Toshiba Teli's proud

GigE Machine Vision Camera BG Series

GiGE VISION

Low resolution & High fps

0.4 MP **BG040M Series**
Sony IMX287 Pregius

Low resolution & High fps

1.6 MP **BG160M Series**
Sony IMX273 Pregius

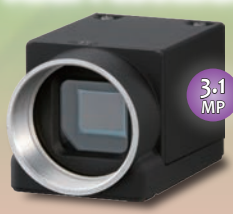
High Sensitivity model

2 MP **BG205M Series**
CMOSIS CMV2000

Original IP Core

Industry's lightest

Mid. resolution Standard



3.1 MP **BG302LM Series**
Sony IMX265 Pregius

Mid. resolution Standard

5 MP **BG505LM Series**
Sony IMX264 Pregius

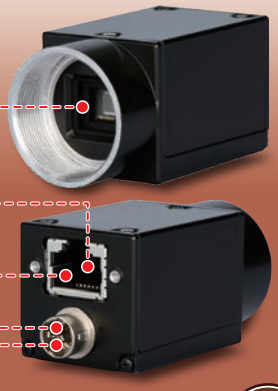
BG040M Series / BG160M Series / BG302LM Series / BG505LM Series

- Teli Core Technology Inside
- Sony CMOS sensor
- PoE / DC 12V (automatic switching)
- IEEE802.3ab (1000BASE-T)
- 1 Trigger Input
  2 GPIO (1 I/O, 1 Output)

29 × 29 × 40 mm **60g**

BG205M Series

- Sony CCD sensor / CMOSIS sensor
- PoE / DC 12V (automatic switching)
- IEEE802.3ab (1000BASE-T)
- 1 Trigger Input
  2 GPIO (2 Output)



29 × 29 × 40 mm **53g**

Toshiba Teli Corporation

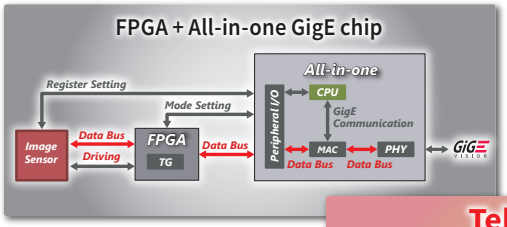
https://www.toshiba-teli.co.jp/en/

Toshiba Teli GigE Camera BG Series

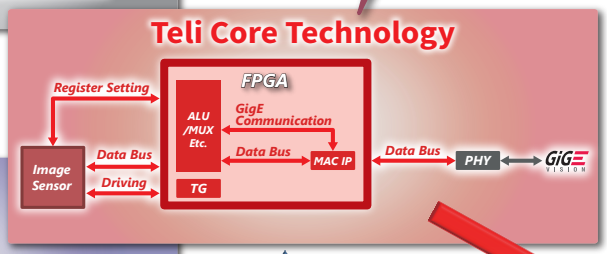
Featuring TELI original IP “Teli Core Technology”

- Achieved high integration with TELI’s original technology.
- Shorten the response time !

Teli Core Technology

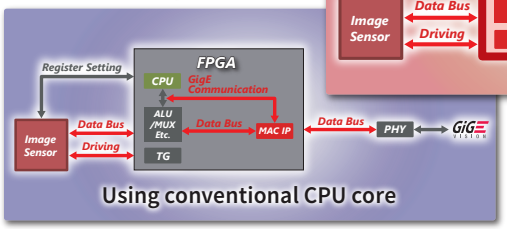


Downsizing, High integration



All hardware processing with **no CPU** and **no software !**

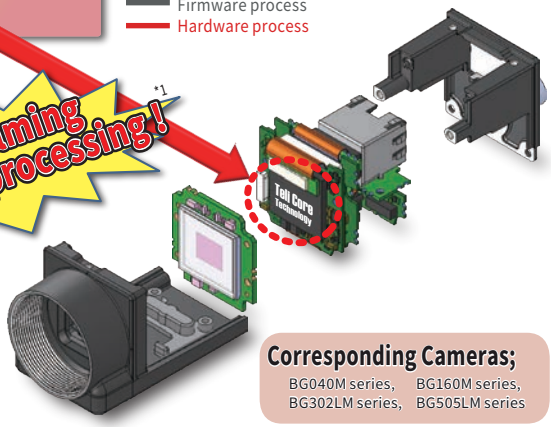
Downsizing and high speed response by high integration !

