Unit: ± 0.5 mm

Feature

- Global Shutter
- Ultra Tiny Size
- DVP Interface Optional
- Application for eye tracking, security and surveillance, wearable devices.

Low — Low Temperature

Global — Shutter

Specification

Model No.	B170M4
Dimensions (mm)	3.23 x 3.23
Orientation	Front View
Camera Type	Board Type
Video Format	MJPEG / YUV
Image Sensor	1/10.5" B/W CMOS Camera Module
Resolution	400 x 400; 352 x 288; 320 x 240 @ 120 fps / 60 fps / 30 fps; MJPG / YUV
Pixel Size (um)	3.0 x 3.0
Image Area (mm)	1.248 x 1.248
Sensitivity (Lux.Sec)	7190 mV / (μW.cm^{-2}.sec) @ 850 nm 2800 mV / Lux-sec @ 530 nm
Dynamic Range	66.5 dB
S/N Ratio	37.5 dB
Scan Mode	Progressive
Shutter	Global
Lens	Please Check Model Information Table
View Angle	Please Check Model Information Table
Focus Distance (mm)	Infinity
LED	N/A (Optional)
Storage Temp.	-30 to 60 Degree C
Working Temp.	-10 to 60 Degree C
Interface	USB 3.0 / DVP Pin Define
Power Supply	DC 5 V
Power Current	170 mA (Max.)
Microphone	N/A (External Optional)
Operation System	Win 10 Linux, MAC OSX

* Working temperature means the camera device, not environment temperature.

B170M4 (No Lens)

Coming Soon

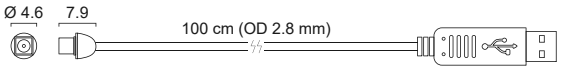
B170M4 (50° / 52° / 54° / 90° / 122°)



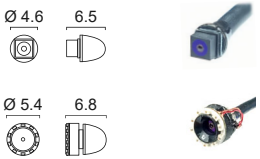
B170M4



▲ YD-B170M4-90

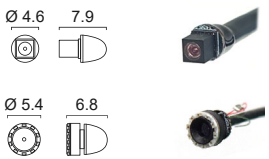


B170M4-50 (50°)



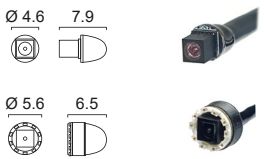
with LED

B170M4-90 (90°)



with LED

B170M4-122 (122°)



with LED

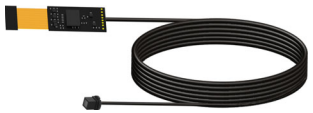
S170M4U-50 (50°)



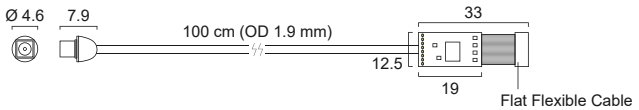
SL170M4L8H-122 (122°)



DVP Interface



▲ XP-B170M4-122



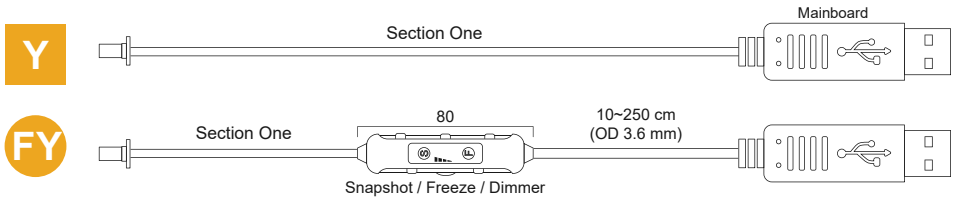
Unit: ± 0.5 mm

CABLE

Please check cable information for Section One and Section Two.

Camera Head to Mainboard (Section One)

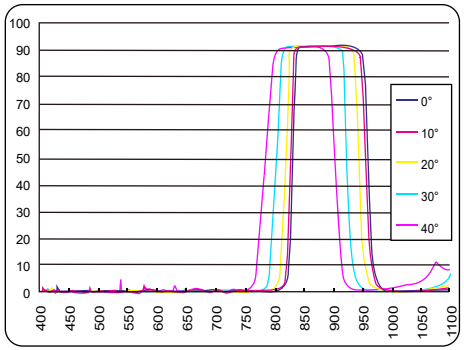
Cable OD 2.8 +0.1 mm (Max. 200 cm)



Spectrum Chart

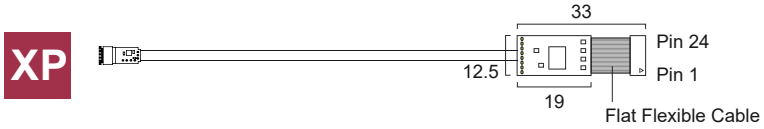
Above spectrum is for YD-B170M4 series,can be adjusted by customer request.

