

CMOS Camera Module

You can find CMOS camera module what you need !

Embedded Cameras for Industrial Use

- Compact, High image quality, High performance and low power consumption
- Support small lots production from a few hundreds per months
- Quick technical support by our experienced engineering dept.
- Many shipping result to industrial application that requires reliability



Intelligent Camera Module

- Integrate camera and processor, realized image processing in the camera
- Only image processed result data can be output (captured image data can be transferred via USB/LAN)
- Can be supplied with the specified image processing software
- Development kit allows customer's software to be embedded



Custom Camera

- Support full custom/semi custom development
- Support consistent development together with image processing system
- Optimal proposal for request by engineering dept.
- Abundant development result mainly industrial application



Trust and Reliability by in-house production in Japan

- Integrated production by our own factory in Japan
- Provide high quality by camera dedicated clean room
- Maintain high reliability and stable supply over middle to long term
- Perfect Quality Assurance system



Company Overview

Company name	Shikino High-Tech Co., Ltd.
Establishment	January 29, 1975
Current business started	July, 1986
Capital	JPY170,311,000
Headquarters	829 Kichijima, Uozu-shi, Toyama
Telephone number	+81-765-22-3477
Employees	333名 (as of April, 2019)

Main business	● Electronics System Business
	▪ Design/Manufacturing of Semiconductor Test Equipment,
	▪ Electric equipment contract development
● Microelectronics Technology Business	
▪ LSI design, evaluation	
▪ License sales of IP (Intellectual Property)	
● Product Development Business	
▪ Development of Imaging system	
▪ Development and sales of Camera module	

Officer Composition

● Board of Directors

Chairman and CEO	Takashi Tsukada	
President	Mitsuhiro Hamada	
Executive Managing Director	Akito Miyamoto	Microelectronics Technology Dept. Product Development Business Dept.
Managing Director	Fumio Hirota	Administration Dept.
Managing Director	Kazuhiko Kishi	Quality Control Dept.
Director	Masao Teramoto	Production Dept.
Director	Takuya Furukawa	Electronics System Business Dept.
Outside Director	Yukio Miyamoto	Part-time
Outside Director	Takako Miyamoto	Part-time
Outside Director	Hisashi Saitoh	Part-time
Auditor	Mikio Tanetani	
Outside Auditor	Shigerou Funasaki	Part-time
Outside Auditor	Toshiaki Ohsaki	Part-time

● Executive Committee

Operating officer	Takashi Tsukada	
Operating officer	Mitsuhiro Hamada	
Operating officer	Akito Miyamoto	General Manager of Product Development Business Dept.
Operating officer	Fumio Hirota	General Manager of Administration Dept.
Operating officer	Kazuhiko Kishi	General Manager of Quality Control Dept.
Operating officer	Masao Teramoto	General Manager of Production Dept.
Operating officer	Takuya Furukawa	General Manager of Electronics System Business Dept.
Operating officer	Kazunari Nishihara	General Manager of Microelectronics Technology Dept.

Office information

Headquarters/Uozu factory

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Osaka Design Center

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Tokyo Design Center

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Kyushu Branch

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FAX: +81-93-695-3614



Digital Output Camera

KBCR-S03TG

2M pixels

NEW



Image Sensor	1/2.7-inch Color Sensor (Rolling shutter)
Total number of pixels	1920 x 1080
Imaging area[mm]	5.94 x 3.24
Output signal format	YUV4:2:2 (8bit)
Frame rate[fps]	30
External connection	60pin connector
Function	HDR, Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	5.0/12..0 / 1.6(MAX)W
Operation temp.[°C] / Storage temp.[°C]	-10 ~ +60 / -20 ~ +80 (excluding lens)
PCB dimension[mm]	40 x 30

