

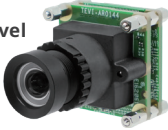


USB3 Type C Camera
Embedded Vision

USB Camera Family

TechNexion USB3 cameras are fully UVC Compliant and therefore plug-n-play on any Windows or Linux platform. We offer a family of USB cameras ranging from 1MP to 13MP in rolling or global shutter configurations that can be used in a large variety of applications ranging from robotics, medical, sporting to smart city, infrastructure and embedded industrial applications.

Board Level



S-Mount



C-Mount



USB Type C Locking Connector

By following Intel USB Type C connector locking specifications, TechNexion USB cameras ensure your USB embedded vision cameras are suitable in vibration prone and harsh industrial applications.

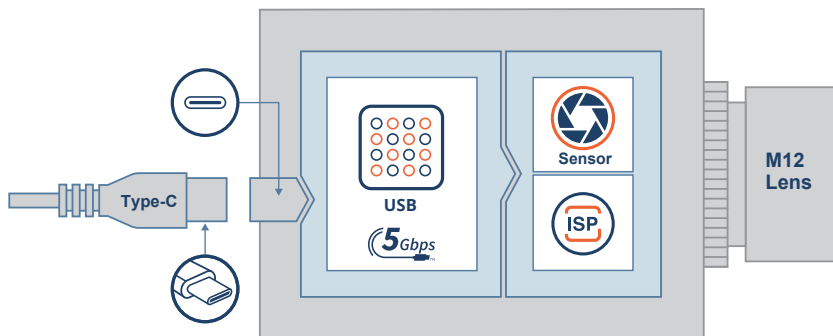


Sensor Comparison

< 2 MP	5 MP	8 MP	10 ~ 20 MP
 AR0144 Global Color	 AR0521 Rolling Color	 AR0821 Rolling Color	 AR1335 Rolling Color
 AR0145 Global Mono	 AR0522 Rolling Color/Mono	 AR0822 Rolling Color/Mono	
 AR0234 Global Color		 AR0830 Rolling Color/Mono	
 AR0235 Global Mono			

Unified single software driver.

Block Diagram



Platforms Support



Windows



Linux



Android

Software Enablement

Product drivers, integration guides for TechNexion USB3 Camera are available online, thus helping a quick and easy integration and evaluation path.

All TechNexion Embedded Vision products are supported with VizionViewer and VizionSDK, giving your engineering team full control over the camera settings by using C++ or Python.



VizionViewer™



VizionSDK

Software SDK Available

Environmental and Mechanical



	UVCI-ARxxx-SL	VCI-ARxxx-SL	VCI-ARxxx-CB
Dimensions	24.5(W) x 24.5(H) x 25.6(D) mm	29.5(W) x 29.5(H) x 28.5(D) mm	29.5(W) x 29.5(H) x 33.7(D) mm
Weight	≤18 grams	≤44 grams	≤39 grams
MTBF	50,000 Hours	50,000 Hours	50,000 Hours
Shock	15G half-sine 11 ms duration	15G half-sine 11 ms duration	15G half-sine 11 ms duration
Vibration	1 Grms random 5-500Hz hr/axis	1 Grms random 5-500Hz hr/axis	1 Grms random 5-500Hz hr/axis
Relative Humidity	10 to 90 %	10 to 90 %	10 to 90 %
Operating Temperature	-30°C to +70°C	-30°C to +70°C	-30°C to +70°C
Certification	Compliant with CE / FCC / RoHS / REACH directives		

C-Mount Lens Information



	C2305080FF	C2305125FF	C2305160FF	C2305250FF	C2305350FF	C2305550FF
Focal Length	8 mm	12.5 mm	16 mm	25 mm	35 mm	50 mm
Aperture	F1.4	F1.4	F1.4	F1.4	F1.4	F1.4
Lens D-FOV	67.1°	46.6°	37.3°	24.6°	17.3°	13.04°
Lens H-FOV	56.3°	39°	30.3°	20°	13.9°	10.46°
Lens V-FOV	43.7°	30.3°	23°	15°	10.4°	7.86°
TTL	57.53 mm	54.03 mm	49.03 mm	48.03 mm	61.23 mm	74.43 mm
MBFL	9.73 mm	11.73 mm	12.43 mm	11.93 mm	7.53 mm	11.93 mm
MOD	0.1 m	0.15 m	0.1 m	0.1 m	0.2 m	0.3 m
TV Distortion	1.0%	-0.8%	0.10%	0.20%	-0.8%	-0.8%
Image Size	2/3"	2/3"	2/3"	2/3"	2/3"	2/3"
Resolution	5MP	5MP	5MP	5MP	5MP	5MP
Filter Thread	M37×P0.5 mm	M30.5×P0.5 mm	M30.5×P0.5 mm	M30.5×P0.5 mm	M37×P0.5 mm	M37×P0.5 mm
Operating Temperature	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C	-20°C to +60°C
Weight	108 grams	60 grams	61 grams	65 grams	125 grams	128 grams
Size	Ø39.3×47.8 mm	Ø32.9×42.3 mm	Ø33.5×36.6 mm	Ø33.5×36.1 mm	Ø39.8×53.7 mm	Ø39.6×62.5 mm
Material	Metal	Metal	Metal	Metal	Metal	Metal

