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Optical System

Lighting Equipment

Optical Peripherals

Image Equipment

Data

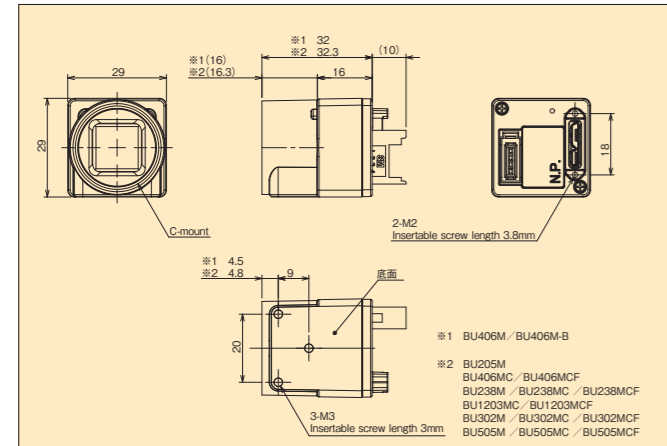
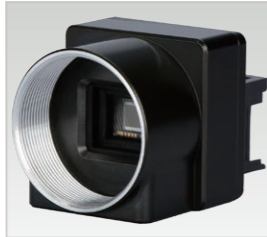
Image System

This section presents a variety of camera products, including B/W, color, high resolution and auto-focusing cameras. Additionally, there are framegrabber and image processing products, allowing images to be captured and processed directly on a PC.

USB3.0 Camera

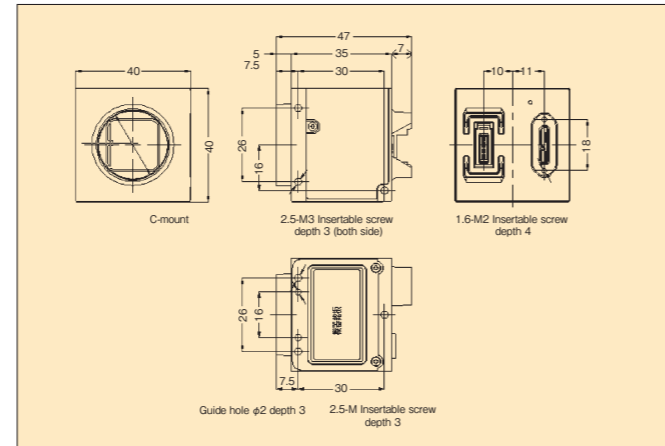
BU series

Camera series with USB3.0 interface. Lightweight, compact design is suitable to combine with fixed magnification telecentric lens or zoom lens. Also ideal for stand-alone equipment or with microscopes for TV observation.



DU series

High quality USB3.0 camera series comes with high-definition, high-speed CMOS sensor which ensures high-speed frame rate.



Specification

Model	BU030	BU031	BU080	BU130	BU205M	BU238M	BU302MG	BU406M	BU505MG
Image sensor	1/3inch CCD	1/2inch CCD	1/3inch CCD	1/3inch CCD	2/3inch GS-CMOS	1/1.2inch GS-CMOS	1/1.8inch GS-CMOS	1.0inch GS-CMOS	2/3inch GS-CMOS
Max. output image size	0.3M	0.3M	0.8M	1.3M	2M	2M	3.1M	4M	5M
All pixel read out	640×480		1024×768	1280×960	2048×1088	1920×1200	2048×1536	2048×2048	2448×2048
Pixel size (H)×(V)μm	7.4×7.4	9.9×9.9	4.65×4.65	3.75×3.75	5.5×5.5	5.86×5.86	3.45×3.45	5.5×5.5	3.45×3.45
Imaging Area (mm)	4.73×3.57	6.33×4.75	4.76×3.57	4.8×3.6	11.26×5.98	11.25×7.03	7.06×5.29	11.26×11.26	8.44×7.06
Frame rate	125fps	125fps	40fps	30fps	170fps	165fps	Mono8: 120fps Mono10/12:63fps	90fps	Mono8: 75fps Mono10/12:39fps
Mount	C-mount								
Sensitivity	1,700lx, F5.6, 1/125s		1,700lx, F5.6, 1/40s	1,300lx, F8, 1/30s	3,800lx, F8, 1/200s	3,300lx, F8, 1/200s	3,250lx, F5.6, 1/120s	3,500lx, F11, 1/90s	2,100lx, F5.6, 1/75s
Power supply	DC+5V±5% (input from USB connector)								
Power consumption	Less than 2.6W			Less than 2.7W		Less than 2.9W	Less than 3.2W	Less than 2.7W	Less than 3.2W
Dimensions (W)×(H)×(D)mm	29×29×13			29×29×16					
Weight	Approx. 27g			Approx. 32g					

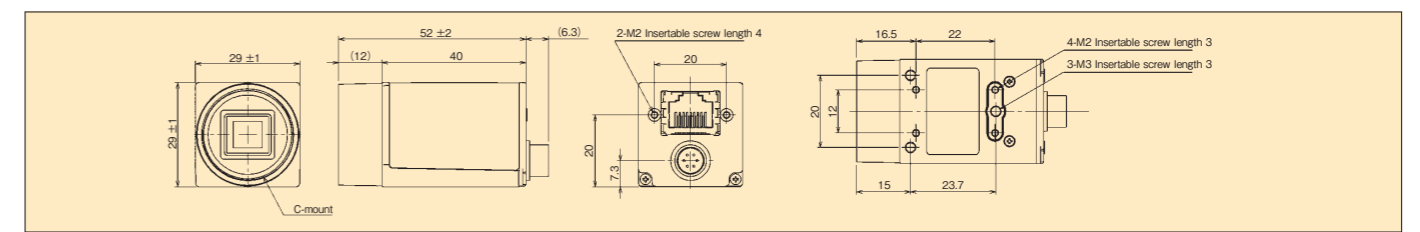
Specification

Model	BU030C/CF	BU130C/CF	BU238M/MCF	BU302MG/MCF	BU406MC/CF	BU505MCG/MCF	BU1203MC/MCF	DU1207MG	DU1207MCG/MCF
Image sensor	1/3inch CCD	1/3inch CCD	1/1.2inch GS-CMOS	1/1.8inch GS-CMOS	1.0inch GS-CMOS	2/3inch GS-CMOS	1/1.7inch RS-CMOS	1.1inch GS-CMOS	1.1inch GS-CMOS
Max. output image size	0.3M	1.3M	2M	3.1M	4M	5M	12M	12M	12M
All pixel read out	640×480	1280×960	1920×1200	2048×1536	2048×2048	2448×2048	4000×3000	4096×3000	4096×3000
Pixel size (H)×(V)μm	7.4×7.4	3.75×3.75	5.86×5.86	3.45×3.45	5.5×5.5	3.45×3.45	1.85×1.85	3.45×3.45	3.45×3.45
Imaging Area (mm)	4.73×3.57	4.8×3.6	11.25×7.03	7.06×5.29	11.26×11.26	8.44×7.06	7.40×5.55	14.1×10.35	14.1×10.35
Frame rate	125fps	30fps	165fps	Mono8: 120fps Mono10/12:63fps	90fps	Mono8: 75fps Mono10/12:39fps	30fps	Mono8: 32fps YUV, Bayer10/12:16fps RGB,BGR:10fps	Bayer8, Mono8:32fps YUV, Bayer10/12:16fps RGB,BGR:10fps
Mount	C-mount								
Sensitivity	C:3,500lx, F5.6, 1/125s CF:4,200lx, F5.6, 1/125s	C:1,250lx, F5.6, 1/30s CF:1,500lx, F5.6, 1/30s	MC:3,700lx, F8, 1/200s MCF:4,100lx, F8, 1/200s	MCG:2,400lx, F4, 1/120s MCF:2,650lx, F4, 1/120s	4,800lx, F8, 1/90s	MCG:3,000lx, F5.6, 1/75s MCF:3,300lx, F5.6, 1/75s	MC:4,200lx, F8, 1/30s	860lx, F5.6, 1/32s	MCG:1,150lx, F5.6, 1/31s MCF:1,425x, F5.6, 1/31s
Power supply	DC+5V±5% (input from USB connector)								
Power consumption	Less than 2.7W		Less than 2.9W	Less than 4.0W	Less than 2.7W	Less than 4.0W	Less than 2.7W	Less than 4.0W	Less than 4.5W
Dimensions (W)×(H)×(D)mm	29×29×13			29×29×16				40×40×35	
Weight	Approx. 27g			Approx. 32g				Approx. 90g	

Gig-E (PoE) Camera Series

Camera series with Gigabit Ethernet® interface. Easy cable extension, easy to add on. Ideal for the system that requires multiple cameras and lenses.

