

FCB-EH Series

HD Colour Block Cameras



IMAGE SENSING SOLUTIONS

In response to the growing demand for high-quality and high-resolution images that only HD can deliver, the FCB- EH Series now offers a range of 12x to 28x optical zoom lens with outstanding features for surveillance, broadcast, unmanned vehicles, photo booths, police vehicles, low vision and videoconferencing applications.



FCB-EH6300



FCB-EH3410



FCB-EH3310



FCB-EH3150

FCB-EH6300
FCB-EH3410
FCB-EH3310
FCB-EH3150



Sony, a leader in high-definition (HD) technology, is expanding its FCB Block Camera Series with the addition of the new FCB-EH3150.

The flagship FCB-EH6300 camera incorporates a 1/2.8-type Exmor™ CMOS image sensor with Full HD (1920 x 1080) resolution. The FCB-EH3410, FCB-EH3310, and FCB-EH3150 cameras incorporate a 1/4-type Exmor CMOS image sensor with HD (1280 x 720) resolution. And the affordable FCB-EH3150 features a 12x optical zoom lens with superb HD (1280 x 720) resolution, and is the smallest camera in the FCB-EH camera family. All four 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 choice, it has never been easier to select the right Sony camera for your specific imaging applications.

* Wide dynamic range

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-EH3410 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 (High Definition)**

- 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 (Standard Definition)**
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)*1 interfaces

■ **Image Stabilization*2**

The FCB-EH3410 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.

■ **StableZoom™**

StableZoom is a function for performing correction using the image-stabilization function in accordance with the zoom ratio, and smoothly zooming up to approximately ×33 using a combination of the optical zoom and digital zoom. In StableZoom mode, this function starts naturally without bringing an abrupt change to the horizontal angle of view.

■ **Video mode changes on the fly**

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

■ **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 five levels)
- Spherical Privacy Zone Masking (24 zones with various PTZ controls)
- Motion detection alarm (four 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, Colour Enhancement)

■ **Picture freeze**

■ **Temperature readout**

■ **Slow AE response (approx. five minutes)**

■ **Title display (20 characters per line, max. 11 lines)**

■ **Camera mode display (English)**

■ **Electronic shutter/slow shutter**

■ **Spot AE**

■ **High Resolution mode**

■ **IR Focus Correction function**

■ **Four presets for gamma control**

■ **Four levels of chrominance suppression**

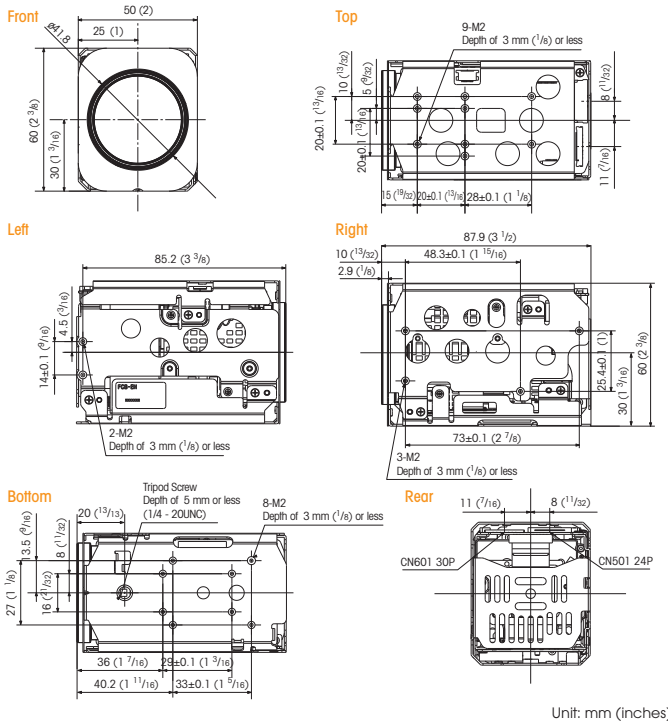
■ **Slow Shutter**

For more information please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

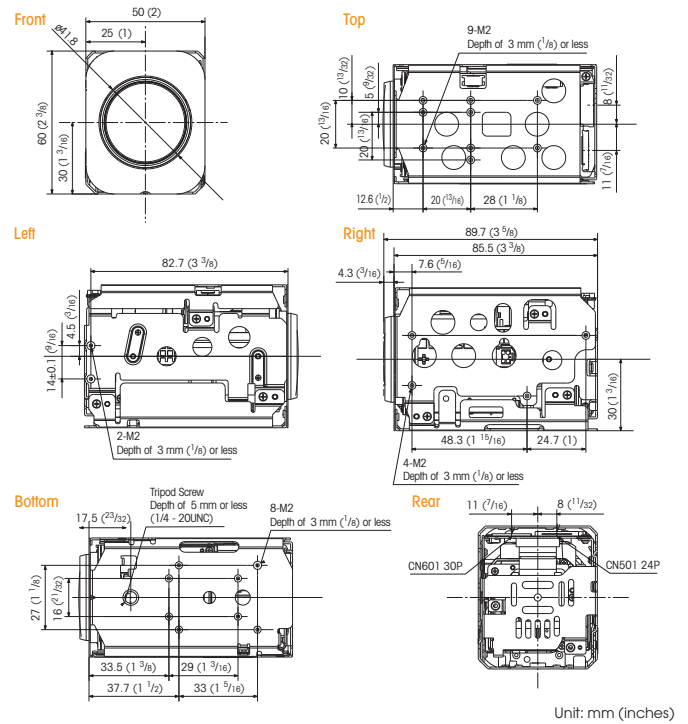
*1 The FCB-EH3150 does not have a 24-pin FFC.

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

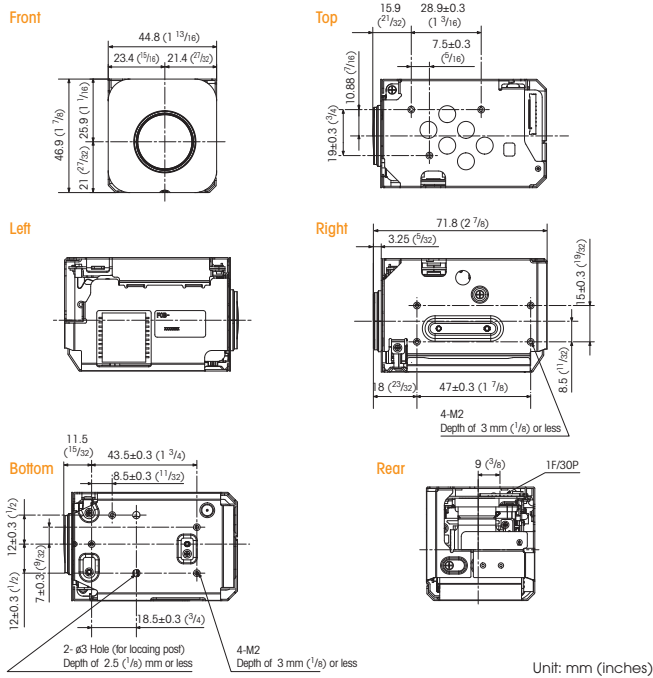
FCB-EH6300



FCB-EH3410/FCB-EH3310



FCB-EH3150



	FCB-EH6300	FCB-EH3410	FCB-EH3310	FCB-EH3150
Imager sensor	1/2.8-type	1/4-type	1/4-type	1/4-type
Lens	20x	28x	20x	12x
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%)	0.3 lx (F1.6, 50%)
Digital zoom	12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)	12x (144x with optical zoom)
Wide-D (Wide dynamic range)	●	●	●	●
Image stabilization		●		
StableZoom		●		
Auto ICR (Auto IR-cut Filter Removal)	●	●	●	●
Spherical privacy zone	●	●	●	●
Noise reduction	●	●	●	●
Slow AE response	●	●	●	●

* High sensitivity mode

		FCB-EH6300	FCB-EH3410	FCB-EH3310	FCB-EH3150
Camera					
Image sensor	Type	1/2.8-type Exmor CMOS	1/4-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	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	1280 x 720, 720 x 480, 720 x 576
Lens		20x optical zoom	28x optical zoom	20x optical zoom	12x 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)	f=3.7 mm (wide) to 44.4 mm (tele)
		F1.6 to F3.5	F1.35 to F3.7	F1.35 to F3.4	F1.6 to F2.5
Digital zoom		12x (240x with optical zoom)	12x (336x with optical zoom)	12x (240x with optical zoom)	12x (144x 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)	53.4°(wide end) to 4.6° (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)	10 mm (wide end) to 1,000 mm (tele end) (Default: 300 mm)
Sync system		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)	0.3 lx (F1.6, ICR off) 0.06 lx (F1.6, 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)	1.2 lx (F1.6, ICR off) 0.3 lx (F1.6, ICR on)
Recommended illumination		100 lx to 100,000 lx			
S/N ratio		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	720p/59.94, 720p/50, 720p/29.97, 720p/25
	SD	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.)	Analog: Component (Y/Pb/Pr) Digital: Y/Cb/Cr 4:2:2 via LVDS (Signal format conforms to SMPTE296.)
	SD	VBS			
Camera control interface		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			
White balance		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)			
AE control		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			
EV compensation		Yes			
Backlight compensation		Yes			
Aperture control		16 steps			
Preset		6 positions			
Camera Features					
Wide-D (*)	Yes (On/Off/Auto) **	Yes (On/Off/Auto)	Yes (On/Off/Auto)	Yes (On/Off/Auto)	Yes (On/Off/Auto)
Image stabilization	No	Yes	No	No	No
StableZoom	No	Yes (33x)	No	No	No
Digital output		Yes			
Auto ICR		Yes			
Spherical privacy zone masking		Yes			
Noise reduction		Yes (On/Off) (Level 5 to 1/Off total 6 steps)			
Motion detection		Yes			
Alarm		Yes			
Slow AE response		Yes (Approx. 5 minutes)			
Picture effects		Yes (E-Flip, Nega Art, Black & White, Mirror image, Colour enhancement)			
Picture freeze		Yes			
Slow shutter		Yes			
Temperature readout		Yes			
Title display		Yes (20 characters/line, max. 11 lines)			
Camera mode display		Yes			
Key switch control		No			
Camera operation switch		No			
General					
Storage temperature		-20°C to +60°C			
Storage humidity		20% to 95%			
Operating temperature		-5°C to +60°C			
Operating humidity		20% to 80%			
Power requirements		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)	2.7 W (zoom/focus inactive) / 3.4 W (zoom/focus active)
Mass		Approx. 260 g (9.2 oz)	Approx. 240 g (8.5 oz)	Approx. 240 g (8.5 oz)	Approx. 150 g (8.5 oz)
Dimensions (W x H x D)		50.0 x 60.0 x 87.9 mm (2 x 2 3/8 x 3 1/2 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 (2 x 2 3/8 x 3 5/8 inches)	44.8 x 46.9 x 71.8 mm (1 13/16 x 1 7/8 x 2 7/8 inches)

* Wide dynamic range ** Half frame rate compared to Off mode

CN601

30-pin Thin 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 Elco)

* The FCB-EH3150 does not have a 24-pin FFC.

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SONY
make.believe

FCB-EX Series

Colour Block Cameras

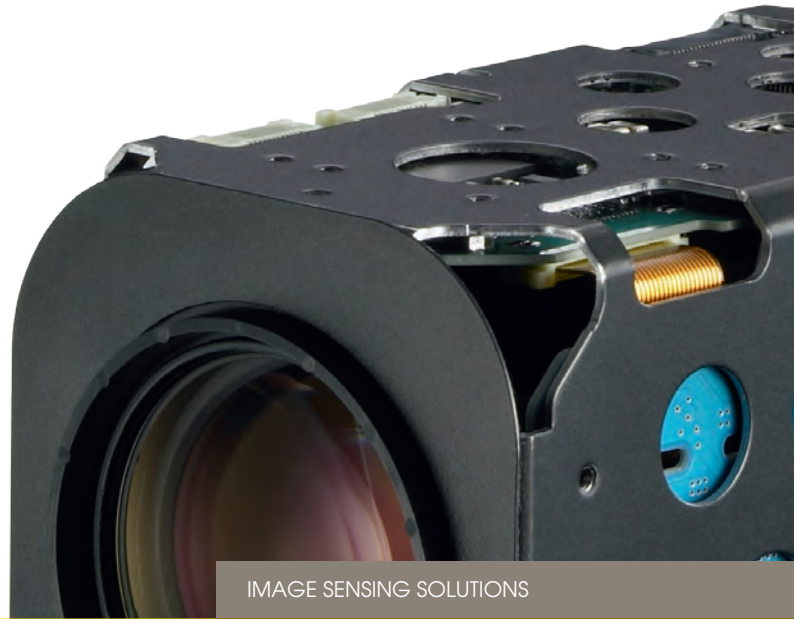


IMAGE SENSING SOLUTIONS

Sony's FCB Series of color block cameras offers excellent picture quality, superb flexibility, and easy operation in a variety of applications ranging from surveillance to traffic monitoring, and in many other visual communication environments.



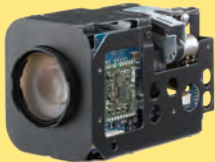
FCB-EX1020/
FCB-EX1020P



FCB-EX995E/
FCB-EX995EP



FCB-EX985E/
FCB-EX985EP



FCB-EX490E/
FCB-EX490EP



FCB-EX48E/
FCB-EX48EP



FCB-EX15E/
FCB-EX15EP



FCB-EX12E/
FCB-EX12EP

(NTSC Models)

- FCB-EX1020
- FCB-EX995E
- FCB-EX985E
- FCB-EX490E
- FCB-EX48E
- FCB-EX15E
- FCB-EX12E
- FCB-EX20D
- FCB-EX11D

(PAL Models)

- FCB-EX1020P
- FCB-EX995EP
- FCB-EX985EP
- FCB-EX490EP
- FCB-EX48EP
- FCB-EX15EP
- FCB-EX12EP
- FCB-EX20DP
- FCB-EX11DP



These cameras are specifically designed to be integrated into security domes/cameras, police vehicles, photo booths, document stands, and low-vision systems. There are nine cameras in the FCB-EX Series lineup, and each incorporates a wide variety of optical zoom lenses ranging from 10x to 36x. With this breadth of choice, it's never been easier to select the right camera for your specific monitoring applications.

Optical zoom lens

Optical Zoom Lens	36x	28x	18x	12x	10x
FCB-EX Series Cameras	FCB-EX1020 FCB-EX1020P	FCB-EX995E FCB-EX995EP FCB-EX985E FCB-EX985EP	FCB-EX490E FCB-EX490EP FCB-EX48E FCB-EX48EP	FCB-EX15E FCB-EX15EP FCB-EX12E FCB-EX12EP	FCB-EX20D FCB-EX20DP FCB-EX11D FCB-EX11DP

Features

1 Bright, Fast, and Robust 28x Zoom Lens

The camera incorporates a new 28x bright zoom lens with f=1.35. This lens has a fast zooming capability (2.5 seconds from tele end to wide end), and high durability.

3 Progressive Scan Broadens Capabilities

In Progressive Scan mode, the video signal is processed by progressive scan to achieve clear images without any flicker effect. Since network cameras typically have backend systems based on progressive scan, the original picture quality can be maintained without requiring conversion from interlace scan to progressive scan.

4 High-quality Digital Output

The camera is equipped with a digital interface (Y/Cb/Cr 4:2:2) which is comparable to ITU-R BT656. Using this digital interface means that the quality of the camera's video signal does not deteriorate. In addition, there is no need for an external analog/digital converter between the camera and any other equipment.

3 Various Operation Modes

The camera has four operation modes so you can choose the best one depending on your priorities for the application: for example, sensitivity, resolution or other factors.

4 Enhanced Noise Reduction

By combining 2D and 3D noise reduction, the camera offers a wide selection of noise reduction settings, from Level 1 to Level 5, to allow the user to choose the ideal level for different shooting conditions.

3 Wide Dynamic Range with New Technology

The Wide Dynamic Range (Wide-D) feature allows for the capture of clear images in extreme lighting conditions.

• Auto Mode

When shooting in high- or low-contrast lighting situations, the camera monitors the luminance differences within an image and automatically switches the Wide-D feature on and off, depending on the visibility of the subjects and the background.

• Interface Wide-D and Progressive Wide-D Modes

Interface Wide-D mode is ideally suited to high-contrast environments, while Progressive Wide-D mode is suited to low-contrast environments.

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Features

2 Image Stabilization

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

2 StableZoom™

StableZoom is a function for performing correction using the image-stabilization function in accordance with the zoom ratio, and smoothly zooming up using a combination of the optical zoom and digital zoom. In StableZoom mode, this function starts naturally without bringing an abrupt change to the horizontal angle of view.

4 High-resolution Images

The camera achieves a high horizontal resolution of 550 TV lines to reproduce very clear and detailed images.

4 High-sensitivity Images

The camera delivers exceptional high sensitivity - ideal for security applications. In particular, the FCB-EX985E and FCB-EX985EP achieve 0.25 lx (F1.35, 50IRE) by employing a Super HAD CCD II™ sensor and bright 28x lens (f=1.35).

