

# Features Check List

INDUSTRIAL CAMERAS



**GiGE**<sup>®</sup> **USB**<sup>®</sup>  
VISION VISION

**CAMERA**  
**Link**  
MULTIMEDIA PRODUCT

**FireWire**

**BCON**  
FOR LVDS



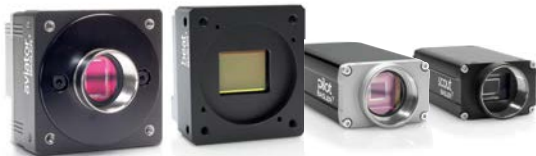
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pilot and scout Cameras..... p.10-11



Line Scan Cameras.....p.12-13



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Sensors ace USB 3.0 Camera Models	Sony CCD acA640-90ux acA640-120ux acA1300-30ux acA1600-20ux		CMOSIS acA2000-165ux acA2040-90ux		ON Semi-conductor MT9P acA2500-14ux acA1920-25ux		ON Semi-conductor MT9J/F acA3800-14ux acA4600-10ux		ON Semi-conductor PYTHON acA640-750ux acA1300-200ux acA1920-150ux acA800-510ux acA2500-60ux		Sony Pregius acA1920-155ux acA1920-40ux acA2040-120ux acA2040-55ux acA2440-35ux acA2440-75ux acA4096-30ux acA4096-40ux acA4112-20ux acA4112-30ux		Sony STARVIS acA3088-57ux acA4024-29ux	
	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color
<b>Physical Interface and I/O Control</b>														
Configurable Input/Output Lines														
Inputs	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Outputs	1	1	1	1	1	1	1	1	1	1	1	1	1	1
General Purpose I/O	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Debouncer	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Minimum Output Pulse Width	•	•	•	•	•	•	•	•	•	•	•	•	•	•
I/O Signals														
Frame Burst Start Wait	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Frame Start Wait	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Exposure Active Signal	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Flash Window Signal				•		•		•		•				•
User Output	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Timer 1 Active	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Image Acquisition Control</b>														
Frame Burst Start Trigger	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Frame Start Trigger	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Triggered by Software	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Triggered by Hardware	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Trigger Delay	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Acquisition Status	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Standard Features</b>														
Gain	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gain Auto	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Black Level	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Digital Shift	•				•		•					•		•
Region of Interest (ROI)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Binning Horizontal	•		•		•		•		•		•		•	
Binning Vertical	•		•		•		•		•		•		•	
Decimation Horizontal								•						
Decimation Vertical			•					•						
Scaling Horizontal								•						
Scaling Vertical								•						
Reverse X (Horizontal Mirroring)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Reverse Y (Vertical Mirroring)			•					•		•		•		•
Gamma Correction	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Exposure Mode: Timed (Control via API)	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Exposure Mode: Trigger Width (Control via external trigger)	•	•								•		•		
Exposure Auto	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Auto Function Profile	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Lookup Table	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Test Images	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sequencer	•	•	•	•	•	•	•	•	•	•	•	•	•	•



