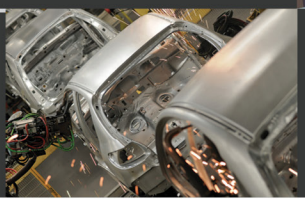
BOBCAT

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 the TRUESENSE Imaging KAI-2093 7.4 micron interline transfer CCD image sensor with a 1" optical format.

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

APPLICATIONS

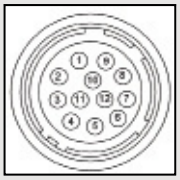
Aerial Mapping
Aerial Robots: Military, Police
Aerospace
Agriculture
Automation
Automotive
Biometrics
Broadcasting
Printed Circuit Board (PCB)
Electronics
Energy/Solar/Wind Power
Flat Panel Inspection
Food/Beverage
Homeland Security
Law Enforcement
Intelligent Traffic Systems (ITS)
Medical Devices/Imaging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

IMPERX

BOBCAT ISD-B1920 Specifications

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

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)

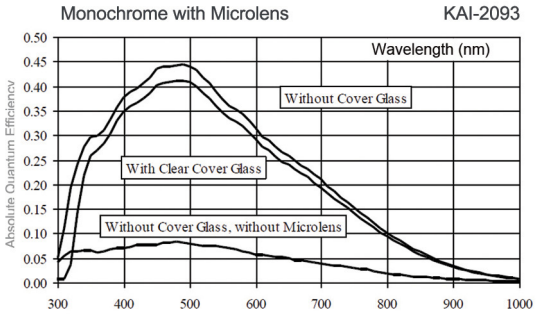
Accessories: PS12V04: Power Supply (sold separately)

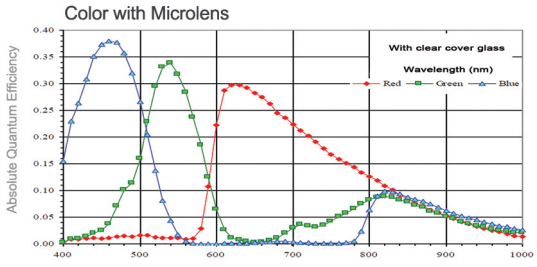
Order Options:

ISD-B1920M-TCO	Monochrome HD-SDI Output
ISD-B1920C-TCO	Color HD-SDI Output

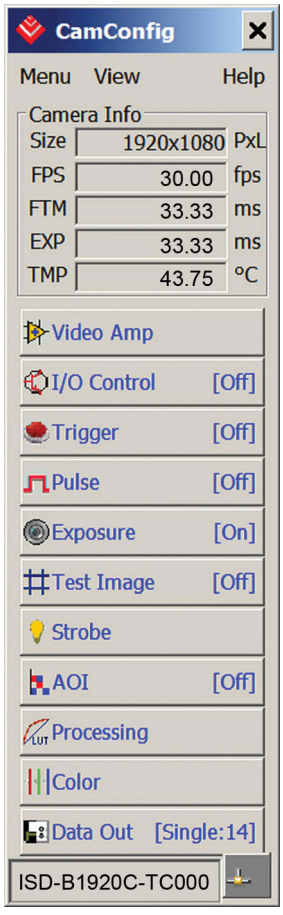
For specific details and ordering information, consult the camera user’s manual or contact IMPERX at sales@imperx.com.

Spectral Response

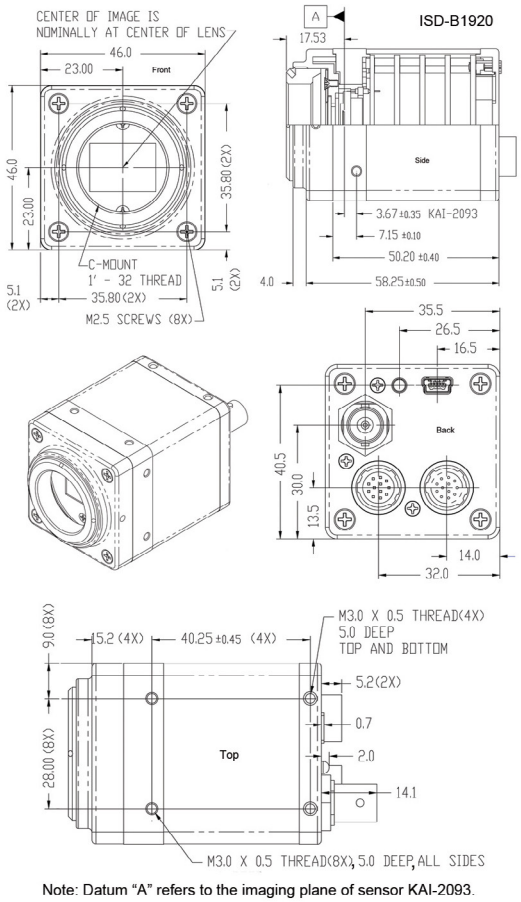




Software/Drivers/Interface



Mechanical Dimensions



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

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