

Iron 3GSDI 462

Iron 3GSDI

Small Form Factor, Ruggedized Camera

Innovative Approach

The **Iron 3GSDI 462** is an ultra-thin, low-cost, low-power rolling shutter CMOS camera with an SDI interface which supports high quality video at rates up to 60 fps.

Intelligent Design

Our camera incorporates high sensitivity Sony rolling shutter sensor with a 2.9µm pixel size. With an extremely compact outline the **Iron** 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:

- Maximal frame rate of up to 60 fps
- Up to 2.2W power at full rate
- Full image processing feature set
- Up to 3G-SDI interface
- C, CS or M12 lens mount
- Rugged industrial grade
- Full built-in self-test (BIT)
- Full built-in voltage testing
- Customization as per user requirements
- Board level and packaged camera options
- HD BNC connector for SDI output

Specifications

Feature	Description
Pixel size	2.9 μm x 2.9 μm
Optical format	1/2.8
Sensor	Sony IMX 462 Rolling shutter sensor
Video output	2k, 1080p, 1080i up to 60 fps
Output interface	Single-Link HD-SDI or 3D-SDI
Interface connector	HD BNC (Optional MCX)
Output format	10-bit 4:2:2(Y'Cb'Cr')
Electronic shutter	Rolling shutter
Monochrome / Color	Color
Temporal noise	2.8e- at Gain 1
Full well charge	10500e- at Gain 1
Quantum efficiency	80% @520nm
Dynamic range	> 70.4dB
Signal-to-noise ratio (SNR max)	> 40.2 dB
Shortest exposure	14 μs
Exposure control	Automatic Exposure/Gain, manual Exposure/Gain
Image enhancement	<ul style="list-style-type: none"> Defect pixel correction Auto/Manual black level Image flip Defog Color correction matrix Operational Time Counter Auto/Manual White balance LUT RGB offsets, saturation control
Camera configuration	RS232 direct ASCII protocol
Synchronization	Tri-level sync input (supported only for progressive formats)

Mechanical & Electrical

Feature	Description
Dimensions (including lens mount)	44 mm x 44 mm x 29.15 mm (Height x Width x Depth)
Lens mount	C-mount, CS-mount or M12-mount
Weight	~55g enclosed, 14g board level
Power input	5-28V
Power consumption	2.4W Typical (@ 12V DC, 25°C) 3.4W Maximum (@ 28V DC, 80°C)
Operating temperature	-40°C to 80°C, 20-85% humidity (non-condensing)
Storage temperature	-40°C to 85°C, 20-85% humidity (non-condensing)
Operational Shock	Tested per MIL-STD-810G Method 516.6, 3-axis Shock 75G
Operational Vibration	Tested per MIL-STD-810G Method 514.6, 3-axis Vibration Category 20
Ingress protection	Optional IP67 (with protective lens tube)

* KAYA Instruments reserves the right to update the data sheet from time to time without prior notice.

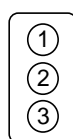
Supported Video Modes

Mode	Video Standard	Supported Resolution	Supported FPS
HD-SDI	ST 292 (ST 274)	1080i 10-bit 4:2:2/RAW	50, 60, 59.94
		1080p 10-bit 4:2:2/RAW	23.98, 24, 25, 29.97, 30
3G-SDI	ST 425-1 (ST 274)	1080p 10-bit 4:2:2/RAW	50, 59.94, 60

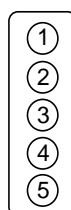
Preliminary

General Purpose Input Output

The Iron 3GSDI 462 uses 2 GPIO connectors. Connector pin-outs and manufacture's PN are as listed:



1. Reserved
2. GND
3. VCC



1. GND
2. RS232 TX
3. RS232 RX
4. Tri Level Sync
5. Strobe Out (3.3V LVTTTL)

Product Name	Product Part Number
Molex 3P PicoBlade PCB Header	0533980367
Molex 5P PicoBlade PCB Header	533980567
Loose cable accessory set	KAYA Instruments KY-CBL-027