KBCR-S01TL

2M pixels

In Development



Image Sensor	1/2.8-inch Color Sensor (Rolling shutter)
Total number of pixels	1920 x 1080 / 1280 x 720
Imaging area[mm]	5.6 x 3.1
Output signal format	RAW 10bit (Low voltage LVDS serial 150mVp-p:DDR-4ch)
Frame rate[fps]	60 (1920 x 1080) / 120 (1280 x 720)
External connection	30pin FFC connector
function	Wide dynamic range
Power supply voltage[V] / Power consumption[W]	3.3, 1.8 / 1.0(MAX)
Operation temp.[°C] / Storage temp.[°C]	-10 ~ +60 / -20 ~ +70 (excluding lens)
PCB dimension[mm]	32 x 32

KBCR-S07VG

0.3M pixels



Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	640 x 480
Imaging area[mm]	3.58 x 2.69
Output signal format	YUV4:2:2 (8bit)
Frame rate[fps]	30
External connection	24pin FFC connector
function	Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	3.3 / 0.43(MAX)
Operation temp.[°C] / Storage temp.[°C]	-20 ~ +60 / -20 ~ +70 (excluding lens)
PCB dimension[mm]	24 x 27

KBCR-S51VG

0.3M pixels



Image Sensor	1/3-inch Monochrome Sensor (Global shutter)
Total number of pixels	752 x 480
Imaging area[mm]	4.51 x 2.88
Output signal format	Monochrome RAW 10bit
Frame rate[fps]	60
External connection	24pin FFC connector
function	Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	3.3 / 0.27(MAX)
Operation temp.[°C] / Storage temp.[°C]	-20 ~ +60 / -20 ~ +70 (excluding lens)
PCB dimension[mm]	32 x 24

USB Camera

KBCR-S01TU

2M pixels

In Development

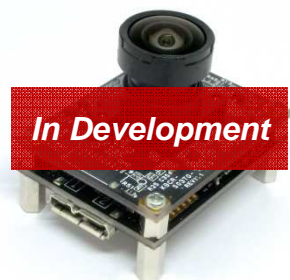


Image Sensor	1/2.7-inch Color Sensor (Rolling shutter)
Total number of pixels	1920 × 1080 / 1280 × 720
Imaging area[mm]	5.96 × 3.24
Output signal format	USB3.1-Gen1 (YUV)
Frame rate[fps]	30
External connection	USB3 Micro B connector
function	HDR, Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	5.0 / 2.0 (MAX)
Operation temp.[°C] / Storage temp.[°C]	0 ~ +50 / -10 ~ +60 (excluding lens)
PCB dimension[mm]	40 × 30

KBCR-S02TU

2M pixels

In Development

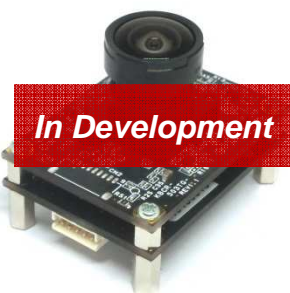


Image Sensor	1/2.7-inch Color Sensor (Rolling shutter)
Total number of pixels	1920 × 1080 / 1280 × 720
Imaging area[mm]	5.96 × 3.24
Output signal format	USB2.0 (MJPEG)
Frame rate[fps]	15
External connection	5pin connector
function	HDR, Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	5.0 / T.B.D
Operation temp.[°C] / Storage temp.[°C]	T.B.D
PCB dimension[mm]	40 × 30

KBCR-S02MU

1.3M pixels



Image Sensor	1/3-inch Color Sensor (Rolling shutter)
Total number of pixels	1280 × 1024
Imaging area[mm]	4.80 × 3.84
Output signal format	USB2.0 (YUV/MJPEG)
Frame rate[fps]	7.5 (YUV) / 30 (MJPEG)
External connection	USB mini Bコネクタ
function	Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	5.0 / 1.00 (MAX)
Operation temp.[°C] / Storage temp.[°C]	-10 ~ +60 / -20 ~ +80 (excluding lens)
PCB dimension[mm]	45 × 32

