



MACHINE VISION

Turning vision into productivity

2018 Ver. 1

COMPANY INTRODUCTION

Industry 4.0 and industry automation is a buzz world in recent years.

Dahua Technology, the world leading supplier in Video Surveillance products and solutions with rich knowledge in image acquisition/processing and pattern recognition, releases its brand-new Machine Vision product line to response the industry 4.0 call.

The new Machine Vision product line covers area scan/line scan (GigE & USB 3.0) industry cameras with full focal length and low distortion optical lens.

What Dahua Machine Vision Products can offer you?

- 20+ years knowledge in image acquisition/processing and pattern recognition
- Free easy-to-use SDK with multi-API ability in different programming language
- Sophisticated test setup to ensure high product reliability
- Dedicated team for customization and wide on-site support coverage worldwide
- Rich product portfolio covering area scan/line scan (GigE & USB3.0) with full focal length and low distortion optical lens

A vertical decorative image on the left side of the page showing a close-up, low-angle view of a modern building's glass facade, with blue-tinted windows and white structural lines.

○ Area Scan Camera

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3000 Series GigE Area Scan Camera

Technical Features

- Ethernet interface provides 1Gbps bandwidth, with maximum 100m transmission distance
- 128MB frame buffer for image data retransmission
- Supports software trigger, external trigger, mixed mode, free run mode, etc
- Supports sharpness, noise reduction, gamma correction, LUT, black level correction, brightness, contrast and other ISP functions
- Supports interpolation algorithm, white balance algorithm, color conversion matrix, hue, saturation and others for color camera
- Supports various output formats for image data and supports ROI, binning, mirror, etc
- Conforms to GigE Vision V2.0 protocol and GenICam standard
- Supports POE power supply and DC 6V~26V wide-range power supply
- Conforms to CE, FCC, UL and RoHS certifications



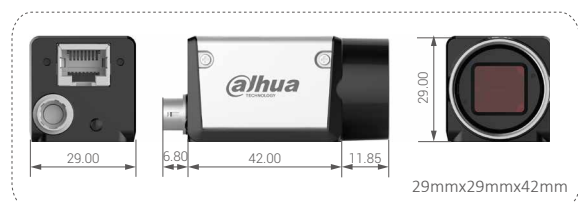
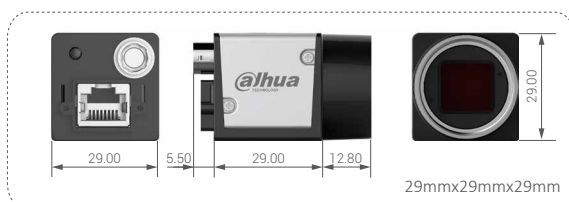
Specification

Model	Sensor type	Shutter	Resolution	Frame Rate(fps)	Bit Depth	Interface	Mono/Color	Pixel Size(μm)	Sensor Size
A3051MG100E	CMOS	Global	800 x 600	120	8/10	GigE	Mono	4.8 x 4.8	1/3.6"
A3131MG100E	CMOS	Global	1280 x 1024	60	8/10	GigE	Mono	4.8 x 4.8	1/2"
A3051M/CG000E	CMOS	Global	800 x 600	120	8/10	GigE,POE	Mono/Color	4.8 x 4.8	1/3.6"
A3135M/CG000E	CCD	Global	1280 x 960	30	8/10/12	GigE,POE	Mono/Color	3.75 x 3.75	1/3"
A3131M/CG000E	CMOS	Global	1280 x 1024	60	8/10	GigE,POE	Mono/Color	4.8 x 4.8	1/2"
A3600M/CG18E	CMOS	Rolling	3072 x 2048	18	8/10/12	GigE,POE	Mono/Color	2.4 x 2.4	1/1.8"
A3A04MG10E	CMOS	Rolling	3856 x 2764	10	8/10/12	GigE,POE	Mono	1.67 x 1.67	1/2.3"

Model	A3051MG100E	A3131MG100E	A3051M/CG000E	A3135M/CG000E	A3131M/CG000E	A3600M/CG18E	A3A04MG10E
Effective Pixels	0.5MP	1.3MP	0.5MP	1.2MP	1.3MP	6.2MP	10.6MP
Signal to Noise Ratio(SNR)	38dB						>32dB
WDR	60dB			63dB	60dB	66dB	
GPIO	1 Opto-isolated input, 1 Opto-isolated output 1 configurable input/ output without Opto-isolation		1 Opto-isolated input, 1 Opto-isolated output				
Image Format	Mono camera: Mono8/10/10Packed		Mono camera: Mono8/10/10Packed Color camera: Mono8, BayerRG8/10/10Packed, BayerGB8/10/10Packed, RGB8Packed, YUV422Packed				
Gain	0dB~18dB			0dB~54dB	0dB~18dB	0dB~48dB	
Gamma	Range from 0 to 4, supports LUT						
Exposure Time	16μS~1S			33.6μS~1S	16μS~1S	208.6μS~1S	34μS~1S
Frame Buffer	Supports 64MB						
User Set	Supports 2 sets of user-defined configurations						
Dimension	29mmx29mmx29mm (Not including the lens mount and the rear case connectors)		29mmx29mmx42mm (Not including the lens mount and the rear case connectors)				
Weight	60g		88g				
Power Supply	DC6V-26V power supply through Hirose connector		DC6V-26V power supply over POE /Hirose connector				
Power Consumption	12V≈2.8W			12V≈3.2W	12V≈3.4W		12V≈2.9W
Lens Mount	C-mount						
Temperature	Storage temperature: -30°C~+80°C, Operating temperature: -30°C~+50°C						

Product Dimensions

Unit: mm



5000 Series GigE Area Scan Camera

Technical Features

- Ethernet interface provides 1Gbps bandwidth, with maximum 100m transmission distance
- 128MB frame buffer for image data retransmission
- Supports software trigger, external trigger, mixed mode, free run mode, etc
- Supports sharpness, noise reduction, gamma correction, LUT, black level correction, brightness, contrast and other ISP functions
- Supports interpolation algorithm, white balance algorithm, color conversion matrix, hue, saturation and others for color camera
- Supports various output formats for image data and supports ROI, binning, mirror, etc
- Conforms to GigE Vision V2.0 protocol and GenICam standard
- Supports POE power supply and DC 6V~26V wide-range power supply
- Conforms to CE, FCC, UL and RoHS certifications



