

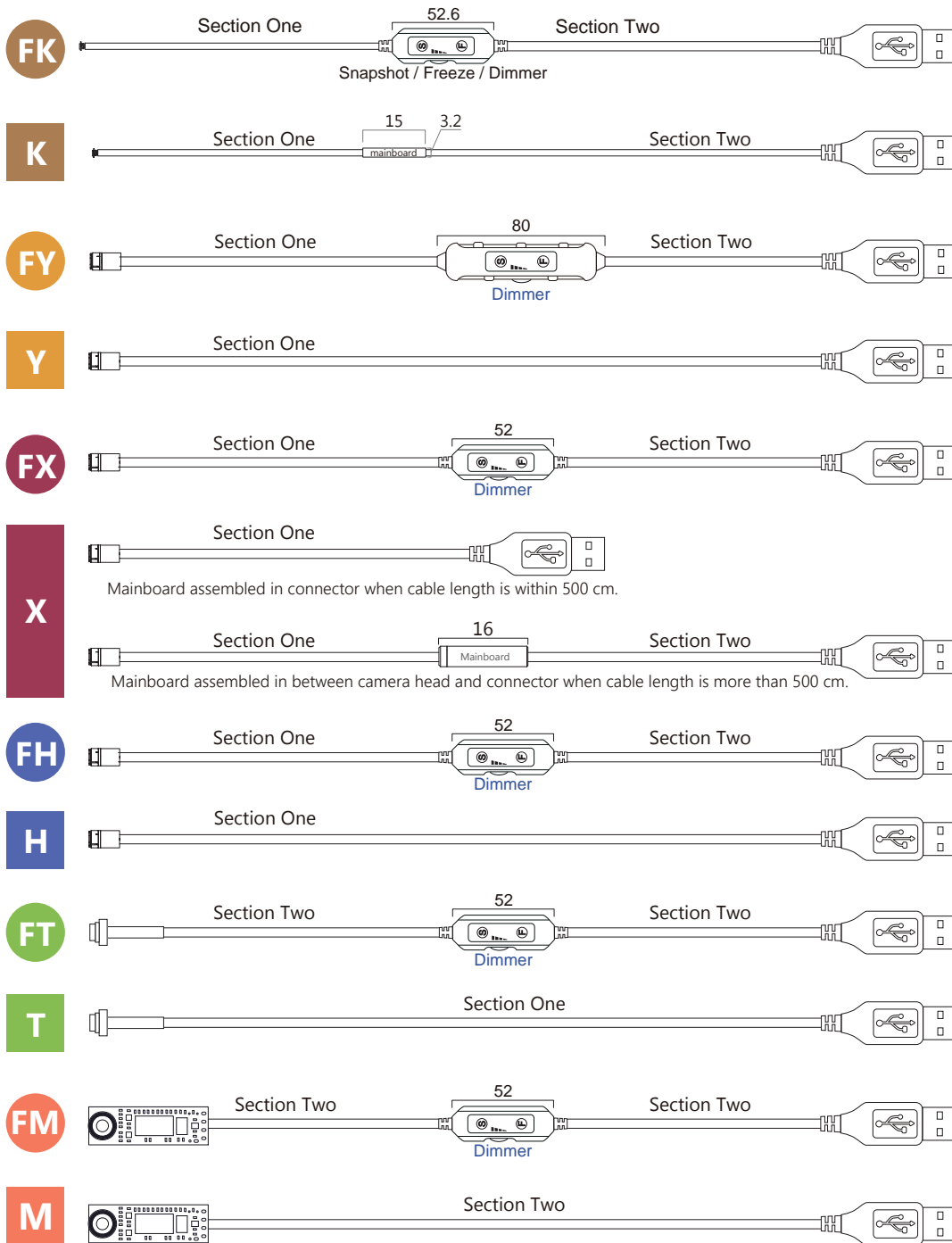
Series Information

Series	FK	K	FY	Y	FX	X	FH	H	FT	T	FM	M	
Snapshot and Freeze Frame	Support	N/A	Support	N/A	Support	N/A	Support	N/A	Support	N/A	Support	N/A	
Frame Rate (Max.)	15~30 fps		60 fps		15~30 fps		15~30 fps		15~30 fps		15~30 fps		
Video Format	MJPEG / YUV		MJPEG / YUV		MJPEG / YUV		MJPEG / YUV / H.264		MJPEG / YUV		MJPEG / YUV		
Feature	Short Camera Head		Low Temperature				Advance		Basic				
Orientation	Front View		Front View		Side View		Up View		Front View	Side View	Front View	Up View	
Camera Shape	Round Shape		Round Shape T Shape		Rectangle Shape		Rectangle Shape		Round Shape T Shape	Rectangle Shape	Round Shape T Shape Square Shape	Rectangle Shape	
Resolution	*1920 x 1080	@ 15~30 fps MJPEG / 5 fps YUV		@ 60 fps Standard / Fixed MJPEG / YUV		@ 15~30 fps MJPEG / 5 fps YUV							
	*1280 x 720	@ 15~30 fps MJPEG / 10 fps YUV		@ 60 fps Standard / 90 fps Fixed MJPEG / YUV		@ 15~30 fps MJPEG / 10 fps YUV							
	960 x 540 848 x 480	@ 15~30 fps MJPEG / 20 fps YUV		N/A		@ 15~30 fps MJPEG / 20 fps YUV							
	*640 x 480	N/A		@ 60 fps Standard / 120 fps Fixed MJPEG / YUV		N/A							
	640 x 360 424 x 240	@ 15~30 fps MJPEG / 30 fps YUV		N/A		@ 15~30 fps MJPEG / 30 fps YUV							
	*320 x 240	N/A		@ 240 fps MJPEG / YUV (Fixed)		N/A							
	320 x 180	N/A											
	176 x 144	N/A											
	160 x 120	N/A											

Specification

Model No.	B31105											
Image Sensor	1/6" CMOS Color											
Pixel Size (µm)	1.4 x 1.4											
Image Area (mm)	2.7288 x 1.5498											
