

ARIA family

ARIA represents Alkeria's answer to the increasing demand of affordable, ultracompact, 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 convenient price.

A camera born for embedded vision, inspection and OEM design.

ARIA is directly powered by the USB3 bus, eliminating the need for external power adapters. USB3 provides the most cost-effective widespread interface, pushing speed performances to top level.

ARIA provides powerful on-line user-controlled image processing: color independent LUTs, gamma correction, white balance, brightness, contrast, sharpness and saturation.

ARIA comes with an easy-to-use set of software API which allows developers to quickly produce fast and well readable code on Windows (VC++/C#/VB.NET) and Linux (C++).

ARIA comes in board level format and can be completed with C-mount or S-mount adapters.

Even beyond

Alkeria development team is also deeply focused on 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.

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), and 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 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

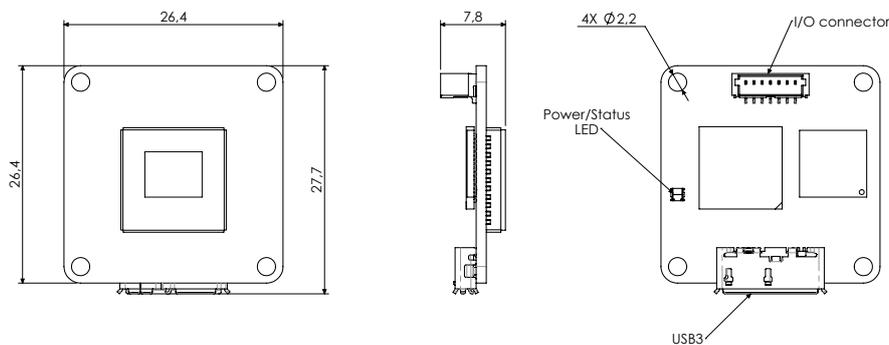
With 1 opto-isolated input and 1 output and 2 general purpose I/O, ARIA series offers unprecedented flexibility for interfacing to outer world signals: direct encoder readout, serial communication and strobed lighting have never been so easy.

Smart triggering

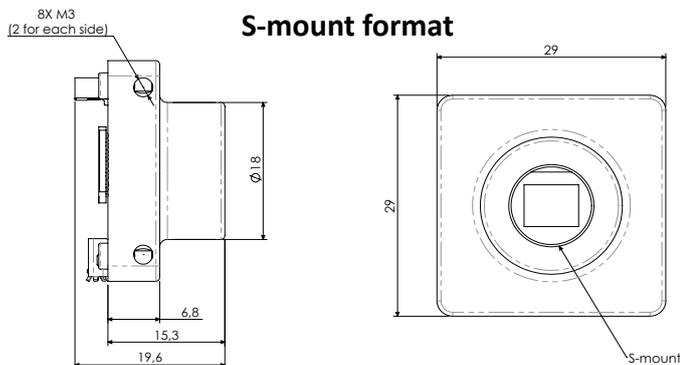
User can choose among a long list of triggering mechanisms. Acquisition can be driven by I/O levels, edges and encoder position. Furthermore, the frequency of triggering signals can be internally converted to solve even the most challenging problem.

Model	A1ES-M	A1ES-C	A2ES-M	A2ES-C	A1ER-M	A1ER-C	A04S-M	A04S-C	A15S-M	A15S-C
Resolution	1280 x 1024		1600 x 1200		1280 x 1024		720 x 540		1440 x 1080	
Sensor	EV76C560		EV76C570		EV76C661		IMX287		IMX273	
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 / Mono	Mono	Color	Mono	Color	Mono (NIR)	Color	Mono	Color	Mono	Color
Max Frame Rate	60 FPS		60 FPS		60 FPS		520 FPS	467 FPS	241 FPS	120 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
A / D Conversion	10 bit						8 - 10 - 12 bit			
Synchronization	External trigger, software trigger									
Shutter Control	16 $\mu\text{s} \div 1 \text{ s}$ (global shutter)						5 $\mu\text{s} \div 5 \text{ s}$ (global shutter)		5 $\mu\text{s} \div 5 \text{ s}$ (global shutter)	
Power Supply	<1,2W, powered by USB3 interface						<2W, powered by USB3 interface			
Inputs / Outputs	2 I/O, LVTTTL levels (configurable GPIO or RS232 or direct encoder interface), 1 in (isolated), 1 out (isolated)									
Lens Adapter	C-mount (optional), S-mount (optional)									
Interface	USB 3.1 Gen 1									
Weight	< 5 g (without lens adapter)									
Dimensions	26,4 mm x 26,4 mm x 7,8 mm (board level), 29 mm x 29 mm x 24,6 mm (with C-mount adapter), 29 mm x 29 mm x 19,6 mm (with S-mount adapter)									
Conformity	RoHS									
Main Controls	Shutter, gain, brightness, contrast, saturation, LUT and gamma correction, white balance									
Operative Temp	0 \div 50 $^{\circ}\text{C}$									

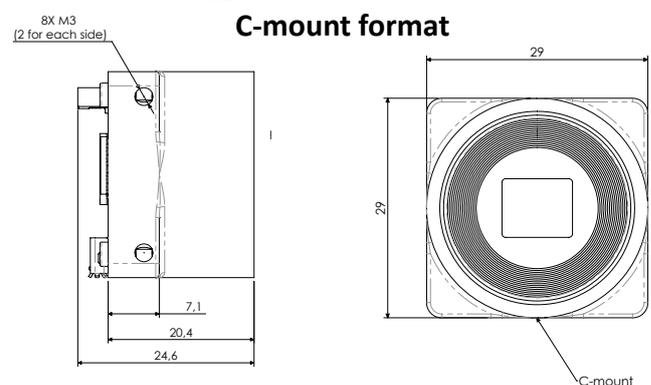
Board level format



S-mount format



C-mount format



All dimensions are expressed in millimeters. Camera specifications refer to e2V sensor models and are subject to change without notice. Sensor specifications according to the data sheet of the manufacturer and to their own measurement.