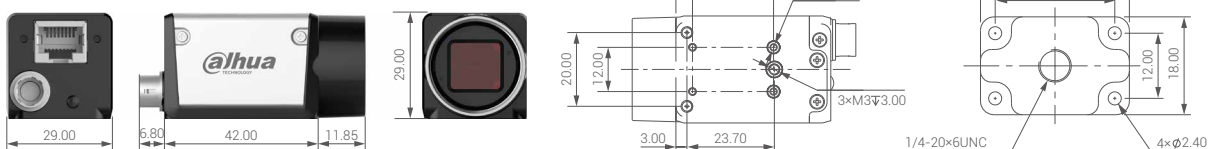
Specification

Model	Sensor type	Shutter	Resolution	Frame Rate(fps)	Bit Depth	Interface	Mono/Color	Pixel Size(μm)	Sensor Size
A5031M/CG300E	CMOS	Global	640 x 480	300	8/10	GigE, POE	Mono/Color	4.8 x 4.8	1/4"
A5051M/CG200E	CMOS	Global	800 x 600	200	8/10	GigE, POE	Mono/Color	4.8 x 4.8	1/3.6"
A5131M/CG75E	CMOS	Global	1280 x 1024	75	8/10	GigE, POE	Mono/Color	4.8 x 4.8	1/2"
A5201M/CG50E	CMOS	Global	1920 x 1200	50	8/10	GigE, POE	Mono/Color	4.8 x 4.8	2/3"
A5501M/CG20E	CMOS	Global	2592 x 2048	20	8/10	GigE, POE	Mono/Color	4.8 x 4.8	1"

Model	A5031M/CG300E	A5051M/CG200E	A5131M/CG75E	A5201M/CG50E	A5501M/CG20E
Effective Pixels	0.3MP	0.5MP	1.3MP	2.3MP	5.3MP
Signal to Noise Ratio(SNR)	>38dB				
WDR	60dB				
GPIO	1 Opto-isolated input, 1 Opto-isolated output				
Image Format	Mono camera: Mono8/10/10Packed Color camera: Mono8, BayerRG8/10/10Packed, BayerGB8/10/10Packed, RGB8Packed, YUV422Packed				
Gain	0dB~18dB				
Gamma	Range from 0 to 4, supports LUT				
Exposure Time	16μs~1s				
Frame Buffer	Supports 64MB				
User Set	Supports 2 sets of user-defined configurations				
Dimension	29mmx29mmx42mm (Not including the lens mount and the rear case connectors)				
Weight	88g				
Power Supply	DC6V~26V power supply over Ethernet(POE)/Hirose connector				
Power Consumption	12V≈3.2W	12V≈3.3W	12V≈3.4W	12V≈3.4W	12V≈3.8W
Lens Mount	C-Mount				
Temperature	Storage temperature: -30°C~+80°C, Operating temperature: -30°C~+50°C				

Product Dimensions

Unit: mm



7000 Series GigE Area Scan Camera

Technical Features

- Ethernet interface provides 1Gbps bandwidth, with maximum 100m transmission distance
- 128MB frame buffer for image data retransmission
- Supports software trigger, external trigger, mixed mode, free run mode, etc
- Supports sharpness, noise reduction, gamma correction, LUT, black level correction, brightness, contrast and other ISP functions
- Supports interpolation algorithm, white balance algorithm, color conversion matrix, hue, saturation others etc for color camera
- Supports various output formats for image data and supports ROI, binning, mirror, etc
- Conforms to GigE Vision V2.0 protocol and GenICam standard
- Supports POE power supply and DC 6V~26V wide-range power supply
- Conforms to CE, FCC, UL and RoHS certifications



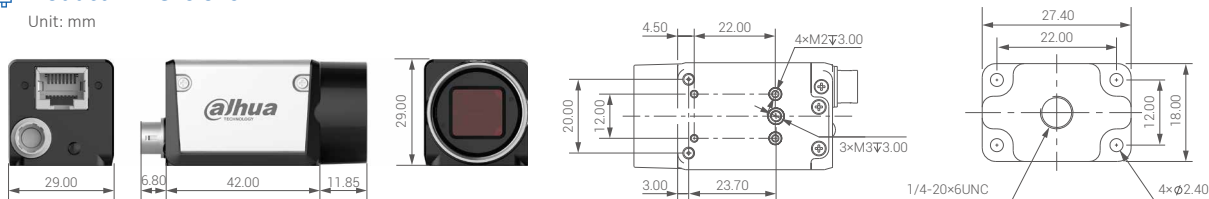
Specification

Model	Sensor type	Shutter	Resolution	Frame Rate(fps)	Bit Depth	Interface	Mono/Color	Pixel Size(μm)	Sensor Size
A7200M/CG30E	CMOS	Global	1920 x 1200	30	12	GigE,POE	Mono/Color	5.86 x 5.86	1/1.2"
A7300M/CG30E	CMOS	Global	2048 x 1536	30	12	GigE,POE	Mono/Color	3.45 x 3.45	1/1.8"
A7500M/CG20E	CMOS	Global	2448 x 2048	20	12	GigE,POE	Mono/Color	3.45 x 3.45	2/3"

Model	A7200M/CG30E	A7300M/CG30E	A7500M/CG20E
Effective Pixels	2.3MP	3.2MP	5.0MP
Signal to Noise Ratio(SNR)	>38dB		
WDR	70dB		
GPIO	1 Opto-isolated input, 1 Opto-isolated output		
Image Format	Mono camera: Mono8/10/10Packed Color camera: Mono8, BayerRG8/10/10Packed, BayerGB8/10/10Packed, RGB8Packed, YUV422Packed		
Gain	0dB~48dB		
Gamma	Range from 0 to 4, supports LUT		
Exposure Time	33.6μS~1S		
Frame Buffer	Supports 64MB		
User Set	Supports 2 sets of user-defined configurations		
Dimension	29mmx29mmx42mm (Not including the lens mount and the rear case connectors)		
Weight	88g		
Power Supply	DC6V-26V power supply over POE/Hirose connector		
Power Consumption	12V≈2.8W	12V≈3.0W	12V≈3.2W
Lens Mount	C-Mount		
Temperature	Storage temperature: -30°C~+80°C, Operating temperature: -30°C~+50°C		

