

IRIS 9, IRIS 15 CMOS CAMERAS



Next Generation OEM Cameras from the Most Trusted Camera Partner

Technology changes. Your goal as an instrument designer is to choose future-proof components for the next product. When evaluating cameras to serve as the engine for detection or imaging within that next breakthrough product, CMOS technology will likely be the answer.

The Iris 9 and Iris 15 CMOS cameras let you design around an imaging detector that fits the price-performance balance you need. Featuring a state-of-the-art sensor optimized for VIS and NIR sensitivity, the Iris packs 9 or 15 million $4.25\mu\text{m}$ pixels into powerful, yet compact package. Iris cameras are available with USB or PCIe interfaces, color or monochrome and C-mount or F-mount.

Photometrics also developed advanced processing, these signature capabilities rely on robust FPGAs to deliver computational power. For example, an automated spot-finding routine was developed for the Iris cameras that solves challenges in typical microarray data analysis routines. The FPGA processing power can also be used to deploy a proprietary algorithm that helps differentiate your product from its competition.

Software and Integration

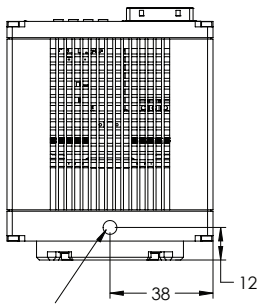
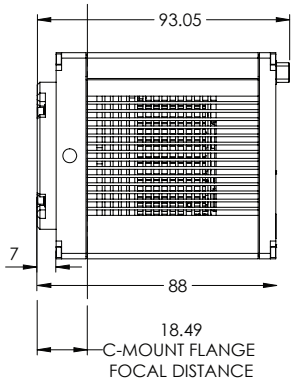
All Photometrics cameras operate with a common driver architecture, PVCAM. The accompanying SDK includes code examples for common functions to help shorten integration time. A stand-alone imaging application, PVCAM Test, is also available so you can begin working with the cameras right out of the box. This universal driver also insures that once your system works with PVCAM, you have flexibility to offer additional Photometrics and QImaging cameras in nearly drop-in fashion to differentiate your product line.

The Iris cameras are also supported by Ocular™ end-user software that was developed by Photometrics and QImaging. The software may be made available for internal use or distribution. Speak with your Photometrics OEM representative to learn more about Ocular.

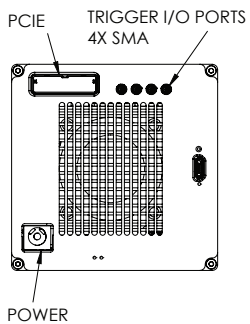
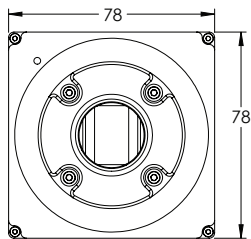
APPLICATIONS

- **Microarray Instrument**
- **High Content and High Throughput Cell Screening**
- **Genomic Analysis/ Sequencing**
- **Biochip and Microfluidics Measurements**
- **Tissue and Cellular Imaging**
- **Clinical Diagnostics**

DIMENSIONS



4X 1/4-20 UNC \u2193 6.35



OEM NEEDS

SOLUTIONS

Large Field of View Imaging

- Outstanding 25mm diagonal field of view allows you to capture all the important data with fewer exposures.
- Ideal for microarrays and screening applications where fewer frames = faster results.

The Right Camera for Your Project

- Iris cameras are available in 9MP or 15MP, monochrome or color and communicate over USB or PCIe.

Computational Processing

- Photometrics believes the best way our cameras can help your instrument be the best in its class is to help deliver answers - not just images.
- Robust FPGAs are used in our Iris cameras to allow routines like SpotFinder to run... or for you to include your own algorithms inline and create that truly special product.

Design Flexibility

- The Photometrics Iris cameras are remarkably small- 15MP sensor, regulated +5\u00b0 C cooling and advanced computational engine all in a 78mm x 78mm x 88mm housing.
- Our OEM team will help with customized mechanical modifications, unique graphics and specific testing routines to ensure your product is exactly as you need it.

Faster Time to Market

- The PVCAM SDK is easy to learn and easy to use.
- PVCAM runs all Photometrics cameras, so once integrated, there is flexibility to include other cameras across your product lines.

A Team to Count On

- Starting with your first call with us, we are dedicated to becoming your best supplier. Our OEM Imaging team takes great pride in helping our customers create great products and it shows.

CMOS SENSOR

Sensor Type	GPixel GSense 5130 CMOS Sensor (monochrome or color)
Sensor Array	5056 x 2960 (15 MP), 2960 x 2960 (9 MP)
Pixel Size	4.25\u00b5m x 4.25\u00b5m
Active Area	21.49mm x 12.61mm (24.9mm diagonal): 15 MP 12.61mm x 12.61mm (17.8mm diagonal): 9 MP
Peak Quantum Efficiency	>73% at 580nm
Full Well Capacity	~ 13,000e- single pixel

MODELS

● Photometrics Iris 9 CMOS Camera

- 01-IRIS-9-OEM-USB-M-16-C (monochrome, USB)
- 01-IRIS-9-OEM-PCIe-M-16-C (monochrome, PCIe)
- 01-IRIS-9-OEM-USB-CLR-16-C (color, USB)
- 01-IRIS-9-OEM-PCIe-CLR-16-C (color, PCIe)

● Photometrics Iris 15 CMOS Camera

- 01-IRIS-15-OEM-USB-M-16-C (monochrome, USB)
- 01-IRIS-15-OEM-PCIe-M-16-C (monochrome, PCIe)
- 01-IRIS-15-OEM-USB-CLR-16-C (color, USB)
- 01-IRIS-15-OEM-PCIe-CLR-16-C (color, PCIe)

