

BOBCAT

INTELLIGENT CAMERA SERIES

ICL-B4820



IMPERX ICL-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 TRUESENSE Imaging's KAI-16000 7.4 micron interline transfer CCD image sensor with a 43.3mm optical format.

IMPERX ICL-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 Camera Link® camera a perfect fit for the most demanding industrial, medical, scientific and military applications. This camera is also available with CoaXPress or GigE Vision® interfaces.

Features

4904/4872 x 3280/3248
 Mono or color 8, 10, 12 bit single or dual output
 (14 bit is single only)
 Normal and over-clock operation (3.2/4.2 fps)
 Base CameraLink
 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 ICL-B4820 Specifications

Maximum Resolution	4904 x 3280
Sensor Type	KAI-16000, CCD, 43.3mm optical format
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	Base Camera Link, mini CL interface, PoCL
Output Format	Mono or color 8, 10, 12 bit single or dual output (14 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
RS232 Interface	Yes

Data Corrections
Hardware Trigger

Software Trigger

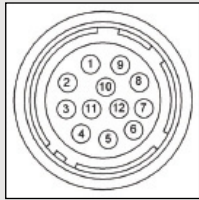
Trigger Modes

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
Frame grabber via CC1/CC2, level, edge, pulse-width, programmable
Programmable, standard, double exposure, fast, frame accumulation, asynchronous
1 Lux, F/1.4
12 VDC, (10V min, 15V max)
3.3 W PoCL, 270 mA steady, 1.5 A inrush
60 x 60 x 38mm
283g
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:

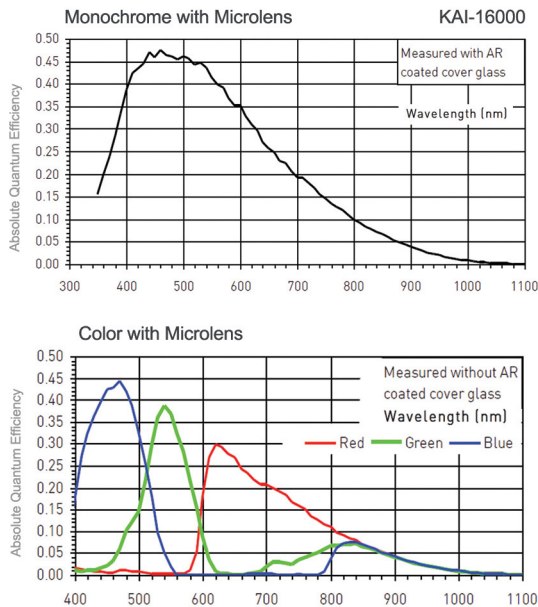
ICL-B4820M-TFO Monochrome Camera Link Output
ICL-B4820C-TFO Color Camera Link Output

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

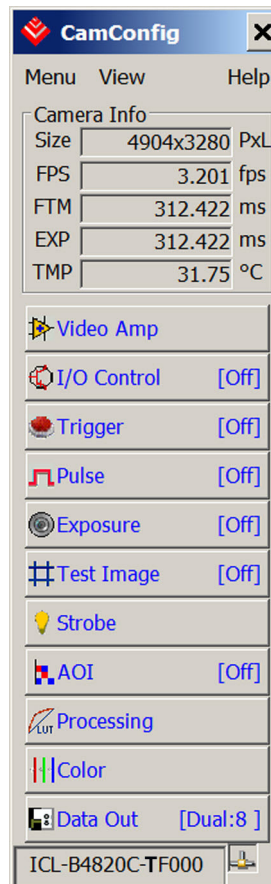
Accessories:

PS12V04: Power Supply (sold separately)

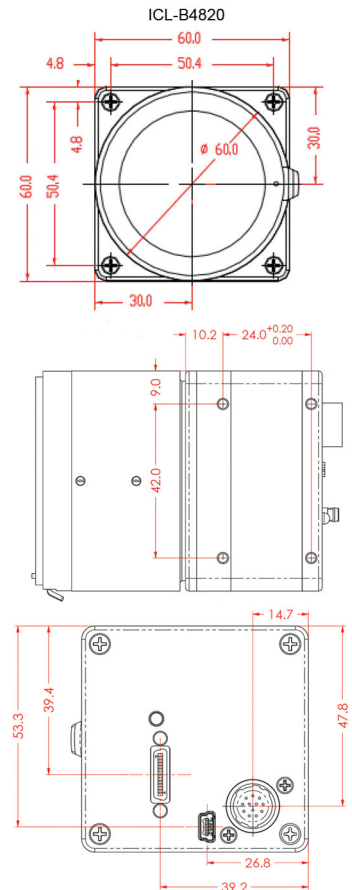
Spectral Response



Software/Drivers/Interface



Mechanical Dimensions



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