

FCBEX1020P

E-series camera module with analogue and digital outputs and 36x zoom lens

The FCB-EX1020/P adopts a number of new features designed for the digital age, including a new progressive scan 1/4-type EXview HAD CCD, high resolution (up to 550 TV line) and a digital output option, supporting the future demands of digital video infrastructure.

The camera module includes a 36x zoom lens and incorporates a new StableZoom™ function, which combines image stabilisation with digital zoom in order to enhance the picture and maintain horizontal angle of view. The FCB-EX1020/P can operate at a minimum illumination of 1.4 lx and comes with superior Enhanced Noise Reduction capability - with 5 levels - in order to optimise low light image quality in varying light conditions. This together with an auto on/off Wide Dynamic Range, and auto ICR function makes the FCB-EX1020/P particularly suitable for integration into challenging outdoor video surveillance monitoring applications.

In order to meet a wider range of applications, the FCB-EX1020/P also comes equipped with evermore sophisticated additional specifications and features, including wider operating temperature range, temperature readout, Colour Enhancement and Slow AE Response (beyond 10 minutes) as well as other features inherited from earlier FCB EX series cameras. These and other features make the FCB-EX1020/P the definitive choice for security & monitoring systems, but also suitable for low vision systems, inspection and UAV applications among others.

Features

Excellent High Resolution Picture Quality

The FCB-EX1020/P incorporates a 1/4 type EXview HAD Progressive Scan CCD sensor that offers improved sensitivity and colour reproduction. By combining a powerful DSP with this CCD, the camera achieves a high horizontal resolution of 550 TV lines, providing very clear and detailed images.

Progressive Scan

Network or IP cameras typically utilise backend systems based on progressive scan. The FCB-EX1020/P is able to process images directly in progressive scan mode in order to provide smooth consistent picture quality avoiding conversion from interlaced scan.

Digital Output

The camera is equipped with a digital interface (Y/Cb/Cr 4:2:2) which is comparable to ITU-R BT656. The video output is therefore free from signal deterioration. Furthermore no external analogue/digital converter is required between the camera and other equipment, bringing down the overall integration cost.

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. This lets you choose the best level according to environmental conditions.

Wide Dynamic Range with New Technology

Auto Mode

In Auto mode, the Wide Dynamic Range function is automatically turned on and off, depending on the visibility of the subjects and background.

Interlace Wide-D and Progressive Wide-D Modes

There are two modes of Wide D -- Interlace mode which provides better performance with moving subjects, and Progressive mode which provides clearer images of still subjects.

Image Stabilisation

In StableZoom™ mode, image stabilization starts naturally without bringing an abrupt change to the horizontal angle of view. With StableZoom™ activated, an equivalent of 33x optical zoom is possible.

Compact and Lightweight Design

With a compact and lightweight design (approx. 230 g/8.1 oz), the camera can be integrated into a variety of space-restricted environments. The dimensions of the FCB-EX1020/P are the same as the FCB-EX1010/P predecessor even with the same screw hole positioning points, allowing for easy upgrade to existing systems.

Slow AE Response Function

The camera's Auto Exposure speed for adapting to changes in lighting conditions can be set as slow as required, even as slow as 10 minutes. The speed of adaptation can be slowed down in order to suit some conditions. For example, such as an underground car park where without a change in AE response, the

camera could miss some important images when car headlights appear in the scene causing an abrupt change in lighting conditions.

Auto IR-cut Filter Removal (Auto ICR)
Advanced Spherical Privacy Zone Masking
Electronic Flip (E-Flip)
Multi-line On-screen Display
Video Motion Detection
Picture Freeze

SMART (Sony Modular Automatic Lens Reset Technology)
Gain Limit Setting
Zoom Limit Setting
Zoom Speed-up in Zoom Direct Mode (Focus Trace On/Off)
Focus Compensation in ICR Mode
Alarm Signal Output in Auto ICR Mode
Image Stabilization Hold

Technical Specifications

Generic Specifications	
Image sensor	1/4-type EXview HAD CCD (Progressive Scan)
Signal system	FCB-EX1020P; PAL / FCB-EX1020; NTSC
Horizontal resolution	550 TV lines
Number of total pixels	PAL- Approx. 440,000 pixels / NTSC - Approx. 380,000 pixels
Lens	36x optical zoom, f=3.4 mm (wide) to 122.4 mm (tele), F1.6 to F4.5
Digital zoom	12x (432x with optical zoom)
Angle of view (H)	57.8° (wide) to 1.7° (tele)
Minimum object distance	10 mm (wide) to 1500 mm (tele), Default: 320mm
Sync system	Internal / External (V-lock)
Minimum illumination	1.4 lx (F1.6, 50IRE)
S/N ratio	More than 50 dB
Electronic shutter	1/1 to 1/10,000 s, 22 steps
White balance	Auto, ATW, Indoor, Outdoor, Outdoor Auto, Sodium Vapor Lamp (fix/auto), One-push, Manual
Gain	Auto, Manual, Priority Mode, Bright, EV compensation, Backlight compensation, Slow AE
EV compensation	Yes
Backlight compensation	Yes
Privacy zone masking	On / Off (24 positions, 8 positions per screen, 14 colours & mosaic)
Camera operation switch	Yes (Zoom Tele, Zoom Wide)
Focusing system	Auto (Sensitivity: normal, low), One-push AF, Manual, Infinity, Interval AF, Zoom trigger AF, Focus Compensation in ICR On mode
Picture effects	E-Flip, Nega Art, Black & White, Mirror Image, Colour Enhancement

Video output	Analogue: 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 (TTL 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
Operating temperature	-5 °C to +60 °C
Power requirements	6 to 12 V DC
Power consumption	2.4 W (motors inactive), 5.1 W (motors active)
Mass	Approx. 230g (8.1 oz)
Dimensions (WxHxD)	50.0 x 57.5 x 87.9 mm
Wide-D Auto mode	Yes
Wide-D IS/PS mode	Yes
Image Stabilisation	Yes
StableZoom	Yes (43x)
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 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
E-flip	Yes
Flicker Cancel	Yes (NTSC)

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ELECTRONIC GROUP, INC

480-635-8400 p * aegis-g2@aegiselect.com
<http://www.aegis-elec.com>