SP-45000-CXP4

44.7 megapixel CMOS area scan

CoaXPress®

- *High resolution 44.7 megapixel CMOS image sensor (global shutter)*
- *Up to 51 fps at full resolution (8192 x 5460)*
- *Capable of 65 fps at 8K resolution (8192 x 4320)*
- *Super 35mm format (31.5 mm diagonal) with 3.2 µm square pixels*
- *Built-in functions for HDR (High Dynamic Range), frame integration and more*
- *Horizontal / vertical image flip function*
- *Lens control function utilizing Birger Mount and RS-232C lens control commands*
- *Excellent shock and vibration resistance*
- *8/10/12/14-bit* output over 4-channel, GenICam-compliant CoaXPress 2.0 interface*
- *Can share processing across multiple PCs with the CXP link sharing function*
- *F-mount or M42 lens mount options*

* Not all processing functions supported with 12-bit output. 14-bit output for HDR and frame integration modes only.

Specifications for SP-45000-CXP4

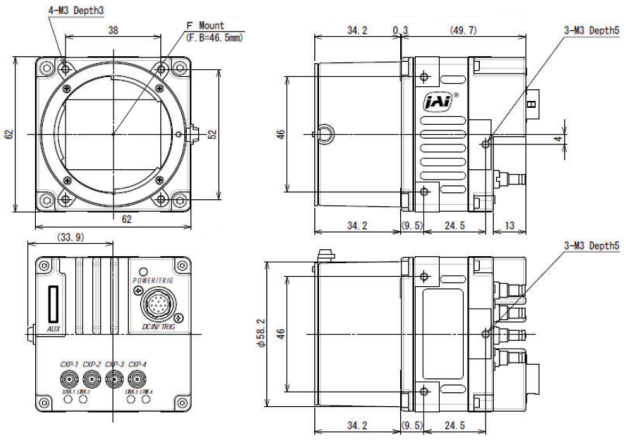
Spark Series

Specifications	SP-45000-CXP4
Sensor	44.7-megapixel, super 35 mm CMOS global shutter
Active pixels	8192 (h) x 5460 (v)
Frame rate Full frame 8K format (8192 x 4320)	 51 frames/sec. @ 8-bit mono/Bayer 65 frames/sec @ 8-bit mono/Bayer HDR Mode operates at ‹ half speed
Active area	26.2 mm (h) x 17.4 mm (v) - 31.5 mm diagonal
Pixel size	3.2 µm x 3.2 µm
Read-out modes Full ROI (single) ROI (multi) Binning	 8192 (h) x 5460 (v) up to 51 fps H: 128 - 8192 pixels in 128-pixel steps V: 8 to 5460 lines in 4-line steps Up to 64 scanning areas - no overlap 1x2, 2x1, 2x2 (mono only)
EMVA 1288 Parameters Absolute sensitivity Maximum SNR	12-bit output format Mono: 8.92 p Color: 10.14 p (λ = 531 nm) Mono: 39.0 dB Color: 37.3 dB
Traditional SNR*	›58 dB mono, ›54 dB color (0 dB gain, 10-bit)
Video signal output	Monochrome: 8/10/12-bits† Color: 8/10/12-bit Bayer†
Special built-in modes	Overlay mode, HDR (High Dynamic Range), Frame Integration. Supports 14-bit output in some modes
Interface	CoaXPress v2.0 (CXP-6, DIN 4) Link Confi gration CXP6_X4, CXP6_X2, CXP6_X1 CXP3_X4, CXP3_X2, CXP3_X1
Gain	Manual/auto 0 dB to +24 dB
White balance	Off, presets (4000K, 4600K,5000K, 6500K, 7500K), or one-push/continuous AWB (3000K to 9000K)
Gamma/LUT	0.45 to 1.0 (9 steps) or 257-point programmable LUT
Shading correction	Flat shading, color shading (color model only)
Trigger input	Opto In, TTL In (2), CoaXPress In, Software, Pulse Generators (4), NAND Out (2), User Output (4)
Exposure modes	Timed/EPS, Trigger Width, Auto
Electronic shutter	Timed: 50.4 µs to 8 s Trigger width: 50.4 µs to ∞ s
Auto Level Control (ALC)	Shutter range from 100 µs to 19.6 ms, gain range from 0 dB to +24 dB. Tracking speeds and max. values adjustable.
Operating temp. (ambient)	-5°C to +45°C (20 to 80% non-condensing)
Storage temp. (ambient)	-25°C to +60°C (20 to 80% non condensing)
Vibration	10G (20 Hz to 200 Hz, XYZ directions)
Shock	80G
Regulations	CE (EN 55032:2015, EN 55035:2017) FCC Part 15 Class B, RoHS/WEEE, KC
Power 12-pin	+10V to +25V DC. 12.5 W typical @ +12 V (PoCXP not supported)
Lens mount	F-mount, M42 mount (45.5 mm FBD)
Lens control	RS-232C commands via Birger Mount
Dimensions (H x W x L)	62 mm x 62 mm x 84.2 mm (excl. connectors)
Weight	330 g/340 g (F-mount/M42 mount)

Ordering Information

SP-45000M-CXP4-F	44.7 megapixel monochrome camera - F-mount
SP-45000M-CXP4-M42	44.7 megapixel monochrome camera - M42 mount
SP-45000C-CXP4-F	44.7 megapixel color camera - F mount
SP-45000C-CXP4-M42	44.7 megapixel color camera - M42 mount

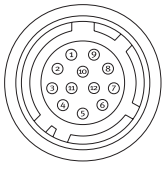
Dimensions



Outside size tolerance ± 0.3 mm
F-mount shown. For M42 mount dimensions, consult the manual.

Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB(71)

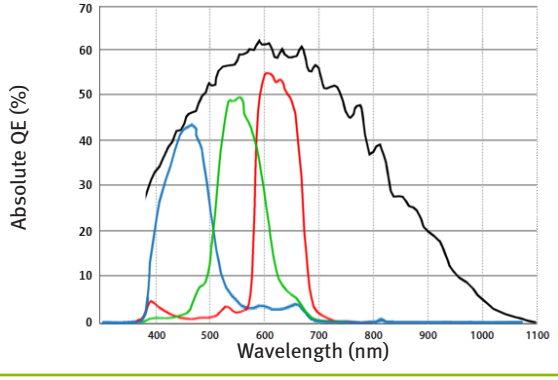
Pin		
	1	Ground
	2	DC in +10V to +25V
	3	Ground
	4	NC
	5	Opto In 1-
	6	Opto In 1+
	7	Opto Out 1-
	8	Opto Out 1+
	9	TTL Out 1
	10	TTL In 1
	11	DC in +10V to +25 V
	12	Ground

Auxiliary Connector

Type: 3260-10S3(55) HIROSE or equivalent

Pin	Signal	Note
1	TTL Out 2	Line 8
2	NC	
3	TTL In 2	Line 10
4	NC	
5	GND	GND
6	Lens Power	DC 9V
7	RS-232C Tx	For lens control
8	RS-232C Rx	For lens control
9	GND	
10	GND	

Spectral response



†12-bit output only available in video processing bypass mode. See manual for details.

*Traditional SNR is based on random noise in a single frame, where EMVA SNR measurements consider more comprehensive noise sources and variance over time.

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