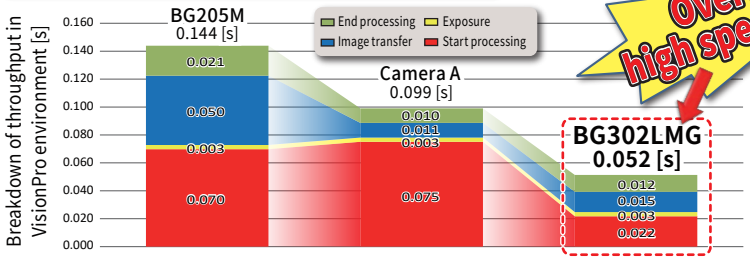


Downsizing, High integration

Firmware process
Hardware process

Overwhelming high speed processing! *1





* BG302LMG cuts out 1280 (H) x 960 (V) pixels to match the number of pixels with other cameras.

Corresponding Cameras;
BG040M series, BG160M series,
BG302LM series, BG505LM series

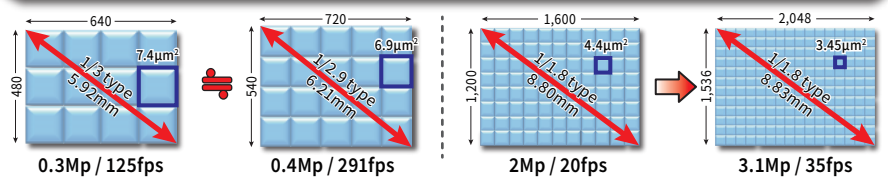
*1 : Comparison value in camera response speed with all-in-one GigE chip equipped model.

Key factor of choice for camera replacement (replacing CCD camera with CMOS camera)

- Wide product range supports replacement of your camera in usual use.

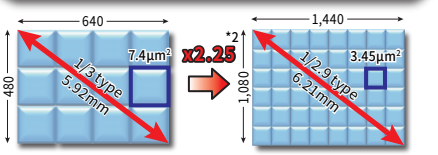
*2 : Comparing in horizontal pixel numbers.
*3 : Comparing in image size of effective pixels.

Needs for keeping pixels and size



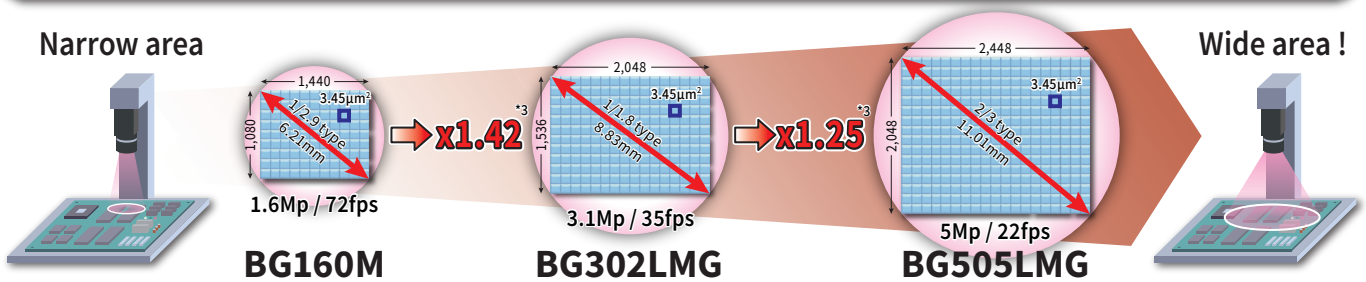
0.3Mp / 125fps **BG030**
0.4Mp / 291fps **BG040M**
2Mp / 20fps **BG202**
3.1Mp / 35fps **BG302LMG**