KBCR-S03MU

1.2M pixels



Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	1280 × 960 / 640 × 480
Imaging area[mm]	3.84 × 2.88
Output signal format	USB2.0 (YUV/MJPEG)
Frame rate[fps]	7.5 (YUV) / 30 (MJPEG)
External connection	5pin connector
function	Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	5.0 / 1.00 (MAX)
Operation temp.[°C] / Storage temp.[°C]	-10 ~ +60 / -20 ~ +70 (excluding lens)
PCB dimension[mm]	15 × 40

USB Camera

KBCR-S07VU

0.3M pixels



Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	640 × 480
Imaging area[mm]	3.58 × 2.69
Output signal format	USB2.0 (YUV/MJPEG)
Frame rate[fps]	30
External connection	5pin connector
function	Automatic Exposure Control, Automatic Gain Control, Automatic White Balance Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	5.0 / 0.5(MAX)
Operation temp.[°C] / Storage temp.[°C]	-20 ~ +60 / -20 ~ +70(excluding lens)
PCB dimension[mm]	15 × 40
Image Sensor	1/3-inch Monochrome Sensor (Global shutter)
Total number of pixels	640 × 480
Imaging area[mm]	3.84 × 2.88
Output signal format	USB2.0 (YUV)
Frame rate[fps]	30
External connection	5pin connector
function	Automatic Exposure Control, Automatic Gain Control, Various image adjustment functions by I2C
Power supply voltage[V] / Power consumption[W]	5.0 / 0.75(MAX)
Operation temp.[°C] / Storage temp.[°C]	-20 ~ +60 / -20 ~ +80(excluding lens)
PCB dimension[mm]	34 × 34
Image Sensor	1/4-inch Monochrome Sensor (Global shutter)
Total number of pixels	1280 × 960
Output signal format	USB2.0 (YUV)
Frame rate[fps]	T.B.D
External connection	5pin connector

KBCR-S51VUF

0.3M pixels



Undecided

1.2M pixels

Under planning

Analog Output Camera

KBCR-S02NT

0.3M pixels

NEW

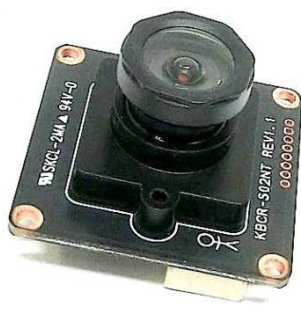


Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	640 × 480
Imaging area[mm]	3.58 × 2.69
Output signal format	NTSC composite
Frame rate[fps]	29.97
External connection	7pin connector
function	Automatic Exposure Control, Automatic Gain Control, Automatic White Balance
Power supply voltage[V] / Power consumption[W]	5~12 / 0.5(MAX)
Operation temp.[°C] / Storage temp.[°C]	-10 ~ +60 / -20 ~ +70(excluding lens)
PCB dimension[mm]	32 × 32

Intelligent Camera Standard

Function Summary

- Realized image processing in the camera module by integration of high speed processor.
- Camera image transfer method is UVC1.0 (USB Video Class)
- Can output only processed result data without transfer image data.
(It reduces load of camera connected equipment)
- Adopted a low-noise CMOS sensor and enabled exposure, gain and white balance adjustment.
- Support small lot, long-term and stable supply for industrial purposes.
- Offer full technical support and also correspond to semi-customized development.
(Lens selectable, and customized camera application development is possible)



Applications

- Marketing tool for shopping mall, retail (i.e., analyzing customer / consumer preferential treatment for preferred customer etc.)
- Monitor and security (Entering/leaving room control)
- Vending and Ticketing machine
- Digital signage
- Inspection and recognition (Printing / Defect inspection, Character and 1D/2D code / QR code reading)

Software Development Kit (SDK)

Customer can develop customer's specified software with System Development Kit.