Scan Mode	Progressive											
Sensitivity	553 mV / (Lux-sec)											
Dynamic Range	73.3 dB @ 15.5x gain (S/N Ratio 38.3 dB)											
Storage Temperature	-30 to 60 Degree C											
Working Temperature	-30 to 80 Degree C (Operating); 0 to 60 Degree C (Stable Image)											
Lens	22	H 19°	V 11°	D 22°	8.0 mm / F 2.5							
	29	H 25°	V 14°	D 29°	6.0 mm / F 4.5							
	34	H 30°	V 17°	D 34°	5.0 mm / F 3.5							
	49	H 43°	V 25°	D 49°	3.4 mm / F 2.8	3.4 mm / F 6.0						
	57	H 50°	V 30°	D 57°	2.88 mm / F 2.0	2.88 mm / F 4.8						
	65	H 58°	V 34°	D 65°	2.46 mm / F 2.0							
	67	H 60°	V 36°	D 67°	2.34 mm / F 2.2							
	77	H 69°	V 43°	D 77°	1.83 mm / F 2.0	1.83 mm / F 5.0	1.83 mm / F 8.0					
	88	H 78.3°	V 48.4°	D 86.8°	1.55 mm / F 5.7	1.55 mm / F 8.0	1.55 mm / F 10					
	88M	H 75.1°	V 58.4°	D 88°	1.86 mm / F 4.0	1.86 mm / F 5.0	1.86 mm / F 6.0 (Ultra Slim)					
	93	H 81°	V 50°	D 92°	1.5 mm / F 4.0	1.5 mm / F 5.7						
	120	D 120°										
158	H 132°	V 65°	D 158°	1.523 mm / F 4.8	1.523 mm / F 6.0	1.523 mm / F 8.0						
LED (Specify When Ordering)	White LED / White LED with Optical Fiber / High-Intensity White LED / IR 940 nm LED / IR 850 nm LED											
Power Source	DC 5V (USB)											
Power Current	160mA (No LED) / 190mA (LED x 6)											





Section One (Max. 13 Pin)

OD (mm)	Length (cm)	Series
1.7 AWG#36 EN-13C <i>H.264 Signal only</i>	10~100	FH H
1.9 AWG#36 EN-15C	10~150	FY Y
	10~250	FK K FH H
	10~550	FX X
2.8 AWG#32 EN-15C	10~300	FH H
	10~450	FY Y
	10~500	FK K
	10~600	FX X
	10~450 10~500	FY Y FK K FX X

