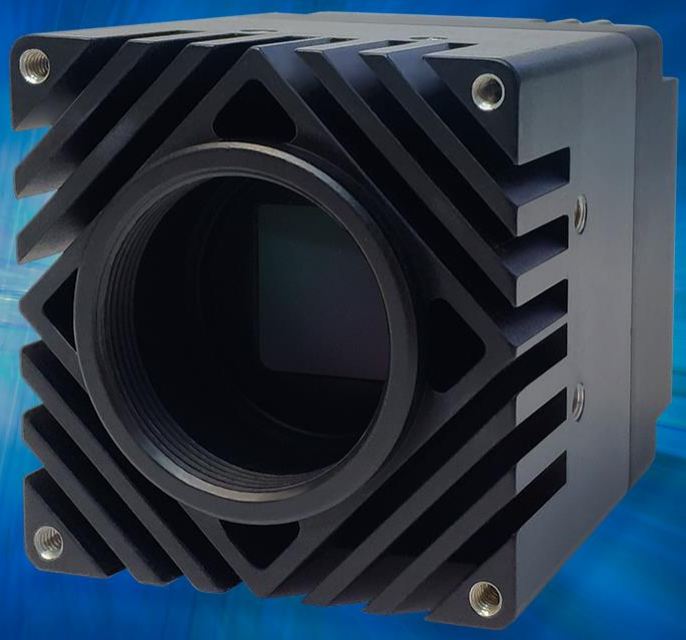
KAYA INSTRUMENTS



Iron SDI 305

Iron SDI

Small Form Factor, Ruggedized Camera

Innovative Approach

The ***Iron SDI 305*** is a low-cost, low-power global shutter CMOS camera with an SDI interface which supports high quality video at rates of up to 60fps.

Intelligent Design

Our camera incorporates Pregius's IMX305 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 60 fps
- Up to 3.2W power at full rate
- Full image processing feature set
- Up to 12G-SDI interface
- C, CS, F or EF mounts 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

Specifications

Feature	Description
Pixel size	3.45 µm x 3.45 µm
Sensor	Pregius IMX305 CMOS sensor
Video output	4k, UHD, 2k, 1080p, 1080i up to 60 fps
Output interface	Single-Link HD-SDI, 3D-SDI, 6G-SDI or 12G-SDI
Output format	10-bit 4:2:2(Y'Cb'Cr') / RAW (Bayer)
Interface connector	Micro-BNC
Electronic shutter	Global shutter
Monochrome / Color	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 µs
Exposure control	Automatic Exposure/Gain, manual Exposure/Gain
Color control	▪ Auto/Manual White balance ▪ LUT ▪ RGB offsets, saturation control ▪ Color correction matrix
Image enhancement	▪ Defect pixel correction ▪ Auto/Manual black level ▪ Flat field / Fixed patter noise correction ▪ Operational Time Counter ▪ Binning ▪ Image flip
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 39 mm (Height x Width x Depth)
Lens mount	C-mount, CS-mount, F-mount or EF-mount
Weight (without lens)	~90g
Power input	11-28V
Power consumption	<3.2W @ 12V DC
Operating temperature	Commercial: 0°C to 50°C, 20-85% humidity (non-condensing) Industrial: -40°C to 80°C, 20-85% humidity (non-condensing)
Storage temperature	Commercial: 0°C to 55°C, 20-85% humidity (non-condensing) Industrial: -40°C to 85°C, 20-85% 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

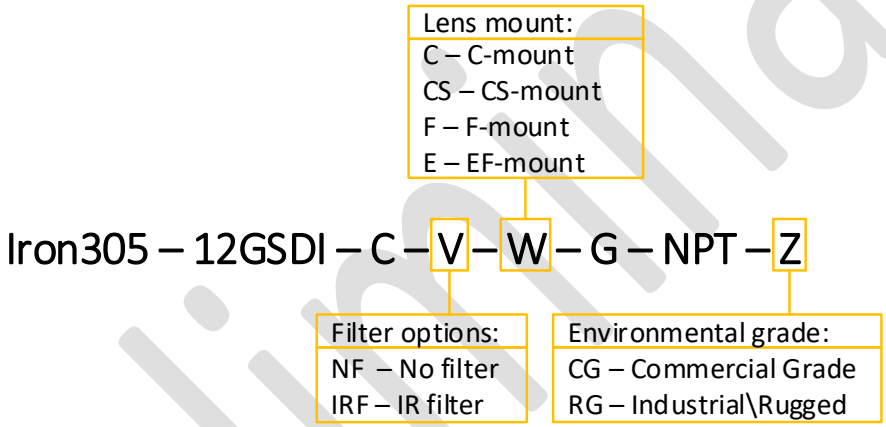
* KAYA Instruments reserves the right to update the data sheet from time to time without prior notice.

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
	ST 292 (ST 2048-2)	2K 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
	ST 425-1 (ST 2048-2)	2K 10-bit 4:2:2/RAW	47.95, 48, 50, 59.94, 60
6G-SDI	ST 2081-10 M1, (ST 2036-1)	UHD 10-bit 4:2:2/RAW	23.98, 24, 25, 29.97, 30
	ST 2081-10 M1, (ST 2048-1)	4K 10-bit 4:2:2/RAW	23.98, 24, 25, 29.97, 30
12G-SDI	ST 2082-10 M1, ST 425-5 (ST 2036-1)	UHD 10-bit 4:2:2/RAW	50, 59.94, 60
	ST 2082-10 M1, ST 425-5 (ST 2048-1)	4K 10-bit 4:2:2/RAW	47.95, 48, 50, 59.94, 60

Ordering Information

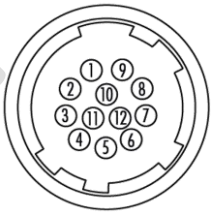
KAYA's Part Numbers are intuitive and derived directly from the product's properties. Each index represents a different property of the camera, according to the following diagram:



For example: an Iron SDI 305 camera with an UV-IR cut filter and C-mount that is rated for commercial use would go by Iron305-12GSDI-C-IRF-C-G-NPT-CG. Please contact a sales representative over at **info@skyblue.de** for a full list of peripherals including cables and frame grabbers.