Note: ®Ethernet is registered mark of XEROX.



Specification

Model	BG030	BG031	BG080	BG130	BG202	BG205M-CS	BG302LMG	BG505LMG
Image sensor	1/3inch CCD	1/2inch CCD	1/3inch CCD	1/3inch CCD	1/1.8inch CCD	2/3inch GS-CMOS	1/1.8inch CMOS	2/3inch CMOS
Max. output image size	0.3M	0.3M	0.8M	1.3M	2M	2M	3.1M	5M
All pixel read out	640×480		1024×768	1280×960	1600×1200	2048×1088	2048×1536	2448×2048
Pixel size (H)×(V)μm	7.4×7.4	9.9×9.9	4.65×4.65	3.75×3.75	7.04×5.28	5.5×5.5	3.45×3.45	
Imaging Area (mm)	4.73×3.57	6.33×4.75	4.76×3.57	4.8×3.6	4.40×4.40	11.26×5.98	7.06×5.29	8.44×7.06
Frame rate	125fps	125fps	40fps	30fps	20fps	50fps	Mono8:35fps Mono10/12:17fps	Mono8:22fps Mono10/12:11fps
Mount	C-mount				CS-mount		C-mount	
Sensitivity	1,700lx, F5.6, 1/125s		1,700lx, F5.6, 1/40s	1,300lx, F8, 1/30s	525lx, F8, 1/20s	1,200lx, F11, 1/50s	3,850lx, F11, 1/35s	2,600lx, F11, 1/22s
Power consumption	Less than 3.1W(PoE) Less than 2.9W(DC12V)		Less than 2.9W(PoE) Less than 2.4W(DC12V)	Less than 2.5W(PoE) Less than 2.2W(DC12V)	Less than 3.6W(PoE) Less than 3.4W(DC12V)	Less than 2.9W(PoE) Less than 2.5W(DC12V)	3.1W(PoE) / 2.6W(DC12V)	
Dimensions (W)×(H)×(D)mm	29×29×40							
Weight	Approx. 53g				Approx. 50g		Approx. 56g	

Specification

Model	BG030C/CF	BG130C/CF	BG202C/CF	BG205M-CS/MCF-CS	BG302LMCG/LMCF	BG505LMCG/LNCF
Image sensor	1/3inch CCD	1/3inch CCD	1/1.8inch CCD	2/3inch GS-CMOS	1/1.8inch GS-CMOS	2/3inch GS-CMOS
Max. output image size	0.3M	1.3M	2M	2M	3.1M	5M
All pixel read out	640×480	1280×960	1600×1200	2048×1088	2048×1536	2448×2048
Pixel size (H)×(V)μm	7.4×7.4	3.75×3.75	7.04×5.28	5.5×5.5	3.45×3.45	
Imaging Area (mm)	4.73×3.57	4.8×3.6	4.40×4.40	11.26×5.98	7.06×5.29	8.44×2048
Frame rate	125fps	30fps	20fps	50fps	35fps(Bayer8), 17fps(Bayer10/12)	22fps(Bayer8), 11fps(Bayer10/12)
Mount	C-mount			CS-mount		C-mount
Sensitivity	C: 3,500lx, F5.6, 1/125s CF: 4,200lx, F5.6, 1/125s	C: 1,250lx, F5.6, 1/30s CF: 1,500lx, F5.6, 1/30s	C: 725lx, F5.6, 1/20s CF: 800lx, F5.6, 1/20s	MC-CS: 2,300lx, F11, 1/50s MCF-CS: 2,900lx, F11, 1/50s	CG=(TBD) lx, F5.6, 1/35s CF=(TBD) lx, F5.6, 1/35s	CG=(TBD) lx, F5.6, 1/22s CF=(TBD) lx, F5.6, 1/22s
Power consumption	Less than 3.3W(PoE) Less than 2.9W(DC12V)	Less than 2.9W(PoE) Less than 2.5W(DC12V)	Less than 3.5W(PoE) Less than 3.1W(DC12V)	Less than 2.9W(PoE) Less than 2.5W(DC12V)	3.1W (PoE) / 2.6W (DC12V)	
Dimensions (W)×(H)×(D)mm	29×29×40					
Weight	Approx. 53g			Approx. 51g		Approx. 56g

CameraLink Digital Camera

Camera series with CameraLink interface. Faster transfer with PC.

3M/5M CMOS camera

Includes high image quality CMOS sensor by SONY. 3 pixel clock (PCLK) available. Can also be connected to the board for low speed clock. (41.5/64/83MHz)

Quad-Speed high speed camera

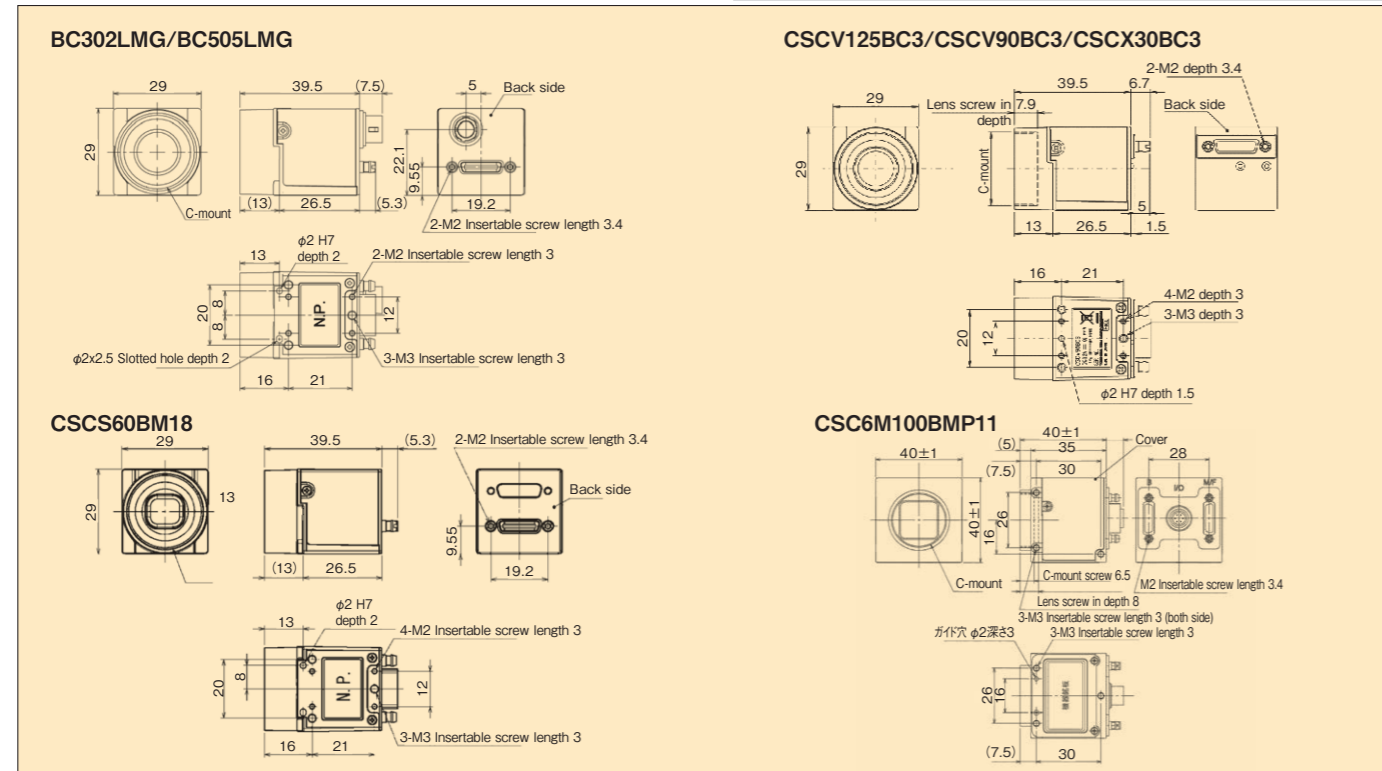
Quad-speed with traditional 30mm square size. Vibration and impact resistant. Ideal for significantly reducing takt time.

1.3M CMOS camera

Partial-read feature makes it possible to read image faster. Image processing is well-supported by many functions.

