



ContrasTech

Industrial Camera

Mars Series Ver2.0



Machine Vision Cameras

Since 2009, Hangzhou ContrastTech has been actively providing great service for the digital imaging field with advanced machine vision technology. Mars series industrial cameras are mainly designed for those vision fields which require high stability and ease of use. They are allequipped with high-end industrial level, scientific level image sensor, and with advanced technology of imaging signal processing, electronic design and software, in order to create a best quality and excellent imaging effect. Now the whole Mars series with cost-performance, high frame rate, high resolution and line-scan cameras can fully meet the various visual application requirements. Excellent image quality as well as strict product quality control makes our Mars series industrial cameras distinguish itself by many great advantages.

Mars series industrial cameras follow Gigabit Ethernet, USB3.0 and Camera Link data bus standards; support GenICam, USB3 Vision ® and GigE Vision ®; can seamlessly connect HALCON, Vision Pro and other third-party software without secondary development. Mars series industrial camera have a high cost performance and are much applicable to various detection, measurement, high-speed imaging and other fields of applications. It has an excellent performance in mobile phone screen detection, LED automatic encapsulation, defect detection, and electronic components manufacturing, wafer positioning applications, which has a high satisfaction among customers.

At the same time, Mars series industrial cameras provide professional SDK for Windows and Linux, which has a variety of advanced control interface functions. And we have professional engineers to provide a best service for the development. Last but not the least, Mars series industrial camera products provide a warranty up to 3 years!



GigE Cameras



USB Cameras



Camera Link Cameras



Line Scan Cameras



High resolution Cameras

- 24 Hours 3G Shock Test
- 2 Weeks -40~60°C High and Low emperature Reciprocating Test
- 6kV Electrostatic Discharge Test of Metal Shell
- 1kV Common Mode/0.5kV POE Power Surge Test
- Class A Standard EMC Test
- 1000mm Free Fall Test

GigE Cameras

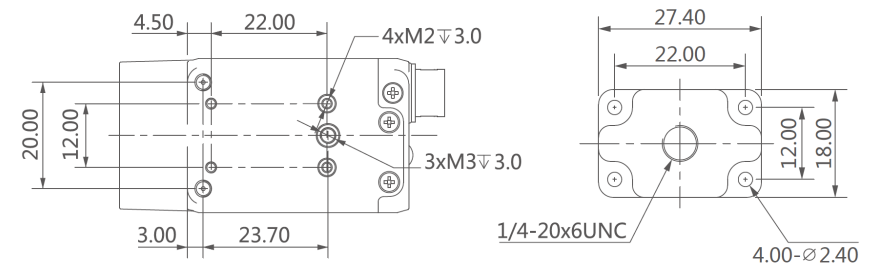
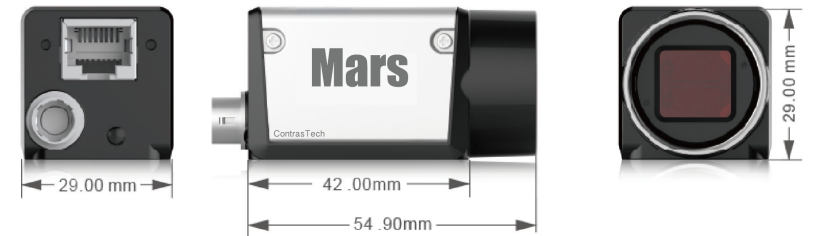
Mars series GigE industrial cameras, equipped with the advanced high-end image sensor and covering a range of resolution from 0.3MP to 10MP, can meet various machine vision application requirements. Data transmission distance of Gigabit Ethernet can up to 100 meters without any relay equipment. Mars series GigE industrial cameras support a variety of operating mode, and after strict anti-interference test and quality control test, it shows a high stability feature to wok in complex environments.

