BOBCAT

INTELLIGENT CAMERA SERIES

IGV-B4020

The IGV-B4020 is an advanced high-speed progressive scan, fully programmable CCD camera designed for imaging applications that require high frame rates, high quality images, and powerful features and flexibility. The camera has a small size, light weight, and is built around Kodak´s KAI-11002 Interline transfer CCD image sensor with a 43.3 mm image diagonal. ICL-B4020 features CameraLink output. IGV-B4020 features GigE Vision output.

The B4020 provides an image resolution of 4032 x 2688 and delivers up to 6.5 frames per second at full resolution. The camera image processing engine is based on a high-speed, high-density FPGA, featuring programmable resolution, speed, 8 independent AOIs, binning, triggering, exposure control, line and frame time, I/O mapping, external/internal sync, AGC, AEC, Auto Iris, transfer function correction, user LUT, Defective and Hot Pixel Correction (DPC, HPC), and Flat Field Correction (FFC). MTBF of 660,000 hrs. @ 40°C.

Features

4032/4008 x 2688/2672
Mono and color - 8/10/12/14-bit data
Normal and over-clock operation (4.9/6.5 fps)
Ethernet ouput, GigEVision and Gen<I>Cam support
Two dimensional Flat Field Correction
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:
- 3 triggering sources
- 5 triggering modes

Automatic gain, exposure and iris control
Frame accumulation
Internal/External exposure control
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
- 4 programmable inputs
- 3 programmable outputs

Dynamic transfer function correction
Dynamic black level correction
Defective and hot pixel correction
Temperature monitor
Field upgradeable firmware, LUT, DPC, HPC, FFC

Applications

Industrial
Medical
Microscopy
Military
Scientific
Surveillance

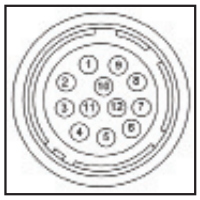
IMPERX™

BOBCAT IGV-B4020 Specifications

Maximum Resolution	4032 x 2688
Sensor Type	43.3 mm diagonal CCD KAI-11002
Pixel Size	9.0 µm
Frame Rate	4.9/6.5 fps (normal/overclock)
Max Frame Rate	39 fps
Minimum S/N ratio	60 db
Video output	RJ45 CAT 5e, CAT6
Output format	mono 8/10/12/16, mono 10/12 packed, bayer 8/10/12
Binning H & V	x1, x2, x3, x4, x8
Area of Interest	8 independent AOIs, 2 x 2 to 4032 x 2688
Shutter Speed	1/670000 to 1/2 sec
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
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
Strobe output	Programmable position and duration
Image Overlay	Yes, Programmable
RS232 Interface	Yes
Data Corrections	DPC, HP, LUT, FFC
Min. illumination	1 Lux, F/1.4
Power input range	12 VDC, (10 V – 15 V)
Power consumption	5.6 W
Size (W x H x L), Weight	60 x 60 x 60mm, 365g
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	MTBF of 660,000 hrs. @ 40°C

Power and I/O Interface

Connector: Hirose HR 10A-10R-12PB(71)



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	Spare
6	OUT1/2 Return	12	OUT2 Signal

Power Requirements

12V DC, (10V min, 15V max)
470 mA steady, 1.5 A inrush
5.6 W

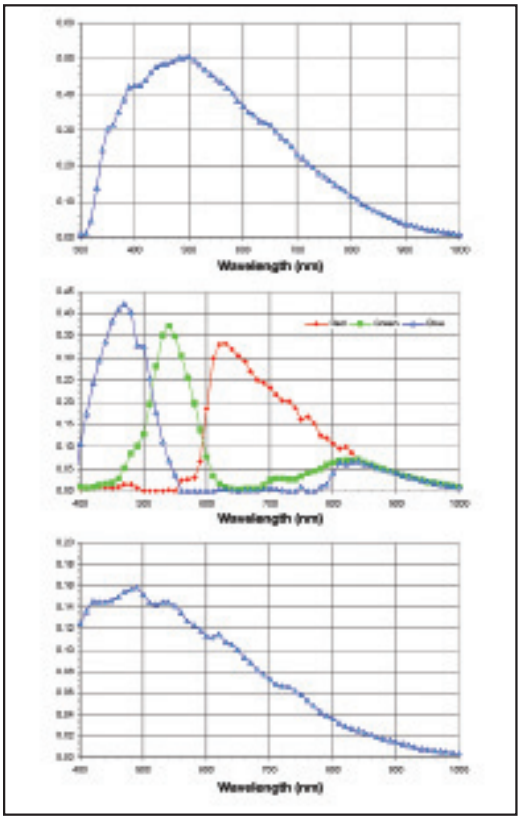
Accessories

PS12V04: Power Supply (sold separately)
PS12V05: Power Supply with Auto Iris (sold separately)

Order Information

ICL-B4020M-KFO	Monochrome CameraLink Output
ICL-B4020C-KFO	Color CameraLink Output
IGV-B4020M-KFO	Monochrome GigE Output
IGV-B4020C-KFO	Color GigE Output

Spectral Response



Software/Drivers/Interface

GigE Protocol: 10/100/1000 Mb/s, 802.3, Ethernet v2.0, IPv4, IGMPv.2, UPD and ICMP

Drivers for: Windows 2000/XP/XP-64/Vista32/ Vista64/Win 7-32/Win 7-64/SuSE 10/RedHat 5/ and others

Software: GigEVision Player

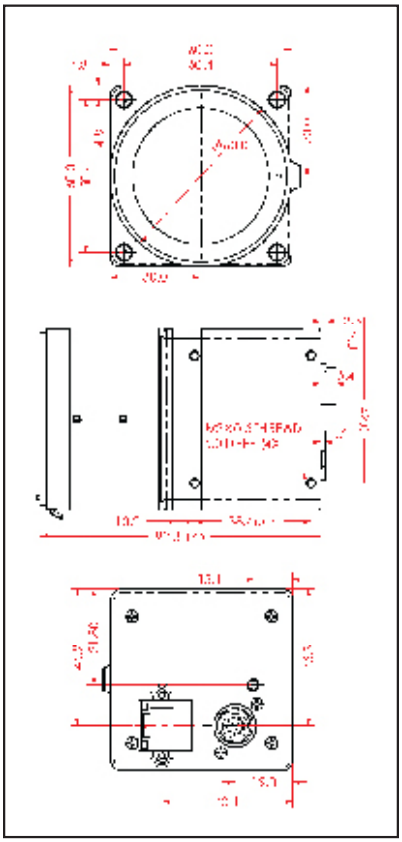
SDK: C++GigEVision Software Developers Kit

Support for: Labview, ImagePro, Halcon, MIL, eVision, CommonVision, StreamPix, CoreView, Streams5, Absoft Active GigE, and others

Multicast capable

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

Mechanical Dimensions



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