【SDK Contents】

1. Extension board x 1 *SD slot, USB Host
2. USB-Serial conversion adopter for development x 1
3. D-Sub9/8pin -serial conversion cable x 1
4. USB cable x 2 (A male mini B)
5. AC adaptor (5V/2.0A) x 1
6. Jumper socket x 3
7. DVD-ROM for development x 1
8. Attached lens

KBCR-iC01MG	Lens x 2pcs (HPB1007, HPB1027)
KBCR-iC01VG	Lens x 2pcs (HPB1007, HPB1027)
KBCR-iC51VG	Lens x 1pce (HPB1014)

※SDK and optional product is sold as a set with the camera module.

Option Products

■ Network module



PoE Wired LAN board



Wired LAN board



Wireless LAN board
• IEEE802.11b/g/n
(max.72.2Mbps)

■ Box

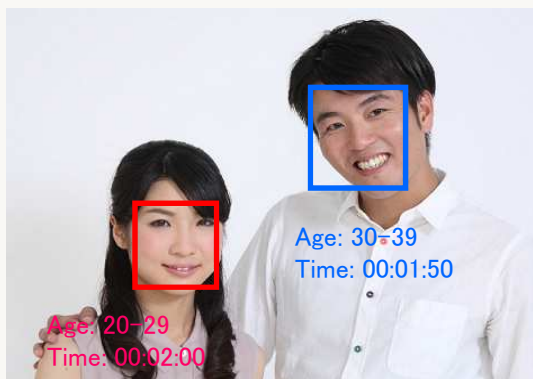


- Support PoE wired LAN board only.
- Photo is with diffuser for LED.

Face Detection (Age and gender)

KBCR-iC01VG SP-FD1

Output information of number of faces(people), age, gender and staying time(face detecting time) by analyzing by face contours, wrinkles and stains.

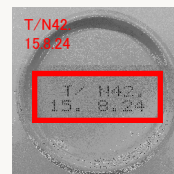


Character Recognition Camera

KBCR-iC51VG/iC01MG SP-CR2/A

Offer camera module part of Print Inspection System. Can be installed into various inspection system and character / barcode reading equipment

- Correspond to reading of English letters, numbers and symbol (not correspond to Japanese language)
- Correspond to reading of each type of 1D/2D code
- Minimum PCB construction : 2 PCB
Possible to specify various option (for ex., PoE/LED etc.)
- Communication I/F: USB/LAN/RS-232C



Intelligent Camera Standard

KBCR-iC01MG

1.2M pixels



PCB Dimension 50 mm × 50
* Lens recommended for 1/4 sensor or more

Basic Characteristics

Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	1280 × 960
Image area [mm]	3.84 × 2.88
Output signal format	YUV4:2:2
Interface	USB2.0, RS-232C, Wired LAN (option)
Image adjustment function	Automatic Exposure Control, Automatic Gain Control
Power supply voltage [V]	5.0
Power consumption [W]	2.00(MAX)
Operation temp. [°C]	-10 ~ +60(excluding lens)

KBCR-iC01VG

0.3M pixels



PCB Dimension 50 mm × 50
* Lens recommended for 1/4 sensor or more

Basic Characteristics

Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	640 × 480
Image area [mm]	3.84 × 2.88
Output signal format	YUV4:2:2
Interface	USB2.0, RS-232C, Wired/Wireless LAN (option)
Image adjustment function	Automatic Exposure Control, Automatic Gain Control, Automatic White Balance
Power supply voltage [V]	5.0
Power consumption [W]	1.50(MAX)
Operation temp. [°C]	-10 ~ +60(excluding lens)

KBCR-iC51VG

0.3M pixels



PCB Dimension 50 mm × 50
* Lens recommended for 1/3 sensor or more

Basic Characteristics

Image Sensor	1/3-inch Monochrome Sensor (Global shutter)
Total number of pixels	752 × 476
Image area [mm]	4.51 × 2.88
Output signal format	Monochrome 8bit
Interface	USB2.0, RS-232C, Wired/Wireless LAN (option)
Image adjustment function	Automatic Exposure Control, Automatic Gain Control
Power supply voltage [V]	5.0
Power consumption [W]	1.20(MAX)
Operation temp. [°C]	-10 ~ +60(excluding lens)