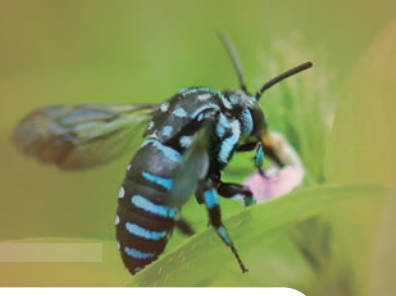
Higher resolution in the same view



0.3Mp / 125fps **BG030**
1.6Mp / 72fps **BG160M**

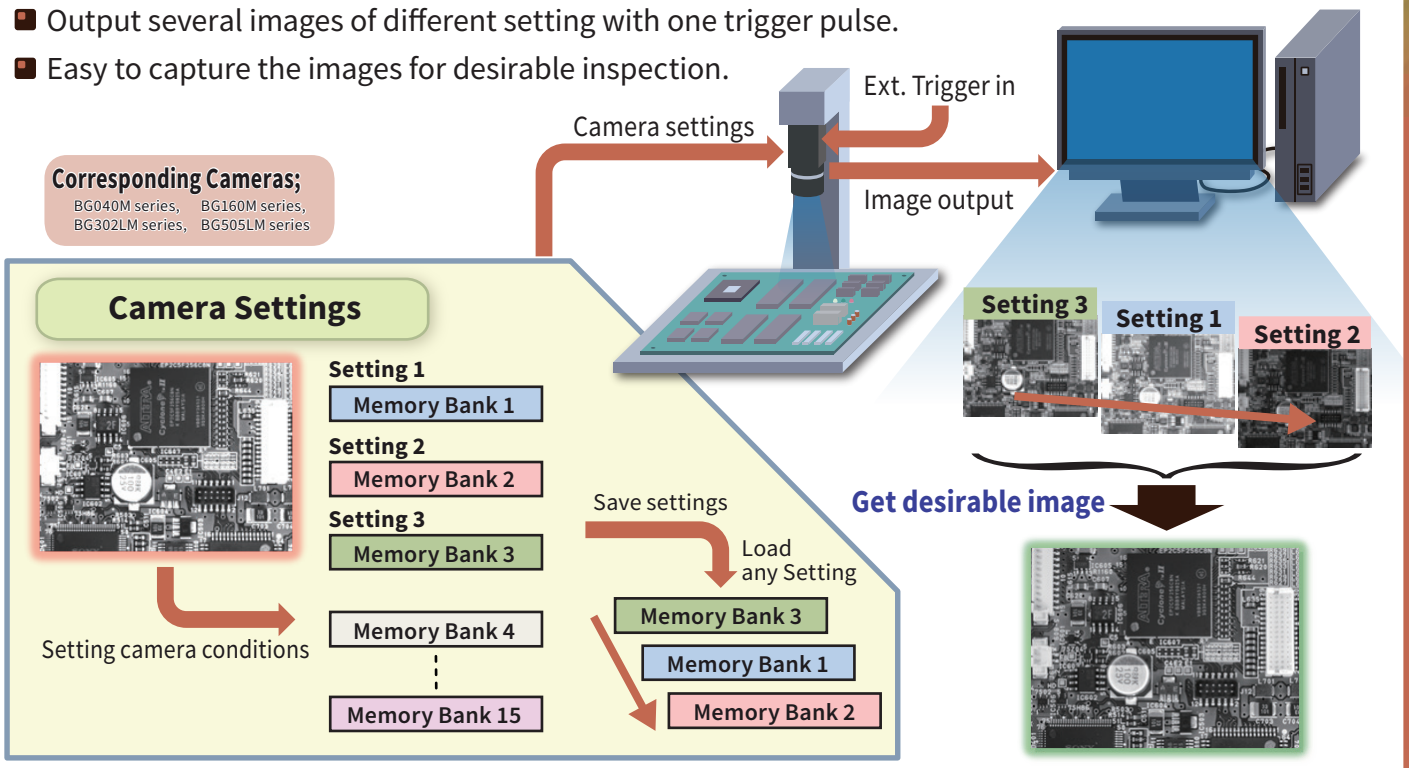
Wider range with the same limit of resolution





Sequential Shutter mode + Bulk Trigger mode

- Output several images of different setting with one trigger pulse.
- Easy to capture the images for desirable inspection.

