



ARIA

board level camera

ARIA series



ARIA represents Alkeria's answer to the increasing demand of affordable, ultra-compact, ultralight and easy to integrate cameras.

Choose between the most common and requested sensors, get all the benefits of USB3 interface and Alkeria's smart I/O. Top quality delivered in the size of a coin, the weight of a feather and at a convenient price. A camera born for embedded vision, inspection and OEM design. The quality and premium features of Alkeria cameras in a board level and convenient format.

ARIA is available with both e2V and SONY Pregius® sensors in different resolutions and color modes. It provides powerful on-line user-controlled image processing, including color independent LUTs, gamma correction, white balance, brightness, contrast, sharpness and saturation.

Even beyond

Alkeria development team is also deeply focused on full-custom camera products. If you need more from your ARIA camera, we can implement smarter hardware and extra firmware features for you. Depending on volumes, we can design your custom camera to protect your IP, differentiate your products and let you gain market share over competitors.

Features

USB3 interface

Establishing as a new standard in vision, USB3 allows high performances, lower costs and ease of use.

Compact, light and versatile

ARIA comes in the size of a coin, weighting less than 5 g (without lens adapters), available in board level format or completed with C-mount and S-mount adapters.

Fast global-shutter CMOS technology

ARIA is available with the most sought-after global shutter sensors in the field, such as e2V Sapphire and Ruby series and SONY Pregius® IMX series, allowing great performance and image quality.

On board image processing

Like all Alkeria cameras, even the light, small and convenient ARIA performs all of its image processing on board, without loading your CPU with heavy calculation.

Versatile I/O

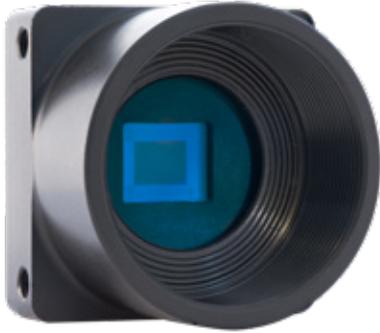
With 1 opto-isolated input and 1 output and 2 general purpose I/O, ARIA series offers unprecedented flexibility for interfacing to outer world signals: direct encoder readout, serial communication and strobed lighting have never been so easy.

Smart triggering

User can choose among a long list of triggering mechanisms. Acquisition can be driven by I/O levels, edges and encoder position. Furthermore, the frequency of triggering signals can be internally converted to solve even the most challenging problem.

Custom casing

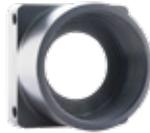
Do you need a specific lens mount or your camera has to be waterproof? Available in a board level format, ARIA allows you to design and build your very own case, adapting it to the most special projects.



Lens adapters

Vision system performances rely on many factors: one of these is lens quality. There are many lenses currently on the market, with different specifications and price levels: every application needs its very own lens.

We know that in Alkeria, so we decided to equip ARIA with specific C-mount and S-mount lens adapter: they give our customers the perfect flexibility in choosing best optics for their applications.



C-mount



S-mount

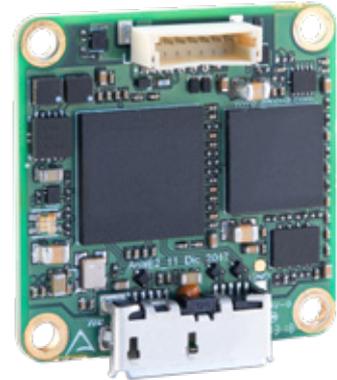
Interfacing

USB3

Cost-effective, wide-spread, highly performant, plug&play, directly powered by the PC. All of these perks make USB3 the right choice for cameras intended to be ready out-of-the-box.

I/O

ARIA provides a versatile I/O interface to control external devices such as strobe lights, encoders, etc. 2 general purpose input/output, 1 input and 1 output both opto- isolated. Its multipurpose I/O connector provides user I/O, line/frame triggering and direct encoder interface.



HALCON
COMPATIBLE

COGNEX
COMPATIBLE

Vision libraries

Image processing libraries represent the most flexible way of developing vision applications: these systems provide a complete range of powerful vision analysis tools, as well as the possibility to develop tailor-made algorithms and functionality to address specific application needs.

That's why our cameras are totally compatible with the major vision libraries, such as MVTech Halcon or COGNEX VisionPro.

Want to use your own code instead?

Our cameras come with a comprehensive SDK for Windows and Linux featuring a sample player for live view and setting of the camera, and a rich list of code samples in C# and C++ (WIN32 and Qt).