KBCR-iC07VG

0.3M pixels



PCB Dimension 50 mm × 50
(Camera PCB : 27 x24 mm)
* Lens recommended for 1/4 sensor or more

Basic Characteristics

Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	640 × 480
Image area [mm]	3.58 × 2.69
Output signal format	YUV4:2:2
Interface	USB2.0, RS-232C, Wired LAN (option)
Image adjustment function	Automatic Exposure Control, Automatic Gain Control
Power supply voltage [V]	5.0
Power consumption [W]	2.00(MAX)
Operation temp. [°C]	-10 ~ +60(excluding lens)

Intelligent Camera Lite

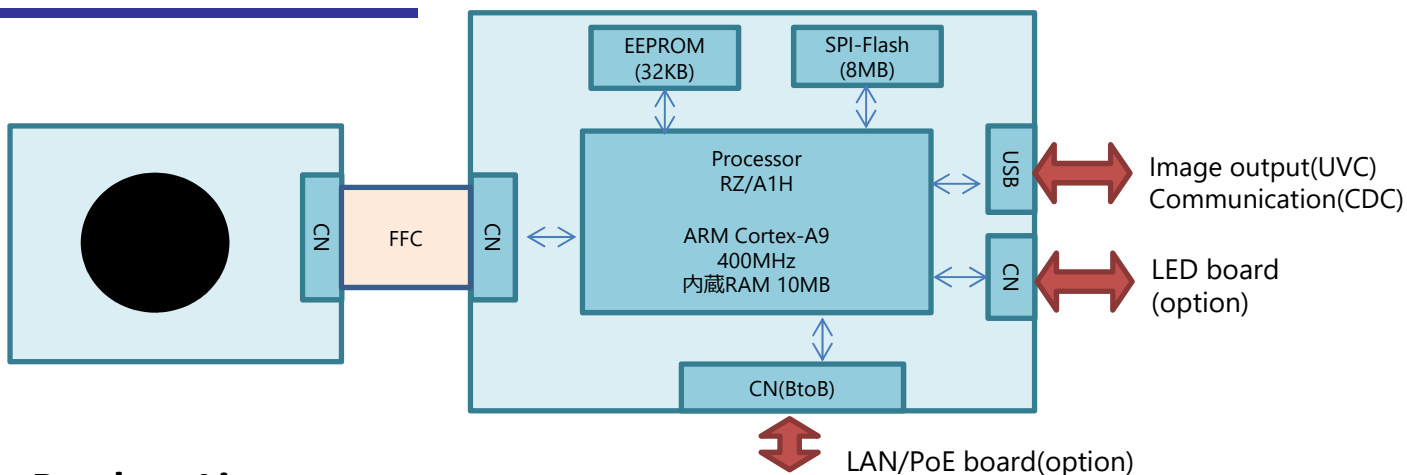
Feature

- Ultra compact Intelligent Camera Module
- Possible to use as LAN camera module
- FFC connection with camera and CPU board improved installation freedom.
- Installed Image Processing Processor (Renesas RZ/A1H: ARM Coretex-A9 400MHz)
- High speed start up, High frame rate (Max:60fps) *compared with conventional product
- Installed distortion correction function and JPEG HW IP
- Correspond to PoE power supply (option)



Image Sensor	1/4-inch Color Sensor (Rolling shutter)
Total number of pixels	640 X 480
Imaging area [mm]	3.58 × 2.69
Output signal format	USB2.0(MJPEG 60fps/YUV 12fps, LAN(UDP MJPEG 60fps)
External connection	USB mini connector, LAN connector
Option PCB	LAN PCB(Wired), PoE LAN PCB(Wired), White/IR LED PCB
Power supply voltage[V] / Power consumption[W]	5.0 / 1.00(MAX)
Operation temp.[°C] /Storage temp. [°C]	-20 ~ +60 / -20 ~ +80(excluding lens)