4 Advanced White Balance

For the White Balance function, there are two different modes: Outdoor Auto mode and Sodium Vapor Lamp mode. These modes are designed to adapt to changing natural light outdoors, and to changing sodium vapor lamp lighting, respectively.

4 Extended Operation Temperature

The camera can operate in a range of temperature from -5°C to 60°C.

4 Temperature Readout

The camera unit's internal temperature can be read out via VISCA. This data can be used as reference data to activate peripherals such as a fan or heater inside the camera equipment.

4 Slow AE Response

These cameras allow the user to set the auto response speed (up to 10 minutes) to enable the cameras to adapt to changes in lighting conditions. For example, when shooting in an underground parking lot, valuable images could otherwise be missed when car headlights cause an abrupt change in lighting conditions.

4 Color Enhancement

Ideally suited to low-vision applications, new color enhancement options can make reading text and pictures less challenging. Full-color images can be changed to black and white, and then inverted into two selected colors.



Other Features

5 Auto IR-cut Filter Removal (Auto ICR)

6 Advanced Spherical Privacy Zone Masking

6 Electronic Flip (E-Flip)

6 Multi-line On-screen Display

6 Video Motion Detection

6 Picture Freeze

4 SMART (Sony Modular Automatic Lens Reset Technology)

4 Gain Limit Setting

4 Zoom Limit Setting

4 Zoom Speed-up in Zoom Direct Mode (Focus Trace On/Off)

4 Focus Compensation in ICR Mode

4 Alarm Signal Output in Auto ICR Mode

4 Image Stabilization Hold

Some features are incorporated in selected models only.

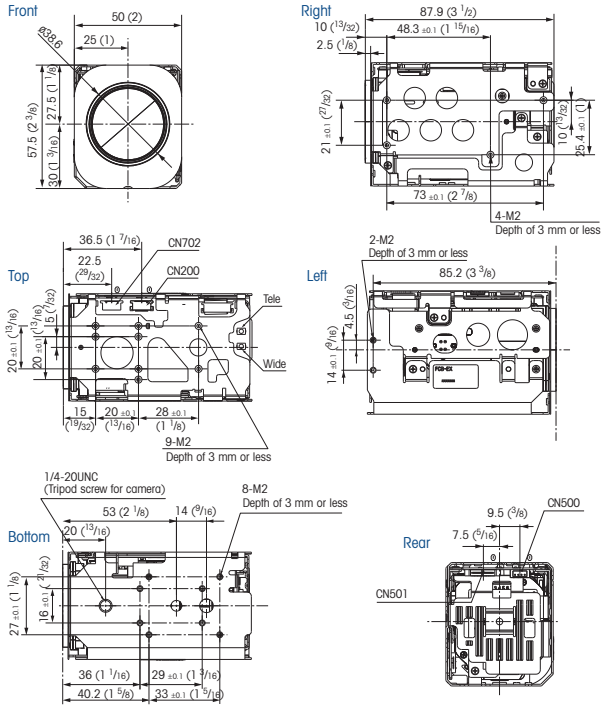
Please refer to the table below to check the feature set (icons **1** to **6**) of each model.

FCB-EX1020 FCB-EX1020P	FCB-EX995E FCB-EX995EP	FCB-EX985E FCB-EX985EP	FCB-EX490E FCB-EX490EP	FCB-EX48E FCB-EX48EP	FCB-EX15E FCB-EX15EP	FCB-EX12E FCB-EX12EP	FCB-EX20D FCB-EX20DP	FCB-EX11D FCB-EX11DP
	1	1						
2	2	2						
3	3		3		3			
4	4	4	4	4	4	4		
5	5	5	5		5	5	5	
6	6	6	6	6	6	6	6	6

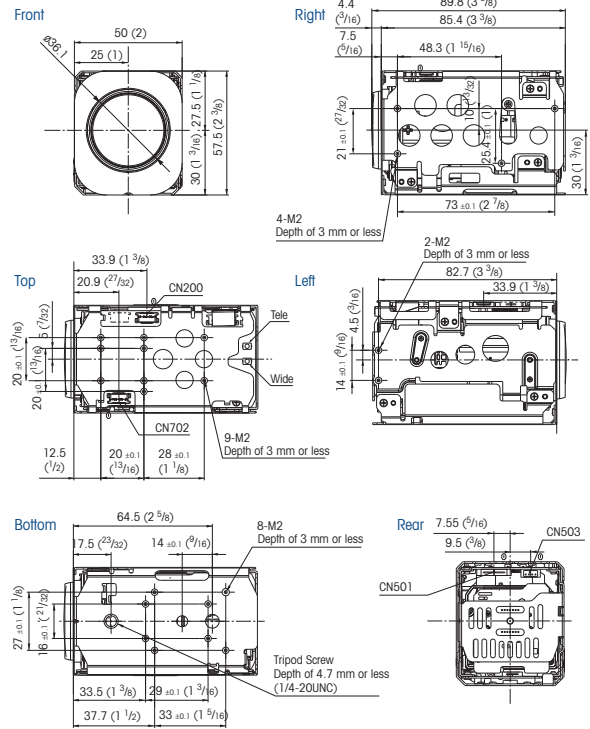
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Dimensions (mm)

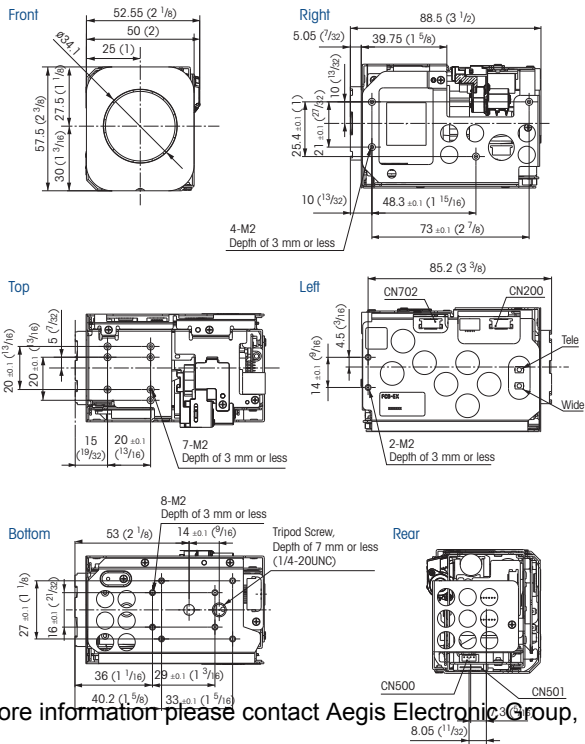
FCB-EX1020/FCB-EX1020P



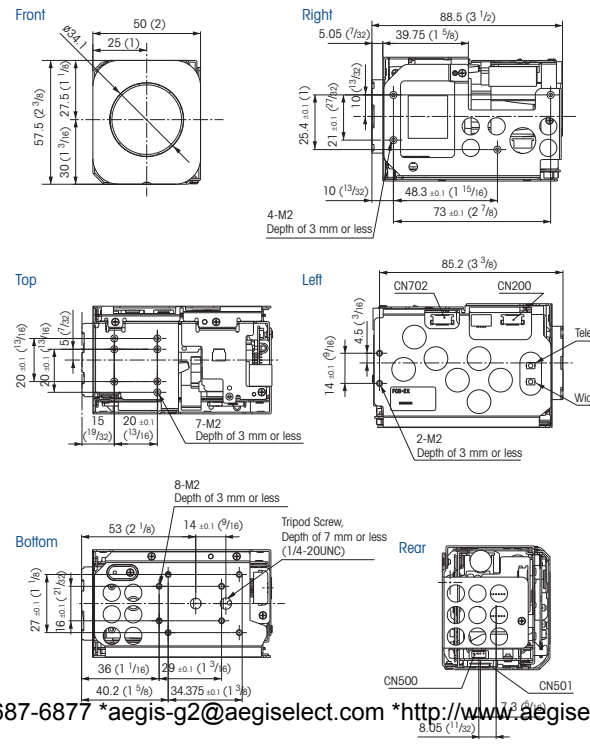
FCB-EX995E/FCB-EX995EP/FCB-EX985E/FCB-EX985EP



FCB-EX490E/FCB-EX490EP



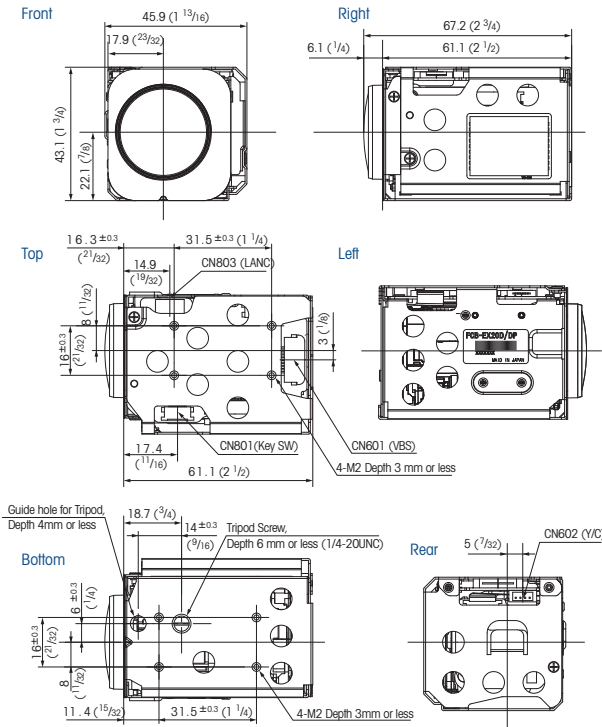
FCB-EX48E/FCB-EX48EP



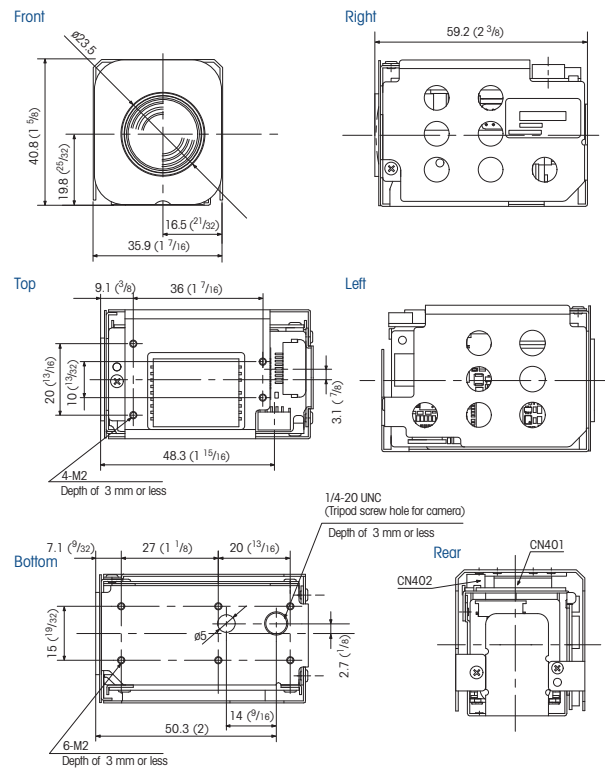


Dimensions (mm)

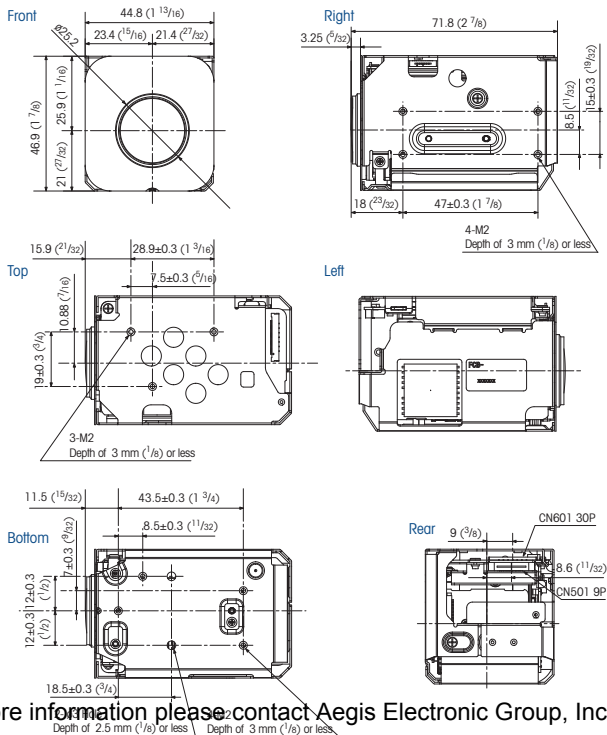
FCB-EX20D/FCB-EX20DP



FCB-EX11D/FCB-EX11DP



FCB-EX15E/FCB-EX15EP/FCB-EX12E/FCB-EX12EP



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Specifications

	FCB-EX1020	FCB-EX1020P	FCB-EX995E	FCB-EX995EP	FCB-EX985E	FCB-EX985EP	FCB-EX490E	FCB-EX490EP
Camera								
Signal systems	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
Image sensor	1/4-type EXview HAD CCD™ (Progressive Scan)				1/4-type Super HAD CCD II™ (Interface Scan)		1/4-type EXview HAD CCD™ (Progressive Scan)	
Effective number of pixels	380,000 pixels	440,000 pixels	380,000 pixels	440,000 pixels	380,000 pixels	440,000 pixels	380,000 pixels	440,000 pixels
Lens	36x optical zoom lens f=3.4 mm (wide) to 122.4 mm (tele) F1.6 to F4.5		28x optical zoom lens f=3.5 mm (wide) to 98.0 mm (tele) F1.35 to F3.7			18x optical zoom lens f=4.1 mm (wide) to 73.8 mm (tele) F1.4 to F3.0		
Digital zoom	12 x (432x with optical zoom)		12 x (336x with optical zoom)			12 x (216x with optical zoom)		
Angle of view (H)	57.8° (wide) to 1.7° (tele)		55.8° (wide) to 2.1° (tele)			48.0° (wide) to 2.8° (tele)		
Minimum object distance	10 mm (wide) to 1,500 mm (tele), *Default: 320 mm		10 mm (wide) to 1,500 mm (tele) *Default: 300 mm			10 mm (wide) to 800 mm (tele), *Default: 290 mm		
Sync system	Internal/External (V-lock)							
Minimum illumination (50IRE)	1.4 lx (F1.6, 50IRE)		0.65 lx (F1.35, 50IRE)		0.25 lx (F1.35, 50IRE)		0.7 lx (F1.4, 50IRE)	
Recommended illumination	100 lx to 100,000 lx							
S/N ratio	More than 50 dB							
Video output	Analog VBS: 1.0 Vp-p (sync negative), Y/C							
	Digital Y/Cb/Cr 4:2:2 (comparable to ITU-R BT656)							
Camera control interface	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 sec to 1/10,000 sec, 22 steps							
White balance	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (fix/auto), One-push, Manual							
Gain	Auto/Manual/Max. Gain Limit (-3 dB to +28 dB, 2 dB steps)							
AE control	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 Mode							
EV compensation	Yes							
Backlight compensation	Yes							
Aperure control	16 steps							
Preset	6 positions							
Camera Features								
Wide-D (*) Auto mode	Yes				No		Yes	
Wide-D IS/PS mode	Yes				No		Yes	
Image stabilization	Yes							No
StableZoom	Yes (43x)		Yes (33x)				No	
Digital output	Yes							
Enhanced noise reduction	Yes							
Auto ICR	Yes							
Spherical privacy zone masking	Yes							
Motion detection	Yes							
Alarm	Yes							
Slow AE response	Yes (Longer than 10 minutes)							
Picture effects	Yes (E-Flip, Nega Art, Black & White, Mirror image, Color Enhancement)							
Picture freeze	Yes							
Slow shutter	Yes							
Temperature readout	Yes							
Title display	Yes (20 characters/line, max. 11 lines)							
Camera mode display	Yes (English*/Chinese) *default							
Key switch control	Yes							
Multi-line OSD	Yes							
Flicker cancel	Yes (Auto)	-	Yes (Auto)	-	Yes (Auto)	-	Yes (Auto)	-
General								
Storage temperature	-20°C to +60°C							
Storage humidity	20% to 95%							
Operating temperature	-5°C to +60°C							
Operating humidity	20% to 80%							
Power requirements	DC 6.0 V to 12.0 V							
Power consumption	2.4 W (motors active: 5.1 W)		2.6 W (motors active: 5.0 W)		2.2 W (motors active: 4.6 W)		2.4 W (motors active: 4.4 W)	
Mass	230 g (8.1 oz)		238 g (8.4 oz)				230 g (8.1 oz)	
Dimensions (W x H x D)	50.0 x 57.5 x 87.9 mm (2 x 2 3/8 x 3 1/2 inches)		50.0 x 57.5 x 89.8 mm (2 x 2 3/8 x 3 5/8 inches)				50.0 x 57.5 x 88.5 mm (2 x 2 3/8 x 3 1/2 inches)	

