IMPERX

BOBCAT
INTELLIGENT CAMERA SERIES

ICL-B1610

IMPERX ICL-B1610 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 SONY´s ICX-274 4.4 micron interline transfer CCD image sensor with a 1.1/8" optical format.

IMPERX ICL-B1610 provides an image resolution of 1628 x 1236 and delivers up to 25 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

- 1628/1620 x 1236/1220
- Mono or color 8, 10, 12, 14 or RGB 24 bit single output
- Normal and over-clock operation (17/25 fps)
- Base Camera Link, PoCL support
- 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)
- Reverse image (H mirror) (optional)
- MTBF of 660,000 hours @ 40°C

APPLICATIONS

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

IMPERX™

BOBCAT ICL-B1610 Specifications

Maximum Resolution	1628 x 1236	Data Corrections	DPC, HPC, LUT
Sensor Type	ICX-274, CCD, 1/1.8" optical format	Hardware Trigger	LVTTL or TTL via IN1/IN2, level, edge, pulse-width, programmable
Pixel Size	4.40 µm		
Frame Rate	17/25 fps (normal/overclock)	Software Trigger	Frame grabber via CC1/CC2, level, edge, pulse-width, programmable
Max Frame Rate	212 FPS		
Minimum S/N ratio	60 db	Trigger Modes	Programmable, standard, double exposure, fast, frame accumulation, asynchronous
Video Output	Base Camera Link, mini CL interface, PoCL		
Output Format	Mono or color 8, 10, 12, 14 or RGB 24 bit single output	Min. Illumination	0.5 Lux, F/1.4
Binning H & V	x1, x2, x3, x4, x8	Supply Input Range	12 VDC, (10V min, 15V max)
Area of Interest	8 independent AOIs, 2 x 2 to 1628 x 1236	Power Consumption	2.2 W, 190 mA steady, 1.5 A inrush
Shutter Speed	1/200,000 to 1/17 sec (nom)	Size (W x H x L)	46 x 46 x 39mm
Long Integration	Up to 16 sec	Weight	167g
Gamma Correction	G=1.0, G= 0.45, user upgradable LUT	Lens Mount	C-Mount
Video Gain	36 dB range, 1024 steps, 0.0351 dB per step	Vibration, Shock	10G (20 - 200) Hz XYZ, 70G
Exposure and AGC	Manual, Auto, Programmable	Environmental	Operation (-40° to +85°)C Storage (-40° to +90°)C
Iris Control	Auto, Programmable		
Strobe Output	Programmable position and duration	Humidity	10% to 90% non-condensing
Image Overlay	Yes, Programmable	MTBF	660,000 hours @ 40°C
RS232 Interface	Yes	Regulatory	FCC 15 part A, CE, RoHS

Power and I/O Interface:
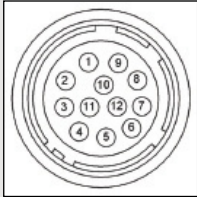
1	12V DC Return	7	OUT1 Signal
2	+12V DC	8	IN1 Signal
3	IRIS VCC	9	IN2 Signal
4	IRIS Video	10	IN1/2 Return
5	IRIS Return	11	Reserved
6	OUT1/2 Return	12	OUT2 Signal

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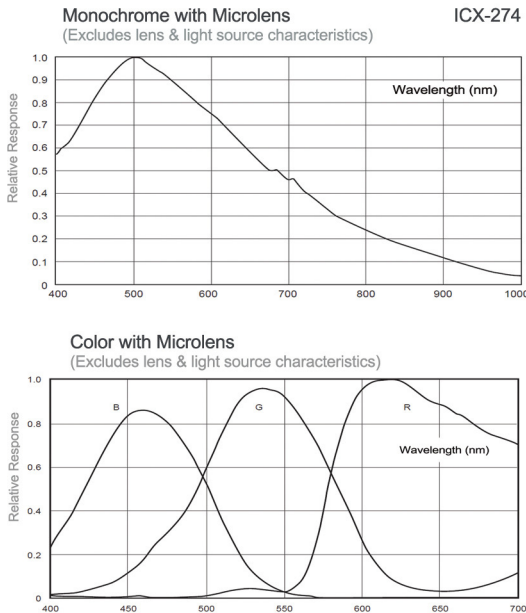
Order Options:

ICL-B1610M-SCO   Monochrome Camera Link Output
ICL-B1610C-SCO   Color Camera Link Output

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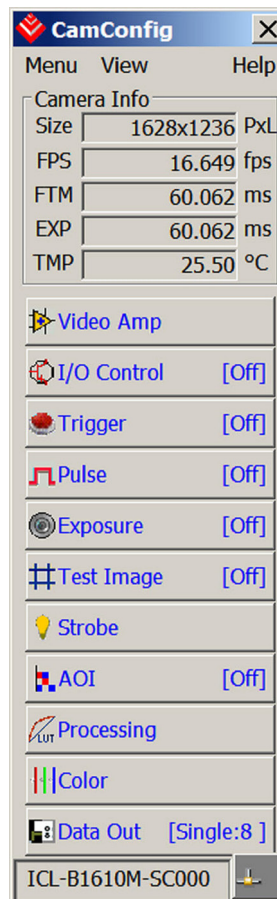
Accessories:

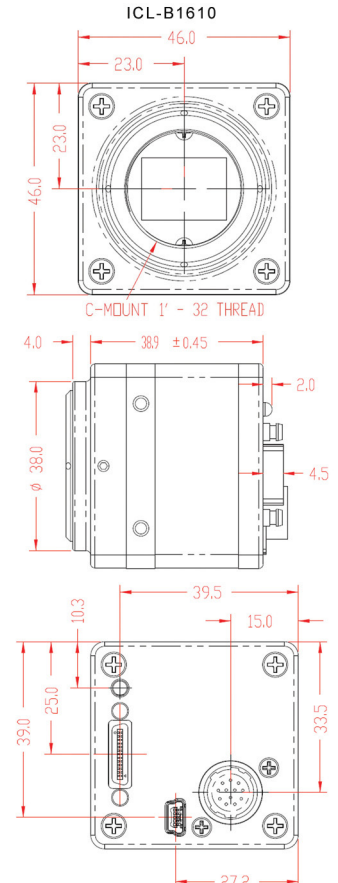PS12V04: Power Supply (sold separately)

Spectral Response

Monochrome with Microlens   ICX-274
(Excludes lens & light source characteristics)

Color with Microlens
(Excludes lens & light source characteristics)

Software/Drivers/Interface

CamConfig

Menu   View   Help

Camera Info
Size   1628x1236 PxL
FPS   16.649 fps
FTM   60.062 ms
EXP   60.062 ms
TMP   25.50 °C

Video Amp
I/O Control   [Off]
Trigger   [Off]
Pulse   [Off]
Exposure   [Off]
Test Image   [Off]
Strobe
AOI   [Off]
Processing
Color
Data Out   [Single:8]

ICL-B1610M-SC000

Mechanical Dimensions

ICL-B1610