Sensors ace USB 3.0 Camera Models	Sony CCD acA640-90ux acA640-120ux acA1300-30ux acA1600-20ux		CMOSIS acA2000-165ux acA2040-90ux		ON Semi-conductor MT9P acA2500-14ux acA1920-25ux		ON Semi-conductor MT9J/F acA3800-14ux acA4600-10ux		ON Semi-conductor PYTHON acA640-750ux acA1300-200ux acA1920-150ux acA800-510ux acA2500-60ux		Sony Pregius acA1920-155ux acA1920-40ux acA2040-120ux acA2040-55ux acA2440-35ux acA2440-75ux acA4096-30ux acA4096-40ux acA4112-20ux acA4112-30ux		Sony STARVIS acA3088-57ux acA4024-29ux	
	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color
<b>Miscellaneous</b>														
Remove Parameter Limits	•		•		•		•		•		•		•	
User Defined Values	•		•		•		•		•		•		•	
Device Information Parameters	•		•		•		•		•		•		•	
User Sets (Configuration Sets)	•		•		•		•		•		•		•	
Device Temperature									•		•		•	
<b>Color Creation and Enhancement</b>														
Balance White (Manual White Balance)		•		•		•		•		•		•		•
Balance White Auto (Automatic White Balance)		•		•		•		•		•		•		•
Light Source Presets		•		•		•		•		•		•		•
Color Transformation		•		•		•		•		•		•		•
Color Adjustment (6 axis Hue/Saturation)		•				•		•		•		•		•
PGI										•		•		•
<b>Chunks</b>														
Timestamp		•		•		•		•		•		•		•
Counter Value		•		•		•		•		•		•		•
Line Status All		•		•		•		•		•		•		•
CRC Checksum		•		•		•		•		•		•		•
Sequencer Set Active		•		•		•		•		•		•		•
Exposure Time		•		•		•		•		•		•		•
Gain		•		•		•		•		•		•		•
<b>Event Reporting</b>														
Exposure End		•		•		•		•		•		•		•
Frame Start		•		•		•		•		•		•		•
Frame Start Wait		•		•		•		•		•		•		•
Frame Start Overtrigger		•		•		•		•		•		•		•
Frame Burst Start		•		•		•		•		•		•		•
Frame Burst Start Wait		•		•		•		•		•		•		•
Frame Burst Start Overtrigger		•		•		•		•		•		•		•
Critical Temperature										•		•		•
Over Temperature										•		•		•
<b>Pixel Formats</b>														
Mono 8		•		•		•		•		•		•		•
Mono 10										•				
Mono 10p (Mono 10 Packed)										•				
Mono 12		•		•		•		•				•		•
Mono 12p (Mono 12 Packed)		•		•		•		•				•		•
YCbCr422_8 (YUV422_8)			•				•		•		•		•	
Bayer 8			•		•		•		•		•		•	
Bayer 10											•			
Bayer 10p (Bayer 10 Packed)											•			
Bayer 12			•		•		•		•			•		•
Bayer 12p (Bayer 12 Packed)			•		•		•		•			•		•
RGB 8			•								•		•	
BGR 8			•								•		•	

Sensors ace GigE Camera Models	Sony CCD		CMOSIS		e2V		ON Semi-conductor MT9P		ON Semi-conductor MT9J/F		ON Semi-conductor PYTHON		Sony Pregius		Sony STARVIS	
	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color
	acA640-90gx acA640-120gx acA645-100gx acA750-30gx acA780-75gx acA1300-22gx acA1300-30gx acA1600-20gx		acA2000-50gx acA2040-25gx		acA1280-60gx acA1300-60gx acA1600-60gx		acA2500-14gx acA1920-25gx		acA3800-10gx acA4600-7gc		acA640-300gx acA800-200gx acA1300-75gx acA1920-48gx acA2500-20gx		acA1920-40gx acA1920-50gx acA2040-35gx acA2040-20gx acA4096-11gx acA44112-8gx		acA3088-16gx acA4024-8gx	
<b>Physical Interface and I/O Control</b>																
Configurable Input/Output Lines																
Inputs	1		1		1		1		1		1		1		1	
Outputs	1		1		1		1		1		1		1		1	
General Purpose I/O												1		1		1
Debouncer	•		•		•		•		•		•		•		•	
Minimum Output Pulse Width	•		•		•		•		•		•		•		•	
Line Source Signals																
Acquisition Start Wait	•		•		•		•		•		•		•		•	
Frame Start Wait	•		•		•		•		•		•		•		•	
Exposure Active	•		•		•		•		•		•		•		•	
Flash Window					•		•		•		•				•	
User Output	•		•		•		•		•		•		•		•	
Sync User Output	•		•		•		•		•		•		•		•	
Timer Active	•		•		•		•		•		•		•		•	
<b>Image Acquisition Control</b>																
Acquisition Start Trigger	•		•		•		•		•		•		•		•	
Frame Start Trigger	•		•		•		•		•		•		•		•	
Triggered by Software	•		•		•		•		•		•		•		•	
Triggered by Hardware	•		•		•		•		•		•		•		•	
Trigger Delay	•		•		•		•		•		•		•		•	
Acquisition Status	•		•		•		•		•		•		•		•	
GigE Vision 2.0												•		•		•
<b>Standard Features</b>																
Gain	•		•		•		•		•		•		•		•	
Gain Auto	•		•		•		•		•		•		•		•	
Black Level	•		•		•		•		•		•		•		•	
DigitalShift	•		•		•		•		•		•		•		•	
Region of Interest (ROI)	•		•		•		•		•		•		•		•	
Binning Horizontal	•		•		•		•		•		•		•		•	
Binning Vertical	• <sup>1</sup>		•		•		•		•		•		•		•	
Decimation Horizontal					• <sup>3</sup>				•							
Decimation Vertical			•		• <sup>3</sup>				•							
Scaling Horizontal									•							
Scaling Vertical									•							
Reverse X (Horizontal Mirroring)	•		•		•		•		•		•		•		•	
Reverse Y (Vertical Mirroring)			•								•		•		•	
Stacked Zone Imaging			•													
Gamma Correction	•		•		•		•		•		•		•		•	
Exposure Mode: Trigger Width (Control via external trigger)	• <sup>1</sup>		•								•		•			
Exposure Auto	•		•		•		•		•		•		•		•	
Auto Function Profile	•		•		•		•		•		•		•		•	
Lookup Table (LUT)	•		•		•		•		•		•		•		•	
Test Images	•		•		•		•		•		•		•		•	
Sequencer	•		•		•		•		•		•		•		•	
<b>GigE Vision 2.0</b>																
Precision Time Protocol (IEEE 1588)												•		•		•
Action Commands (Synchronous Triggering)												•		•		•
Scheduled Action Commands												•		•		•

