



Product catalog

Machine vision cameras and accessories

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Quick guide to model names

Alkeria has various camera series in its product line: each series has several models, with different resolutions, color modes and accessories.

To identify a specific model version, Alkeria uses an internal codename system that allows to describe every camera specification with a unique code.

Understanding how this code works can be useful to our customers both to identify correctly a camera and to request information or ordering to our sales department.

Every camera code is composed of three parts:

1. camera model
2. color option
3. accessories

Camera model

This is the first and main part: it includes camera series and information about the sensor, like resolution, manufacturer or number of lines (speaking of NECTA cameras).

Color option

The second part, separated by a hyphen, defines the sensor color option for each camera model. In our product line, we use different sensor families, most of them available in color, monochrome or Near-Infra-Red (NIR) mode.

In NECTA cameras equipped with a dual line sensor, the pixel size indication is moved to this section. See an example on the right.

Accessories

The last part of the code indicates the accessories the camera is equipped with. It's the only part that can be omitted, in the case you're choosing a camera without any additional accessory.

*CELERA and CELERA One cameras are sold by default with C-mount lens adapter. They can be sold without lens adapter on request.

N4K2-7C-F

CAMERA MODEL
NECTA, 4096 x 2 lines resolution

COLOR OPTION
7µm pixels, color

LENS ADAPTER
F-mount

C12S - C - C

CAMERA MODEL
CELERA, 12 MP resolution

COLOR OPTION
color

LENS ADAPTER
C-mount

CO4K-M

CAMERA MODEL
CELERA One, 4 MP resolution

COLOR OPTION
mono

LENS ADAPTER
none*

A04S - M - SH

CAMERA MODEL
ARIA, 0.4 MP resolution

COLOR OPTION
mono

ACCESSORY
Back cover with S-mount

01 Cameras

USB3 & dual-USB3 machine vision cameras



NECTA series



COGNEX
COMPATIBLE

HALCON
COMPATIBLE

GENICAM
COMPATIBLE

NECTA family of line scan CMOS USB3 cameras provides high scan speed and quick system integration.

Ultra-fast acquisition rate, extremely reduced dimensions and rugged design make NECTA cameras suitable for highly demanding applications: automated optical inspection, high performance sorting systems, industrial metrology, spectrometry, web inspection and more.

NECTA is available with single and dual line AMS Dragster CMOS sensors in 2K, 4K and 8K resolutions. It provides on-board color reconstruction with compact dimensions and rugged design, available with C-mount or F-mount lens adapters.

Features

USB3 interface

Up to 5 Gbps USB3 interface

Tiny rugged design

Small, ultra-lightweight, rugged aluminum case

Ultra-low power

Low power consumption, below 3 W for all models

Triple programmable LUTs

Allow easy color thresholding, filtering and calibration

CMOS technology

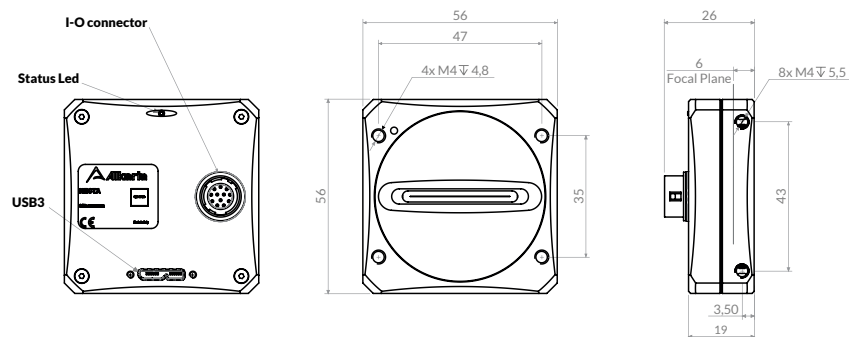
AMS Dragster CMOS sensors, color and monochrome, featuring 12 bits A/D converter, up to 8192 pixels, up to 95000 lines/s

Versatile I/O

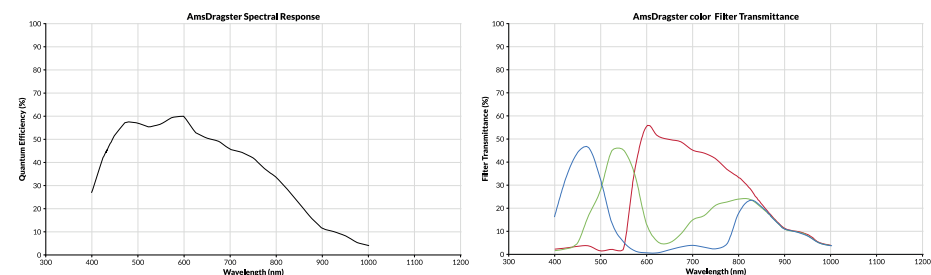
2 inputs, 2 outputs and 1 bidirectional I/O, for interfacing to outer world signals



Mechanical specifications



Sensors specifications



	Sensor	Resolution	Pixel size	Line rate (max)	Color option	ADC	Interface
N2K-7	AMS Dragster DR2K7	2K - 2048x1	7 x 7 μm^2	95 kHz	Mono	9/10/11/12 bits	USB 3.1 Gen 1
N2K2-7	AMS Dragster DR2X2K7	2K - 2048x2	7 x 7 μm^2	95 kHz	Mono	9/10/11/12 bits	USB 3.1 Gen 1
N2K2-7C	AMS Dragster DR2x2K7 RGB	2K - 2048x2	7 x 7 μm^2	95 kHz	Color	9/10/11/12 bits	USB 3.1 Gen 1
N4K-3	AMS Dragster DR4K3.5	4K - 4096x1	3,5 x 3,5 μm^2	95 kHz	Mono	9/10/11/12 bits	USB 3.1 Gen 1
N4K-7	AMS Dragster DR4K7	4K - 4096x1	7 x 7 μm^2	95 kHz	Mono	9/10/11/12 bits	USB 3.1 Gen 1
N4K2-7	AMS Dragster DR2X4K7	4K - 4096x2	7 x 7 μm^2	47,6 kHz	Mono	9/10/11/12 bits	USB 3.1 Gen 1
N4K2-7C	AMS Dragster DR2X4K7 RGB	4K - 4096x2	7 x 7 μm^2	47,6 kHz	Color	9/10/11/12 bits	USB 3.1 Gen 1
N8K-3	AMS Dragster DR8K3.5	8K - 8192x1	3,5 x 3,5 μm^2	47,6 kHz	Mono	9/10/11/12 bits	USB 3.1 Gen 1

*C-mount available with limitations on sensor use



NECTA series



NECTA X is the latest generation of CMOS line scan cameras, featuring a **USB 3.1 Gen 2 10 Gbps** interface. This performance boost directly enhances machine vision applications by enabling higher frame rates, minimizing latency for real-time processing, and supporting the most demanding high-resolution camera configurations.

Thanks to the **USB-C interface**, NECTA X streamlines system integration by eliminating the need for dedicated interface boards. Designed for **low power consumption**, it requires no active cooling thanks to its high thermal efficiency, simplifying installation in tight spaces and enhancing long-term reliability.

Available with single- and dual-line AMS Dragster CMOS sensors in **4K, 8K and 16K resolutions**, with F-mount lens adapter and M72 thread.

Features

USB3.1 gen 2 interface

Up to 10 Gbps of bandwidth over a single USB3 Type-C cable for a faster data transmission and reduced latency.

CMOS technology

AMS Dragster CMOS sensors, color and monochrome, featuring 12-bit A/D converter, up to 16384 pixels, up to 95000 lines/s.

Going farther

NECTA X is compatible with new USB3 Active Optical cables, allowing you to reach longer distances with a single cable.

Versatile I/O

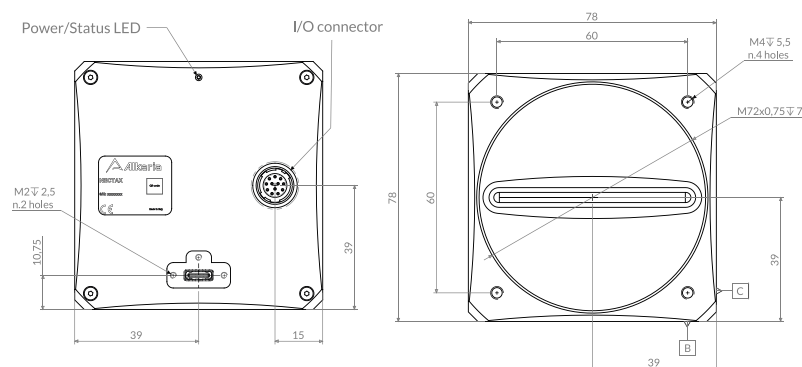
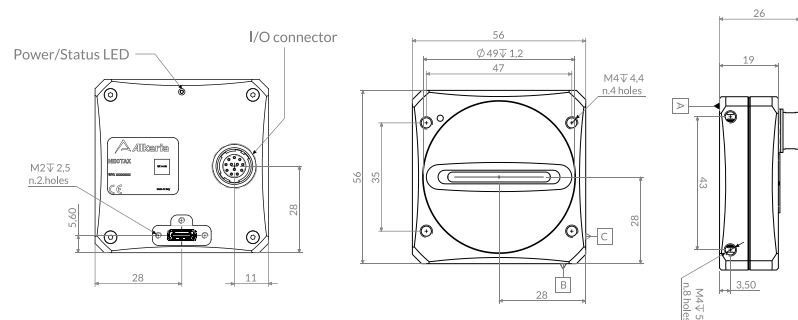
2 inputs, 2 outputs and 1 bidirectional I/O, for interfacing to outer world signals.

Smart triggering

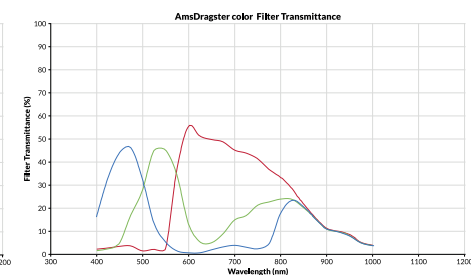
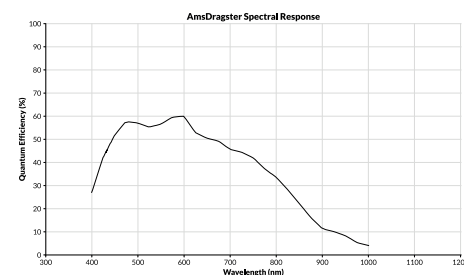
Choose from a variety of triggering mechanisms. Acquisition can be driven by I/O levels, signal edges and encoder position. Additionally, triggering signal frequencies can be internally converted to solve even the most challenging applications.



Mechanical specifications



Sensors specifications



	Sensor	Resolution	Pixel size	Line rate (max)	Color option	ADC	Lens adapter	Interface
NX4K2-7	AMS Dragster DR2X4K7	4K - 4096x2	7 x 7 μm^2	95 kHz	Mono	9/10/11/12 bits	F-mount	USB 3.1 Gen 2 (10 Gbps)
NX4K2-7C	AMS Dragster DR2X4K7 RGB	4K - 4096x2	7 x 7 μm^2	95 kHz	Color	9/10/11/12 bits	F-mount	USB 3.1 Gen 2 (10 Gbps)
NX8K-3	AMS Dragster DR8K3.5	8K - 8192x1	3,5 x 3,5 μm^2	95 kHz	Mono	9/10/11/12 bits	F-mount	USB 3.1 Gen 2 (10 Gbps)
NX8K-7	AMS Dragster DR8K7	8K - 8192x1	7 x 7 μm^2	95 kHz	Mono	9/10/11/12 bits	M72 thread	USB 3.1 Gen 2 (10 Gbps)
NX8K2-7	AMS Dragster DR2X8K7	8K - 8192x2	7 x 7 μm^2	47,6 kHz	Mono	9/10/11/12 bits	M72 thread	USB 3.1 Gen 2 (10 Gbps)
NX8K2-7C	AMS Dragster DR2X8K7 RGB	8K - 8192x2	7 x 7 μm^2	47,6 kHz	Color	9/10/11/12 bits	M72 thread	USB 3.1 Gen 2 (10 Gbps)
NX16K-3	AMS Dragster DR16K3.5	16K - 16384x1	3,5 x 3,5 μm^2	47,6 kHz	Mono	9/10/11/12 bits	M72 thread	USB 3.1 Gen 2 (10 Gbps)



NECTA series



NECTA S, the SWIR line-scan model in NECTA camera family, is capable of high-resolution acquisition in short-wave infrared bandwidth, ranging from 950 to 1700 nm.

