



## Iron SDI 265

# Iron SDI Small Form Factor, Ruggedized Camera

### Innovative Approach

The **Iron SDI 265** is an ultra-thin, low-cost, low-power global shutter CMOS camera with an SDI interface which supports high quality video at rates up to 60 fps.

### Intelligent Design

Our camera incorporates Pregius's IMX265 global shutter sensor with a 3.45µm 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
- Monochrome and Color models
- Up to 3.2W power at full rate
- Full image processing feature set
- Optional Pan/Tilt alignment of the sensor
- Up to 3G-SDI interface
- C mount / CS mount
- Full EMVA1288 report
- Full built-in self-test (BIT)
- Full built-in voltage testing
- Customization as per user requirements

## Specifications

Feature	Description
Pixel Size	3.45 $\mu\text{m}$ x 3.45 $\mu\text{m}$
Sensor	Pregius IMX265 CMOS Sensor
Video Output	2k, 1080p, 1080i up to 60 fps
Output Interface	Single-Link HD-SDI or 3D-SDI
Output Format	10-bit 4:2:2(Y'Cb'Cr') / RAW (Bayer)
Interface Connector	Micro-BNC
Sensor Positioning	Full pan/tilt calibration for optical axes <b>(optional)</b>
Electronic Shutter	Global shutter
Monochrome / Color	Monochrome / Color
Temporal Noise	< 2.2 $e^-$ @25°C
Full Well Charge	9828 $e^-$
Dynamic Range	> 70.8dB @520nm
Signal-to-Noise Ratio (SNR max)	40 dB @520nm
Quantum Efficiency (QE) X FF	> 63% @525nm
Shortest Exposure	10 $\mu\text{s}$
Exposure Control	Automatic Exposure/Gain, manual Exposure/Gain
Color Control	<ul style="list-style-type: none"> <li>Auto/Manual White balance</li> <li>LUT</li> <li>RGB offsets, saturation control</li> <li>Color correction matrix</li> </ul>
Image Enhancement	<ul style="list-style-type: none"> <li>Defect pixel correction</li> <li>Auto/Manual black level</li> <li>Flat field / Fixed patter noise correction</li> <li>Operational Time Counter</li> <li>Binning</li> <li>Image flip</li> </ul>
Camera Configuration	RS232 direct ASCII protocol
Synchronization	Tri-level sync input

## Mechanical & Electrical

Feature	Description
Dimensions (including lens mount)	44 mm x 44 mm x 38.7 mm (Height x Width x Depth)
Lens Mount	C-mount, CS-mount, Active EF-mount or DC Auto Iris lenses
Weight (without lens)	~50g
Power Input	PoCXP full support (7-28V with external power option)
Power Consumption	<3.2W @ 12V DC
Operating Temperature	-40°C to 80°C, 20-85% humidity (non-condensing)
Storage Temperature	-40°C to 85°C, 10-90% humidity (non-condensing)
Ingress Protection	Optional IP67 (with protective lens tube)
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

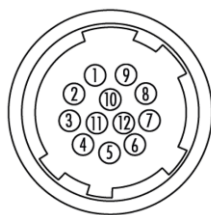
\* KAYA Instruments reserves the right to update the data sheet from time to time without prior notice.

## Iron SDI Supported Video Modes

Mode	Video Standard	Supported Resolution	Supported FPS
HD-SDI	ST 292 (ST 274)	1080i 10-bit 4:2:2/RAW	50, 59.94, 60
		1080p 10-bit 4:2:2/RAW	23.98, 24, 25, 29.97, 30
3G-SDI	ST 292 (ST 2048-2)	2K 10-bit 4:2:2/RAW	23.98, 24, 25, 29.97, 30
		1080p 10-bit 4:2:2/RAW	50, 59.94, 60
3G-SDI	ST 425-1 (ST 274)	1080p 10-bit 4:2:2/RAW	50, 59.94, 60
		2K 10-bit 4:2:2/RAW	47.95, 48, 50, 59.94, 60