<sup>1</sup> not available for acA750-30gm/gc  
<sup>2</sup> only available for acA750-30gm/gc  
<sup>3</sup> not available for acA1280-60gm/gc

Sensors ace GigE Camera Models	Sony CCD		CMOSIS		e2V		ON Semi-conductor MT9P		ON Semi-conductor MT9J/F		ON Semi-conductor PYTHON		Sony Pregius		Sony STARVIS	
	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color	mono	color
<b>Miscellaneous</b>																
Remove Parameter Limits	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
User Defined Values	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Device Information Parameters	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
User Sets (Configuration Sets)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Device Temperature											•	•	•	•	•	•
<b>Color Creation and Enhancement</b>																
sRGB Gamma Correction	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Balance White (Manual White Balance)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Balance White Auto (Automatic White Balance)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Light Source Presets	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Color Transformation (RGB to RGB)	• <sup>1</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Color Transformation (YUV to RGB)	• <sup>2</sup>															
Color Adjustment (6 axis Hue/Saturation)	• <sup>1</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
PGI												•	•	•	•	•
<b>Chunks</b>																
Timestamp	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Line Status All	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
CRC Checksum	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Trigger Input Counter	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Frame Counter	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Sequence Set Index	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Exposure Time	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Gain Raw												•	•	•	•	•
<b>Event Reporting</b>																
Exposure End	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Frame Start	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Frame Start Overtrigger	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Acquisition Start	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Acquisition Start Wait												•	•	•	•	•
Acquisition Start Overtrigger	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Critical Temperature												•	•	•	•	•
Over Temperature												•	•	•	•	•
<b>Pixel Formats</b>																
Mono 8	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Mono 10												•	•	•	•	•
Mono 10p (Mono 10 Packed)												•	•	•	•	•
Mono 12	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Mono 12 Packed (Mono 12 Packed)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
YCbCr422_8 (YUV422_8)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Bayer 8	• <sup>1</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Bayer 10													•	•	•	•
Bayer 10p (Bayer 10 Packed)													•	•	•	•
Bayer 12	• <sup>1</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Bayer 12p (Bayer 12 Packed)	• <sup>1</sup>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