S-Mount Lens Information



	Focal Length	Aperture	D-FOV	H-FOV	V-FOV	TTL	MOD	Distortion
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UVCI-AR0144-SL

VCI-AR0144-SL

S33	8 mm	F1.6	33.1° ± 5%	28.0° ± 5%	17.4° ± 5%	26.2 mm	0.3 m	<-5.03%
S83	2.85 mm	F2.8	82.6° ± 5%	73.5° ± 5%	50.3° ± 5%	20 mm	0.3 m	<-0.35%

UVCS-AR0145-SL

VCS-AR0145-SL

S31	8 mm	F1.6	31.2° ± 5%	26.3° ± 5%	16.3° ± 5%	26.2 mm	0.3 m	<-5.03%
S78	2.85 mm	F2.8	78.2° ± 5%	69.5° ± 5%	47.1° ± 5%	20 mm	0.3 m	<-0.35%

UVCI-AR0234-SL

VCI-AR0234-SL

S32	12 mm	F2.0	31.8° ± 5%	26.9° ± 5%	16.8° ± 5%	23.2 mm	0.3 m	<-2.50%
S83	3.9 mm	F2.8	82.8° ± 5%	73.4° ± 5%	50.1° ± 5%	22 mm	0.3 m	<1.26%
S128	2.87 mm	F2.8	127.7° ± 5%	110.5° ± 5%	68.6° ± 5%	21 mm	0.3 m	<-20%

UVCI-AR0521-SL

VCI-AR0521-SL

S34	12 mm	F2.0	33.6° ± 5%	26.8° ± 5%	20.1° ± 5%	23.2 mm	0.3 m	<-2.50%
S85	3.9 mm	F2.8	85.2° ± 5%	73.0° ± 5%	58.1° ± 5%	22 mm	0.3 m	<1.26%
S140	2.87 mm	F2.8	140.0° ± 5%	110.5° ± 5%	81.4° ± 5%	21 mm	0.3 m	<-20%

UVCI-AR0522-SL

VCI-AR0522-SL

S34	12 mm	F2.0	33.6° ± 5%	26.8° ± 5%	20.1° ± 5%	23.2 mm	0.3 m	<-2.50%
S85	3.9 mm	F2.8	85.2° ± 5%	73.0° ± 5%	58.1° ± 5%	22 mm	0.3 m	<1.26%
S140	2.87 mm	F2.8	140.0° ± 5%	110.5° ± 5%	81.4° ± 5%	21 mm	0.3 m	<-20%

UVCI-AR0821-SL

VCI-AR0821-SL

S44	12 mm	F2.0	44.0° ± 5%	38.3° ± 5%	21.6° ± 5%	23.09 mm	0.15 m	<2%
S74	6 mm	F2.8	74.4° ± 5%	67.1° ± 5%	40.8° ± 5%	28.6 mm	0.1 m	<0.5%
S119	3 mm	F2.0	118.8° ± 5%	110.7° ± 5%	75.4° ± 5%	29.56 mm	0.3 m	<-5%
S156	3.2 mm	F2.0	156.0° ± 5%	137.2° ± 5%	79.4° ± 5%	44.98 mm	0.3 m	<-32%

UVCI-AR0822-SL

VCI-AR0822-SL

S42	12 mm	F2.0	41.7° ± 5%	36.3° ± 5%	20.5° ± 5%	23.09 mm	0.15 m	<2%
S72	6 mm	F2.8	72.0° ± 5%	64.7° ± 5%	39.0° ± 5%	28.6 mm	0.1 m	<0.5%
S108	3 mm	F2.0	108.6° ± 5%	104.0° ± 5%	72.2° ± 5%	29.56 mm	0.3 m	<-5%
S150	3.2 mm	F2.0	150.0° ± 5%	132.6° ± 5%	77.6° ± 5%	44.98 mm	0.3 m	<-32%

UVCI-AR1335-SL

VCI-AR1335-SL

S85	3.2 mm	F2.4	84.6° ± 5%	70.3° ± 5%	55.2° ± 5%	22 mm	0.3 m	<1.6%
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Specifications



	UVCI-AR0144-SL VCI-AR0144-SL VCI-AR0144-CB	UVCS-AR0145-SL VCS-AR0145-SL VCS-AR0145-CB	UVCI-AR0234-SL VCI-AR0234-SL VCI-AR0234-CB	UVCI-AR0521-SL VCI-AR0521-SL VCI-AR0521-CB
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Camera Information