Block Diagram



Product Line up

Distortion Correction function installed
USB/LAN Camera

KBCR-iC11VG-N1U/N1L/N1P

Distortion correction in the camera, and output
Reduce subsequent image processing

Before correction

After correction



Supported lens(Horizontal view angle) : ①74° ②126° ③194°

No-contact Gesture input device

KBCR-iC11VG-GM1U-IRL



Resolve troubles caused by "contact" by non-contact operation

Easy gesture input with USB connection

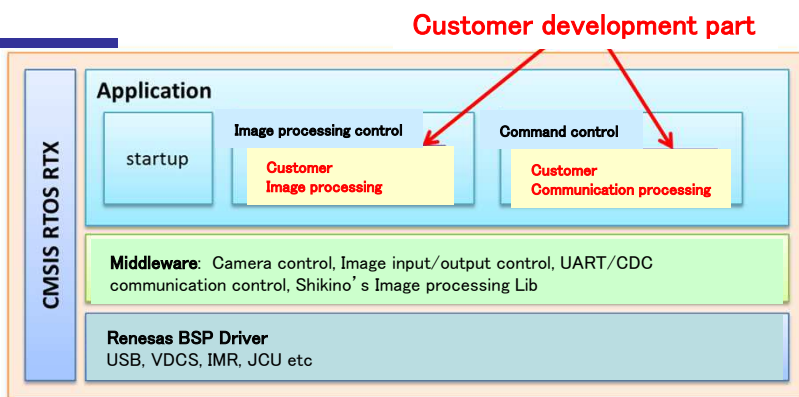
Intelligent Camera Lite SDK (Software Development Kit)

KBCR-iCLSDK-A

KBCR-iCLSDK-A is a development kit that enables software development in Intelligent Camera Lite. Base development environment is provided by library. Customer can concentrate on application development with reference to sample code, so development cost can be reduced.

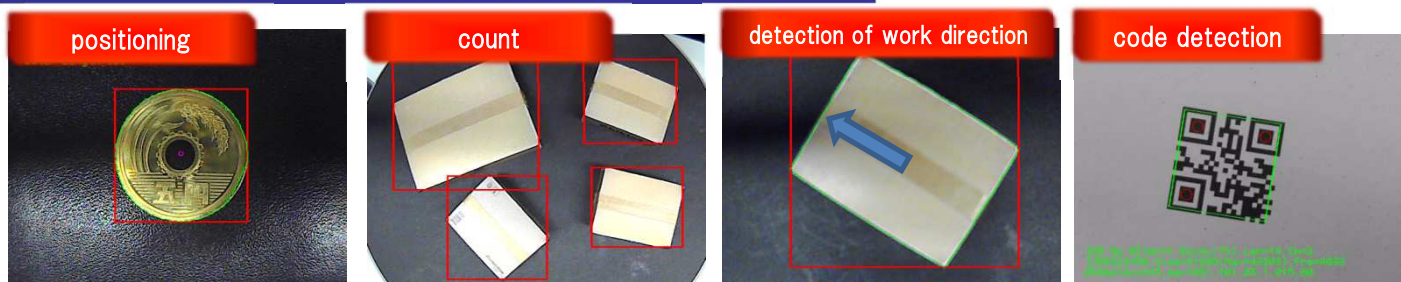
Feature

- Can embed customer's own camera application
- Also provide Shikino's image processing Lib and distortion correction API
- Abundant lens line up
- Manufacturing in our own factory in Japan