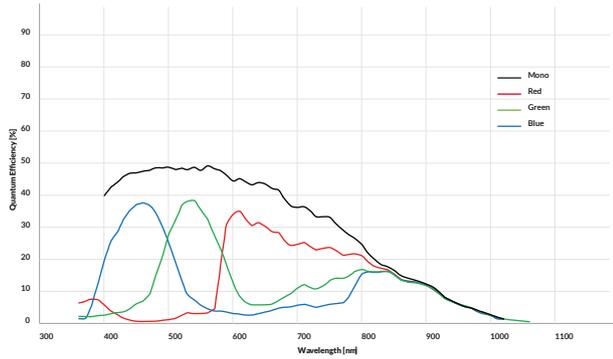
MODEL	A1ES-M	A1ES-C	A2ES-M	A2ES-C	A1ER-M	A1ER-C	A04S-M	A04S-C	A1SS-M	A1SS-C
Sensor	EV76C560		EV76C570		EV76C661		IMX287		IMX273	
Megapixels	1,3 MP		2,0 MP		1,3 MP		0,4 MP		1,6 MP	
Resolution (w x h)	1288 x 1032		1608 x 1208		1288 x 1032		728 x 544		1456 x 1088	
Format	1 / 1.8"						1 / 2.9"			
Pixel Size	5.3 x 5.3 μm^2		4.5 x 4.5 μm^2		5.3 x 5.3 μm^2		6.9 x 6.9 μm^2		3.45 x 3.45 μm^2	
Color mode	BW	Color	BW	Color	BW (NIR)	Color	BW	Color	BW	Color
Max frame rate	62 FPS		51 FPS		62 FPS		522 FPS	458 FPS	237 FPS	118 FPS
Pixel format	MONO8 MONO16	YUV 4:2:2 RGB24 MONO 16 RAW 16	MONO8 MONO16	YUV 4:2:2 RGB24 MONO 16 RAW 16	MONO8 MONO16	YUV 4:2:2 RGB24 MONO 16 RAW 16	MONO8 MONO16	YUV 4:2:2 RGB24 MONO 16 RAW 16	MONO8 MONO16	YUV 4:2:2 RGB24 MONO 16 RAW 16
C-mount adapter	●	●	●	●	●	●	●	●	●	●
S-mount adapter	●	●	●	●	●	●	●	●	●	●
Shutter Control	16 μs ÷ 0,99 s (global shutter)						18 μs ÷ 5 s (global shutter)			
A / D Conversion	10 bit						8 - 10 - 12 bit			
Synchronization	External trigger, software trigger									
Power Supply	<1,3W, powered by USB3 interface						<1,6W, powered by USB3 interface			
Inputs / Outputs	4 total I/O: 2 LVTTTL configurable GPIO or RS232 or direct encoder interface + 1 opto-isolated IN + 1 opto-isolated OUT									
Interface	USB 3.1 Gen 1									
Weight	< 5 g (without additional lens adapter)									
Dimensions	26,4 mm x 26,4 mm x 7,8 mm - (L x W x D) board level									
Conformity	CE, RoHS, FCC/IC									
Main Controls	Shutter, gain, brightness, contrast, saturation, LUT and gamma correction, white balance									
Operative Temp	0 ÷ 50 °C on mount 0 ÷ 60 °C at board					Proper dissipation must be provided externally to keep board temperature within recommended range				

This chart shows all technical specifications of the current ARIA product line.

To know more about specifications and prices, please contact our Sales department at sales@alkeria.com: we'll help you finding the right camera for your application.

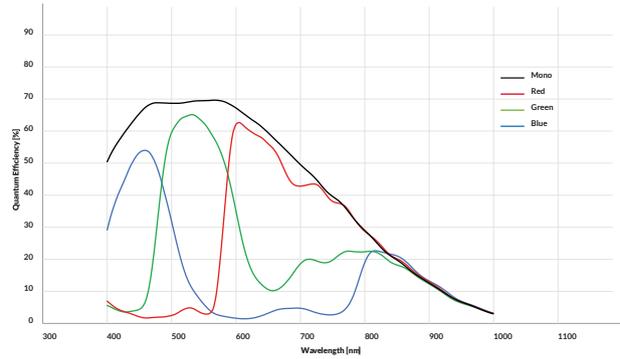
Technical specifications

e2V series

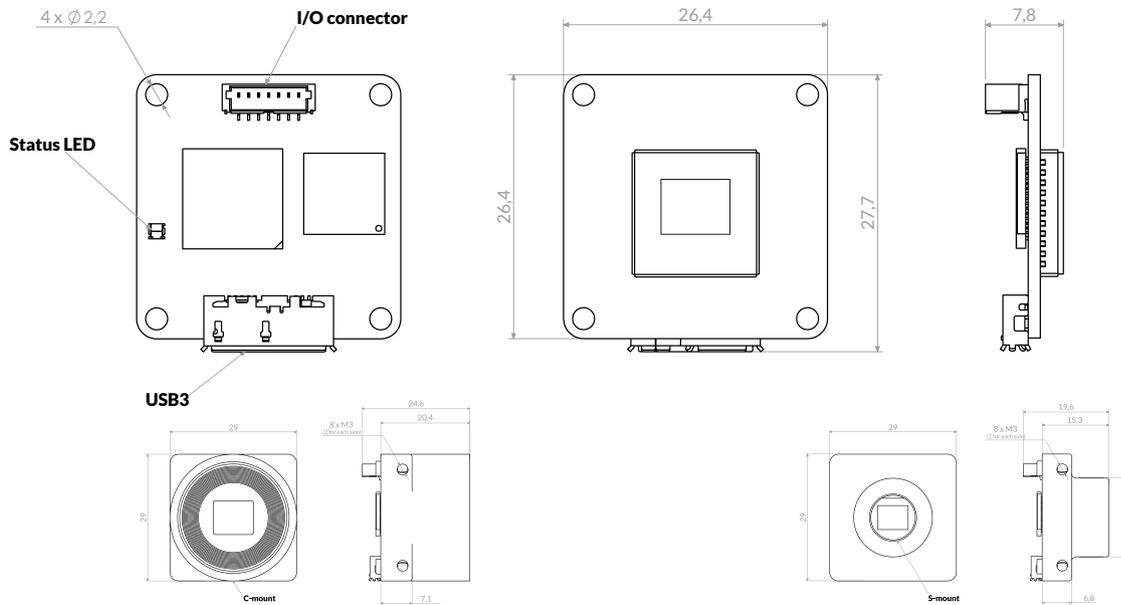


Sensors specifications

SONY IMX series



Mechanical specifications



All dimensions are expressed in millimeters.
 Camera specifications are subject to change without notice.
 Sensor specifications (monochrome and color) are taken from the data sheet of the manufacturer.

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