Product Dimensions

Unit: mm



3000 Series USB3 Area Scan Camera

Technical Features

- USB3.0 interface supports theoretical 5Gbps bandwidth, compatible with USB2.0
- interface and provides power supply as well
- Compact mechanical dimension: 29 x 29 x 29 (mm)
- 128MB frame buffer for image data retransmission ;
- Supports software trigger, external trigger, mixed mode, free run mode, etc.
- Supports sharpness, noise reduction, gamma correction, LUT, black level correction, brightness, contrast and other ISP functions
- Supports interpolation algorithm, white balance, color conversion
- matrix, hue, saturation others etc for color camera
- Supports various output formats for image data and supports ROI, binning, mirror, etc.
- Conforms to USB3 Vision protocol and GenICam standard
- Conforms to CE, FCC, UL and RoHS certifications



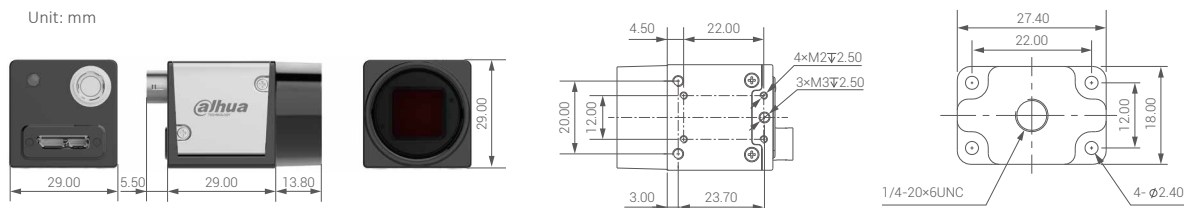
Specification

Model	Sensor	Sensor type	Shutter	Resolution	Frame rate(fps)	Bit depth	Interface	Mono/Color	Pixel size(μm)	Sensor size
A3200CU120E	IMX290	CMOS	Rolling	1920 x 1080	120	10/12	USB 3.0	Color	2.9 x 2.9	1/2.8"
A3600M/CU60E	IMX178	CMOS	Rolling	3072 x 2048	60	8/10/12	USB 3.0	Mono/Color	2.4 x 2.4	1/1.8"
A3A20CU24E	IMX226	CMOS	Rolling	4072 x 3046	24	10/12	USB 3.0	Color	1.85 x 1.85	1/1.7"

Model	A3200CU120E	A3600M/CU60E	A3A20CU24E
Effective Pixels	2.07MP	6.2MP	12.4MP
Signal to Noise Ratio(SNR)	>38dB		
Dynamic range	66dB		
GPIO	1 Opto-isolated input, 1 Opto-isolated output, 2 configurable inputs / outputs without Opto-isolation		
Image format	Mono camer: Mono8/10/10Packed, Color camera: BayerRG8, BayerGB8		
Gain	0dB~72dB	0dB~48dB	0dB~27dB
Gamma	Range from 0 to 4, supports LUT		
Exposure time	208.6μS~1S		
Frame buffer	Supports 64MB		
User set	Supports 2 sets of user-defined configurations		
Dimension	29mm*29mm*29mm(Not including the lens mount and the rear case connectors)		
Weight	88g		
Power supply	Power supply via USB interface		
Power consumption	≈2.8W	≈2.4W	≈2.4W
Lens mount	C-Mount		
Temperature	Storage temperature: -30°C~+80°C, Operating temperature: -30°C~+50°C		

Product dimensions

Unit: mm



5000 Series USB3 Area Scan Camera

Technical Features

- USB3.0 interface supports theoretical 5Gbps bandwidth, compatible with USB2.0
- interface and provides power supply as well
- Compact mechanical dimension: 29 x 29 x 29 (mm)
- 128MB frame buffer for image data retransmission
- Supports software trigger, external trigger, mixed mode, free run mode, etc
- Supports sharpness, noise reduction, gamma correction, LUT, black level qcorrection, brightness, contrast and other ISP functions
- Supports interpolation algorithm, white balance algorithm, color conversion qmatrix, hue, saturation others etc for color camera
- Supports various output formats for image data and supports ROI, binning, mirror, etc
- Conforms to USB3 Vision protocol and GenICam standard
- Conforms to CE, FCC, UL and RoHS certifications

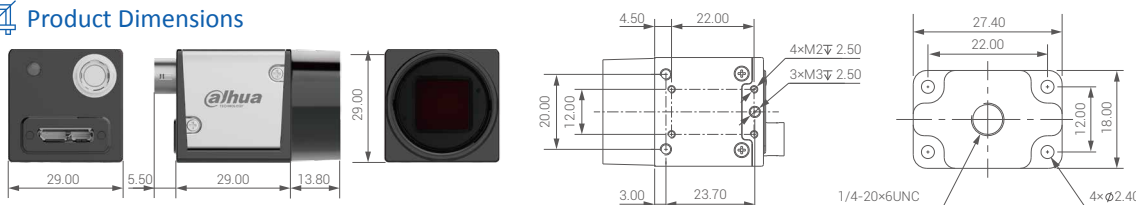


Specification

Model	Sensor type	Shutter	Resolution	Frame Rate(fps)	Bit Depth	Interface	Mono/Color	Pixel Size(μm)	Sensor Size
A5031M/CU815E	CMOS	Global	640 x 480	815	8/10	USB 3.0	Mono/Color	4.8 x 4.8	1/4"
A5051M/CU545E	CMOS	Global	800 x 600	545	8/10	USB 3.0	Mono/Color	4.8 x 4.8	1/3.6"
A5131M/CU210E	CMOS	Global	1280 x 1024	210	8/10	USB 3.0	Mono/Color	4.8 x 4.8	1/2"
A5201M/CU150E	CMOS	Global	1920 x 1200	150	8/10	USB 3.0	Mono/Color	4.8 x 4.8	2/3"
A5501M/CU60E	CMOS	Global	2592 x 2048	60	8/10	USB 3.0	Mono/Color	4.8 x 4.8	1"
A5402M/CU90E	CMOS	Global	2048 x 2048	90	8/10/12	USB 3.0	Mono/Color	5.5 x 5.5	1"

Model	A5031M/CU815E	A5051M/CU545E	A5131M/CU210E	A5201M/CU150E	A5501M/CU60E	A5402M/CU90E
Effective Pixels	0.3MP	0.5MP	1.3MP	2.3MP	5.3MP	4.1MP
Signal to Noise Ratio(SNR)	>38dB					
WDR	60dB					
GPIO	1 Opto-isolated input, 1 Opto-isolated output, 2 configurable inputs / outputs without Opto-isolation					
Image Format	Mono camera: Mono8/10/10packed Color camera: BayerRG8, BayerGB8			Mono camer: Mono8/10Packed Color camera: BayerRG8, BayerGB8		Mono camer: Mono8 Color camera: BayerRG8, BayerGB8
Gain	0dB~18dB					0dB~54dB
Gamma	Range from 0 to 4, supports LUT					
Exposure Time	16μS~1S					28.9μS~1S
Frame Buffer	Supports 64MB					
User Set	Supports 2 sets of user-defined configurations					
Dimension	29mmx29mmx29mm (Not including the lens mount and the rear case connectors)					
Weight	60g					
Power Supply	Power supply via USB interface					
Power Consumption	≈3.4W			≈3.8W	≈4.2W	
Lens Mount	C-Mount					
Temperature	Storage temperature: -30℃~+80℃, Operating temperature: -30℃~+50℃					