For more information please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

* Wide dynamic range

	FCB-EX48E	FCB-EX48EP	FCB-EX15E	FCB-EX15EP	FCB-EX12E	FCB-EX12EP	FCB-EX20D	FCB-EX20DP	FCB-EX11D	FCB-EX11DP
Camera										
Signal systems	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
Image sensor	1/4-type CCD (Interlace Scan)		1/4-type EXview HAD CCD™ (Progressive Scan)		1/4-type CCD (Interlace Scan)		1/3-type Super HAD CCD II™ (Interlace Scan)		1/4-type EXview HAD CCD™ (Interlace Scan)	
Effective number of pixels	380,000 pixels	440,000 pixels	380,000 pixels	440,000 pixels	380,000 pixels	440,000 pixels	380,000 pixels	440,000 pixels	380,000 pixels	440,000 pixels
Lens	18x optical zoom lens f=4.1 mm (wide) to 73.8 mm (tele) F1.4 to F3.0		12x optical zoom f=3.7 mm (wide) to 44.4 mm (tele) F1.6 to F2.5		12x optical zoom f=3.7 mm (wide) to 44.4 mm (tele) F1.6 to F2.5		10x optical zoom lens f = 5.1 mm (wide) to 51.0 mm (tele) F1.8 to F2.1		10x optical zoom lens f = 4.2 mm (wide) to 42.0 mm (tele) F1.8 to F2.9	
Digital zoom	12x (216x with optical zoom)		12x (144x with optical zoom)		12x (144x with optical zoom)		12x (120x with optical zoom)		12x (120x with optical zoom)	
Angle of view (H)	48.0° (wide) to 2.8° (tele)		53.6° (wide end) to 4.6° (tele end)		53.6° (wide end) to 4.6° (tele end)		52.0° (wide) to 5.4° (tele)		46.0° (wide) to 4.6° (tele)	
Minimum object distance	10 mm (wide) to 800 mm (tele), *Default: 290 mm				10 mm (wide) to 800 mm (tele), *Default: 150 mm			10 mm (wide) to 800 mm (tele), *Default: 200 mm		
Sync system	Internal / External (V-lock)									
Minimum illumination (50IRE)	0.4 lx (F1.4, 50IRE)		0.95 lx (F1.6, ICR off) 0.02 lx (F1.6, ICR on)		0.6 lx (F1.6, ICR off) 0.01 lx (F1.6, ICR on)		1/60 s, 1/50 s mode: 0.25 lx (typical) (F1.8, 50IRE) 1/4 s, 1/3 s mode: 0.015 lx (typical) (F1.8, 50IRE) 1/4 s, 1/3 s mode & ICR On: 0.0004 lx (typical) (F1.8, 50IRE)		1.0 lx (typical) (F1.8, 50IRE)	
Recommended illumination	100 lx to 100,000 lx									
S/N ratio	More than 50 dB									
Video output	Analog	VBS: 1.0 Vp-p (sync negative), Y/C		VBS: 1.0 Vp-p (sync negative)			VBS: 1.0 Vp-p (sync negative), Y/C		VBS: 1.0 Vp-p (sync negative), Y/C	
	Digital	Y/Cb/Cr 4:2:2 (comparable to ITU-R BT656)		Y/Cb/Cr 4:2:2 via LVDS (comparable to ITU-R BT656)						
Camera control interface	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 sec to 1/10,000 sec, 22 steps									
White balance	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (fix/auto), One-push, Manual						Auto, ATW, Indoor, Outdoor, 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 steps)					
AE control	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 Mode						Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF		Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF	
EV compensation	Yes									
Backlight compensation	Yes									
Aperture control	16 steps									
Preset	6 positions									
Camera Features										
Wide-D (*) Auto mode	No		Yes			No				
Wide-D IS/PS mode	No		Yes			No				
Image stabilization	No									
StableZoom	No									
Digital output	Yes				No					
Enhanced noise reduction	Yes				No					
Auto ICR	No		Yes			No				
Spherical privacy zone masking	Yes									
Motion detection	Yes									
Alarm	Yes				No					
Slow AE response	Yes (Longer than 10 minutes)		Yes (Longer than 10 minutes)			Yes (Up to 32 times)				
Picture effects	Yes (E-Flip, Nega Art, Black & White, Mirror image, Color Enhancement)						Yes (E-Flip, Nega Art, Black & White, Mirror, Image)			
Picture freeze	Yes									
Slow shutter	Yes									
Temperature readout	Yes				No					
Title display	Yes (20 characters/line, max. 11 lines)									
Camera mode display	Yes (English*/Chinese) *default									
Key switch control	Yes		No			Yes		No		
Multi-line OSD	Yes									
Flicker cancel	Yes (Auto)	-	Yes (Auto)	-	Yes (Auto)	-	Yes (Auto)	-	Yes (Auto)	-
General										
Storage temperature	-20°C to +60°C									
Storage humidity	20% to 95%									
Operating temperature	-5°C to +60°C						0°C to +50°C			
Operating humidity	20% to 80%									
Power requirements	DC 6.0 V to 12.0 V		6.0 V to 12.0 V DC			DC 6.0 V to 12.0 V				
Power consumption	2.0 W (motors active: 3.1 W)		2.4 W (zoom/focus inactive) / 3.6 W (zoom/focus active)		1.9 W (zoom/focus inactive) / 3.2 W (zoom/focus active)		2.8 W (motors active: 6.5 W)		1.9 W (motors active: 2.8 W)	
Mass	230 g (8.1 oz)		150 g (5.3 oz)			140 g (5 oz)		95 g (3.3 oz)		
Dimensions (W x H x D)	50.0 x 57.5 x 88.5 mm (2 x 2 3/8 x 3 1/2 inches)		44.8 x 46.9 x 71.8 mm (1 13/16 x 1 7/8 x 2 7/8 inches)			45.9 x 43.1 x 67.2 mm (1 13/16 x 1 3/4 x 2 3/4 inches)		35.9 x 40.8 x 59.2 mm (1 7/16 x 1 5/8 x 2 3/8 inches)		

For more information please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

4-pin for Y/C Video Out

CN500

FCB-EX1020/FCB-EX1020P
FCB-EX995E/FCB-EX995EP
FCB-EX985E/FCB-EX985EP
FCB-EX490E/FCB-EX490EP
FCB-EX48E/FCB-EX48EP

CN602

FCB-EX20D/FCB-EX20DP

CN402

FCB-EX11D/FCB-EX11DP

Pin No.	Name	Level
1	Y_OUT	1.0 Vp-p (75 Ω terminate) Luminance signal
2	GND (for Y signal)	-
3	C_OUT	Chrominance signal
4	GND (for C signal)	-

Connector: JST S4B-ZR-SM4A-TF (LF)

9-pin for DC/Video Out

CN501

FCB-EX1020/FCB-EX1020P
FCB-EX995E/FCB-EX995EP
FCB-EX985E/FCB-EX985EP
FCB-EX490E/FCB-EX490EP
FCB-EX48E/FCB-EX48EP
FCB-EX15E/FCB-EX15EP
FCB-EX12E/FCB-EX12EP

CN601

FCB-EX20D/FCB-EX20DP

CN401

FCB-EX11D/FCB-EX11DP

Pin No.	Name	Level
1	RxD	CMOS 5.0 V (Low: max 0.8 V, High: min 2.0 V) Read Data
2	TxD	CMOS 5.0 V (Low: max 0.1 V, High: min 4.4 V) Send Data
3	GND (for RxD & TxD)	-
4	DC IN	9.0 V \pm 3.0 V
5	GND (for DC IN)	-
6	VBS OUT	1.0 Vp-p (75 Ω terminate)
7	GND (for VBS OUT)	-
8	V LOCK PULSE	External VD-Lock Pulse (Negative, 3.0 Vp-p 50% duty)
9	GND (for V LOCK PULSE)	-

Connector: KYOCERA ELCO 00 6200 509 130 000+

12-pin for Digital Out

CN200

FCB-EX1020/FCB-EX1020P FCB-EX985E/FCB-EX985EP FCB-EX48E/FCB-EX48EP
FCB-EX995E/FCB-EX995EP FCB-EX490E/FCB-EX490EP

Pin No.	Name	Level
1	GND	
2	Digital Out 0	0 - 3.3 Vp-p
3	Digital Out 1	0 - 3.3 Vp-p
4	Digital Out 2	0 - 3.3 Vp-p
5	Digital Out 3	0 - 3.3 Vp-p
6	Digital Out 4	0 - 3.3 Vp-p
7	Digital Out 5	0 - 3.3 Vp-p
8	Digital Out 6	0 - 3.3 Vp-p
9	Digital Out 7	0 - 3.3 Vp-p
10	GND	
11	CLOCK	0 - 3.3 Vp-p
12	GND	

Connector: KYOCERA ELCO 08 6222 012 101 848+ (FFC 0.5 mm Pitch)

30-pin for Digital Out

CN601

FCB-EX15E/FCB-EX15EP
FCB-EX12E/FCB-EX12EP

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	GND	
26	GND	
27	VBS OUT	
28	GND	
29	V LOCK PULSE	
30	GND	

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

12-pin for Key Switch Control

CN702

FCB-EX1020/FCB-EX1020P
FCB-EX995E/FCB-EX995EP
FCB-EX985E/FCB-EX985EP

CN801

FCB-EX490E/FCB-EX490EP FCB-EX20D/FCB-EX20DP
FCB-EX48E/FCB-EX48EP

Pin No.	Name	Level
1	GND	-
2	GND	-
3	KEY_AD0	Pull up to 3.0 V by 100 k Ω
4	KEY_AD1	Pull up to 3.0 V by 100 k Ω
5	KEY_AD2	Pull up to 3.0 V by 100 k Ω
6	KEY_AD3	Pull up to 3.0 V by 100 k Ω
7	KEY_AD4	Pull up to 3.0 V by 100 k Ω
8	KEY_AD5	Pull up to 3.0 V by 100 k Ω
9	KEY_AD6	Pull up to 3.0 V by 100 k Ω
10	KEY_AD7	Pull up to 3.0 V by 100 k Ω
11	NC	-
12	Strobe	Strobe timing pulse (0 to 3.0 V)

Connector: KYOCERA ELCO 08 6222 012 101 848+

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For more information please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

SONY
make.believe

FCB-EX Series

Colour Block Cameras



IMAGE SENSING SOLUTIONS

Sony's FCB Series of colour block cameras offers excellent picture quality, superb flexibility, and easy operation in a variety of applications ranging from surveillance to traffic monitoring, and in many other visual communication environments.



FCB-EX1000/
FCB-EX1000P



FCB-EX980S/FCB-EX980SP
FCB-EX980/FCB-EX980P



FCB-EX480C/
FCB-EX480CP



FCB-EX48C/
FCB-EX48CP



FCB-EX1010/
FCB-EX1010P



FCB-EX990D/
FCB-EX990DP



FCB-EX490D/
FCB-EX490DP



FCB-EX20D/
FCB-EX20DP



FCB-EX11D/
FCB-EX11DP

(NTSC Models)

- FCB-EX1000
- FCB-EX980S
- FCB-EX980
- FCB-EX480C
- FCB-EX48C
- FCB-EX1010
- FCB-EX990D
- FCB-EX490D
- FCB-EX20D
- FCB-EX11D

(PAL Models)

- FCB-EX1000P
- FCB-EX980SP
- FCB-EX980P
- FCB-EX480CP
- FCB-EX48CP
- FCB-EX1010P
- FCB-EX990DP
- FCB-EX490DP
- FCB-EX20DP
- FCB-EX11DP



Sony's FCB Series of **colour block cameras** are specifically designed to be integrated into security domes/cameras, police vehicles, photo booths, document stands, and low-vision systems. There are ten cameras in the FCB-EX Series lineup, and each incorporates a wide variety of optical zoom lenses ranging from 10x to 36x. With this breadth of choice, it's never been easier to select the right camera for your specific monitoring applications.

Optical zoom lens

	36x	26x	18x	10x
FCB-EX Series Cameras	<ul style="list-style-type: none"> FCB-EX1010/FCB-EX1010P FCB-EX1000/FCB-EX1000P 	<ul style="list-style-type: none"> FCB-EX990D/FCB-EX990DP FCB-EX980S/FCB-EX980SP FCB-EX980/FCB-EX980P 	<ul style="list-style-type: none"> FCB-EX490D/FCB-EX490DP FCB-EX480C/FCB-EX480CP FCB-EX48C/FCB-EX48CP 	<ul style="list-style-type: none"> FCB-EX20D/FCB-EX20DP FCB-EX11D/FCB-EX11DP

Comparison chart of FCB-EX D version and C version

There are two versions of FCB-EX Series cameras: D version and C version cameras. The different models vary mainly according to Wide-D technology and High Resolution mode.

	D version		C version	
	Yes	No	No	
Wide-D	<ul style="list-style-type: none"> FCB-EX1010/FCB-EX1010P FCB-EX990D/FCB-EX990DP FCB-EX490D/FCB-EX490DP 	<ul style="list-style-type: none"> FCB-EX20D/FCB-EX20DP FCB-EX11D/FCB-EX11DP 	<ul style="list-style-type: none"> FCB-EX1000/FCB-EX1000P FCB-EX980S/FCB-EX980SP FCB-EX980/FCB-EX980P 	<ul style="list-style-type: none"> FCB-EX480C/FCB-EX480CP FCB-EX48C/FCB-EX48CP
High Resolution Mode	530TV Lines		470 TV Lines	



Features

- Video Motion Detection*
- Picture Freeze
- SMART (Sony Modular Automatic Lens Reset Technology) Lens Control

* Not for all models

Features

- Wide Dynamic Range Technology*
- High-resolution Images*
- High-sensitivity Images
- Auto IR-cut Filter Removal (Auto ICR)*
- Advanced Spherical Privacy Zone Masking
- Electronic Flip (e-Flip)
- Slow AE Response Function
- Image Stabilizer*
- Multi-line On-screen Display*

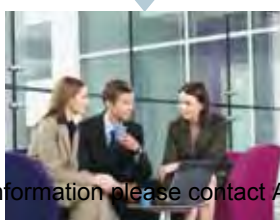
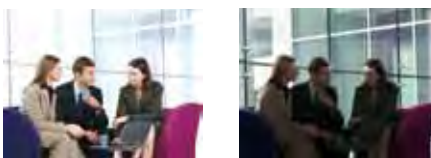
Wide Dynamic Range Technology

FCB-EX1010/FCB-EX1010P

FCB-EX990D/FCB-EX990DP

FCB-EX490D/FCB-EX490DP

These cameras incorporate an advanced backlight compensation technology that dramatically improves each camera's dynamic range by 128 times when compared to conventional cameras. Thanks to this new technology, users can capture clear images even in extreme high-contrast lighting environments. The cameras capture the same image twice: first with a normal shutter speed, and then with a high shutter speed. The dark areas captured at normal shutter speed and the bright areas captured at high shutter speed are then combined into one image using an advanced DSP LSI, thus clearly reproducing the original scene.



simulated image

High-resolution Images

FCB-EX1010/FCB-EX1010P

FCB-EX990D/FCB-EX990DP

FCB-EX490D/FCB-EX490DP

FCB-EX20D/FCB-EX20DP

FCB-EX11D/FCB-EX11DP

These cameras combine a Sony original DSP with a 1/4-type EXview HAD CCD® (FCB-EX20D/EX20DP: 1/3-type Super HAD™ CCD II). They achieve a high horizontal resolution of 530 TV lines, enabling reproduction of amazingly clear and detailed images.

High-sensitivity Images

All models

All the cameras in the FCB-EX Series deliver exceptional picture quality thanks to Sony's advanced CCD technology. They provide excellent sensitivity and low smear levels.

In particular, the FCB-EX20D/20DP incorporates the newly developed Super HAD CCD II that offers ultra-high sensitivity at 0.25 lx (F1.8, 50IRE).

Auto IR-cut Filter Removal (Auto ICR)

FCB-EX1010/FCB-EX1010P

FCB-EX990D/FCB-EX990DP

FCB-EX490D/FCB-EX490DP

FCB-EX20D/FCB-EX20DP

FCB-EX1000/FCB-EX1000P

FCB-EX980S/FCB-EX980SP

FCB-EX980/FCB-EX980P

FCB-EX480C/FCB-EX480CP

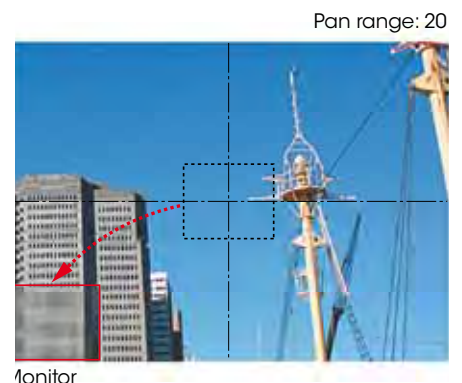
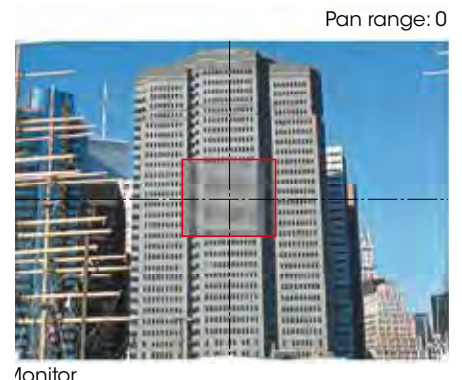
The Auto ICR function incorporated in these cameras offers optimal sensitivity in both day- and night-shooting applications. At a set level of darkness, the IR-cut filter is automatically disabled (ICR ON) and the infrared sensitivity is increased. Moreover, when ICR is ON, the camera adjusts to the optimal focal point. At a set level of brightness, the filter is automatically enabled (ICR OFF).