<sup>1</sup> not available for acA750-30gm/gc



<sup>2</sup> only available for acA750-30gm/gc



ace Camera Link Camera Models	CMOSIS	
	mono	color
<b>Physical Interface and I/O Control</b>		
Configurable Input/Output Lines		•
General Purpose I/O		1
Debouncer		•
I/O Signals: Exposure Active Signal		•
Minimum Output Pulse Width		•
<b>Image Acquisition Control</b>		
Trigger Delay		•
Acquisition Status		•
Trigger Wait / Trigger Ready Signal		•
Selectable Camera Link Baud Rate		•
<b>Color Creation and Enhancement</b>		
Balance White (Manual White Balance)		•
sRGB Gamma Correction		•
Color Transformation		•
<b>Standard Features</b>		
Gain		•
Black Level		•
Area of Interest		•
Gain Auto		•
Exposure Mode: Timed (Control via API)		•
Exposure Mode: Trigger Width (Control via external trigger)		•
Auto Function Profile		•
Decimation Vertical		•
Binning	•	
Reverse X (Horizontal Mirroring)		•
Reverse Y (Vertical Mirroring)		•
Lookup Table (LUT)		•
Remove Parameter Limits		•
Test Images		•
Sequencer		•
Device Information Parameters		•
<b>Chunks</b>		
Sequence Set Index		•
Exposure Time		•
<b>Pixel Formats</b>		
Mono 8	•	
Mono 10	•	
Mono 12	•	
Bayer GB 8		•
Bayer GB 10		•
Bayer GB 12		•
Adjustable Camera Link Pixel Clock Speed		•
<b>Miscellaneous</b>		
User Defined Values		•
Remove Parameter Limits		•
User Sets (Configuration Sets)		•

# Features dart




Basler Cameras	dart USB		dart BCON	
Interface				
	mono	color	mono	color
<b>Interface Features</b>				
USB 3.0 Superspeed		•		
USB 2.0 Backward Compatible		•		
<b>Physical Interface and I/O Control</b>				
Debouncer		•		•
Minimum Output Pulse Width		•		•
Exposure Active Signal		•		•
Flash Window Signal		•*		•**
User Output		•		•
Line Source Signals: User Output		•		•
<b>Image Acquisition Control</b>				
FrameStartTrigger		•		•
Triggered by Hardware		•		•
Triggered by Software		•		•
Acquisition Status		•		•
<b>Standard Features</b>				
Gain		•		•
Gain Auto		•		•
Black Level		•		•
Region of Interest		•		•
Binning Horizontal		•		•
Binning Vertical		•		•
Reverse X (Horizontal Mirroring)		•		•
Reverse Y (Vertical Mirroring)		•		•
Gamma Correction (User)		•		•
Exposure Control via API		•		•
Exposure Control via external trigger		•*		•**
Automatic Exposure Control		•		•
Auto Function Profile		•		•
Test Images		•		•
<b>Miscellaneous</b>				
User Defined Values		•		•
Device Information Parameters		•		•
Configuration Sets		•		•
<b>Color Creation and Enhancement</b>				
Balance White Auto (Automatic White Balance)		•		•
Color Adjustment (6 axis Hue/Saturation)		•		•
PGI		•		•
Light Source Presets		•		•
Backlight Compensation		•		•
Anti-Flicker		•		•
Contrast Enhancement		•		•
Balance White (Manual White Balance)		•		•
S-Curve Contrast Mode		•		•
sRGB Gamma Correction		•		•
<b>Pixel Formats</b>				
Mono8		•		•
Mono12		•		•
YCbCr422_8		•		•
Bayer8		•		•
Bayer12		•		•
RGB8		•		•