6.5M B/W camera

Ultra high image quality B/W camera with CMOS sensor. Rapid output by 99fps for all pixels in 1.1 inch type.



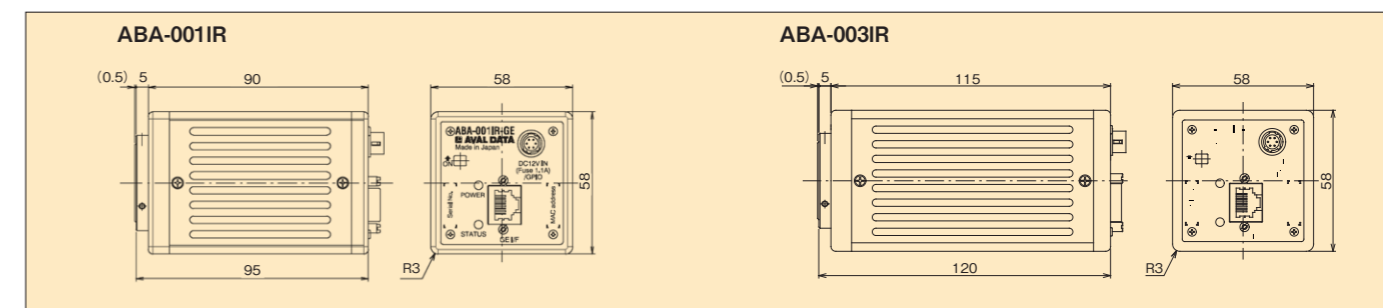
Specification

Model	BC302LMG	BC505LMG	CSCV125BC3	CSCV90BC3	CSCX30BC3	CSCS60BM18	CSC6M100BMP11
Image sensor	1/1.8inch GS-CMOS	2/3inch GS-CMOS	1/3inch CCD	1/3inch CCD	1/3inch CCD	1/1.8inch GS-CMOS	1.1inch GS-CMOS
Max. output image size	3.1M	5M	0.3M	0.3M	0.8M	1.3M	6.5M
All pixel read out	2048x1536	2448x2048	648 x 494	659x494	1034x779	1280x1024	2560x2560
Pixel size (H)x(V) μm	3.45x3.45		7.4x 7.4	7.4x7.4	4.65x4.65	5.3x5.3	5.0x5.0
Imaging Area (mm)	7.06x5.2	8.4x7.06	4.88x3.66	4.87x3.65	4.80x3.62	7.06x5.2	12.8x12.8
Frame rate	Mono8,3tap:56fps Mono8,2tap:52fps	Mono8,3tap:36fps Mono8,2tap:32.6fps	126.2fps	Approx. 92.4fps	Approx. 29.99fps	61 fps	Approx. 99.2fps
Camera cable	PoCL compatible	PoCL compatible	PoCL compatible	PoCL compatible	PoCL compatible	PoCL compatible	PoCL compatible
Mount	C-mount						
Sensitivity	700lx,F5.6,1/52s	400lx,5.6,1/32.6s	850lx,F5.6(FIX gain)	600lx,F5.6	400lx,F5.6	500lx,F5.6	900lx,F5.6,1/60s
Power consumption	Approx. 1.8W		Approx. 1.8W	Approx. 1.6W	Approx. 1.3W	Approx. 0.96W	Approx. 3.84W
Dimensions (W)x(H)x(D)mm	29x29x39.5		29x29x26.5			40x40x35	
Weight	Approx. 45g		Approx. 40g	Approx. 45g	Approx. 33g	Approx. 100g	

InGaAS Camera

CameraLink/GigE interface

QVGA (320x256) & VGA(640x512) InGaAS camera. Wavelength range 950nm - 1700nm. Low noise, high sensitivity area sensor camera. GigE interface is also available.



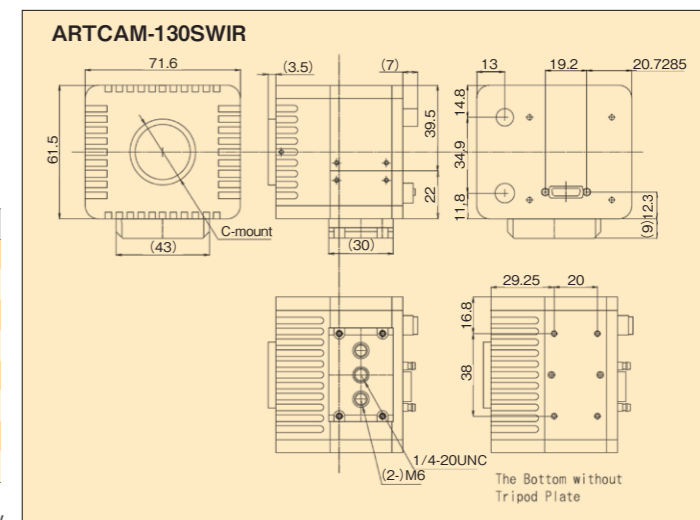
Specification

Model	ABA-001IR-CL/-GE	ABA-003IR-CL/-GE
Mount	C-mount	
Interface	CameraLink / GigE	
Active pixels	320 x 256	640 x 512
Active imaging area	6.4 x 5.12 mm	12.8 x 10.24 mm
Pixel size	20 x 20 μm	
Frame rate	228 fps	62 fps(10Tap)
Power supply	AC adapter UN-310-1210 *Sell separately	AC adapter UN-310-1210 *Sell separately
Dimensions	58(W) x 58(H) x 90(D)	58(W) x 58(H) x 115(D)
Weight	560g(567g)	665g(675g)

Note: Value in brackets are for CameraLink type

CameraLink/USB3.0 interface

SXGA (1280x1024) InGaAS camera. Wide wavelength range: 400nm - 1700nm. Easy installation to computer with USB3.0 interface.



Specification

Model	ARTCAM-130SWIR
Mount	C-mount
Interface	CameraLink/USB3.0
Active pixels	1280 x 1024
Active imaging area	12.8 x 10.4 mm
Pixel size	10 x 10 μm
Frame rate	30 fps
Power supply	AC adapter
Dimensions	61.5(W) x 71.6(H) x 59.0(D)mm

Note: This product falls under appended table of the Export Control Order. For export, permission of Ministry of Economy, Trade and Industry is necessary.

HD High Definition Camera

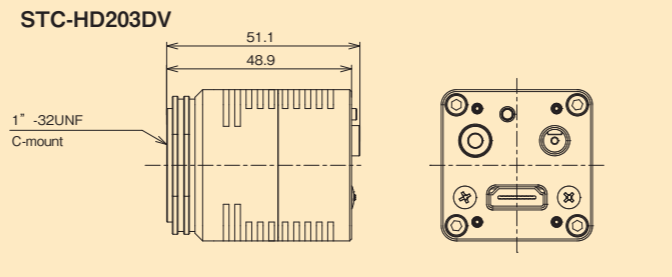
STC-HD203DV

This camera does not require computer for observation. Provides high definition 1080P image. You can generate lines (X: 2 lines Y: 2 lines) by using remote controller (option).

*Line color can be changed

■ Specification

Model	STC-HD203DV	
Mount	C-mount	
Interface	HDMI	
Active pixels	1920 × 1080	
Active imaging area	5.4(H) × 3.0(V)mm	
Pixel size	2.8 × 2.8 μm	
Frame rate	60fps	
Power supply	UN-310-1210	*Sell separately
Shutter	Rolling shutter	



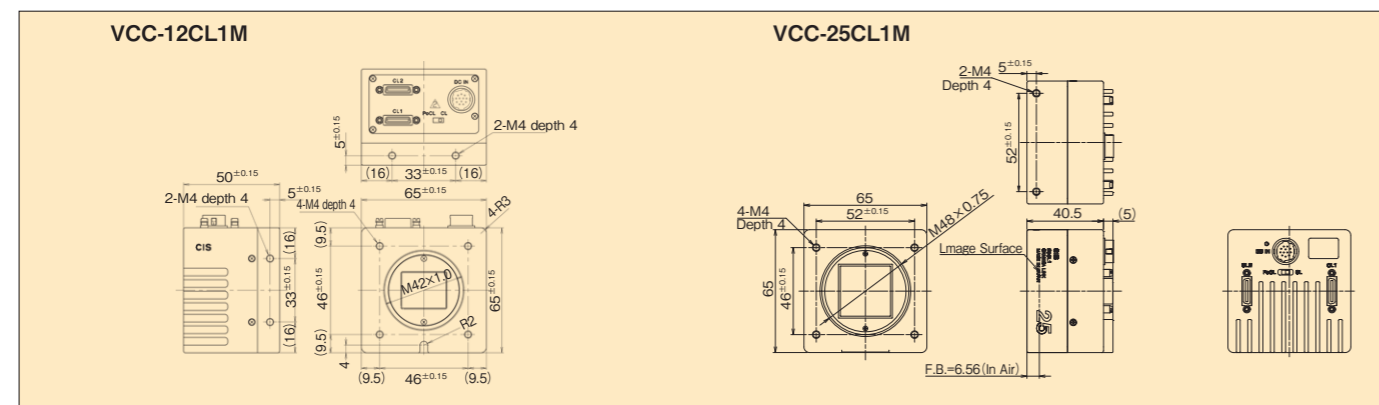
Large Area Sensor Camera

12M & 25M

Cameras with ultra wide field of view : 12M φ23.5mm / 25M φ33mm. High resolution and wide imaging area are ideal for reducing takt time.