Ordering Information

The Iron 3GSDI 462 is available in two different configurations, with the PN listed under the following product number:

Lens mount:

C – C-mount
CS – CS-mount
M – M12-mount

Iron462 – 3GSDI – C – V – W – G – NPT – RG – Z

Filter options:

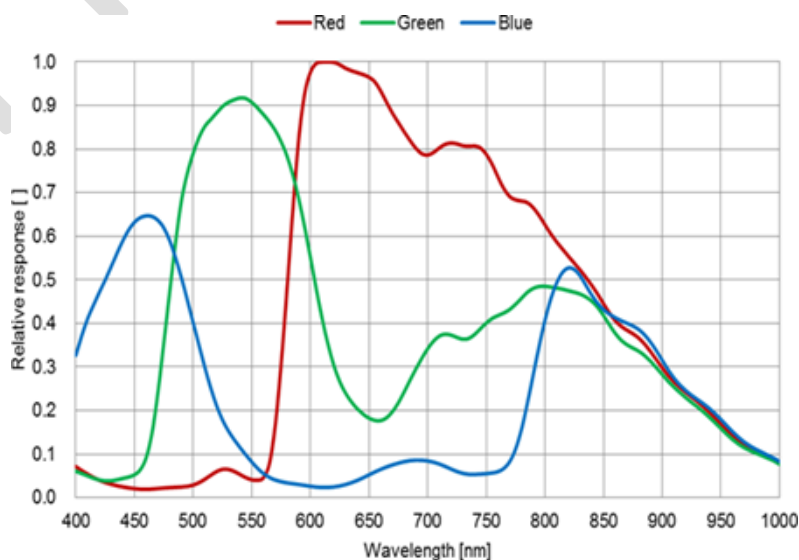
NF – No filter
IRF – IR filter

Enclosure

OF – Board Level
CF – Packaged

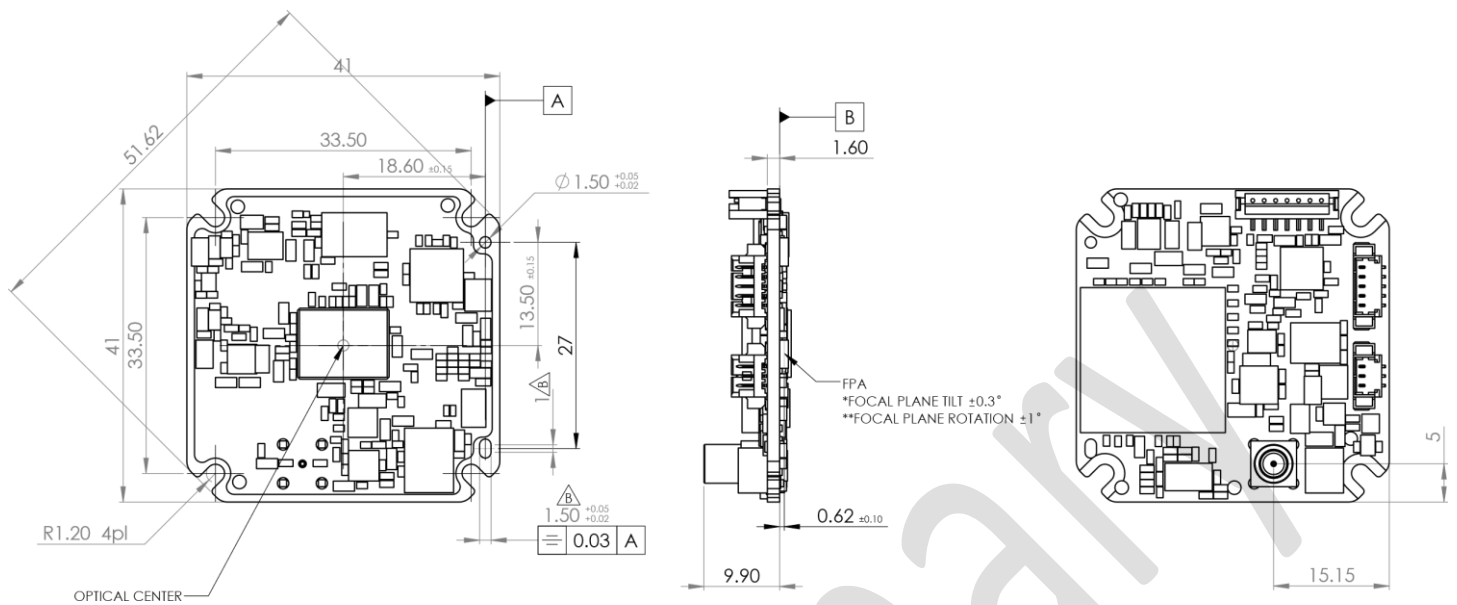
Please contact a sales representative over at info@kayainstruments.com for a full list of peripherals including cables and frame grabbers.