This new SWIR camera can reach up to 40kHz line rate with 14bits A/D converter: its high-speed USB3 interface, an advanced I/O, together with a compact and rugged aluminum case, make NECTA S suitable for most demanding machine vision applications.

Sharing the robust platform of NECTA line-scan cameras, this camera provides powerful on-board user-controlled image processing.

NECTA S is specifically designed for those applications where infrared vision is crucial.

Features

InGaAs technology

NECTA S mounts InGaAs SWIR sensors, offering up to 1024 pixels resolution and 40 kHz rate through a 14 bits ADC.

SWIR

Working from 950 to 1700 nm, NECTA S can detect elements that are invisible to human eye. SWIR imaging can be useful to see through opaque materials like plastic or silicon, to reveal water, moisture or different chemical elements, to see through fog, smoke and dust.

USB3 interface

Up to 5 Gbps USB3 interface

Tiny rugged design

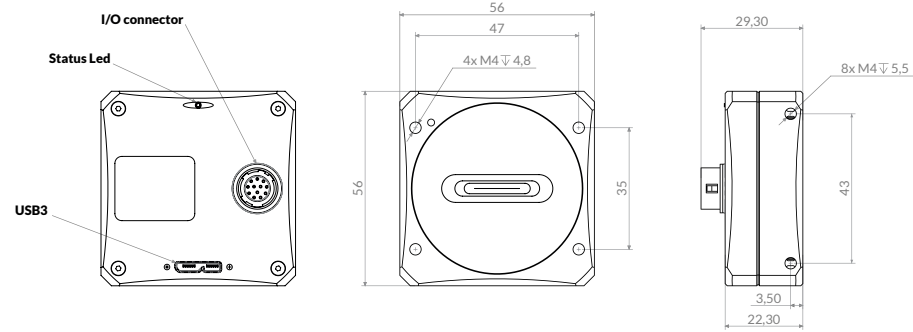
Small, ultra-lightweight, rugged aluminum case

Versatile I/O

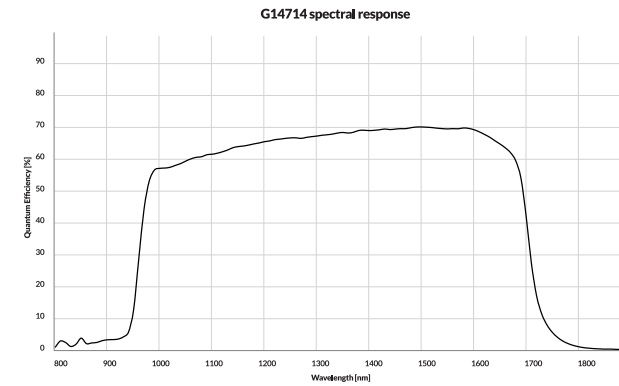
2 inputs, 2 outputs and 1 bidirectional I/O, for interfacing to outer world signals



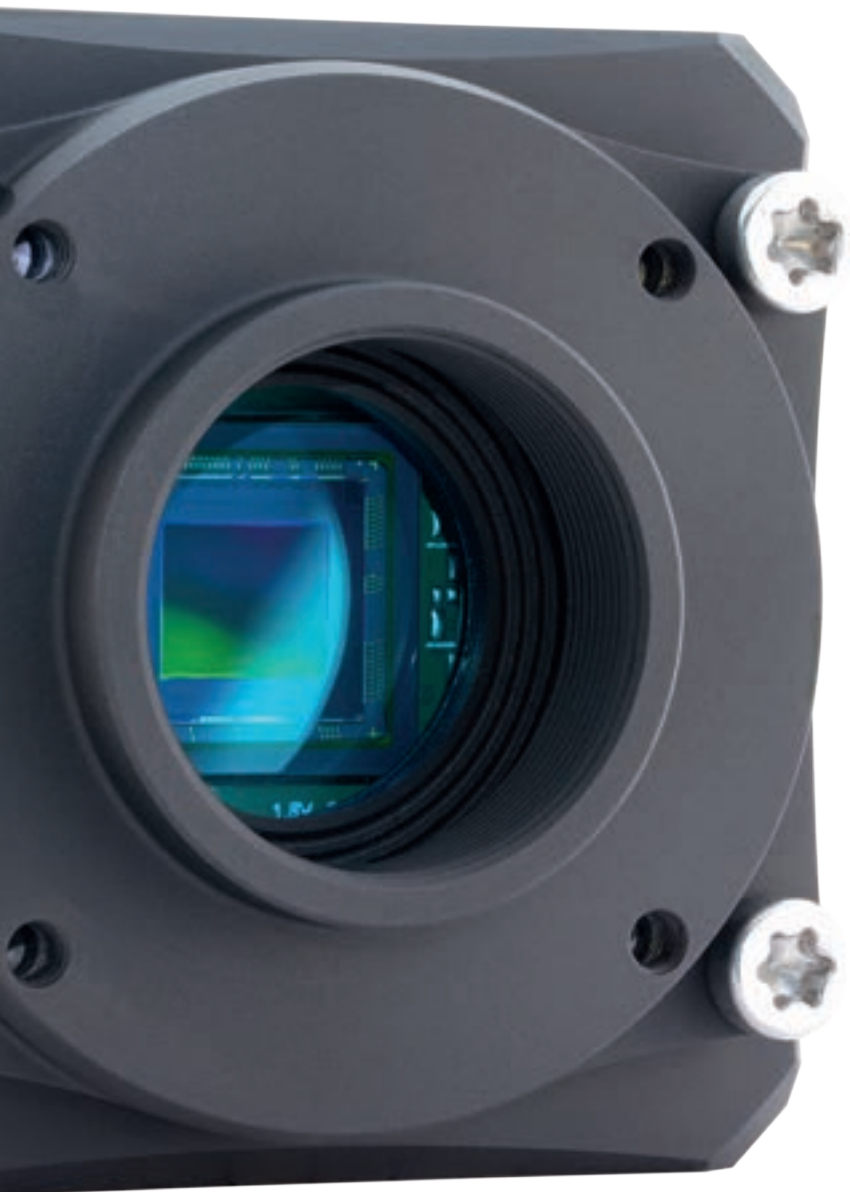
Mechanical specifications



Sensors specifications



	Sensor	Resolution	Pixel size	Line rate (max)	Color option	ADC	Interface
NS05K-25	Hamamatsu G14714-512DE	512x1	25 x 25 μm^2	40 kHz	SWIR	14 bits	USB 3.1 Gen 1
NS1K-12	Hamamatsu G14714-1024DK	1024x1	12.5 x 12.5 μm^2	40 kHz	SWIR	14 bits	USB 3.1 Gen 1



CELERA series

COLOR

BW

NIR

F mount

C mount

Advanced Sequencer

COGNEX COMPATIBLE

HALCON COMPATIBLE

GENICAM COMPATIBLE

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

Its dual-USB3 interface, ultra-fast acquisition rate, compact 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 available with both CMV and SONY IMX sensors in different resolutions and color modes. It provides powerful on-line user-controlled image processing with a control sequencing mechanism, allowing to set up 64 different video settings to be applied to a sequence of subsequent frames.

Features

dual-USB3 interface

Twice the bandwidth with double USB3 interface

Tiny rugged design

Small, ultra-lightweight, rugged aluminum case

Fast global-shutter CMOS technology

Global shutter CMOS sensors, featuring 12 bits A/D converter, allow a frame-rate up to 340 fps at full resolution

Triple Programmable LUTs

Allow easy color thresholding, filtering and calibration

Versatile I/O

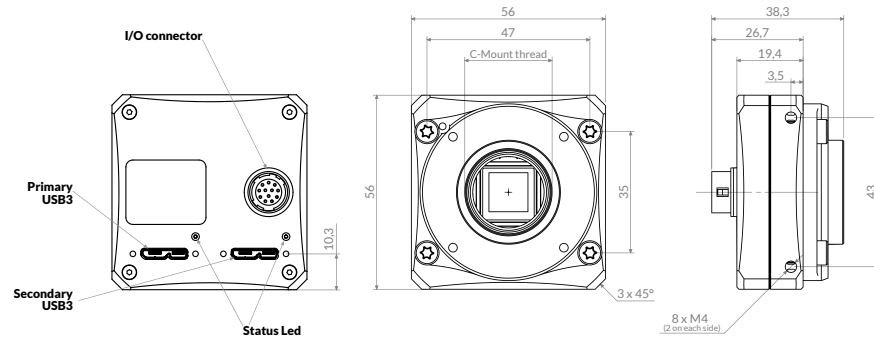
2 inputs and 2 outputs and 1 I/O, for interfacing to outer world signals

Advanced triggering

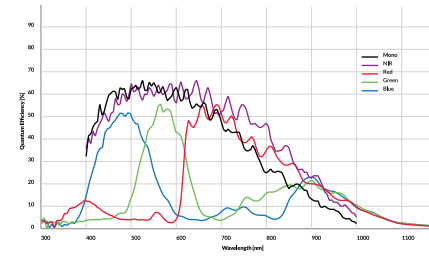
Sophisticated triggering mechanisms, allowing CELERA to adapt even to the most challenging applications



