical privacy zone masking		Yes	Yes	Yes
Noise reduction		Yes (On/Off) (Level 5 to 1/Off total 6 steps)	Yes (On/Off) (Level 5 to 1/Off total 6 steps)	Yes (On/Off) (Level 5 to 1/Off total 6 steps)
Motion detection		Yes	Yes	Yes
Alarm		Yes	Yes	Yes
Slow AE response		Yes (Approx. 5 minutes)	Yes (Approx. 5 minutes)	Yes (Approx. 5 minutes)
Picture effects		Yes (E-Flip, Nega Art, Black & White, Mirror image, Color enhancement)	Yes (E-Flip, Nega Art, Black & White, Mirror image, Color enhancement)	Yes (E-Flip, Nega Art, Black & White, Mirror image, Color enhancement)
Picture freeze		Yes	Yes	Yes
Slow shutter		Yes	Yes	Yes
Temperature readout		Yes	Yes	Yes
Title display		Yes (20 characters/line, max. 11 lines)	Yes (20 characters/line, max. 11 lines)	Yes (20 characters/line, max. 11 lines)
Camera mode display		Yes	Yes	Yes
Key switch control		No	No	No
Camera operation switch		No	No	No
<b>General</b>				
Storage temperature		-4°F to +140°F (-20°C to +60°C)	-4°F to +140°F (-20°C to +60°C)	-4°F to +140°F (-20°C to +60°C)
Storage humidity		20% to 95%	20% to 95%	20% to 95%
Operating temperature		23°F to +140°F (-5°C to +60°C)	23°F to +140°F (-5°C to +60°C)	23°F to +140°F (-5°C to +60°C)
Operating humidity		20% to 80%	20% to 80%	20% to 80%
Power requirements		6.0 V to 12.0 V DC	6.0 V to 12.0 V DC	6.0 V to 12.0 V DC
Power consumption		3.2 W (zoom/focus inactive) / 3.8 W (zoom/ focus active)	2.7 W (zoom/focus inactive) / 3.4 W (zoom/ focus active)	2.7 W (zoom/focus inactive) / 3.4 W (zoom/ focus active)
Weight		9.2 oz (260 g)	8.5 oz (240 g)	8.5 oz (240 g)
Dimensions (W x H x D)		2 x 2 3/8 x 3 1/2 inches (50.0 x 60.0 x 87.9 mm)	2 x 2 3/8 x 3 5/8 inches (50.0 x 60.0 x 89.7 mm)	2 x 2 3/8 x 3 5/8 inches (50.0 x 60.0 x 89.7 mm)

\* Wide dynamic range  
\*\* Half frame rate at Off mode

# PIN ASSIGNMENTS

## CN601 30-pin Micro Coaxial

(for power supply/communication/video out (analog/digital))

Pin No.	Name	Level
1	TXOUT3+	
2	TXOUT3-	
3	TXCLKOUT+	
4	TXCLKOUT-	
5	TXOUT2+	
6	TXOUT2-	
7	TXOUT1+	
8	TXOUT1-	
9	TXOUT0+	
10	TXOUT0-	
11	GND	
12	TxD	CMOS 5 V (Low: Max. 0.1 V, High: Min. 4.4 V)
13	RxD	CMOS 5 V (Low: Max. 0.8 V, High: Min. 2.0 V)
14	DC IN	6 to 12 V DC
15	DC IN	6 to 12 V DC
16	DC IN	6 to 12 V DC
17	DC IN	6 to 12 V DC
18	DC IN	6 to 12 V DC
19	GND	
20	GND	
21	GND	
22	GND	
23	GND	
24	GND	
25	NC	
26	RESET IN	RESET: Low (GND) Normal: Open (1.8 V)
27	VBS OUT	
28	Y OUT	HD Analog Component
29	Pb OUT	HD Analog Component
30	Pr OUT	HD Analog Component

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

## CN501 24-pin FFC

(for power supply/communication/video out (analog))

Pin No.	Name	Level
1	GND	
2	TxD	CMOS 5 V (Low: Max. 0.1 V, High: Min. 4.4 V)
3	RxD	CMOS 5 V (Low: Max. 0.8 V, High: Min. 2.0 V)
4	RESET IN	RESET: Low (GND) Normal: Open (1.8 V)
5	GND	
6	NC	
7	GND	
8	NC	
9	GND	
10	VBS OUT	
11	GND	
12	Y OUT	HD Analog Component
13	GND	
14	Pb OUT	HD Analog Component
15	GND	
16	Pr OUT	HD Analog Component
17	GND	
18	DC IN	6 to 12 V DC
19	DC IN	6 to 12 V DC
20	DC IN	6 to 12 V DC
21	DC IN	6 to 12 V DC
22	GND	
23	DC IN	6 to 12 V DC
24	GND	

Connector: 046240024006800+ (Kyocera Elica)

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