BOBCAT

INTELLIGENT CAMERA SERIES

IGV-B4821

IMPERX IGV-B4821 is an advanced progressive scan, fully programmable CCD camera designed for imaging applications that require high quality images, powerful features and flexibility. The camera has a small size, is light weight, and built around the TRUESENSE Imaging KAI-16050 5.5 micron interline transfer CCD image sensor with a 32.36mm optical format.

The IGV-B4821 provides an image resolution of 4920 x 3280 and delivers up to 4.2 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 GigE Vision® camera a perfect fit for the most demanding industrial, medical, scientific and military applications. This camera is also available with CoaXPress and Camera Link® interfaces.

Features

4920/4896 x 3280/3264
Mono, color, or TRUESENSE Sparse CFA 8, 10, 12 bit single or dual output (16 bit is single only)
Normal and over-clock operation (3.1/4.2 fps)
10/100/1000 Gigabit Ethernet LAN (RJ-45)
RS232 serial communication
Analog and digital gain and offset control
1x, 2x, 3x, 4x, 8x horizontal and vertical binning
Eight (8) independent horizontal and vertical AOIs
Programmable horizontal and vertical resolution
Programmable line time, frame time and speed
Programmable external trigger:
Internal/External exposure control
Standard, fast, frame accumulation, double and asynchronous triggering modes
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	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

IMPERX

BOBCAT IGV-B4821 Specifications

Maximum Resolution	4920 x 3280	Data Corrections	DPC, HPC, LUT, FFC
Sensor Type	32.36mm CCD KAI-16050	Hardware Trigger	LVTTL or TTL via IN1/IN2, level, edge, pulse-width, programmable
Pixel Size	5.50 µm		
Frame Rate	3.1/4.2 fps (normal/overclock)	Software Trigger	Software internal, level, edge, pulse-width, programmable
Max Frame Rate	21.4 FPS		
Minimum S/N ratio	60 db	Trigger Modes	Programmable, standard, double exposure, fast, frame accumulation, asynchronous
Video Output	RJ45 CAT5e, CAT6		
Output Format	Mono, color, or TRUESENSE Sparse CFA 8, 10, 12 bit single or dual output (16 bit is single only)	Min. Illumination	1 Lux, F/1.4
		Supply Input Range	12 VDC, (10 V – 15 V)
Binning H & V	x1, x2, x3, x4, x8	Power Consumption	5.6 W, 470 mA steady (Typ), 1.5 A inrush
Area of Interest	8 independent AOIs, 2 x 2 to 4920 x 3280	Size (W x H x L)	60 x 60 x 68mm
Shutter Speed	1/250,000 to 1/3 sec (nom)	Weight	310g
Long Integration	Up to 16 sec	Lens Mount	F-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 Storage (-40° to +90°)C
Exposure and AGC	Manual, Auto, Programmable		
Iris Control	Auto, Programmable	Humidity	10% to 90% non-condensing
Strobe Output	Programmable position and duration	MTBF	660,000 hours. @ 40°C
Image Overlay	Yes, Programmable	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

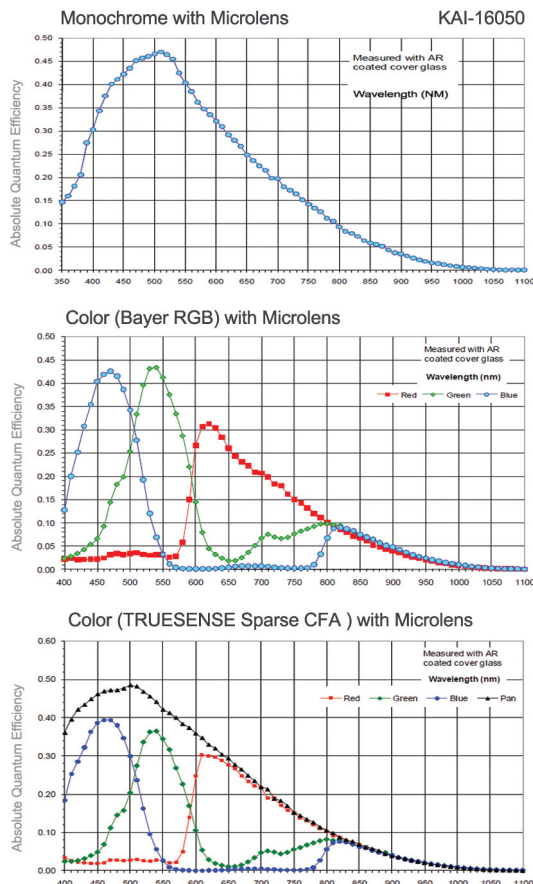Connector: Hirose HR 10A-10R-12PB(71)

Order Options:

IGV-B4821M-TFO   Monochrome GigE Vision Output
IGV-B4821C-TFO   Color GigE Vision Output
IGV-B4821T -TFO   TRUESENSE Sparse CFA GigE Vision Output

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

Accessories:

PS12V04: Power Supply (sold separately)

Spectral Response   Software/Drivers/Interface   Mechanical Dimensions

Monochrome with Microlens — KAI-16050
Measured with AR coated cover glass
Wavelength (NM)

Color (Bayer RGB) with Microlens
Measured with AR coated cover glass
Wavelength (nm)
Red Green Blue

Color (TRUESENSE Sparse CFA) with Microlens
Measured with AR coated cover glass
Wavelength (nm)
Red Green Blue Pan

GigE Vision Protocol: 10/100/1000 Mb/s, 802.3, Ethernet V2.0, IPv4, IGMPv.2, UDP and ICMP, and GenICam

eBUS Drivers: Windows XP 32b, XP 64b, Vista 32b, Vista 64b, 7 32b, 7 64b. Linux: SuSE v10, RedHat 5 (Kernel 2.6)
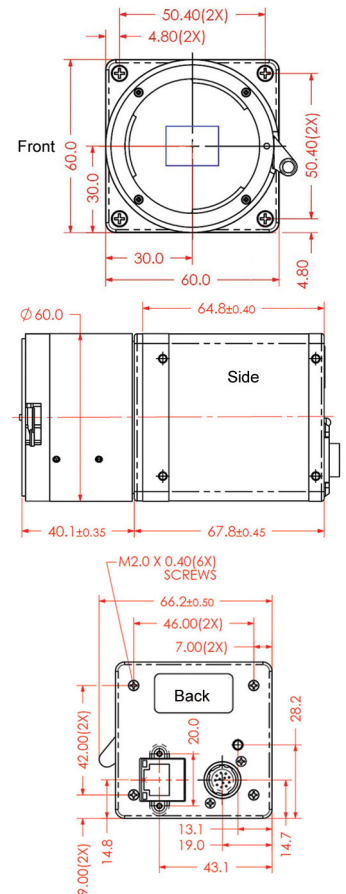
Software: Pleora GEVPlayer, IMPERX GEV Player(includes CamConfig GUI), Bobcat GEV Download Utility, Net Command

SDK: PureGEV GigE Vision SDK for Windows (Microsoft Visual C++, COM, .NET, C#, VB.NET, Borland C++Builder), PureGEV, GigE Vision SDK for Linux

Compatible with: Labview, Halcon, MIL, Common Vision BLOX, StreamPix, ActiveGigE, and others

Multicast capable