12M : Medium/Full/Deca

25M : Full/Deca Configuration compatible



■ Specification

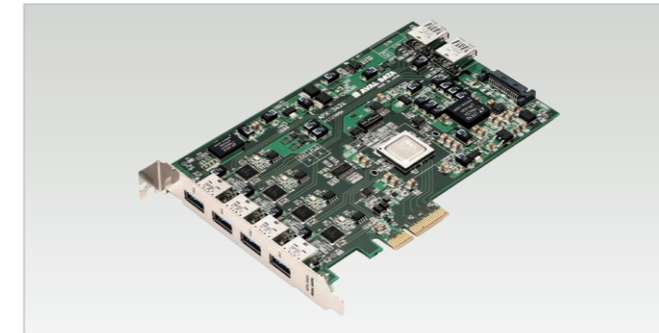
Model	VCC-12CL1M	VCC-25CL1M
Mount	M42 mount (F-mount convertible)	M48 mount (F-mount convertible)
Interface	CameraLink (PoCL compatible)	
Active pixels	4000 × 3000	5120 × 5120
Active imaging area	18.8 × 14.1 mm	23.0 × 23.0 mm
Pixel size	4.7 × 4.7 μm	4.5 × 4.5 μm
Frame rate	Med : 22fps (4tap) Full : 43fps (8tap) Deca : 54fps (10tap 8bit), 43fps (8tap 10bit)	Base : 5fps (2tap 8bit/10bit) Med : 10fps (4tap 8bit/10bit) Full : 20/25fps (8tap 8bit) Deca : 32fps (10tap 8bit)
Power supply	PoCL, External input available	
Power consumption	6.1 W	8 W
Dimension	65(W) × 65(H) × 50(D)	65(W) × 65(H) × 40.5(D)
Weight	270g	210g

USB3.0 I/F Board

APX-3424-1

4ch USB3.0 board. All ports have controller chip to avoid shortage of band frequency which occur when multiple cameras are connected.

Note: 2 channels are open for front panel. Since the controller chip is shared, please check overlap before using.



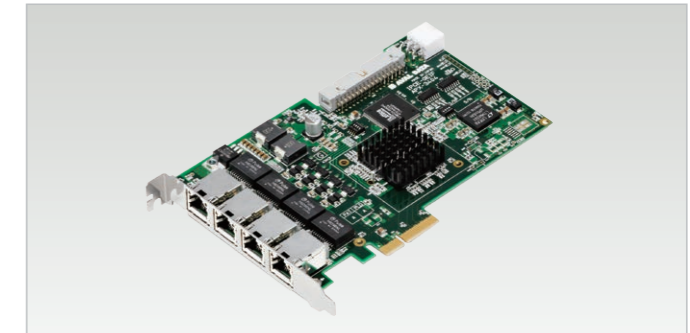
■ Specification

Model	APX-3424-1	
Input	USB3.0 x4	
	300MB/s camera compatible	
Controller	RENESAS μPD720202	
System bus	PCI Express 2.0 x4(Gen2) 5.0GT/S	
OS	Windows 7/10 32/64bit	
Dimension	168 x 112 mm, Panel width 20mm	
	RoHS compliant	

GigE I/F Board

APX-3404

This board is with 4ch PoE (Power over Ethernet). 4 cameras can be connected. Power is supplied by automatic recognition.



■ Specification

Model	APX-3404	
Input	RJ45 x4	PoE compatible
	10 / 100 / 1000 Base-T	
Controller	82580EB	
System bus	PCI Express 2.0 x4(Gen2) 5.0GT/S	
OS	Windows 7/10 32/64bit	
Dimension	168 x 112 mm, Panel width 20mm	
	RoHS compliant	

CamraLink I/F Board

APX-3323

PCI-Express standard CameraLink input board. Compatible with PoCL and Base/Medium/Full/Deca Configuration camera can be connected.

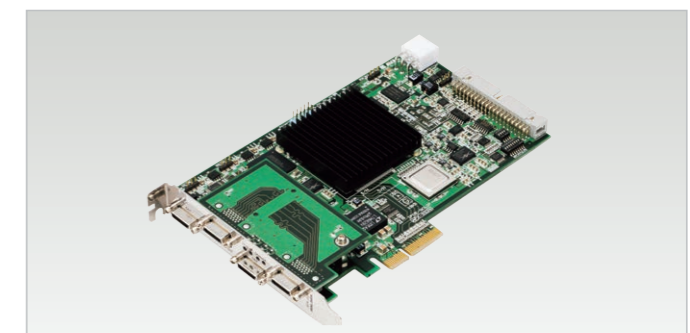


■ Specification

Model	APX-3323	
Input	PoCL compatible	
	Base/Medium/Full/Deca Configuration	
Controller	1 ch	
System bus	PCI Express 2.0 x4(Gen2) 2.5GT/S	
OS	Windows 7/10 32/64bit	
Dimension	167.65 x 111.15 mm, Panel width 20mm	
	RoHS compliant	

APX-3326A

Input board which allows connection up to 2 CameraLink cameras. Compatible with PoCL. Base/Medium/Full/Deca Configuration cameras can be connected.



