![KAYA INSTRUMENTS]

Iron CoaXPress 3265

Iron CoaXPress
Small Form Factor, Ruggedized Camera

Innovative Approach

The *Iron 3265* is a low-cost, low-power, high resolution global CMOS camera with up to 50 Gbps CoaXPress 2.0 interface (Micro-BNC connector) which supports 65 MP high quality video at rates of up to 71fps.

Intelligent Design

The GMAX3265 is a global shutter sensor with a 3.2μm pixel size. With a compact outline the camera can be fitted into tight spaces. Superior sensor performance allows very low light vision capabilities.

Applications:

- Perimeter vision
- Low light surveillance
- Special Effects
- Virtual Reality
- 3D

Key Features:

- 65 Megapixel up to 71 fps
- Monochrome and Color models
- Up to 9W power at full rate
- Full image processing feature set
- Up to 50 Gbps CoaXPress interface
- F, EF, Birger EF or M42 mounts are available
- Commercial and rugged industrial grade options
- Full EMVA1288 report
- Full built-in self-test (BIT)
- Full built-in voltage testing
- Customization as per user requirements

Technical Data

Feature	Description		
Pixel size	3.2 µm x 3.2 µm		
Resolution	9344 (H) x 7000 (V)		
Sensor size	29.9 mm x 22.4 mm | 7/3"		
Sensor	Gpixel GMAX3265		
Video output	x 4 channels CoaXPress 2.0 up to 50 (12.5 x 4) Gbps (CXP3, CXP6, CXP12)		
Interface connector	x 4 Micro-BNC		
Digitization	10 bit, 12 bit		
Electronic shutter	Global shutter		
Shutter speed	13.35 µs		
Exposure control	Off / Internal / Auto		
Image acquisition	Continuous / Triggered		
Trigger input [1]	External, pulse generator, SW		
Trigger mode	Free run, externally or internally triggered		
Trigger options	Edge, de-bounce		
Output resolution	8 bit, 10 bit, 12 bit		
Maximal Frame rate	HS model:	71 fps @8 bit	
		58 fps @10 bit	
	NS model:	31 fps @8 bit	
		31 fps @10 bit	
		31 fps @12 bit	
Subsampling	1 x 2 / 2 x 1 / 2 x 2 (user configurable)		
Monochrome/ color	Monochrome / color		
Full well charge	10.9 ke$^-$ @ PGA gain x0.75		
Dynamic range	65.0dB @ PGA gain x1.25		
Dark current	5.3 e$^-$ pxl/sec @40°C		
Quantum efficiency (QE) X FF	<65.3% @500 nm		
Temporal noise	2.3 e$^-$ @ PGA gain x6		
Angular response	15° (80% horizontal response)		
Regulation	FCC Part 15 Class A, CE, RoHs2 (official certification optional)		
On camera processing	▪ Defect pixel correction		▪ LUT
	▪ Digital binning (2 x 2)		▪ Gain (Analog / Digital) – manual / auto
	▪ ROI		▪ Auto/Manual black level
	▪ Auto Exposure/Gain		▪ Image H/V flip
Pulse generator	Yes, Programmable at 8 ns increments		
Additional features	▪ Over/under voltage protection		▪ Reverse voltage polarity protection
	▪ Three points of temperature sensing		▪ Frame-by-frame shutter speed change
	▪ Per-pixel FPN (optional)		▪ Global reset
GPIO connection	Two inputs, two outputs, external trigger & strobe controller		

Mechanical & Electrical

Feature	Description
Dimensions (without lens mount)	62 mm x 62 mm x 44 mm (Height x Width x Depth)
Lens mount	F-Mount, Canon EF-mount, Birger EF-mount or M42-mount
Weight (without lens or mount)	450g
Typical current	375mA @ 24V
Power input	▪ PoCXP full support ▪ External 10-28V input
Power consumption	<9W @ 24V DC
Mount	Front mount
Heat dissipation	Active airflow (Fan)
Sensor Mechanical Positioning	≤ 0.15°
Operating temperature	Commercial: 0°C to 50°C, 20-85% humidity (non-condensing) Industrial: -40°C to 70°C, 20-85% humidity (non-condensing)
Storage temperature	Commercial: 0°C to 55°C, 20-85% humidity (non-condensing) Industrial: -40°C to 75°C, 20-85% humidity (non-condensing)
Shock/Vibration [2]	MIL 810F

1. The output can be synchronized to the trigger on a frame by frame basis
2. MIL 810F is only available for the Industrial\Rugged model and is not available in the commercial version
* Performance is measured at full resolution, maximum bitness and the maximum frame rate for that bitness
** KAYA Instruments reserves the right to update the data sheet from time to time without prior notice.