Library provided except for customer development part

Image processing embedded example



※ Code detection software is not included in SDK

Specification

Items	Destription	Remarks
Camera specification	①0.3M pixels CMOS Sensor Color (Rolling shutter) ②0.3M pixels CMOS Sensor Monochrome (Global shutter)	Choose from 2 types
CPU, Memory	Processor: Renesas RZ/A1H Cortex-A9 400MHz ROM: SPI-Flash 8MB EEPROM: 32KB RAM: CPU embedded 10MB	
Lens	Line up: from narrow ~ wide view angle	
Option board	White LED board/LAN board/PoE board	
Image output IF	USB2.0(UVC)/ LAN(UDP)	
Communication IF	USB2.0(CDC)/ LAN(TCP)	Communication by Shikino's specified protocol
General purpose IF	UART, I2C, GPIO	

Development kit accessories

- Camera board x 2types
- CPU board
- Lens x 5types
- LAN board
- LED board/Diffuser
- Debug board
- Screw/Spacer
- Various connection cables
- CD-ROM (Document, Library, Sample code, Window communication tool)

※Conclusion of Software license agreement is necessary when purchase development kit

1D/2D code reader module

KBCR-CR31x

KBCR-CR31x is a reader module correspond to various barcode, QR code.

Correspond to smartphone QR code reading.

Ideal embedded solution for industrial application, such as payment terminal, ATM and vending machine etc.

Feature

- Deep depth of field (ex: 50~50~110mm@lens③、QR resolution 0.381mm)
- Lens selectable from narrow~wide view angle (correspond to various installation condition, assist space saving)
- Real time image output (MJPEG 60fps)
- Optimal sensor setting is possible depend on installation environment



Reading example: under backlight condition



USB+LED configuration



USB configuration

Specification

Items	Description	Remarks
Model number	KBCR-CR31U (W) : USB configuration KBCR-CR31L : LAN configuration KBCR-CR31P (W) : PoE configuration	W: with LED illumination USB/LAN: USB power supply PoE: PoE power supply
Lens type	Lens① Horizontal 21° (deep "depth of field") Lens② Horizontal 53° (deep "depth of field") Lens③ Horizontal 86° Lens④ Horizontal 110° (for close up)	Lens④: Not recommended for 1Dcode reading
External communication IF	USB(mini B) / LAN (100Base-TX) / UART	UART: Function is limited
Image output IF	USB / LAN	MJPEG 60fps (Max)
Reading target	2D code : QR code (Simultaneous reading up to 4) 1D code : EAN/UPC, ITF, NW7, Code39, Code128	No support for Micro QR
Power supply	USB power supply (VBUS 5V) / PoE power supply (48V) / FFC power supply (5V)	
Power consumption	1.0W ~ 3.0W	Depend on configuration
Start up time, Reading time	Start up within 1sec. Readable within 0.1sec.	Read time: Depend on setting condition/environment
Operation temperature Operation humidity	Temperature : -20°C ~ +60°C Humidity : +20% ~ +85%	Excluding lens, without condensation

