

Basler MED ace



CAMERAS FOR MEDICAL & LIFE SCIENCES



- Specifically designed for Medical & Life Sciences
- Basler's powerful MED feature sets
- CMOS technology at its best with Sony Pregius and ON Semiconductor PYTHON sensors
- Up to 164 fps and 20 MP
- Compliant with DIN EN ISO 13485:2016



OVERVIEW

Bye-Bye, CCD Sensors. Hello Basler MED ace.

Basler MED ace cameras are Basler's first camera series specifically designed for Medical & Life Sciences and are the perfect answer to Sony's discontinuation of CCD sensors. Equipped with CMOS sensor technology at its best, the MED ace delivers even better image quality at much lower costs than CCD cameras.

With Sony's powerful Pregius sensors and exceptional PYTHON sensors by ON Semiconductor, the MED ace stands out with up to 164 fps and 20 MP, pixel sizes up to 5.86 μ m, low temporal dark noise down to 2e- and sensor sizes up to 1.1 inch.

With 30 years of vision experience, Basler offers top-notch CMOS cameras to support the transition faced by medical device manufacturers. Our DIN EN ISO 13485:2016 certification offers customers several benefits through an effective quality management system with clearly defined standards. Experience cameras with exceptional quality and reliability.

Basler's unique and industry-leading feature sets for Medical & Life Sciences bring it down to what our customers are looking for: Easy Compliance, Brilliant Image, Perfect Color, Low Light Imaging, High Speed and Industrial Excellence. They combine market-leading hardware, firmware and pylon features. Basler developed unique features specifically designed to address the high imaging demands in Medical & Life Sciences and to reduce customers' development efforts.

Read more on baslerweb.com/MEDace



Our Compliance with ISO 13485:2016

With the certification according to DIN EN ISO 13485:2016, Basler has proven its quality standards for the development, production, distribution and service of digital cameras as well as for placing them on the market.

For you, this means consistency, reliability and quality. Whether you want to operate internationally or expand locally, the quality management standards set for the DIN EN ISO 13485:2016 certification help you achieve the quickest time to market. Let Basler assist you with documentation and preparation for the certification of medical devices you produce.

Find Success in Medical & Life Sciences with Consistently High Quality

As part of continuous improvement, we have adapted our quality management system to the requirements of the medical world and introduced the DIN EN ISO 13485:2016 standard in selected organizational areas, according to which we develop, produce and distribute selected products.

This gives medical device manufacturers the opportunity to purchase selected cameras for their applications from us and benefit from the quality requirements defined by the DIN EN ISO 13485:2016 standard. Our cameras are suitable for use as a computer vision component for recording images, videos or measurement data. They do not represent a medical device within the meaning of the Medical Devices Act.

Find more information on baslerweb.com/MEDace-compliance



DIN EN ISO 13485:2016 - Your Advantages

All sides benefit from an effective quality management system with clearly defined quality standards:

- Less effort for your audits and product documentation
- Validated and monitored production for reliable product quality
- Selected supplier in accordance with the quality standard, regularly checked and evaluated
- Consistent documentation quality due to comprehensive change management
- Traceability to reduce costs and for more transparency on recalls
- Own production line for Basler MED ace cameras
- Easier to comply with European standards for international manufacturers of medical devices