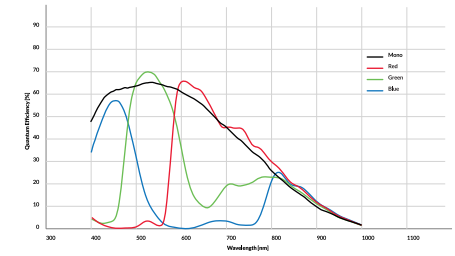
Mechanical specifications



Sensors specifications

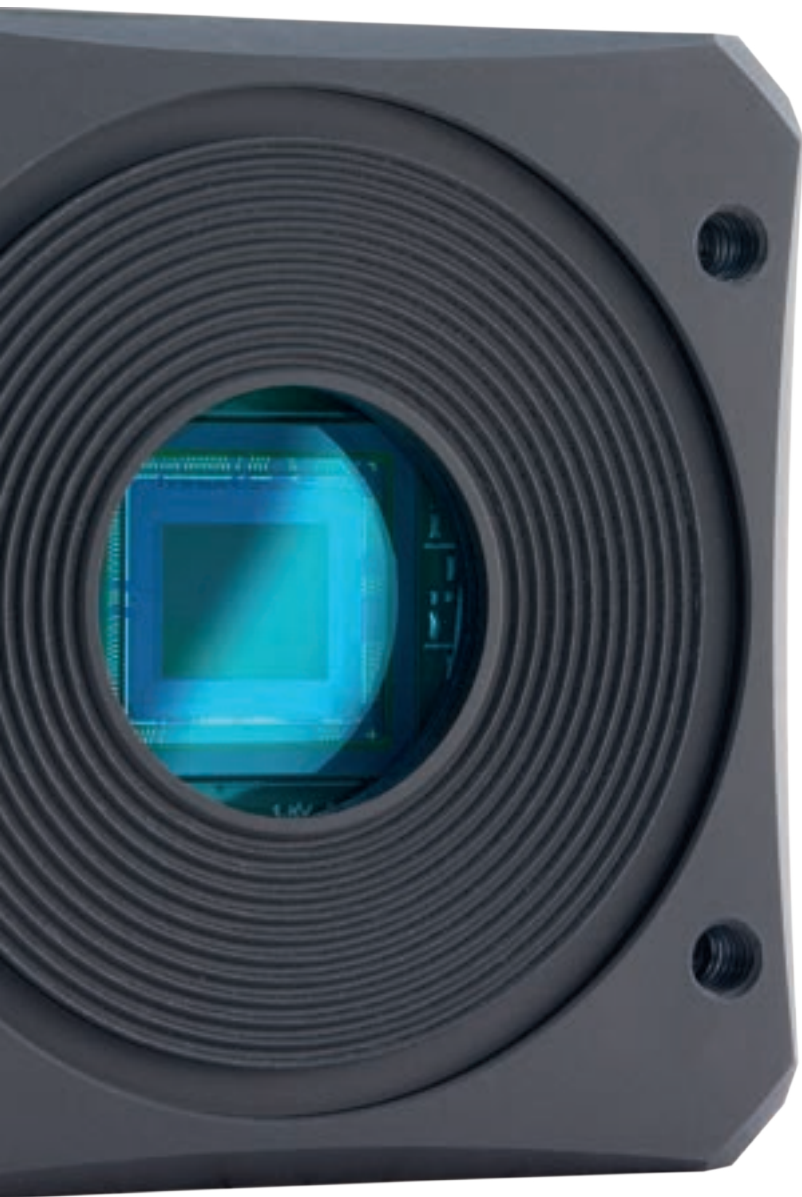


CMOSIS CMV series



SONY IMX series

	Sensor	Resolution	Pixel size	Frame rate (max)	Color option	ADC	Interface
C2K-M	AMS CMV2000	2 MP - 2048 × 1088	5.5 × 5.5 μm ²	337 fps	Mono	10/12 bits	dual-USB 3.1 Gen 1
C2K-C	AMS CMV2000	2 MP - 2048 × 1088	5.5 × 5.5 μm ²	174 fps	Color	10/12 bits	dual-USB 3.1 Gen 1
C2K-N	AMS CMV2000	2 MP - 2048 × 1088	5.5 × 5.5 μm ²	337 fps	NIR	10/12 bits	dual-USB 3.1 Gen 1
C4K-M	AMS CMV4000	4 MP - 2048 × 2048	5.5 × 5.5 μm ²	179 fps	Mono	10/12 bits	dual-USB 3.1 Gen 1
C4K-C	AMS CMV4000	4 MP - 2048 × 2048	5.5 × 5.5 μm ²	92 fps	Color	10/12 bits	dual-USB 3.1 Gen 1
C3S-M	SONY IMX 252	3 MP - 2064 × 1544	3.45 × 3.45 μm ²	216 fps	Mono	8/10/12 bits	dual-USB 3.1 Gen 1
C3S-C	SONY IMX 252	3 MP - 2064 × 1544	3.45 × 3.45 μm ²	120 fps	Color	8/10/12 bits	dual-USB 3.1 Gen 1
C5S-M	SONY IMX 250	5 MP - 2464 × 2056	3.45 × 3.45 μm ²	152 fps	Mono	8/10/12 bits	dual-USB 3.1 Gen 1
C5S-C	SONY IMX 250	5 MP - 2464 × 2056	3.45 × 3.45 μm ²	76 fps	Color	8/10/12 bits	dual-USB 3.1 Gen 1
C9SX-M	SONY IMX 255	9 MP - 4112 × 2176	3.45 × 3.45 μm ²	85 fps	Mono	8/10/12 bits	dual-USB 3.1 Gen 1
C9SX-C	SONY IMX 255	9 MP - 4112 × 2176	3.45 × 3.45 μm ²	42 fps	Color	8/10/12 bits	dual-USB 3.1 Gen 1
C12S-M	SONY IMX 304	12 MP - 4112 × 3004	3.45 × 3.45 μm ²	23 fps	Mono	12 bits	dual-USB 3.1 Gen 1
C12S-C	SONY IMX 304	12 MP - 4112 × 3004	3.45 × 3.45 μm ²	23 fps	Color	12 bits	dual-USB 3.1 Gen 1
C12SX-M	SONY IMX 253	12 MP - 4112 × 3004	3.45 × 3.45 μm ²	62 fps	Mono	8/10/12 bits	dual-USB 3.1 Gen 1
C12SX-C	SONY IMX 253	12 MP - 4112 × 3004	3.45 × 3.45 μm ²	31 fps	Color	8/10/12 bits	dual-USB 3.1 Gen 1



CELERA series



Alkeria developed CELERA P, a new camera model featuring a special polarization image sensor.

Thanks to its unique array of polarizer filters overlaid on top of the sensor's pixel array, CELERA P gets rid of all the external polarizing filters, combining the ease-of-use of the Alkeria USB3 cameras with the advanced capabilities of polarization imaging and unique FusionView feature.

Based on the dual-USB3 platform of CELERA cameras, CELERA P is capable of reaching up to 152 fps while processing something like ~200 million vectors per second. Thanks to its powerful FPGA architecture in fact, CELERA P can execute polarization detection directly on-board, without overloading the computer.

Features

Polarization image sensor

SONY Pregius IMX250MZR is a 5 megapixels global shutter sensor with unique polarization imaging capabilities.

FPGA architecture

Thanks to a powerful FPGA architecture, CELERA P is capable of reaching up to 152 fps while processing more than 200 million vectors per second, without overloading the computer.

Versatile I/O

2 inputs and 2 outputs and 1 I/O, for interfacing to outer world signals.

FusionView feature

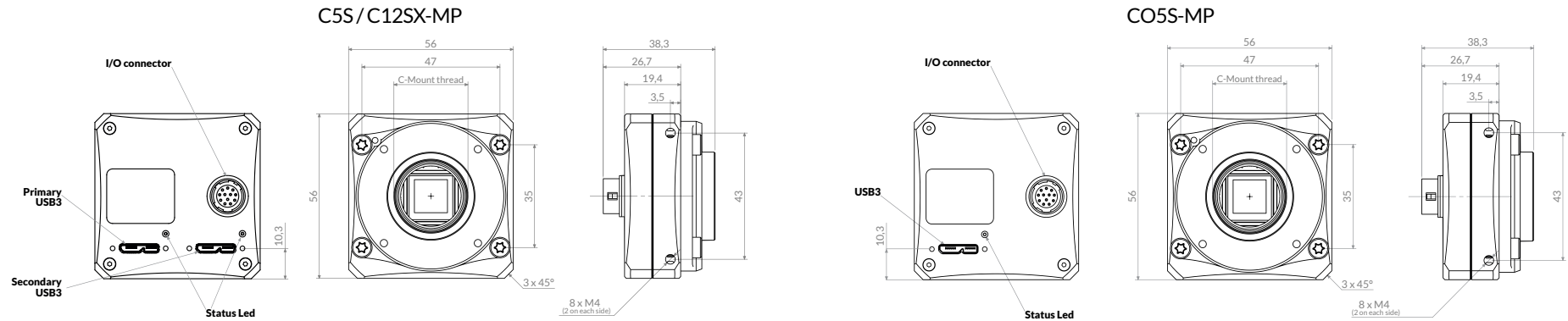
FusionView is a unique feature available only on CELERA P: it maps AoLP on the Hue component of the HSV color space and DoLP on the Saturation component, giving an intuitive preview of these properties of light.

Advanced triggering

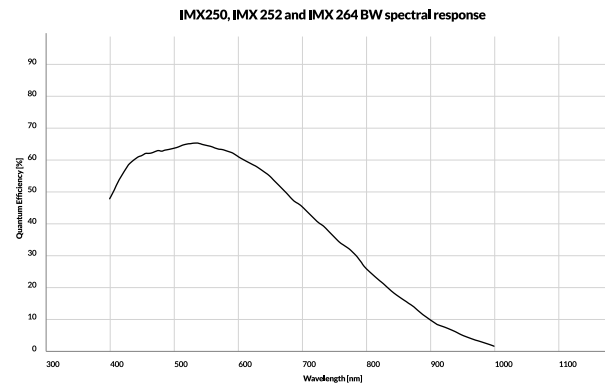
Sophisticated triggering mechanisms, allowing CELERA to adapt even to the most challenging applications



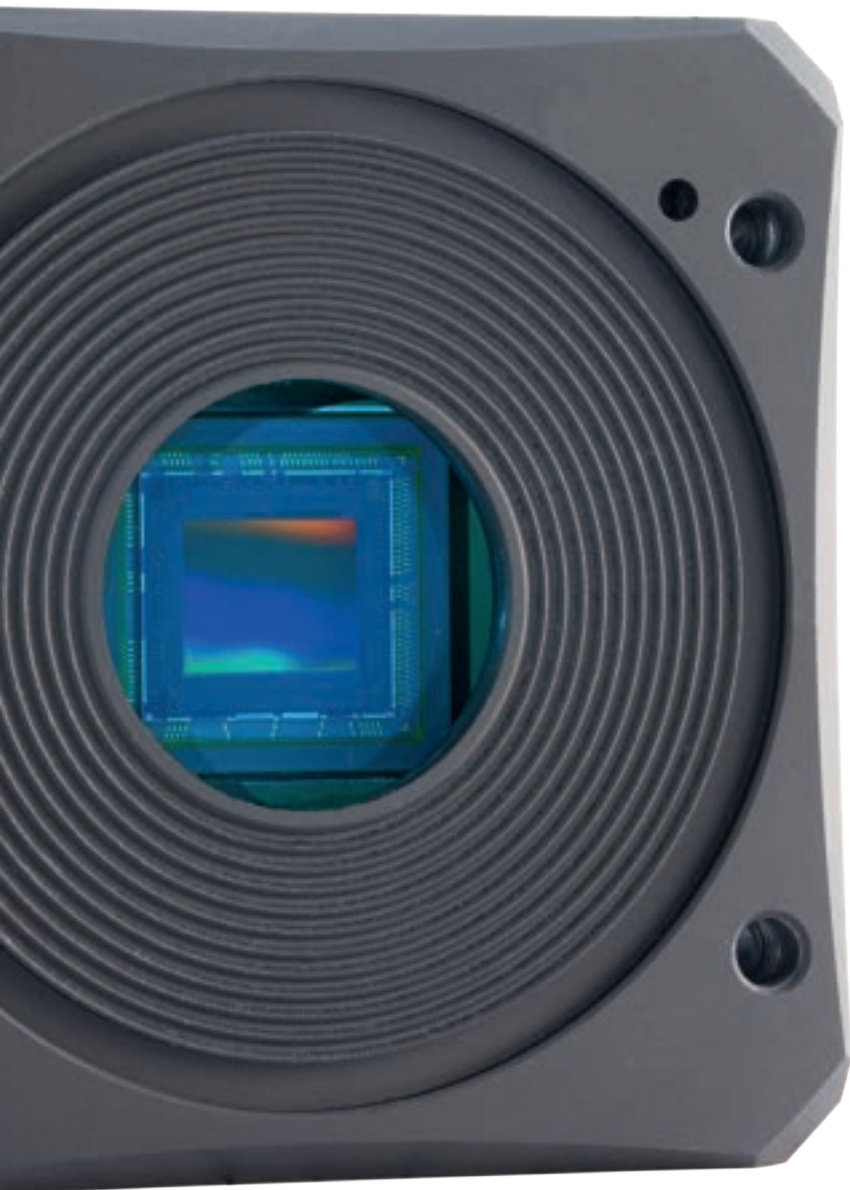
Mechanical specifications



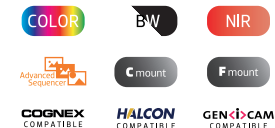
Sensors specifications



	Sensor	Resolution	Pixel size	Frame rate (max)	Color option	ADC	Interface
C5S-MP	SONY IMX 250 MZR	5 MP - 2464 × 2056	3.45 × 3.45 μm ²	152 fps	Mono Polarized	8/10/12 bits	dual-USB 3.1 Gen 1
CO5S-MP	SONY IMX 264 MZR	5 MP - 2464 × 2056	3.45 × 3.45 μm ²	35 fps	Mono Polarized	12 bits	USB 3.1 Gen 1
C12SX-MP	SONY IMX 253 MZR	12 MP - 4112 × 3008	3.45 × 3.45 μm ²	63 fps	Mono Polarized	8/10/12 bits	dual-USB 3.1 Gen 1



CELERA One series



CELERA One CMOS USB3 cameras provide high speed, extreme flexibility and quick system integration.

Its USB3 interface, fast acquisition rate, compact dimensions and rugged design make CELERA One cameras suitable for the most demanding applications: automated optical inspection, high performance sorting systems, industrial metrology, microscopy, medical diagnostics and machine vision.

CELERA One is available with both CMV and SONY IMX sensors in different resolutions and color mode. It provides powerful on-line user-controlled image processing with a control sequencing mechanism, allowing to set up 64 different video settings to be applied to a sequence of subsequent frames.