The IR-cut filter automatically engages the camera 24/7 operation in a variety of lighting conditions.

Advanced Spherical Privacy Zone Masking

All models

With these cameras, a maximum of eight masking areas can be displayed on the monitoring screen. Also, if these block cameras are incorporated into a Pan/Tilt/Zoom (P/T/Z) camera system, masked areas are interlocked with P/T/Z movement, regardless of the camera angle or camera movement. Up to 24 masking areas can be preset in the entire viewing range of a P/T/Z camera. Moreover, FCB-EX Series D version cameras can mask unwanted or prohibited areas within an image using a mosaic effect on top of the colour masking function.



■ Masking area
 Movement of masking area

For more information please contact Aegis Electronic Group, the +889368735877 or aegis-g2@aegiselect.com *http://www.aegiselect.com

Features



Electronic Flip (e-Flip)

All models

All the cameras in the FCB-EX Series have an e-Flip function that electronically flips an image upside down so that it is displayed on the monitor accurately. In a dome application, for example, if a tracked object moves beneath the camera dome, the image is inverted to maintain the correct orientation.

Slow AE Response Function

All models

All of the cameras in the FCB-EX Series are equipped with a Slow AE response function to automatically slow the rate at which camera exposure levels change. The rate can be set up to 32 times slower than when Full-auto AE or Priority (shutter/iris) modes are selected. This function is beneficial when monitoring areas in which lighting conditions change abruptly such as underground parking lots.

Image Stabilizer

FCB-EX980S/FCB-EX980SP

The image stabilizer function in these cameras minimizes the appearance of shaky images caused by low-frequency vibration, and maintains a normal horizontal resolution. This function is useful for outdoor surveillance and traffic monitoring applications.

Multi-line On-screen Display

FCB-EX1010/FCB-EX1010P

FCB-EX990D/FCB-EX990DP

FCB-EX490D/FCB-EX490DP

FCB-EX20D/FCB-EX20DP

FCB-EX11D/FCB-EX11DP

With these cameras, up to eleven lines with 20 characters per line can be displayed on the monitoring screen using VISCA commands. Users can freely display captions on the screen such as the monitoring location, camera name, and alarm messages, providing operators with a user-friendly interface.



Video Motion Detection

FCB-EX1010/FCB-EX1010P

FCB-EX990D/FCB-EX990DP

FCB-EX490D/FCB-EX490DP

FCB-EX20D/FCB-EX20DP

FCB-EX11D/FCB-EX11DP

These cameras incorporate a video motion detection function. When motion is detected within an area of the picture designated by the user, an alarm signal is output via the camera's control interface using the VISCA protocol. Users can designate up to four detecting areas freely from any of eight vertical and twelve horizontal blocks.

Picture Freeze

All models

All of the cameras in the FCB-EX Series are equipped with a Picture Freeze function that allows for the output of a still image while the camera is panning, tilting, zooming, focusing, initializing the lens, or performing preset operations. For example, the camera will output a still image before it begins to pan, tilt, or zoom, and once the operation is completed, the camera continues to display images that are currently being monitored. In this way, unnecessary images are not displayed.

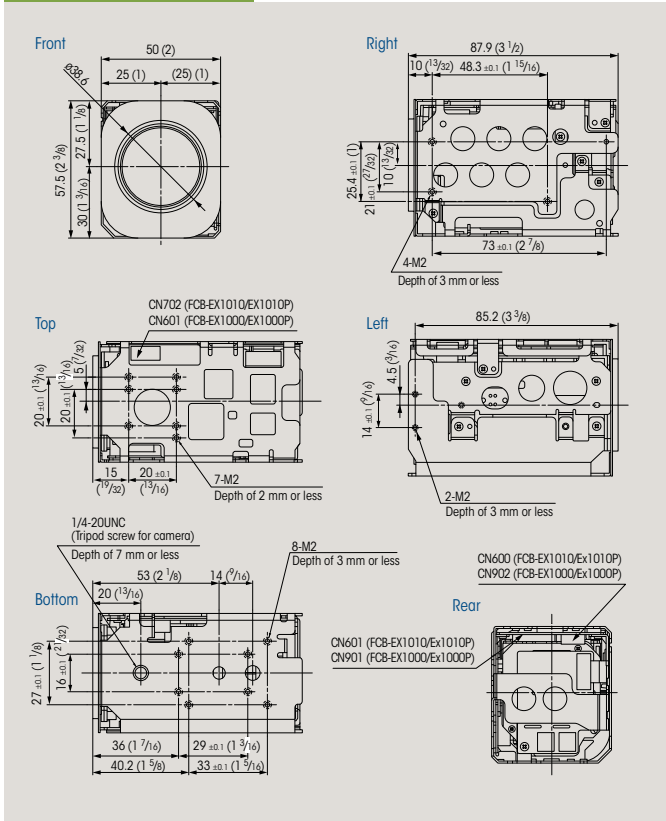
SMART (Sony Modular Automatic Lens Reset Technology) Lens Control

All models

All of the cameras in the FCB-EX Series feature this function. Each incorporates SMART Lens Control technology, which monitors the focus position of the lens while zooming, and automatically compensates for any mechanical misalignment that may occur over long periods of continuous usage. With this beneficial feature, periodic lens initialization is no longer required during continuous 24-hour operation.

FCB-EX1010/FCB-EX1010P

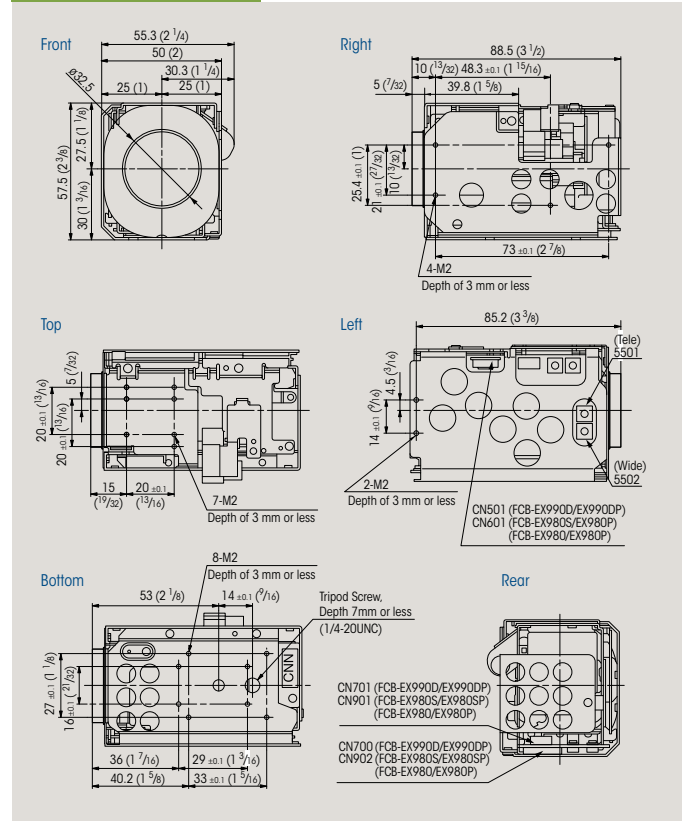
FCB-EX1000/FCB-EX1000P



FCB-EX990D/FCB-EX990DP

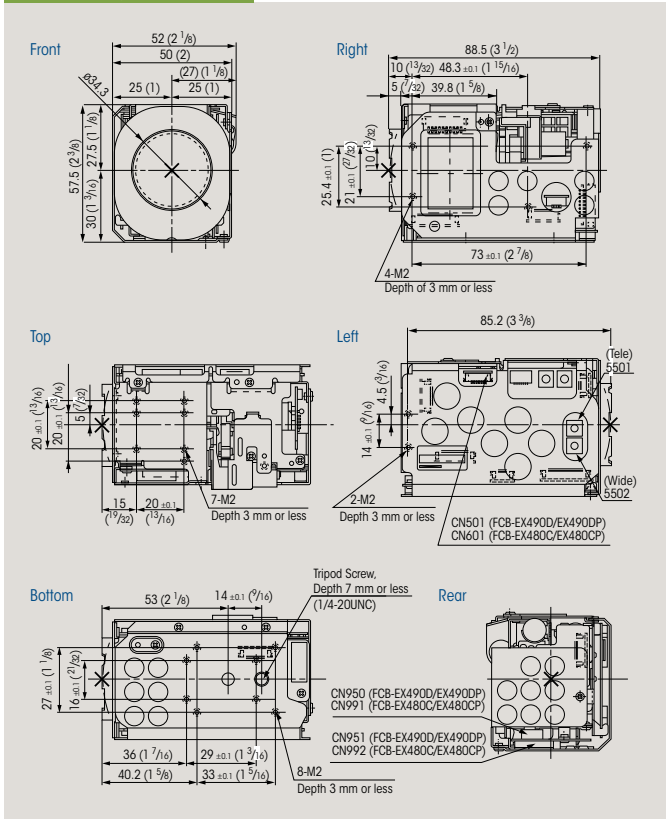
FCB-EX980S/FCB-EX980SP

FCB-EX980/FCB-EX980P

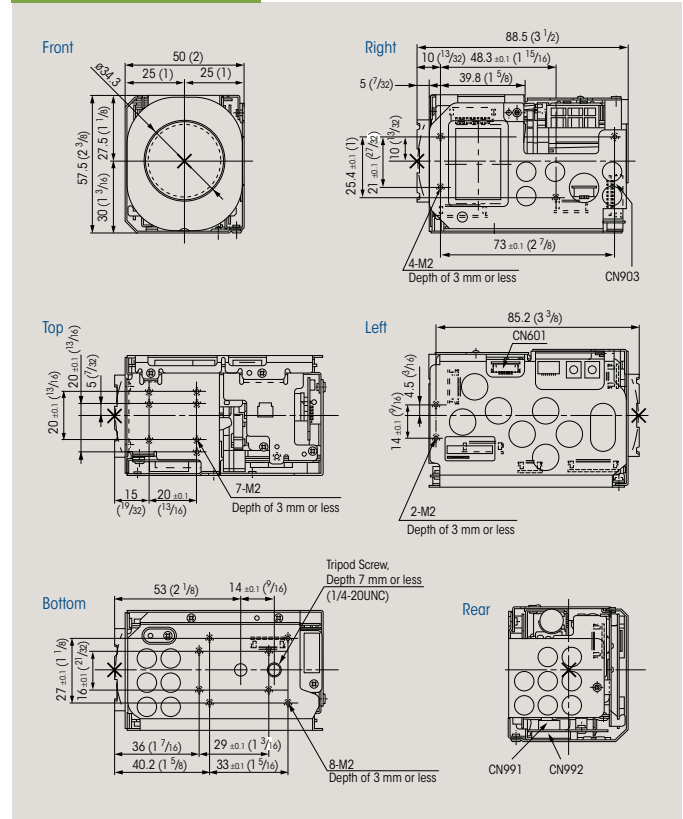


FCB-EX490D/FCB-EX490DP

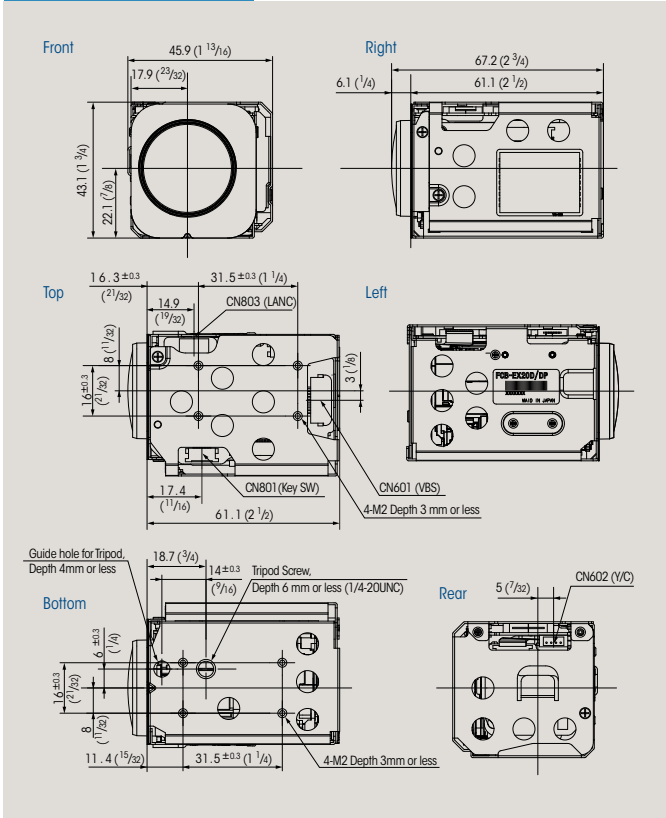
FCB-EX480C/FCB-EX480CP



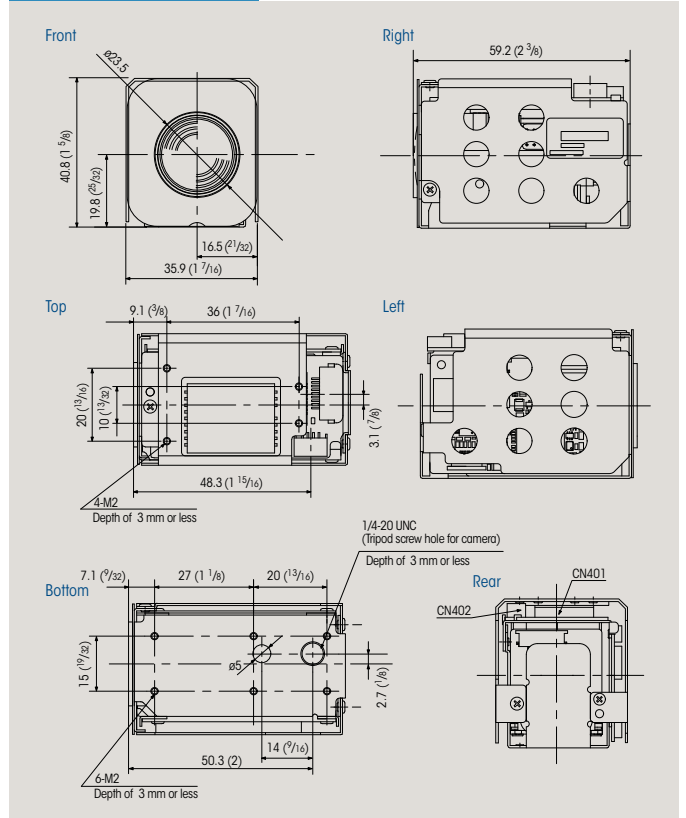
FCB-EX48C/FCB-EX48CP



FCB-EX20D/FCB-EX20DP



FCB-EX11D/FCB-EX11DP



Pin Assignment & Connectors

1. 4-pin for Y/C Video Out

CN600	FCB-EX1010/FCB-EX1010P	CN902	FCB-EX1000/FCB-EX1000P
CN700	FCB-EX990D/FCB-EX990DP		FCB-EX980S/FCB-EX980SP
CN950	FCB-EX490D/FCB-EX490DP		FCB-EX980/FCB-EX980P
CN602	FCB-EX20D/FCB-EX20DP	CN991	FCB-EX480C/FCB-EX480CP
CN402	FCB-EX11D/FCB-EX11DP		FCB-EX48C/FCB-EX48CP

Pin No.	Name	Level
1	Y_OUT	1.0 Vp-p (75 Ω terminate) Luminance signal
2	GND (for Y signal)	-
3	C_OUT	Chrominance signal
4	GND (for C signal)	-

Connector: JST S4B-ZR-SM4A-TF (LF)

2. 9-pin for DC/Video Out

CN601	FCB-EX1010/FCB-EX1010P	CN901	FCB-EX1000/FCB-EX1000P
CN701	FCB-EX990D/FCB-EX990DP		FCB-EX980S/FCB-EX980SP
CN951	FCB-EX490D/FCB-EX490DP		FCB-EX980/FCB-EX980P
CN601	FCB-EX20D/FCB-EX20DP	CN992	FCB-EX480C/FCB-EX480CP
CN401	FCB-EX11D/FCB-EX11DP		FCB-EX48C/FCB-EX48CP