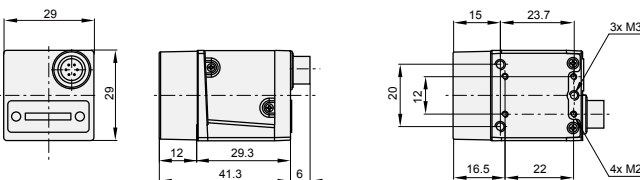
TECHNICAL DETAILS



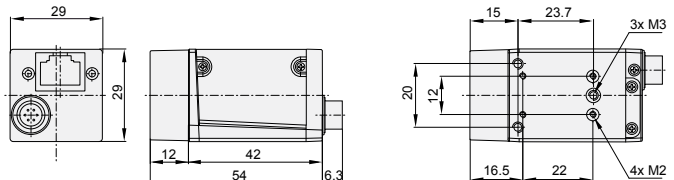
	MED ace 2.3 MP 41 color/mono	MED ace 2.3 MP 164 color/mono	MED ace 5.1 MP 35 color/mono	MED ace 5.1 MP 75 color/mono	MED ace 5.3 MP 20 color/mono
Camera					
Camera Category	ace U	ace U	ace U	ace U	ace U
Resolution (HxV pixels)	1920x1200	1920x1200	2448x2048	2448x2048	2592x2048
Sensor	Sony Pregius IMX249	Sony Pregius IMX174	Sony Pregius IMX264	Sony Pregius IMX250	ON Semiconductor PYTHON 5000
Sensor Size [mm]	11.25x7.03	11.25x7.03	8.45x7.07	8.45x7.07	12.44x9.83
Sensor Size (optical)	1/1.2"	1/1.2"	2/3"	2/3"	1"
Sensor Technology	CMOS, global shutter				
Pixel Size [μm^2]	5.86x5.86	5.86x5.86	3.45x3.45	3.45x3.45	4.8x4.8
Frame Rate [fps]	41	164	35	75	20
Exposure Control	Via hardware trigger or programmable via the camera API				
Mono/Color	Mono/Color				
Video Output Format	Mono (8, 12, 12 Packed), Bayer RG (8, 12, 12 Packed), YCbCr422_8, RGB8, BGR8				Mono (8, 10, 10 Packed), Bayer BG (8, 10, 10 Packed), YUV 4:2:2 (Packed, YUYV Packed)
Interface	USB 3.0				Gigabit Ethernet
Mechanical/Electrical					
Housing Size	29.3 mm x 29 mm x 29 mm				42 mm x 29 mm x 29 mm
Housing Temp.	0°C - 50°C				
Lens Mount	C				
Digital I/O	1 opto-isolated input + 1 opto-isolated output + 2 Fast-GPIO (configurable as In/Out)				1 opto-isolated input + 1 opto-isolated output + 1 GPIO
Power Requirements	Via USB 3.0 interface				Power over Ethernet (IEEE 802.3af) or 12-24 VDC (+/- 10%)
Power Consumption	2.9 W	3.7 W	2.7 W	3.4 W	PoE 4.1 W/AUX 3.6 W
Software Environment					
Driver	Basler pylon Camera Software Suite or 3rd party USB3 Vision Software				
Operating System	Windows, Linux, Mac OS X				
Conformity	CE, RoHS, GenICam, USB3 Vision, IP30, UL, FCC Class B, EMV Class B, CISPR				

Specifications are subject to change without prior notice. Latest specifications and availability can be found on our website www.baslerweb.com/MEDace. Please visit www.baslerweb.com/manuals for the detailed camera User's Manual and www.baslerweb.com/thirdparty for information on third party software.