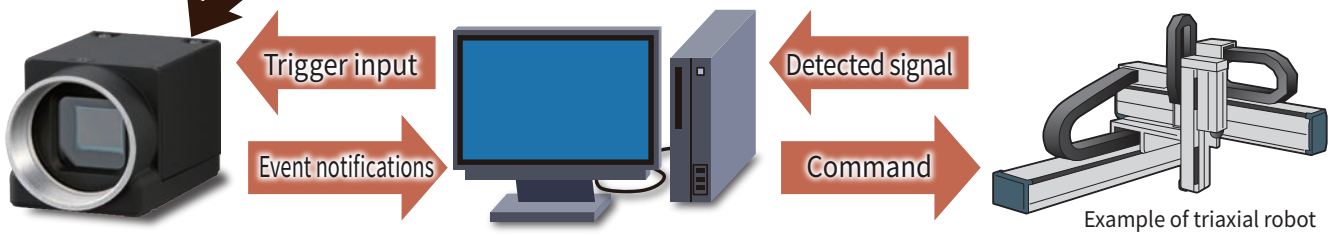


Event Notifications

- Camera notifies status information via event packet !
- Event notice without delay by the Teli Core Technology.
- Rendering great service to vision systems with high speed as its important feature.

1	FrameTrigger	: Reception of Frame Start Trigger
2	FrameTriggerError	: Rejection of Frame Start Trigger
3	FrameTriggerWait	: Start of waiting for Frame Start Trigger
4	FrameTransferStart	: Start of transferring Streaming Data
5	FrameTransferEnd	: End of transferring Streaming Data
6	ExposureStart	: Start of Exposure
7	ExposureEnd	: End of Exposure
8	Timer0Start	: Start of Timer "0"
9	Timer0End	: End of Timer "0"

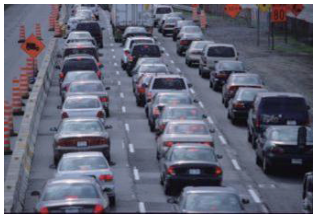
Corresponding Cameras;
BG040M series, BG160M series,
BG302LM series, BG505LM series



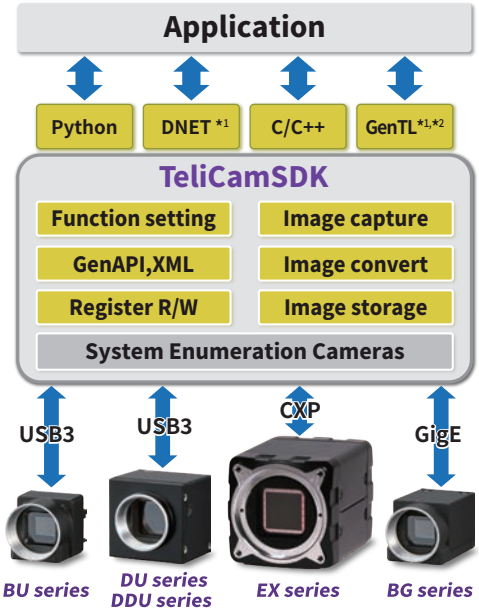
Example of triaxial robot

BG205M-CS (Featuring CMOSIS Sensor)

- High sensitivities (1,200 lx, F11, 1/50s)
- Clear image by FPN correction
- Featuring CS mount suitable for ITS



TeliCamSDK



- Easy to capture image
- GEN<i>CAM available
- Varieties of functions for easy programming
- Abundant sample code
- Easy to understand manuals
- Unified SDK for USB3, GigE & CXP
- Python library “pitelicam” *3
- ImageJ plug-in “TeliPlugin” *4

Package composition of TeliCamSDK

Driver | Library
Sample code | Viewer
Setting tools | Instruction manual

*TeliCamSDK contains the components necessary for application development.