IMX 462 Spectral Responses

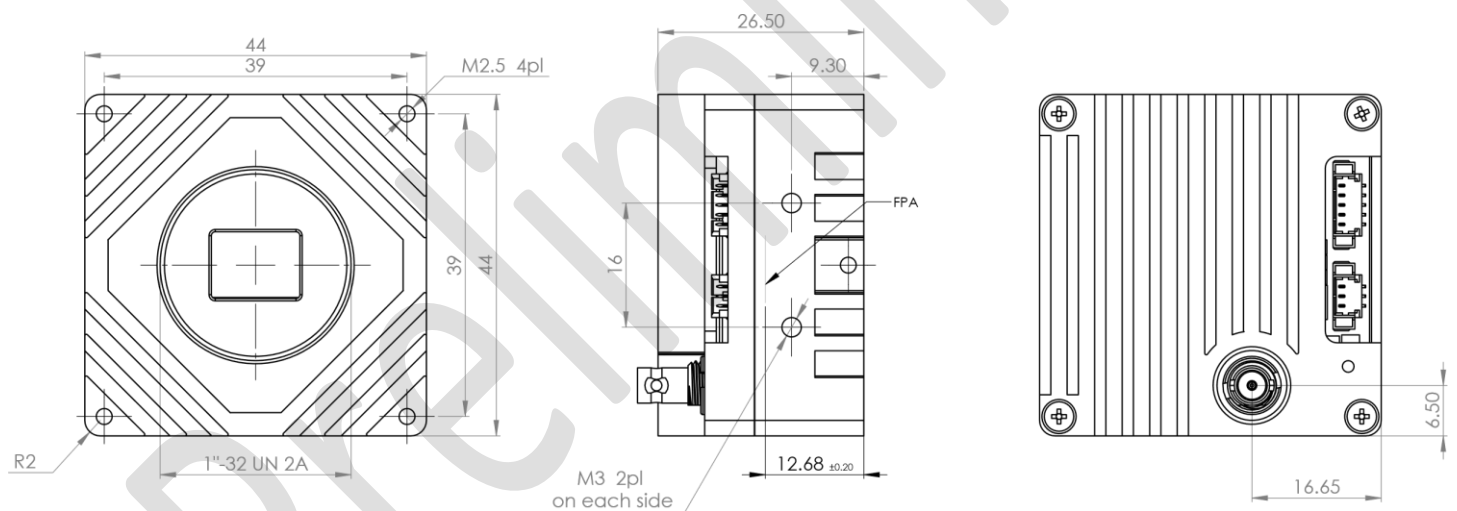


Mechanical Drawings

Open Frame Camera:



Enclosed Camera:



NOTE : Sensor glass lid is 0.5mm wide with RI=1.5

Contact Us

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

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