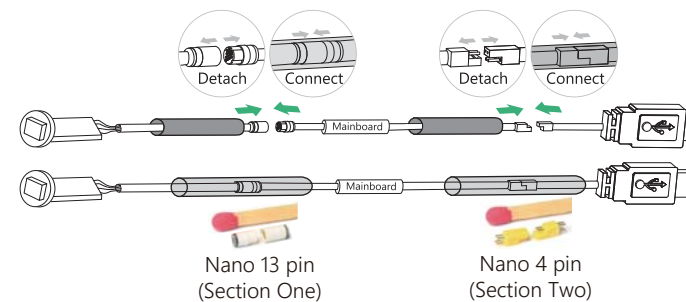
Section Two (Max. 7 Pin)

OD (mm)	Length (cm)	Series
0.35 Enamelled Wires	10~150	
0.9 AWG#42 EN-9C	10~200	
1.4 AWG#28 EN-4C	10~1000	
1.4 AWG#30 EN-4C	10~600	FK K
1.6 AWG#28 EN-4C	10~1000	FX FH H
1.7 AWG#36 EN-9C	10~500	FT T
2.8 AWG#30 EN-7C	10~900	FM M
3.6 AWG#28 EN-7C	10~900	
4.5 AWG#26 EN-5C	10~1000	
3.6 AWG#28 EN-11C	10~250	FY Y

Detachable Nano Connectors (Customize Option)

Specifically designed to overcome the big size of connector and camera head.


- ✓ **With detachable Nano connectors**
A bigger size tube can go through the thin cable from halfway.



- ✗ **Without detachable Nano connectors**
Camera head cannot go through the bigger tube.



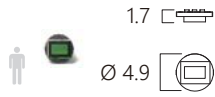
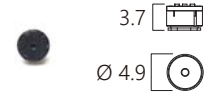
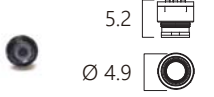
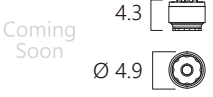

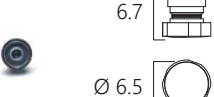
FYD-B31105LH-77A-R

SERIES	CONNECTOR	CAMERA BODY	CAMERA TYPE	LED	LENS
<p>60 fps / Interface USB 3.0</p> <p>FY Low temperature Y Low temperature</p> <p>30 fps / Interface USB 2.0</p> <p>FK Short Camera Head K Short Camera Head FX Low temperature X Low temperature FH Low temperature (H.264) H Low temperature (H.264) FT Advance T Advance FM Basic M Basic</p> <p>*F Snapshot and Freeze Frame</p>	<p>UVC Signal</p> <p>D USB Type A M USB Micro Type B (OTG) T USB Type C</p>	<p>Front View / Up View</p> <p>B Board Type VB Board Type + Dimmer S Forming Type VS Forming Type + Dimmer Z Slim Forming Type VZ Slim Forming Type + Dimmer T Tube Type V Tube Type + Dimmer VDB Board Type + Dimmer</p> <p>Side View</p> <p>BL Board Type VBL Board Type + Dimmer SL Forming Type VSL Forming Type + Dimmer ZL Slim Forming