IMPERX

BOBCAT
INTELLIGENT CAMERA SERIES

IGV-B1621

IMPERX IGV-B1621 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-02050 5.5 micron interline transfer CCD image sensor with a 2/3" optical format.

IMPERX IGV-B1621 provides an image resolution of 1632 x 1232 and delivers up to 42 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

1632/1600 x 1232/1200
Mono or color 8, 10, 12 bit single or dual output
    (16 bit is single only)
Normal and over-clock operation (34/42 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

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BOBCAT IGV-B1621 Specifications

Maximum Resolution	1632 x 1232	Data Corrections	DPC, HPC, LUT, FFC
Sensor Type	2/3" CCD KAI-02050	Hardware Trigger	LVTTL or TTL via IN1/IN2, level, edge, pulse-width, programmable
Pixel Size	5.50 µm		
Frame Rate	34/42 fps (normal/overclock)	Software Trigger	Software internal, level, edge, pulse-width, programmable
Max Frame Rate	257 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 or color 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	4.5 W, 380 mA steady (Typ), 1.5 A inrush
Area of Interest	8 independent AOIs, 2 x 2 to 1632 x 1232	Size (W x H x L)	46 x 46 x 74.5mm
Shutter Speed	1/500,000 to 1/34 sec (nom)	Weight	245g
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
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)
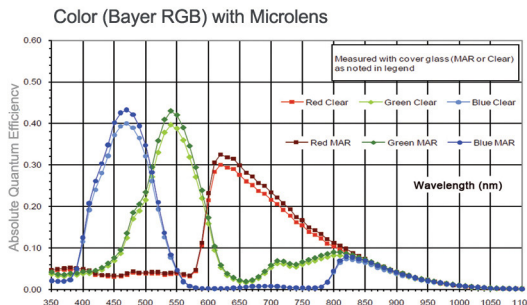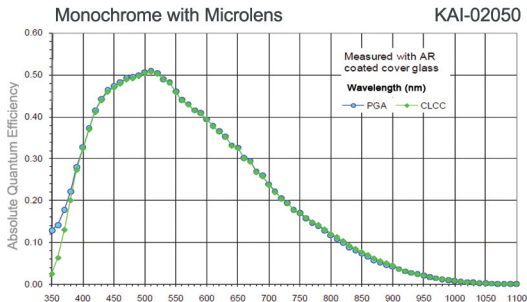
Order Options:

IGV-B1621M-TCO   Monochrome GigE Vision Output
IGV-B1621C-TCO   Color 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

Monochrome with Microlens   KAI-02050

Measured with AR coated cover glass
Wavelength (nm)
PGA   CLCC

Color (Bayer RGB) with Microlens

Measured with cover glass (MAR or Clear) as noted in legend
Red Clear   Green Clear   Blue Clear
Red MAR   Green MAR   Blue MAR
Wavelength (nm)

Software/Drivers/Interface

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

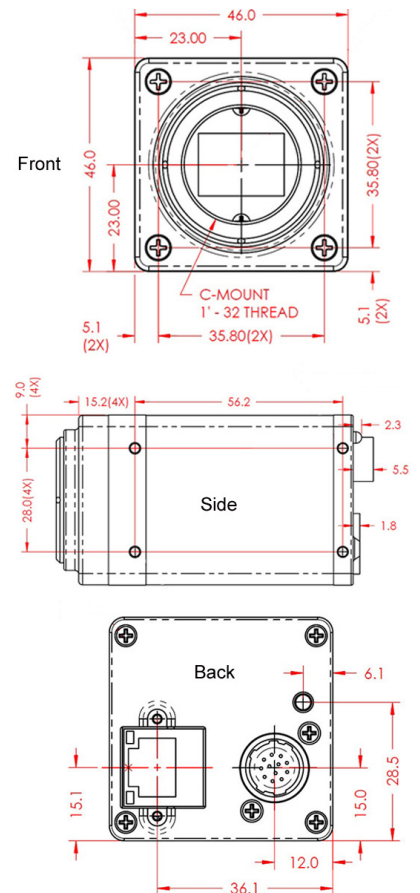**eBUS Drivers:** Windows XP 32b, XP 64b, Vista 32b, Vista 64b, 7 32b, 7 64b. Linux: SuSE v10, RedHat 5 (Kernel 2.6)

Software: Pleora GEVPlayer, IM-PERX GEV Player(includes Cam-Config 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, Stre-amPix, ActiveGigE, and others

Multicast capable

Mechanical Dimensions