Product Dimensions



7000 Series USB3 Area Scan Camera

Technical Features

- USB3.0 interface supports theoretical 5Gbps bandwidth, compatible with USB2.0 interface and provides power supply as well
- Compact mechanical dimension: 29 x 29 x 29 (mm)
- 128MB frame buffer for image data retransmission
- Supports software trigger, external trigger, mixed mode, free run mode, etc
- Supports sharpness, noise reduction, gamma correction, LUT, black level correction, brightness, contrast and other ISP functions
- Supports interpolation algorithm, white balance algorithm, color conversion matrix, hue, saturation others etc for color camera
- Supports various output formats for image data and supports ROI, binning, decimation, mirror, etc
- Conforms to USB3 Vision protocol and GenICam standard
- Conforms to CE, FCC, UL and RoHS certifications



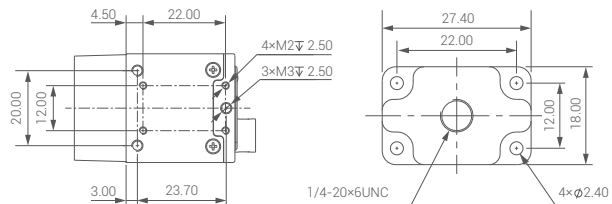
Specification

Model	Sensor	Sensor type	Shutter	Resolution	Frame Rate(fps)	Bit Depth	Interface	Mono/Color	Pixel Size(μm)	Sensor Size
A7200M/CU130E	IMX174	CMOS	Global	1920 x 1200	130	8/10/12	USB 3.0	Mono/Color	5.86 x 5.86	1/1.2"
A7300M/CU90E	IMX252	CMOS	Global	2048 x 1536	90	8/10/12	USB 3.0	Mono/Color	3.45 x 3.45	1/1.8"
A7500M/CU75E	IMX250	CMOS	Global	2448 x 2048	75	8/10/12	USB 3.0	Mono/Color	3.45 x 3.45	2/3"

Model	A7200M/CU130E	A7300M/CU90E	A7500M/CU75E
Effective Pixels	2.3MP	3.2MP	5MP
Signal to Noise Ratio(SNR)	>38dB		
WDR	70dB		
GPIO	1 Opto-isolated input, 1 Opto-isolated output, 2 configurable inputs / outputs without Opto-isolation		
Image Format	Mono camer: Mono8/10/10Packed, Color camera: BayerRG8, BayerGB8		
Gain	0dB~48dB		
Gamma	Range from 0 to 4, supports LUT		
Exposure Time	33.6μs~1s		
Frame Buffer	Supports 64MB		
User Set	Supports 2 sets of user-defined configurations		
Dimension	29mmx29mmx29mm (Not including the lens mount and the rear case connectors)		
Weight	60g		
Power Supply	Power supply via USB interface		
Power Consumption	≈3.91W		≈4.2W
Lens Mount	C-Mount		
Temperature	Storage temperature: -30°C~+80°C, Operating temperature: -30°C~+50°C		

Product Dimensions

Unit: mm



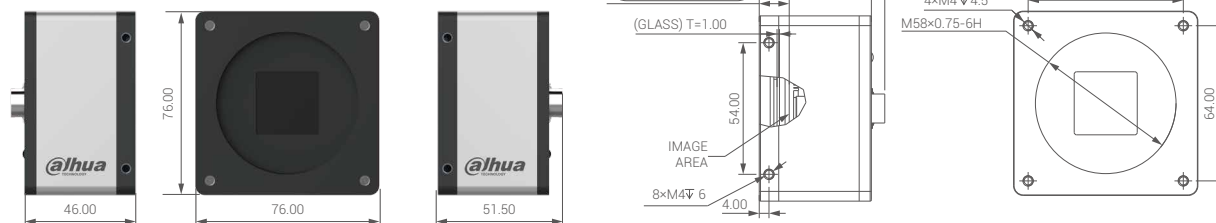
- Ethernet interface provides theoretical 1Gbps bandwidth, with maximum 100m transmission distance
- Provides 256MB frame buffer for image data retransmission
- Supports Software trigger, external trigger, free run mode, etc
- Supports edge enhancement, noise reduction, automatic exposure, black level correction, gamma correction, LUT and other ISP functions
- Supports interpolation, white balance, color conversion matrix, hue, saturation for color camera
- Supports various output formats for image data and supports ROI, binning, mirror, etc
- Conforms to GigE Vision protocol and GenICam standard
- Support DC12V~24V wide-range power supply
- Conforms to CE, FCC, UL and RoHS certification



Model	Sensor type	Shutter	Resolution	Frames Rate(fps)	Bit Depth	Interface	Mono/Color	Pixel Size(μm)	Sensor Size
A5A21M/CG9E	CMOS	Global	4096x3072	9	8/10	GigE	Mono/Color	4.5x4.5	4/3"
A5B51M/CG4E	CMOS	Global	5120x5120	4	8/10	GigE	Mono/Color	4.5x4.5	APS-H

Model	A5A21M/CG9E	A5B51M/CG4E
Effective Pixels	12MP	25MP
Signal to Noise Ratio(SNR)	41dB	
WDR	59dB	
GPIO	3 Opto-isolated inputs, 3 Opto-isolated outputs	
Image Format	Mono camer: Mono8/10/10Packed, Color camera: Mono8, BayerRG8/10/10packed BayerGB8/10/10packed, RGB8packed, YUV422packed	
Gain	X1~X6	
Shutter	Global shutter, supports Auto/Manual/Once mode ranging from 1us to 1s.	
User Set	Supports 2 sets of user-defined configurations	
Dimension	76mm×76mm×46 mm (not including the rear case connectors)	
Weight	450g	
Power Supply	DC12V-24V	
Power Consumption	12V≈9W	
Lens Mount	M58x0.75, (FBL:12.3mm), M58 to F, M58 to V	
Temperature	Storage temperature: -30°C~+80°C, Operating temperature: -30°C~+50°C	