\* not available for daA1280-54uc, daA1280-54um, daA1600-60uc, daA1600-60um

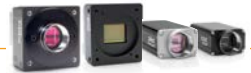
\*\* only for daA2500-14bc/bm





Basler Cameras		pulse	
Interface			
	mono	color	
<b>Interface Features</b>			
USB 3.0 Superspeed	●		
USB 2.0 Backward Compatible	●		
<b>Image Acquisition Control</b>			
Frame Start Trigger	●		
Triggered by Software	●		
Acquisition Status	●		
<b>Standard Features</b>			
Gain	●		
Gain Auto	●		
Black Level	●		
Region of Interest	●		
Binning Horizontal	●		
Binning Vertical	●		
Reverse X (Horizontal Mirroring)	●		
Reverse Y (Vertical Mirroring)	●		
Gamma Correction (User)	●		
Exposure Control via API	●		
Automatic Exposure Control	●		
Auto Function Profile	●		
Test Images	●		
<b>Miscellaneous</b>			
User Defined Values	●		
Device Information Parameters	●		
Configuration Sets	●		
<b>Color Creation and Enhancement</b>			
Balance White Auto (Automatic White Balance)	●		
Color Adjustment (6 axis Hue/Saturation)	●		
PGI	●		
Light Source Presets	●		
Backlight Compensation	●		
Anti-Flicker	●		
Contrast Enhancement	●		
Balance White (Manual White Balance)	●		
S-Curve Contrast Mode	●		
sRGB Gamma Correction	●		
<b>Pixel Formats</b>			
Mono8	●		
Mono12	●		
YCbCr422_8		●	
Bayer8		●	
Bayer12		●	
RGB8		●	

# Features aviator, Basler beat, pilot and scout Cameras



Basler Cameras	aviator	aviator	Basler beat	pilot	scout	scout
Interface						
<b>Standard Features</b>						
Configurable Input/Output Lines	●	●	●	●	●	●
Adjustable Camera Link Pixel Clock Speed		●	●			
Selectable Camera Link Baud Rate		●	●			
Adjustable Gain All	●	●	●	●	●	●
Individual Tap Gain Adjustment	●	●		●		
Adjustable Black Level All	●	●	●	●	●	●
Individual Tap Black Level Adjustment	●	●		●		
Manual White Balance*	●	●	●	●	●	●
Digital Shift*	●	●		●	●	●
Area of Interest	●	●	●	●	●	●
Prelines	●	●				
Automatic White Balance*	●	●	●	●	●	●
Automatic Gain Control*	●	●	●	●	●	●
Automatic Exposure Control*	●	●	●	●	●	●
Auto Function Profile*	●	●	●	●	●	●
Binning up to 4 x 4* (Mono)	●	●		●	●	●
Stacked Zone Imaging*			●			
Reverse X (Horizontal Mirroring)	●	●	●	●	●	●
Reverse Y (Vertical Mirroring)	●	●	●			
Lookup Table	●	●	●	●	●	●
Gamma Correction (User)	●	●	●	●	●	●
sRGB Gamma Correction*	●	●	●	●	●	
Enhanced Color*	●	●	●	●	●	
User Defined Values	●	●	●			
Remove Parameter Limits	●	●		●	●	●
Debouncer	●	●	●	●	●	●
Minimum Output Pulse Width*	●	●	●	●	●	
Trigger Delay	●	●	●	●	●	●
Acquisition Status	●	●	●	●	●	●
Event Reporting	●			●	●	●
Test Images	●	●	●	●	●	●
Device Information Parameters	●	●	●	●	●	●
Configuration Sets	●	●	●		●	●
Temperature Readout	●	●		●	●	●
Flash Window Signal*						
Trigger Wait / Trigger Ready Signal*	●	●	●	●	●	●
Exposure Active Signal	●	●	●	●	●	●
Sequencer	●	●		●	●	
<b>Chunk Features</b>						
Time Stamp	●			●	●	●
Trigger Input Counter	●			●	●	●
I/O Line Status	●			●	●	●
CRC Checksum	●			●	●	●
Frame Counter	●			●	●	●
Sequence Set Index*	●			●	●	
Exposure Time	●			●	●	