Dimensions (in mm): ace U USB 3.0



Dimensions (in mm): ace U Gige



TECHNICAL DETAILS

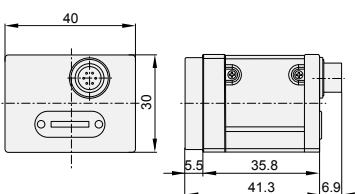


	MED ace 8.9 MP 32 color/mono	MED ace 8.9 MP 42 color/mono	MED ace 12.3 MP 23 color/mono	MED ace 12.3 MP 30 color/mono	MED ace 20.0 MP 17 color/mono
Camera					PLANNED*
Camera Category	ace L	ace L	ace L	ace L	ace U
Resolution (H×V pixels)	4096×2168	4096×2168	4096×3000	4096×3000	5544×3964
Sensor	Sony Pregius IMX267	Sony Pregius IMX255	Sony Pregius IMX304	Sony Pregius IMX253	Sony IMX183
Sensor Size [mm]	14.13×7.45	14.13×7.45	14.13×10.35	14.13×10.35	13.30×9.51
Sensor Size (optical)	1"	1"	1.1"	1.1"	1"
Sensor Technology	CMOS, global shutter			CMOS, rolling shutter	
Pixel Size [µm ²]	3.45×3.45	3.45×3.45	3.45×3.45	3.45×3.45	2.40×2.40
Frame Rate [fps]	32	42	23	30	17
Exposure Control	Via hardware trigger or programmable via the camera API				
Mono/Color	Mono/Color				
Video Output Format	Mono (8, 12, 12 Packed), Bayer RG (8, 12, 12 Packed), YCbCr422_8, RGB8, BGR8				
Interface	USB 3.0				
Mechanical/Electrical					
Housing Size	35.8 mm×40 mm×30 mm				29.3 mm×29 mm×29 mm
Housing Temp.	0°C - 50°C				
Lens Mount	C				
Digital I/O	1 opto-isolated input + 1 opto-isolated output + 2 Fast-GPIO (configurable as In/Out)				
Power Requirements	Via USB 3.0 interface				
Power Consumption	3.0 W	3.6 W	3.0 W	3.6 W	2.9 W
Software Environment					
Driver	Basler pylon Camera Software Suite or 3rd party USB3 Vision Software				
Operating System	Windows, Linux, Mac OS X				
Conformity	CE, RoHS, GenICam, USB3 Vision, IP30, UL, FCC Class B, EMV Class B, CISPR				

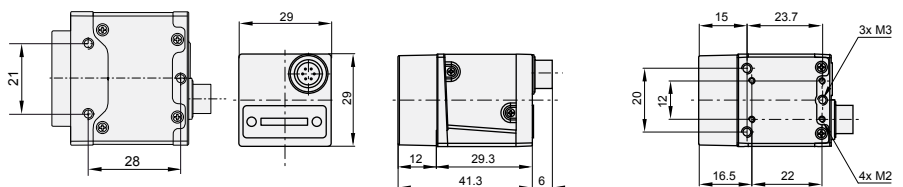
Specifications are subject to change without prior notice.
 Latest specifications and availability can be found on our website www.baslerweb.com/MEDace. Please visit www.baslerweb.com/manuals for the detailed camera User's Manual and www.baslerweb.com/thirdparty for information on third party software.

*Please note that the camera's specifications are preliminary.

Dimensions (in mm): ace L USB 3.0



Dimensions (in mm): ace U USB 3.0



MED FEATURE SETS

The Basler MED feature sets combine our cameras' most impressive attributes, and stand out with their hardware, firmware and pylon features. Find features specifically designed for Medical & Life Sciences within the following sets. Find more information on baslerweb.com/MED-Feature-Sets.



EASY COMPLIANCE

Basler develops, produces and distributes the Basler MED ace cameras for Medical & Life Sciences under DIN EN ISO 13485:2016. In addition, we maintain all relevant standard conformities, such as CE, UL, EMC Class B, CISPR Class B or FCC Class B to support.



BRILLIANT IMAGE

Get a supreme image out-of-the-box with the Brilliant Image feature set. Experience Basler MED cameras with the market-leading PGI algorithm for color and monochrome cameras, advanced auto white balancing, as well as smart auto contrast and auto exposure algorithms.



PERFECT COLOR

This feature set incorporates several unique tools to change the color appearance of your image: adjust settings for hue, saturation and brightness for full control of color space. Basler's Color Adjustment (6-axis Hue/Saturation) enables for single-color changes and the Color Calibrator Beyond lets you find the perfect color parameters for highest color fidelity.



LOW LIGHT IMAGING

State-of-the-art Sony Pregius CMOS sensor technology together with Basler's unique long exposure mode and built-in histogram functions allow for excellent low light images. The well-developed CMOS technology combined with the Low Light Imaging feature set is highly beneficial for applications with fluorescence imaging.



HIGH SPEED

Basler offers fast and yet highly reliable cameras for high-speed applications in laboratory automation. Experience Basler MED ace cameras with frame rates between 60 and 164 frames per second with global shutter and CMOS sensor technology as well as industry-proven USB3 Vision interface technology.