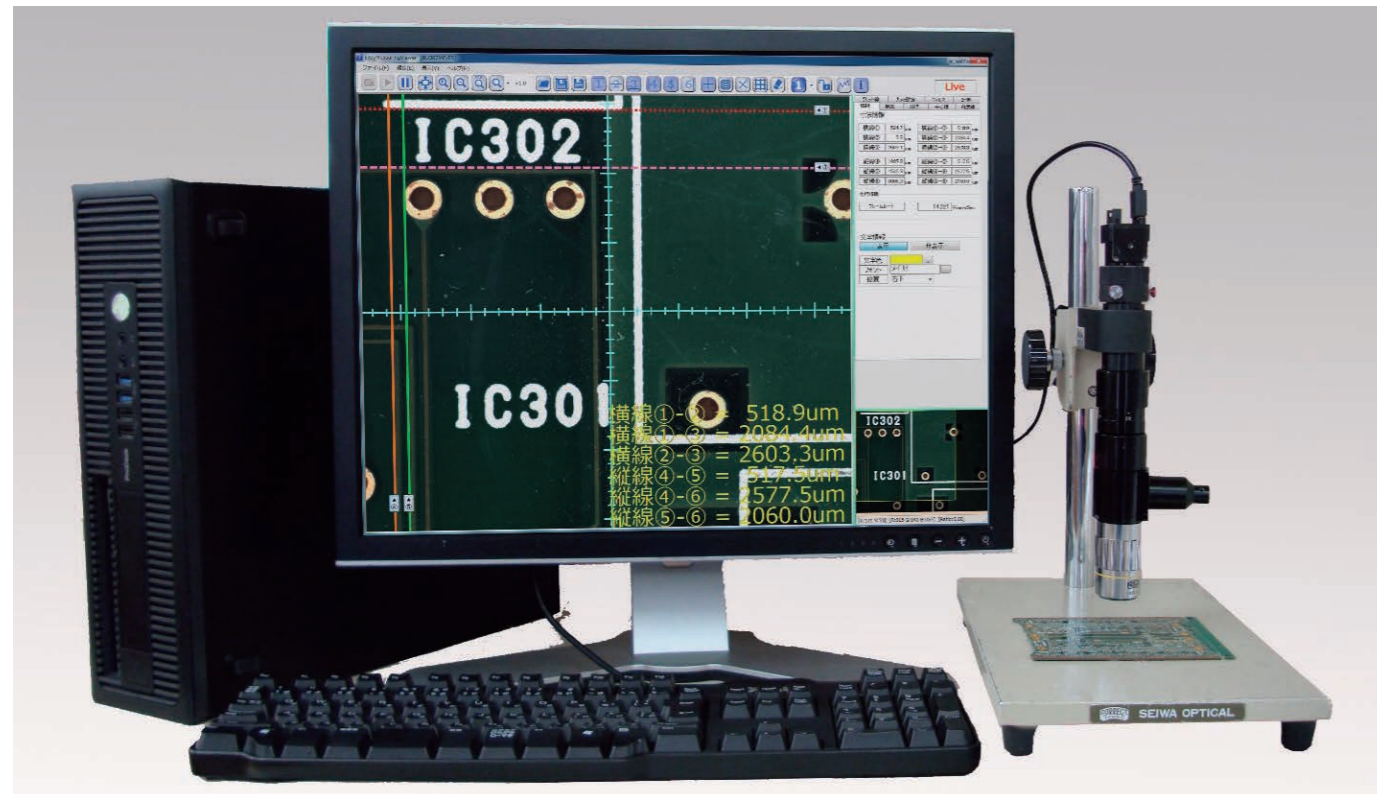
■ Specification

Model	APX-3326A	
Input	Mini CL x4(SDR 26pin)	PoCL compatible
	Base/Medium/Full/Deca Configuration	
Controller	2ch	
System bus	PCI Express 2.0 x4(Gen2) 5.0GT/S	
OS	Windows 7/10 32/64bit	
Dimension	167.65 x 111.15 mm, Panel width 20mm	
	RoHS compliant	

Line Generating Viewer Software

Easy Measuring Viewer

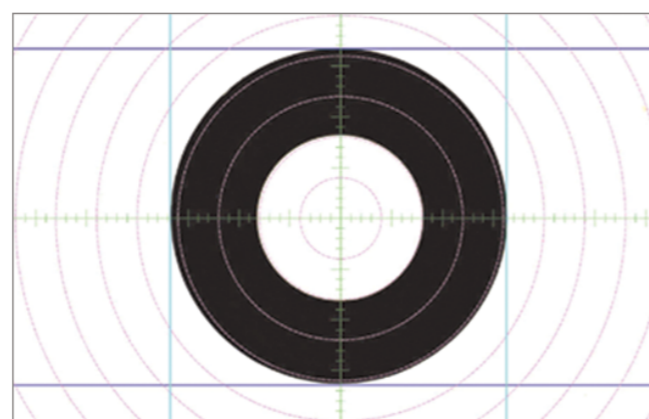
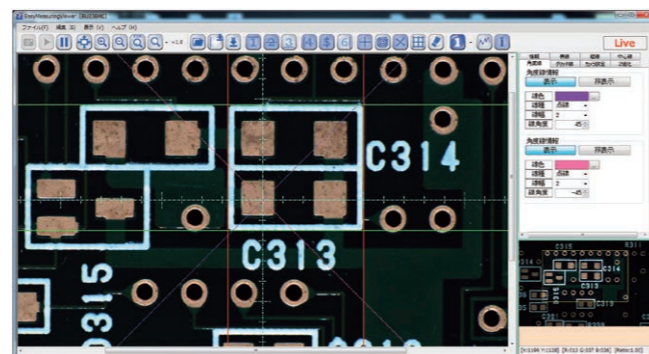
Generates various lines on live image. Ideal for easy and simple dimension measurement. Capable of saving measurement data in addition to raw images. Compatible with Toshiba Teli BU (USB 3.0 Vision) and BG (GigE Vision) series cameras. Can be used with Laptop computer. Suitable for desktop inspection or using at field site.



Specification

Supported OS	Windows 7/8/8.1/10 (64bit OS recommended)
Hardware requirement	RAM: 4GB or more recommended CPU: i3 or later recommended
Supported camera	Toshiba TELI BU/BG series (8bit)
Feature	<ul style="list-style-type: none"> ◆ Line <ul style="list-style-type: none"> X,Y: 3 lines each Angle: 2 lines Crosshair(with scale) Concentric circle Grid *Following items are settable for each line individually <ul style="list-style-type: none"> Color / Width / Shape (normal line / dotted line / dash line / chain line) ◆Point-to-point distance measuring ◆Three-point curve ◆Binarization
Image save	With line / Without line / selectable
Image save format	BMP / JPG / TIFF
Language	Japanese / English / Chinese (traditional / simplified)

Note: Specification may change without prior notice.



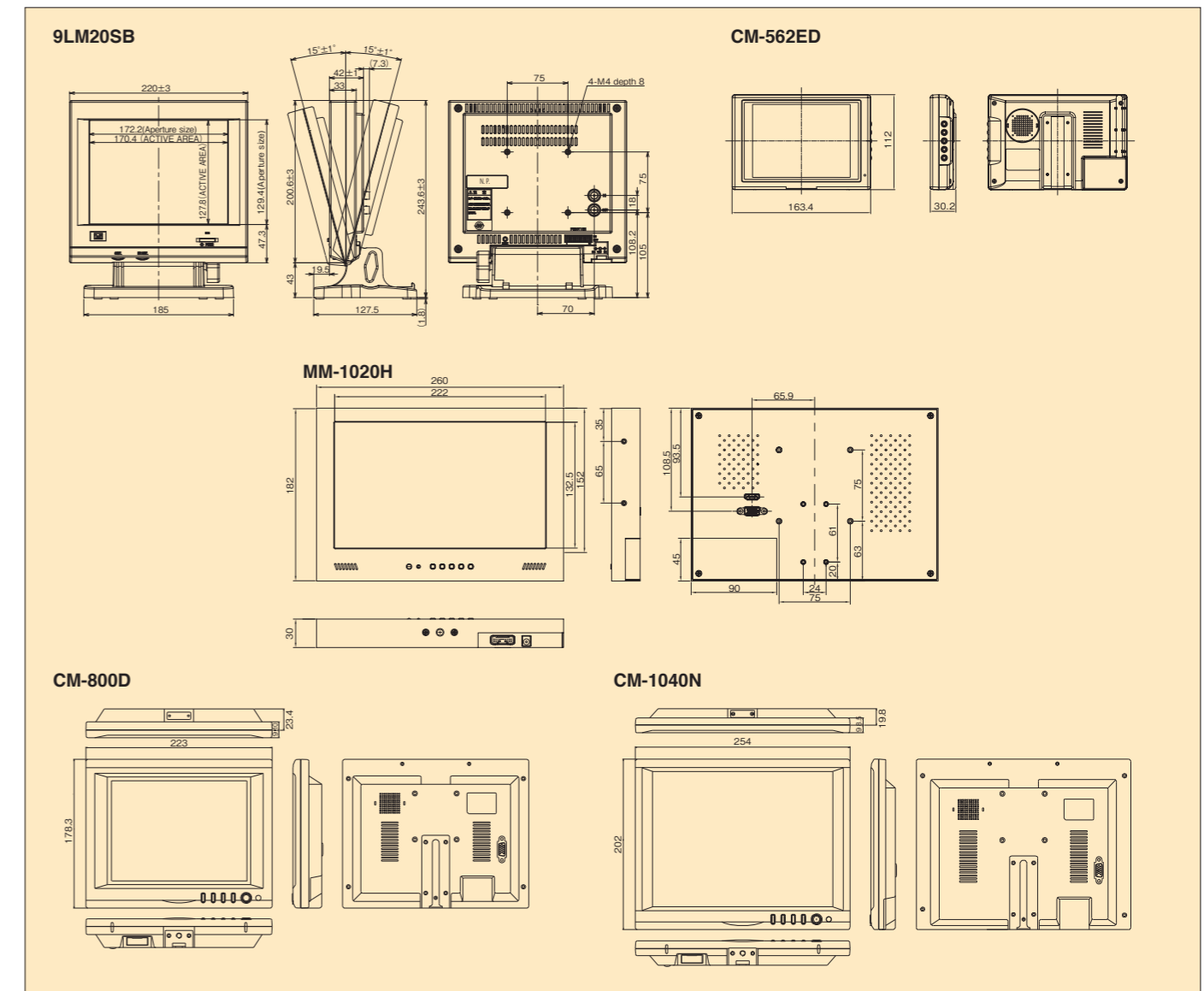
LCD Monitor

8.4 Model LCD Black and White Monitor

8.4 model LCD black and white video monitor. Generates 2 electric lines each for X and Y.