List of lenses

Customer can choose optimal lens depend on application

P/N	Sensor Size	focus f [mm]	F/No.	Angle of view[°]			TV distortion	Optical length [mm]	Const- ruction	Mount [mm]	Holder
				Vertical	Horizontal	Diagonal					
HPB2010	"1/4	4.80	2.6	34	44	52	-1%	11.0	2P	M12 × P0.5	Standard*4
HPB1007		2.90	2.0	54	74	94	-17%	21.2	4G		
HPB2033		2.20	2.0	72	93	112	-16%	15.1	2P		
4N256		2.09	2.3	69	88	103	-4%	11.2	2P		
*HPB1027		1.95	2.2	94	126	168	-39%	20.1	6G		
DW178720*6		1.8	2.0	88.1	118.8	151.4	-23.1%	21.8	7G		
CAR-12		1.7	2.5	94	128	167	-36%	14.2	2P3G		
HPB3041_C4		1.19	2.4	99	119	134	-9%	13.9	2P2G		
HPB3041_C7*6		1.19	2.4	99	119	134	-9%	13.9	2P2G		
4N321		1.05	2.0	142	194	206	±5%	11.8	4P1G		
4K269	0.82	2.6	156	191	195	+2%	12.5	5P	M9 × P0.5	Custom*5	
4N313	"1/3.7	1.12	2.2	110	136	167	-16%	9.6	3P		M8 × P0.5
DW9607CM	"1/3	6.00	2.0	30	40	53	-1%	19.5	4G	M12 × P0.5	Standard*4
DW9305CM		4.30	1.8	47	64	78	-8.6%	17.3	5G		
HPB1014_C1		3.80	2.4	54	74	96	-11%	22.3	4G		
HPB1014_C4		3.80	8.0	54	74	96	-11%	22.3	4G		
HPB1047		2.50	2.8	66	118	137	-26%	22.9	6G		
HPB1047_C1注7		2.50	2.8	66	118	137	-26%	22.9	6G		
HPB1022		2.50	2.5	84	116	152	-34%	18.1	6G		
HPB1033		2.30	2.6	91	124	160	-24%	16.8	6G		
AS133		2.09	2.0	89	115	137	-11%	18.0	3P3G		
BW3ML56B		"1/2.8	5.60	2.0	38	50	61	+0.6%	22.2		
HPB1005_B3	"1/2	9.30	2.8	33	43	53	-2%	14.5	5G	M12 × P0.5	Standard*4
HPB1005_D2	"1/2	9.30	8.0	33	43	53	-2%	14.5	5G		

*1 Angle of view in the table is the view angle correspond to the Sensor size in the table. View angle will be smaller when installed smaller size sensor than correspond sensor.

*2 Optical length: Please refer to the right figure.

*3 Please contact with us for C/CS mount.

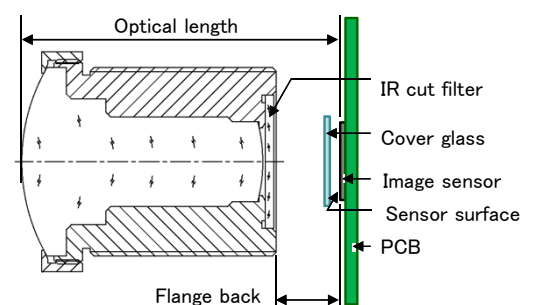
*4 Suitable lens holder sometimes differs depend on lens. Please contact us.

*5 Custom development of lens holder is necessary.

*6 With visible light cut filter

*7 HPB1047_C1: without IR cut filter

* IR: Please contact us because some items are not available for IR.



Development example

Camera specification			Application	Feature・Remarks
Number of pixels	Output format	I/F		
VGA(640 x 480)	NTSC Composite	NTSC	Medical	Compact (φ 17mm)
VGA(640 x 480)	YUV、MJPEG	USB2.0	FA inspection equipment	Standard product(USB camera): Only PCB size changed
VGA(640 x 480)	UDP MJPEG	PoE	FA equipment	Standard product(Intelligent camera Lite) To single board from 2 boards
WVGA(800 x 480)	YUV	24pin connector	Money machine	For IR (band pass filter)
720p(1280 x 720)	MJPEG	HDMI/USB3.0	Automotive (evaluation use)	HDR/IR sensitivity
SXGA(1280 x 1024)	H.264	Ethernet(RTSP)	Security system	Multiple camera cooperation drive
SXGA(1280 x 1024)	RGB-Raw	USB2.0	Arm robot	Global shutter, Stereo camera
2M(1920 x 1080)	MJPEG	USB2.0	Security system	HDR
2M(1920 x 1080)	RAW	LVDS	Measurement equipment	High sensitivity
2M(1920 x 1080)	RAW	MIPI	Arm robot	Compact (10x10mm)
5M(2592 x 1944)	YUV	GigE	Security system	Custom lens holder
1G(10Mp x 100)	YUV	USB3.0	FA inspection equipment	Camera array

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