Type VZL Slim Forming Type + Dimmer TL Tube Type VL Tube Type + Dimmer</p> <p>*D Dual Camera</p>	<p>Front View</p> <p>31105 Color 311M5 B/W</p> <p>31106R Color 311M6R B/W</p> <p>31111 Color FY Y FX X FH H 311M11 B/W</p> <p>31107R Color FT T 311M7R B/W</p> <p>31114 Color 311M14 B/W FM M</p> <p>Side View</p> <p>31103 Color 311M3 B/W 31105S Color FY Y FX X FH H 311M5S B/W</p> <p>31107 Color FM M 311M7 B/W</p> <p>Up View</p> <p>31104U Color 311M4U B/W 31105U Color FY Y FX X 311M5U B/W 31105SU Color FH H 311M5SU B/W</p> <p>31107U Color FM M 311M7U B/W</p> <p>31109RU Color FT T 311M9RU B/W 31114RU Color FM M 311M14RU B/W</p> <p>*R Round Shape *S Single Board</p>	<p>L White LED LF White LED with Optical Fiber LH High-Intensity White LED L9 IR 940 nm LED L8 IR 850 nm LED</p>	<p>22 8.0 mm / F 2.5 (22°) 29 6.0 mm / F 4.5 (29°) 34 5.0 mm / F 3.5 (34°) 39 4.4 mm / F 4.8 (39°) 49 3.4 mm / F 2.8 (49°) 3.4 mm / F 6.0 (49°) 57 2.88 mm / F 2.0 (57°) 2.88 mm / F 4.8 (57°) 65 2.46 mm / F 2.0 (65°) 67 2.34 mm / F 2.2 (67°) 77 1.83 mm / F 2.0 (77°) 1.83 mm / F 5.0 (77°) 1.83 mm / F 8.0 (77°) 88 1.55 mm / F 5.7 (88°) 1.55 mm / F 8.0 (88°) 88M 1.86 mm / F 4.0 (88°) 1.86 mm / F 5.0 (88°) 1.86 mm / F 6.0 (88°) 93 1.5 mm / F 4.0 (93°) 1.5 mm / F 5.7 (93°) 120 1.06 mm / F 4.5 (120°) 158 1.523 mm / F 4.8 (158°) 1.523 mm / F 6.0 (158°) 1.523 mm / F 8.0 (158°)</p>
				<p>CABLE</p> <p>Camera head to mainboard</p> <p>N/A Cable OD 1.9 +0.1 mm A Cable OD 2.8 +0.1 mm</p>  <p>* for SY / TY / K / FX / X / H Series</p>	<p>SYSTEM PARAMETERS</p> <p>USB 3.0</p> <p>N/A Auto @ 60 fps R RAW Data @ 60 fps H HD @ 90 fps V VGA @ 120 fps F FHD @ 60 fps Q QVGA @ 240 fps</p> <p>USB 2.0</p> <p>N/A Auto @ 30 fps R RAW Data @ 30 fps</p>