Unit: mm



5000 Series CoaXPress Large Area Scan Camera

Technical Features

- CoaXPress applies CXP-6 with a theoretical 4*6.25G bandwidth
- Supports external trigger, free run mode, etc.
- Supports flat field correction for multiple user groups
- Supports various output formats for image data and supports ROI, binning and etc.
- Conforms to CoaXPress protocol and GenICam standard
- Supports DC24V wide-range power supply
- Conforms to CE, FCC, UL and RoHS certifications

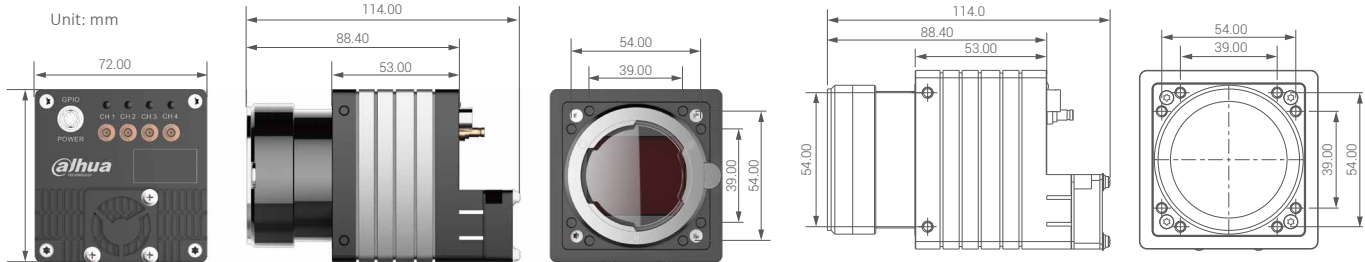


Specification

Model	Sensor	Sensor type	Shutter	Resolution	Frame rate(fps)	Bit depth	Interface	Mono/Color	Pixel Size(μm)	Sensor size
A5E02MX30E	CMV50000	CMOS	Global	7920*6004	30	8/10/12	CoaXPress	Mono	4.6*4.6	35mm

Model	A5E02MX30E
Dynamic range	60dB
GPIO	CoaXPress 4X Links
Gain	X16
Flat filed correction	Supports multi-point correction
Shutter	Global shutter, supports Auto/Manual/Once mode ranging from 1us to 1s
Dimension	72mm×72mm×114mm (not including rear case connectors)
Weight	500g
Power supply	power supply over PoCXP or external source
Power consumption	13W
Lens mount	For M58*0.75 (FBL:12mm)
Temperature	Storage temperature: -30°C~+80°C, Operating temperature: -30°C~+50°C

Product dimensions



5000 Series GigE Line Scan Camera

Technical Features

- The thinnest in the industry: 62mm×62mm×35mm
- Provides 256MB frame buffer for image data retransmission
- Supports API trigger, external trigger, free run mode, etc
- Supports brightness enhancement, gamma correction, LUT and other ISP functions
- Supports flat field correction for multiple user groups, and parameters can be saved
- Supports various output formats for image data and supports ROI, binning and other functions
- Conforms to GigE Vision protocol and GenICam standard
- Support DC12V~24V wide-range power supply
- Conforms to CE, FCC, UL and RoHS certifications



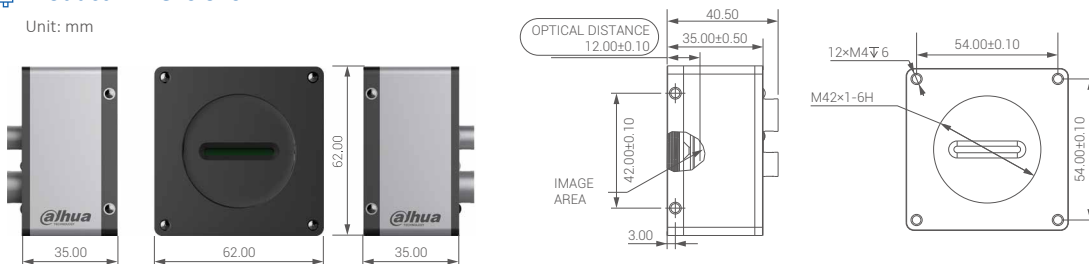
Specification

Model	Sensor type	Resolution	Line Rate(Hz)	Bit Depth	Interface	Mono/Color	Pixel Size(μm)
L5023MG51E	CMOS	2048x1	51K	8/10	GigE	Mono	10x10
L5023CG49E	CMOS	2048x2	49K	8/10	GigE	Color	10x10
L5043MG26E	CMOS	4096x1	26K	8/10/12	GigE	Mono	5x5
L5043CG26E	CMOS	4096x2	26K	8/10/12	GigE	Color	5x5

Model	L5023MG51E	L5023CG49E	L5043MG26E	L5043CG26E
Response(LSB/(nJ/cm2))	162		81	
Signal to Noise Ratio(SNR)	>45dB		>42dB	
WDR	73dB		70dB	
GPIO	2 channels for RS422/SingleEnded input 2 channels for RS422/Single Ended output, 1 channel for configurable RS422/Single Ended input or output, 1 channel GPIO.			
Image Format	Mono camer: Mono8/10/10Packed/12/12packed, Color camera: Mono8, BayerRG8/10/10packed BayerGB8/10/10packed, RGB8packed, YUV422packed			
Flat Field Correction	Supports the import/export of correction results			
Exposure Time	8μs~1s			
Trigger Input	RS422			
User Set	Supports 2 sets of user-defined configurations			
Dimension	62 mm×62mm×35 mm (not including the rear case connectors)			
Weight	230g			
Power Supply	Power supply over Hirose interface, DC 12V~24V			
Power Consumption	12V≈4.5W			
Lens Mount	M42x1 (FBL:12.00mm), M42 to C, M42 to F			
Temperature	Storage temperature: -30℃~+80℃, Operating temperature: -30℃~+50℃			

Product Dimensions

Unit: mm



5000 Series Smart Camera

Technical Features

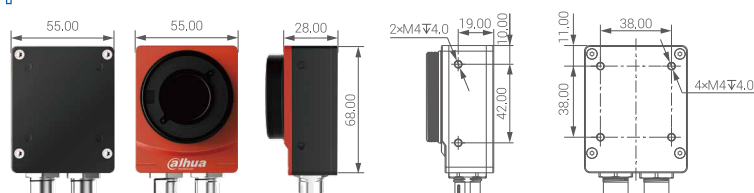
- 0.3Mp~6.0MP, global/rolling shutter, CMOS series product
- 512MB RAM and 512MB non-volatile flash memory
- Supports software trigger/external trigger/free run etc.
- Gigabit Ethernet interface with maximum 1Gbps bandwidth
- Abundant IO interfaces supports RS232/485, 3 Opto-isolated inputs and 3 Opto-isolated outputs
- Supports C/M12 mountlens and optional built-in light source
- Industrial grade M12 connector, IP67 protection level
- Supports DC8V~26V wide-range power supply, suitable for industrial DC12V/24V voltage
- Abundant algorithm tools including ID, Pattern-Match, locating, measurement and OCR etc.



