

BW COLOR NIR

Vision Systems Design Innovators Awards 2017 Silver Honoree

CELERA family

CELERA dual-USB3 family of CMOS cameras provides unrivaled speed, extreme flexibility and quick system integration.

Ultra-fast acquisition rate, extremely reduced dimensions and rugged design make CELERA cameras suitable for the most demanding applications: automated optical inspection, high performance sorting systems, industrial metrology, microscopy, medical diagnostics and machine vision.

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

CELERA's Advanced Sequencer allows cycling multiple complex video presets according to a programmed trigger pattern.

CELERA 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 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 full-custom camera products. If you need more from your CELERA 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.

If you have been discouraged with custom designs, give us a call. You'll be surprised.

Double USB3 interface

Alkeria's unique dual-USB3 solution allows twice the bandwidth, supporting the maximum frame rate of AMS CMV2000 and CMV4000 sensors.

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

AMS CMV series CMV2000 and CMV4000 sensors, featuring 12 bit A/D converter, allow up to 340 fps even at full resolution.

Triple programmable LUTs

Independent LUTs (one for each color) allow easy color thresholding, filtering and calibration for color-critical applications.

Smart Data

Embedded timestamp, trigger counters, encoder position, latched input status and input change detection allow perfect image-to-real-world pairing.

Versatile I/O

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

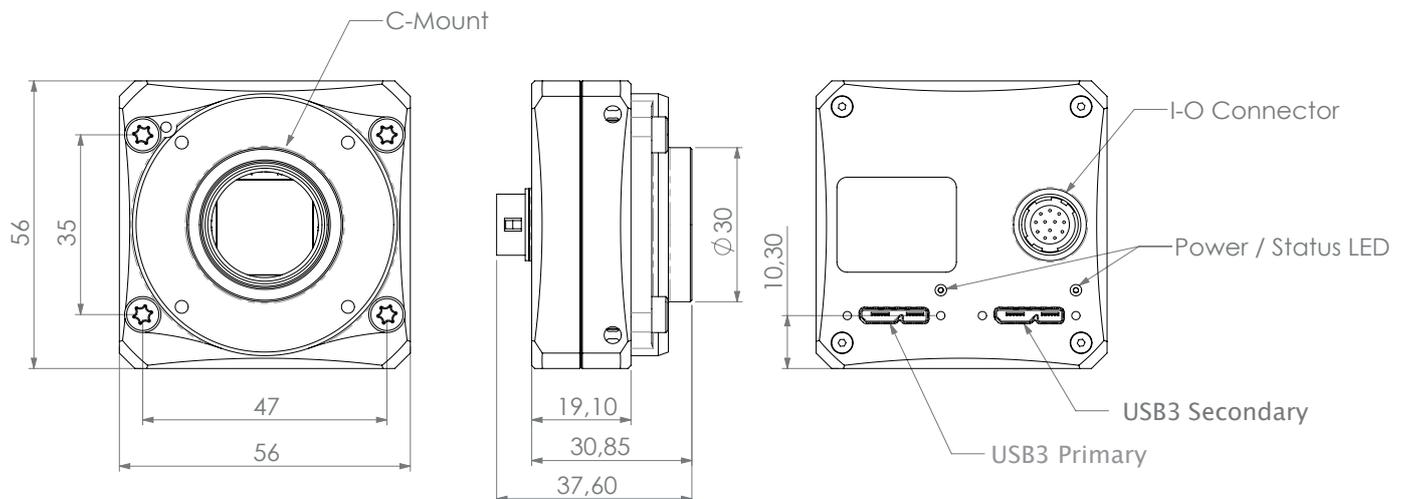
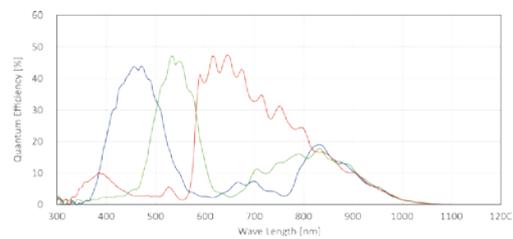
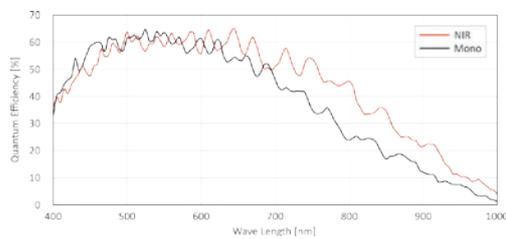
Advanced triggering

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 Camera Series

Technical Specifications

Model	C2K-M	C2K-C	C2K-N	C4K-M	C4K-C	C4K-N
Resolution	2048 × 1088			2048 × 2048		
Sensor	AMS CMV2000			AMS CMV4000		
Format	2/3"			1"		
Pixel Size	5.5 × 5.5 μm ²					
Color / Mono	Mono	Color	NIR	Mono	Color	NIR
Max Frame Rate	340 fps	170 fps (YUV 4:2:2)	340 fps	180 fps	90 fps (YUV 4:2:2)	180 fps
Pixel Format	MONO8, MONO16	YUV 4:2:2, RGB 24	MONO8, MONO16	MONO8, MONO16	YUV 4:2:2, RGB 24	MONO8, MONO16
A / D Conversion	10 - 12 bit					
Synchronization	External trigger, software trigger					
Shutter Control	21.5 μs ÷ 50 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 LVDS, LVTTTL)					
Lens Adapter	C-mount, F-mount (optional)					
Interface	2 × USB 3.1 Gen 1					
Weight	< 150 g (with C-mount adapter)					
Dimensions	56 mm × 56 mm × 30.85 mm (with C-mount adapter)					
Conformity	CE, RoHS, FCC/IC					
Main Controls	Shutter, gain, brightness, contrast, saturation, LUT and gamma correction, white balance, sequencer configuration					
Operative Temp	0 ÷ 60 °C					



All dimensions are expressed in millimeters.
 Camera specifications are subject to change without notice.
 Sensor specifications (monochrome, color and NIR) are extracted from the data sheet of the manufacturer excluding lens and filter.