CMOS Sensor	onsemi AR0144	onsemi AR0145	onsemi AR0234	onsemi AR0521
Active Pixels	1280 (H) x 800 (V) = 1MP	1280 (H) x 800 (V) = 1MP	1920 (H) x 1200 (V) = 2.3MP	2592 (H) x 1944 (V) = 5MP
Pixel Size	3.0 μm x 3.0 μm	3.0 μm x 3.0 μm	3.0 μm x 3.0 μm	2.2 μm x 2.2 μm
Illuminated Type	Front Side Illuminated (FSI)	Front Side Illuminated (FSI)	Front Side Illuminated (FSI)	Back Side Illuminated (BSI)
Maximum S/N Ratio	38 dB	38 dB	38 dB	40 dB
Optical Format	1/4" (Diagonal 4.5 mm)	1/4" (Diagonal 4.5 mm)	1/2.6" (Diagonal 6.8 mm)	1/2.5" (Diagonal 7.13 mm)
Shutter Type	Global Shutter	Global Shutter	Global Shutter	Rolling Shutter
Chromaticity	Color	Color	Color	Color
Maximum Frame Rate (YUV422-UYYVY)	1280 x 800 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps	1280 x 800 @ 115 fps 1280 x 720 @ 115 fps 640 x 480 @ 115 fps	1920 x 1200 @ 60 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 120 fps 640 x 480 @ 120 fps	2592 x 1944 @ 24 fps 2560 x 1440 @ 32 fps 1920 x 1080 @ 60 fps 1280 x 960 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 120 fps
Maximum Frame Rate (MJPEG)	1280 x 800 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps	1280 x 800 @ 115 fps 1280 x 720 @ 115 fps 640 x 480 @ 115 fps	1920 x 1200 @ 100 fps 1920 x 1080 @ 100 fps 1280 x 720 @ 120 fps 640 x 480 @ 120 fps	2592 x 1944 @ 60 fps 2560 x 1440 @ 60 fps 1920 x 1080 @ 60 fps 1280 x 960 @ 80 fps 1280 x 720 @ 80 fps 640 x 480 @ 120 fps
Output Format	YUV422-UYYVY MJPEG (JPG)	YUV422-UYYVY MJPEG (JPG)	YUV422-UYYVY MJPEG (JPG)	YUV422-UYYVY MJPEG (JPG)

Power

Supply Voltage	5V $\pm$ 5%	5V $\pm$ 5%	5V $\pm$ 5%	5V $\pm$ 5%
Power Consumption	1280 x 800 @ 60 fps $\leq$ 0.9W	1280 x 800 @ 115 fps $\leq$ 1W	1920 x 1200 @ 60 fps $\leq$ 1.25W	2592 x 1944 @ 24 fps $\leq$ 1.2W
Standby Power	$\leq$ 0.1W Standby	$\leq$ 0.1W Standby	$\leq$ 0.1W Standby	$\leq$ 0.1W Standby

Software Support

Operation System	UVC Plug-and-play, Windows 10/11, Linux, Yocto	UVC Plug-and-play, Windows 10/11, Linux, Yocto	UVC Plug-and-play, Windows 10/11, Linux, Yocto	UVC Plug-and-play, Windows 10/11, Linux, Yocto
Software	VizionViewer™	VizionViewer™	VizionViewer™	VizionViewer™
Development SDK	VizionSDK	VizionSDK	VizionSDK	VizionSDK

Optional Accessories

An easy to attach A-Mount bracket for TechNexion camera board modules.



245-MOUNT-BRACKET-A



245-MOUNT-BRACKET on tripod
(tripod not included)

Specifications



	UVCI-AR0522-SL VCI-AR0522-SL VCI-AR0522-CB	UVCI-AR0821-SL VCI-AR0821-SL VCI-AR0821-CB	UVCI-AR0822-SL VCI-AR0822-SL VCI-AR0822-CB	UVCI-AR1335-SL VCI-AR1335-SL VCI-AR1335-CB
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Camera Information

