

## CELERA One family

CELERA One USB3 family of CMOS cameras provides the same quality, design and features of the awarded dual-USB3 CELERA family, in a more cost effective configuration.

High acquisition rate, extremely reduced dimensions and rugged design make CELERA One cameras suitable for most applications: automated optical inspection, sorting systems, industrial metrology, microscopy, medical diagnostics and machine vision.

CELERA One 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 at the top level.

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

CELERA One features Alkeria Advanced Sequencer, allowing to cycle multiple complex video presets according to a programmed trigger pattern.

CELERA One 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++).

CELERA One accessories available upon request: F-mount adapter and shielded I/O cable. The default C-mount adapter can be removed.

## Even beyond

Alkeria development team is also deeply focused on custom camera products. If you need more from your CELERA One 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.

### Tiny rugged design

Small, ultra-lightweight, rugged aluminum machined high precision case allows maximum installation flexibility even in space constrained environments.

### Fast global-shutter CMOS technology

CELERA One allows great performance and image quality, thanks to CMOSIS CMV and SONY Pregius® series sensors.

### Advanced Sequencer

Alkeria's Advanced Sequencer allows the user to modify camera controls on the fly, according to external or internal events. Changing the shutter time frame by frame or adjusting the ROI to follow your target will be no more an issue.

### Versatile I/O

With 2 inputs, 2 outputs and 1 I/O, CELERA One series offers unprecedented flexibility for interfacing to outer world signals: direct encoder readout and strobed lighting have never been so easy.

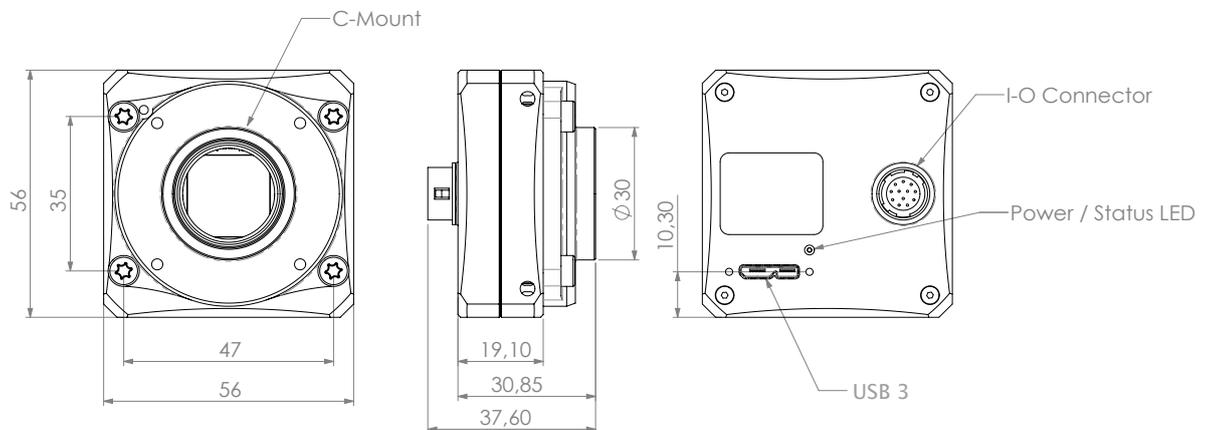
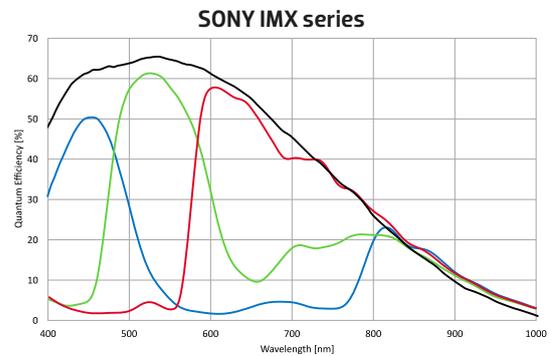
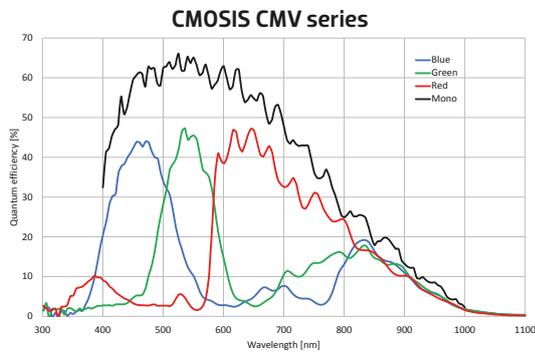
### Smart triggering

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.

# CELERA One Camera Series

## Technical Specifications

Model	CO2K-M	CO2K-C	CO2K-N	CO4K-M	CO4K-C	CO5S-M	CO5S-C	CO12S-M	CO12S-C
Resolution	2048 × 1088			2048 × 2048		2448 × 2048		4112 × 3004	
Sensor	AMS CMV2000			AMS CMV4000		SONY IMX 264		SONY IMX 304	
Format	2/3"			1"		2/3"		1.1"	
Pixel Size	5.5 × 5.5 μm <sup>2</sup>					3.45 × 3.45 μm <sup>2</sup>			
Color / Mono	Mono	Color	NIR	Mono	Color	Mono	Color	Mono	Color
Max Frame Rate	175 fps	87 fps	170 fps	92 fps	46 fps	35 fps	35 fps	23 fps	15 fps
Pixel Format	MONO8, MONO16	YUV 4:2:2, RGB24	MONO8, MONO16	MONO8, MONO16	YUV 4:2:2, RGB24	MONO8, MONO16	YUV 4:2:2, RGB24	MONO8, MONO16	YUV 4:2:2, RGB24
A / D Conversion	10 - 12 bit					12 bit			
Synchronization	External trigger, software trigger								
Shutter Control	15 μs ÷ 5 s (global shutter)			26 μs ÷ 5 s (global shutter)		28 μs ÷ 5 s (global shutter)		30 μs ÷ 5 s (global shutter)	
Power Supply	< 3 W, powered by USB3 interface								
Inputs / Outputs	2 in (direct encoder interface), 2 out and 1 I/O (RS422, RS644 LVCMOS, LVTTTL)								
Lens Adapter	C-mount, F-mount (optional)								
Interface	USB 3.1 Gen 1								
Weight	<130 g (camera only)								
Dimensions	56 mm × 56 mm × 26.7 mm (camera only)								
Conformity	CE, RoHS, FCC/IC								
Main Controls	Shutter, gain, brightness, contrast, saturation, LUT and gamma correction, white balance, sequencer configuration								
Operative Temp	0 ÷ 50 °C								



All dimensions are expressed in millimeters.  
 Camera specifications are subject to change without notice.  
 Sensor specifications (monochrome and color) are extracted from the data sheet of the manufacturer excluding lens and filter and may vary depending on specific sensor.