- ▶ Support GeniCam™ and GigE Vision® Standard
- ▶ Compact Design, Save Installation Space
- ▶ Hard Industrial Shell Design
- ▶ Built-in Temperature, Power Supply Real-time Monitoring Sensor
- ▶ Professional SDK Provided
- ▶ Accord with CE, FCC, UL, RoHS certification



Model	Resolution	Maximum Frame Rate	Data Bits	Pixel Size (μm)	Format	Sensor Type	Exposure Mode	Exposure Time	SNR
Mars640-300GM Mars640-300GC	640 × 480	300 fps	8bit / 10bit	4.8 × 4.8	1/4"	PYTHON 300	Global Shutter	16μs~1s	>38dB
Mars640-120GM Mars640-120GC	640 × 480	120 fps	8bit / 10bit	4.8 × 4.8	1/4"	PYTHON 300	Global Shutter	16μs~1s	>38dB
Mars800-200GM Mars800-200GC	800 × 600	200 fps	8bit / 10bit	4.8 × 4.8	1/3.6"	PYTHON 500	Global Shutter	16μs~1s	>38dB
Mars800-120GM Mars800-120GC	800 × 600	120 fps	8bit / 10bit	4.8 × 4.8	1/3.6"	PYTHON 500	Global Shutter	16μs~1s	>38dB
Mars1300-75GM Mars1300-75GC	1280 × 1024	75 fps	8bit / 10bit	4.8 × 4.8	1/2"	PYTHON 1300	Global Shutter	16μs~1s	>38dB
Mars2000-50GM Mars2000-50GC	1920 × 1200	50 fps	8bit / 10bit	4.8 × 4.8	2/3"	PYTHON 2000	Global Shutter	16μs~1s	>38dB
Mars5000-20GM Mars5000-20GC	2592 × 2048	20 fps	8bit / 10bit	4.8 × 4.8	1"	PYTHON 5000	Global Shutter	16μs~1s	>38dB
Mars6000-18GM Mars6000-18GC	3072 × 2048	18 fps	8bit / 10bit / 12bit	2.4 × 2.4	1/1.8"	IMX178	Rolling Shutter	16μs~1s	>38dB
Mars3800-7GM Mars3800-7GC	3856 × 2764	7 fps	8bit / 10bit / 12bit	1.67 × 1.67	1/2.3"	MT9J003	Rolling Shutter	34μs~1s	>38dB

Lens Mount	C-Mount
Power Input	DC6-24v, POE
Power Consumption	12V=3.1W, POE=3.4W
Hardware Control	I/O input (external trigger), I/O output, Opto-couplers Isolation
Programmable Control	Image Resolution, RGB gain, Exposure Time, Contrast, Gamma Chart, Image Rollover, Raw,LUT, Black Level Correction
Operating System	Support Windows 2000, Windows XP, Windows7, Windows8, Windows 10 Support 32-bit and 64-bit operating system/Arm/Linux
Operating Temperature	-30~80°C (Storage) , -30~60°C (Working)
Dimension	42.0 mm × 29.0 mm × 29.0 mm (88g)



USB Cameras

Mars series USB industrial cameras, with USB3.0 high-speed data transmission bus, have a extremely high frame rate on the condition of high image quality and stability. Mars series USB industrial cameras support Plug-and-Play, also have a feature of high stability to wok in complex environments after a strict anti-interference test and quality control test, and it's especially suitable for 3D scanning, motion capture, trajectory analysis fields.

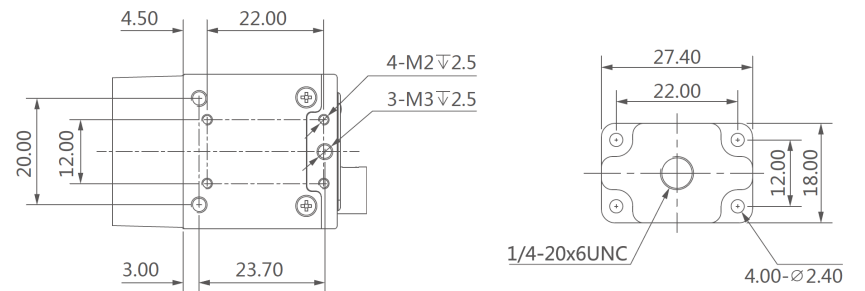
- ▶ Support GenICam™ and USB3 Vision® Standard
- ▶ Compact Design, Save Installation Space
- ▶ Hard Industrial Shell Design
- ▶ Built-in Temperature, Power Supply Real-time Monitoring Sensor
- ▶ Professional SDK Provided
- ▶ Accord with CE, FCC, UL, RoHS certification