General Purpose Input Output

GPIO Pinout – 12 Pin Hirose Connector

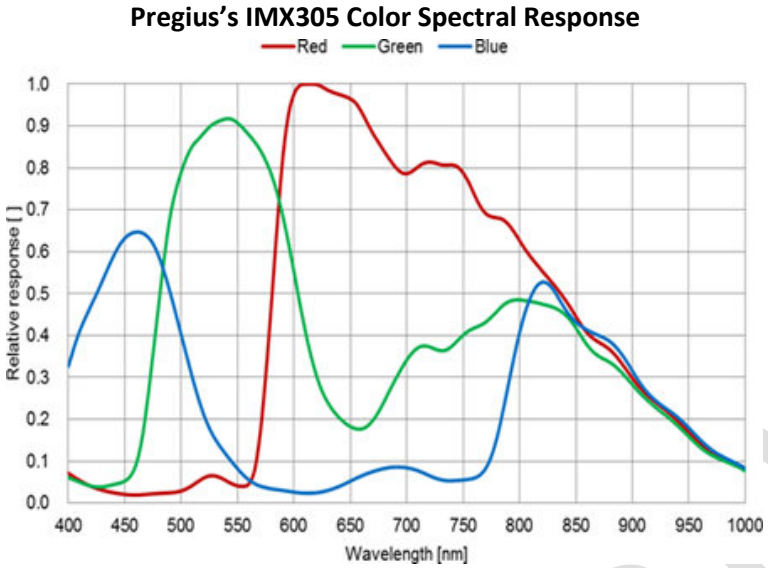


1. DC Power return
2. DC Power
3. RS232 RX
4. RS232 TX
5. Reserved
6. RS232 Return
7. Strobe output (TTL)
8. Tri Level Sync
9. Reserved
10. Tri Level Sync \ Strobe return
11. Reserved
12. Reserved

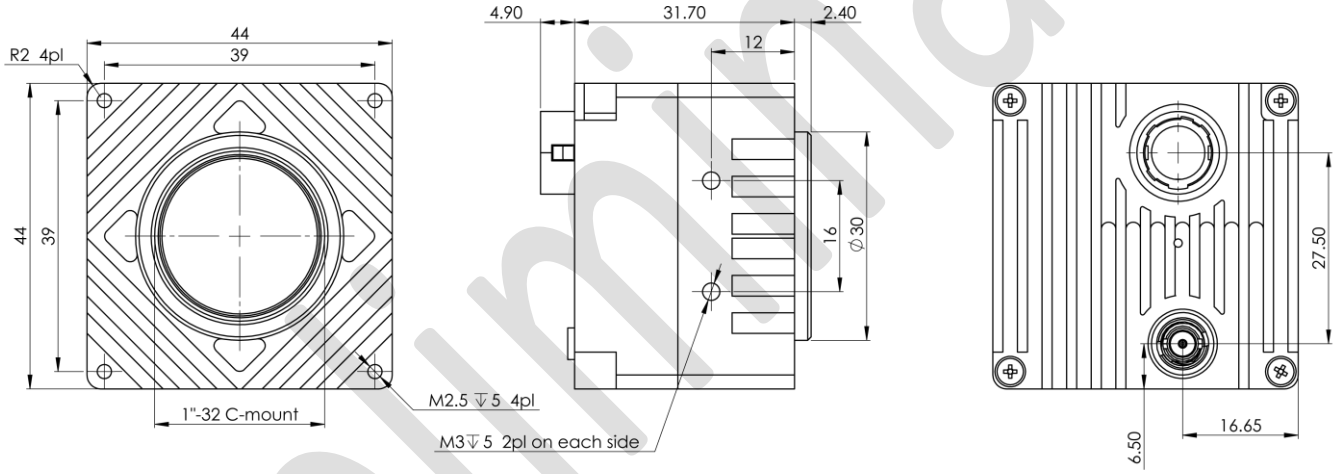
The GPIO connector used on the camera is a 12 pin male Hirose connector. It is recommended to use a cable with a matching Hirose 12 pin female connector. Hirose's manufacturer's part number is listed below:

Product Name	Product Part Number
Hirose 12P connector, male	HR10A-10R-12PB
Hirose 12P connector, female	HR10A-10P-12S

Absolute Quantum Efficiency



Mechanical Drawings



Contact Us

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

International Distributors

sky blue microsystems

Sky Blue Microsystems GmbH
Geisenhausenerstr. 18
81379 Munich, Germany
+49 89 780 2970, info@skyblue.de
www.skyblue.de

ZERIF TECHNOLOGIES LTD.
A SKY BLUE COMPANY, FOUNDED 1999

In Great Britain:
Zerif Technologies Ltd.
Winnington House, 2 Woodberry Grove
Finchley, London N12 0DR
+44 115 855 7883, info@zerif.co.uk
www.zerif.co.uk