Ordering Information

KAYA's Part Numbers are intuitive and derived directly from the product's properties. Each index represents a different property of the camera, according to the following diagram:
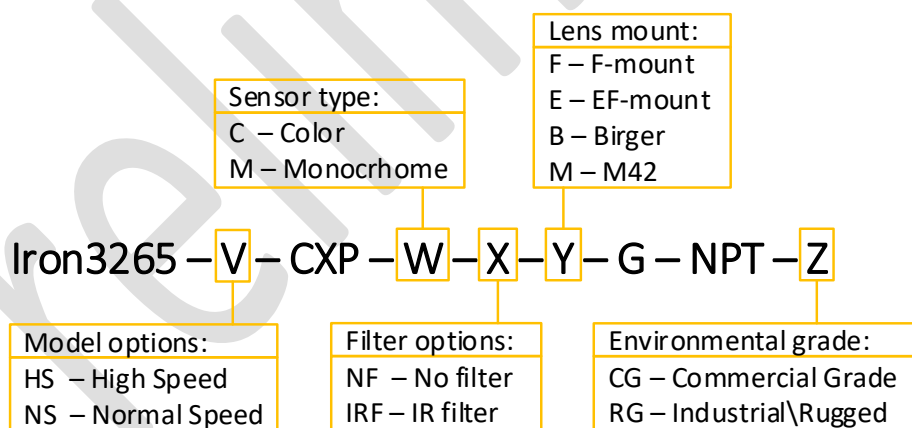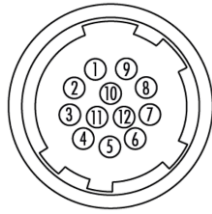

For example: a High-Speed Iron 3265 with a colored sensor, UV-IR cut filter and F-mount, rated for commercial use would go by Iron3265-HS-CXP-C-IRF-F-G-NPT-CG. It is also possible to buy peripheral equipment in addition to the camera as listed in the following table:

Product Name	Product Part Number
Cable, 12P Hirose connector (f)	KY-CBL-006

Please contact a sales representative over at info@kayainstruments.com for a full list of peripherals including cables and frame grabbers.

# General Purpose Input Output

GPIO Pinout – 12 Pin Hirose Connector

1. DC Power return
2. DC Power
3. RS232 RX
4. RS232 TX
5. OUT2 Return (OPTO)
6. RS232 Return
7. OUT1 (TTL)
8. IN1 (OPTO)
9. IN2 (TTL)
10. IN1/OUT1 Return
11. IN2 Return (LVTTL)
12. OUT2 (OPTO)

The GPIO connector used on the camera is a 12 pin male Hirose connector. It is recommended to use a cable with a matching Hirose 12 pin female connector. Hirose's manufacturer's part number is listed below:
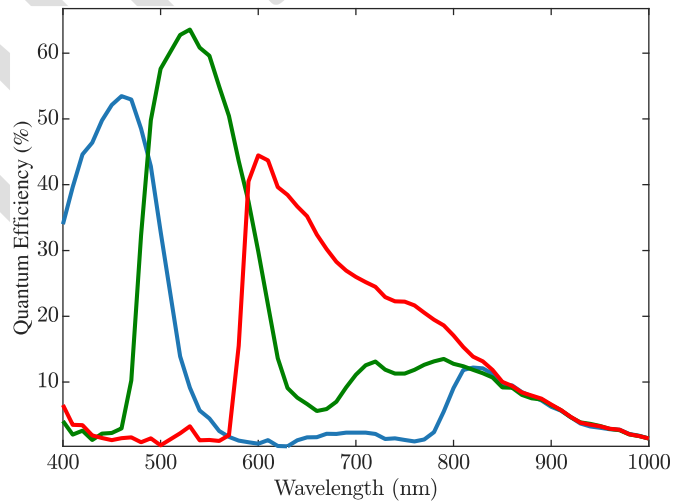
Product Name	Product Part Number
Hirose 12P connector, male	HR10A-10R-12PB
Hirose 12P connector, female	HR10A-10P-12S