GEN*i*CAM

Model	Resolution	Maximum Frame Rate	Data Bits	Pixel Size (μm)	Format	Sensor Type	Exposure Mode	Exposure Time	SNR
Mars640-815UM Mars640-815UC	640 × 480	815 fps	8bit / 10bit	4.8 × 4.8	1/4"	PYTHON 300	Global Shutter	16μs~1s	>38dB
Mars800-545UM Mars800-545UC	800 × 600	545 fps	8bit / 10bit	4.8 × 4.8	1/3.6"	PYTHON 500	Global Shutter	16μs~1s	>38dB
Mars1300-210UM Mars1300-210UC	1280 × 1024	210 fps	8bit / 10bit	4.8 × 4.8	1/2"	PYTHON 1300	Global Shutter	16μs~1s	>38dB
Mars2000-150UM Mars2000-150UC	1920 × 1200	150 fps	8bit / 10bit	4.8 × 4.8	2/3"	PYTHON 2000	Global Shutter	16μs~1s	>38dB
Mars5000-60UM Mars5000-60UC	2592 × 2048	60 fps	8bit / 10bit	4.8 × 4.8	1"	PYTHON 5000	Global Shutter	16μs~1s	>38dB

Lens Mount	C-Mount
Power Input	USB
Power Consumption	3.5W
Hardware Control	6Pin, I/O input (external trigger), I/O output, Opto-couplers Isolation
Programmable Control	Image Resolution, RGB gain, Exposure Time, Contrast, Gamma Chart, Image Rollover, Raw,LUT, Black Level Correction
Operating System	Support Windows 2000、Windows XP、Windows7、Windows8、Windows 10 Support 32-bit and 64-bit operating system/Arm/Linux
Operating Temperature	-30~80°C (Storage) , -30~60°C (Working)
Dimension	29.0 mm × 29.0 mm × 29.0 mm (60g)



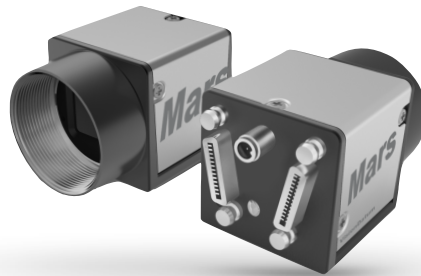
Camera Link Cameras

Mars series Camera Link industrial cameras, with stable Camera Link international standard protocol and bandwidth up to 5.44Gbps and frame buffer up to 512M, can ensure the stability and security of the image data with high speed and high resolution. Mars series Camera Link industrial cameras are compatible with Camera Link standard protocol and GenICam standard, and can be fast and conveniently integrated into visual systems. It also has a feature of high stability to work in complex environments after a strict anti-interference test and quality control test, and it's especially suitable for those applications which requires high speed and high stability.

- ▶ Support GenICam™ and CameraLink® Standard
- ▶ 5.44Gbps bandwidth, High Speed Camera Link Interface
- ▶ Support Full, Medium and Base Mode
- ▶ Compact Design, Save Installation Space
- ▶ Hard Industrial Shell Design
- ▶ Accord with CE, FCC, UL, RoHS Certification

