

ZDS

Beyond your sight

Industrial Camera Product Catalog



Providing key vision hardware products for global industrial precision manufacturing.

ZDS is focusing on machine vision products' innovation, design and development, we are a global manufacture of machine vision key components, providing stable, reliable, easy to use and intelligent vision products for global industrial precision manufacturing.

ZDS always adheres to forward-looking technical research, and independently develops and designs high-performance industrial cameras, such as:USB2.0 / USB3.0 / GigE / 10 GigE / Area scan / Line scan / Smart / 3D camera.

Our vision products are widely used in medical & life sciences, photovoltaics, lithium battery, electronics & semiconductors, automotive industry, retail, building materials, packaging, printing , textile, agriculture and other industries areas.



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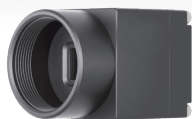
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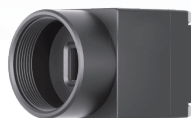
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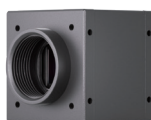
■ ZDS Industrial Cameras Overview



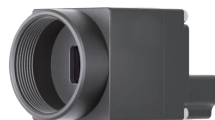
GigE Area Scan M2A Series
0.3MP-20MP
3FPS-350FPS



USB3.0 Area Scan M2A Series
0.3MP-20MP
7FPS-721FPS



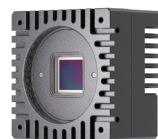
USB3.0 Area Scan MDA Series
2.3MP-25MP, large optical size
17FPS-52FPS



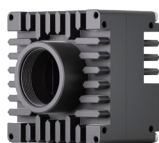
USB2.0 Area Scan M2A Series
1.3MP-0MP
4FPS-30FPS3thin



GigE Area Scan HSA Series
0.2MP-2MP
400FPS-1000FPS



10GigE Area Scan XGA Series
25MP-65MP
16FPS-44FPS, fiber optic transmission



Dual USB3.0 Area Scan GDA Series
25MP, 30FPS
Multi-Exposure



GigE Line Scan GCL Series
2K 4K TDI, High line rate
Mono/Color/NIR



10GigE Line Scan XCL Series
8K 16K TDI, Multi-Exposure
Fiber optic transmission

■ ZDS Model Name Description

▶ Area Scan Series

M2	A	1920	40	U	C
M2: Miniature Area Scan MD: USB3.0 Area Scan GD: Dual USB3.0 Area Scan HS: GigE High FPS Area Scan XG: 10GigE Fiber Optic Area Scan	A: Area Scan L: Line Scan	Width Resolution 1920 means 1920H	40 FPS	U: USB3.0 G: GigE U2:USB 2.0	C: Color M: Mono

▶ Line Scan Series

GCL	2048	120	4	G	M
GCL: GigE Line Scan XCL: 10GigE Fiber Optic Line Scan	Horizontal resolution	Frequency of lines 120Hz	Number of lines 1 line 2 lines 3 lines 4 lines 6 lines	G: GigE F: Fiber Optic	M: Mono C: Color

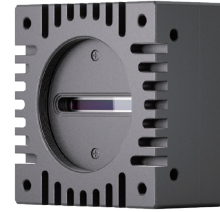
To get the latest product information, please visit [ZDS official website](#)



■ GCL Series GigE Line Scan Cameras

Key Features

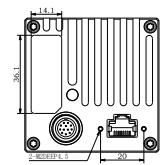
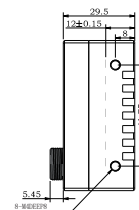
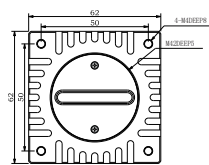
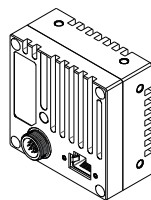
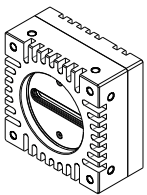
- High Sensitivity, Low Noise
- Support ISP, SCS, TDI
- Support bright/dark field correction, lens shadow correction, distortion correction, light source uniformity correction, etc.
- Large-capacity frame buffer, ensure reliable and real-time transmission
- Power supply 9-52V, low power consumption
- Support GigE Vision, GenICam
- Support OpenCV, Halcon, LabView
- Dimension: 62 mm × 62 mm × 29.5 mm



Specifications

Model	Pixel Size	Shutter	Resolution	Line Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
GCL2048-1204GMNIR	7um	Global	2048x4	120K	Mono (NIR)	10bit	<3W	M42
GCL4096-432GC	7um	Global	4096x2	43K	Color	12bit	<3W	M42
GCL4096-403GC	7um	Global	4096x3	40K	Color	10bit	<3W	M42
GCL4096-403GC	7um	Global	4096x3	40K	Color	10bit	<3W	M42
GCL4096-1204GM	7um	Global	4096x4	120K	Mono	10bit	<3W	M42
GCL4096-1204GMNIR	7um	Global	4096x4	120K	Mono (NIR)	10bit	<3W	M42

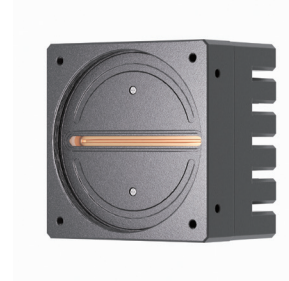
Dimensions



XCL Series Fiber Optic 10GigE Line Scan Cameras

Key Features

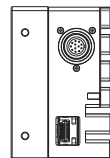
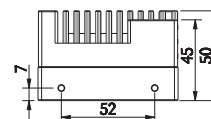
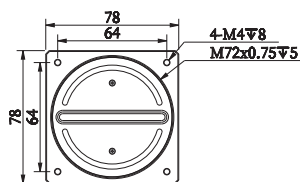
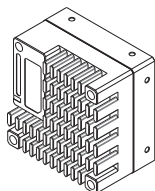
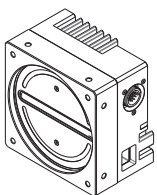
- Fiber optic interface, cable lengths >300m
- Support TDI, SCS (spatial color overlay)
- Support white balance, color temperature correction, color matrix and other types of color ISP functions
- Support general ISP functions such as bright/dark field correction, look-up table, noise reduction, FPN correction, etc.
- Large-capacity frame buffer, ensure reliable and real-time transmission
- Low power consumption, lower camera temperature rise, and less thermal noise
- Power supply: 9-26V DC
- Support GigE Vision, GenICam, Halcon, LabView, OpenCV
- Dimension: 78 mm × 78 mm × 50 mm