Features

USB3 interface

USB3 allows high performances, lower costs and ease of use

Tiny rugged design

Small, ultra-lightweight, rugged aluminum case

Fast global-shutter CMOS technology

Global shutter CMOS sensors, featuring 12 bits A/D converter, allow a frame-rate up to 170 fps at full resolution

Triple Programmable LUTs

Allow easy color thresholding, filtering and calibration

Versatile I/O

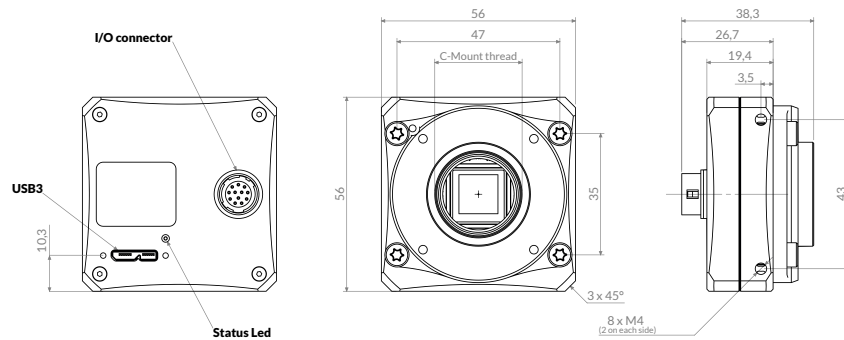
2 inputs and 2 outputs and 1 I/O, for interfacing to outer world signals

Advanced triggering

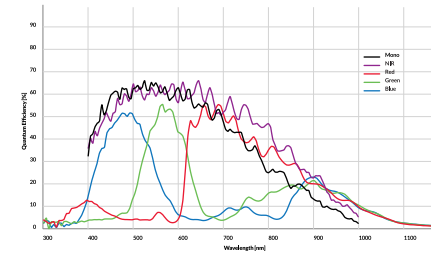
Sophisticated triggering mechanisms, allowing CELERA One to adapt even to the most challenging applications



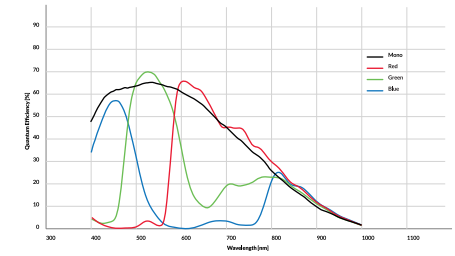
Mechanical specifications



Sensors specifications

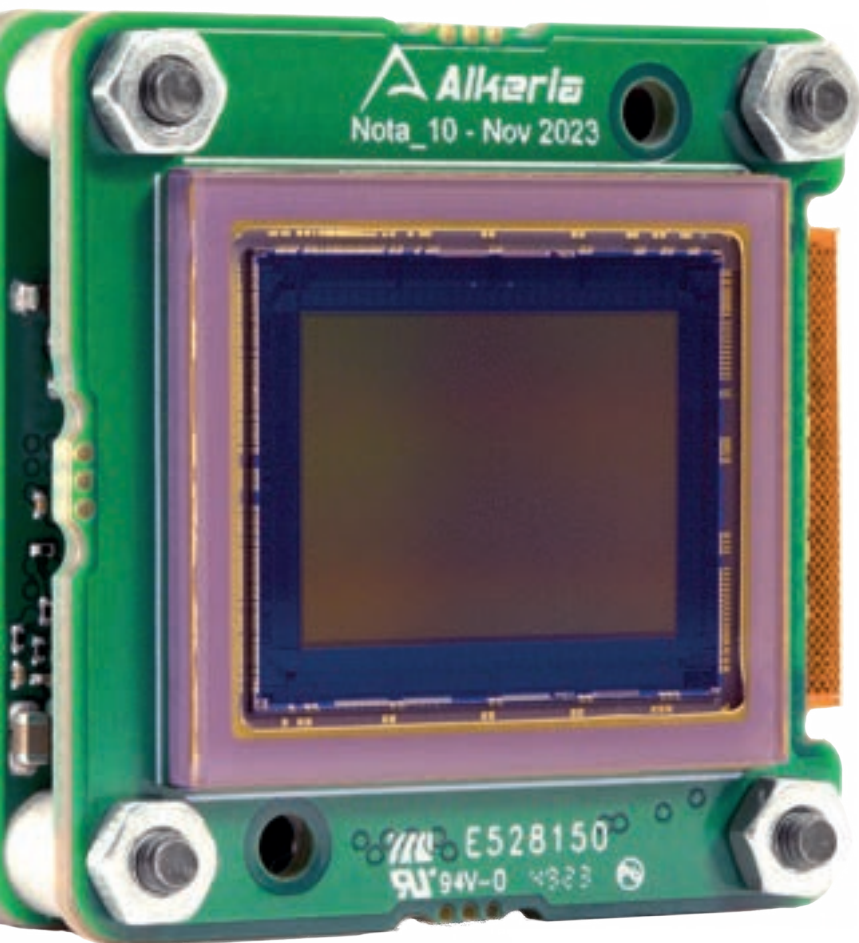


CMOSIS CMV series



SONY IMX series

	Sensor	Resolution	Pixel size	Frame rate (max)	Color option	ADC	Interface
CO2K-M	AMS CMV2000	2 MP - 2048 × 1088	5.5 × 5.5 μm ²	175 fps	Mono	10/12 bits	USB 3.1 Gen 1
CO2K-C	AMS CMV2000	2 MP - 2048 × 1088	5.5 × 5.5 μm ²	87 fps	Color	10/12 bits	USB 3.1 Gen 1
CO2K-N	AMS CMV2000	2 MP - 2048 × 1088	5.5 × 5.5 μm ²	175 fps	NIR	10/12 bits	USB 3.1 Gen 1
CO4K-M	AMS CMV4000	4 MP - 2048 × 2048	5.5 × 5.5 μm ²	92 fps	Mono	10/12 bits	USB 3.1 Gen 1
CO4K-C	AMS CMV4000	4 MP - 2048 × 2048	5.5 × 5.5 μm ²	46 fps	Color	10/12 bits	USB 3.1 Gen 1
CO5S-M	SONY IMX 264	5 MP - 2464 × 2056	3.45 × 3.45 μm ²	35 fps	Mono	12 bits	USB 3.1 Gen 1
CO5S-C	SONY IMX 264	5 MP - 2464 × 2056	3.45 × 3.45 μm ²	35 fps	Color	12 bits	USB 3.1 Gen 1
CO9S-M	SONY IMX 267	9 MP - 4112 × 2176	3.45 × 3.45 μm ²	32 fps	Mono	12 bits	USB 3.1 Gen 1
CO9S-C	SONY IMX 267	9 MP - 4112 × 2176	3.45 × 3.45 μm ²	21 fps	Color	12 bits	USB 3.1 Gen 1
CO12S-M	SONY IMX 304	12 MP - 4112 × 3004	3.45 × 3.45 μm ²	23 fps	Mono	12 bits	USB 3.1 Gen 1
CO12S-C	SONY IMX 304	12 MP - 4112 × 3004	3.45 × 3.45 μm ²	15 fps	Color	12 bits	USB 3.1 Gen 1



NOTA series



COGNEX
COMPATIBLE

HALCON
COMPATIBLE

GENICAM
COMPATIBLE

NOTA is the Alkeria area scan compact camera with a single-USB3 interface, designed to deliver top performance and flexibility.

It features a wide range of high-performance SONY Pregius™ global-shutter sensors, packed into a solid, compact, and cost-effective form factor.

NOTA is the perfect combination between the well-proven platform of CELERA One cameras, with extreme flexibility and quick system integration, and the affordability, ultracompact, and easy-to-integrate features of board-level cameras of ARIA series.

Indeed, NOTA is available both in a complete housing format and in a board-level format.

Features

USB3 interface

Up to 5 Gbps USB3 interface.

Compact and flexible design

Available in complete housing format with C-mount lens adapter or board level format.

Fast global-shutter CMOS technology

A wide range of SONY Pregius™ CMOS sensors with frame rate of up to 161 fps even at full resolution.

On-board image processing

ARIA performs on-board image processing, without loading your CPU with heavy calculations.

Versatile I/O

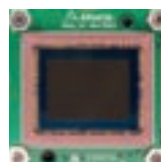
1 input and 1 output both opto-isolated and 3 general purpose I/O, for interfacing to outer world signals.

Smart triggering

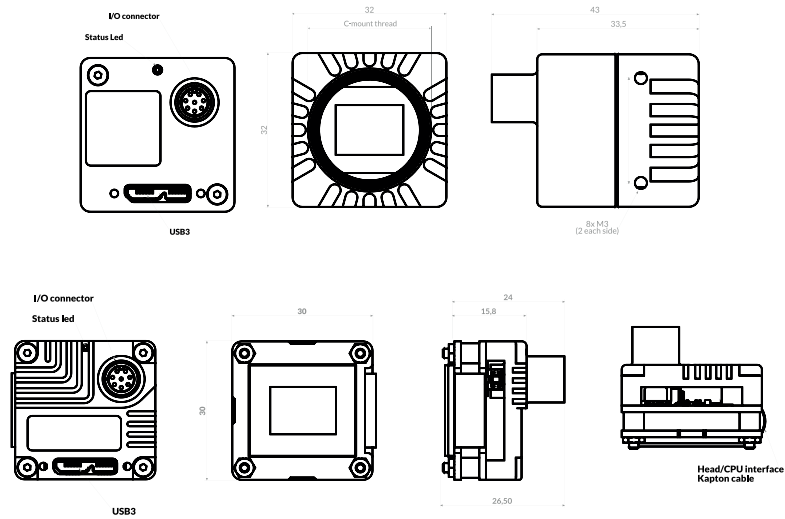
Sophisticated triggering mechanisms, allowing NOTA to fit even to the most challenging applications.

Triple Programmable LUTs

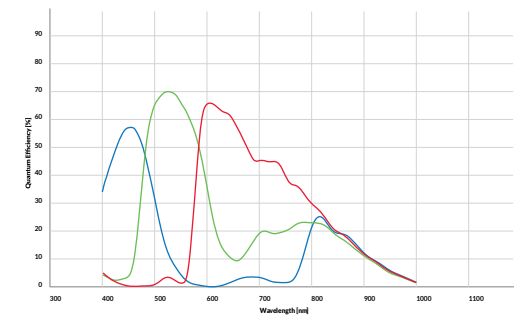
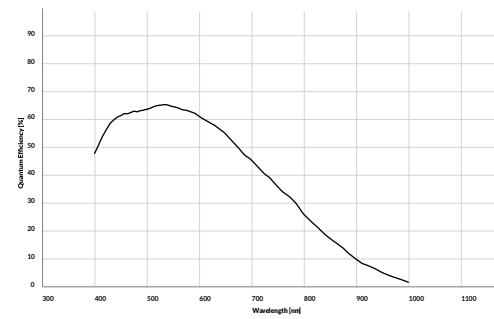
Allow easy color thresholding, filtering and calibration.



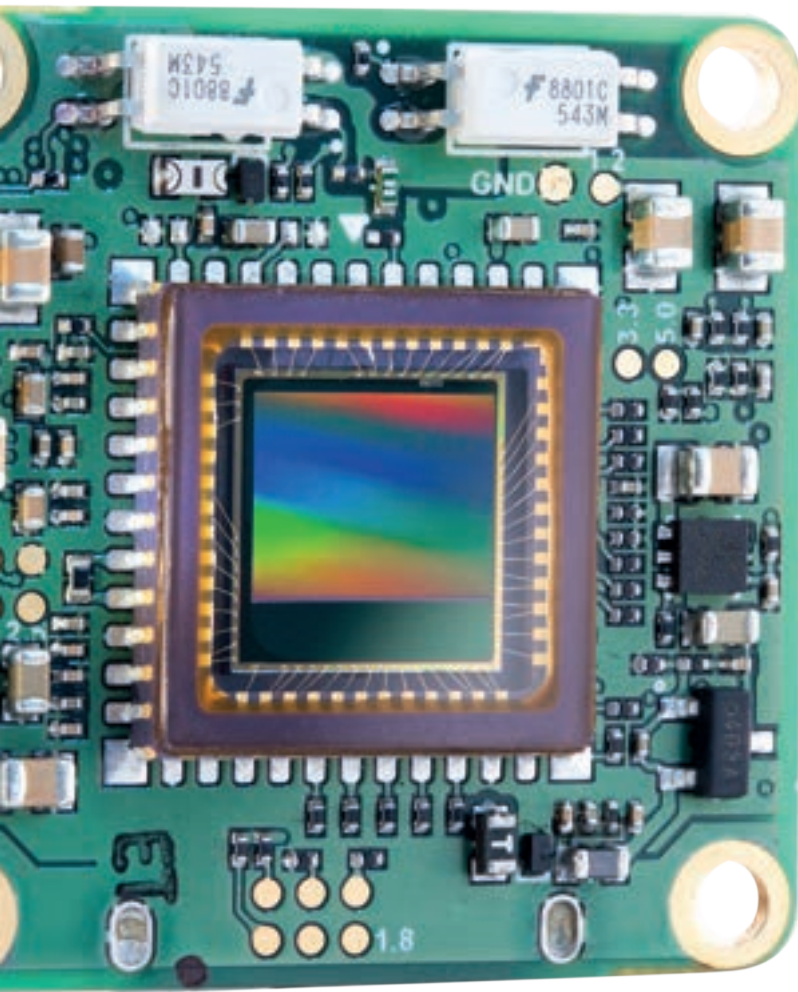
Mechanical specifications



Sensors specifications



	Sensor	Resolution	Pixel size	Frame rate (max)	Color option	ADC	Interface
T2S-M	SONY IMX 392	2 MP - 1936 x 1216	3.45 x 3.45 μm^2	161 fps	Mono	8/10/12 bits	USB 3.1 Gen 1
T2S-C	SONY IMX 392	2 MP - 1936 x 1216	3.45 x 3.45 μm^2	80 fps	Color	8/10/12 bits	USB 3.1 Gen 1
T3S-M	SONY IMX 265	3 MP - 2064 x 1544	3.45 x 3.45 μm^2	55 fps	Mono	12 bits	USB 3.1 Gen 1
T3S-C	SONY IMX 265	3 MP - 2064 x 1544	3.45 x 3.45 μm^2	55 fps	Color	12 bits	USB 3.1 Gen 1
T5S-M	SONY IMX 264	5 MP - 2464 x 2056	3.45 x 3.45 μm^2	35 fps	Mono	12 bits	USB 3.1 Gen 1
T5S-C	SONY IMX 264	5 MP - 2464 x 2056	3.45 x 3.45 μm^2	35 fps	Color	12 bits	USB 3.1 Gen 1
T5SX-M	SONY IMX 250	5 MP - 2646 x 2056	3.45 x 3.45 μm^2	76 fps	Mono	8/10/12 bits	USB 3.1 Gen 1
T9S-M	SONY IMX 267	9MP - 4112 x 2176	3.45 x 3.45 μm^2	32 fps	Mono	12 bits	USB 3.1 Gen 1
T9S-C	SONY IMX 267	9MP - 4112 x 2176	3.45 x 3.45 μm^2	21 fps	Color	12 bits	USB 3.1 Gen 1
T12S-M	SONY IMX 304	12 MP - 4112 x 3004	3.45 x 3.45 μm^2	23 fps	Mono	12 bits	USB 3.1 Gen 1
T12S-C	SONY IMX 304	12 MP - 4112 x 3004	3.45 x 3.45 μm^2	15 fps	Color	12 bits	USB 3.1 Gen 1



ARIA series

COLOR

BW

NIR

Light & 5g

C mount

COGNEX COMPATIBLE

S mount

HALCON COMPATIBLE

Complete housing

GENICAM COMPATIBLE

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

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. Choose between the most common and requested sensors, get all the benefits of USB3 interface and Alkeria's smart I/O.