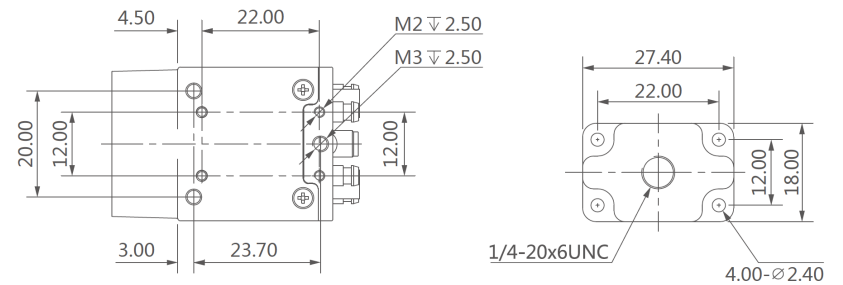
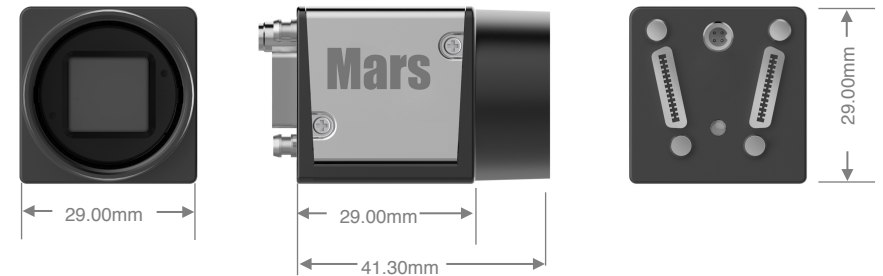


GEN*i*CAM



Model	Resolution	Maximum Frame Rate	Data Bits	Pixel Size (μm)	Format	Sensor Type	Exposure Mode	Exposure Time	SNR
Mars2000-230CM Mars2000-230CC	1920 × 1200	230 fps	8bit / 10bit	4.8 × 4.8	2/3"	PYTHON 2000	Global Shutter	16μs-1s	>38dB
Mars5000-100CM Mars5000-100CC	2592 × 2048	100 fps	8bit / 10bit	4.8 × 4.8	1"	PYTHON 5000	Global Shutter	16μs-1s	>38dB

Lens Mount	C-Mount
Power Input	PoCL or 4Pin M5
Power Consumption	12V 3W
Hardware Control	Camera Link or 4Pin M5 I/O
Programmable Control (ISP)	Support acuteness, denoise, gamma correction, LUT, Black Level Correction, Brightness, Contrast and other ISP functions
Operating System	Support Windows 2000, Windows XP, Windows7, Windows8, Windows 10 Support 32-bit and 64-bit operating system/Arm/Linux
Operating Temperature	-30~80°C (Storage), -30~60°C (Working)
Dimension	29.0 mm × 29.0 mm × 29.0 mm (60g)



High resolution Cameras

Mars Series high resolution industrial cameras, with advanced high resolution image sensor and the number of pixels up to 12m and 25m, are mainly designed for high precision measurement, high resolution visual detection and other machine vision applications, and it's especially suitable for mobile phone screen detection, flat backlight module detection, wafer inspection and high-speed railway project applications. Mars series high resolution industrial cameras support multiple modes of operation, and have a feature of high stability working in complex environments according to a strict anti-interference test and quality control test.

- ▶ Support GenICam™ and GigE Vision® Standard
- ▶ 256M Frame memory
- ▶ Hard Industrial Shell Design
- ▶ Built-in Temperature, Power Supply Real-time Monitoring Sensor
- ▶ Professional SDK Provided
- ▶ Accord with CE, FCC, UL, RoHS certification

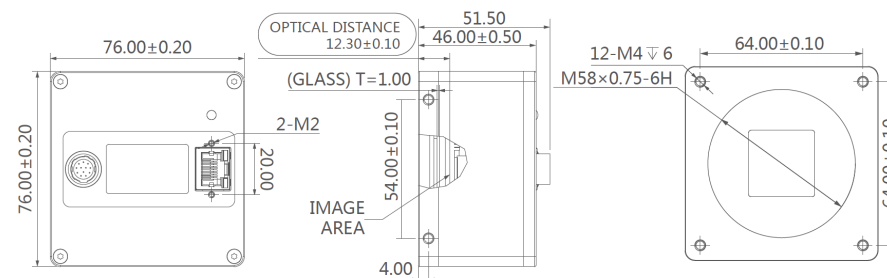
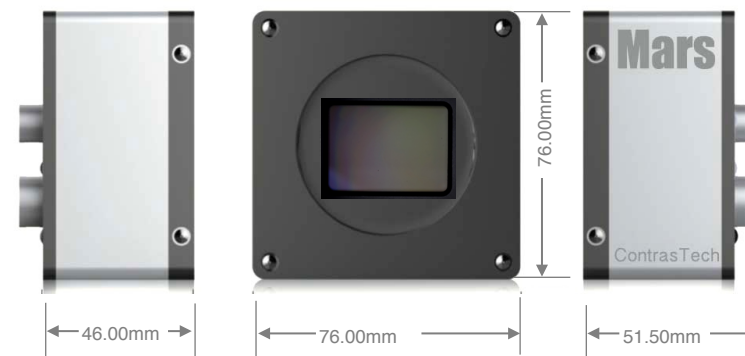


