

## Iron462 3GSDI

# Iron 3GSDI

## Small Form Factor, Ruggedized Camera

### Innovative Approach

The **Iron462 3GSDI** 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 2.9 $\mu$ m 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 $\mu\text{m}$ x 2.9 $\mu\text{m}$
Optical format	1/2.8
Sensor	Sony IMX 462 Rolling shutter sensor
Video output	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 $\mu\text{s}$
Exposure control	Automatic Exposure/Gain, manual Exposure/Gain
Image enhancement	<ul style="list-style-type: none"> <li>▪ Defect pixel correction</li> <li>▪ Auto/Manual black level</li> <li>▪ Image flip</li> <li>▪ Defog</li> <li>▪ Color correction matrix</li> <li>▪ Operational Time Counter</li> <li>▪ Auto/Manual White balance</li> <li>▪ LUT</li> <li>▪ RGB offsets, saturation control</li> </ul>
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)

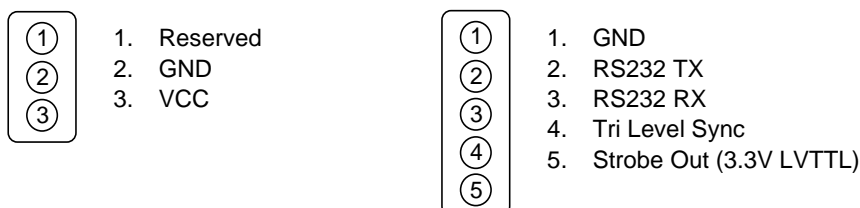
\* KAYA Instruments reserves the right to update the data sheet from time to time without prior notice.

## 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

## General Purpose Input Output

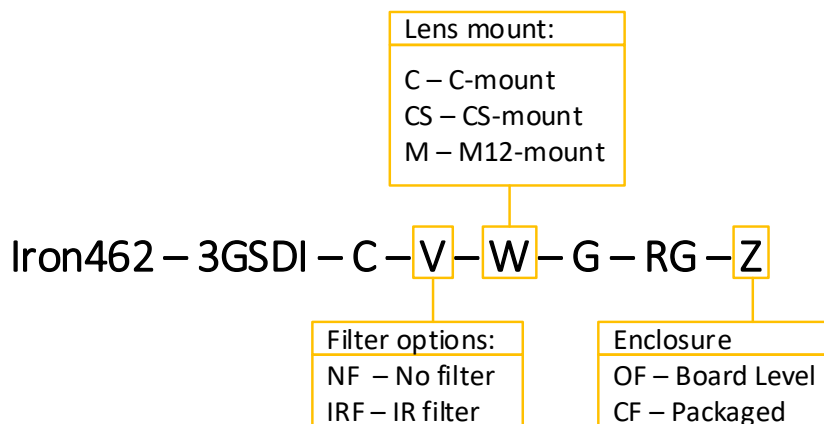
The Iron462 3GSDI uses 2 GPIO connectors. Connector pin-outs and manufacture's PN are as listed:



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

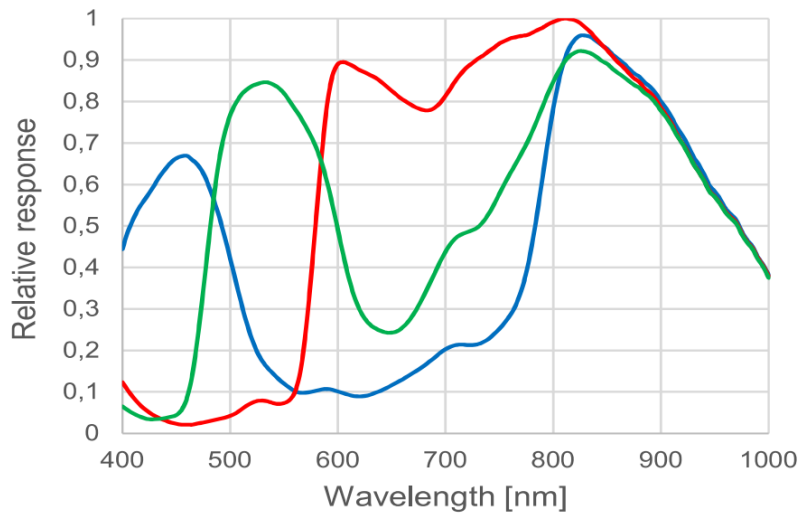
## Ordering Information

The Iron462 3GSDI is available in two different configurations, with the PN listed under the following product number:



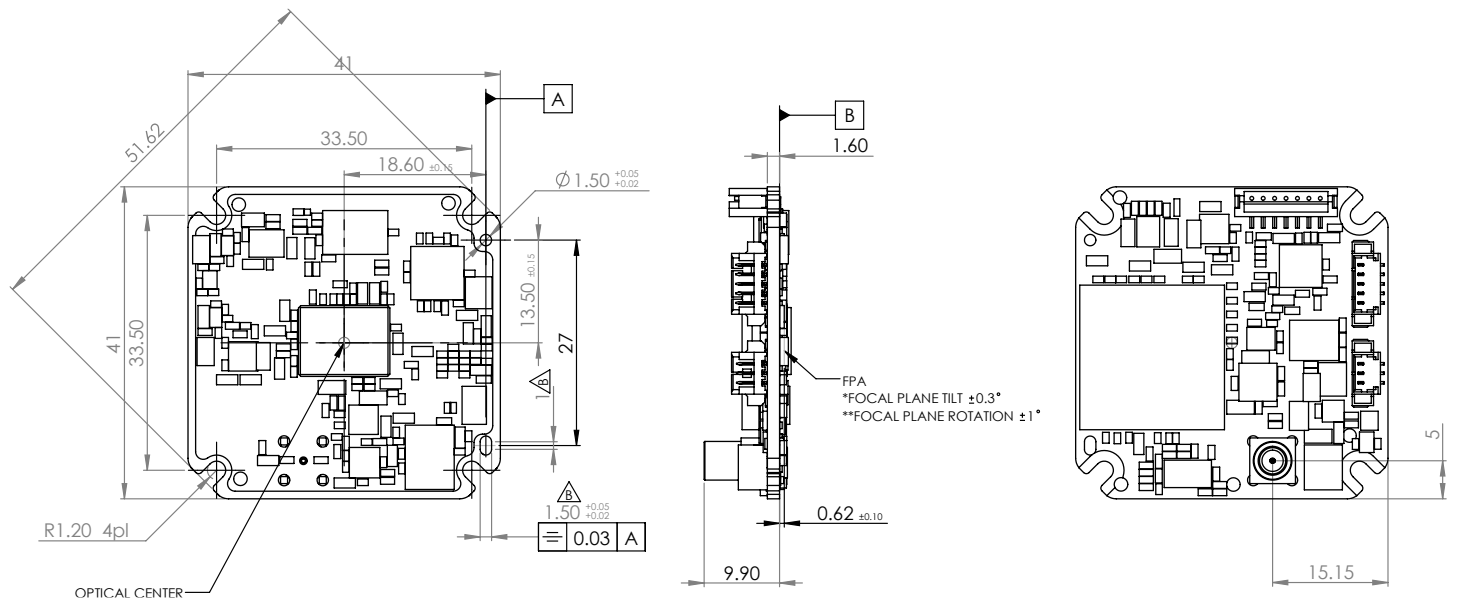
Please contact a sales representative over at [info@kayainstruments.com](mailto:info@kayainstruments.com) for a full list of peripherals including cables and frame grabbers.

# IMX 462 Spectral Responses

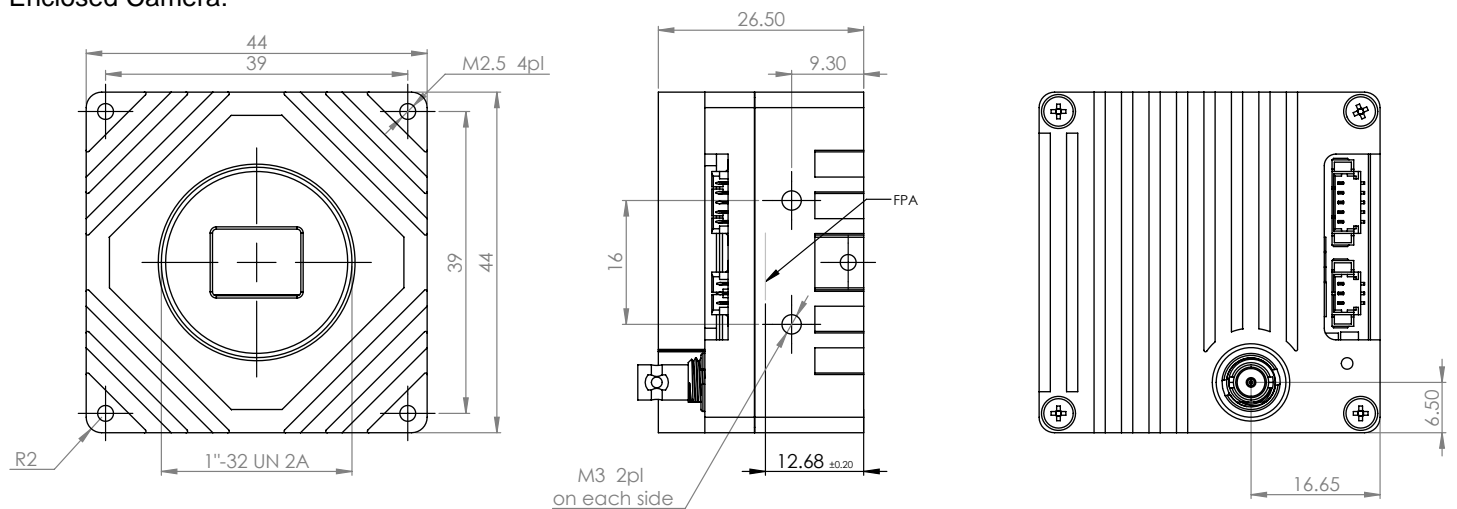


## Mechanical Drawings

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@skyblue.de](mailto:info@skyblue.de) – we will be happy to provide assistance and consultation.  
[www.skyblue.de](http://www.skyblue.de)

International Distributor

---



Sky Blue Microsystems GmbH  
Geisenhausenerstr. 18  
81379 Munich, Germany  
+49 89 780 2970, [info@skyblue.de](mailto:info@skyblue.de)  
[www.skyblue.de](http://www.skyblue.de)