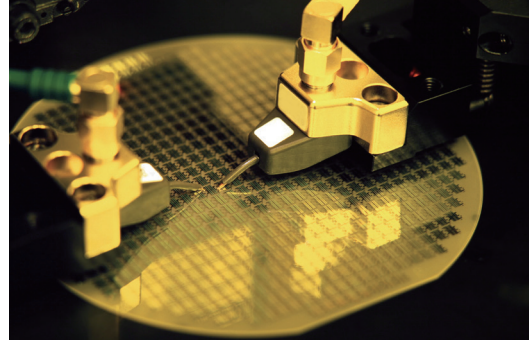


Specifications

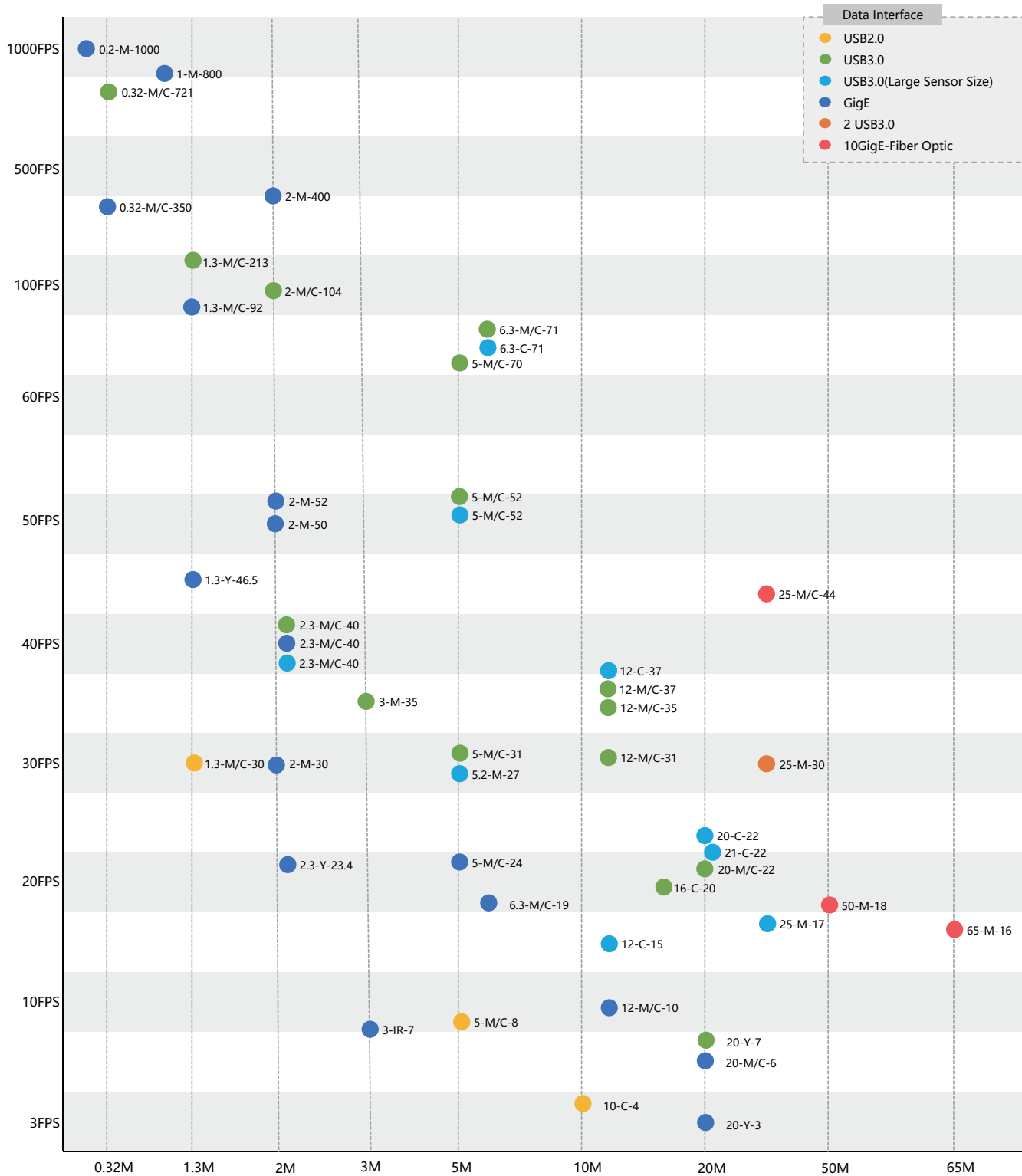
Model	Pixel Size	Shutter	Resolution	Line Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
XCL8192-376FC	7um	Global	8192x6	37K	Color	10bit	<5W	M72
XCL8192-1104FM	7um	Global	8192x4	110K	Mono	10bit	<5W	M72
XCL16384-572FM	3.5um	Global	16384x2	57K	Mono	10bit	<5W	M72