Specification

Model	S5031M/CG00E	S5051M/CG00E	S5131M/CG00E	S5201M/CG00E	S5501M/CG00E	S5600M/CG00E
Sensor t ype and size	CMOS 1/4"	CMOS 1/3.6"	CMOS 1/2"	CMOS 2/3"	CMOS 1"	CMOS 1/1.8"
Resolution	640 x 480	800 x 600	1280 x 1022	1920 x 1200	2590 x 2046	3072 x 2048
Pixel size	4.8μm x 4.8μm	4.8μm x 4.8μm	4.8μm x 4.8μm	4.8μm x 4.8μm	4.8μm x 4.8μm	2.4μm x 2.4μm
Frame rate	300fps@640 x 480	200fps@800 x 600	75fps@1280x1022	50fps@1920 x 1200	20fps@2590 x 2046	18fps@3072x2048
Shutter	Global shutter, supports Auto/Manual/Once mode ranging from 16μS to 1S			Global shutter, supports Auto/Manual/Once mode ranging from 4μS to 1S		Rolling shutter, supports Auto/Manual/Once mode ranging from 34μS to 1S
Signal to Noise Ratio (SNR)	>38dB					
Wide Dynamic range	60dB					66dB
RAM	512MB LPDDR3					
Flash memory	512MB NAND					
Trigger mode	Support software trigger/external trigger/free run etc. mode					
Connector	2 industrial grade M12 connectors: an Ethernet port and a GPIO interface					
Ethernet	Code-A, Gigabit Ethernet with maximal 1Gbps bandwidth					
GPIO	12 pins IO interface, RS232/485, 3 Opto-isolated inputs, 3 Opto-insolated outputs					
Serial communication	RS232/485(optional)					
LED indicator	5 indicators: 1 for system operation, 1 for network operation, 1 for trigger and 2 for user configuration					
Lens type	Support C-mount/M12 lens and optional built-in light source					
Power supply	Support DC8V~26V wide-range power supply, suitable for industrial DC12V/24V voltage;					
Dimensions	68mm x 55mm x 28mm(not including lens mount and interface)					
Temperature	Operating temperature: -20°C~+50°C, Storage temperature: -30°C~+80°C					
Humidity	20%~95%, non-condensing					
Protection level	IP67(appropriate lens hood must be installed correctly)					
Function	ID, Blob and Pattern-Match etc.					

Product dimensions



5000 Series 3D Camera

Technical Features

- High speed output capability of 3D measurement in mm-level after factory calibration procedure
- Flexibly configuration of working distance and field of view
- Integrated 3D calibration tool
- Maximum measurement: 1000*1000*2000mm (W*H*L)
- Capable of 5mm*5mm*5mm high-accuracy measuring
- Supports point cloud and volume measurement

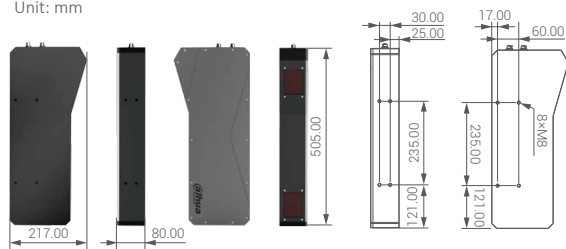


Specification

Model	D5201MU00E
Near FOV	1000mm
Far FOV	2000mm
Working distance	600mm~1600mm/800mm~1800mm
Measuring range(MR)	1000mm
Laser type/level	3B/3R
Measuring Accuracy	5mm×5mm×5mm
Operating temperature	0°C~50 °C
Storage temperature	-30°C~+ 70°C
Humidity	5%~95% (non-condensing)
Protection level	IP65
Interface	LAN/USB/POWER/IO/ENCODER
Power supply	DC12/24V
Speed	2m/s
Function	point cloud, volume measurement

Product dimensions

Unit: mm



MH-M Series Lens

Technical Features

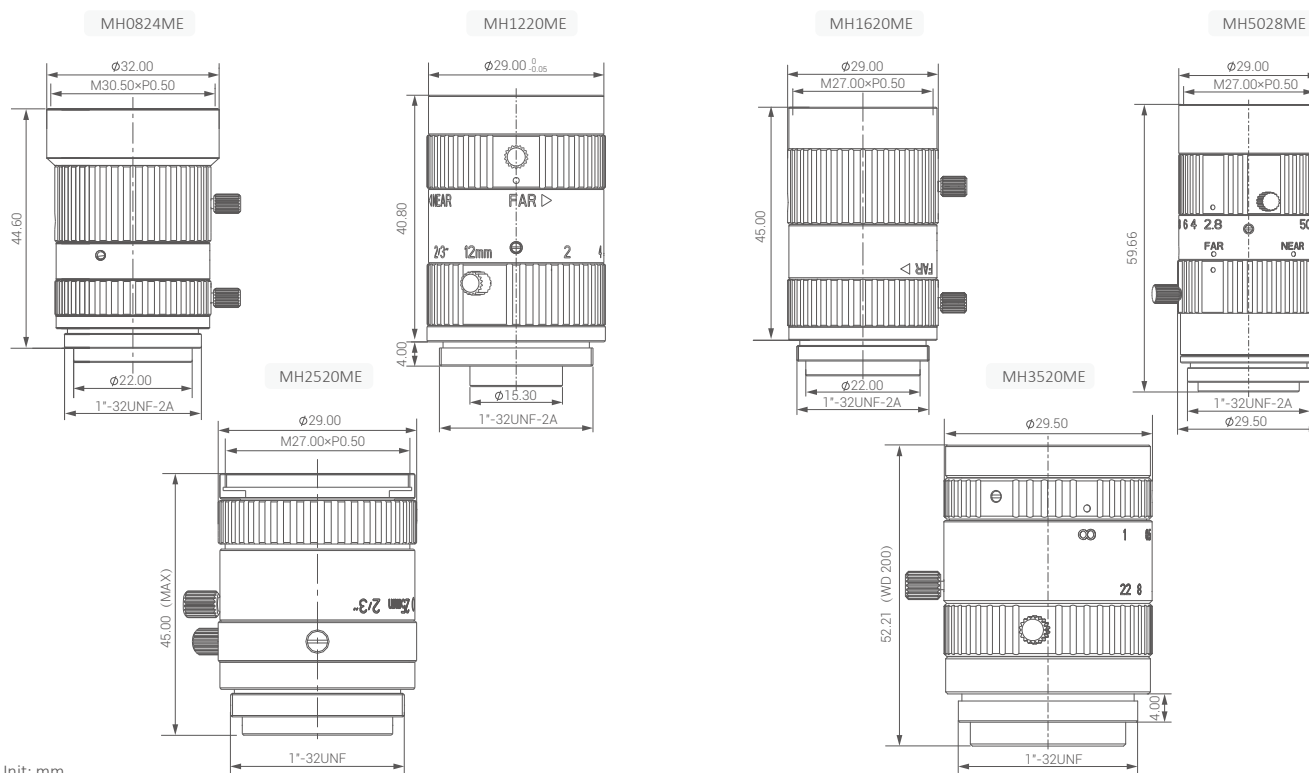
- 2/3" image circle, designed for 200lp/mm (2.4um pixel size)
- Focal length covers from 8mm to 50mm
- High contrast, uniform image quality
- Low distortion, better for image analysis
- Performance optimization for short working distance
- Compact structure to make system integration easier
- Temperature compensation design to keep performance stable when temperature varies from -10°C to +50°C