## General Purpose Input Output

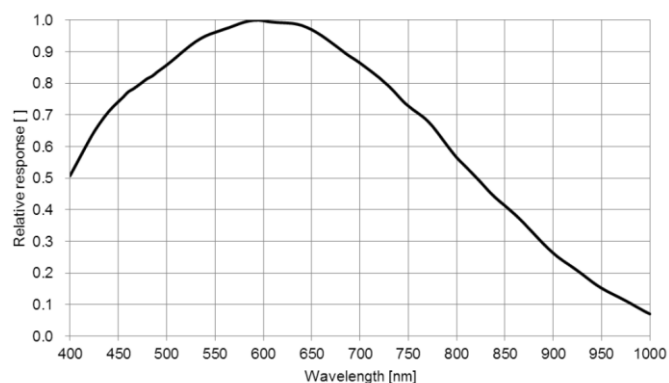
GPIO Pinout – 12 Pin Hirose Connector



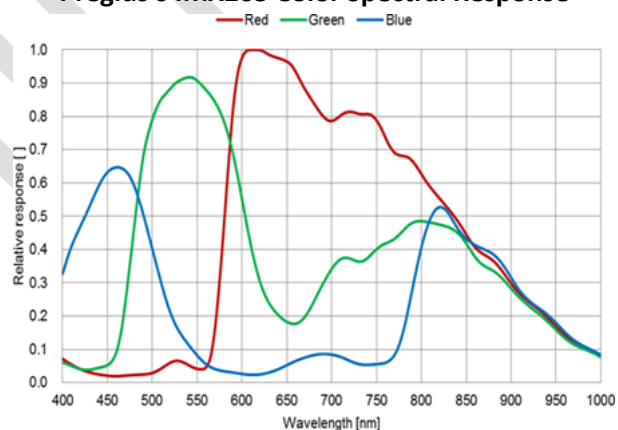
- |                    |                 |
|--------------------|-----------------|
| 1. 5 VDC Return    | 7. OUT1 (TTL)   |
| 2. +5 VDC          | 8. IN1 (OPTO)   |
| 3. Reserved        | 9. IN2 (LVTTTL) |
| 4. Reserved        | 10. IN1 RTN     |
| 5. OUT2 RTN (OPTO) | 11. IN2 RTN     |
| 6. OUT1 RTN        | 12. OUT2 (OPTO) |

## Absolute Quantum Efficiency

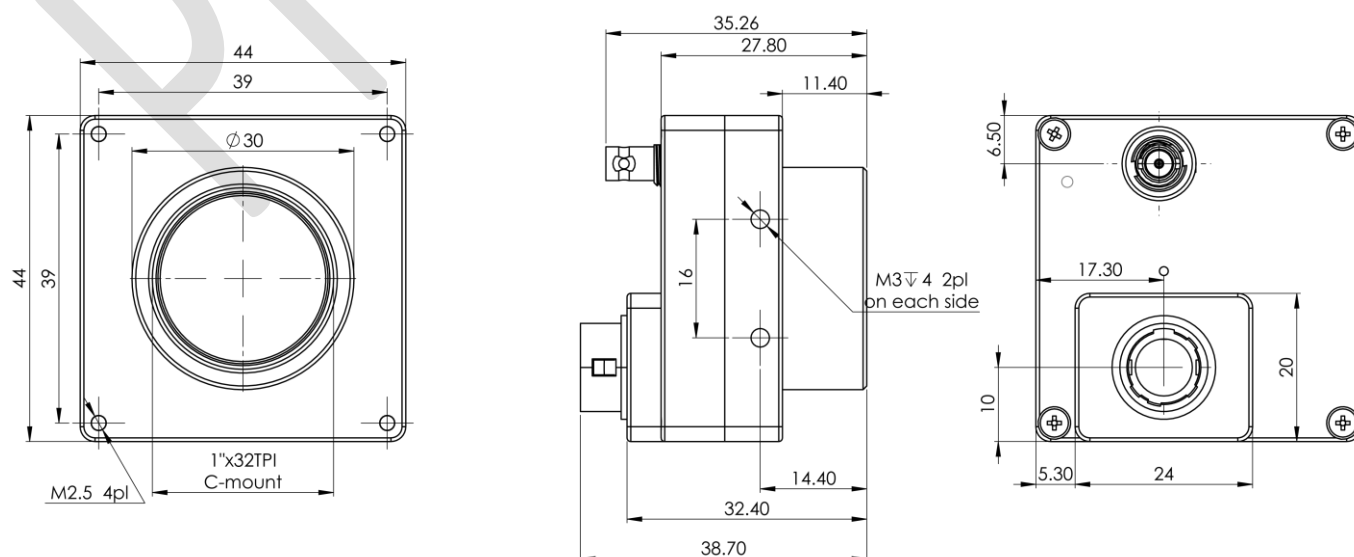
Pregius's IMX265 Mono Spectral Response



Pregius's IMX265 Color Spectral Response



## Mechanical Drawings



## Contact Us

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

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