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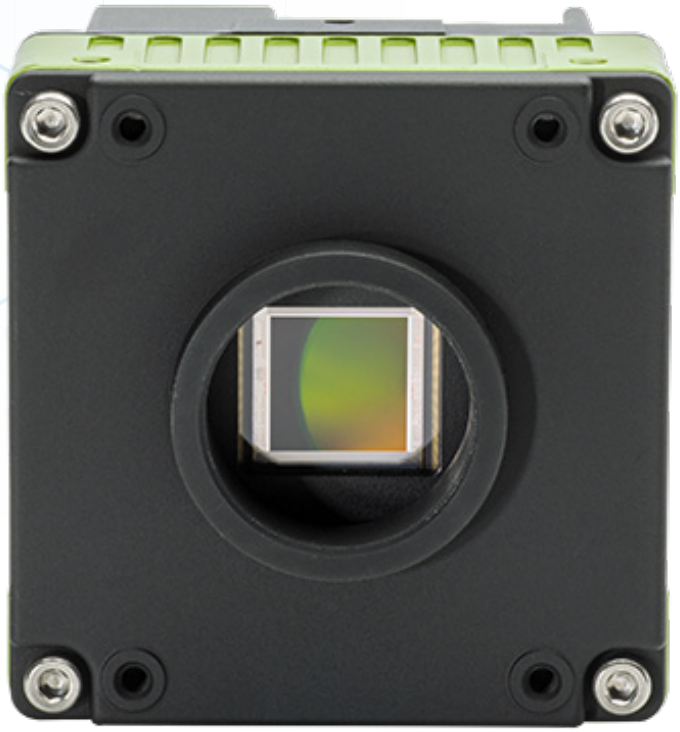
SP-25000M-CXP4A

Technical Datasheet

See the possibilities

GMAX0505



Apex Series

Spark Series area scan cameras are the perfect choice for machine vision applications demanding high quality images with the highest possible throughput. They feature the latest CMOS imagers delivering high resolution images at speeds as much as 10 times faster than traditional CCD cameras.

For example, 45-megapixel (MP) models can deliver over 50 fps output while some 5-MP models run at 250 fps or more. Using the region-of-interest (ROI) feature, even higher frame rates can be achieved.

Specification Highlights

SENSOR:	GMAX0505	**SHUTTER:**	Global Shutter
FORMAT:	1.1"	**FRAME RATE:**	150 fps
PIXEL SIZE:	2.5 x 2.5 µm	**INTERFACE:**	CoaXPress-4-Cable (PoCXP)
LENS MOUNT:	C-Mount	**RESOLUTION MP:**	26.2 MP
SPECTRUM:	Monochrome (Visible)	**RESOLUTION WxH:**	5120 x 5120 px