Specification

Model	MH0824ME	MH1220ME	MH1620ME	MH2520ME	MH3520ME	MH5028ME
Effective Focal Length	8mm	12mm	16mm	25mm	35mm	50mm
Resolution	8MP					
Relative Aperture	F2.4	F2.0	F2.0	F2.0	F2.0	F2.8
Angle of View (2/3")	H	58.1°	40.2°	30.8°	18.8°	14.3°
	V	44.5°	30.6°	23.5°	14.2°	10.8°
	D	70.2°	48.8°	37.8°	23.5°	17.8°
Distortion	<0.25%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
M.O.D	0.08m	0.08m	0.12m	0.2m	0.2m	0.3m
Lens Mount	C-Mount					
Filter Thread	M32xP0.5	M27xP0.5				

Product Dimensions



MH-X Series Lens

Technical Features

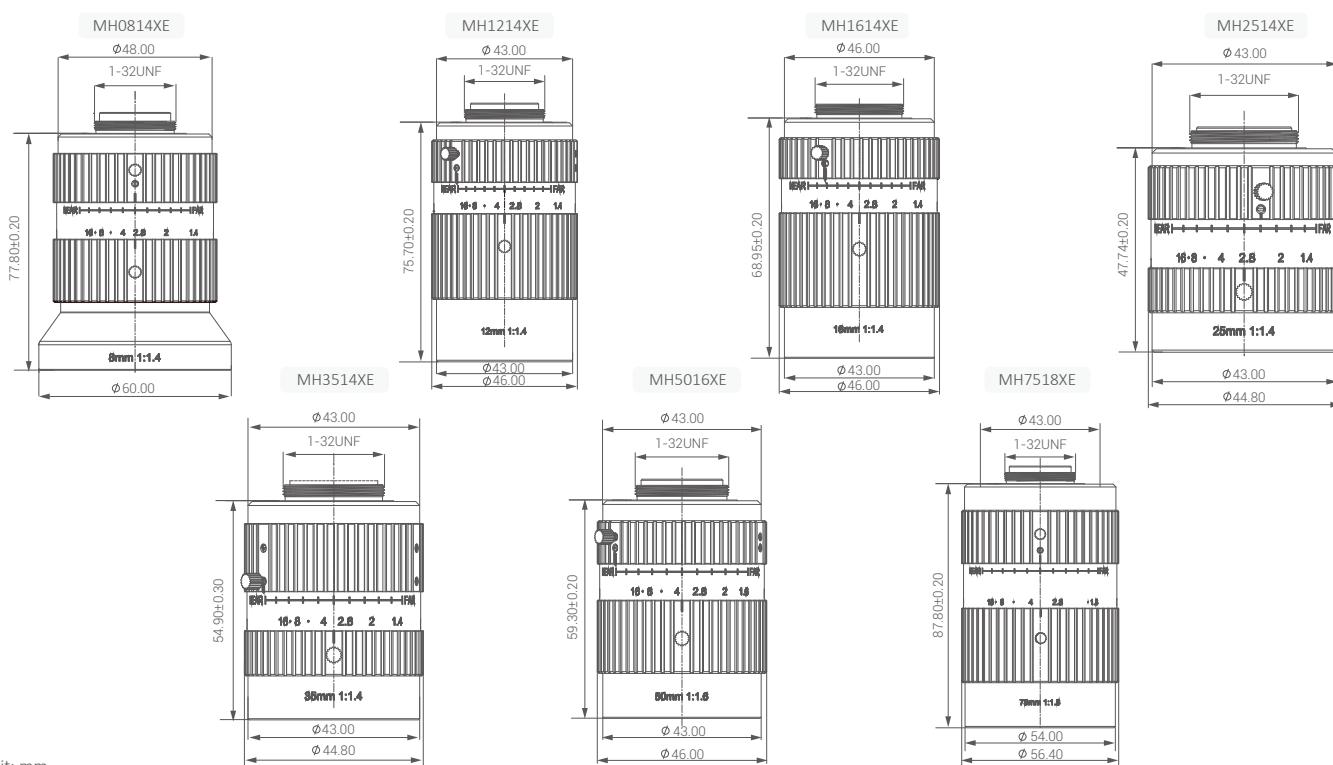
- 1" image circle, designed for 150lp/mm (3.45um pixel size)
- Focal length covers from 8mm to 75mm
- High contrast, uniform image quality
- Low distortion, better for image analysis
- Performance optimization for short working distance
- Compact structure to make system integration easier
- Temperature compensation design to keep performance stable when temperature varies from -10°C to +50°C



