

# BOBCAT

## INTELLIGENT CAMERA SERIES

### IGV-B4020



**IMPERX IGV-B4020** 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-11002 9 micron interline transfer CCD image sensor with a 43.3 mm optical format.

IMPERX IGV-B4020 provides an image resolution of 4032 x 2688 and delivers up to 7 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

4032/4008 x 2688/2672

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

Normal and over-clock operation (5/7 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

# IMPERX

# BOBCAT IGV-B4020 Specifications

Maximum Resolution	4032 x 2688
Sensor Type	43.3 mm, CCD KAI-11002
Pixel Size	9.0 μm
Frame Rate	5/7 fps (normal/overclock)
Max Frame Rate	39 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 4032 x 2688
Shutter Speed	1/100,000 to 1/5 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

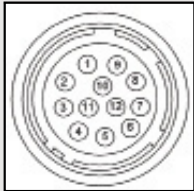
Trigger Modes

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, FCC  
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)  
6.5 W, 370 mA steady (Typ), 1.5 A inrush  
60 x 60 x 60mm  
372g  
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:

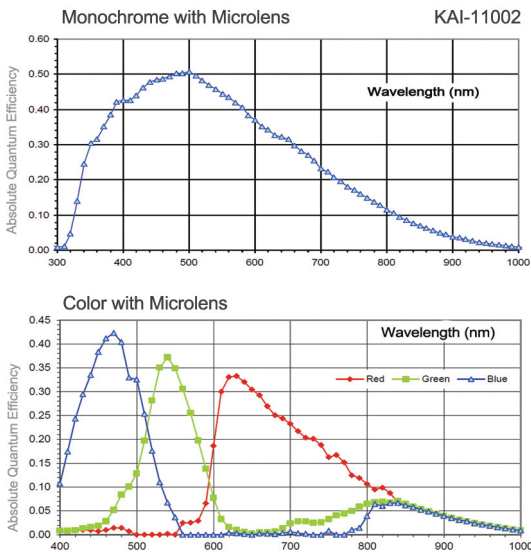
IGV-B4020M-TFO Monochrome GigE Vision Output  
IGV-B4020C-TFO Color GigE Vision Output

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)

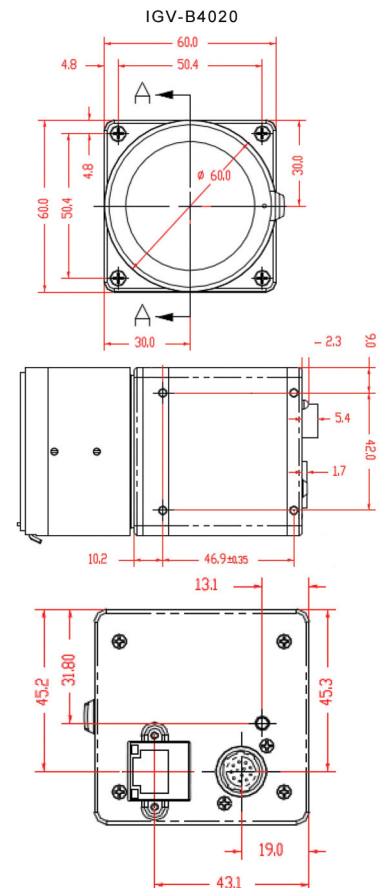
**Software:** Pleora GEVPlayer, IMPERX GEV Player (includes Cam-Config GUI), Bobcat GEV Download Utility, Net Command

**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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