Pin No.	Name	Level
1	RxD	TTL/CMOS Level Read Data
2	TxD	TTL/CMOS Level Send Data
3	GND (for RxD & TxD)	-
4	DC IN	9.0 V ±3.0 V
5	GND (for DC IN)	-
6	VBS OUT	1.0 Vp-p (75 Ω terminate)
7	GND (for VBS OUT)	-
8	V LOCK PULSE	External VD-Lock Pulse (Negative, 3.0 Vp-p 50% duty)
9	GND (for V LOCK PULSE)	-

Connector: KYOCERA ELCO 00 6200 509 130 000+

3. 9-pin for DC IN/VBS Y/C Out connector

CN903	FCB-EX480C/FCB-EX480CP
	FCB-EX48C/FCB-EX48CP

Pin No.	Name	Level
1	DC IN	9.0 V ±3 V
2	GND (for DC IN)	-
3	NC	-
4	VBS OUT	1.0 V ±0.2 V
5	GND (for VBS OUT)	-
6	Y Out	1.0 V ±0.2 V
7	GND (for Y signal)	-
8	C Out	-
9	GND (for C signal)	-

J.S.T.Mfg Co. S9B-ZR-SM4A-TF (LF)

4. 12-pin for Key Switch Control

CN702	FCB-EX1010/FCB-EX1010P	CN601	FCB-EX1000/FCB-EX1000P
CN501	FCB-EX990D/FCB-EX990DP		FCB-EX980S/FCB-EX980SP
	FCB-EX490D/FCB-EX490DP		FCB-EX980/FCB-EX980P
CN801	FCB-EX20D/FCB-EX20DP		FCB-EX480C/FCB-EX480CP
			FCB-EX48C/FCB-EX48CP

Pin No.	Name	Level
1	GND	-
2	GND	-
3	KEY_AD0	Pull up to 3.0 V by 100 kΩ
4	KEY_AD1	Pull up to 3.0 V by 100 kΩ
5	KEY_AD2	Pull up to 3.0 V by 100 kΩ
6	KEY_AD3	Pull up to 3.0 V by 100 kΩ
7	KEY_AD4	Pull up to 3.0 V by 100 kΩ
8	KEY_AD5	Pull up to 3.0 V by 100 kΩ
9	KEY_AD6	Pull up to 3.0 V by 100 kΩ
10	KEY_AD7	Pull up to 3.0 V by 100 kΩ
11	NC	-
12	Strobe	Strobe timing pulse (0 to 3.0 V)

Connector: KYOCERA ELCO 08 6222 012 101 848+

FCB-EX Series D Version

	FCB-EX1010	FCB-EX1010P	FCB-EX990D	FCB-EX990DP	FCB-EX490D	FCB-EX490DP	FCB-EX20D	FCB-EX20DP	FCB-EX11D	FCB-EX11DP
Image sensor	1/4-type EXview HAD CCD		1/4-type EXview HAD CCD		1/4-type EXview HAD CCD		1/3-type Super HAD CCD II		1/4-type EXview HAD CCD	
Signal system	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
Effective picture elements	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels
Horizontal resolution	High Resolution Mode On: 530 TV lines (default) High Resolution Mode Off: 470 TV lines (NTSC)/460 TV lines (PAL)									
Lens	36x optical zoom, f=3.4 mm (wide) to 122.4 mm (tele), F1.6 to F4.5		26x optical zoom, f=3.5 mm (wide) to 91.0 mm (tele), F1.6 to F3.8		18x optical zoom, f=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0		10x optical zoom, f=5.1 mm (wide) to 51.0 mm (tele), F1.8 to F2.1		10 x optical zoom, F1.8 to F2.9, f=4.2 mm (wide) to 42.0 (tele)	
Digital zoom	12x (432x with optical zoom)		12x (312x with optical zoom)		12x (216 x with optical zoom)		12x (120x with optical zoom)			
Horizontal angle of view	57.8°(wide) to 1.7° (tele)		54.2°(wide) to 2.2°(tele)		48.0°(wide) to 2.8° (tele)		52.0°(wide) to 5.4° (tele)		46.0° (wide) to 4.6° (tele)	
TV distortion	-						4.5%		-	
Minimum object distance	320 mm (wide) to 1500 mm (tele)				290 mm (wide) to 800 mm (tele)		15 mm (wide) to 800 mm (tele)		200 mm (wide) to 1.0 m (tele)	
Sync system	Internal/External (V-Lock)									
Minimum illumination	1/60 s mode: 1.4 lx (typical) (F1.6, 50 IRE) 1/4 s mode: 0.1 lx (typical) (F1.6, 50 IRE)		1/60 s mode: 1.0 lx (typical) (F1.6, 50 IRE) 1/4 s mode: 0.09 lx (typical) (F1.6, 50 IRE)		1/60 s mode: 0.7 lx (typical) (F1.4, 50 IRE) 1/4 s mode: 0.07 lx (typical) (F1.4, 50 IRE)		1/60 s, 1/50 s mode: 0.25 lx (typical) (F1.8, 50 IRE) 1/4 s, 1/3 s mode: 0.015 lx (typical) (F1.8, 50 IRE) 1/4 s, 1/3 s mode & ICR On: 0.0004 lx (typical) (F1.8, 50 IRE)		1.0 lx (typical) (F1.8, 50 IRE)	
Auto ICR	O								x	
Image stabilizer	x									
Video motion detection	O									
Multi-line OSD	O (Up to eleven lines with 20 characters per line)									
Slow AE response	O									
E-flip	O									
Picture freeze	O									
Slow shutter	O									
Video output	VBS: 1.0 Vp-p (sync negative), Y/C									
Camera control interface	VISCA (TTL signal level), baud rate: 9.6 kb/s, 19.2 kb/s, 38.4 kb/s, 1 or 2 stop-bit selectable									
S/N ratio	More than 50 dB									
Electronic shutter	1/1 to 1/10,000 s, 22 steps									
White balance	AUTO, ATW, Indoor, Outdoor, One-push, Manual									
Gain	Auto/Manual (-3 to 28 dB, 2 dB steps)									
AE control	Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Back light compensation, Slow AE									
Wide dynamic range	O (On/Off)						x			
Backlight compensation	O (On/Off)									
Privacy zone masking	O (On/Off) (8 masks per view/24 masks preset in the entire viewing range when integrated into a PTZ camera- 14 colours, mosaic)									
Character generator	Mode display/Multi-line OSD (OSD has priority over Mode display)									
Flicker cancel	O (Auto)	-	O (Auto)	-	O (Auto)	-	O (Auto)	-	O (Auto)	-
Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF									
Picture effects	E-flip, Nega Art, Black & White, Mirror Image									
Zoom switch	Tele, Wide									
Storage temperature	-20 to 60 °C (-4 to 140 °F)									
Operating temperature	0 to 50 °C (32 to 122 °F)									
Power requirements	DC 6 to 12 V									
Power consumption	2.6 W (motors inactive), 4.9 W (motors active)		2.6 W (motors inactive), 5.4 W (motors active)		2.6 W (motors inactive), 4.4 W (motors active)		2.8W (motors inactive), 6.5 W (motors active)		1.9 W (motors inactive), 2.8 W (motors active)	
Mass	230 g (8.1 oz)						140 g (5 oz)		95 g (3.3 oz)	
Dimensions	50.0 x 57.5 x 87.9 mm (2 x 2 3/8 x 3 1/2 inches)		55.3 x 57.5 x 88.5 mm (2 x 2 3/8 x 3 1/2 inches)		52.0 x 57.5 x 88.5 mm (2 1/8 x 2 3/8 x 3 1/2 inches)		45.9 x 43.1 x 67.2 mm (1 13/16 x 1 3/4 x 2 3/4 inches)		35.9 mm x 40.8 mm x 59.2 mm (1 7/16 x 1 5/8 x 2 3/8 inches)	

Specifications

FCB-EX Series C Version

	FCB-EX1000	FCB-EX1000P	FCB-EX980S	FCB-EX980SP	FCB-EX980	FCB-EX980P	FCB-EX480C	FCB-EX480CP	FCB-EX48C	FCB-EX48CP
Image sensor	1/4-type EXview HAD CCD		1/4-type Super HAD CCD		1/4-type EXview HAD CCD		1/4-type EXview HAD CCD		1/4-type EXview HAD CCD	
Signal system	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL	NTSC	PAL
Effective picture elements	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 680,000 pixels	Approx. 800,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels
Horizontal resolution	470 TV lines	460 TV lines	470 TV lines	460 TV lines	470 TV lines	460 TV lines	470 TV lines	460 TV lines	470 TV lines	460 TV lines
Lens	3x optical zoom, f = 3.4 mm (wide) to 122.4 mm (tele), F1.6 to F4.5		2x optical zoom, f = 3.5 mm (wide) to 91.0 mm (tele), F1.6 to F3.8				18 x optical zoom, f = 4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0			
Digital zoom	12x (432x with optical zoom)		12x (312x with optical zoom)				12 x (216 x with optical zoom)			
Horizontal angle of view	57.8°(wide) to 1.7° (tele)		42.2° (wide) to 1.6°(tele)		54.2° (wide) to 2.2° (tele)		48.0°(wide) to 2.8°(tele)			
Minimum object distance	320 mm (wide) to 1500 mm (tele)		35 mm (wide) to 800 mm (tele)							
Sync system	Internal/External (V-Lock)									
Minimum illumination	1/60 s mode: 1.4 lx (typical) (F1.6, 50 IRE) 1/4 s mode: 0.1 lx (typical) (F1.6, 50 IRE)		2.0 lx (typical) (F1.6, 50 IRE)		1.0 lx (typical) (F1.6, 50 IRE)		0.7 lx (typical) (F1.4, 50 IRE)			
Auto ICR	O								x	
Image stabilizer	x		O		x					
Video motion deflection	x						x			
Multi-line OSD	x									
Slow AE response	O		x							
E-flip	O									
Picture freeze	O									
Slow shutter	O									
Video output	VBS: 1.0 Vp-p (sync negative), Y/C									
Camera control interface	VSCA (TTL signal level), baud rate: 9.6 kb/s, 19.2 kb/s, 38.4 kb/s, 1 or 2 stop-bit selectable									
S/N ratio	More than 50 dB (weight ON)									
Electronic shutter	1/1 to 1/10,000 s, 22 steps									
White balance	AUTO, ATW, Indoor, Outdoor, One-push, Manual									
Gain	Auto/Manual (-3 to 28 dB, 2 dB steps)									
AE control	Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Backlight compensation, Slow AE									
Wide dynamic range	x									
Backlight compensation	O (On/Off)									
Privacy zone masking	On/Off (24 positions) (without mosaic effects)									
Character generator	Mode display									
Flicker cancel	O (Auto)	-	O (Auto)	-	O (Auto)	-	O (Auto)	-	O (Auto)	-
Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom Trigger AF									
Picture effects	e-Flip, Nega Art, Black & White, Mirror Image									
Zoom switch	Tele/Wide									
Storage temperature	-20 to 60 °C (-4 to 140°F)									
Operating temperature	0 to 50 °C (32 to 122°F)									
Power requirements	6 to 12 V									
Power consumption	1.6 W (motor inactive), 4.0 W (motors active)		1.6 W (motors inactive), 3.3 W (motors active)				1.6 W (motors inactive), 2.5 W (motors active)			
Mass	230 g (8.1 oz)									
Dimensions	50.0 x 57.5 x 87.9 mm (2 x 2 3/8 x 3 1/2 inches)		55.3 x 57.5 x 88.5 mm (2 1/4 x 2 3/8 x 3 1/2 inches)				52.0 x 57.5 x 88.5 mm (2 1/8 x 2 3/8 x 3 1/2 inches)			

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For more information please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

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FCB-EX11D FCB-EX11DP

Colour Block Cameras



FCB-EX11D/FCB-EX11DP

IMAGE SENSING SOLUTIONS

Outstanding Picture Quality in an Ultra-Compact Design – The FCB-EX11D and FCB-EX11DP Colour Block Cameras are Ideal for Integration into Mini-Dome Surveillance Cameras, Traffic Monitoring Systems, and More

FCB-EX11D (NTSC) FCB-EX11DP (PAL)



The popular Sony FCB series is enhancing its line-up with the addition of two new mini colour block cameras. These cameras are specifically designed for easy integration with security and monitoring systems, videoconferencing equipment, traffic monitoring systems, police vehicles, photo booths, and low vision systems.

The Sony ultra-compact and lightweight FCB-EX11D*¹ camera incorporates a 1/4-type EXview HAD CCD™ sensor, and can be easily integrated into space restricted environments.

The FCB-EX11D is not only effective in visible light, but it is sensitive to near-infrared energy enabling the camera to operate in low-light conditions. Combining a high-performance Digital Signal Processor (DSP) with an EXview HAD CCD sensor, the camera produces an extremely high horizontal resolution of 530 TV lines and provides clear and detailed images.

The FCB-EX11D is equipped with a 10x optical zoom lens which can provide a 120x zoom ratio when combined with the digital zoom. In addition, the FCB-EX11D offers a number of other useful functions such as advanced spherical privacy zone masking with mosaic effect, video motion detection, a multi-line on-screen display, and slow AE response function.

With its excellent picture quality, compact size, and feature-rich design, the FCB-EX11D is ideal for a wide range of applications. For surveillance applications, this camera is well-suited for integration with mini speed-dome, fixed-type, and Pan/Tilt/Zoom (P/T/Z) cameras. It can also be used in low vision systems, police vehicles, and for underground inspection of oil and gas pipelines.

*¹ Unless otherwise noted in the following text, "FCB-EX11D" refers to both the FCB-EX11D and the FCB-EX11DP.

Features

- **Excellent Picture Quality, High-resolution Images**
- **Compact and Lightweight Design**
- **Slow AE Response Function**
- **Advanced Spherical Privacy Zone Masking with Mosaic Effect**
- **Powerful and Versatile Zoom Capability**
- **Multi-line On-screen Display**

Excellent Picture Quality, High-resolution Images

Combining a high-performance DSP with a 1/4-type EXview HAD CCD sensor, the FCB-EX11D achieves a high horizontal resolution of 530 TV lines that produces amazingly clear and detailed images.

Compact and Lightweight Design

The ultra-compact and lightweight body of the FCB-EX11D makes it ideal for space-restricted applications.

Dimensions (W x H x D):

35.9 x 40.8 x 59.2 mm (1 7/16 x 1 5/8 x 2 3/8 inches)

Mass: 95g (3.3 Oz)

Slow AE Response Function

The FCB-EX11D is equipped with a slow AE response function to automatically slow the rate at which the camera's exposure levels change. The rate can be set up to 32 times slower than when Full-Auto AE or Priority (shutter/iris) modes are selected.

This function is useful when monitoring areas in which lighting conditions abruptly change.

Advanced Spherical Privacy Zone Masking with Mosaic Effect

Unwanted or prohibited areas within an image can be masked precisely and appropriately with either a solid colour or a mosaic effect. When the FCB-EX11D is integrated into a P/T/Z camera system, this technology can keep masking areas interlocked with P/T/Z movements regardless of the camera angle.

Powerful and Versatile Zoom Capability

The FCB-EX11D camera incorporates a 10x optical zoom lens, allowing for a zoom capability of up to 120x when used in combination with its 12x digital zoom.

Multi-line On-screen Display

Up to eleven lines with 20 characters per line can be displayed on the FCB-EX11D monitoring screen using VISCA™ commands. Captions can be displayed on the screen to provide operators with a user-friendly interface.

