

# BOBCAT

## INTELLIGENT CAMERA SERIES

ICL-B1921



**IMPERX** ICL-B1921 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-02150 5.5 micron interline transfer CCD image sensor with a 2/3" optical format.

IMPERX ICL-B1921 provides an image resolution of 1952 x 1112 and delivers up to 40 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

1952/1920 x 1112/1080  
 Mono, color, or TRUESENSE Sparse CFA 8, 10, 12 bit single or dual output (14 bit is single only)  
 Normal and over-clock operation (32/40 fps)  
 Base Camera Link  
 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



# BOBCAT ICL-B1921 Specifications

Maximum Resolution	1952 x 1112
Sensor Type	KAI-02150, CCD, 2/3" optical format
Pixel Size	5.50 µm
Frame Rate	32/40 fps (normal/overclock)
Max Frame Rate	282 FPS
Minimum S/N ratio	60 db
Video Output	Base Camera Link, mini CL interface, PoCL
Output Format	Mono, color, or TRUESENSE Sparse CFA 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 1952 x 1112
Shutter Speed	1/500,000 to 1/32 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

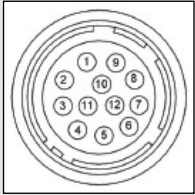
Trigger Modes

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  
Software internal, level, edge, pulse-width, programmable  
Programmable, standard, double exposure, fast, frame accumulation, asynchronous  
1 Lux, F/1.4  
12 VDC, (10V min, 15V max)  
3.0 W, 250 mA steady, 1.5 A inrush  
46 x 46 x 50.6mm  
170g  
C-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:

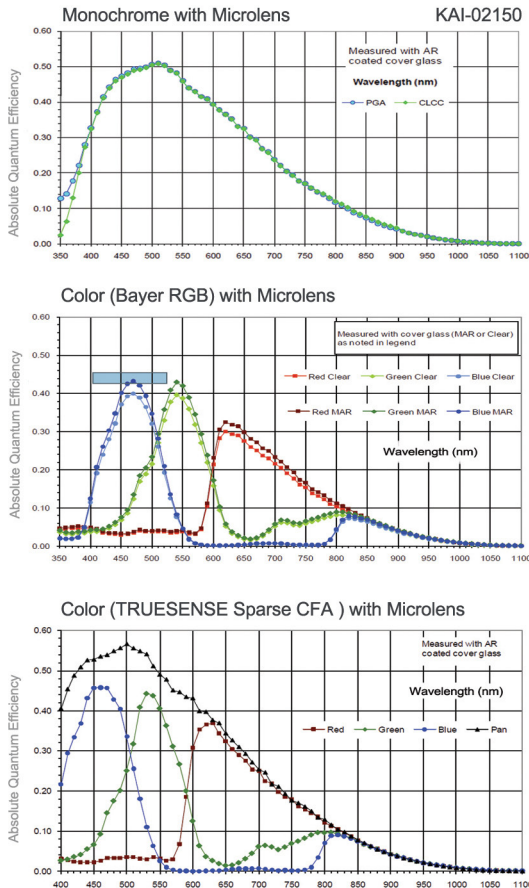
ICL-B1921M-TCO Monochrome Camera Link Output  
ICL-B1921C-TCO Color Camera Link Output  
ICL-B1921T-TCO TRUESENSE Sparse CFA Camera Link Output

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

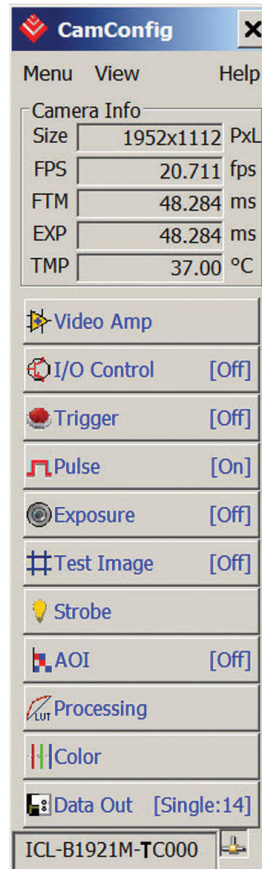
## Accessories:

PS12V04: Power Supply (sold separately)

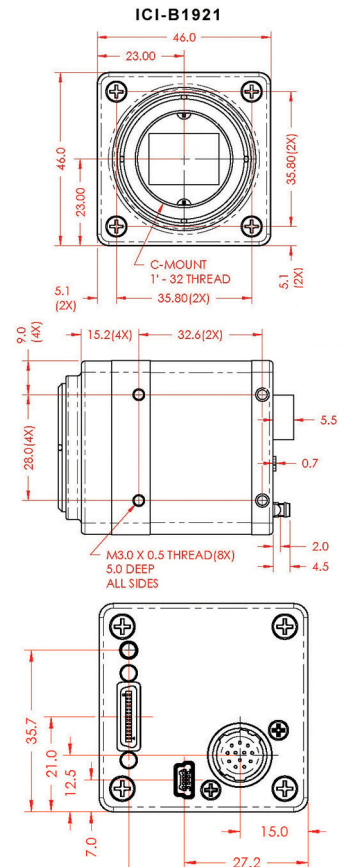
## Spectral Response



## Software/Drivers/Interface



## Mechanical Dimensions



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