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. The quality and premium features of Alkeria cameras in a board level and convenient format.

Features

USB3 interface

USB3 allows high performances, lower costs and ease of use

Compact, light and versatile

Available in board level format or completed with C-mount, S-mount adapters or a complete casing.

Fast global-shutter CMOS technology

Global shutter CMOS sensors: e2V Sapphire and Ruby series and SONY Pregius™ IMX series

On-board image processing

ARIA performs on-board image processing, without loading your CPU with heavy calculation

Versatile I/O

1 opto-isolated input and 1 output and 2 general purpose I/O, for interfacing to outer world signals

Smart triggering

Sophisticated triggering mechanisms, allowing ARIA to fit even to the most challenging applications

Custom casing

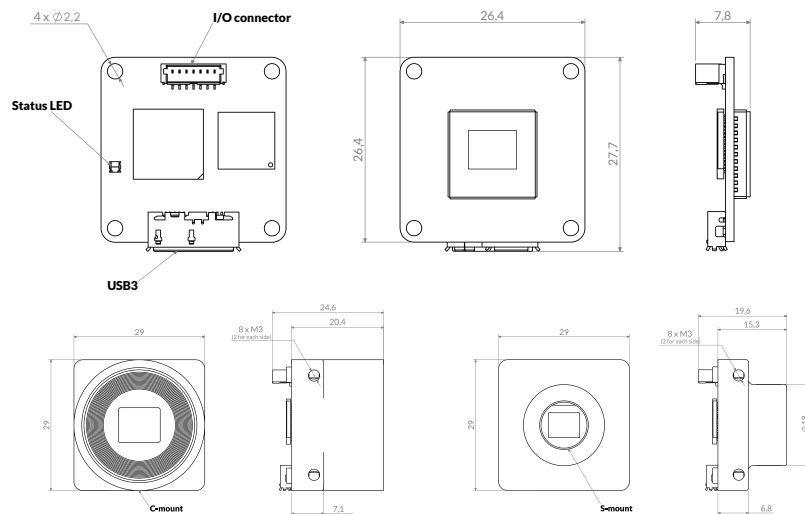
ARIA allows you to design and build your very own case, adapting it to the most special projects.

Complete housing

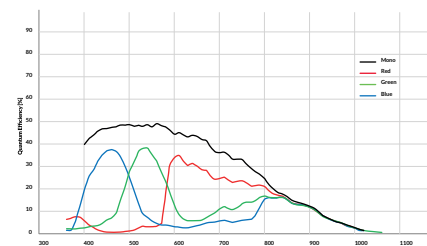
ARIA can be equipped with a complete casing, entirely made in anodized aluminum, to protect it from external environment.



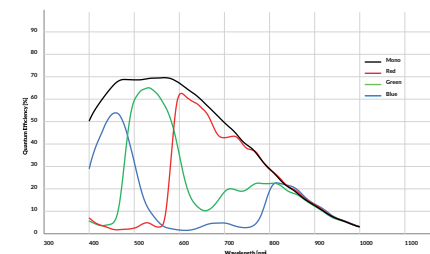
Mechanical specifications



Sensors specifications

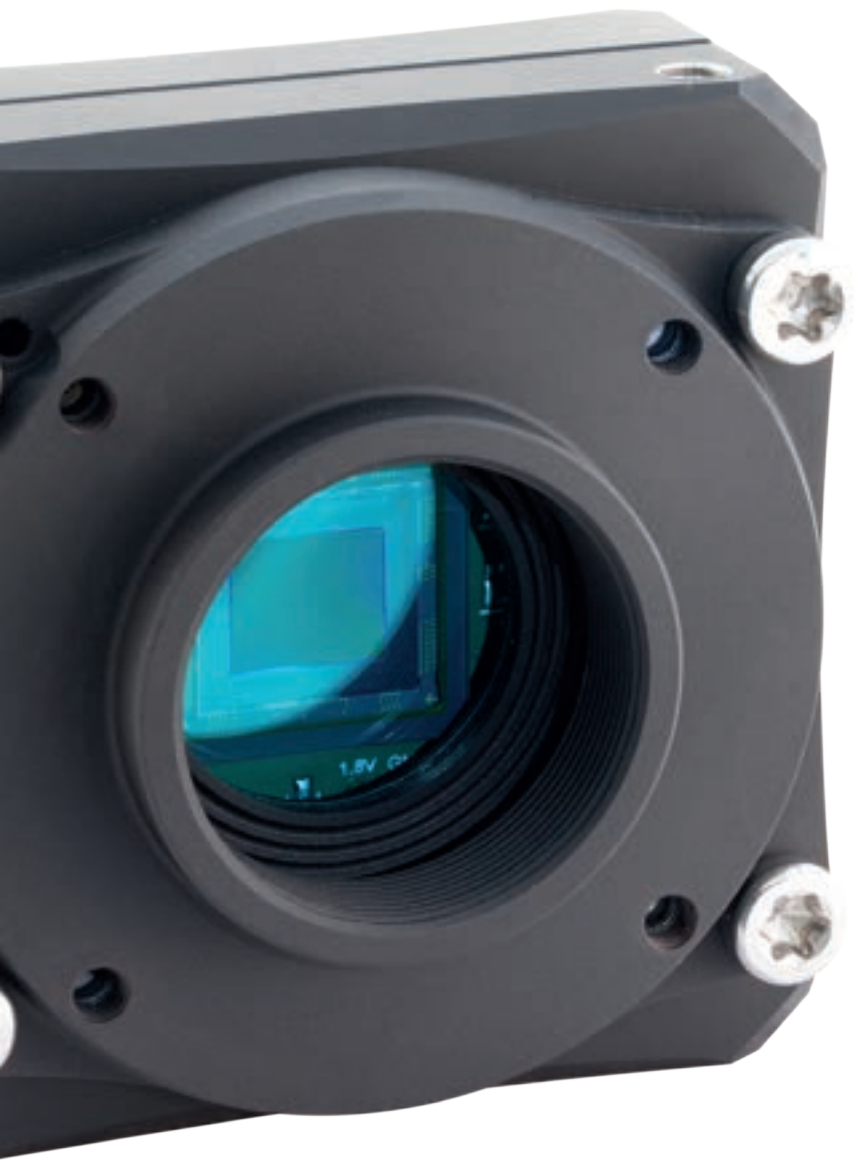


e2V series



SONY IMX series

	Sensor	Resolution	Pixel size	Frame rate (max)	Color option	ADC	Interface
A1ES-M	Teledyne e2v EV76C560	1,3 MP - 1288 x 1032	5.3 x 5.3 μm^2	62 fps	Mono	10 bits	USB 3.1 Gen 1
A1ES-C	Teledyne e2v EV76C560	1,3 MP - 1288 x 1032	5.3 x 5.3 μm^2	62 fps	Color	10 bits	USB 3.1 Gen 1
A1ER-M	Teledyne e2v EV76C661	1,3 MP - 1288 x 1032	5.3 x 5.3 μm^2	62 fps	Mono (NIR)	10 bits	USB 3.1 Gen 1
A1ER-C	Teledyne e2v EV76C661	1,3 MP - 1288 x 1032	5.3 x 5.3 μm^2	62 fps	Color	10 bits	USB 3.1 Gen 1
A2ES-M	Teledyne e2v EV76C570	2 MP - 1608 x 1208	4.5 x 4.5 μm^2	51 fps	Mono	10 bits	USB 3.1 Gen 1
A2ES-C	Teledyne e2v EV76C570	2 MP - 1608 x 1208	4.5 x 4.5 μm^2	51 fps	Color	10 bits	USB 3.1 Gen 1
A04S-M	SONY IMX 287	0,4 MP - 728 x 544	6.9 x 6.9 μm^2	522 fps	Mono	8/10/12 bits	USB 3.1 Gen 1
A04S-C	SONY IMX 287	0,4 MP - 728 x 544	6.9 x 6.9 μm^2	458 fps	Color	8/10/12 bits	USB 3.1 Gen 1
A15S-M	SONY IMX 273	1,5 MP - 1456 x 1088	3.45 x 3.45 μm^2	237 fps	Mono	8/10/12 bits	USB 3.1 Gen 1
A15S-C	SONY IMX 273	1,5 MP - 1456 x 1088	3.45 x 3.45 μm^2	118 fps	Color	8/10/12 bits	USB 3.1 Gen 1



Profilometry



COGNEX
COMPATIBLE

HALCON
COMPATIBLE

GENICAM
COMPATIBLE

Thanks to a dedicated algorithm and a state-of-the-art FPGA technology, Alkeria cameras can define and extract the line position in every column of the acquired frame, with sub-pixel precision.

Profilometer extension enables on-camera acceleration of the line position detection algorithm. These cameras can extract and calculate profile coordinates by themselves, greatly reducing the amount of data sent through the USB3 interface.

Our system relies on the CELERA, CELERA One and ARIA well-known camera series: with up to 4112 pixels per profile resolution and an acquisition speed up to 2.62 kHz (on 128 rows), you can easily find the perfect fit for every measurement application.

Features

Dedicated on-board processing

Our cameras can extract and calculate profile coordinates by themselves, greatly reducing the amount of data sent through the USB3 interface.

Powerful platform

Based on the robust and flexible platform our standard cameras, you can get all the quality of Alkeria cameras, along with all brand new profilometer functionalities.

USB3 interface

Up to 5 Gbps USB3 interface allows easy interface to your PC, eliminating expensive frame-grabbers and bulky cables while keeping highest performances.

Frame combiner feature

Thanks to the Frame Combiner feature it is possible to stack multiple profiles into one single frame: this way data transfer is optimized, in order to preserve processing power for user's application.

Tiny rugged design

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



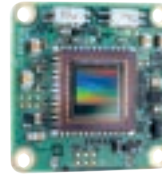
Camera line-up



CELERA
C12SX-PRF
C5S-PRF



CELERA One
CO2K-PRF



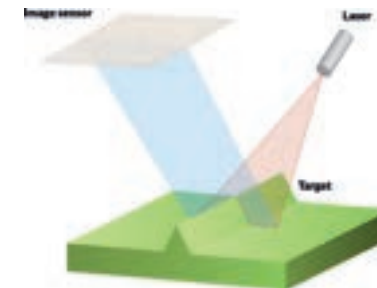
ARIA
A15S-PRF

How it works

In a laser triangulation measurement setup, a laser line is projected onto the entire surface of an object passing through the inspection area. Then, a CMOS camera placed with a predetermined angle, acquires the shape of the laser line reflected from the object. From this shape it is possible to measure the target profile.

Thanks to a dedicated algorithm and our state-of-the-art FPGA technology, Alkeria cameras can define and extract the line position in every column of the acquired frame, with sub-pixel precision.

In particular, the Profilometer extension enables on-camera acceleration of the line position detection algorithm. Our cameras can extract and calculate profile coordinates by themselves, greatly reducing the amount of data sent through the USB3 interface. In this way, you can easily reach maximum sensor frame rate and collect only the data useful for the measurement.