Other Features

- **Video Motion Detection**
- **Electronic-Flip (e-Flip)**
- **Picture Freeze**
- **SMART (Sony Modular Automatic lens Reset Technology) Lens Control**
- **Electronic Shutter/Slow Shutter (1 to 1/10,000 s, 22 steps)**
- **High-Speed Serial Interface (maximum 38.4 kb/s) with TTL Signal-Level Control (VISCA protocol)**
- **Customizable settings**
- **Internal/External Sync**
- **16 Bytes of Memory (for storing data such as the product serial number and camera/system ID numbers)**

Specifications

	FCB-EX11D	FCB-EX11DP
Image sensor	1/4-type EXView HAD CCD	
Signal system	NTSC	PAL
Number of total pixels	Approx. 380,000 pixels	Approx. 440,000 pixels
Lens	10x optical zoom, F1.8 to F2.9, f=4.2 mm (wide) to 42.0 mm (tele)	
Digital zoom	12x (120x with optical zoom)	
Horizontal resolution	High Resolution Mode On: 530 TV lines (default) High Resolution Mode Off: 470 TV lines (NTSC)/460 TV lines (PAL)	
Horizontal angle of view	46° (wide) to 4.6° (tele)	
Minimum object distance	200 mm (wide), 1.0 m (tele)	
Sync system	Internal/External (V-lock)	
Minimum illumination	1.0 lx (typical) (F1.8, 50 IRE)	
S/N ratio	More than 50 dB	
Electronic shutter	1 to 1/10,000 s, 22 steps	
White balance	Auto, ATW, Indoor, Outdoor, One-push, Manual	
Gain	Auto/Manual (-3 to 28 dB, 2dB steps)	
AE control	Auto, Manual, Priority mode, Bright, EV compensation, Backlight compensation, Slow AE	
EV compensation	-10.5 to 10.5 dB (1.5 dB steps)	
Backlight compensation	On/Off	
Privacy zone masking	On/Off (24 positions, 8 positions per screen) 14 colours + Mosaic	
Character generator	OSD: 11 Lines (20 characters per line), Camera Mode display: ON/OFF	
Flicker cancel	Auto	-
Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom trigger AF	
Picture effects	E-Flip, Nega Art, Black & White, Mirror Image	
Video output	VBS: 1.0 Vp-p (sync negative), Y/C	
Camera control interface	VISCA (TTL signal level), baud rate: 9.6 Kb/s, 19.2 Kb/s, 38.4 Kb/s, 1 or 2 stop bits (selectable)	
Storage temperature	-20 to 60 C° (-4 to 140 °F)	
Operating temperature	0 to 50 C° (32 to 122 °F)	
Power requirements	DC 6 to 12 V	
Power consumption	1.9 W (motors inactive), 2.8 W (motors active)	
Mass	95 g (3.3 oz)	
Dimensions (W x H x D)	35.9 mm x 40.8 mm x 59.2 mm (1 7/16 x 1 5/8 x 2 3/8 inches)	

Pin Assignment & Connectors

CN402 - 4-pin for VideoY/C Out

Pin No.	Name	Level
1	Y_OUT	1.0 Vp-p (75 Ω terminate) Luminance signal
2	GND (for Y signal)	-
3	C_OUT	Chrominance signal
4	GND (for C signal)	-

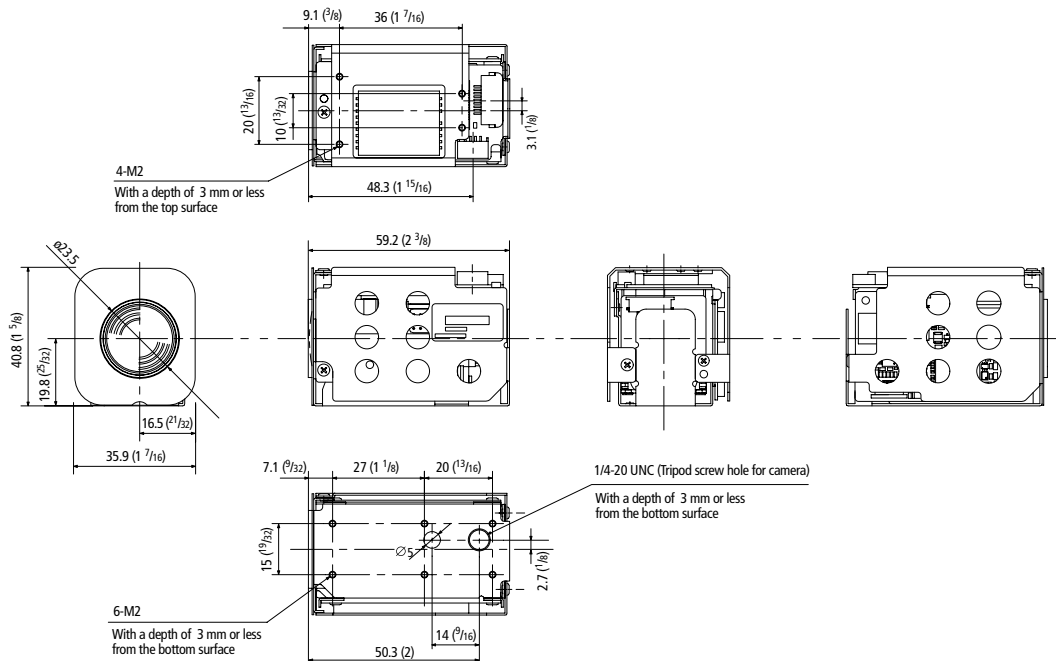
Connector: JST S4B-ZR-SM4A-TF (LF)

CN401 9-pin for DC/Video Out

Pin No.	Name	Level
1	RxD	TTL/CMOS Level Read Data
2	TxD	TTL/CMOS Level Send Data
3	GND (for RxD & TxD)	-
4	DC IN	9.0 V ±3.0 V
5	GND (for DC IN)	-
6	VBS OUT	1.0 Vp-p (75 Ω terminate)
7	GND (for VBS OUT)	-
8	V LOCK PULSE	External VD-Lock Pulse (Negative, 3.0 Vp-p 50% duty)
9	GND (for V LOCK PULSE)	-

Connector: KYOCERA ELCO 00 6200 509 130 000+

Dimensions



Unit: mm (Inches)

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FCB-EX20D FCB-EX20DP

Colour Block Cameras



FCB-EX20D/FCB-EX20DP

IMAGE SENSING SOLUTIONS

High Sensitivity and Superb Picture Quality for Surveillance Monitoring, Police Vehicle, and Inspection Applications

FCB-EX20D (NTSC) FCB-EX20DP (PAL)



Sony continues to add choice and flexibility to its FCB Series with the introduction of FCB-EX20D and FCB-EX20DP cameras. The FCB-EX20D/EX20DP incorporates a newly designed 1/3-type Super HAD CCD II sensor that provides increased sensitivity compared to cameras featuring the successful 1/4 Super HAD™ CCD.

The camera can operate under a minimum illumination of 0.25 lx. When combining Sony's advanced Digital Signal Processing technology with this new CCD, the FCB-EX20D/EX20DP achieves a horizontal resolution of 530 TV lines, providing extremely clear and detailed images.

Featuring a Day/Night function, the camera offers optimized sensitivity in changing light conditions, which is a typical challenge for 24/7/365 surveillance monitoring applications. In addition, the camera provides an extremely wide horizontal angle of view (5.4° to 50°) with a 120x zooming capability for exceptionally close inspection to capture detailed information. Moreover, to further improve camera performance, the FCB-EX20D/EX20DP offers a number of sophisticated functions such as advanced spherical privacy zone masking with a mosaic effect, video motion detection, multi-line on-screen display, and slow AE function.

When utilized in a fixed-type, mini speed-dome, or as a Pan/Tilt/Zoom (P/T/Z) camera, the FCB-EX20D/EX20DP is the definitive choice for security and monitoring systems. The camera can be installed in video conferencing and in low-vision systems. It can also be used in police vehicles and for underground inspection of oil and gas pipelines. The list of suitable applications is endless.

Features

- **Excellent Picture Quality, High-resolution Images**
- **Day/Night Function**
- **Compact and Lightweight Design**
- **Slow AE Response Function – Ideal for Abrupt Lighting Condition Changes**
- **Advanced Spherical Privacy Zone Masking with Mosaic Effect**
- **Powerful and Versatile Zoom Capability**
- **Multi-line On-screen Display**

Excellent Picture Quality, High-resolution Images

The FCB-EX20D/EX20DP incorporates the newly developed Super HAD CCD II sensor that offers highly improved sensitivity and colour reproduction compared to earlier Super HAD CCDs. In addition, the camera can operate with a minimum illumination of 0.25 lx, resulting in a significant improvement in image quality under limited lighting conditions. By combining a powerful DSP with this new CCD, the camera achieves a high horizontal resolution of 530 TV lines.

Day/Night Function

The FCB-EX20D/EX20DP features a Day/Night capability, which provides optimum sensitivity in both day and night shooting applications. As the scene illumination darkens, the infrared filter is automatically removed. The camera then switches to B&W mode enabling it to operate under a minimum illumination of 0.0004 lx (Auto ICR On).

Compact and Lightweight Design

With the compact and lightweight (approx. 140 g/5 oz) design, the camera can be integrated into a variety of space-restricted environments.

Slow AE Response Function – Ideal for Abrupt Lighting Condition Changes

The FCB-EX20D/EX20DP is equipped with a slow AE response function to automatically slow the rate at which camera exposure levels change. The rate can be set up to 32 times slower than when Full-Auto AE or Priority (shutter/iris) modes are selected. This function is essential for monitoring applications when lighting conditions change abruptly, such as night time traffic monitoring.

Advanced Spherical Privacy Zone Masking with Mosaic Effect

In addition to conventional colour masking, unwanted or prohibited areas within an image can be masked using a mosaic effect. When the camera is installed in a Pan/Tilt/Zoom (P/T/Z) camera system, masking areas are interlocked with P/T/Z movements, regardless of the camera angle or movement.

Powerful and Versatile Zoom Capability

The FCB-EX20D/EX20DP incorporates a 10x zoom lens. When used in combination with its 12x digital zoom, the camera achieves a zooming capability of up to 120x.

Multi-line On-screen Display

The FCB-EX20D/EX20DP camera can display up to eleven lines with 20 characters per line on the monitoring screen by using VISCA™ commands. Captions can be displayed on screen to provide operators with a user-friendly interface.

Other Features

- **Video Motion Detection**
- **Electronic-Flip (e-Flip)**
- **Picture Freeze**
- **SMART (Sony Modular Automatic lens Reset Technology) Lens Control**
- **Electronic Shutter/Slow Shutter (1 to 1/10,000 s, 22 steps)**
- **High-speed Serial Interface (maximum 38.4 kb/s) with TTL**
- **Signal-level Control (VISCA protocol)**
- **Customizable Settings**
- **Internal/External Sync**
- **16 Bytes of Memory (for storing data such as the product serial number and camera/system ID number)**

Specifications

	FCB-EX20D	FCB-EX20DP
Image sensor	1/3-type Super HAD CCD II	
Signal system	NTSC	PAL
Number of total pixels	Approx. 380,000 pixels	Approx. 440,000 pixels
Lens	10x optical zoom, f=5.1 mm (wide) to 51.0 mm (tele), F1.8 to F2.1	
Digital zoom	12x (120x with optical zoom)	
Horizontal resolution	On / Off (On: 530 TV lines)	
Horizontal angle of view (H)	52.0 degree (wide end) to 5.4 degree (tele end)	
TV distortion	4.5 %	
Minimum working distance	15 mm (wide end) to 800 mm (tele end)	
Sync system	Internal / External (V-lock)	
Minimum illumination	1/60 s, 1/50 s mode: 0.25 lx (typical) (F1.8, 50 IRE)	
	1/4 s, 1/3 s mode: 0.015 lx (typical) (F1.8, 50 IRE)	
	1/4 s, 1/3 s mode & ICR on: 0.0004 lx (typical) (F1.8, 50 IRE)	
S/N ratio	More than 50 dB	
Electronic shutter	1/1 to 1/10,000 s, 22 steps	
White balance	Auto, ATW, Indoor, Outdoor, One-push, Manual	
Gain	Auto / Manual (-3 to 28 dB, 2 dB steps)	
AE control	Auto, Manual, Priority mode, Bright, EV compensation, Backlight compensation, Slow AE	
EV compensation	-10.5 to 10.5 dB (1.5 dB steps)	
Back-light compensation	On / Off	
Privacy zone masking	On / Off (24 positions, 8 positions per screen, 14 colours & mosaic)	
Character generator	Mode display: On / Off (White Balance, Gain, etc.) Title display: Max. 11 lines (20 characters per line)	
Flicker cancel	Auto	—
Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom trigger AF	
Picture effects	E-Flip, Nega Art, Black&White, Mirror Image	
Video output	VBS: 1.0 Vp-p (sync negative), Y/C	
Camera control interface	VISCA (TTL signal level), baud rate: 9.6 Kb/s, 19.2 Kb/s, 38.4 Kb/s, 1 or 2 Stop bit selectable	
Storage temperature	-20 °C to 60 °C	
Operating temperature	0° C to 50 °C	
Power consumption	6 to 12 V DC / 2.8 W (motors inactive), 6.5 W (motors active)	
Weight	140 g (5 oz)	
Dimensions (w x h x d)	45.9 x 43.1 x 67.2 mm (1 13/16 x 1 3/4 x 2 3/4 inches)	

Pin Assignment & Connectors

CN602 - 4-pin for Y/C Video Out

Pin No.	Name	Level
1	Y_OUT	1.0 Vp-p (75 Ω terminate) Luminance signal
2	GND (for Y signal)	—
3	C_OUT	Chrominance signal
4	GND (for C signal)	—

Connector: JST S4B-ZR-SM4A-TF (LF)

CN601 - 9-pin for DC/Video Out

Pin No.	Name	Level
1	RxD	TTL/CMOS Level Read Data
2	TxD	TTL/CMOS Level Send Data
3	GND (for RxD & TxD)	—
4	DC IN	9.0 V ±3.0 V
5	GND (for DC IN)	—
6	VBS OUT	1.0 Vp-p (75 Ω terminate)
7	GND (for VBS OUT)	—
8	V LOCK PULSE	External VD-Lock Pulse (Negative, 3.0 Vp-p 50% duty)
9	GND (for V LOCK PULSE)	—

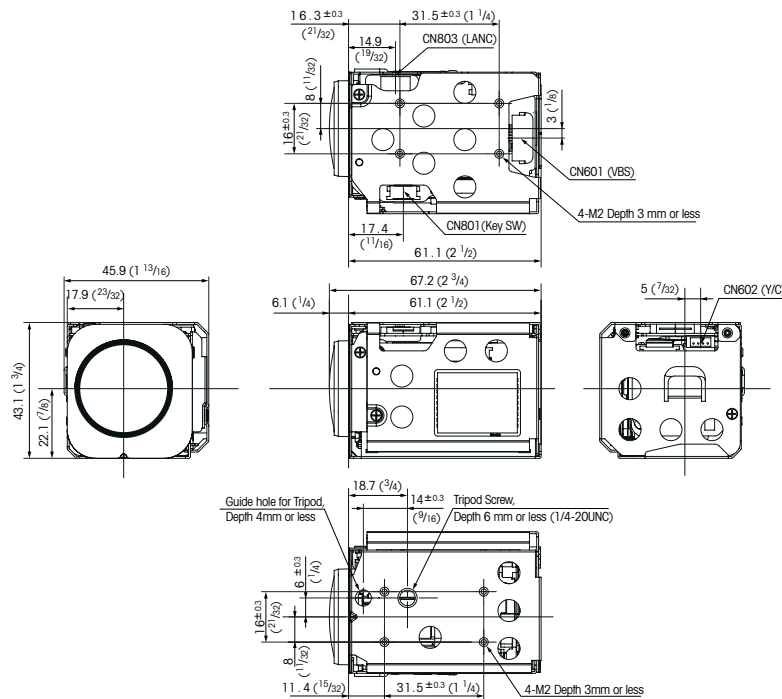
Connector: KYOCERA ELCO 00 6200 509 130 000+

CN801 - 12-pin for Key Switch Control

Pin No.	Name	Level
1	GND	—
2	GND	—
3	KEY_AD0	Pull up to 3.0 V by 100 kΩ
4	KEY_AD1	Pull up to 3.0 V by 100 kΩ
5	KEY_AD2	Pull up to 3.0 V by 100 kΩ
6	KEY_AD3	Pull up to 3.0 V by 100 kΩ
7	KEY_AD4	Pull up to 3.0 V by 100 kΩ
8	KEY_AD5	Pull up to 3.0 V by 100 kΩ
9	KEY_AD6	Pull up to 3.0 V by 100 kΩ
10	KEY_AD7	Pull up to 3.0 V by 100 kΩ
11	NC	—
12	Strobe	Strobe timing pulse (0 to 3.0 V)

Connector: KYOCERA ELCO 08 6222 012 101 848+

Dimensions



Unit: mm (Inches)

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For more information please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

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FCB-EX45MC FCB-EX45MCC

Monochrome Block Cameras



IMAGE SENSING SOLUTIONS



FCB-EX45MC/FCB-EX45MCC

The new Sony FCB-EX45MC* black-and-white block camera incorporates advanced features and especially suited for security-dome, traffic-monitoring, airline-security and facial-recognition applications.

Adopting a 1/4 type B/W EXview HAD CCD™, the FCB-EX45MC achieves excellent sensitivity of less than 0.01 lx – making it ideal for extremely low-light environments. Featuring a high-performance Digital Signal Processor (DSP), the FCB-EX45MC camera also achieves a high resolution of 520 TV lines and is equipped with an 18x optical zoom lens.

The FCB-EX45MC camera incorporates an Enhanced Spherical Privacy Zone Masking feature and SMART Lens Control technology. It also inherits many popular functions from earlier FCB-EX Series, such as Spot AE, quick camera control via a high-speed serial interface (max. 38.4 kb/s) and customizable settings. Combining superb picture quality and a variety of convenient functions, the FCB-EX45MC is a match for a wide range of surveillance and monitoring applications.

* In the following text, "FCB-EX45MC" refers to both the FCB-EX45MC (EIA model) and the FCB-EX45MCC (CCIR model).