INCLUDED

- **Power Supply**
- **USB 3.0 or PCIe**
(PCIe interface card available but not included)
- **Access to SDK**
- **Two Year Warranty**

FRAME RATE (PCIe)

Array Size	Frame Rate
5056 x 2960	32 fps
5056 x 1500	63 fps
5056 x 512	185 fps

CAMERA

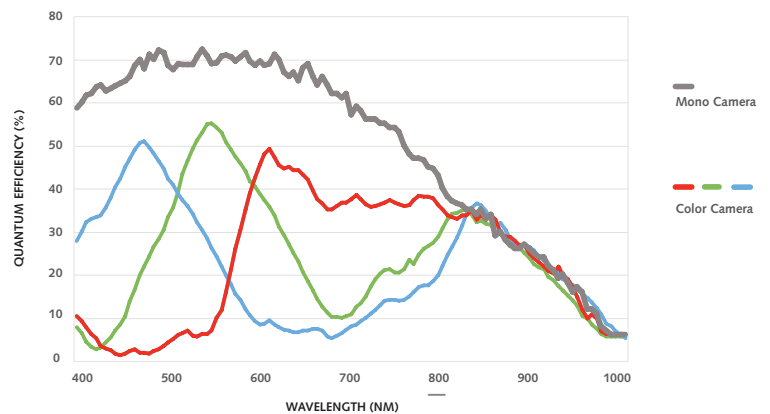
Bit Depth	16 bit
Read Noise (typical)	1.5 e-
Supported Binning Modes	2x2 and 4x4 (on FPGA)
Dark Current Rate (typical)	0.6 e- /pixel/ second
Sensor Cooling	+5° C stabilized at 23° C ambient Thermoelectric cooling with forced air
FPGA-Based Processing Available	SpotFinder automatic spot detection Custom embedded algorithms are possible

CAMERA INTERFACING

Computer Platforms/ Operating Systems	Windows 7 (64 bit), Windows 8 (64 bit), and Windows 10 (64 bit) <i>Refer to the Photometrics website for the latest list of minimum computer recommendations</i>
Digital Interface	USB 3.0 or PCIe
Triggering I/O Signals	Trigger In, Trigger Ready, Expose Out, Read Out
Supported Triggering Modes	Timed (SW), Edge (HW), Trigger First (HW)

MECHANICAL/POWER

Optical Interface	9MP: 1" (26mm) C-mount 15MP: 1.7" (44mm) F-mount optical format
Mounting Hole Thread Size	1/4" - 20 thread, 4 sides
Camera Dimensions	88mm x 78mm x 78mm (length x width x height)
Weight	1.5lb, 0.68kg
Power Requirement	12V DC, 5A

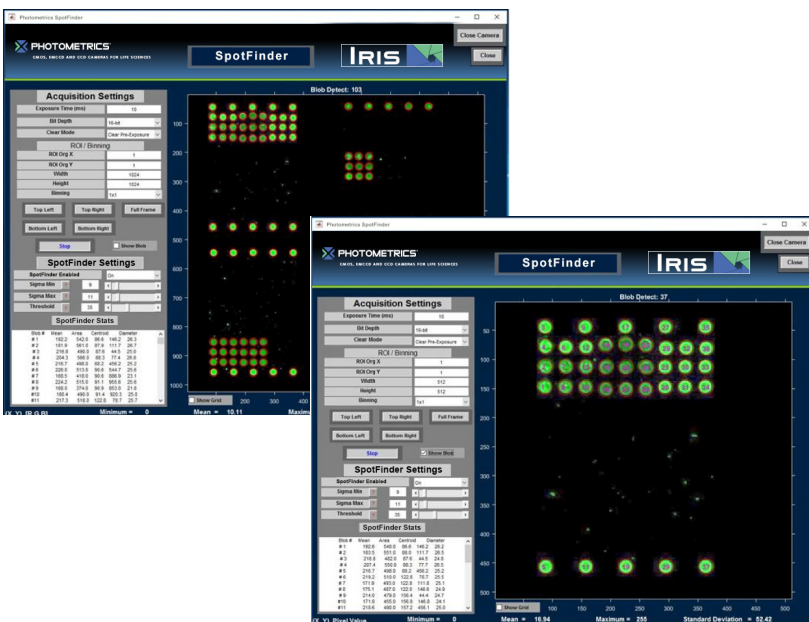


FPGA PROCESSING

Photometrics Advanced FPGA Processing: Introducing “SpotFinder”

Reducing opportunity for user error is always a positive for instrument designers as it leads to more accuracy and precision in the measurements. With the Iris camera series, Photometrics developed one such routine to minimize data handling errors, SpotFinder.

This FPGA-based algorithm uses preset parameters (may be fixed by instrument designer or adjustable by users) to automatically locate spots within an image as shown below. The mean value for each spot may be instantly output or imported for additional processing by the application software. See our white paper on SpotFinder for more details.



OEM SUPPORT

Our Commitment to You

Photometrics has a long history of maintaining successful partnerships with OEM customers. Our customers return again and again for new products because of our committed dedication to provide responsive and knowledgeable support. We continue to invest in resources for our customers, like the OEM Imaging Team.



- Cameras optimized for application needs
- Flexible and customizable branding options
- Unique part number/Bill of Materials (BOM)
- Single driver platform supports a wide range of product offerings
- Strategically located global service centers
- Dedicated support from a focused OEM team



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Results are typical and may vary from camera to camera.

*For more information, visit the Photometrics website at www.photometrics.com

Note: Specifications are typical and subject to change.

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