Dimensions





ZDS Industrial Area Scan Camera List

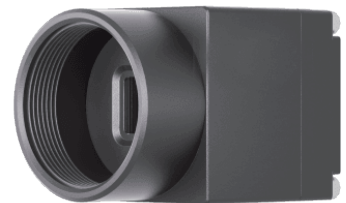




■ M2A Series GigE Area Scan Camera

Key Features

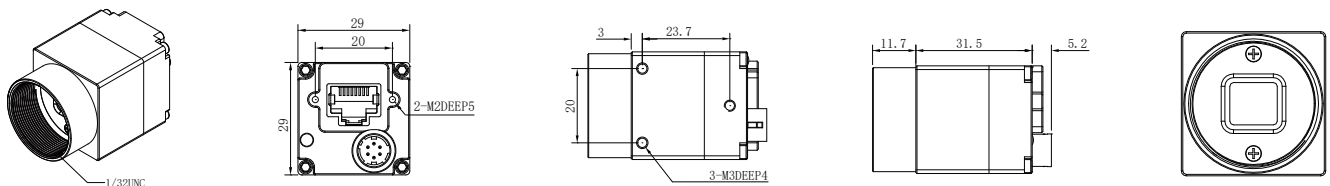
- Outstanding price/performance ratio
- 2nd generation industrial camera, stable and reliable
- Ultra-low power consumption, high image quality
- New structure, higher installation accuracy
- Rich ISP functions, such as noise reduction, FPN, super palette, etc.
- GigE interface, 100m transmission distance
- Support GigE Vision V2.0, GenICam, OpenCV, Halcon, LabView
- Comply with CE, FCC, RoHS
- Dimension: 29 mm × 29 mm × 31.5 mm



Specifications

Model	Optical Size	Pixel Size	Shutter	Resolution	Frame Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
M2A640-350GC	1/5"	4.0um	Global	640x480	350FPS	Color	10bit	<2W	C
M2A640-350GM	1/5"	4.0um	Global	640x480	350FPS	Mono	10bit	<2W	C
M2A1280-92GC	1/2.7"	4.0um	Global	1280x1024	92FPS	Color	10bit	<2W	C
M2A1280-92GM	1/2.7"	4.0um	Global	1280x1024	92FPS	Mono	10bit	<2W	C
M2A1272-46GC	1/2.7"	4.0um	Global	1272x1016	46.5FPS	Color	10bit	<2W	C
M2A1600-52GM	1/1.8"	4.5um	Global	1600x1200	52.4FPS	Mono	12bit	<2W	C
M2A1920-30GMP	1/2.8"	2.9um	Rolling	1920x1080	30FPS	Mono	12bit	<2W	C
M2A1600-49GM	1/2.9"	3.0um	Global	1600x1300	49.7FPS	Mono	12bit	<2W	C
M2A1920-40GC	1/1.2"	5.86um	Global	1920x1200	40FPS	Color	12bit	<2W	C
M2A1920-40GM	1/1.2"	5.86um	Global	1920x1200	40FPS	Mono	12bit	<2W	C
M2A1920-23GCC	1/1.2"	5.86um	Global	1920x1200	23.4FPS	Color	12bit	<2W	C
M2A2736-7GMNIR	1"	4.88um	Rolling	2736x1824	7FPS	Mono (NIR)	12bit	<2W	C
M2A2592-23GC	1/2.5"	2.2um	Rolling	2592x1944	23.8FPS	Color	12bit	<2W	C
M2A2592-23GM	1/2.5"	2.2um	Rolling	2592x1944	23.8FPS	Mono	12bit	<2W	C
M2A2448-24GC	2/3"	3.45um	Global	2448x2048	24FPS	Color	12bit	<2W	C
M2A2448-24GM	2/3"	3.45um	Global	2448x2048	24FPS	Mono	12bit	<2W	C
M2A3072-19GC	1/1.8"	2.4um	Rolling	3072x2048	19FPS	Color	12bit	<2W	C
M2A3072-19GM	1/1.8"	2.4um	Rolling	3072x2048	19FPS	Mono	12bit	<2W	C
M2A4088-9GC	1"	3.1um	Rolling	4088x3072	9.7FPS	Color	12bit	<2W	C
M2A4088-9GM	1"	3.1um	Rolling	4088x3072	9.7FPS	Mono	12bit	<2W	C
M2A4000-10GC	1/1.7"	1.85um	Rolling	4000x3000	10FPS	Color	12bit	<2W	C
M2A4000-10GC	1/1.7"	1.85um	Rolling	4000x3000	10FPS	Mono	12bit	<2W	C
M2A4096-9GC	1"	3.2um	Global	4096x3072	9.7FPS	Color	12bit	<2W	C
M2A4096-9GM	1"	3.2um	Global	4096x3072	9.7FPS	Mono	12bit	<2W	C
M2A5480-6GC	1"	2.4um	Rolling	5480x3648	6.0FPS	Color	12bit	<2W	C
M2A5480-6GC	1"	2.4um	Rolling	5480x3648	6.0FPS	Mono	12bit	<2W	C
M2A5480-3GCC	1"	2.4um	Rolling	5480x3644	3.05FPS	Color	12bit	<2W	C

Dimensions

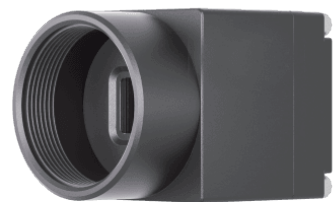




■ M2A Series USB3.0 Area Scan Cameras

Key Features

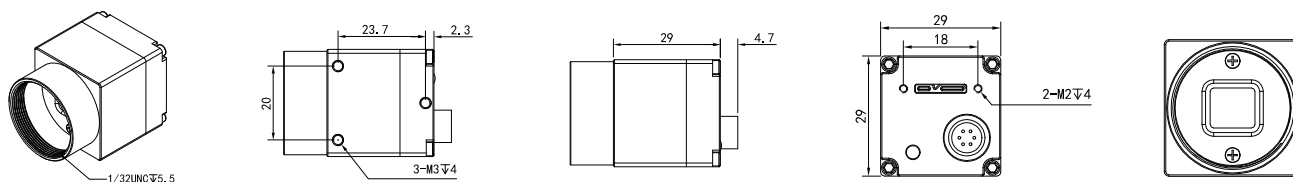
- Small size, 40g ultra-light weight
- Support USB3.0 Vision, Maximum speed up to 440MByte/s
- Large-capacity frame buffer, stable and reliable transmission
- Ultra-low power consumption
- Image pre-processing in FPGA
- Support GenICam, OpenCV, Halcon, LabView
- Comply with CE, FCC, RoHS
- Dimension: 29 mm × 29 mm × 29 mm