GEN*i*CAM



Model	Resolution	Maximum Frame Rate	Data Bits	Pixel Size (μm)	Format	Sensor Type	Exposure Mode	Exposure Time	SNR
Mars12M-9GM	4096 × 3072	9 fps	8bit / 10bit /12bit	4.5 x 4.5	4/3"	PYTHON12000	Global Shutter	16μs~1s	>41dB
Mars25M-3GM	5120 × 5120	3 fps	8bit / 10bit /12bit	4.5 x 4.5	APS-H	PYTHON25000	Global Shutter	16μs~1s	>41dB

Lens Mount	M58-Mount
Power Input	DC12~24v, 12Pin
Power Consumption	12V 8.5W
Hardware Control	12Pin, 3 optocouplers Isolation input, 3 optocouplers isolation output
Programmable Control	Image Resolution, gain, Exposure Time, Contrast, Gamma Chart, Image Rollover, Raw,LUT, Black Level Correction
Operating System	Support Windows 2000、Windows XP、Windows7、Windows8、Windows 10 Support 32-bit and 64-bit operating system/Arm/Linux
Operating Temperature	-30~80°C (Storage) , -30~60°C (Working)
Dimension	76.0 mm × 76.0 mm × 46.0 mm (255g)



GigE Line Scan Cameras

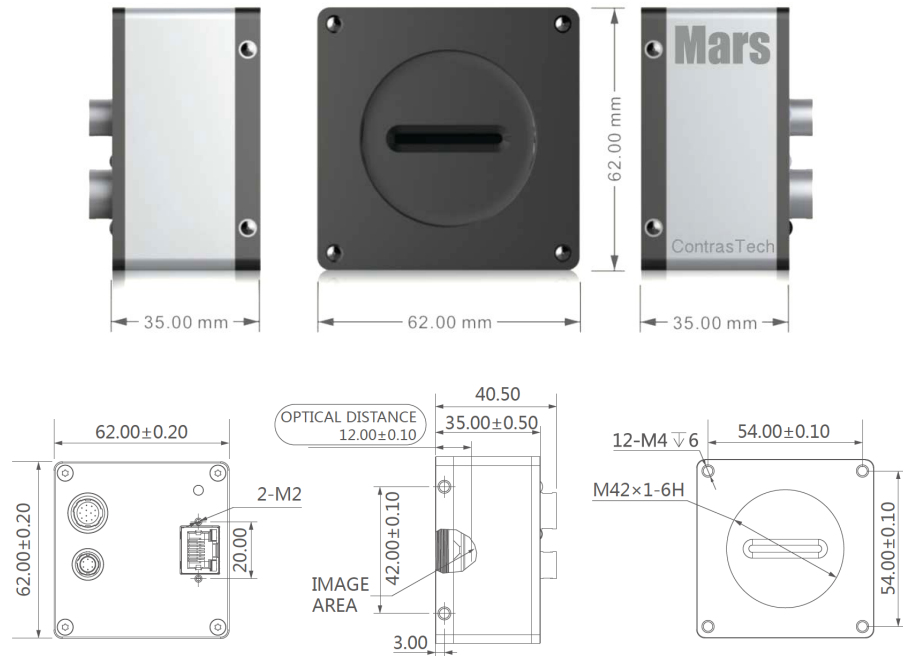
Mars Series GigE Line Scan industrial cameras have two different high resolution models with 2k and 4K CMOS sensor. Compared to traditional CCD cameras, it has a higher scanning frequency and sensitivity. It supports line and frame trigger as well as many other operating modes and it's especially suitable for those application with high requirements, such as tablet display inspection, PCB detection and high performance printing quality inspection.

