

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 μ m
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

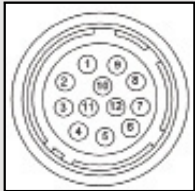
Trigger Modes

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, 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)
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:

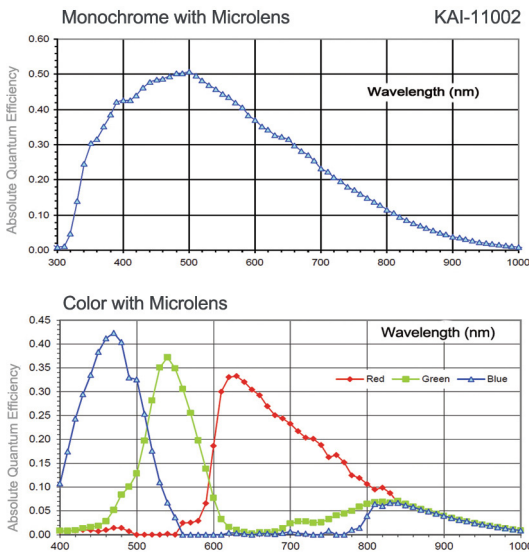
IGV-B4020M-TFO Monochrome GigE Vision Output
IGV-B4020C-TFO Color GigE Vision Output

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)

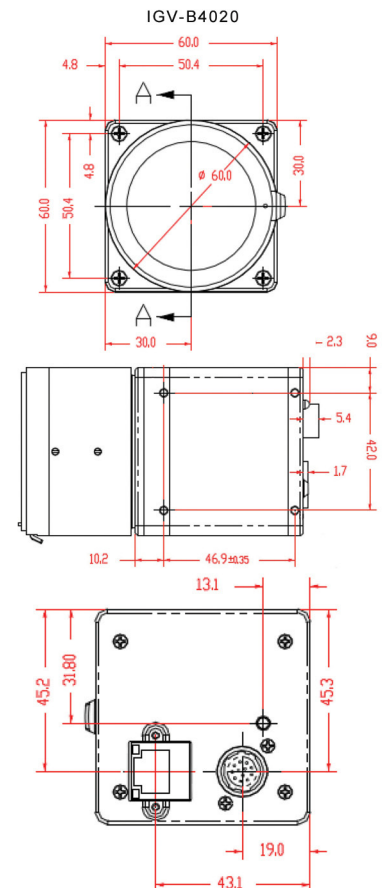
Software: Pleora GEVPlayer, IM-
PERX GEV Player (includes Cam-
Config GUI), Bobcat GEV Download
Utility, Net Command

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



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