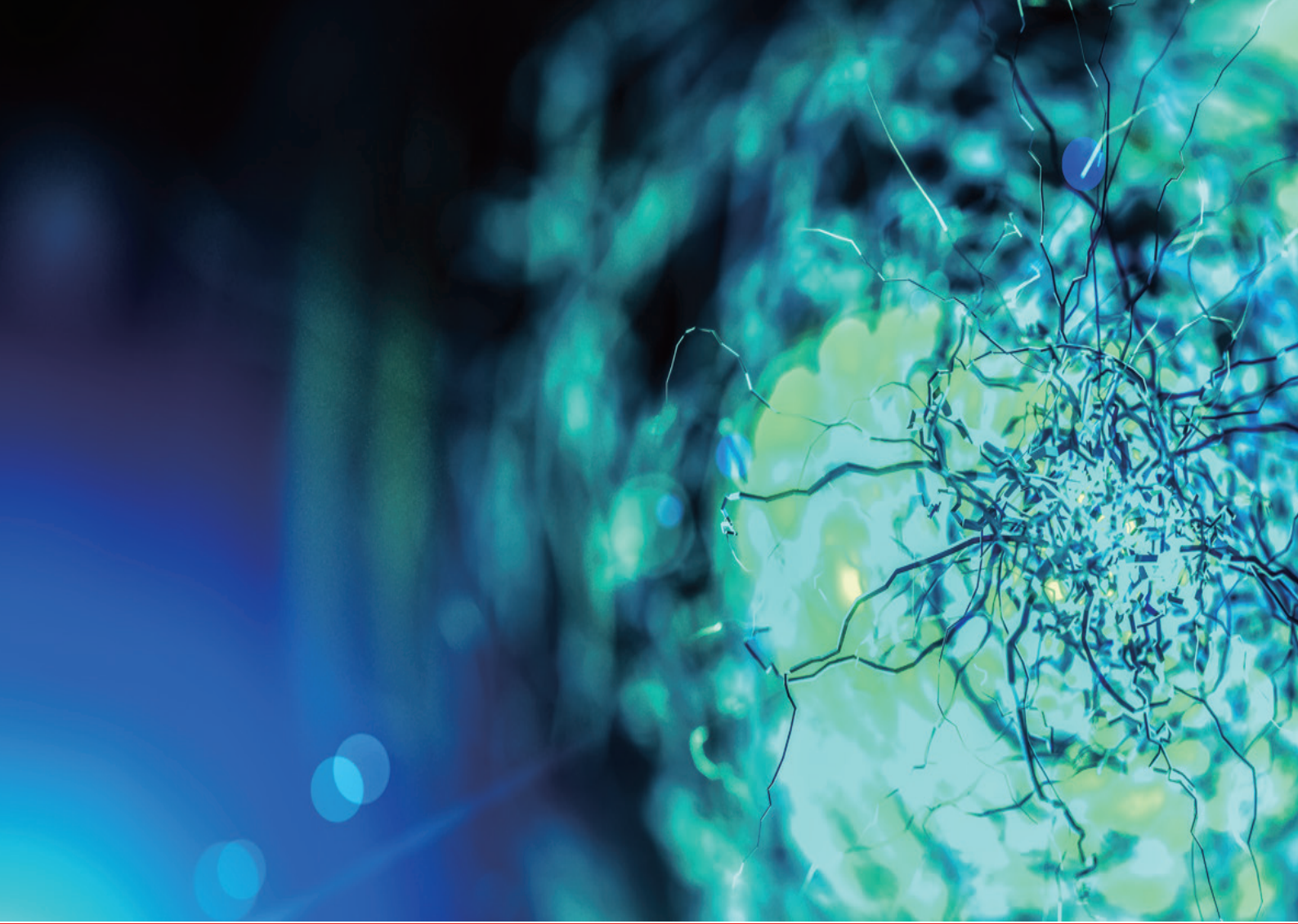


Specifications

Model	Optical Size	Pixel Size	Shutter	Resolution	Frame Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
M2A640-721UC	1/5"	4.0um	Global	640x480	721FPS	Color	10bit	<2W	C
M2A640-721UM	1/5"	4.0um	Global	640x480	721FPS	Mono	10bit	<2W	C
M2A1280-213UC	1/2.7"	4.0um	Global	1280x1024	213FPS	Color	10bit	<2W	C
M2A1280-213UM	1/2.7"	4.0um	Global	1280x1024	213FPS	Mono	10bit	<2W	C
M2A1920-104UC	1/1.8"	4.0um	Rolling	1920x1080	104FPS	Color	12bit	<2W	C
M2A1920-104UM	1/1.8"	4.0um	Rolling	1920x1080	104FPS	Mono	12bit	<2W	C
M2A1920-40UC	1/1.2"	5.86um	Global	1920x1200	40FPS	Color	12bit	<2W	C
M2A1920-40UM	1/1.2"	5.86um	Global	1920x1200	40FPS	Mono	12bit	<2W	C
M2A2044-35UM	1"	6.2um	Rolling	2044x1536	35FPS	Mono	12bit	<2W	C
M2A2592-30UC	1/2.5"	2.2um	Rolling	2592x1944	31FPS	Color	12bit	<2W	C
M2A2592-30UM	1/2.5"	2.2um	Rolling	2592x1944	31FPS	Mono	12bit	<2W	C
M2A2448-70UC	2/3"	3.5um	Global	2448x2048	70fps	Color	12bit	<2.4W	C
M2A2448-51UC	2/3"	3.45um	Global	2448x2048	52FPS	Color	12bit	<2W	C
M2A2448-51UM	2/3"	3.45um	Global	2448x2048	52FPS	Mono	12bit	<2W	C
M2A2448-70UC	2/3"	3.45um	Global	2448x2048	70FPS	Color	12bit	<2W	C
M2A2448-70UM	2/3"	3.45um	Global	2448x2048	70FPS	Mono	12bit	<2W	C
M2A3072-70UC	1/1.8"	2.4um	Rolling	3072x2048	71FPS	Color	12bit	<2W	C
M2A3072-70UM	1/1.8"	2.4um	Rolling	3072x2048	71FPS	Mono	12bit	<2W	C
M2A4088-35UC	1"	3.1um	Rolling	4088x3072	35FPS	Color	12bit	<2W	C
M2A4088-35UM	1"	3.1um	Rolling	4088x3072	35FPS	Mono	12bit	<2W	C
M2A4000-36UC	1/1.7"	1.85um	Rolling	4000x3000	37FPS	Color	12bit	<2W	C
M2A4000-36UM	1/1.7"	1.85um	Rolling	4000x3000	37FPS	Mono	12bit	<2W	C
M2A4096-31UC	1"	3.2um	Global	4096x3072	31FPS	Color	12bit	<2W	C
M2A4096-31UM	1"	3.2um	Global	4096x3072	31FPS	Mono	12bit	<2W	C
M2A4608-20UC	1/2.3"	1.34um	Rolling	4608x3456	20FPS	Color	12bit	<2W	C
M2A5480-22UC	1"	2.4um	Rolling	5480x3648	22FPS	Color	12bit	<2W	C
M2A5480-22UM	1"	2.4um	Rolling	5480x3648	22FPS	Mono	12bit	<2W	C
M2A5480-7UCC	1"	2.4um	Rolling	5480x3648	7FPS	Color	12bit	<2W	C