Specification

Model	MH0814XE	MH1214XE	MH1614XE	MH2514XE	MH3514XE	MH5016XE	MH7518XE
Effective Focal Length	8mm	12mm	16mm	25mm	35mm	50mm	75mm
Resolution	10MP						
Image Circle	1" (Φ16.8mm)						
Relative Aperture	F1.4	F1.4	F1.4	F1.4	F1.4	F1.6	F1.8
Angle of View(1")	H	77.2°	53.5°	41.6°	28.6°	19.2°	14.5°
	V	61.7°	41.6°	33.5°	22.05°	14.3°	11.6°
	D	89.5°	64.5°	50°	34.8°	23.8°	18°
Distortion	<5%	<0.5%	<0.2%	<0.1%	<0.1%	<0.1%	<0.05%
M.O.D	0.1m	0.1m	0.1m	0.1m	0.15m	0.3m	0.8m
Lens Mount	C-Mount						
Filter Thread	M58x0.75			M40.5xP0.5			

Product Dimensions



Unit: mm

Catalog / Machine Vision

SDK Camera Software Suite

Technical Features

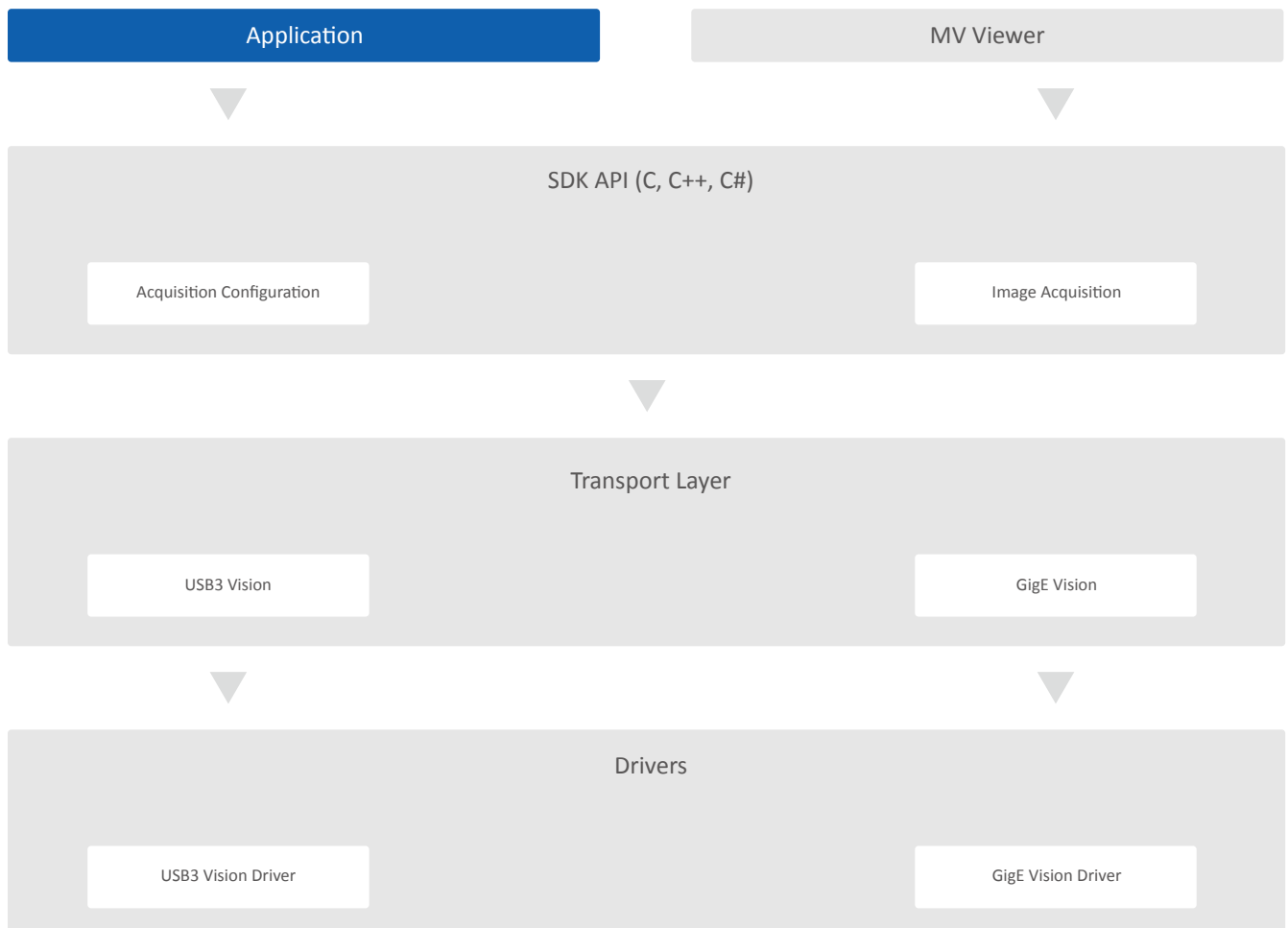
- Dahua SDK fully conforms to GenICam standards
- Transport layer is provided in the manner of plug-ins, which is not visible to the applications, and more scalable
- In order to facilitate secondary development for the users, open frequently used APIs for customers only
- GigE Vision high-performance driver improves the capabilities of integrating and processing of image data packet, while reducing the CPU usage of computer
- USB3 Vision driver supports USB3 Vision standards, and enables high-speed image data transmission at USB3.0 bandwidth
- Users can use the MV Viewer to configure the camera parameters and display & save the images



SDK Camera Software Suite supports all Dahua Area/Line Scan Industrial Cameras. It enables achieving stable and reliable data exchange between the industrial camera and computer, facilitating rapid secondary development for the users.

Dahua SDK camera software suite supports Windows/Linux 32bit/64bit platforms and includes the following modules:

- GigE Vision high-performance driver
- USB3 Vision high-performance driver
- SDK (C, C++, C#)
- MV Viewer



How to ensure superior quality and reliable performance?

Each of our products must undergo the following:

- 13 days of ALT test at temperature ranging from -40°C to +60°C
- 48 hours of humidity and high temperature test at +50°C
- 24 hours of low temperature test at -30°C
- 24 hours of random vibration test with acceleration of 3G across 3 axes and 6 directions
- Drop test from 1 specific angle, 3 edges and 6 sides from a height of 1 meter
- Test metal casing for 6kV electrostatic discharge
- 1kV common mode/2kV differential mode (10/700us) POE surge test
- 2kV common mode (1.2/50us) power surge test
- Class B standard EMC test

3-year warranty

Over the years, Dahua technology has increased its investment in research and development to produce a full range of industrial camera products. And as testament to our confidence in the products, all of Dahua Technology's cameras come with a 3-year warranty.

ENABLING A SAFER SOCIETY AND SMARTER LIVING

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* Design and specifications are subject to change without notice.

Machine Vision, Jan. 2018

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