OS / Distribution*5	Windows		Linux			
			Intel / AMD			ARM
			Ubuntu			
	10	11	18.04 LTS amd64	20.04 LTS amd64	22.04 LTS amd64	
Support	✓	✓	✓	✓	✓	✓

● TeliCamSDK for Linux supported ARM architectures. - Jetson nano / Raspberry pi 4 *6

*1: for Windows / *2: for USB, CXP / *3: Supports TeliCamSDK v4.0.0.1 or later / *4: Supports TeliCamSDK v4.0.1.1 or later / *5: Please contact us for other OS and distributions. / *6: Image might be missed depending on PC specifications.

Specifications

MODEL*1	BG040M	BG040MCG BG040MCF	BG160M	BG160MCG BG160MCF	BG205M-CS
B/W or COLOR	B/W	COLOR	B/W	COLOR	B/W
Pixels	0.4M		1.6M		2.2M
Imager model	Sony IMX287		Sony IMX273		CMOSIS CMV2000
Imager size / type*2	1/2.9 type GS-CMOS		1/2.9 type GS-CMOS		2/3 type GS-CMOS
Resolution	720 x 540		1,440 x 1,080		2,048 x 1,088
Frame rate	291 fps		72 fps		40 fps
Pixel size	6.90 x 6.90 µm		3.45 x 3.45 µm		5.5 x 5.5 µm
TELI Core Technology*3	✓		✓		-
Event notifications	✓ *4		✓ *4		✓ *4
Bulk trigger	✓		✓		✓
Image buffer	✓		✓		-
Sequential shutter	✓		✓		-
Short exposure mode*5	✓		✓		-
Lens mount	C mount		C mount		CS mount
Product availability (CY)	Available		Available		Available

MODEL*1	BG302LMG	BG302LMCG BG302LMCF	BG505LMG	BG505LMCG BG505LMCF
B/W or COLOR	B/W	COLOR	B/W	COLOR
Pixels	3.1M		5M	
Imager model	Sony IMX265		Sony IMX264	
Imager size / type*2	1/1.8 type GS-CMOS		2/3 type GS-CMOS	
Resolution	2,048 x 1,536		2,448 x 2,048	
Frame rate	35 fps		22 fps	
Pixel size	3.45 x 3.45 µm		3.45 x 3.45 µm	
TELI Core Technology*3	✓		✓	
Event notifications	✓ *4		✓ *4	
Bulk trigger	✓		✓	
Image buffer	✓		✓	
Sequential shutter	✓		✓	
Short exposure mode*5	-		-	
Lens mount	C mount		C mount	
Product availability (CY)	Available		Available	Available

***1 : MODEL suffix** C / MC: without IR-cut filter, CF / MCF: with IR-cut filter, G / CG: with Dust-proof Glass
***2 : Imager type** GS-CMOS: Global shutter type CMOS sensor (RS-CMOS: Rolling shutter type CMOS sensor)
***3 : Teli Core Technology** Featuring TELI original IP "Teli Core Technology"
***4 : Event notifications; (CMOS model)** FrameTrigger, FrameTriggerError, FrameTriggerWait, FrameTransferStart, FrameTransferEnd, ExposureStart, ExposureEnd, Timer0Start and Timer0End are available.
***5 : Short exposure mode** The mode to switch it for short time exposure (approx. 1.1µs or more) by enhancing electronic shutter. (Contact for details)

Notes on Safety

- Before using this product, please read “Operation Manual“ carefully in order to use this product afely and correctly.
- If this product should be used in the extraordinary conditions or environments, or if you have any questions or problems, please contact our sales division.

Toshiba Teli Corporation

https://www.toshiba-teli.co.jp/en/

teli camera Search

The information of this catalog is current as of November 2023.

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