

FEATURES CHECK LIST

CAMERAS FOR MEDICAL & LIFE SCIENCES



MED ace 2.3 MP 41 mono/color (IMX249), MED ace 2.3 MP 164 mono/color (IMX174), MED ace 5.1 MP 35 mono/color (IMX264), MED ace 5.1 MP 75 mono/color (IMX250), MED ace 6.4 MP 59 mono/color (IMX178), MED ace 8.9 MP 32 mono/color (IMX267), MED ace 8.9 MP 42 mono/color (IMX255), MED ace 12.3 MP 23 mono/color (IMX304), MED ace 12.3 MP 30 mono/color (IMX253), MED ace 20 MP 17 mono/color (IMX183)

| | mono | color |
|---|----------------|----------------|
| Physical Interface and I/O Control | | |
| Configurable Input/Output Lines | | |
| Inputs | | 1 |
| Outputs | | 1 |
| General Purpose I/O | | 2 |
| Debouncer | ● | |
| Line Minimum Output Pulse Width | ● | |
| Line Source Signals | | |
| Frame Burst Trigger Wait | ● | |
| Frame Trigger Wait | ● | |
| Exposure Active | ● | |
| Flash Window | ● ² | |
| User Output 1, 2, and 3 | ● | |
| Timer 1 Active | ● | |
| Image Acquisition Control | | |
| Frame Burst Start Trigger | ● | |
| Frame Start Trigger | ● | |
| Triggered by Software | ● | |
| Triggered by Hardware | ● | |
| Trigger Delay | ● | |
| Acquisition Status | ● | |
| Sensor Readout Time | ● | |
| Acquisition Start, Stop, and Abort | ● | |
| Acquisition Mode | ● | |
| Acquisition Frame Rate | ● | |
| Sensor Shutter Mode | ● ² | |
| Standard Features | | |
| Gain | ● | |
| Gain Auto | ● | |
| Black Level | ● | |
| Digital Shift | ● | |
| Image ROI (Region of Interest) | ● | |
| Binning | ● | ● ² |
| Reverse X (Horizontal Mirroring) | ● | |
| Reverse Y (Vertical Mirroring) | ● | |
| Gamma Correction | ● | |
| Exposure Mode: Timed | ● | |
| Exposure Mode: Trigger Width | ● ³ | |
| Exposure Auto | ● | |
| Auto Function Profile | ● | |
| Lookup Table (LUT) | ● | |
| Test Images | ● | |
| Sequencer | ● | |
| Stacked ROI ⁴ | ● | |
| Center X and Center Y | ● | |
| Counter | ● | |
| Exposure Time | ● | |
| Timer | ● | |
| Miscellaneous | | |
| Remove Parameter Limits | ● | |
| User-Defined Values | ● | |
| Device Information Parameters | ● | |
| User Sets (Configuration Sets) | ● | |
| Device Temperature | ● | |
| Temperature State | ● | |
| Vignetting Correction | ● ⁴ | |

| | mono | color |
|--|------|----------------|
| MED Features | | |
| Quick Auto Brightness | | ● |
| Long Exposure Mode ¹ | | ● |
| User Set Light Microscopy | | ● |
| Tonal Range | | ● |
| Tonal Range Auto | | ● |
| Light Source Presets Microscopy | | ● |
| Focus Indicator Chunk | | ● ² |
| Chunks | | |
| Timestamp | | ● |
| Counter Value | | ● |
| Line Status All | | ● |
| CRC Checksum | | ● |
| Sequencer Set Active | | ● |
| Exposure Time | | ● |
| Gain | | ● |
| Auto Brightness Status | | ● ² |
| Event Reporting | | |
| Exposure End | | ● |
| Frame Start | | ● ³ |
| Frame Start Wait | | ● |
| Frame Start Overtrigger | | ● |
| Frame Burst Start | | ● |
| Frame Burst Start Wait | | ● |
| Frame Burst Start Overtrigger | | ● |
| Critical Temperature | | ● |
| Over Temperature | | ● |
| Pixel Formats | | |
| Mono 8 | | ● |
| Mono 12 | ● | |
| Mono 12p (Mono 12 Packed) | ● | |
| YCbCr422_8 (YUV422_8) | | ● |
| Bayer RG 8 | | ● |
| Bayer RG 12 | | ● |
| Bayer RG 12p (Bayer 12 Packed) | | ● |
| RGB 8 | | ● |
| BGR 8 | | ● |
| Color Creation and Enhancement | | |
| Balance White (Manual White Balance) | | ● |
| Balance White Auto (Automatic White Balance) | | ● |
| Light Source Presets | | ● |
| Color Transformation | | ● |
| Color Adjustment (6 axis Hue/Saturation) | | ● |
| Brightness and Contrast | | ● |
| Hue and Saturation | | ● |
| PGI | | |
| 5x5 Debayering | | ● |
| Color-Anti-Aliasing | | ● |
| Denoising | ● | |
| Improved Sharpness | ● | |