Dimensions

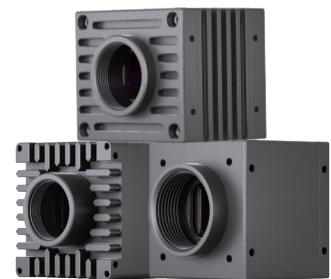




■ MDA Series USB3.0 Area Scan Cameras

Key Features

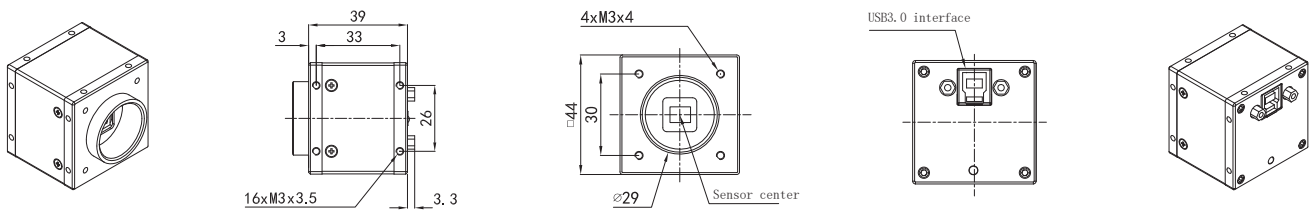
- Large optical size, high sensitivity, ultra-low noise
- Support 4-sided installation
- Highest color fidelity
- Support multi-cameras
- Support Directshow, Twain interface
- Support Windows XP SP3 above, Linux32/64
- Support GenICam, OpenCV, Halcon, LabView
- Comply with CE, FCC, RoHS
- Dimension: 44 mm × 44 mm × 39 mm
48 mm × 56 mm × 43.9 mm
56 mm × 56 mm × 36.2 mm



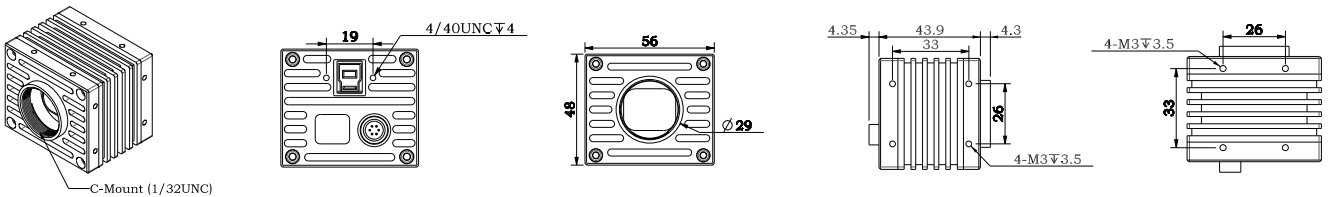
Specifications

Model	Optical Size	Pixel Size	Shutter	Resolution	Frame Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
MDA1920-40UC	1/1.2"	5.86um	Global	1920x1200	40FPS	Color	12bit	<2W	C
MDA1920-40UM	1/1.2"	5.86um	Global	1920x1200	40FPS	Mono	12bit	<2W	C
MDA2448-52UC	2/3"	3.45um	Global	2448x2048	52FPS	Color	12bit	<2W	C
MDA2448-52UM	2/3"	3.45um	Global	2448x2048	52FPS	Mono	12bit	<2W	C
MDA2640-27UM	4/3"	6.9um	Rolling	2640x1978	27FPS	Mono	12bit	<2W	C
MDA3072-71UC	1/1.8"	2.4um	Rolling	3072x2048	71FPS	Color	12bit	<2W	C
MDA4088-15UC	1"	3.1um	Rolling	4088x3072	15FPS	Color	12bit	<2W	C
MDA4000-37UC	1/1.7"	1.85um	Rolling	4000x3000	37FPS	Color	12bit	<2W	C
MDA5480-22UC	1"	2.4um	Rolling	5480x3648	22FPS	Color	12bit	<2W	C
MDA5280-22UC	4/3"	3.45um	Rolling	5280x3952	22FPS	Color	12bit	<2W	C
MDA5120-17UC	1.1"	2.5um	Global	5120x5120	17FPS	Color	12bit	<5W	C
MDA5120-17UM	1.1"	2.5um	Global	5120x5120	17FPS	Mono	12bit	<5W	C