INDUSTRIAL EXCELLENCE












Basler cameras are 100% quality tested and are the market's most robust and reliable products. Together with the pylon Camera SDK, our extended camera control features and a customer-focused support based on 30 years of vision experience, camera integration has never been more efficient.

APPLICATIONS

Best Fit For Your Imaging Requirements

Each application has different requirements. The MED ace was specifically designed to meet those high imaging demands in Medical & Life Sciences. Follow our recommendations when searching for the most suitable CMOS camera.

If you require comprehensive guidance don't hesitate to contact us directly: baslerweb.com/sales.

Application	Requirements	MED Feature Sets	Recommended Cameras
Laboratory Automation	<ul style="list-style-type: none"> High frame rates Global shutter Compliant with ISO 13485:2016 	  	Basler MED ace 2.3 MP 164 color Basler MED ace 5.1 MP 75 mono Basler MED ace 5.3 MP 20 mono
Ophthalmology	<ul style="list-style-type: none"> High resolution Crystal clear image details Excellent color reproduction 	 	Basler MED ace 5.1 MP 75 color Basler MED ace 12.3 MP 30 color Basler MED ace 20.0 MP 17 color
Microscopy	<ul style="list-style-type: none"> Image quality out-of-the-box Excellent color and contrast For In-Vitro Diagnostics: Compliant with ISO 13485:2016 	  	Basler MED ace 2.3 MP 164 color Basler MED ace 5.1 MP 75 color Basler MED ace 20.0 MP 17 color
Fluorescence Imaging	<ul style="list-style-type: none"> Large pixel size Low temporal dark noise Long exposure times 		Basler MED ace 2.3 MP 164 mono Basler MED ace 5.1 MP 75 mono Basler MED ace 8.9 MP 42 mono Basler MED ace 12.3 MP 30 mono
Other Applications in Medical & Life Sciences	<ul style="list-style-type: none"> Best price/performance ratio Reliability and robustness Long-term availability Certificates & ISO standards 	 	Basler MED ace 2.3 MP 41 color Basler MED ace 5.1 MP 35 color Basler MED ace 8.9 MP 32 color Basler MED ace 12.3 MP 23 color

OTHER INFORMATION

About Basler

Basler is a leading manufacturer of high-quality digital cameras and accessories for industry, medicine, traffic and a variety of other markets. The company's product portfolio encompasses area scan and line scan cameras in compact housing dimensions, camera modules in board level variants for embedded solutions, and 3D cameras. The catalog is rounded off by our user-friendly pylon SDK and a broad spectrum of accessories, including a number developed specially for Basler and optimally harmonized for our cameras.

Basler has 30 years of experience in computer vision. The company is home to approximately 500 employees at its headquarters in Ahrensburg, Germany, and its subsidiaries and sales offices in Europe, Asia, and North America.



Find our white papers, success stories and more useful information on: baslerweb.com/medical.

3-Year Warranty

Basler offers a 3-year warranty for their cameras and the Basler Lenses 1/2.5". We make this unprecedented promise because we have unparalleled confidence in our products. We continually reinvest in research, development and superior manufacturing capabilities so that our customers can fully rely on the products we manufacture.

How Does Basler Ensure Superior Quality and Reliable High Performance

Our approach to quality assurance is rigorous: we continually audit all facets of our business to ensure powerful performance, increase efficiency and reduce costs for our customers. We are compliant with all major quality standards including ISO 9001, CE, RoHS, and more. To ensure consistently high product quality, we employ several quality inspection procedures during manufacturing. Every Basler camera is subjected to exhaustive optical and mechanical tests before leaving the factory. Regardless of what technology or camera model you choose you can be assured of consistent performance.



Basler AG
Germany, Headquarters
Tel. +49 4102 463 500
sales.europe@baslerweb.com

Basler, Inc.
USA
Tel. +1 610 280 0171
sales.usa@baslerweb.com

Basler Asia Pte Ltd.
Singapore
Tel. +65 6367 1355
sales.asia@baslerweb.com

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