¹ only available for IMX174, IMX250, IMX255 and IMX253

² only available for IMX178 and IMX183

³ not available for IMX178 and IMX183

⁴ only available for IMX178, IMX267, IMX255, IMX304, IMX253 and IMX183

MED ace 5.3 MP 20 mono/color (PYTHON 5000)

| | mono | color | | mono | color |
|---|------|-------|--|------|-------|
| Physical Interface and I/O Control | | | MED Features | | |
| Configurable Input/Output Lines | | | Quick Auto Brightness | | ● |
| Inputs | 1 | | User Set Light Microscopy | | ● |
| Outputs | 1 | | Tonal Range | | ● |
| General Purpose I/O | 1 | | Tonal Range Auto | | ● |
| Debouncer | | ● | Light Source Presets Microscopy | | ● |
| Line Minimum Output Pulse Width | | ● | | | |
| Line Source Signals | | | Chunks | | |
| Acquisition Trigger Wait | | ● | Timestamp | | ● |
| Frame Trigger Wait | | ● | Trigger Input Counter | | ● |
| Exposure Active | | ● | Line Status All | | ● |
| User Output | | ● | CRC Checksum | | ● |
| Timer 1 Active | | ● | Sequence Set Index | | ● |
| | | | Exposure Time | | ● |
| Image Acquisition Control | | | Gain All | | ● |
| Frame Start Trigger | | ● | Gain | | ● |
| Triggered by Software | | ● | Frame Counter | | ● |
| Triggered by Hardware | | ● | | | |
| Trigger Delay | | ● | Event Reporting | | |
| Acquisition Status | | ● | Exposure End | | ● |
| Sensor Readout Time | | ● | Frame Start | | ● |
| Acquisition Start, Stop, and Abort | | ● | Frame Start Overtrigger | | ● |
| Acquisition Mode | | ● | Acquisition Start | | ● |
| Acquisition Frame Rate | | ● | Action Late | | ● |
| Acquisition Start Trigger | | ● | Acquisition Start Overtrigger | | ● |
| | | | Critical Temperature | | ● |
| Standard Features | | | Over Temperature | | ● |
| Gain | | ● | Pixel Formats | | |
| Gain Auto | | ● | Mono 8 | | ● |
| Black Level | | ● | Mono 10 | ● | |
| Image ROI (Region of Interest) | | ● | Mono 10p (Mono 10 Packed) | ● | |
| Binning | ● | | YCbCr422_8 (YUV422_8) | | ● |
| Reverse X (Horizontal Mirroring) | | ● | Bayer RG 8 | | ● |
| Reverse Y (Vertical Mirroring) | | ● | Bayer RG 10 | | ● |
| Gamma Correction | | ● | Bayer RG 10p (Bayer 10 Packed) | | ● |
| Exposure Mode: Trigger Width | | ● | | | |
| Exposure Auto | | ● | Color Creation and Enhancement | | |
| Auto Function Profile | | ● | Balance White (Manual White Balance) | | ● |
| Lookup Table (LUT) | | ● | Balance White Auto (Automatic White Balance) | | ● |
| Test Images | | ● | Light Source Presets | | ● |
| Sequencer | | ● | Color Adjustment (6 axis Hue/Saturation) | | ● |
| Stacked ROI | | ● | Brightness and Contrast | | ● |
| Center X and Center Y | | ● | Hue and Saturation | | ● |
| Counter | | ● | Color Transformation | | ● |
| Exposure Mode: Timed | | ● | | | |
| Exposure Time | | ● | PGI | | |
| Timer | | ● | 5x5 Debayering | | ● |
| | | | Color-Anti-Aliasing | | ● |
| Miscellaneous | | | Denosing | | ● |
| Remove Parameter Limits | | ● | Improved Sharpness | | ● |
| User-Defined Values | | ● | | | |
| Device Information Parameters | | ● | | | |
| User Sets (Configuration Sets) | | ● | | | |
| Device Temperature | | ● | | | |
| Temperature State | | ● | | | |
| | | | | | |
| GigE Vision 2.0 | | | | | |
| Precision Time Protocol (IEEE 1588) | | ● | | | |
| Action Commands (Synchronous Triggering) | | ● | | | |
| Scheduled Action Commands | | ● | | | |
| Synchronous Free Run | | ● | | | |

MED FEATURE SETS

Our unique and industry-leading MED Feature Sets for Medical & Life Sciences deliver everything that our customers are looking for. They combine market-leading hardware, firmware and pylon software features.. Find more information on baslerweb.com/med-feature-sets.