5.6/8/10.2/10.4 inch color LCD Monitor

Choose from 4 kinds of color monitors suitable for your needs.



Specification

Model	9LM20SB	CM-562ED	CM-800D	MM-1020H	CM-1040N
Panel dimension	8.4inch TFT Approx. 170(W) × 128(H)mm	5.6inch TFT 113(W) × 84.7(H)mm	8.0inch 162(W) × 121.5(H)mm	10.2inch 222.00(W) × 132.48(H)mm	10.4inch 211.2(W) × 158(H)mm
Display	800×600	640×480	800×600	800×480	1024×768
Input 1	Image input BNC ×1	Composite 1	Composite	HDMI(1080p)	Composite 1
Input 2		Composite 2	S-video	Composite	Composite 2
Input 3			D-sub (VGA)	D-sub (1024×768)	D-sub (VGA)
Output	Image output BNC ×1	Image output RCA ×1			
AC adapter	Sell separately (ATS036T-A121-L)	Sell separately (DC12V/1ASW)	Sell separately (DC12V/2ASW)	Sell separately (DC12V/2ASW)	Sell separately (DC12V/2ASW)
Power consumption	Approx. 15W	Approx. 5W	9.6W	6W	7.2W
External dimension	220(W) × 215(H) × 130(D)mm	163(W) × 112(H) × 30(D)mm	223(W) × 178(H) × 34.5(D)mm	260(W) × 182(H) × 30(D)mm	254(W) × 202(H) × 29(D)mm
Weight	1600g	300g	630g	900g	780g

Electric Line Generator

OPVG-20A

The OPVG-20A is a system that displays 2 electronic lines for the X and Y axes. You can operate each line: move lines, switch continuous line to dashed line, and change gray level with encoder on the front. This system does not generate position gap of lines during digital processing. Furthermore, because of the Power Off slew function, you can output only the images with the power turned off.



*We also have RoHS compliant device, OPVG-21. (Please contact us for details)

*This device is compatible only with NTSC compliant camera, and is not compatible with progressive camera and digital output camera.

■ Specification

Model	OPVG-20A ※Not complied with RoHS
Input and output signal level	Complied with NTSC White/Black Signal 1Vp-p/75Ω(BNC connector)
Electric line shape	#Shape line: Solid/Dashed line (superimpose 2H lines and 2V lines) Frame field switchable
Line travel	Setting by rotary switch
Line color	Variable from black to white(more or less standard 120%)
Power supply	AC100-120V 50/60Hz
Power consumption	20VA
External dimension	150(W) × 54(H) × 170(D)mm (Except projection)
Weight	700g

Mirror Reversing Unit

OPVG-M2

The OPVG-M2 generates an image that is a mirror image of the original. It can easily reverse right and left, top and bottom, negative and positive and freeze an image with the push of a button.



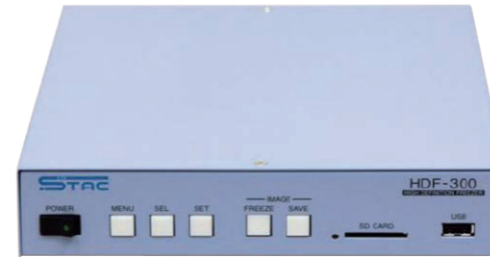
■ Specification

Model	OPVG-M2
Input-output signal	NTSC 1Vp-p
Input-output connector	BNC
Input-output impedance	75Ω
External Control	Negative logic contact point action D-SUB9pin (female) 1.Upper Lower 2.Right Left 3.Freeze 4.Negative / Positive 5. Precedence Postpone 7.GND
Power supply	AC100V
External Dimension	150(W) × 54.5(H) × 170(D)mm
Weight	720g

HD Image Save Unit

HDF-300

HDF-300 is an equipment to save DVI/HDS/SDI (please select) video signal. Able to save image to memory card (SD/SDHC) or transfer image between networks.



■ Specification

Model	HDF-300
Image input	DVI:1080p·1080i·720p 60/59.94 HD-SDI:1080p 30/29.97 1080i·720p 60/59.94
Image output	Monitor output: DVI Through output: DVI / DH-SDI *
Memory card	SD card
Network	10 / 100 Base
Power supply voltage	DC12V (AC adapter included)
Power consumption	36W
Dimension	210(W) × 43(H) × 200(D)mm
Weight	1.3Kg

GigE - HDMI Converter

HDI-Pro

HDI-Pro is an equipment to display the GigE format image on HDMI input monitor. Ideal for using in the environment without computer. Maximum 8 cameras in the network can be controlled automatically.



■ Specification

Model	HDI-Pro
Input	RJ45
Output	HDMI(DVI)
Transmission rate	1 Gb/s
Standard	GigE Vision / GenICam
Power consumption	4.3W
Dimension	98(W) × 59(H) × 40(D)mm
Accessories	Power supply / mount bracket / SDK

Digital Splitter

DSP-104

The DSP-104 is a unit that connects to 2 asynchronous color or B/W cameras (any combination) and displays the two images in a divided format on one monitor (either horizontally or vertically).



■ Specification

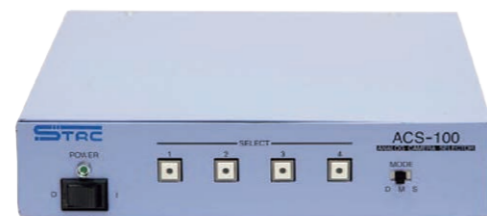
Model	DSP-104
Camera image input(Looping through)	BNC terminal × 2system × 2
Camera image input	BNC terminal × 2system
Refresh rate	Single Screen 1/60 second Divided screen 1/60 second
Remote	Terminal stand A, B, SPLIT, FREEZE A, FREEZE B
External Dimension	210(W) × 240(D) × 44(H)mm
Weight	Approx 1.5kg
Consumption voltage / Power	AC100-120V / Approx 6W
Camera image input	2:1 Interlace Method
Monitor image output	1.0Vp-p75Ω NTSC BNC terminal ×2 ×2 (Looping through)

- Connects to 2 asynchronous cameras.
- Connects to either color or B/W cameras (either combination).
- Compatibility with other systems due to loop-through feature of Camera input.
- Remote signal input terminal.
- Ability to move the boundary position of images separately and arbitrarily.
- Ability to move the display area of divided image.
- Includes freeze function.
- Displays 2 vertical and 2 horizontal cross lines (adjustable).
- Rack-mount style (Metal brackets for attachment are optional).

Camera Selector

ACS-100

Able to connect maximum 4 analog 12pin cameras. (With power supply) Both manual operation by front panel switch and remote control from back side (need cable) are available.



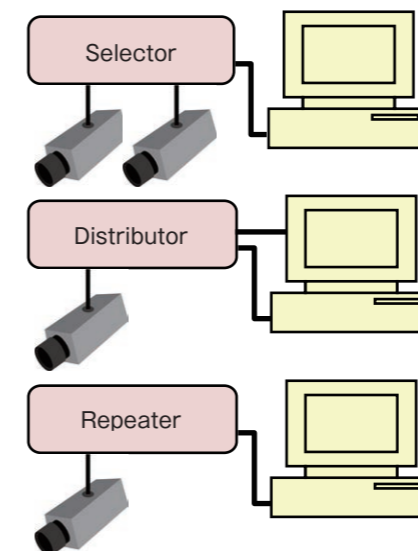
■ Specification

Model	ACS-100
Input	1-4 New EIAJ standard 12 pin connector
Camera power supply	1-4 New EIAJ standard 12 pin connector
Output	1 New EIAJ standard 12 pin connector
Remote	Round 6pin connector (HR10A-7P-6S: HIROSE)
Power supply voltage	AC100V~240V 50/60Hz
Power consumption	15W (when 4 cameras are connected)
Dimension	210(W) × 44(H) × 200(D)mm
Weight	1.8kg

CameraLink Multi Unit

PCM-200

This is an equipment to switch / distribute / repeat the signal of CameraLink (Base).



■ Specification

Model	PCM-200	CLSD-850
Input	x2 Mini CL (SDR 26pin)	x4 CL (MDR 26pin)
Output	x2 CL (MDR 26pin) PoCL compatible	x4 CL (MDR 26pin) Full Configuration
Power supply voltage	DC12V (AC adapter included)	
Power consumption	9W	5W
Dimension	150(W) × 80(H) × 36(D)mm	210(W) × 44(H) × 120(D)mm
Weight	0.5Kg	1.0Kg

CameraLink - USB3.0 Converter

CL-U3M

Convert CameraLink (Medium) signal to USB3.0 for easy data capturing to computer.