\*This feature may not be available on all camera versions

# Features aviator, Basler beat, pilot and scout Cameras



Basler Cameras	aviator	aviator	Basler beat	pilot	scout	scout
Interface						
<b>Software</b>						
Software Triggering	•	•	•	•	•	•
<b>Pixel Data Formats</b>						
Mono 8	•	•	•	•	•	•
Mono 10*		•	•			
Mono 12	•	•	•			
Mono 16*				•	•	•
Mono 12 Packed*	•			•	•	•
YUV 4:2:2 Packed (Ylber 422)	•			•	•	•
YUV 4:2:2 (YUYV) Packed	•			•	•	•
Raw 8						
RGB 8 Packed*					•	
RGB 8*	•			•		
Bayer GB 8*	•		•	•		
Bayer RG 8*					•	•
Bayer BG 8*				•	•	•
Bayer GR 8*		•				
Bayer GB 10*			•			
Bayer GR 10*		•				
Bayer GB 12*	•					
Bayer GR 12*		•				
Raw 16			•			
Bayer GB 16*				•		
Bayer BG 16*				•	•	•
Bayer GB 12 Packed*	•			•		
Bayer BG 12 Packed*				•	•	•
<b>Hardware</b>						
90° Head Housing				•	•	
Inputs	2	2	4	2	2	2
Outputs	4	1	1	4	4	4
<b>Camera Link Tab Geometries</b>						
1X-1Y		•				
1X2-1Y		•	•			
1X3-1Y			•			
1X8-1Y			•			
1X10-1Y			•			
1X-2YE		•				

\* This feature may not be available on all camera versions

# Features Line Scan Cameras



Basler Cameras	racer	racer	runner	sprint	L301kc	L304kc
Interface						
<b>Standard Features</b>						
Configurable Input/Output Lines	●	●	●			
Selectable Camera Link Pixel Clock Speed		●		●		
Selectable Camera Link Baud Rate		●				
Adjustable Gain	●	●	●	●	●	●
Analog Gain	●	●				
Digital Gain	●	●				
Gain Red*				●	●	●
Gain Green*				●	●	●
Gain Blue*				●	●	●
Gain Green 2*				●		
Offset Red					●	●
Offset Green					●	●
Offset Blue					●	●
Individual Tap Gain Adjustment			●			
Adjustable Black Level All (Offset)	●	●	●	●	●	●
Individual Tap Black Level Adjustment			●			
Digital Shift			●		●	
AOI (Area of Interest)	●	●	●	●	●	●
Time Delayed Line Sum/Average				●		
Offset Shading (DSNU Shading Correction)	●	●		●		●
Gain Shading (PRNU Shading Correction)	●	●	●	●		●
Automatic Gain Control*	●	●				
Automatic Exposure Control*	●	●				
Automatic Function Profile*	●	●				
Manual White Balance*			●	●		
Binning	●	●		●		
Lookup Table	●	●	●	●		
Gamma Correction	●	●	●	●		
User Defined Values	●	●				
Remove Parameter Limits	●	●				
Rotary Encoder Module	●		●			
Frequency Converter	●	●	●			
Spatial Correction (Color)			●			
Debouncer*	●	●		●		
Trigger Delay	●		●			
Acquisition Status	●		●			
Event Reporting	●		●			
Test Images	●	●	●	●	●	●
Device Information	●	●	●	●	●	●
Configuration Sets	●	●	●	●	●	●
Temperature Readout	●	●	●	●	●	●
Trigger Wait/Trigger Ready Signal*	●	●	●			
Exposure Active Signal	●	●	●			
Stamp Features*	●		●	●		●
Error Condition Detection	●	●		●		●
Inversion of Direction*				●		
Exposure Time Control	●	●	●	●	●	●
Dark Noise Cancellation	●	●				●
Heat Dissipation (Optional)			●	●		●
<b>Chunk Features</b>						
Frame Counter	●		●			
Timestamp	●		●			
Input Status @ Line Trigger	●		●			
CRC Checksum	●		●			
Trigger Counters	●		●			
Encoder Counter	●		●			