Brilliant Image

You get best quality pictures from the first time you activate the camera because MED ace cameras have optimal wake-up settings, Basler's PGI algorithm and auto-image functions.



Perfect Color

Design the color reproduction of your picture yourself: e.g., by adjusting the settings for hue, saturation, brightness and contrast over the entire picture as well as for individual colors.



Dust Protection+

We ensure high cleanliness by sealing the sensor room, producing the MED ace separately in a clean-room and strictly testing selected components for dust and other particles during assembly.



Low Light Imaging

Thanks to modern CMOS sensor technology and our mode for long exposure times, you produce best quality images even in low light.



Industrial Excellence

Our tested high quality cameras together with our pylon software package, our extended camera control functions and our individual customer support enable easy camera integration.



High Speed

Global shutter, CMOS sensor technology and USB3 Vision interface technology enable frame rates of up to 164 frames per second with the MED ace.

| CAMERA MODEL | SENSOR | INTERFACE | BRILLIANT IMAGE | INDUSTRIAL EXCELLENCE | PERFECT COLOR ¹ | DUST PROTECTION ⁺ | LOW LIGHT IMAGING | HIGH SPEED |
|-------------------------------|-------------|-----------|-----------------|-----------------------|----------------------------|------------------------------|-------------------|------------|
| MED ace 2.3 MP 41 mono/color | IMX249 | USB 3.0 | ● | ● | ● | ● ¹ | | |
| MED ace 2.3 MP 164 mono/color | IMX174 | USB 3.0 | ● | ● | ● | ● ¹ | ● | ● |
| MED ace 5.1 MP 35 mono/color | IMX264 | USB 3.0 | ● | ● | ● | ● ¹ | | |
| MED ace 5.1 MP 75 mono/color | IMX250 | USB 3.0 | ● | ● | ● | ● ¹ | ● | ● |
| MED ace 5.3 MP 20 mono/color | PYTHON 5000 | GigE | ● | ● | ● | | | |
| MED ace 6.4 MP 59 mono/color | IMX178 | USB 3.0 | ● | ● | ● | ● | | |
| MED ace 8.9 MP 32 mono/color | IMX267 | USB 3.0 | ● | ● | ● | | | |
| MED ace 8.9 MP 42 mono/color | IMX255 | USB 3.0 | ● | ● | ● | | ● | |
| MED ace 12.3 MP 23 mono/color | IMX304 | USB 3.0 | ● | ● | ● | | | |
| MED ace 12.3 MP 30 mono/color | IMX253 | USB 3.0 | ● | ● | ● | | ● | |
| MED ace 20 MP 17 mono/color | IMX183 | USB 3.0 | ● | ● | ● | ● | | |

¹ This MED Feature Set is available for color cameras only.

About Basler

Basler is a leading international manufacturer of imaging components for computer vision applications such as cameras, lenses, frame grabbers, software, as well as embedded vision solutions, customized products and consulting services. Basler's products are used in a variety of markets and applications, including factory automation, medical, logistics, retail, and robotics.

In the Medical & Life Sciences sector, Basler cameras are used in applications such as microscopy, ophthalmology, and laboratory equipment & automation. The MED ace is Basler's camera series specifically designed to meet the high image processing requirements in Medical & Life Sciences applications. All models include the MED Feature Sets that combine powerful hardware, firmware, and software functions.

The Basler Group employs approximately 1000 people at its headquarters in Ahrensburg, Germany, and other locations in Europe, Asia, and North America. Thanks to the worldwide sales and service organization and cooperation with renowned partners, it offers solutions that fit for customers from a wide range of sectors.

Trust in State-of-the-Art Vision Technology Made in Germany

Our experience makes Basler's equipment the most reliable and trusted industrial vision technology in the market. As a key driver of technology trends and vision standards, we measure our cameras and their components against the highest standards and offer outstanding quality for reproducible pictures and reliable analysis.

We are constantly developing and improving our products. Already today, we install many cameras into Medical & Life Sciences applications. These digital cameras must provide highest image quality and exceptional color reproduction. New advanced image enhancement and color adjustment algorithms enable consistent and repeatable color fidelity, and perfectly reproduce pictures of challenging samples. Thanks to exhaustive quality assurance measures, long-lasting camera life is a given. We also stand for long-term market availability of our cameras, to make your decision worthwhile and satisfying.



Find our White Papers, Customer Stories and more valuable information on:
baslerweb.com/medical



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