Features

- 1/4 type EXview HAD CCD
- FCB-EX45MC: 380,000 pixels (EIA)
- FCB-EX45MCC: 440,000 pixels (CCIR)
- Extremely low minimum sensitivity of 0.01 lx (typical)
- High horizontal resolution of 520 TV lines
- 216x zoom ratio (18x optical, 12x digital)

■ Spot AE

The AE area is selected from one of the 16 vertical/16 horizontal blocks of the picture to optimize brightness within the desired area.

■ Enhanced Spherical Privacy Zone Masking

Unwanted or prohibited areas within an image can be masked precisely and appropriately. This technology allows masking areas to be interlocked with Pan/Tilt/Zoom movements regardless of the camera angle. A maximum of 24 masking areas can be preset to any of 160 horizontal and 120 vertical masking blocks, and up to eight block positions with two colours can be selected together.

■ Unique Algorithms for Lens-Life Extension

- Autofocus (AF) Algorithm
This unique algorithm makes the block camera ideal for security applications, in which 24/7 continuous usage is common. This technology controls the unit's autofocus function to provide extended lens life and steady image quality.
- SMART (Sony Modular Automatic lens Reset Technology) Lens Control*
Automatically compensates for mechanical misalignment of the lens, which may occur over a long period of continuous usage of 1.0 lx (F1.8, 50 IRE).

■ High-speed serial interface (max. 38.4 kb/s) and TTL signal-level control (VISCA™ protocol)

■ Various customizable settings

■ Internal/External sync

■ 16-Bytes of Memory is Available for Recording Data such as Product Serial Numbers and Camera/System ID Numbers

■ Low power consumption – min. 1.5 W (when motors are inactive)

■ Environmentally-friendly (Lead-free solder and Halogen-free Printed-circuit boards)

For more information, please contact Aegis Electronic Group, Inc. (888) 631-8877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

FCB-H11

High Definition Colour Camera Block



IMAGE SENSING SOLUTIONS

Combining Excellent Picture Quality, Multiple Video Outputs, and a Newly Added Day/Night Function, the FCB-H11 Makes Vision Solutions Crystal Clear



FCB-H11

Features

■ Superb Picture Quality with Two Megapixel HD CMOS Sensor

The FCB-H11 employs a 1/3-type HD CMOS sensor (approximately two million effective pixels) providing excellent picture quality and high-resolution images.

■ Multi-Format Video Outputs from NTSC/PAL to Full HD

The FCB-H11 can provide full high-definition video in 1080i format. Depending on your application and configuration, you can select the format that is right for you. With eight video formats from SD to full HD, the FCB-H11 camera module allows you to easily migrate from SD to HD.

■ Day/Night Function

With a new Day/Night capability, the FCB-H11 offers optimal sensitivity in changing light conditions, which is a typical challenge in round-the-clock security operations. As the scene darkens, an infrared filter is automatically replaced with a clear filter, and the camera switches to operation at a minimum illumination of 1.0 lx (F1.8, 50 IRE).

The world of HD expanded into the industrial imaging arena with the debut of Sony's first HD block camera, the FCB-H10. Now, continuing its commitment to HD picture quality for applications that require dynamic, high-resolution images that are also flexible, Sony is introducing the FCB-H11.

This stunning new model extends application possibilities by incorporating a new Day/Night function that enables the camera to capture high-quality colour images during the day and clear, black-and-white images at night. In addition, the FCB-H11 camera achieves a minimum illumination of 1.0 lx by dynamically removing the infrared cut filter and allowing the spectral responsivity range to extend into the near infrared.

The FCB-H11 incorporates a 1/3-type HD CMOS image sensor boasting approximately two million effective pixels, and provides a 16 x 9 aspect ratio, making it ideal for use with wide-screen displays. This camera also features multi-format video outputs, satisfying user needs for high-definition (HD) and standard-definition (SD) applications. When extremely clear, super picture quality HD images are required, the FCB-H11 camera offers 1080i and 720p signals. This versatile and flexible camera can also be used with an SD system to allow easy migration from SD to HD when you are ready.

The FCB-H11 inherits a multitude of functions from the world-renowned FCB Series. With a 120x zooming capability, Picture Freeze function, SPOT AE function, and Slow Shutter, the FCB-H11 is ideal for applications such as inspection, video conferencing, and more. For more information, please contact Aegis Electronic Group, Inc. For (888) 697-6877 *aegis-g2@alegis.com or visit <http://www.aegis.com>. the incorporation of the Day/Night function, which is essential for monitoring, this camera is a great choice for a wide range of security applications in, for example, parking lots, retail stores, and many other locations.

Features

■ 120x Zoom Ratio (10x Optical + 12x Digital)

The FCB-H11 incorporates a 10x optical zoom lens allowing for a zoom capability of up to 120x when used in combination with its 12x digital zoom. Combining these lens features, users can effortlessly capture close-up or wide-angle shots.

■ Compact and Lightweight Design

The compact and lightweight body of the FCB-H11 allows it to be installed in many different space-restricted environments.

■ Picture Freeze Function

The Picture Freeze Function outputs a still image while the FCB-H11 camera is panning, tilting, zooming, focusing, initializing the lens, or performing preset operations. This helps prevent the display of unnecessary images during these operations.

Other Features

- SPOT AE Function
- Slow Shutter
- Low Power Consumption (4.8 W)

Pin assignment & connector

24 P FFC Connector for Camera Control, Analog Video Output, Power

Pin No.	Name	Level
1	GND	
2	TxD	TTL Level (0 V - 5.0 V)
3	RxD	TTL Level (0 V - 5.0 V)
4	RESET-IN	Reset: Low (GND) Normal: Open
5	GND	
6	Y_OUT	Y/C_Y_OUT
7	GND	
8	C_OUT	Y/C C_OUT
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	POWER	6.0 V - 12.0 V DC
19	POWER	6.0 V - 12.0 V DC
20	POWER	6.0 V - 12.0 V DC
21	POWER	6.0 V - 12.0 V DC
22	GND	
23	POWER	6.0 V - 12.0 V DC
24	GND	

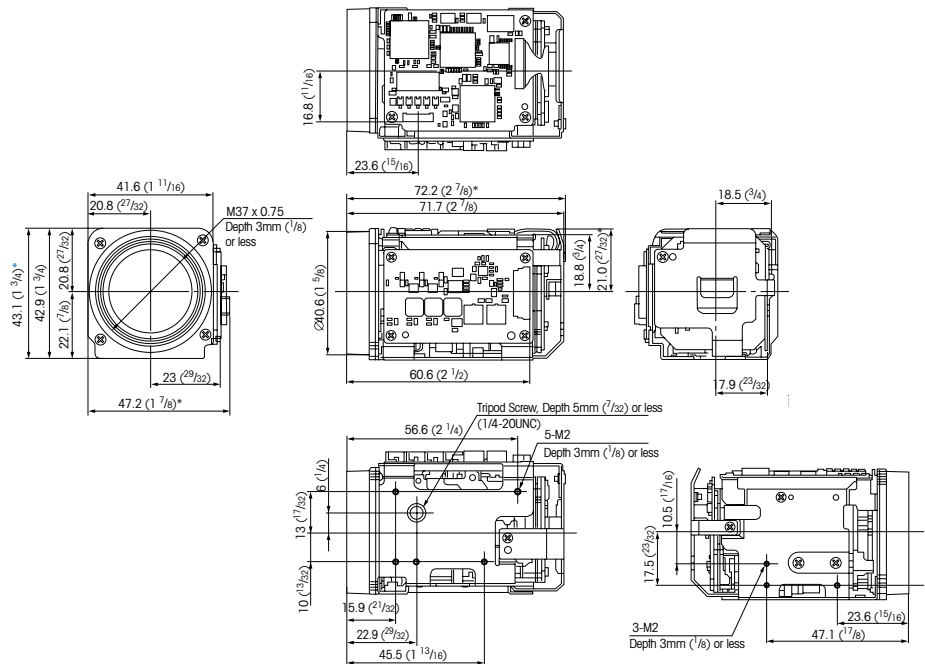
Connector: KYOCERA ELCO 04 6240 224 006 848+

Specifications

FCB-H11		
Image sensor	1/3-type CMOS	
Effective number of pixels	Approx. 2,000,000 pixels	
Aspect ratio	HD	16:9
	SD	4:3/16:9
Lens	10x optical zoom, f=5.1 mm (wide) to 51.0 mm (tele), F1.8 to F2.1	
Digital zoom	12x (120x with optical zoom)	
Horizontal angle of view	50° (wide) to 5.4° (tele)*	
Minimum object distance	10 mm (wide) to 800 mm (tele)	
Sync system	Internal	
Minimum illumination	ICR off mode : 12 lx (typical) (F1.8, 50 IRE) ICR on mode : 1 lx (typical) (F1.8, 50 IRE)	
S/N ratio	More than 50 dB	
Electronic shutter	1/2 to 1/10,000 s, 21 steps	
White balance	Auto, Indoor, Outdoor, One-push, Manual	
Gain	Auto/Manual (-3 to 18 dB, 8 steps)	
AE control	Auto, Manual, Shutter Priority, Iris Priority, Bright, Spot AE	
EV compensation	-10.5 to 10.5 dB (15 steps, 1.5 dB increments)	
Backlight compensation	On/Off	
Signal system	HD	1080/59.94i, 1080/50i, 720/59.94p, 720/50p
	SD	NTSC (Crop/Squeeze), PAL (Crop/Squeeze)
Video output	HD	Analog component: Y/Pb/Pr
	SD	VBS: 1.0 Vp-p (sync negative) Y/C
Focus system	Full Auto (Normal AF/Interval AF/Zoom Trigger AF), One-push Trigger, Manual, Infinity, Near Limit Setting	
Picture effects	Nega Art, Black & White, Picture Freeze	
Camera operation switch	Zoom tele, Zoom wide	
Camera control interface	VISCA (TTL signal level), baud rate: 9.6 Kb/s, 19.2 Kb/s, 38.4 Kb/s, stop bit: 1 bit	
Storage temperature	-20 to 60 °C (-4 to 140 °F)	
Operating temperature	0 to 45 °C (32 to 81 °F)	
Power consumption	6 to 12 V DC/4.8 W	
Mass	Approx. 120 g (4.2 oz)	
Dimensions (w x h x d)	47.2 x 43.1 x 72.2 mm (1 7/8 x 1 3/4 x 2 7/8 inches)	
Supplied accessory	24P FFC (Flat Flexible Cable)	

* in HD and SD SQUEEZE output mode

Dimensions (mm)



Unit: mm (Inches)

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For more information please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

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FCB-IX Series

Colour Block Cameras



FCB-IX47C/FCB-IX47CP

FCB-IX45C/FCB-IX45CP

FCB-IX11A/FCB-IX11AP

IMAGE SENSING SOLUTIONS

The High-Performance Sony FCB-IX Colour Block Camera Series, Providing High-Quality Images and Excellent Sensitivity – These Block Cameras Are Suitable for Integration Into a Variety of Systems for Almost Any Application

FCB-IX47C
FCB-IX47CP
FCB-IX45C
FCB-IX45CP
FCB-IX11A
FCB-IX11AP



The Sony **FCB-IX** colour block camera series incorporates high-performance Digital Signal Processing (DSP) and firmware that greatly enhance their operation and picture quality compared to conventional block cameras.

Inheriting the outstanding features of previous generations of Sony block cameras, Sony FCB-IX Series is ideal for numerous general purpose applications.

For example, they can be integrated into low vision systems, police cars, photo booths, and document stands.

The FCB-IX47C/IX47CP and FCB-IX45C/IX45CP colour cameras incorporate a 1/4-type Super HAD™ CCD and feature a 72x zoom ratio (18x optical, 4x digital) and a minimum illumination of 1.0 lx – expanding their vast application appeal. The FCB-IX11A/IX11AP colour cameras incorporate a 1/4-type EXview HAD™ CCD and feature a 40x zoom ratio (10x optical, 4x digital) into their ultra-compact and lightweight body, making them ideal for space restricted applications.

Offering high picture quality and a variety of functions, the FCB-IX Series is ideal for your demanding applications.

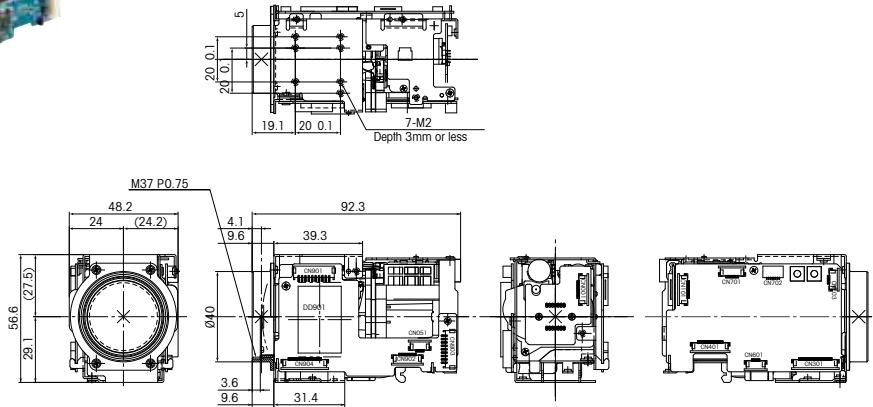
Features

- **High-performance Digital Signal Processing (DSP)**
- **High-speed Serial Interface (max. 38.4 Kb/s) with TTL Signal-Level Control (VISCA™ protocol)**
- **High-quality Image in both Digital-zoom and Slow-shutter Modes**
(FCB-IX47C/IX47CP, FCB-IX11A/IX11AP only)
- **Various AF Modes including Zoom Trigger and Interval Modes**
- **Various AE Modes including Spot AE Mode to Optimize the Brightness within the Specific Area**
- **Electronic-Flip (E-Flip) for capturing images in the proper orientation**
(FCB-IX47C/IX47CP only)
- **Expanded Mode Parameter for Shutter Speed and Gain Level**
- **Superb Sensitivity**
- **Various Customizable Settings**
- **Unique Algorithms for Lens-Life Extension**
 - Autofocus (AF) Algorithm.
This unique algorithm makes the block camera ideal for security applications, in which 24/7 continuous usage is common. This technology controls the unit's autofocus function to provide extended lens life and steady image quality.
 - SMART (Sony Modular Automatic lens Reset Technology) Lens Control*
Automatically compensates for mechanical misalignment of the lens, which may occur over a long period of continuous usage.
- **Low Power Consumption**
(1.5/1.6 W when motors are inactive)
- **EEPROM Backup System without Battery**
- **16-Bytes of Memory is Available for Recording Data such as Product Serial Numbers and Camera/System ID Numbers**
(FCB-IX47C/IX47CP, FCB-IX45C/IX45CP only)
- **Environmentally-friendly**
(Lead-free solder and Halogen-free Printed-circuit boards)



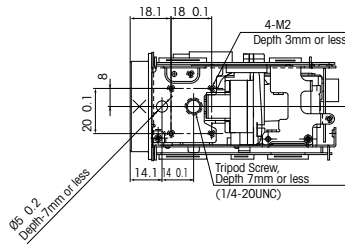
FCB-IX47C/IX47CP

- 1/4-type Super HAD™ CCD
- 72x Zoom Ratio (18x optical, 4x digital)
- Minimum Illumination of 1.0 lx (typical)
- Key Switch Control Compatibility
- Spot AE
- E-Flip
- Field Memory/Freeze Mode
- High-speed Serial Interface (maximum 38.4 Kb/s) with TTL Signal-Level Control (VISCA protocol)
- Electronic Shutter/Slow Shutter
- On-screen Display (date/time/title)



FCB-IX45C/IX45CP

- 1/4-type Super HAD™ CCD
- 72x Zoom Ratio (18x optical, 4x digital)
- Minimum Illumination of 1.0 lx (typical)
- Key Switch Control Compatibility
- Spot AE
- High-speed Serial Interface (maximum 38.4 Kb/s) with TTL Signal-Level Control (VISCA protocol)
- On-screen Display (date/time/title)



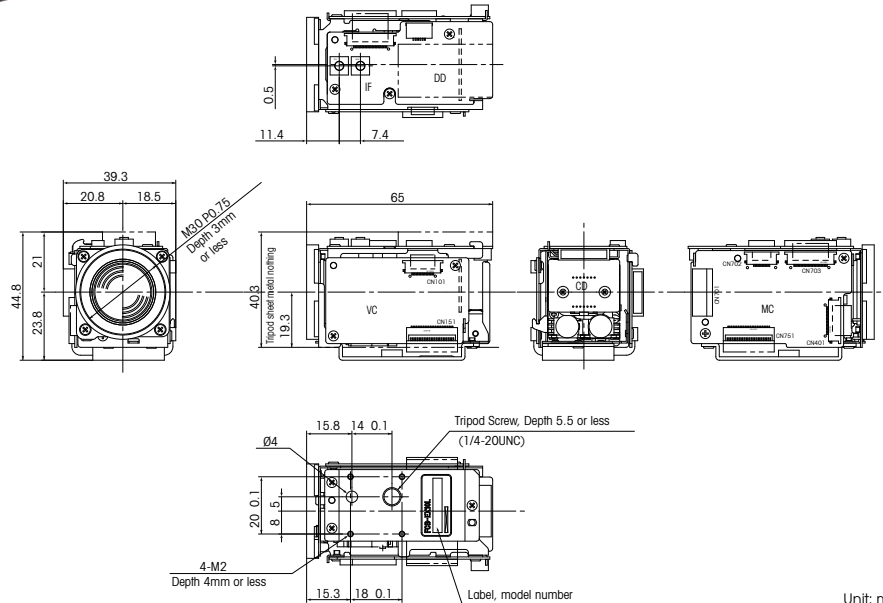
Unit: mm

*The dimensions and appearance of the FCB-IX47C/IX47CP and FCB-IX45C/IX45CP are the same.