* IR 940nm or IR 850nm LED is suggested to choose B/W camera type
* Camera with LED light source is suggested to use larger number of F-stop

FK / K Series Information

Unit: ± 0.5 mm

		No Lens	77 Lens	88 Lens	88M Lens	93 Lens	158 Lens
Front View	B31105 Board Type	 <p>1.7 Ø 4.9</p>	 <p>3.7 Ø 4.9</p>	 <p>5.2 Ø 4.9</p>	<p>Coming Soon</p>  <p>4.3 Ø 4.9</p>	 <p>5.5 Ø 5.2</p>	 <p>6.7 Ø 6.5</p>

FY / Y / FX / X / FH / H Series

Unit: ± 0.5 mm

		No Lens	77 Lens	88 Lens	88M Lens	93 Lens	158 Lens
Side View	BL31105 Board Type	 4.9 [8.4] 2 []	 4.9 [] 3.9 []	 4.9 [] 5.4 []	Coming Soon 4.9 [] 4.5 []	 Ø 5.2 [] 5.7 []	 Ø 6.5 [] 7.5 []
	ZL31105 Slim Forming Type	Coming Soon 5.2 [10.5] 2.8 [] 12.2 []	 5.2 [] 4 []	 5.2 [] 5.5 []	Coming Soon 5.2 [] 4.8 []	 Ø 5.2 [] 5.8 []	 Ø 6.5 [] 7.6 []
	SL31105 Forming Type	Coming Soon 5.1 [10+0.05] 4 []	 5.1 [] 4.5 []	 5.1 [] 5.7 []	Coming Soon 5.1 [] 4.8 []	 Ø 5.2 [] 6.4 []	 Ø 6.5 [] 8.2 []
	BL31105S Board Type	 4.9 [] 1.4 []	 4.9 [] 3.2 []	 4.9 [] 4.8 []	Coming Soon Ø 5 [] 3.6 []	 Ø 5.2 [] 5.1 []	 Ø 6.5 [] 6.9 []
	ZL31105S Slim Forming Type	Coming Soon 5 [] 2.8 [] 11.6 []	 5 [] 3.3 []	 5 [] 4.8 []	Coming Soon 5 [] 3.6 []	 Ø 5.2 [] 5.1 []	 Ø 6.5 [] 6.9 []
	SL31105S Forming Type	Coming Soon 5 [] 2.8 []	Coming Soon 5 [] 3.3 []	Coming Soon 5 [] 4.8 []	Coming Soon 5 [] 3.6 []	Coming Soon Ø 5.2 [] 5.1 []	Coming Soon Ø 6.5 [] 6.9 []
Front View	BL31103 Board Type	 3.1 [15.5 ± 0.1] 1.4 [] 0.4 []	 Ø 4.9 [] 3.3 []	 Ø 5.1 [] 4.8 []	Coming Soon Ø 5.1 [] 3.6 []	 Ø 5.2 [] 5.1 []	 Ø 6.5 [] 6.9 []
	B31105 Board Type	 Ø 4.9 [] 6.4 []	 Ø 4.9 [] 8.4 []	 Ø 4.9 [] 9.8 []	Coming Soon Ø 5 [] 8.9 []	 Ø 5.2 [] 10.2 []	 Ø 6.5 [] 11.4 []
	B31106R Board Type	 Ø 5.7 [] 2 []	 Ø 5.7 [] 4.7 []	 Ø 5.7 [] 6 []	Coming Soon Ø 5.7 [] 4.8 []	Coming Soon Ø 5.7 [] 5.9 []	 Ø 6.5 [] 7.7 []
	B31111A Board Type Microphone	 11 [] 3.1 [] 0.6 []	 11 [] 3.9 []	 11 [] 5.7 []	Coming Soon 11 [] 4.8 []	 11 [] 5.8 []	 11 [] 7.6 []
	B31105U Board Type	 2 [] 4.9 [] 8.4 []	 3.9 [] 4.9 []	 5.4 [] 4.9 []	Coming Soon 4.5 [] 4.9 []	 5.7 [] Ø 5.2 []	 7.5 [] Ø 6.5 []
	Z31105U Slim Forming Type	Coming Soon 2.8 [] 5.1 [] 10.5 []	 4 [] 5.1 []	 5.5 [] 5.1 []	Coming Soon 4.6 [] 5.1 []	 5.8 [] Ø 5.2 []	 7.6 [] Ø 6.5 []
Up View	S31105U Forming Type	Coming Soon 4 [] 5 [] 10.5 []	 4.5 [] 5.1 []	 5.7 [] 5.1 []	Coming Soon 4.8 [] 5.1 []	Coming Soon 6.4 [] Ø 5.2 []	Coming Soon 8.2 [] Ø 6.5 []
	B31104U Board Type	 1.4 [] 4 [] 13.4 []	 3.3 [] 4.9 []	 4.8 [] 5.1 []	Coming Soon 3.7 [] Ø 5 []	 5.1 [] Ø 5.2 []	 7.5 [] Ø 6.5 []
	B31105SU Board Type	 1.4 [] 4.9 [] 13.5 []	 3.3 [] 4.9 []	 4.8 [] 4.9 []	Coming Soon 3.7 [] Ø 5 []	 5.1 [] Ø 5.2 []	 7.5 [] Ø 6.5 [] 13.5 []
	Z31105SU Slim Forming Type	Coming Soon 2.7 [] 5 [] 13.6 []	 3.3 [] 5 [] 13.6 []	 4.8 [] 5 [] 13.6 []	Coming Soon 3.7 [] 5 [] 13.6 []	 5.1 [] Ø 5.2 [] 13.6 []	 7.5 [] Ø 6.5 [] 13.6 []
	SL31105S Forming Type	Coming Soon 2.8 [] 5 [] 13.6 []	Coming Soon 3.3 [] 5 []	Coming Soon 4.8 [] 5 []	Coming Soon 3.7 [] 5 []	Coming Soon 5.1 [] Ø 5.2 []	Coming Soon 7.5 [] Ø 6.5 []