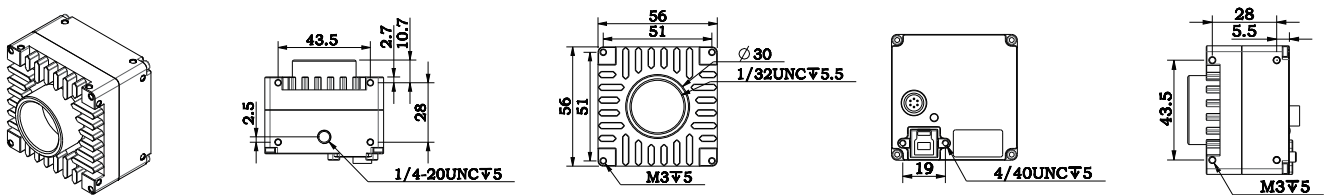
Dimensions



▲ U2A2448-52M, U2A2448-52C, U2A3072-71C, U2A4088-15C, U2A4000-37C, U2A5480-22C



▲ U2A5280-22C, U2A2640-27M



▲ U2A5120-17C

M2A Series USB2.0 Area Scan Cameras

Key Features

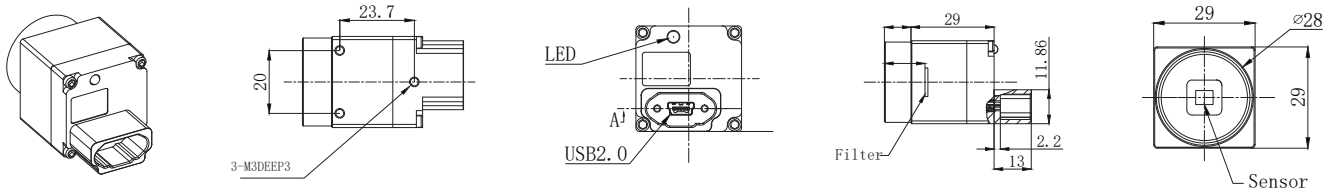
- Cost-effective and ultra-low power consumption
- Support multi-cameras
- Small size and compact
- Stable and reliable, suitable for vibration applications
- Support Windows XP SP3 above, Linux32/64Bit
- Dimension: 29 mm × 29 mm × 29 mm



Specifications

Model	Optical Size	Pixel Size	Shutter	Resolution	Frame Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
M2A1280-30U2C	1/2.7"	4.0um	Global	1280x1204	30FPS	Color	8bit	<2W	C
M2A1280-30U2M	1/2.7"	4.0um	Global	1280x1204	30FPS	Mono	8bit	<2W	C
M2A1279-30U2M	1/2"	5.2um	Rolling	1280x1204	30FPS	Mono	8bit	<2W	C
M2A2592-7U2C	1/2.5"	2.2um	Rolling	2592x1944	7.9FPS	Color	8bit	<2W	C
M2A2592-7U2M	1/2.5"	2.2um	Rolling	2592x1944	7.9FPS	Mono	8bit	<2W	C
M2A2592-8U2M	1/2.5"	2.2um	Rolling	2592x1944	8.1FPS	Mono	8bit	<2W	C
M2A3664-3U2C	1/2.3"	1.67um	Rolling	3664x2748	3.9FPS	Color	8bit	<2W	C

Dimensions



HSA Series High FPS GigE Area Scan Cameras

Key Features

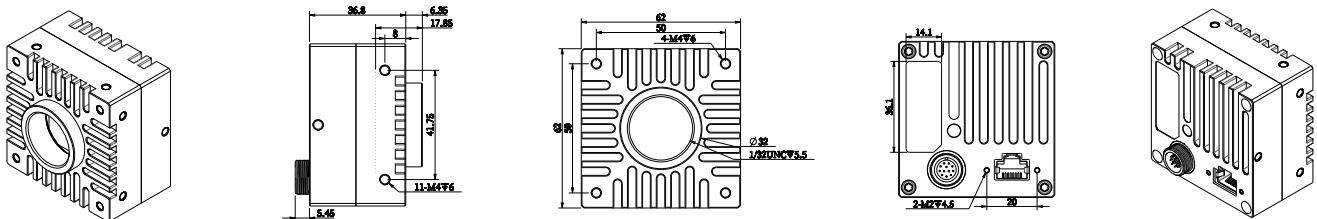
- High FPS, 2M Resolution, 400FPS; 1M Resolution, 900FPS
- Multi-windows ROI
- Rich ISP functions
- Ultra-low power consumption: 4W
- Power supply: 9v-26v DC or POE
- Large-capacity frame buffer, ensure reliable and real-time transmission
- Support: GigE Vision、Gen<i>i</i>Cam、Halcon、LabView、OpenCV
- Dimensions: 62mm×62mm×36.8mm



Specifications

Model	Optical Size	Pixel Size	Shutter	Resolution	Frame Rate	Mono Color	Power Consumption	Lens Mount
HSA2048-400GM	1/1.2"	6um	Global	2048x1080	400FPS	Mono	<4W	C
				2048x512	800FPS			
				2048x128	1000FPS			

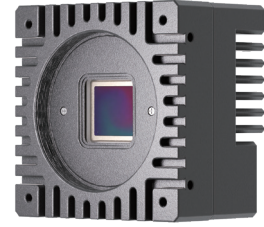
Dimensions



XGA Series Fiber Optic 10GigE Area Scan Cameras

Key Features

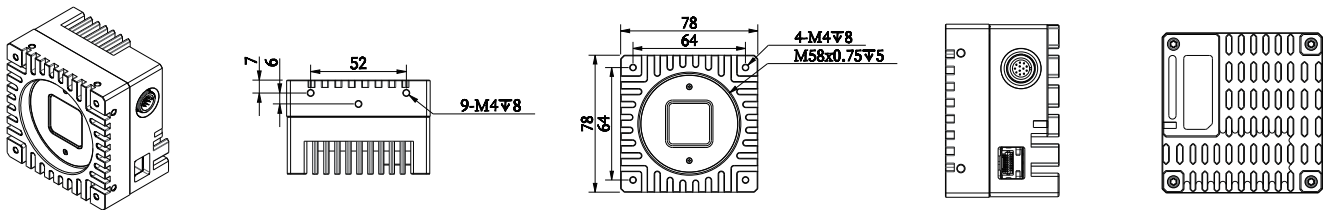
- 25M Resolution, 43.7FPS
- Fiber optic interface, cable lengths >300m
- 8G frame buffer, rich ISP functions
- Support GigE Vision, GenICam
- Power supply: 9-26V DC
- Support OpenCV, Halcon, Labview
- Dimensions: 78mm×78mm×51.2mm