- ▶ Support GenICam™ and GigE Vision® Standard
- ▶ Compact Design, Save Installation Space
- ▶ Support multiple modes of operation
- ▶ Built-in Temperature, Power Supply Real-time Monitoring Sensor
- ▶ Professional SDK Provided
- ▶ Accord with CE, FCC, UL, RoHS certification



Lens Mount	M42-Mount
Power Input	DC12~24v, 6Pin
Power Consumption	12V 4.5W
Hardware Control	12Pin, 2 differential / single-ended input, 2 differential /single-ended output, 1 differential /single-ended configurable for input and output, 1 GPIO
Programmable Control	Flat fielding, FCC, support import and export, 2 user data storage, the default reading function
Operating System	Support Windows 2000、Windows XP、Windows7、Windows8、Windows 10 Support 32-bit and 64-bit operating system/Arm/Linux
Operating Temperature	-30~80°C (Storage) , -30~60°C (Working)
Dimension	62.0 mm × 62.0 mm × 35.0 mm (230g)

Model	Resolution	Maximum Frame Rate	Data Bits	Pixel Size (μm)	Color	Dynamic Range	SNR
Mars2048-L50GM	2048	51kHz	8bit / 10bit /12bit	10 x 10	Mono	73dB	>45dB
Mars4096-L26GM	4096	26kHz	8bit / 10bit /12bit	5 x 5	Mono	70dB	>42dB



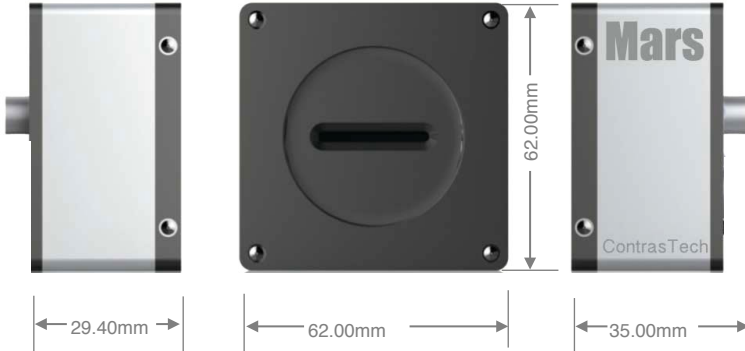
Camera Link Line Scan Cameras

Mars Series Camera Link Line Scan Industrial Cameras have color and mono two models and follow stable Camera Link international standard protocol. The bandwidth up to 5.44Gbps can ensure the stability and security of the high-speed line scan image data. Mars Series Camera Link Line Scan industrial cameras are compatible with Camera Link standard protocol and GenICam standard, and can be fast and conveniently integrated into visual systems. It also has a feature of high stability working in complex environments according to the strict anti-interference test and quality control test, so it's especially suitable for those applications with high speed and high stability requirements. Supporting multiple trigger and operating modes, it's especially suitable for those applications with high requirements, such as tablet display inspection, PCB detection and high performance printing quality inspection.

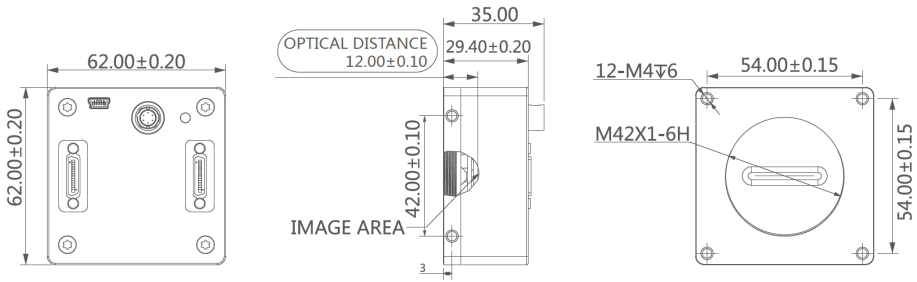
- ▶ Support GenICam™ and CameraLink® Standard
- ▶ 5.44Gbps bandwidth, High Speed Camera Link Interface
- ▶ Support Full, Medium and Base Mode
- ▶ Compact Design, Save Installation Space
- ▶ Hard Industrial Shell Design
- ▶ Accord with CE, FCC, UL, RoHS Certification