FT / T Series

Unit: ± 0.5 mm

		No Lens	77 Lens	88 Lens	88M Lens	93 Lens	158 Lens
Side View	BL31105 Board Type	 4.9 [13] 2.1	 4.9 [] 3.9	 4.9 [] 5.4	Coming Soon 4.9 [] 3.9	 Ø 5.2 [] 5.8	 Ø 6.5 [] 7.5
	ZL31105 Slim Forming Type	Coming Soon 11.5 [] 5.2 2.8 [] 1.6	 5.2 [] 4 []	 5.2 [] 5.5 []	Coming Soon 5.2 [] 4 []	 Ø 5.3 [] 5.9	 Ø 6.5 [] 7.6
	SL31105 Forming Type	Coming Soon 14.6 [] 5.1 [] 4 []	Coming Soon 5.1 [] 4.5 []	Coming Soon 5.1 [] 6 []	Coming Soon 5.1 [] 4.6 []	Coming Soon Ø 5.2 [] 6.4	Coming Soon Ø 6.5 [] 8.2
	BL31105S Board Type	Coming Soon 19.8 [] 4.9 [] 1.8	Coming Soon 4.9 [] 3.3 []	Coming Soon 4.9 [] 4.8 []	Coming Soon Ø 5 [] 3.6 []	Coming Soon Ø 5.2 [] 5.1 []	Coming Soon Ø 6.5 [] 6.9 []
	ZL31105S Slim Forming Type	Coming Soon 21 [] 5 [] 2.8 [] 1.6	 5 [] 3.3 []	 5 [] 4.8 []	Coming Soon 5 [] 3.6 []	 Ø 5.2 [] 5.1 []	 Ø 6.5 [] 6.9 []
	SL31105S Forming Type	Coming Soon 13.6 [] 5 [] 2.8 []	Coming Soon 5 [] 3.3 []	Coming Soon 5 [] 4.8 []	Coming Soon 5 [] 3.6 []	Coming Soon Ø 5.2 [] 5.1 []	Coming Soon Ø 6.5 [] 6.9 []
Front View	B31105 Board Type	 Ø 4.9 [] 10.8	 Ø 4.9 [] 13.2	 Ø 4.9 [] 14.7±0.1	Coming Soon Ø 5 [] 13.4	 Ø 5.2 [] 15±0.1	 Ø 6.5 [] 16.2±0.1
	B31105N Board Type	 Ø 4.9 [] 10.8	 Ø 4.9 [] 13.2	 Ø 4.9 [] 14.7±0.1	Coming Soon Ø 5 [] 13.4	 Ø 5.2 [] 15±0.1	 Ø 6.5 [] 16.2±0.1
	B31105A Board Type Microphone	 Ø 4.9 [] 13 MIC.	 Ø 4.9 [] 15.5 MIC.	 Ø 4.9 [] 17±0.1 MIC.	Coming Soon Ø 5 [] 15.7 MIC.	 Ø 5.2 [] 17.3±0.1 MIC.	 Ø 6.5 [] 18.5±0.1 MIC.
	B31107R Board Type	 Ø 7.4 [] 2.2	 Ø 7.4 [] 4.1	 Ø 7.4 [] 5.8±0.06	Coming Soon Ø 7.4 [] 4.7	 Ø 7.4 [] 5.9	 Ø 7.4 [] 7.7
Up View	B31105U Board Type	 2 [] 4.9 [] 13	 3.9 [] 4.9 []	 5.4 [] 4.9 []	Coming Soon 3.9 [] 4.9 []	 5.8 [] Ø 5.2 []	 7.5 [] Ø 6.5 []
	Z31105U Slim Forming Type	Coming Soon 2.8 [] 11.5 [] 1.6 [] 5.2 []	 4 [] 5.2 []	 5.5 [] 5.2 []	Coming Soon 4 [] 5.2 []	 5.8 [] Ø 5.3 []	 7.6 [] Ø 6.5 []
	S31105U Forming Type	Coming Soon 4 [] 5.1 [] 14.6 []	Coming Soon 4.5 [] 5.1 []	Coming Soon 6 [] 5.1 []	Coming Soon 4.6 [] 5.1 []	Coming Soon 6.4 [] Ø 5.2 []	Coming Soon 8.2 [] Ø 6.5 []
	B31105UA Board Type Microphone	 4.9 [] 18 [] 20.5 [] MIC.	 4.9 [] 3.9 [] 20.5 [] MIC.	 4.9 [] 4.8 [] 20.5 [] MIC.	Coming Soon 5 [] 4 [] 20.5 [] MIC.	 5.2 [] 5.1 [] 20.5 [] MIC.	 Ø 6.5 [] 6.3 [] 21.2 [] MIC.
	B31109RU Board Type	 Ø 9.6 [] 1.8 []	 Ø 9.6 [] 4.4 []	 Ø 9.6 [] 5.9 []	Coming Soon Ø 9.6 [] 4.6 []	 Ø 9.6 [] 6.2 []	 Ø 9.6 [] 7.4 []

