SP-5000-CXP2

5-megapixel CMOS global shutter

- *Large format 5 MP CMOS imager (global shutter)*
- *Up to 209 fps at full resolution over 2x CoaXPress interface*
- *5.0 µm square pixels in a 5:4 aspect ratio*
- *60 dB linear dynamic range with 100 dB piece-wise HDR mode*
- *Auto-scaling A/D front-end for improved dynamic range in low light applications*
- *On-chip 4-channel analog gain for individual R, G1, G2, + B control*
- *2X and 4X binning for increased sensitivity (monochrome only)*
- *ROI and decimation modes for flexible readout, windowing, or increasing frame rate – 419 fps at 1280 x 1024 pixels, 888 fps at 640 x 480 pixels*
- *Monochrome or color models with raw Bayer or in-camera RGB/YUV interpolation*
- *Accepts power over CoaXPress or 12-pin connector for maximum application flexibility*
- *C-mount lens mount*
- *Automatic Level Control (ALC) for dynamic lighting conditions*
- *Programmable P-iris lens control or optional 3-axis DC-iris control for operation of motorized lenses, pan/tilt heads, or other analog accessories*

Specifications for SP-5000-CXP2

Specifications	SP-5000-CXP2
Sensor	1" CMOS global shutter
Pixel Clock	72 MHz
Frame rate, full frame	209 frames/sec.*
Active area	12.8 mm (h) x 10.2 mm (v)
Cell size	5.0 µm (h) x 5.0 µm (v)
Active pixels	2560 (h) x 2048 (v)
Horizontal output frequency	463.36 kHz
Read-out modes Full ROI (mono) ROI (color) Binning	2560 (h) x 2048 (v) 209 fps (8-bit) 2560 (h) x 2048 (v) 104 fps (10/12-bit) Any start line, any height in 1 line steps, with X offset and width in 16 pixel steps Any start line, any height, in 2L steps with X offset and width in 16 pixel steps 1x2, 2x1, 2x2 (monochrome only)
Sensitivity (SP-5000M)	X.X Lux (shutter off, max. gain, f1.4, 50% video)
Sensitivity (SP-5000C)	X.X Lux (shutter off, max. gain, f1.4, 50% green)
S/N ratio mono color	>55 dB. (0 dB gain) >53 dB. (0 dB gain, green)
Video signal output mono color in-camera interpolation	8/10/12-bit monochrome 8/10/12-bit Bayer 24/30-bit RGB, YUV4:1:1, or YUV4:2:2
Auto-iris lens video output	0.7Vp-p, with 0.3V horiz. sync
Gain	Manual/automatic 0 dB to +24 dB
White balance (SP-5000C)	Manual, one-push auto, or continuous (3000K to 9000K)
Gamma	0.45-1.0 (16 steps) or 256-point LUT
Synchronization	Internal
Inputs/Outputs	GPIO in/out through Hirose 12-pin connector
Trigger input	Line4 (TTL in), Line7 (trigger packet)
Trigger modes	EPS, PIV, Trigger Width, RCT (with ALC)
Electronic shutter Timed exposure Auto shutter	 10 µs to 8 sec in 1 µs steps Continuous to 1/100,000 sec.
Auto level control (ALC)	Integrated shutter, gain, and auto iris control Tracking speeds and max values adjustable
Pre-processing functions	Flat field correction, color shading correction (SP-5000C), CMOS pattern correction, blemish compensation (>500 pixels)
3-axis control	Programmable control of motorized lenses, pan/tilt heads, and other analog accessories
Operating temperature	-5° C to +45° C
Storage temperature	-45° C to +70° C
Humidity	20 - 80% non-condensing
Vibration	10G (20 Hz to 200 Hz XYZ)
Shock	80 G
Regulations	CE (EN 61000-6-2, EN 61000-6-3), FCC part 15 class B, RoHS/WEEE
Power	12V to 24V DC ± 10%. 5.9W typical (full frame @ 12V)
Lens mount	C-mount
Dimensions (H x W x L)	62 mm x 62 mm x 55.5 mm
Weight	260 g

*Monochrome or raw Bayer. See table below for color interpolation

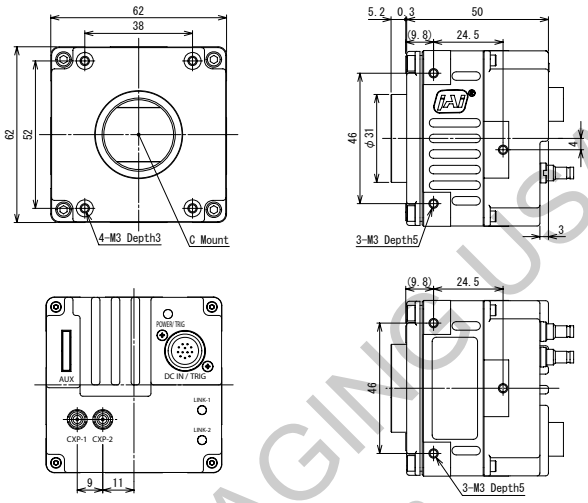
Color Interpolation (in-camera)

RGB	79 fps (24-bit), 63 fps (30-bit)
YUV	158 fps (4:1:1), 119 fps (4:2:2)

Ordering Information

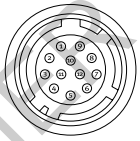
SP-5000M-CXP2	Monochrome camera with CoaXPress 1x/2x
SP-5000C-CXP2	Color camera with CoaXPress 1x/2x

Dimensions



Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB-01

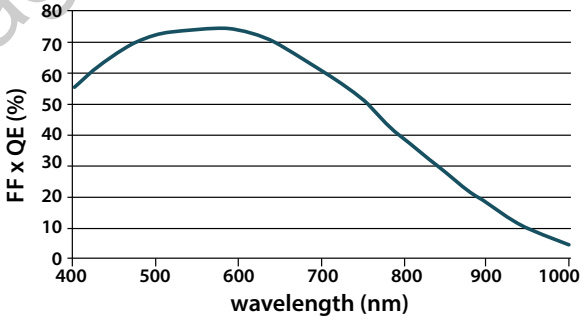
Connector Pin-out

Pin		Pin	
1	GND	7	Opto out 1(-)
2	+12V to + 24V DC input	8	Opto out 1(+
3	Opto in 2(-)*/GND	9	Opto out 2(-)
4	Opto in 2(+)*/Auto iris lens	10	Opto out 2(+)
5	Opto in 1(-)	11	+12V to + 24V DC input
6	Opto in 1(+)	12	GND

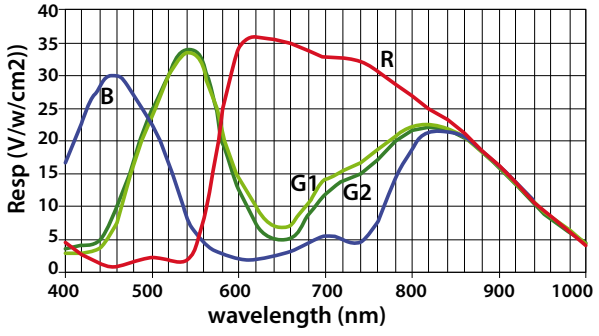
* Pins 3 and 4 can be configured by internal switch selection

Spectral Response

Monochrome



Color



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