	Sensor	Resolution	Pixel size	Profile speed (128 rows)	Color option	ADC	Interface
C12SX-PRF	SONY IMX 253	12 MP - 4112 x 3004	3.45 x 3.45 μm^2	1.04 kHz	Mono	8/10/12 bits	dual-USB 3.1 Gen 1
C5S-PRF	SONY IMX 250	5 MP - 2464 x 2056	3.45 x 3.45 μm^2	1.89 kHz	Mono	8/10/12 bits	dual-USB 3.1 Gen 1
CO2K-PRF	AMS CMV2000	2 MP - 2048 x 1088	5.5 x 5.5 μm^2	2.62 kHz	Mono	10/12 bits	USB 3.1 Gen 1
A15S-PRF	SONY IMX 273	1,5 MP - 1456 x 1088	3.45 x 3.45 μm^2	1.57 kHz	Mono	8/10/12 bits	USB 3.1 Gen 1

02 Accessories

Industrial grade accessories for our cameras

Lens adapters

When it comes to lenses, making the right choice is essential to get the most out of your vision system. There are many lenses currently on the market, with different specifications and price levels: every application needs its very own lens.

We provide our customers with specific lens adapters, perfectly fitting our cameras. Machined from solid aluminum, produced with high precision processes, our lens adapters are perfectly compatible with all the F, C and S-mount optics, allowing you to choose the best lens for your application.



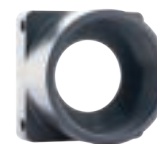
NAD-F
F-MOUNT
LENS ADAPTER

For F-mount (Nikon) lenses, fits perfectly your NECTA, CELERA or CELERA One cameras.



NAD-C
C-MOUNT
LENS ADAPTER

For C-mount lenses, fits perfectly your NECTA, CELERA or CELERA One cameras.



AAD-C
C-MOUNT
LENS ADAPTER

For C-mount lenses, specifically designed to fit ARIA cameras.



AAD-S
S-MOUNT
LENS ADAPTER

For S-mount lenses, specifically designed to fit ARIA cameras.

- NOTA comes equipped with a C-mount lens thread as part of its full-housing format.
- CELERA and CELERA One are provided by standard with a C-mount lens adapter. You can always require an F-mount lens adapter for these cameras.
- NECTA camera can be fitted with both C and F-mount lens adapters. However, using C-mount lenses on certain models could bring some limitation in sensor use. To know more, please check the compatibility chart on our website.



Interfacing Cables

I/O cables

Specifically designed for Alkeria camera, these cables allow you to capture all signals from your setting. We can provide you with industrial-grade 12 pin Hirose to open wires I/O cables.

USB3 cables

To get the best performance out of your camera, we recommend to use high-end USB3 cable, carefully chosen to ensure an high-speed data link between camera and computer.

How to choose a suitable USB3 cable

Not all cables are the same

USB cameras are powered through the USB cable, eliminating the need for an external power supply. However, since USB is designed for quick and easy connections/disconnections, standard connectors may not keep cables firmly enough to withstand heavy vibrations encountered in industrial applications.

Over time, standard connectors may loosen due to vibration or movement, leading to intermittent connectivity or data loss. To ensure uninterrupted operation, all Alkeria cameras are equipped with USB screw-lock connectors for a secure, industrial-grade link. If the cable is subjected to repeated stress, it is also recommended to adopt flexible chain-specific cables.

To always ensure top performances, we can provide you with industrial-grade USB3 cables, specifically tested with our cameras: these have an optimal cable section, designed to give the right amount of power to the camera and ensure maximum bandwidth for data transfer, avoiding data loss. These cables are shielded, in order to improve EMI/RFI performance.

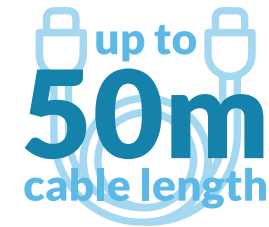
We recommend to always use our cables, to get best performances from our cameras.



USB3 Optical cables

Active optical cable technology pushes USB3 connections farther than ever.

Thanks to dedicated optoelectronic transducers, integrated directly into cable connectors, this new type of cables ensure faster, **longer-range communication with minimal interference** by converting USB signals into light pulses.



Unlike standard USB3 passive cables, which are limited to 10 meters due to signal degradation, optical USB3 cables maintain a **full 10 Gbps bandwidth** over distances of **50 meters or more without any performance loss**.

What's more, they still provide power to your camera, making them ideal for industrial setups where distance and data integrity are crucial.

While GigE offers long-range connectivity, it has lower bandwidth than USB3 and requires additional network infrastructure. CoaXPress and Camera Link, on the other hand, provide high-speed data transmission, but they require specialized frame grabbers leading to higher costs and poor flexibility in terms of cabling and overall system integration.

When paired with Alkeria cameras, optical USB3 cables offer ideal balance between **high-speed transmission** over long distances and **excellent EMI immunity**. This makes them an ideal choice for demanding machine vision applications.

Features comparison

	Max distance	Max bandwidth	Cost	Additional HW	Drag-chain
Optical USB3	50 m	10 Gbps	€€	-	●
Copper USB3	10 m	10 Gbps	€	-	○
GigE	100 m	1 Gbps	€	Switch	○
10GigE	100 m	10 Gbps	€€	Switch, interface adapters	○
CoaxPress	40 m	12,5 Gbps	€€€	Frame grabber	-
Camera Link	10 m	6,8 Gbps	€€€	Frame grabber	-

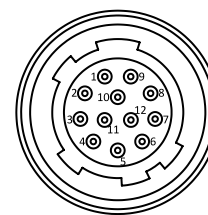
I/O cables

	Type	Length	Connectors	Compatibility	Note
NIO-3	Shielded I/O cable	3 m	12 pin Hirose / open	N - C - Co	6 twisted pairs + shield
NIO-5	Shielded I/O cable	5 m	12 pin Hirose / open	N - C - Co	6 twisted pairs + shield
NIO-10	Shielded I/O cable	10 m	12 pin Hirose / open	N - C - Co	6 twisted pairs + shield
TIO-1M5	Shielded I/O cable	1,5 m	8 pin Hirose / open	T	4 twisted pairs + shield
TIO-3	Shielded I/O cable	3 m	8 pin Hirose / open	T	4 twisted pairs + shield
TIO-5	Shielded I/O cable	5 m	8 pin Hirose / open	T	4 twisted pairs + shield
TIO-10	Shielded I/O cable	10 m	8 pin Hirose / open	T	4 twisted pairs + shield
AIO-03	Open wires I/O cable	0,3 m	MOLEX male connector / open	A	7 wires

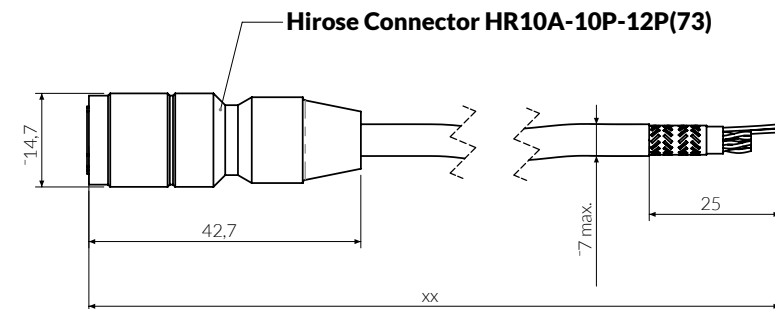
N: NECTA | C: CELERA | Co: CELERA One | T: NOTA | A: ARIA

NIO-x

Shielded I/O cable, 12pin Hirose plug to open wires. Available lengths: 3 / 5 / 10 m.



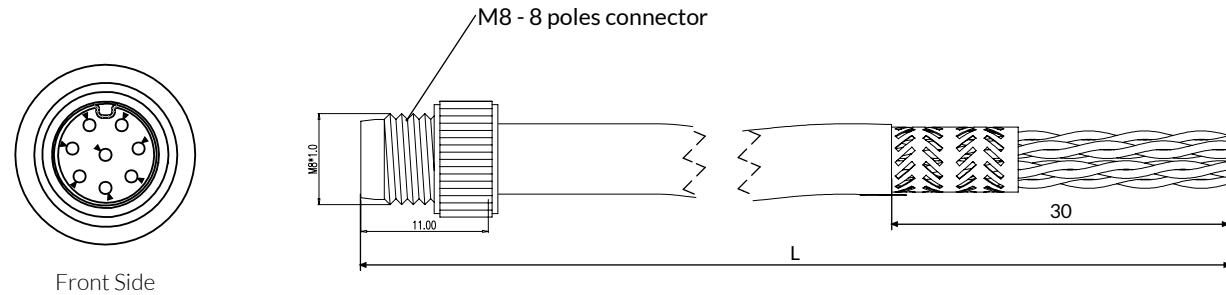
Front Side



"x" in product names refers to cable length. Different cable lengths have specific part number.

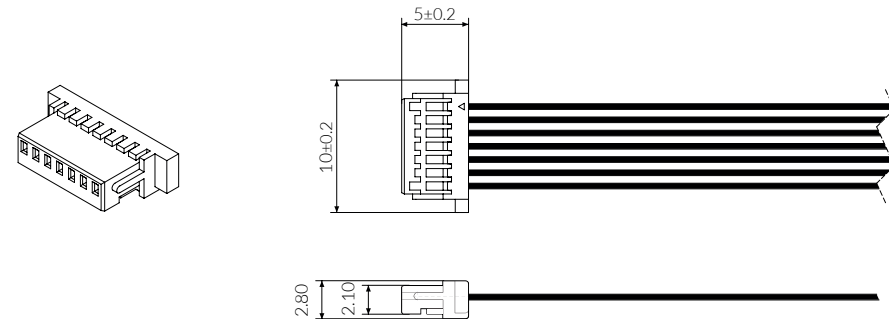
TIO-X

Shielded I/O cable for NOTA cameras, 8pin Hirose plug to open wires. Available lengths: 1,5 / 3 / 5 / 10 m.



AIO-03

I/O cable for ARIA cameras, MOLEX male connector to open wires. Available lengths: 0,3 m.



"x" in product names refers to cable length. Different cable lengths have specific part number.