\* This feature may not be available on all camera versions

# Features Line Scan Cameras



Basler Cameras	racer	racer	runner	sprint	L301kc	L304kc
Interface						
<b>Software</b>						
Software Triggering	•	•	•		•	•
<b>Pixel Data Formats</b>						
Mono 8	•		•			
Mono 12	•					
Mono 16			•			
Mono12 Packed	•		•			
YUV 4:2:2 Packed	•		•			
YUV 4:2:2 (YUYV) Packed	•		•			
8 Bit Output		•		•	•	•
10 Bit Output		•		•	•	•
12 Bit Output		•		•		
<b>Hardware</b>						
Inputs	3	4**	3	2	2	1
Outputs	2	1***	2	1	4	1
<b>Camera Link Tap Geometries</b>						
1X		•		•	•	•
1X2		•		•	•	•
1X3*		•		•		
1X4*		•		•		
1X6*		•				
1X8		•		•		
1X10		•				
1X16*		•				
4X2*		•				

Note: The terminology used here to describe the features on GigE cameras complies with the GigE Vision standard. Accordingly, the terminology used to describe DCAM compliant cameras may differ.

Specifications are subject to change without prior notice.

\* This feature may not be available on all camera versions

\*\* CC1 to CCF4

\*\*\* via Camera Link spare bit

## Basler's Components Enhance Your Vision

Basler offers you extensively tested cables and lenses, which are optimized for use with our Basler cameras. Our cooperation with certified suppliers facilitates the operation of a high-performance image processing system.

An image processing system needs more than just a camera, lens and light source. A stable vision system also requires accessories for handling data transfer.

Basler offers a wide variety of accessories such as lenses, I/O cables, power supplies, data cables, host adapter cards, hubs or switches designed to help you get the most out of your camera. To ensure full compatibility, all accessories are tested with our cameras. Cables and power supplies are all EMC tested for industrial conditions by our support team.

## Basler Original Equipment



The accessories market for machine vision cameras is broad and deep. Therefore, Basler offers products specially developed for our cameras, meaning camera and lens or cables harmonize perfectly with one another. The products are produced exclusively for us and are available

only from Basler. All products with the Basler Original Equipment seal allow top performance when combined with Basler cameras.

### Why Components from Basler?

- Perfect match with our Basler cameras
- Extensive and qualified portfolio
- One-stop-shopping for your image processing system
- Performance stability through premium quality standards
- Qualified selection of components avoids changes in existing systems
- Professional consultancy during preselection

## USB 3.0 Accessories from Basler

Especially with a USB 3.0 interface, it is important to think about the right accessories to achieve stability in a system with one or more cameras. In particular USB 3.0 accessories from the consumer sector may lead to major disadvantages for the user, as they are not designed to handle the higher demands of machine vision applications.

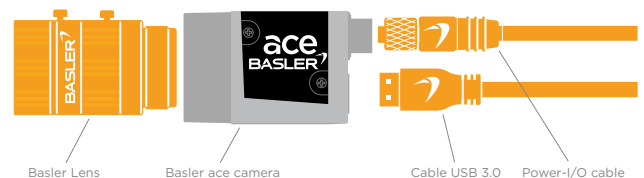
Our portfolio of USB 3.0 accessories covers a broad selection of cables, host adapter cards and a USB 3.0 hub.

### Your Benefits Through USB 3.0 Accessories:

- High stability of your USB 3.0 set up
- Simple integration into all image processing applications
- Tested USB 3.0 accessories with reliable premium quality for industrial applications
- Carefully selected accessories for a perfect match
- Plug and play functionality

Have a look at the matching components for your camera model at [www.baslerweb.com/accessories](http://www.baslerweb.com/accessories)

### Typical set-up of a camera system:



### How Does Basler Measure and Define Image Quality?



Basler is leading the effort to standardize image quality and sensitivity measurement for cameras and sensors. We are giving the EMVA 1288 standard our strongest support because it describes a unified method to measure, compute, and present the specification parameters for cameras and image sensors. Our cameras are characterized and measured in 100% compliance with the EMVA 1288 standard. Measurement reports can be downloaded from our website.

### 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. We have developed a unique combination of optics, hardware, and software tools that can quickly and efficiently calibrate a camera and measure its performance against a set of standard performance criteria. Regardless of what technology or camera model you choose you can be assured of consistent performance.

### 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.

### 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 the USA.



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