

CELERA One family

CELERA One USB3 family of CMOS cameras provides the same quality, design and features of its dual-USB3 CELERA "sister", 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 series offers unprecedented flexibility for interfacing to outer world signals: direct encoder readout and strobed lighting have never been so easy.

Smart triggering

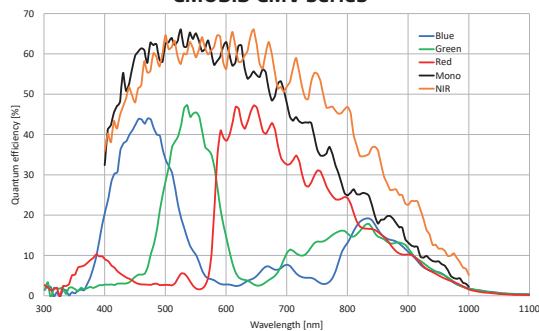
User can choose among a long list of triggering mechanisms. Acquisition can be driven by I/O levels, edges and encoder position. Furthermore, the frequency of triggering signals can be internally converted to solve even the most challenging problem.

CELERA One Camera Series

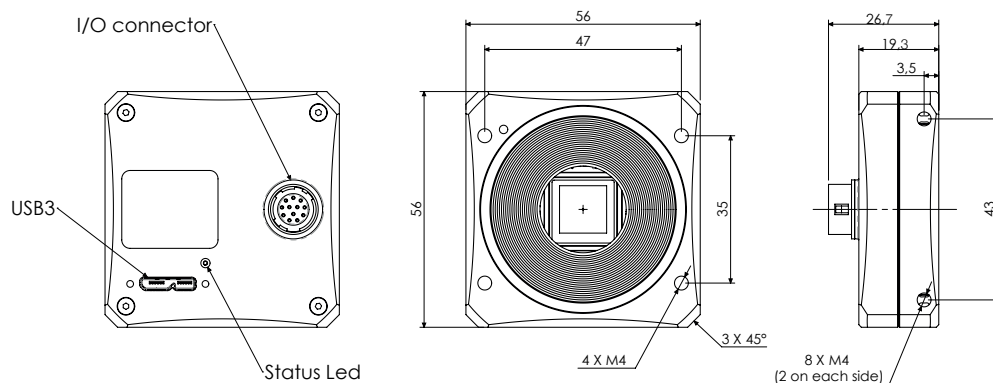
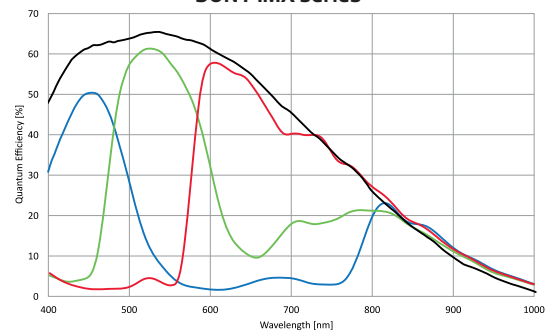
Technical Specifications

| Model | CO2K-M | CO2K-C | CO2K-N | CO4K-M | CO4K-C | CO4K-N | CO5S-M | CO5S-C |
|------------------|---|--------------------|---------------|---------------|--------------------|---------------|-------------------------------|------------------|
| Resolution | 2048 × 1088 | | | 2048 × 2048 | | | 2448 × 2048 | 2448 × 2048 |
| Sensor | AMS CMV2000 | | | AMS CMV4000 | | | SONY Pregius® IMX 264 | |
| Format | 2/3" | | | 1" | | | 2/3" | |
| Pixel Size | 5.5 × 5.5 μm ² | | | | | | 3.45 × 3.45 μm ² | |
| Color / Mono | Mono | Color | NIR | Mono | Color | NIR | Mono | Color |
| Max Frame Rate | 170 fps | 85 fps (YUV 4:2:2) | 170 fps | 90 fps | 45 fps (YUV 4:2:2) | 90 fps | 35 fps | 35 fps |
| Pixel Format | MONO8, MONO16 | YUV 4:2:2, RGB24 | MONO8, MONO16 | MONO8, MONO16 | YUV 4:2:2, RGB24 | MONO8, MONO16 | MONO8, MONO16 | YUV 4:2:2, RGB24 |
| A / D Conversion | 10 - 12 bit | | | | | | 12 bit | |
| Synchronization | External trigger, software trigger | | | | | | | |
| Shutter Control | 100 μs ÷ 5 s (global shutter) | | | | | | 100 μs ÷ 1 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 | 126 g (with C-mount adapter) | | | | | | 131 g (with C-mount adapter) | |
| Dimensions | 56 mm × 56 mm × 26.7 mm (without lens 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 | | | | | | | |

CMOSIS CMV series



SONY IMX series



All dimensions are expressed in millimeters.
 Camera specifications are subject to change without notice.
 Sensor specifications are extracted from the data sheet of the manufacturer, according to their own measurement.