CMOS Sensor	onsemi AR0522	onsemi AR0821	onsemi AR0822	onsemi AR1335
Active Pixels	2592 (H) x 1944 (V) = 5MP	3848 (H) x 2168 (V) = 8MP	3840 (H) x 2160 (V) = 8MP	4208 (H) x 3120 (V) = 13MP
Pixel Size	2.2 μm x 2.2 μm	2.1 μm x 2.1 μm	2.0 μm x 2.0 μm	1.1 μm x 1.1 μm
Illuminated Type	Back Side Illuminated (BSI)	Back Side Illuminated (BSI)	Back Side Illuminated (BSI)	Back Side Illuminated (BSI)
Maximum S/N Ratio	40 dB	41.8 dB	40.5 dB	37 dB
Optical Format	1/2.5" (Diagonal 7.13 mm)	1/1.7" (Diagonal 9.25 mm)	1/1.8" (Diagonal 8.81 mm)	1/3.2" (Diagonal 5.8 mm)
Shutter Type	Rolling Shutter	Rolling Shutter	Rolling Shutter	Rolling Shutter
Chromaticity	Color / Mono	Color	Mono / Color	Color
HDR Support	-	Yes	Yes	Yes
Maximum Frame Rate (YUV422-UYYV)	2592 x 1944 @ 24 fps 2560 x 1440 @ 32 fps 1920 x 1080 @ 60 fps 1280 x 960 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 120 fps	3840 x 2160 @ 15 fps 2560 x 1440 @ 30 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps	3840 x 2160 @ 15 fps 2560 x 1440 @ 30 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps	4208 x 3120 @ 10 fps 3840 x 2160 @ 15 fps 2560 x 1440 @ 30 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 120 fps 640 x 480 @ 60 fps
Maximum Frame Rate (MJPEG)	2592 x 1944 @ 60 fps 2560 x 1440 @ 60 fps 1920 x 1080 @ 60 fps 1280 x 960 @ 80 fps 1280 x 720 @ 80 fps 640 x 480 @ 120 fps	3840 x 2160 @ 30 fps 2560 x 1440 @ 60 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps	3840 x 2160 @ 30 fps 2560 x 1440 @ 60 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 60 fps 640 x 480 @ 60 fps	4208 x 3120 @ 30 fps 3840 x 2160 @ 30 fps 2560 x 1440 @ 60 fps 1920 x 1080 @ 60 fps 1280 x 720 @ 120 fps 640 x 480 @ 60 fps
Output Format	YUV422-UYYV MJPEG (JPG)	YUV422-UYYV MJPEG (JPG)	YUV422-UYYV MJPEG (JPG)	YUV422-UYYV MJPEG (JPG)

Power

Supply Voltage	5V $\pm$ 5%	5V $\pm$ 5%	5V $\pm$ 5%	5V $\pm$ 5%
Power Consumption	2592 x 1944 @ 24 fps $\leq$ 1.2W	3840 x 2160 @ 15 fps $\leq$ 1.6W	3840 x 2160 @ 15 fps $\leq$ 1.3W	4200 x 3120 @ 12 fps $\leq$ 1.4W
Standby Power	$\leq$ 0.1W Standby	$\leq$ 0.1W Standby	$\leq$ 0.1W Standby	$\leq$ 0.3W Standby

Software Support

Operation System	UVC Plug-and-play, Windows 10/11, Linux, Yocto	UVC Plug-and-play, Windows 10/11, Linux, Yocto	UVC Plug-and-play, Windows 10/11, Linux, Yocto	UVC Plug-and-play, Windows 10/11, Linux, Yocto
Software	VizionViewer™	VizionViewer™	VizionViewer™	VizionViewer™
Development SDK	VizionSDK	VizionSDK	VizionSDK	VizionSDK

Optional Accessories

An easy to attach A-Mount bracket for TechNexion 30mm enclosed cameras.



300-MOUNT-BRACKET



300-MOUNT-BRACKET on tripod (tripod not included)



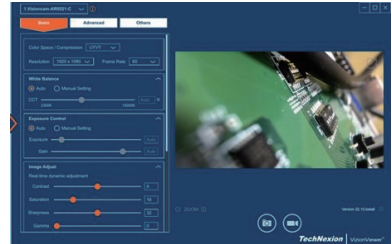
Don't see what you are looking for ? Talk to us.

Customization

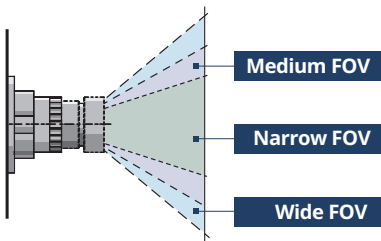
Embedded system design often requires customization to fit the specific target application. Contact your TechNexion sales representative for a consultation if you have questions on one of the following subjects:

Firmware Support

TechNexion USB3 Cameras come with OSP (on sensor profile) support enabling fast boot up and availability of multi camera setups in robotic and industrial embedded applications by providing granular configuration support right inside the camera and completely user definable and configurable with VizionSDK and VizionViewer software.



Custom Lenses



By using a standard S-Mount and C-Mount lens assemblies. Our team of optical engineers can assist with precise customization in response to specific requirements to fit your embedded vision project involving FOV, TTL, MOD or mechanical or environmental constraints ensuring optimal performance across a range of use cases.

Optical Light Filters

Searching for a lens with or without an IR-cut filter is as easy as select a standard TechNexion camera sensor. However for custom filters in other light spectrums our optical engineers are standby for a consultation to learn more about your embedded vision project.

