IMPERX

BOBCAT
INTELLIGENT CAMERA SERIES

ISD-B1920

IMPERX ISD-B1920 is an advanced progressive scan, fully programmable CCD camera designed for imaging applications that require high quality images, powerful features and flexibility. The camera is small, light weight, and built around Kodak´s KAI-2093 7.4 micron Interline Transfer CCD image sensor with a 1" optical format.

The ISD-B1920 provides an image resolution of 1920 x 1080 and delivers 25/30 frames per second at full resolution. The camera's 14 bit internal data image processing engine is based on an industrial grade high-speed, high-density FPGA, enabling a broad standard feature set and easy implementation of demanding custom imaging solutions. The thermally optimized, mechanical and electrical design plus the extended operating temperature range (-40°C to +85°C), and high MTBF of 660,000 hrs @ 40C, make this HD-SDI camera a perfect fit for the most demanding industrial, medical, scientific and military applications. This camera is also available with CoaXPress, Camera Link®, or GigE Vision® interfaces.

Features

1920/1080 @30 frames per second	Left/right digital bit shift
Mono, color	Test image with image superimposition
24p, 25p, 50i, 30(29.97)p, 60(59.94)i	Built in pulse generator
HD-SDI	Programmable I/O mapping
RS232 and RS485 serial communication	Dynamic transfer function correction
Analog and digital gain and offset control	Dynamic black level correction
Six (6) independent horizontal and vertical AOIs	Defective and hot pixel correction (static/dynamic)
Programmable frame time and speed	Temperature monitor
Programmable external trigger (optional)	Field upgradeable firmware
Internal/External exposure control	Customer defined Look Up Table (LUT)
Automatic gain, exposure and iris control	Two dimensional Flat Field Correction
Automatic white balance	Reverse image (H mirror)
Internal/External H and V sync input/output	MTBF of 660,000 hours @ 40°C

APPLICATIONS

Aerial Mapping	Automotive	Flat Panel Inspection	Metrology	Robotics
Aerial Robots: Military, Police	Biometrics	Food/Beverage	Microscopy	Scientific Apps
Aerospace	Broadcasting	Homeland Security	Military/Defense	Surveillance
Agriculture	Printed Circuit Board (PCB)	Law Enforcement	Pharmaceuticals	Semiconductors
Automation	Electronics	Intelligent Traffic Systems (ITS)	Particle Image Velocimetry (PIV)	Transportation
	Energy/Solar/Wind Power	Medical Devices/Imaging	Radiology	Textile/Apparel

SAIS

BOBCAT ISD-B1920 Specifications

Sensor Type	1920 x 1080 1" CCD KAI-2093	Strobe Output	Programmable position and duration
Pixel Size	7.4 µm	Image Overlay	Yes, Programmable
Frame Rate	25/30 fps	RS232/RS485 Interface	Yes
Minimum S/N ratio	60 db	Data Corrections	DPC, HPC, LUT, FFC
Video Output	Digital HD-SDI (SMPTE 292), 1080i,1080p	Min. Illumination	1 Lux, F/1.4
Horizontal Frequency	33.75/33.716 KHz	Supply Input Range	12 VDC, (10V min, 15V max)
Vertical Frequency	30.00/29.97 Hz, 60.00/59.94 Hz	Power Consumption	4.8W, 400mA steady, 1.5 A inrush
Area of Interest	6 independent AOIs, 2 x 2 to 1920 x 1080	Size (W x H x L)	46 x 46 x 62.25mm
Shutter Speed	1/100,000 to 1/30 sec (nom)	Weight	250g
Long Integration	Up to 16 sec	Lens Mount	C mount
Gamma Correction	G=1.0, G= 0.45, user upgradable LUT	Vibration, Shock	10G (20 - 200) Hz XYZ, 70G
Video Gain	36 dB range, 1024 steps, 0.0351 dB per step	Environmental	Operation (-40° to +85°)C
Exposure and AGC	Manual, Auto, Programmable		Storage (-40° to +90°)C
Iris Control	Auto, Programmable	Humidity	10% to 90% non-condensing
		MTBF	660,000 hrs. @ 40°C
		Regulatory	FCC 15 part A, CE, RoHS

Power and I/O Interface:

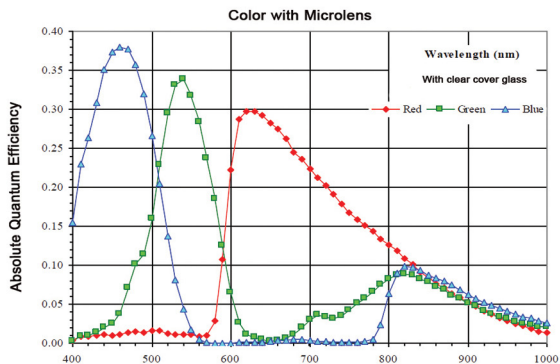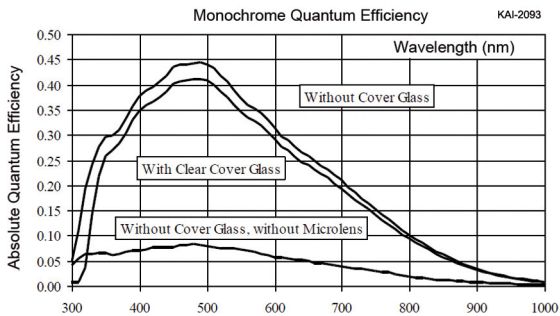|			
1	12V DC Return	7	OUT1 Signal
2	+12V DC	8	IN1 Signal
3	IRIS VCC	9	IN2 Signal
4	IRIS Video	10	IN1/2 Return
5	IRIS Return	11	Reserved
6	OUT1/2 Return	12	OUT2 Signal

Connector: Hirose HR 10A-10R-12PB(71)

Accessories: PS12V04: Power Supply (sold separately)

Order Options: ISD-B1920M-KCO Monochrome HD-SDI Output
ISD-B1920C-KCO Color HD-SDI Output

Lens Control:
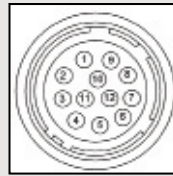
1	RX 485 COM	7	Lens CTRL4
2	RX 485 +	8	Lens CTRL5
3	RX 485 -	9	Lens CTRL6
4	Lens CTRL1	10	RS 232 COM
5	Lens CTRL2	11	RS 232 RX
6	Lens CTRL3	12	RS 232 TX

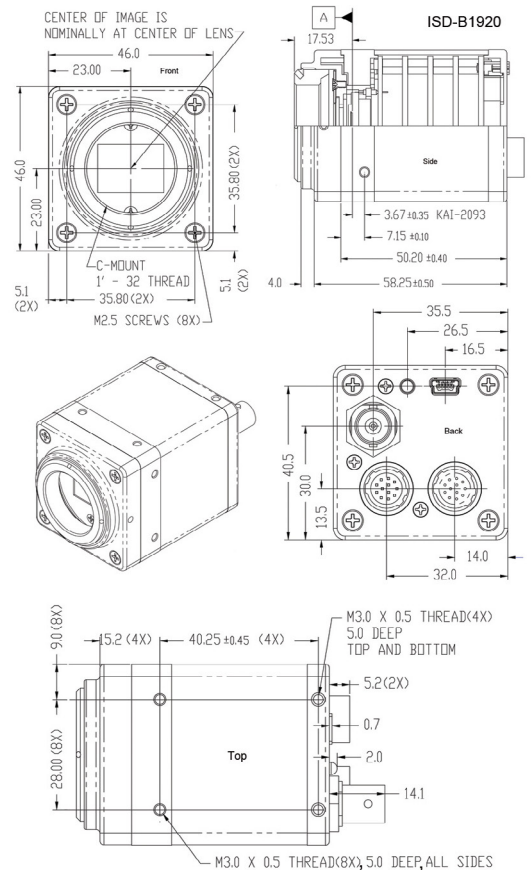Connector: Hirose HR 10A-10R-12SB(71)

For specific details and ordering information, consult the camera user's manual or contact IMPERX at sales@imperx.com.

Spectral Response · Software/Drivers/Interface · Mechanical Dimensions

Monochrome Quantum Efficiency — KAI-2093

Color with Microlens

CamConfig

Note: Datum "A" refers to the imaging plane of sensor KAI-2093.

Made in USA