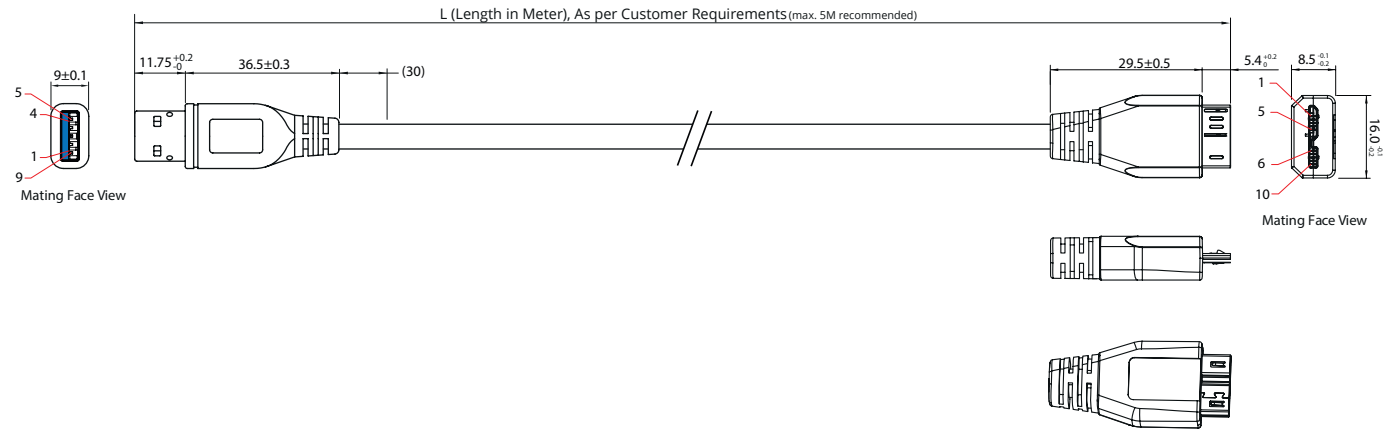
USB3 cables

	Type	Length	OD Ø	Connectors	Gender	Screws	Chain
CBL-USB3-AUB-MM-2M0	USB 3.1 Gen 1 copper cable	2 m	6,2 mm	A / MicroB	Male / Male	∅○	×
CBL-USB3-AUB-MM-3M0	USB 3.1 Gen 1 copper cable	3 m	6,2 mm	A / MicroB	Male / Male	∅○	×
CBL-USB3-AUB-MM-5M0	USB 3.1 Gen 1 copper cable	5 m	6,2 mm	A / MicroB	Male / Male	∅○	×
CBL-USB3-AUBS-MM-1M0	USB 3.1 Gen 1 copper cable	1 m	8,0 mm	A / MicroB	Male / Male	∅●	×
CBL-USB3-AUBS-MM-3M0	USB 3.1 Gen 1 copper cable	3 m	8,0 mm	A / MicroB	Male / Male	∅●	×
CBL-USB3-AUBS-MM-5M0	USB 3.1 Gen 1 copper cable	5 m	8,0 mm	A / MicroB	Male / Male	∅●	×
CBL-USB3-AUBS-MM-8M0	USB 3.1 Gen 1 copper cable	8 m	8,0 mm	A / MicroB	Male / Male	∅●	×
CBL-POU5-ASUBS-10-E	Passive USB 3.1 Gen 1 optical cable	10 m	4,8 mm	A / MicroB	Male / Male	● / ●	✓
CBL-AOU5-AUBS-10-E	Active USB 3.1 Gen 1 optical cable	10 m	4,0 mm	A / MicroB	Male / Male	∅●	✓
CBL-AOU5-AUBS-20-E	Active USB 3.1 Gen 1 optical cable	20 m	4,0 mm	A / MicroB	Male / Male	∅●	✓
CBL-AOU5-AUBS-30-E	Active USB 3.1 Gen 1 optical cable	30 m	4,0 mm	A / MicroB	Male / Male	∅●	✓
CBL-AOU5-AUBS-40-E	Active USB 3.1 Gen 1 optical cable	40 m	4,0 mm	A / MicroB	Male / Male	∅●	✓
CBL-AOU5-AUBS-50-E	Active USB 3.1 Gen 1 optical cable	50 m	4,0 mm	A / MicroB	Male / Male	∅●	✓
CBL-U10-CCS-3-A	USB 3.1 Gen 2 copper cable	3 m	6,2 mm	C / C	Male / Male	∅●	×
CBL-U10-CSCS-3-A	USB 3.1 Gen 2 copper cable	3 m	6,2 mm	C / C	Male / Male	● / ●	×
CBL-POU10-CSCS-5-A	Passive USB 3.1 Gen 2 optical cable	5 m	5,8 mm	C / C	Male / Male	● / ●	✓
CBL-POU10-CSCS-10-A	Passive USB 3.1 Gen 2 optical cable	10 m	5,8 mm	C / C	Male / Male	● / ●	✓
CBL-POU10-CCS-5-E	Passive USB 3.1 Gen 2 optical cable	5 m	6,5 mm	C / C	Male / Male	∅●	×
CBL-POU10-CCS-10-E	Passive USB 3.1 Gen 2 optical cable	10 m	6,5 mm	C / C	Male / Male	∅●	×
CBL-POU10-ACS-5-E	Passive USB 3.1 Gen 2 optical cable	5 m	4,8 mm	A / C	Male / Male	∅●	✓

● : connector with screws | ∅ : connector without screws

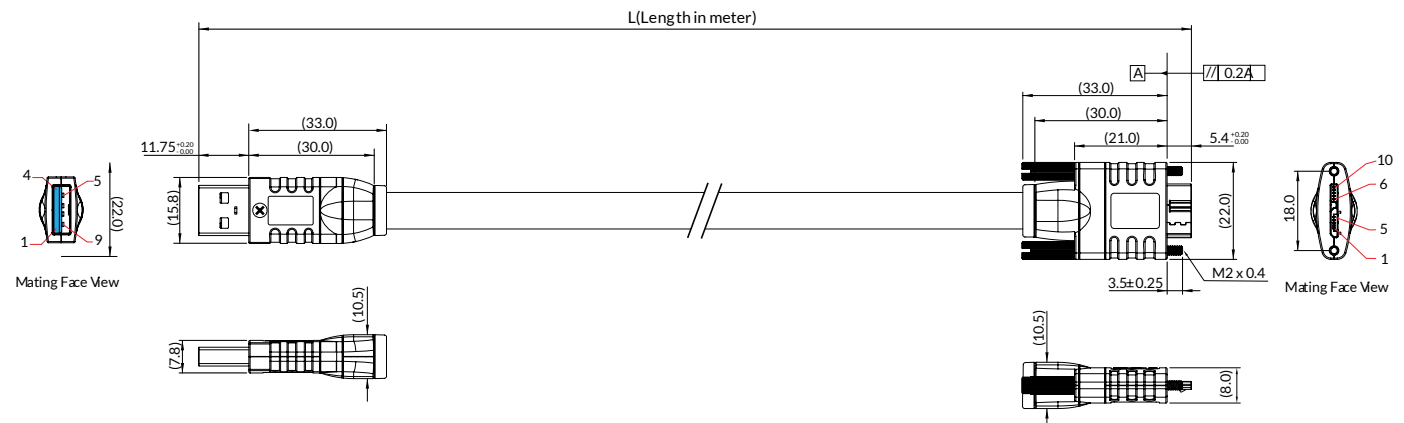
CBL-USB3-AUB-MM-XM0

USB 3.1 Gen 1 copper cable, A plug to Micro-B plug, without locking screws. Available lengths: 2 / 3 / 5 m. For board level cameras only.



CBL-USB3-AUBS-MM-XM0

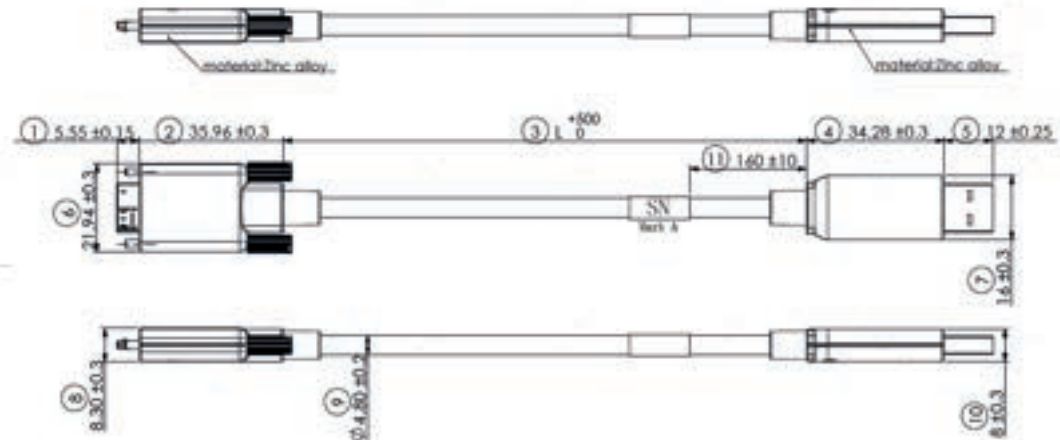
USB 3.1 Gen 1 copper cable, A plug to Micro-B plug, with locking screws. Available lengths: 1 / 3 / 5 / 8 m.



"x" in product names refers to cable length. Different cable lengths have specific part number.

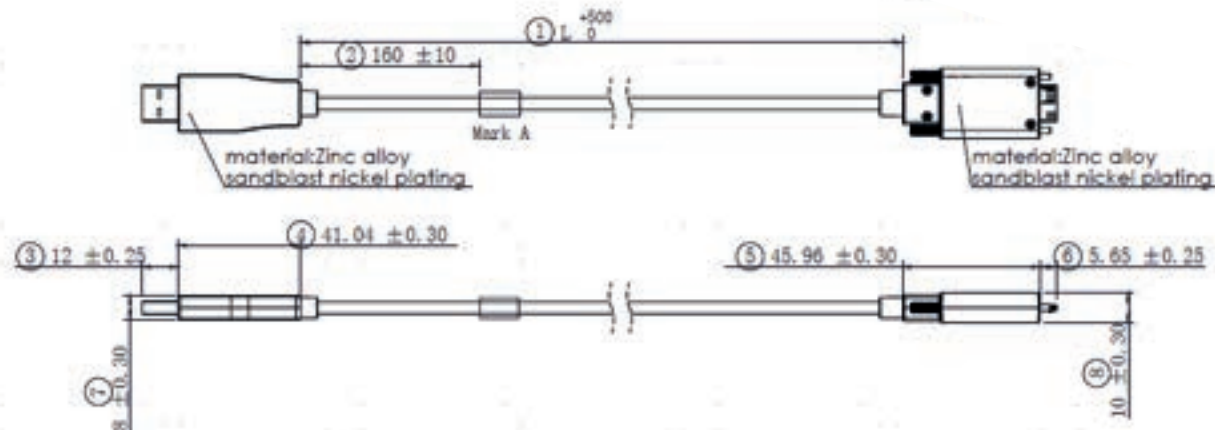
CBL-POU5-ASUBS-X-E

USB 3.1 Gen 1 active optical cable, A plug to Micro-B plug, with locking screws. Available length: 10 / 20 m.



CBL-AOU5-AUBS-X-E

USB 3.1 Gen 1 active optical cable, A plug to Micro-B plug, with locking screws. Available length: 10 / 20 / 30 / 40 / 50 m.



"x" in product names refers to cable length. Different cable lengths have specific part number.

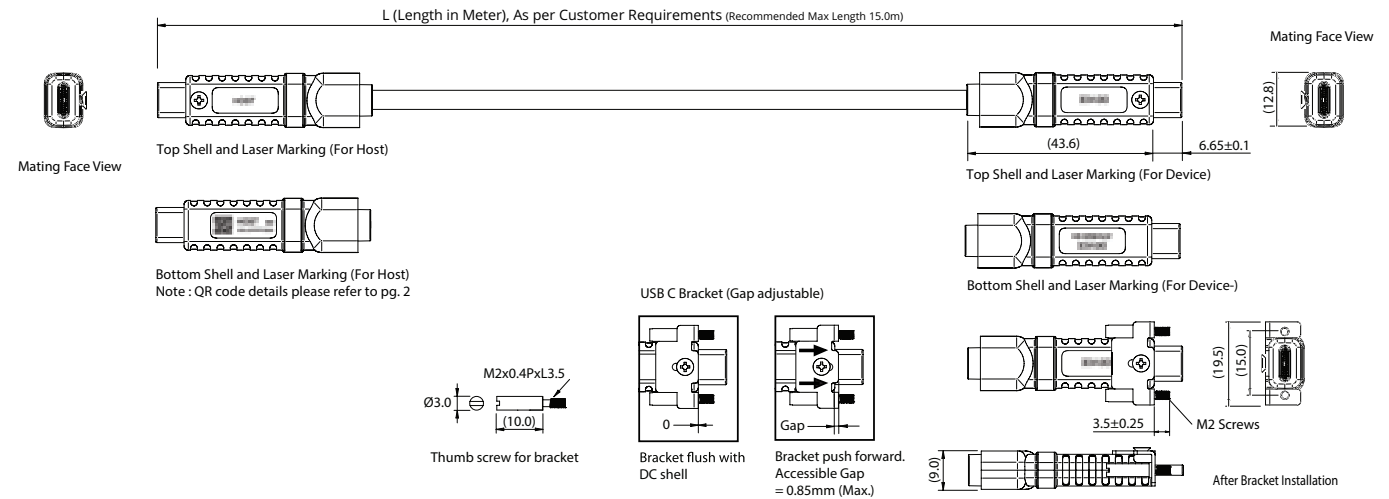
CBL-U10-CSCS-3-A

USB 3.1 Gen 2 cable, C plug to C plug, with locking screws. Available length: 3 m.



CBL-POU10-CSCS-X-A

USB 3.1 Gen 1 passive optical cable, C plug to C plug, with locking screws. Available length: 5 / 10 m.