Lens Mount	M42-Mount
Power Input	DC10~15v 4Pin
Power Consumption	3.5W
Programmable Control	Flat fielding, FCC, support import and export, 2 user data storage, the default reading function
Operating System	Support Windows 2000, Windows XP, Windows7, Windows8, Windows 10 Support 32-bit and 64-bit operating system/Arm/Linux
Operating Temperature	-30~80°C (Storage) , -30~60°C (Working)
Dimension	62.0 mm × 62.0 mm × 29.4 mm (150g)

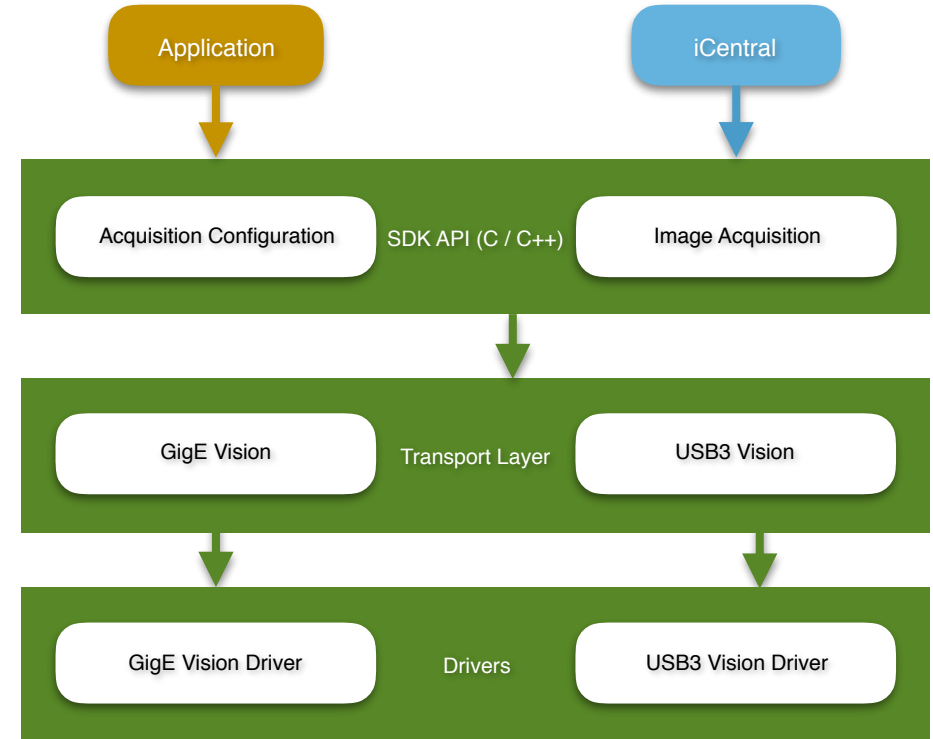


Model	Resolution	Maximum Frame Rate	Data Bits	Pixel Size (μm)	Color	Dynamic Range	SNR
Mars2048-L100CM	2048	100kHz	8bit / 10bit / 12bit	10 x 10	Mono	73dB	>45dB
Mars2048-L80CC	2048	80kHz	RGB Packed	10 x 10	color	73dB	>45dB
Mars4096-L100CM	4096	100kHz	8bit / 10bit / 12bit	5 x 5	Mono	70dB	>42dB
Mars4096-L40CC	4096	40kHz	RGB Packed	5 x 5	Color	70dB	>42dB



SDK

- ▶ Follow GenICam™ Standard
- ▶ Optimized Package, Compact Interface, More Simple Development
- ▶ GigE Vision and USB3 Vision High Performance Drivers
- ▶ Strong Protocol Layer Plug-in Unit, More Convenient to Extend
- ▶ iCentral Friendly Setup and Preview Interface



- Support Mars whole series industrial camera products
- Simple and Rapid Secondary Development
- GigE Vision & USB3 Vision
- SDK (C++)
- iCentral Setup and Preview Tools
- Windows / Linux (32bit / 64bit)

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