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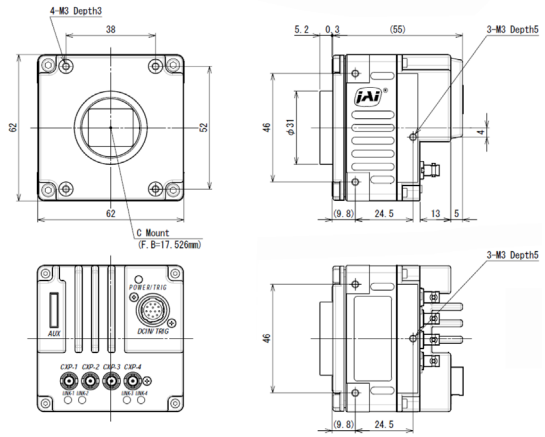
Specifications		SP-25000-CXP4A
Sensor		26.2 MP, 1.1-inch CMOS global shutter
Active pixels		5120 (h) x 5120 (v)
Frame rate, full frame		150 frames/sec. @ 8-bit mono/Bayer
Active area		12.8 mm (h) x 12.8 mm (v) - 18.1 mm diagonal
Pixel size		2.5 µm x 2.5 µm
Read-out modes		
Full ROI (single)		5120 (h) x 5120 (v) up to 150 fps H: 128 - 5120 pixels in 128-pixel steps V: 8 to 5120 lines in 4-line steps
Binning		1x2, 2x1, 2x2 (mono only)
EMVA 1288 Parameters Absolute sensitivity Maximum SNR		12-bit output format Mono: TBD p Color: TBD p (λ = 531 nm) Mono: TBD dB Color: TBD dB
Traditional SNR*		>47 dB mono, >47 dB color (0 dB gain, 150 fps, 8-bit)
Video signal output		Monochrome: mono8 Color: BayerRG8, BayerGB8, BayerGR8, BayerBG8
Video modes		Normal/Single ROI, Multi ROI, Sequencer (Trigger & Command)
Interface		CoaXPress v2.0 (CXP-12, Micro BNC connectors) Link Configs: CXP12_X4, CXP12_X3, CXP12_X2, CXP12_X1, CXP6_X4, CXP6_X3, CXP6_X2, CXP6_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
Image correction & enhancement		Flat shading, color shading (color model only), edge enhancement
Trigger input		Opto In, TTL In (2), Pulse Generators (4), Software, NAND Out (2), User Output (4)
Exposure modes		Timed/EPS, Trigger Width, Auto
Electronic shutter		Timed: 9 µs to 8 s Trigger width: 9 µs to ∞ s
Auto Level Control (ALC)		Shutter range from 100 µs to ~6.6 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
Power	12-pin PoCXP	+10V to +25V DC. 16.5 W typical @ +12 V Some limtations apply. See manual for details.
Lens mount		C-mount (17.526 mm FBD)
Lens control		Signals available via 10-pin Aux connector
Dimensions (H x W x L)		Signals available via 10-pin Aux connector
Weight		305 g
Ordering Information		
SP-25000M-CXP4A		26 megapixel monochrome camera with CoaXPress
SP-25000C-CXP4A		26 megapixel color camera with CoaXPress

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

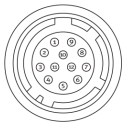
Dimensions



Outside size tolerance ± 0.3 mm

Connector pin-out

DC In / Trigger



HIROSE HR10A-10R-12PB(71)

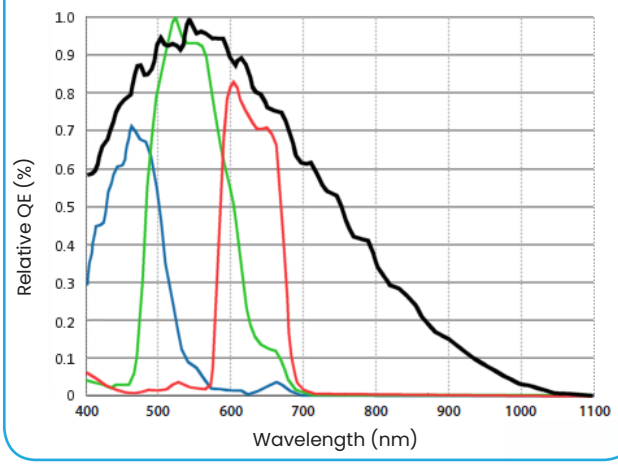
Pin	-
1	Ground
2	DC in +10V to +25V
3	Ground
4	NC
5	Opto In-
6	Opto In+
7	Opto Out-
8	Opto Out+
9	TTL out 1
10	TTL in 1
11	DC in +10V to +25 V
12	Ground

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



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Product Highlights

- High resolution 26.2 megapixel CMOS image sensor (global shutter)
- Up to 150 fps for 8-bit output at full resolution (5120 x 5120)
- Two models - monochrome or raw Bayer color output provided
- Compact 1.1-inch optical format (18.1 mm diagonal) with 2.5 µm square pixels
- Horizontal / vertical image flip function, single ROI and multi-ROI modes
- Excellent shock and vibration resistance (80G shock / 10G vibration)
- 4-channel, GenICam-compliant CoaXPress 2.0 interface
- 4 micro-BNC connectors support CXP-12 or CXP-6 lane speeds
- Can share processing across multiple PCs with the CXP link sharing function
- C-mount lens mount

Additional Product Images