AOI (Angle of incidence)	Ltem	Target
0°	400~800 nm	Tave < 1%, Tmax < 3%
	T50 (left side|)	830 ± 8 nm
	Slope (T20~T80)	< 20 nm
	T50 (right side|)	960 ± 8 nm
	Slope (T20~T80)	< 20 nm
	990~1100 nm	Tave < 1%, Tmax < 3%
0°~40°	T50 shift	≤ 70 nm
	845~875 nm	Tmin > 87%
	500~600 nm	Tave < 2.5%, Tmax < 3%



Digital Video Port (DVP)

(Available for X Series Only)



DVP Pin Define

PIN	NAME	DESCRIPTION	PIN	NAME	DESCRIPTION
1	AVDD	Analog power (2.8V)	13	PCLK	Pixel clock output
2	AGND	Analog ground	14	D0	Data output 0
3	DOVDD	I/O power (1.8V)	15	D1	Data output 1
4	DVDD	Digital circuit power (1.2V)	16	D2	Data output 2
5	DGND	Digital ground	17	D3	Data output 3
6	PWDN	Power Down (active high)	18	D4	Data output 4
7	SDA	I2C interrface data pin	19	D5	Data output 5
8	SCL	I2C interrface input clock	20	D6	Data output 6
9	RESET	Reset (active low)	21	D7	Data output 7
10	VSYNC	VSYNC output	22	D8	Data output 8
11	HERFF	HYNC output	23	DGND	Digital ground
12	MCLK	System input clock	24	DGND	Digital ground

Global Shutter



Means that all pixels of the array are exposed simultaneously.

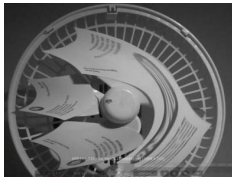
Advantage

- No Distortion of straight lines with fast-moving objects
- No limit on flash sync speed

Disadvantage

- Higher noise levels
- Lower frame rates
- Lower dynamic range

Rolling Shutter



Means that adjacent rows of the array are exposed at slightly different times as the readout 'waves' sweep through each half of the sensor.

Advantage

- Lower noise levels
- Higher frame rates
- Higher dynamic range

Disadvantage

- May cause image distortion of moving objects
- Limited flash sync speed

Unit: ± 0.5 mm

YD-B170M4-50

SERIES	CONNECTOR	CAMERA BODY	DISPLAY	MICROPHONE	LED	LENS
USB 3.0 (F)Y Low Temp. **USB 2.0** X Low Temp. *F Snapshot and Freeze Frame	**UVC (USB)** D Type A T Type C **DVP Interface** (X)P DVP Pin Define (Low Temp only) *X Low Temp only	**Front View** (V)B Board Type T Tube Type V Tube Type (V)S Forming Type **Up View** (V)S Forming Type **Side View** (V)SL Forming Type *V Dimmer Controller	**Color** / **B/W** / **Dimensions** - / 170M4 / 3.23 x 3.23	N/A None A External	N/A None **Infrared** L8 IR 850 nm 54° / 64° / 86° Only **White** LH High-Intensity	Built-in **Code** / **Specification** / **View Angle** / **Depth of Field** 50 / 1.68 mm / F 3.14 / 50° / 24~40 mm 52 / 1.68 mm / F 3.0 / 52° / 70 ~1000 mm 54 / 1.646 mm / F 2.88 / 54° / 100 mm~ Infinity 90 / 0.776 mm / F 2.4 / 90° / 24~40 mm 122 / 0.6 mm / F 2.1 / 122° / 10~100 mm External **Code** / **Specification** / **View Angle** / **Depth of Field** 64 / 1.418 mm / F 4.7 / 64° / TBD 86 / 0.941 mm / F 4.5 / 86° / TBD

* IR 940nm or IR 850nm LED is suggested to choose B/W camera type.
* Camera with LED light source is suggested to use lens with larger F-Stop number.
* Camera appearance or other requirements are applicable for customization.

Connector Information


USB Type A


USB Type C