GMAX3265 Spectral Responses

GMAX3265 Mono
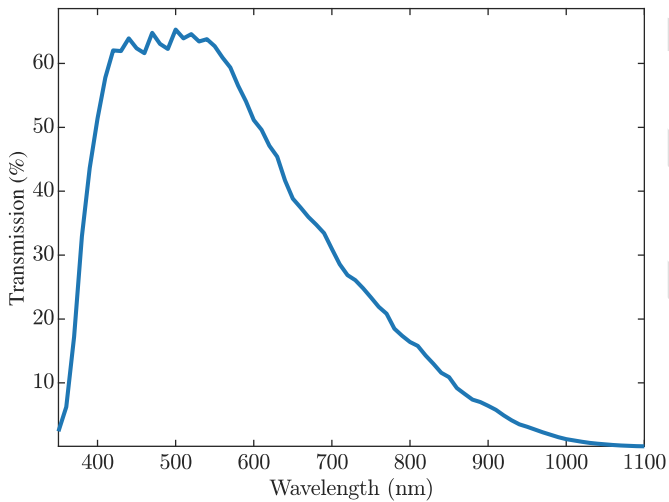
GMAX3265 Color

UV-IR Cut Filter
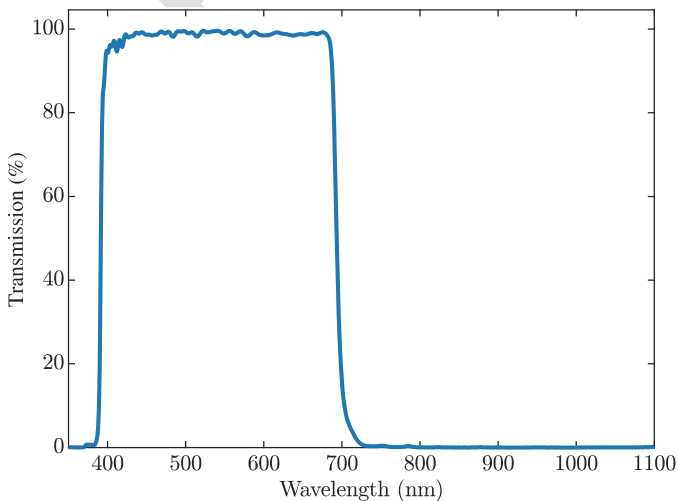
GMAX3265 Color, UV-IR Cut filter
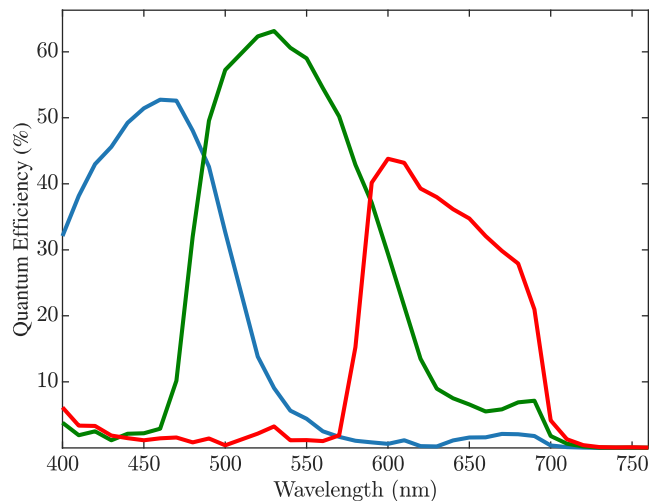
Lens Mounts Mechanical Drawings

Nikon F mount:

SECTION A-A

Canon EF mount:

SECTION A-A

M42 mount:

SECTION A-A
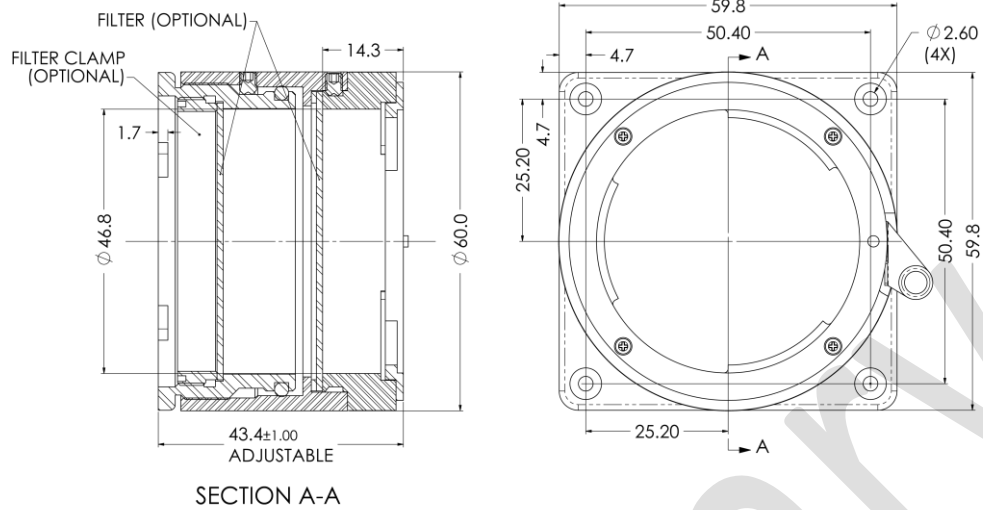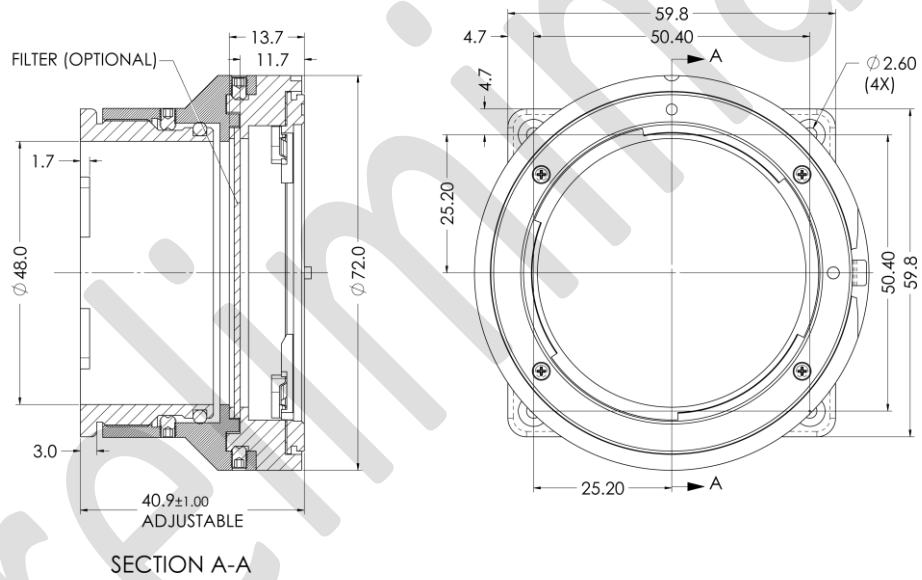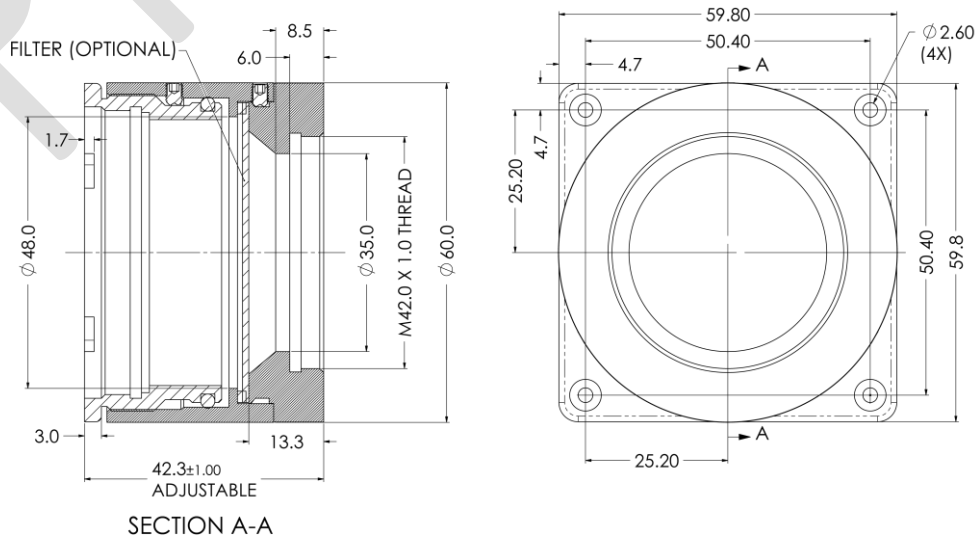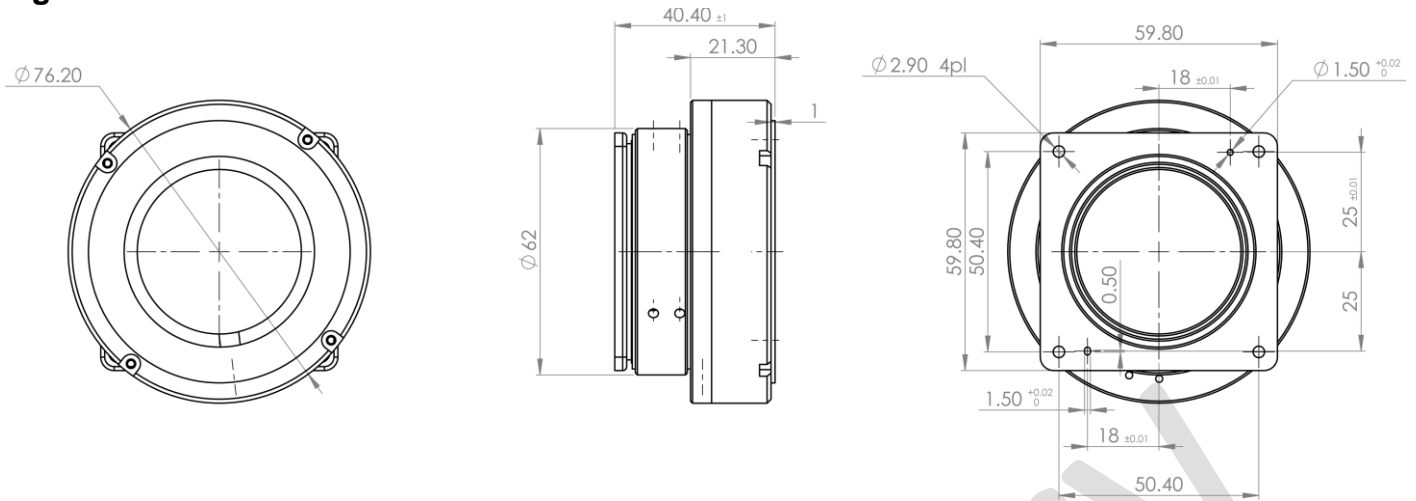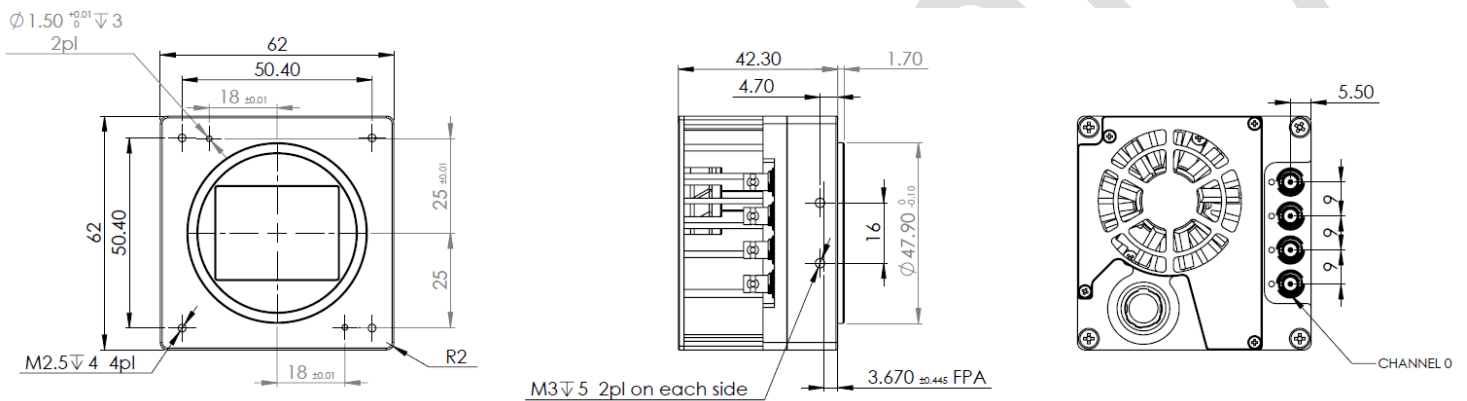
Birger EF mount:

Mechanical Drawings

Compatibility

KAYA Instruments creates and maintains compatibility and interfaces for the most common and advanced vision image processing libraries and applications.

❖ Supported vision standards:

❖ Supported vision libraries:

Contact Us

Please feel free to contact our team with any questions or further inquiries at **info@kayainstruments.com** – we will be happy to provide assistance and consultation.

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