BOBCAT

INTELLIGENT CAMERA SERIES

IGV-B2020

IMPERX IGV-B2020 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-04022 7.4 micron interline transfer CCD image sensor with a 1.3" optical format.

IMPERX IGV-B2020 provides an image resolution of 2056 x 2060 and delivers up to 20 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

2056/2048 x 2060/2048
Mono or color 8, 10, 12 bit single or dual output
(16 bit is single only)
Normal and over-clock operation (16/20fps)
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

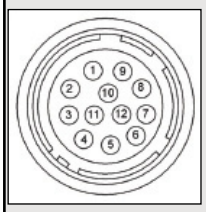
Aerial Mapping
Aerial Robots: Military, Police
Aerospace
Agriculture
Automation
Automotive
Biometrics
Broadcasting
Printed Circuit Board (PCB)
Electronics
Energy/Solar/Wind Power
Flat Panel Inspection
Food/Beverage
Homeland Security
Law Enforcement
Intelligent Traffic Systems (ITS)
Medical Devices/Imaging
Metrology
Microscopy
Military/Defense
Pharmaceuticals
Particle Image Velocimetry (PIV)
Radiology
Robotics
Scientific Apps
Surveillance
Semiconductors
Transportation
Textile/Apparel

IMPERX

BOBCAT IGV-B2020 Specifications

Maximum Resolution	2056 x 2060
Sensor Type	21.5mm diagonal,CCD KAI-04022
Pixel Size	7.40 µm
Frame Rate	16/20 fps (normal/overclock)
Max Frame Rate	123 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 2056 x 2060
Shutter Speed	1/100,000 to 1/16 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	DPC, HPC, LUT, FFC
Hardware Trigger	LVTTL or TTL via IN1/IN2, level, edge, pulse-width, programmable
Software Trigger	Software internal, level, edge, pulse-width, programmable
Trigger Modes	Programmable, standard, double exposure, fast, frame accumulation, asynchronous
Min. Illumination	1 Lux, F/1.4
Supply Input Range	12 VDC, (10 V – 15 V)
Power Consumption	5.5 W, 450 mA steady (Typ), 1.5 A inrush
Size (W x H x L)	60 x 60 x 60mm
Weight	379g
Lens Mount	F-Mount
Vibration, Shock	10G (20 - 200)Hz XYZ, 70G
Environmental	Operation: (-40° to +85°)C Storage: (-40° to +90°)C
Humidity	10% to 90% non-condensing
MTBF	660,000 hours @ 40°C
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:

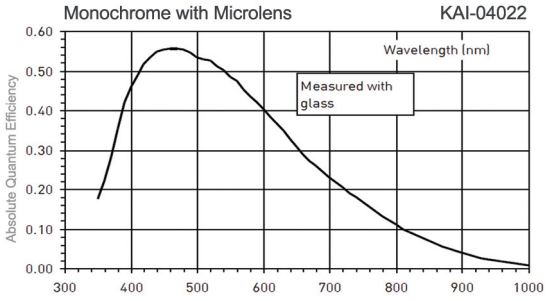
IGV-B2020M-TFO	Monochrome GigE Vision Output
IGV-B2020C-TFO	Color GigE Vision Output

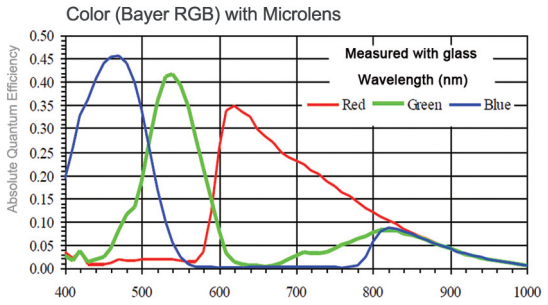
For specific details and ordering information, consult the camera user's manual or contact IMPERX at sales@imperx.com.

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 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)

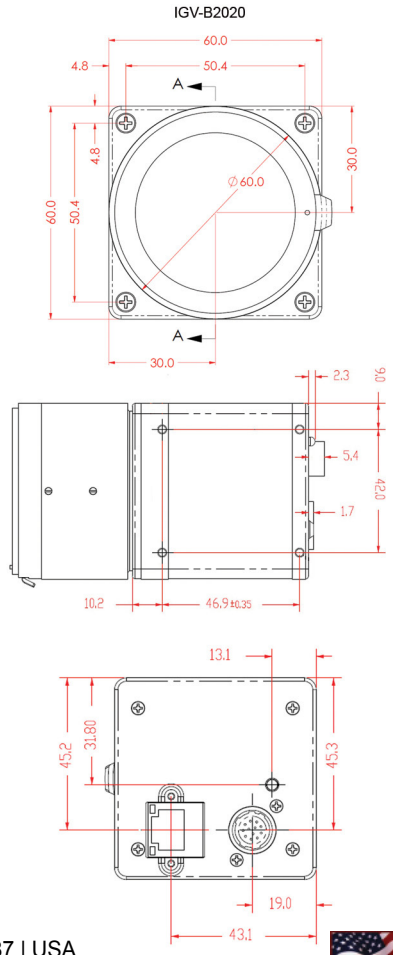
Software: Pleora GEVPlayer, IMPERX GEV Player(includes Cam-Config GUI), Bobcat GEV Download Utility, Net Command

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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