Specifications

Model	Optical Size	Pixel Size	Shutter	Resolution	Frame Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
XGA5120-43FM	1.1"	2.5um	Global	5120x5120	43.7FPS	Mono	12bit	<5W	M58x0.75

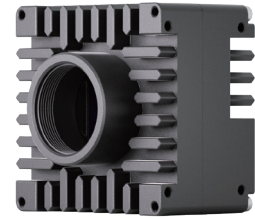
Dimensions



■ GDA Series Dual-USB3.0 Area Scan Cameras

Key Features

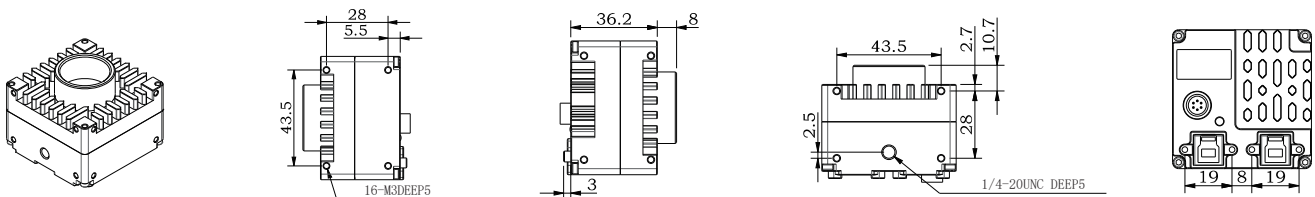
- High-performance FPGA , image pre-processing
- Dual-USB3.0 interface design, delivers up to 10Gbps data in 2 USB3.0 cables
- Large-capacity frame buffer, ensure reliable and real-time transmission
- Operating temperature: -20°C - 60°C
- Ultra-low power consumption, fanless design
- Dimensions: 56 mm × 56 mm × 36.2 mm

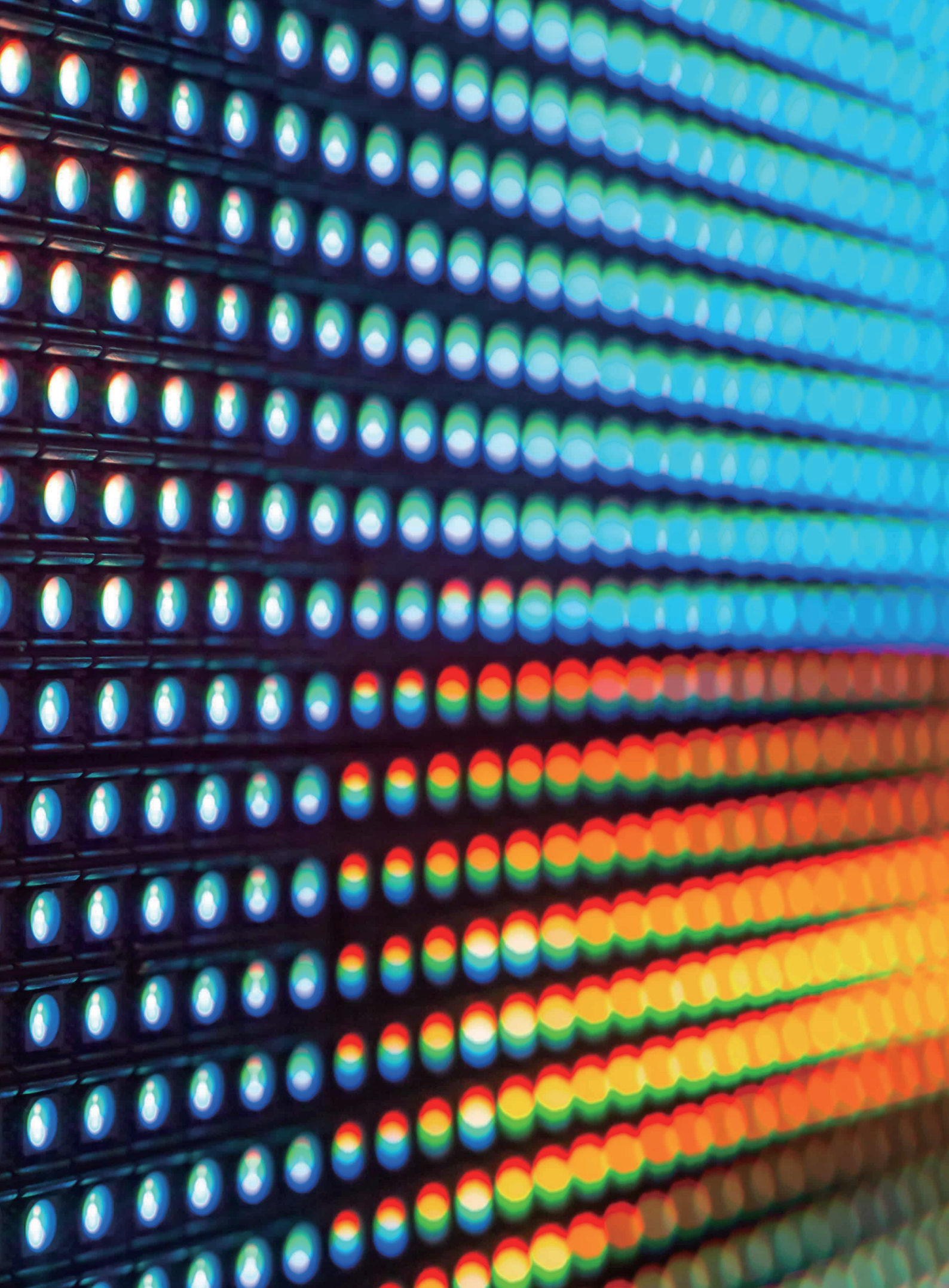


Specifications

Model	Optical Size	Pixel Size	Shutter	Resolution	Frame Rate	Mono Color	Bit Depth	Power Consumption	Lens Mount
GDA5118-30UM	1.1"	2.5um	Global	5120x5120	30FPS	Mono	12bit	<5W	C
GDA5120-30UM	1.1"	2.5um	Global	5120x5120	30FPS	Mono	12bit	<5W	C