■ Specification

Model	CL-U3M
Input	CameraLink (PoCL compatible) Medium 1 / 2 / 4 tap
Output	USB3.0 version1.0 (microB plug) Transmission rate: 3Gb/s
Standard	USB3 Vision / GenICamTM
Power consumption	2.5W
Accessories	Power supply / SDK / USB cable (2m)
Dimension	82(W) × 51(H) × 38(D)mm
Weight	132g

Note: Base camera type is also available

CameraLink - GigE Converter

CL-GigE

Convert CameraLink (Base) to GigE. You can use your laptop computer. Easy to extend the cable length.



■ Specification

Model	CL-GigE
Input	x4 Mini CL(SDR 26pin) PoCL compatible
Output	Base Configuration 1ch RJ45
Transmission rate	10 / 100 Mbps 1Gbit/s
Standard	GigE Vision / GenICam
Power supply	PoE compatible
Dimension	83(W) × 51(H) × 38(D)mm
Accessories	PoE injector / LAN board LAN cable (2m) x2 / SDK

Analog - GigE Converter

Analog-Pro

Convert analog format image to GigE format. Easy to capture the data to computer. Able to extend cable length by noise resistance feature.



■ Specification

Model	Analog-Pro
Input	2xBNC female NTSC/PAL/CCIR/RS170
Output	1xRJ45 10 / 100 / 1000Mb / Ethernet
Pixel format	8bit Mono / YUV4:2:2
Standard	GigE Vision / GenICamTM
Power consumption	4W (Max.)
Accessories	Power supply / SDK / LAN board / LAN cable (2m)
Dimension	113(W) × 51(H) × 82(D)mm
Weight	210g

CameraLink - 10 GigE Converter

CL-Ten

Convert CameraLink (Full) to 10 GigE. High-speed communication and easy cable handling.



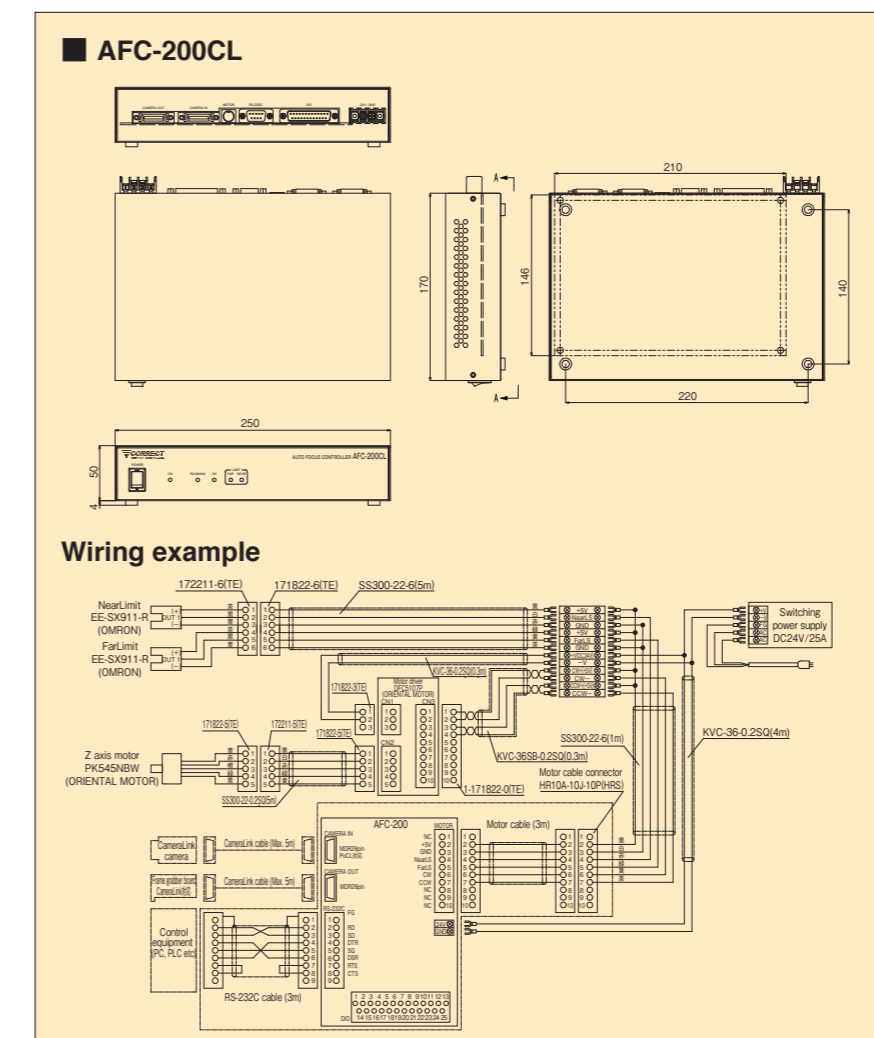
■ Specification

Model	CL-Ten
Input	x4 Mini CL(SDR 26pin) PoCL compatible
Output	Full Configuration 2ch RJ45 (10GigE)
Transmission rate	10000 Mbps 8.16Gbit/s
Standard	GigE Vision2.0
Power supply	11.5W
Dimension	125.4(W) × 71.7(H) × 100(D)mm
Accessories	Power supply / 10GigE LAN board SFP+module / Optical cable (2m) x2 / SDK

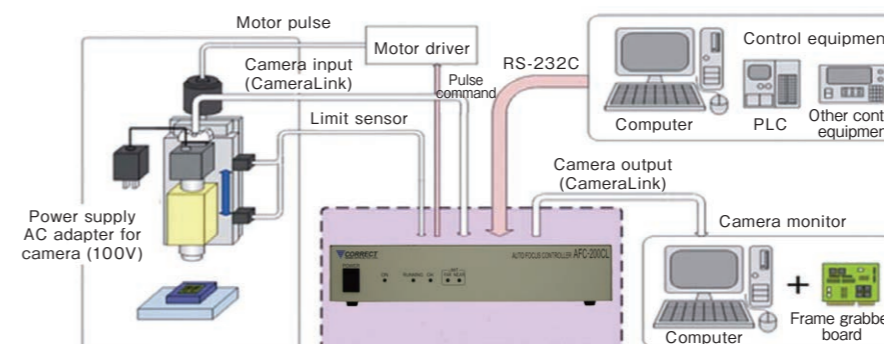
Video Auto Focusing Unit

AFC-200CL

AFC-200CL is a video auto focusing unit for samples with low-reflection rates or MEMS products. Focusing is measured by image contrast. This makes it easy to capture high-definition images of patterns on samples. Operation software is also manufactured by Seiwa. Please contact us for customization requests if needed.



■ System Constitution Example



AFC-200CL Unit

- RS-232C cable (3m, cross)
- Motor cable (3m)
- Motor cable connector
- AFC-200CL adjustment software

PC Environment

- OS Windows 7 (32bit & 64bit)
Windows 8 (32bit & 64bit)
- CPU Intel core i5 or later
- HDD 120GB or more

Connection

- Power input Voltage 24V, Current 0.4A
 - CameraLink output : MDR26pin
 - CameraLink input : MDR 26pin
 - Z-axis motor pulse output :
HIROSE HR212-10RC-10SDL(72)
 - Controller: RS232C D-sub 9pin male
 - External signal control:
DIO D-sub 25pin female
- Note: For pin arrangement and detail of signal part, please contact us.

- Compatible Camera:
SONY XCL-C series
Please ask us for other cameras.