FM / M Series

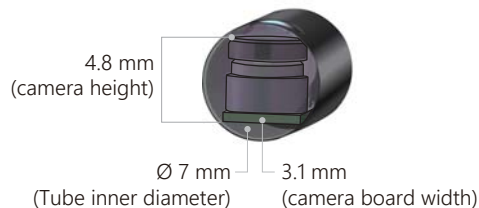
Unit: 0.5 mm

		No Lens	77 Lens	88 Lens	88M Lens	93 Lens	158 Lens
Side View	BL31107 Board Type						
	B31105 Board Type						
Front View	B31114 Board Type						
	B31107UA Board Type Microphone						
Up View	B31114RUA Board Type Microphone						

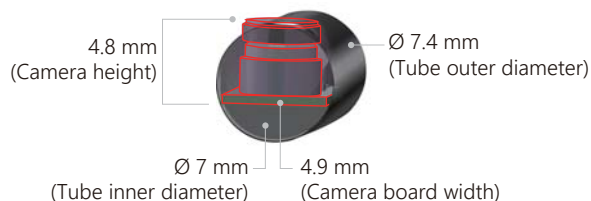
MISUMI Side View Camera

Suggestion Model No. **BL31103**

Ultra slim! Ultra slim design to fit smaller diameter tube, for easier narrow pipe inspection !



Other Side View Camera



! must use bigger inner diameter tube

All MISUMI UVC Camera are Compatible With MP-WF580KP (WiFi DVR)

For example:
Our extremely lightweight 1920 x1080 (1080p) 1/6" CMOS UVC glasses camera is compatible with MP-WF580KP (WiFi DVR).

Supports **H.264 video format** input, loop recording, snapshot functions.
Supports max memory 128 GB (micro SD).

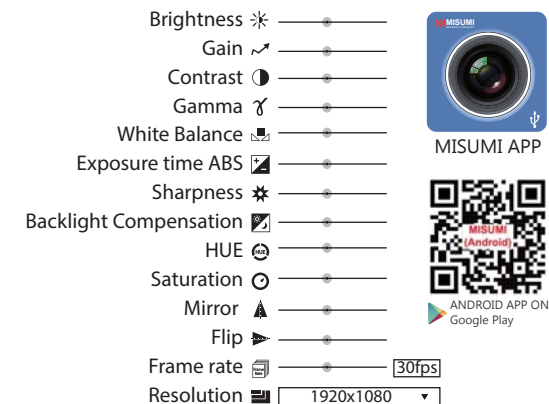
Users can view live streaming video via a smartphone.



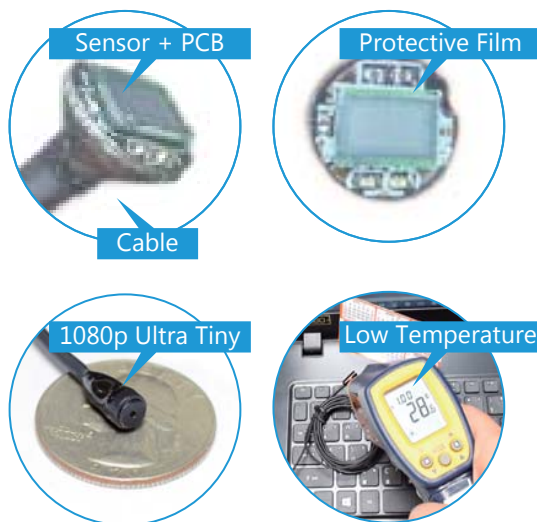
About MP-WF580KP:
It deliver the best 1080p live streaming performance when using H.264 camera.
When using MJPEG cameras, it can only live stream at resolutions of 720p and below.
MJPEG cameras delivers the best live streaming performance at 640 x 480 resolution.

Camera Parameter Adjustable (MISUMI APP)

Camera parameter can be adjusted on the smartphone via the Misumi app and PC viewer software AMCAP.



NOTE for MISUMI APP:
UVC Camera does not support Android 10



Connector Information