USB3 angled cables

	Type	Length	OD Ø	Connectors	Gender	Screws
CBL-USB3-AUBS-MM-3M0-A1	USB 3.1 Gen 1 copper cable	3 m	6,2 mm	A / MicroB A1	Male / Male	Ø●
CBL-USB3-AUBS-MM-5M0-A1	USB 3.1 Gen 1 copper cable	5 m	6,2 mm	A / MicroB A1	Male / Male	Ø●
CBL-USB3-AUBS-MM-3M0-A34	USB 3.1 Gen 1 copper cable	3 m	6,2 mm	A / MicroB A34	Male / Male	Ø●
CBL-USB3-AUBS-MM-5M0-A34	USB 3.1 Gen 1 copper cable	5 m	6,2 mm	A / MicroB A34	Male / Male	Ø●
CBL-USB3-AUBS-MM-3M0-A32	USB 3.1 Gen 1 copper cable	3 m	6,2 mm	A / MicroB A32	Male / Male	Ø●
CBL-USB3-AUBS-MM-5M0-A32	USB 3.1 Gen 1 copper cable	3 m	6,2 mm	A / MicroB A32	Male / Male	Ø●
CBL-USB3-AC-MM-3M0-A2	USB 3.1 Gen 1 copper cable	3 m	6,2 mm	A / C A2	Male / Male	Ø○
CBL-USB3-AC-MM-5M0-A2	USB 3.1 Gen 1 copper cable	5 m	6,2 mm	A / C A2	Male / Male	Ø○
CBL-USB3-UBUBS-FM-0M3	USB 3.1 Gen 1 adapter	0,3 m	6,2 mm	MicroB PM / MicroB	Female / Male	● / ●
CBL-USB3-UBUBS-FM-0M3-A1	USB 3.1 Gen 1 adapter	0,3 m	6,2 mm	MicroB PM / MicroB 90° A1	Female / Male	● / ●
CBL-USB3-UBUBS-FM-0M3-A12	USB 3.1 Gen 1 adapter	0,3 m	6,2 mm	MicroB PM / MicroB 90° A12	Female / Male	● / ●
CBL-USB3-UBUBS-FM-0M3-A14	USB 3.1 Gen 1 adapter	0,3 m	6,2 mm	MicroB PM / MicroB 90° A14	Female / Male	● / ●
CBL-USB3-UBUBS-FM-0M3-A3	USB 3.1 Gen 1 adapter	0,3 m	6,2 mm	MicroB PM / MicroB 90° A3	Female / Male	● / ●
CBL-USB3-UBUBS-FM-0M3-A32	USB 3.1 Gen 1 adapter	0,3 m	6,2 mm	MicroB PM / MicroB 90° A32	Female / Male	● / ●
CBL-USB3-UBUBS-FM-0M3-A34	USB 3.1 Gen 1 adapter	0,3 m	6,2 mm	MicroB PM / MicroB 90° A34	Female / Male	● / ●

"Ayy" refers to angled cables configuration | OPT: Optical cables only | PM: Panel Mount | ●: connector with screws | ○: connector without screws

How to read cable codes

"x" in product names refers to cable length. Different cable lengths have specific part number.

"Ayy" refers to angled cables configuration.

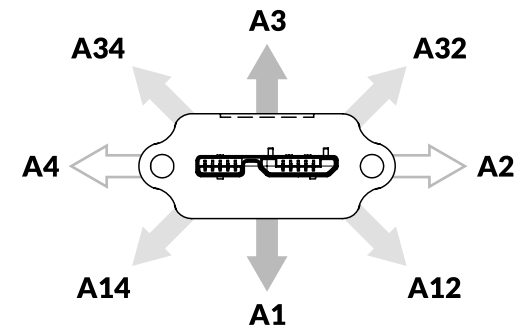
"A" denotes an angled cable. "yy" points out the cable orientation on the Micro-B USB3 plug.

For example, A1 cable has a down oriented wire, while A34 cable has a up-left oriented wire.

It's possible to choose the best fitting solution for any application.

If a cable is not in this catalog, we can customize it for you.

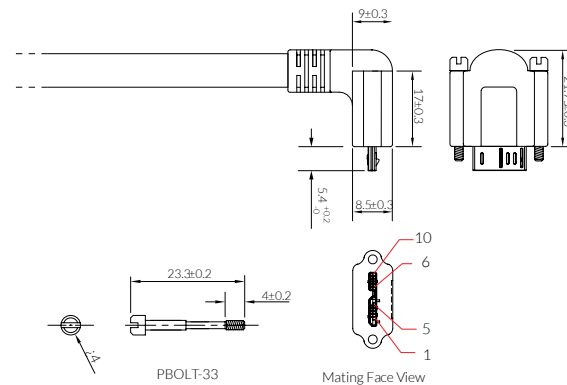
Just contact us at sales@alkeria.com to have more details.



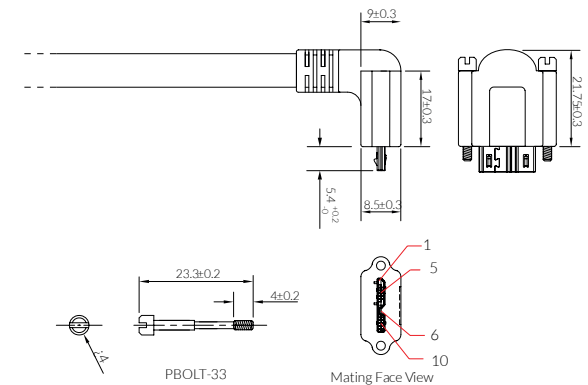
CBL-USB3-AUBS-MM-xMO-Ayy

USB 3.1 Gen 1 copper cable, A plug to angled Micro-B plug, with locking screws. Available lengths: 3 / 5 m.

CBL-USB3-AUBS-MM-xMO-A1

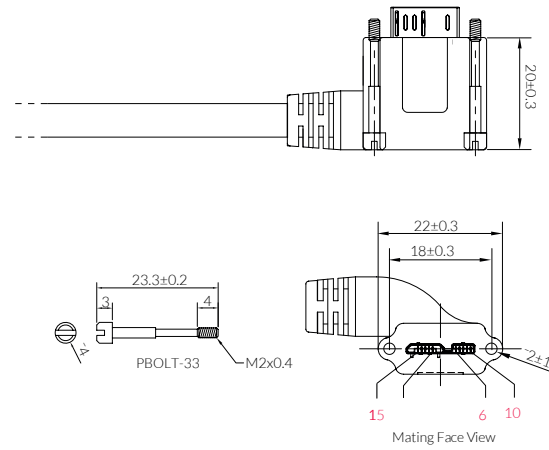


CBL-USB3-AUBS-MM-xMO-A3

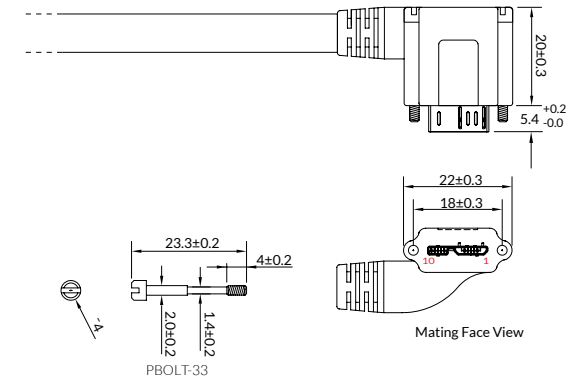


The "x" in product names refers to cable length. Different cable lengths have different part number.

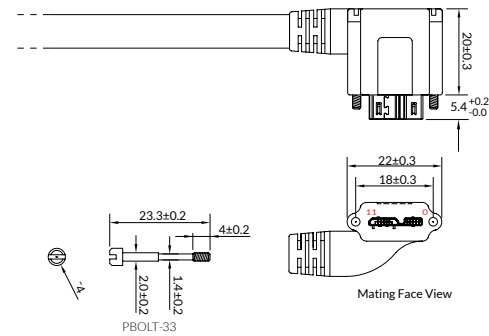
CBL-USB3-AUBS-MM-M0-A12



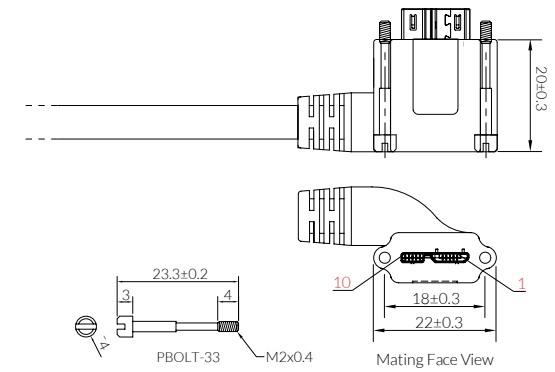
CBL-USB3-AUBS-MM-M0-A14



CBL-USB3-AUBS-MM-M0-A32

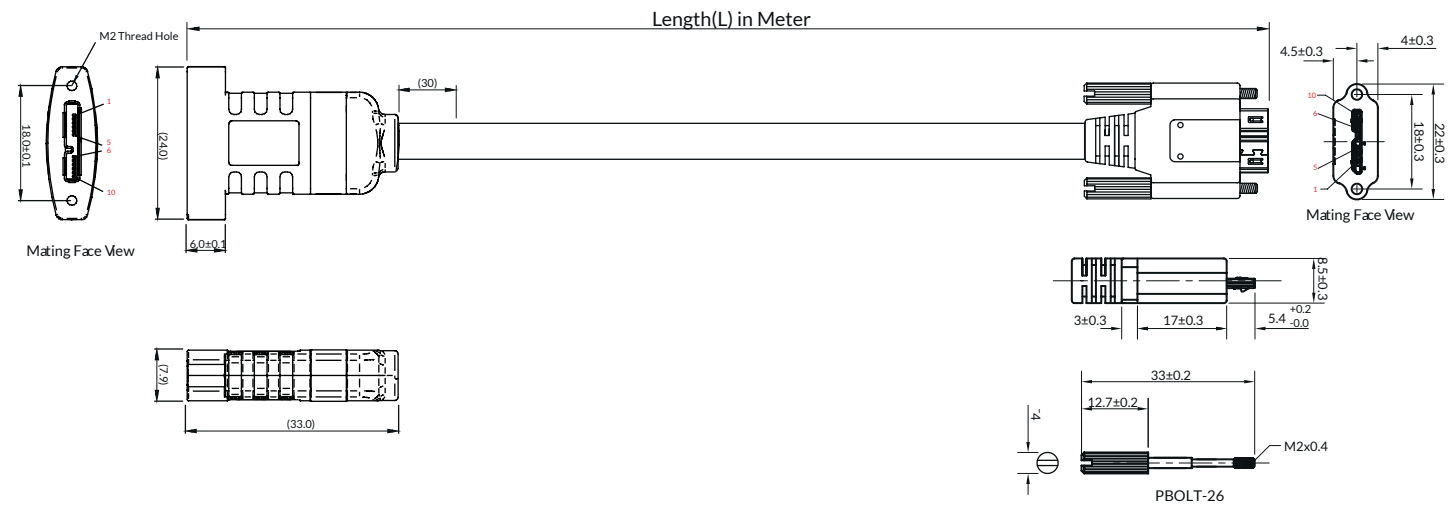


CBL-USB3-AUBS-MM-M0-A34



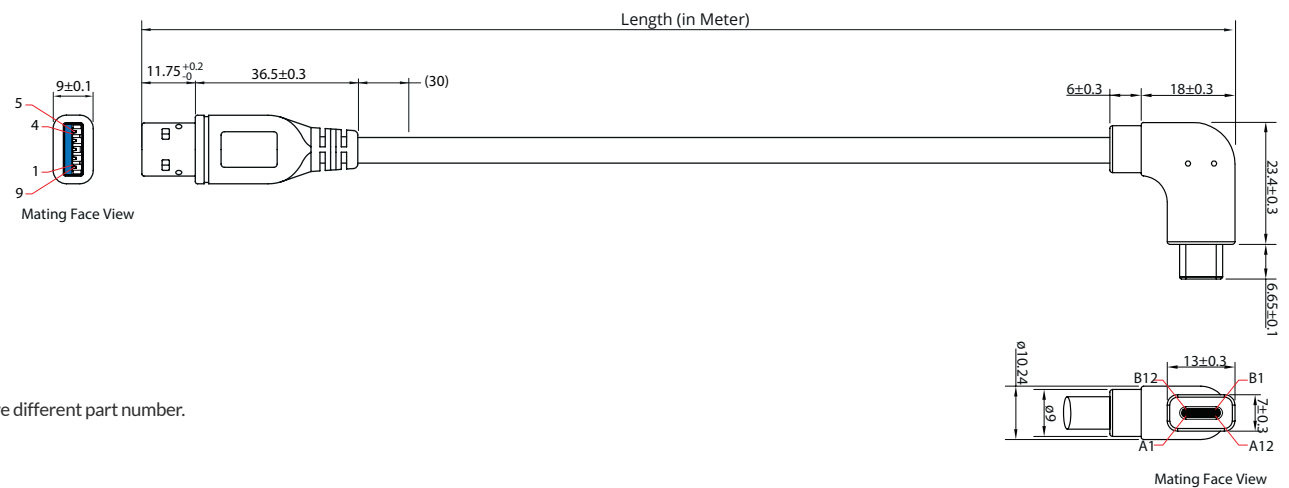
CBL-USB3-UBUBS-FM-OM3

USB 3.1 Gen 1 copper cable, Micro-B panel mount socket to Micro-B plug, with locking screws. Available with angled Micro-B plug. Available lengths: 3 / 5 m.



CBL-USB3-AC-MM-xM0-A2

USB 3.1 Gen 1 copper cable, A plug to angled C plug, without locking screws. Available lengths: 3 / 5 m.



The "x" in product names refers to cable length. Different cable lengths have different part number.