FCB-IX11A/IX11AP

- 1/4-type Exview HAD™ CCD
- Compact and Lightweight
- 40x Zoom Ratio (10x optical, 4x digital)
- Minimum Illumination of 1.5 lx (typical)
- Key Switch Control Compatibility
- Spot AE
- Field Memory/Freeze Mode
- High-speed Serial Interface (maximum 38.4 Kb/s) with TTL Signal-Level Control (VISCA protocol)
- Electronic Shutter/Slow Shutter
- On-screen Display (date/time/title)



Unit: mm

Specifications

	FCB-IX47C	FCB-IX47CP	FCB-IX45C	FCB-IX45CP	FCB-IX11A	FCB-IX11AP
Image device	1/4-type Super HAD CCD				1/4-type Exview HAD CCD	
Effective picture elements	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels	Approx. 380,000 pixels	Approx. 440,000 pixels
Lens	18x zoom, f=4.1 mm (wide) to 73.8 mm (tele), F1.4 to F3.0				10x zoom, f=4.2 mm (wide) to 42 mm (tele), F1.8 to F2.9	
Digital zoom	4x (72x with optical zoom)				4x (40x with optical zoom)	
Viewing angle (H)	48° (wide end) to 2.8° (tele end)				46° (wide end) to 5.0° (tele end)	
Minimum working distance	10 mm (wide end), 800 mm (tele end)				10 mm (wide end), 1000 mm (tele end)	
Sync system	Internal					
Minimum illumination	1.0 lx (50 IRE)				1.5 lx (50 IRE)	
S/N ratio	More than 50 dB					
Electronic shutter	1/1 to 1/10,000 s		1/60 to 1/10,000 s	1/50 to 1/10,000 s	1/1 to 1/10,000 s	
	22 steps		16 steps	16 steps	22 steps	
White balance	Auto, ATW, Indoor, Outdoor, One-Push, Manual					
Gain	Auto/Manual (-3 to 28 dB, 2 dB steps)					
AE control	Auto, Manual, Priority mode, Bright, EV compensation, Backlight compensation					
EV compensation	-10.5 to +10.5 dB (1.5 dB steps)					
Backlight compensation	On/Off					
Flicker cancel	Auto	-	Auto	-	Auto	-
Focusing system	Auto (Sensitivity: normal, low), One-Push AF, Manual, Infinity, Interval AF, Zoom Trigger AF					
Picture effect	Neg. Art, Black & White, Mirror Image, E-Flip				Neg. Art, Black & White, Mirror Image	
Camera operation switch	Zoom tele, Zoom wide					
Video output	VBS: 1.0 Vp-p (sync negative), Y/C Output					
Camera control interface	VISCA (TTL/RS-232C signal level), baud rate: 9.6 Kb/s, 19.2 Kb/s, 38.4 Kb/s, Stop bit: 1/2 selectable					
Storage temperature	-20 to 60 °C (-4 to 140 °F)					
Operating temperature	0 to 50 °C (32 to 122 °F)					
Power consumption	6 to 12 V DC/1.5 W (motors inactive) 2.0 W (motors active)				6 to 12 V DC/1.6 W (motors inactive) 2.1 W (motors active)	
Mass	170 g (6.0 oz)				95 g (3.4 oz)	
Dimensions (W x H x D)	48.2 x 56.6 x 92.3 mm (1 15/16 x 2 1/4 x 3 3/4 inches)				39.3 x 44.8 x 65 mm (1 9/16 x 1 13/16 x 2 5/8 inches)	

* The initial factory setting for the SMART Lens Control function is "OFF". When the function is turned OFF and the unit is used continuously for more than 24 hours, lens system initialization is recommended every 24 hours to extend the life of the lens. The "Initialize Lens" command takes a little less than 3 seconds to initialize the focus and zoom. When the Smart Lens Control function is turned ON, lens initialization is not required.

Pin Assignment & Connectors

CN903

DC and video connector
(FCB-IX47C/IX47CP and FCB-IX45C/IX45CP)

Pin No.	Name	Level
1	Power In	6 V - 12 V
2	GND (power)	-
3	NC	-
4	Video Out	Composite video signal
5	GND (for video)	-
6	Y_Out	1.0 ± 0.2 V
7	GND (for Y signal)	-
8	C_Out	-
9	GND (for C signal)	-

Connector: JST S9B-ZR-SM3A-TF

CN901 IF Board

DC and video connector
(FCB-IX11A/IX11AP)

Pin No.	Name	Level
1	Power In	6 V - 12 V
2	GND (power)	-
3	NC	-
4	Video Out	Composite video signal
5	GND (for video)	-
6	Y_Out	-
7	GND (for Y signal)	-
8	C_Out	-
9	GND (for C signal)	-

Connector: JST S9B-ZR-SM3A-TF

CN751/901 MC-Board

Communication connector
(CN751: FCB-IX11A/IX11AP
(CN901: FCB-IX47C/IX47CP/IX45C/
IX45CP)

Pin No.	Name	Level
1	T x D IN	RS-232C Level
2	NC	-
3	NC	-
4	R x D IN	RS-232C Level
5	TD	TTL Level
6	NC	-
7	NC	-
8	RD	TTL Level
9	GND	-
10	AF_LED	-

Connector type: JST S10B-ZR-SM3A-TF

CN601/701

Key switch connector
(CN601: FCB-IX47C/IX47CP/
IX45C/IX45CP
(CN701: FCB-IX11A/IX11AP)

Pin No.	Name
1	GND
2	GND
3	KEY_AD0
4	KEY_AD1
5	KEY_AD2
6	KEY_AD3
7	KEY_AD4
8	KEY_AD5
9	KEY_AD6
10	KEY_AD7
11	NC
12	Strobe

Connector type:
Molex 52689-1297 FFC (0.5 mm)

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FCB-SE600

Colour Block Camera

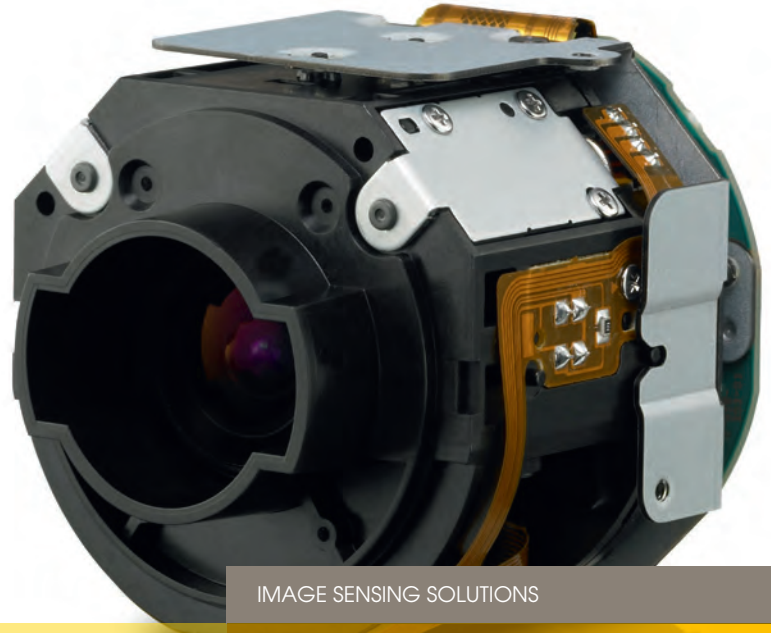


IMAGE SENSING SOLUTIONS

Sony is expanding its popular FCB block camera series with the introduction of a highly compact, all-in-one colour camera - the FCB-SE600.



FCB-SE600

Features

■ Compact Size

The FCB-SE600 is a highly compact, all-in-one camera that can be easily integrated into space-restricted environments such as a 3" mini-dome enclosure.

■ Motorized Zoom and One push AF

The FCB-SE600 features a wide-angle 3x vari-focal lens which allows for motorized zoom and focus even when in 90-degree wide view. This camera can be easily integrated in mini-domes requiring a wider view of monitoring areas. In addition, the camera offers a One push AF function for ease of use.

■ Full HD Superb Picture Quality

Boasting approximately 3.27 megapixels, the FCB-SE600 produces Full HD (1080p 30) image quality to deliver high-resolution images for demanding applications.

■ High Sensitivity

By incorporating Sony's reputable Exmor CMOS sensor technology, the FCB-SE600 captures high-quality images even in low light environments.

■ Rich Security Features

The FCB-SE600 camera includes the renowned security features of the FCB Series, such as Auto ICR, Wide-D, Privacy Zone Masking, Motion Detection, Temperature Readout, and Noise Reduction. These features enable the camera to be used in a wide variety of security applications without the need for additional external devices or software.

The FCB-SE600 is cleverly designed with a 3x vari-focal lens, Exmor™ sensor, and image processor and interface (I/F) board, all combined in an ultra-compact body. Its petite design goes a long way to reducing the size of finished OEM products.

Ideally suited to surveillance applications, the FCB-SE600 incorporates a 1/2.8-type Exmor CMOS sensor that achieves Full HD resolution (1080p 30) and superb sensitivity in low light environments. In addition, the FCB-SE600 features a 3x vari-focal lens with motorized zoom capability and One push AF (auto focus) function. The FCB-SE600 also inherits some of the unique features of Sony's popular FCB Series cameras such as Auto ICR, Wide-D, Privacy Zone Masking, and Noise Reduction.

These outstanding features and benefits, coupled with its smart size, make the FCB-SE600 ideal for demanding applications such as video surveillance, public transportation, sports, video conferencing, and more.

For more information, please contact Aegis Electronic Group, Inc. *(888)687-6877 *aegis-g2@aegiselect.com *http://www.aegiselect.com

Specifications

FCB-SE600	
Camera	
Image Sensor	1/2.8-type Exmor CMOS
Image Sensor (Number of effective pixels)	Approx. 3.27 Megapixels
Image Size	1920 x 1080 1280x 720
Signal System (HD)	1080p/30, 1080p/25, 1080i/60 (30 PsF), 1080i/50 (25 PsF) 720p/60, 720p/50, 720p/30, 720p/25
Minimum illumination (50%, High sensitivity mode)	0.25 lx (F1.2, ICR off) 0.03 lx (F1.2, ICR on)
Minimum illumination (50%, Normal mode)	1.0 lx (F1.2, ICR off) 0.1 lx (F1.2, ICR on)
Recommended illumination	100 lx to 100,000 lx
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)
Shutter Speed	1/1 to 1/10,000 s, total 22 steps
Sync System	Internal
AE Control	Auto, Manual, Priority mode (shutter priority & iris priority), Bright, EV compensation, Slow AE
Backlight Compensation	Yes
Aperture Control	16 steps
White Balance	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (Fix/Auto), One-push, Manual
Lens	Motorized 3x Vari-focal lens f=3.0 mm (wide) to 9.0 mm (tele) F1.2 to F2.1
Digital Zoom	12x (36x with optical zoom)
Focusing System	One push AF, Manual focus
Angle of View (H, 1080p mode)	Approx. 90° (wide) to 32° (tele)
Angle of View (H, 720p mode)	Approx. 60° (wide) to 21° (tele)
Minimum Object Distance	300 mm
Camera Features	
Auto ICR	Yes
Wide-D*	Yes (On/Off/Auto)**
Noise Reduction	Yes (On/Off, On: Level 5 to 1)
Image Stabilization	No
Digital Output	Yes
Spherical Privacy Zone Masking	Yes
Motion Detection	Yes
Alarm	No
Slow AE Response	Yes (Approx. 5 minutes)
Picture Effects	Yes (E-Flip, Nega Art, Black & White, Mirror image, enhancement)
Picture Freeze	Yes
Slow Shutter	Yes (Auto: Up to 1/4s for 1080p/30, 1/3s for 1080p/25)
Temperature Readout	Yes
Title Display	Yes (20 characters/line, max. 11 lines)
Camera Mode Display	Yes
Key Switch Control	Yes
Camera Operation Switch	No
Presets	6 positions
Interface	
Video Output	Digital Y/Pb/Pr 4:2:2, LVDS***
Camera Control Interface	ViSCA (CMOS 5 V level) Baud rate: 9.6 Kbps, 19.2 Kbps, 38.4 Kbps Stop bit: 1 bit
General	
Power Requirements	5 V to 5.5 V DC
Power Consumption	Less than 1.2 W (zoom/focus inactive)
Operating Temperature	-5 °C to +60 °C
Storage Temperature	-20 °C to +60 °C
Operating Humidity	20% to 80%
Storage Humidity	20% to 95%
Dimensions (W x H x D)	50.0 x 47.6 x 53.4 mm (2 x 1 7/8 x 2 1/8 inches)
Mass	Approx. 83 g (3 oz)

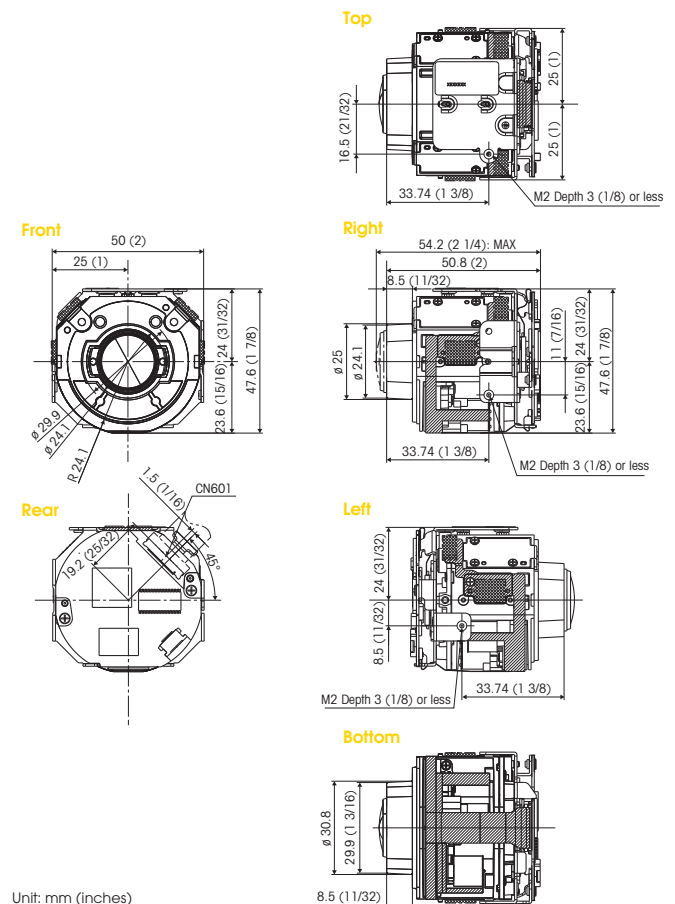
* Wide dynamic range
** Half frame rate at Off mode 15fps in 1080p/30
*** SAV/EAV signal is not supported

Pin assignment & connector

CN601
30-pin Micro Coaxial Connector (USL00-30L-C, KEL Corp.)
(for power supply/communication/video out (digital))

Pin No.	Name	Level
1	TXOUT3+	LVDS
2	TXOUT3-	LVDS
3	TXCLKOUT+	LVDS
4	TXCLKOUT-	LVDS
5	TXOUT2+	LVDS
6	TXOUT2-	LVDS
7	TXOUT1+	LVDS
8	TXOUT1-	LVDS
9	TXOUT0+	LVDS
10	TXOUT0-	LVDS
11	GND	
12	TxD	CMOS 5 V (at 5 V DC IN, Low: Max. 0.1 V, High: Min. 4.4 V)
13	RxD	CMOS 5 V (at 5 V DC IN, Low: Max. 0.8 V, High: Min. 2.0 V)
14	DC IN	5 V to 5.5 V DC
15	DC IN	5 V to 5.5 V DC
16	DC IN	5 V to 5.5 V DC
17	DC IN	5 V to 5.5 V DC
18	DC IN	5 V to 5.5 V DC
19	GND	
20	GND	
21	GND	
22	GND	
23	GND	
24	GND	
25	ONE PUSH AF	Active: Low (GND) Normal: Open
26	RESET IN	RESET: Low (GND) Normal: Open
27	FOCUS FAR	Active: Low (GND) Normal: Open
28	FOCUS NEAR	Active: Low (GND) Normal: Open
29	ZOOM WIDE	Active: Low (GND) Normal: Open
30	ZOOM TELE	Active: Low (GND) Normal: Open

Dimensions



Unit: mm (inches)

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