Dimensions





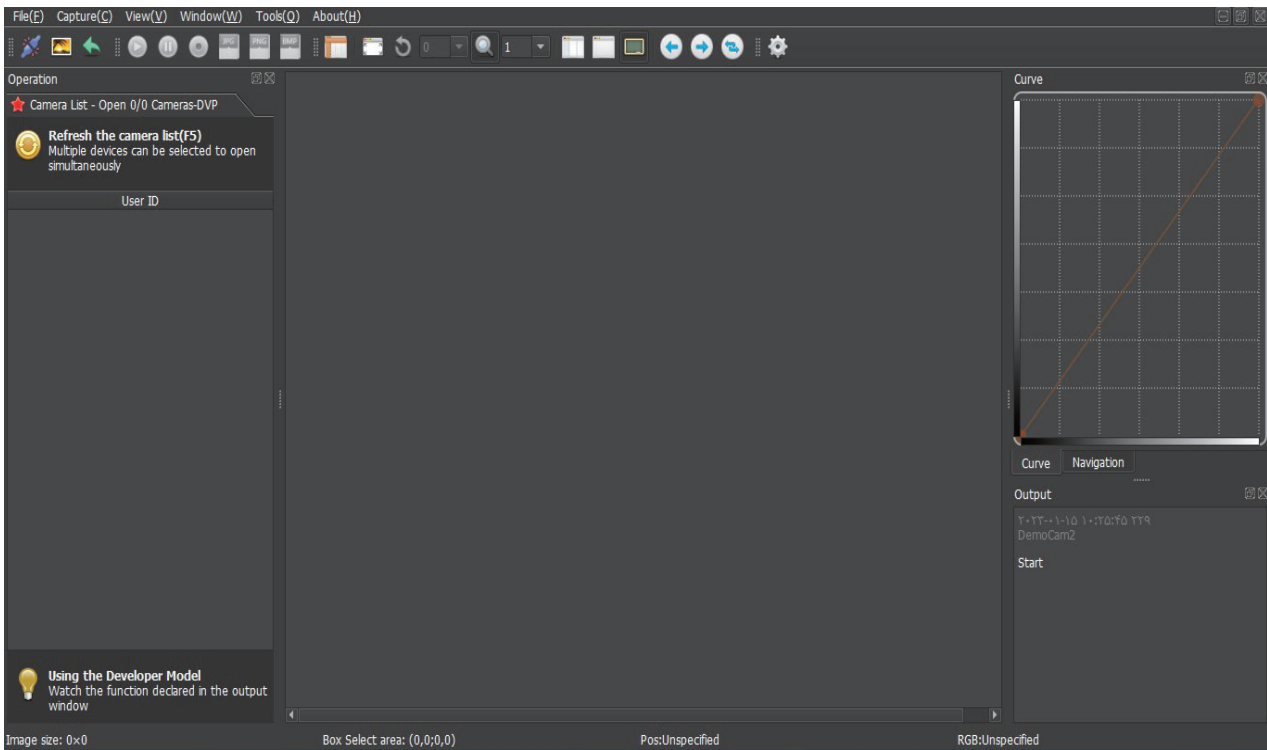
■ Software and SDK

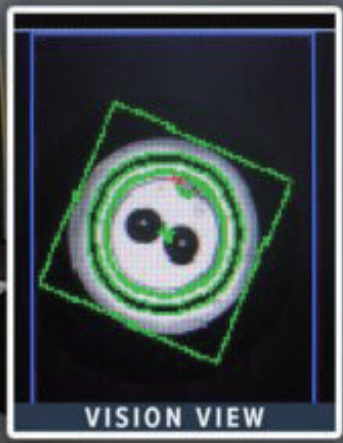
SDK



- Based on GenICam standard
- Easy-to-use development environment
- A single API can be used to adjust all parameters of the camera.
- Support GigE Vision and USB3.0 Vision
- Support Windows 32/64, X86/ARM Linux32/64, Android OS, Mac OS
- Support C/C++, VB6.0, C#, VB.NET, PYTHON

FALCON (Client Software)





■ Professional technical team

ZDS Technology independently designs, develops, tests and manufactures industrial camera products. We have a rich experience technical team, the key R&D engineers have more than 15 years of experience in industrial camera design and development. We have MSO-70804C series 25GHz oscilloscope and other professional development and analysis equipment, every industrial camera has passed strict ESD/EFT, vibration, salt spray, thermal shock, high and low temperature cycling and aging tests, this design method ensures the stability and reliability of the product.

■ In-house Manufacturing

ZDS's self-built industrial camera production line, using fully automated production and testing equipment, equipped with a class 100 clean room, make sure that every industrial camera given to the customer, are stable and reliable, easy to use.



■ Guarantee

we promise to provide customers with a 12-month free warranty service, ensuring business continuity for clients.

■ Quality Policy

- We always keep in mind that quality is the foundation of our survival and the reason for the customers to choose ZDS
- We take customers' requirements and expectations seriously, accurately assign to each executive of the company, to build good quality together
- We work closely with customers, respond quickly to customers' needs, and become customers' reliable long-term partner
- We respect rules and processes and do things right the first time
- We fulfil the potential of our colleagues for continuous improvement
- We undertake to provide customers quality-assured products, services, easy-to-use products and solutions, and consistently enable customers to experience our commitment in creating value for each of them