

BOBCAT

INTELLIGENT CAMERA SERIES

IGV-B4820



IMPERX IGV-B4820 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-16000 7.4 micron interline transfer CCD image sensor with a 43.3 mm optical format.

IMPERX IGV-B4820 provides an image resolution of 4904 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

4904/4872 x 3280/3248

Mono or color 8, 10, 12 bit single or dual output
(16 bit is single only)

Normal and over-clock operation (3.2/4.2 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

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



BOBCAT IGV-B4820 Specifications

| | |
|--------------------|---|
| Maximum Resolution | 4904 x 3280 |
| Sensor Type | 43.3 mm, CCD KAI-16000 |
| Pixel Size | 7.40 μ m |
| Frame Rate | 3.2/4.2 fps (normal/overclock) |
| Max Frame Rate | 18 FPS |
| Minimum S/N ratio | 60 db |
| Video Output | RJ45 CAT5e, CAT6 |
| Output Format | Mono or color 8, 10, 12 bit single or dual output (16 bit is single only) |
| Binning H & V | x1, x2, x3, x4, x8 |
| Area of Interest | 8 independent AOIs, 2 x 2 to 4904 x 3280 |
| Shutter Speed | 1/100,000 to 1/3.2 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 |

Data Corrections
Hardware Trigger

Software Trigger

Trigger Modes

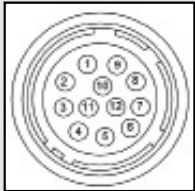
Min. Illumination
Supply Input Range
Power Consumption
Size (W x H x L)

Weight
Lens Mount
Vibration, Shock
Environmental

Humidity
MTBF
Regulatory

DPC, HPC, LUT, FFC
LVTTTL or TTL via IN1/IN2, level, edge, pulse-width, programmable
Software internal, level, edge, pulse-width, programmable
Programmable, standard, double exposure, fast, frame accumulation, asynchronous
1 Lux, F/1.4
12 VDC, (10 V – 15 V)
5.4 W, 450 mA steady (Typ), 1.5 A inrush
60 x 60 x 60mm
375g
F-Mount
10G (20 - 200)Hz XYZ, 70G
Operation: (-40° to +85°)C
Storage: (-40° to +90°)C
10% to 90% non-condensing
660,000 hours @ 40°C
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:

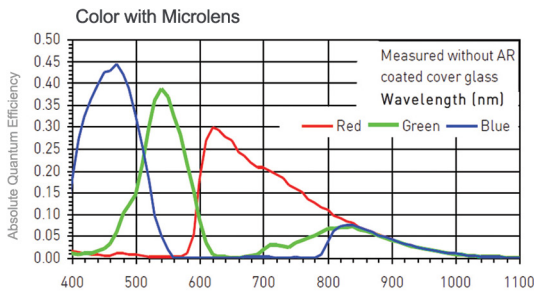
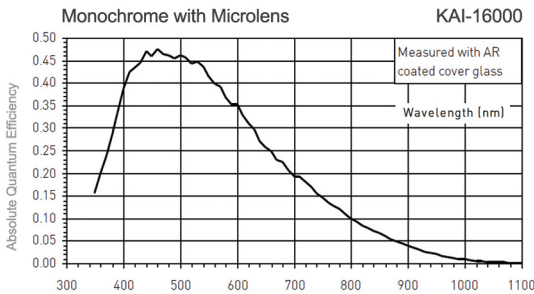
IGV-B4820M-TFO Monochrome GigE Vision Output
IGV-B4820C-TFO Color GigE Vision Output

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



Software/Drivers/Interface

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)

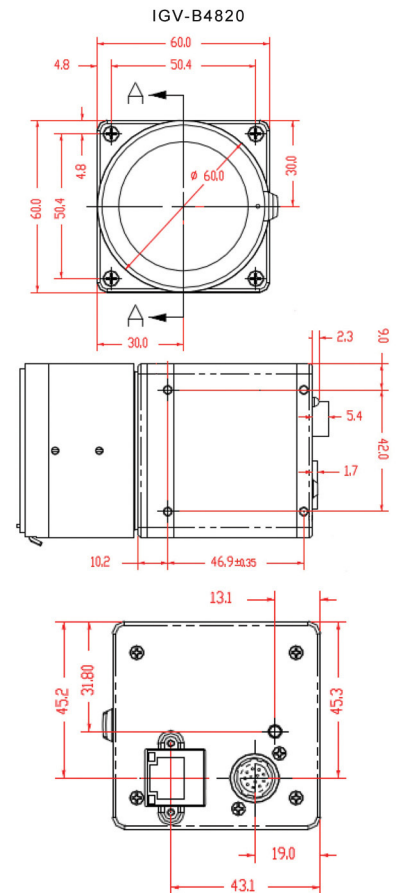
Software: Pleora GEVPlayer, IMPERX GEV Player (includes Cam-Config GUI), Bobcat GEV Download Utility, Net Command

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, StreamPix, ActiveGigE, and others

Multicast capable

Mechanical Dimensions



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