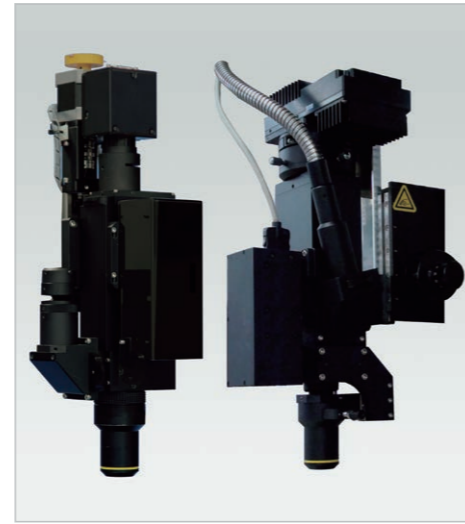
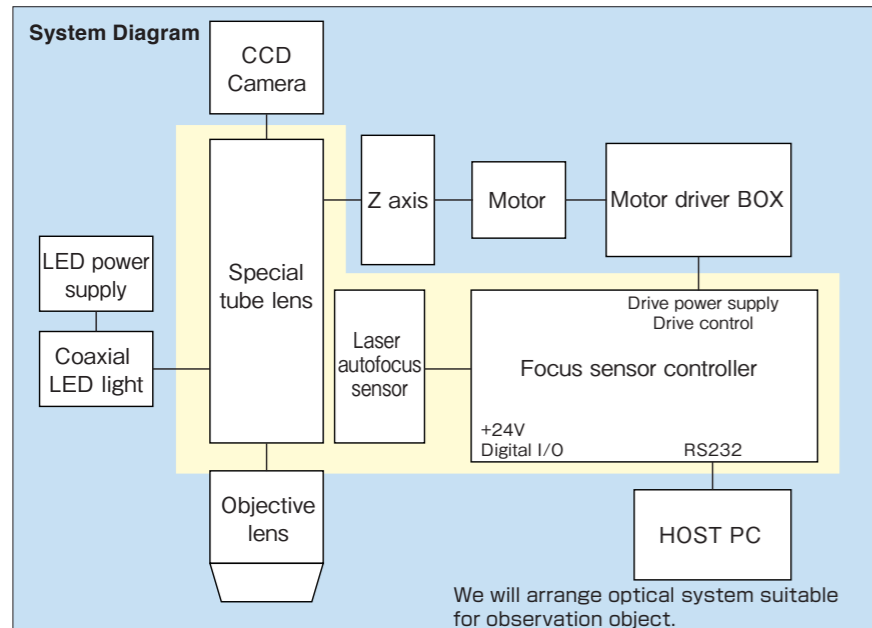
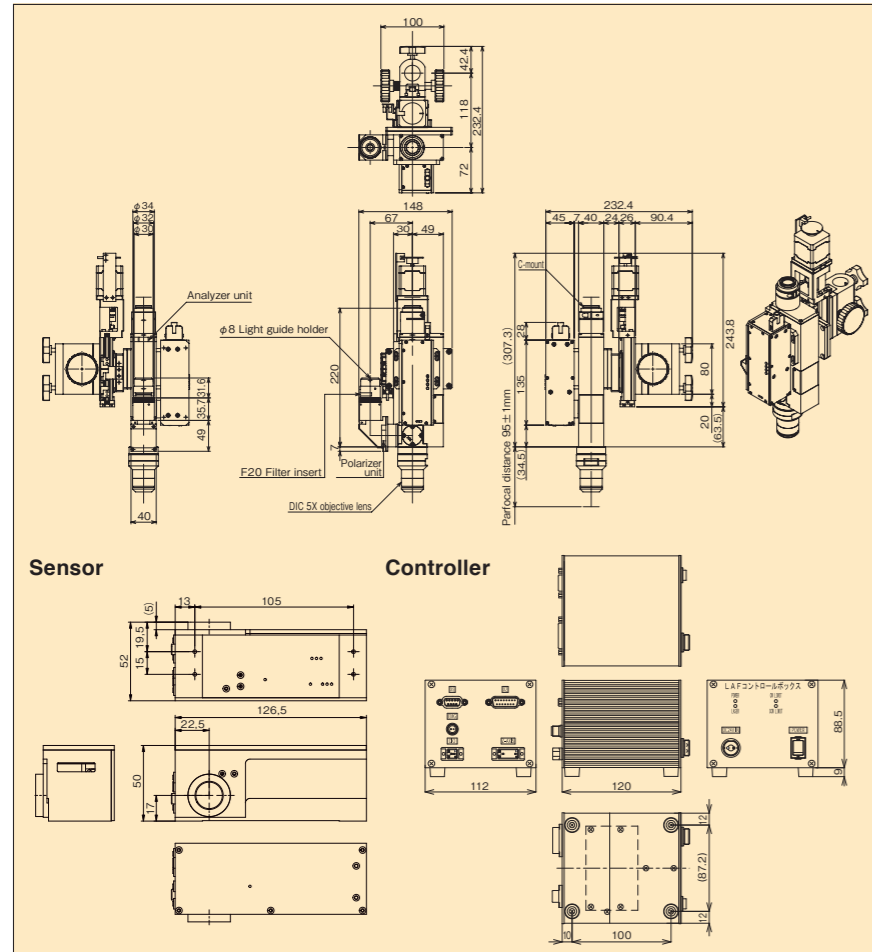
- Motor sensor is only CW and CCW limit sensor

- Please ask us for other external DIO

Laser Auto Focusing Unit

MS-200-TWL-LAF

Sampling rate is 10 times faster than our conventional products by using upgraded laser. Using diagonal line laser is not interfered by pattern on sample. This auto focusing unit is ideal for the surface inspection of samples with high-reflection rate, such as wafer or glass. Options include compatibility with differential interference contrast (DIC) and observation of up to 3 wavelengths.



Laser Specification

Model	LAF5S-C
Laser type	Semiconductor laser
Output wavelength	670nm
Safety standard	3R
Sampling rate	Max. 5kHz
Positioning time	External trigger: 0.2sec Tracking: 0sec

PC Environment

- OS Windows 7 (32bit & 64bit)
Windows 8 (32bit & 64bit)
- CPU Intel core i5 or later
- HDD 120GB or more

Z axis specification
Stepping motor driver is compatible both with CW/CCW pulse output or DIR/PULSE output.

<Standard specification>

- Resolution: 0.1μm
- Stroke:
Ultra compact type +/-2.5mm
Compact type: +/-5mm
Standard type: +/-15mm

Laser Type

Model	Laser wavelength	Laser beam shape
LAF5S-C	670nm	45 degree diagonal

Camera Cable

Camera Link Cable

MDR (camera side) / MDR (board side) CameraLink cable

Model	Length	Remark
CLKV-01-MM	1m	
CLKV-02-MM	2m	
CLKV-03-MM	3m	
CLKV-05-MM	5m	
CLKV-10-MM	10m	

SDR (camera side) / MDR (board side) CameraLink cable

Model	Length	Remark
CLKV-01-SM	1m	
CLKV-02-SM	2m	
CLKV-03-SM	3m	
CLKV-05-SM	5m	
CLKV-10-SM	10m	

SDR (camera side) / SDR (board side) CameraLink cable

Model	Length	Remark
CLKV-01-SS	1m	
CLKV-02-SS	2m	
CLKV-03-SS	3m	
CLKV-05-SS	5m	
CLKV-10-SS	10m	

Robot MDR (camera side) / MDR (board side) CameraLink cable

Model	Length	Remark
CLKV-01R-MM	1m	Flex-Resistant
CLKV-02R-MM	2m	Flex-Resistant
CLKV-03R-MM	3m	Flex-Resistant
CLKV-05R-MM	5m	Flex-Resistant
CLKV-10R-MM	10m	Flex-Resistant

Robot SDR (camera side) / MDR (board side) CameraLink cable

Model	Length	Remark
CLKV-01R-SM	1m	Flex-Resistant
CLKV-02R-SM	2m	Flex-Resistant
CLKV-03R-SM	3m	Flex-Resistant
CLKV-05R-SM	5m	Flex-Resistant
CLKV-10R-SM	10m	Flex-Resistant

Robot SDR (camera side) / SDR (board side) CameraLink cable

Model	Length	Remark
CLKV-01R-SS	1m	Flex-Resistant
CLKV-02R-SS	2m	Flex-Resistant
CLKV-03R-SS	3m	Flex-Resistant
CLKV-05R-SS	5m	Flex-Resistant
CLKV-10R-SS	10m	Flex-Resistant

Note: Robot cable is for Base / Medium Configuration. Not compatible with Full / Deca Configuration.

Gig-E Vision LAN Cable

Model	Length	Remark
GEKV-01R-C5E	1m	Flex-Resistant
GEKV-03R-C5E	3m	Flex-Resistant
GEKV-05R-C5E	5m	Flex-Resistant
GEKV-10R-C5E	10m	Flex-Resistant

USB3.0 Cable

Model	Length	Remark
NU3MBASU3S3m	3m	
NU3MBASU3B3m	3m	Flex-Resistant
UB3-ST-SA0-MBS-0500-00K	5m	
UB3HF-SA0-MBS-0500-00K	5m	Flex-Resistant

Note: Board side lock type available
Note: Available cable length changes according to camera or computer (USB3.0) spec. It is not guaranteed value. Please test and ask our salesperson about it.

