

# UV CONVERTERS

Wavelength management




UV Converters take advantage of a phenomenon called fluorescence to extend the performance range of the Beamage beam profiling camera to ultraviolet wavelengths. A fluorescent crystal located at the entrance of the converter absorbs UV wavelengths and reemits longer wavelengths (in the visible spectrum), which are less energetic and detected by the CMOS sensor.

## MAIN CHARACTERISTICS

- Transforms wavelengths contained between X-rays and 400 nm to visible and near-IR wavelengths.
- Images larger beams due to the magnification properties of the optics.
- Built with an iris at the output port for a control of the exposure on the CMOS sensor.
- Removable extension tube that is easily fixed onto the entrance port of the Beamage camera.
- Ready to use within minutes

## SPECIFICATIONS

	BSF23C11.3N	BSF23P11.3N	BSF23R11.3N	BSF23G11.3N
Input Aperture $\varnothing$	23 mm	23 mm	23 mm	23 mm
Overall Length (OAL)	97 mm	97 mm	97 mm	97 mm
Magnification	1.4	1.4	1.4	1.4
Crystal Type	C	P	R	G
Wavelength range	110 - 225 nm	10 - 350 nm	110 - 532 nm	X-ray - 400 nm
Saturation level				
193 nm	400 mJ/cm <sup>2</sup>	30 mJ/cm <sup>2</sup>	50 mJ/cm <sup>2</sup>	10 mJ/cm <sup>2</sup>
248 nm	N/A	30 mJ/cm <sup>2</sup>	400 mJ/cm <sup>2</sup>	10 mJ/cm <sup>2</sup>
308 nm	N/A	50 mJ/cm <sup>2</sup>	400 mJ/cm <sup>2</sup>	50 mJ/cm <sup>2</sup>
Decay time	3 - 5 $\mu$ s	5 $\mu$ s	4000 $\mu$ s	0.1 $\mu$ s
Max repetition rate	20 - 30 kHz	20 kHz	25 Hz	20 kHz
Product page				

A complete procedure on how to choose the appropriate UV Converter (UV Converter Application Note) is available on our website at [www.gentec-eo.com](http://www.gentec-eo.com).

# IR ADAPTOR

Wavelength management




Typically, a CMOS silicon sensor is operating at its full potential when imaging lasers with wavelengths between 350 nm and 1150 nm. If you want to extend the performance range of your Beamage beam profiling camera to the near-IR telecom wavelengths band, you can use the IR Adaptor. This ideal solution takes advantage of a multi-photon absorption process to extend the sensitivity range of the camera sensor to a portion of the near-IR spectrum (1495 nm - 1595 nm).

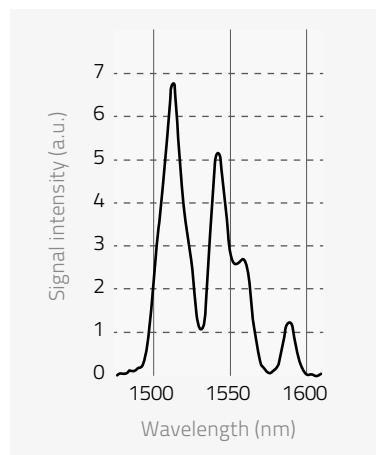
## MAIN CHARACTERISTICS

- Converts wavelengths between 1495 nm and 1595 nm to shorter wavelengths between 950 nm and 1075 nm.
- Images larger beams due to the convergent properties of the optics (3.29X).
- Built with a high quality coated anti-reflection input window that allows wavelength conversion with low distortion and maximum image resolution.
- Removable and easily C-mounted onto the entrance port of the camera.
- Ready to use within minutes.

## SPECIFICATIONS

IR ADAPTOR	
Active area	27.5 mm $\varnothing$
IR spectral range	1495 nm - 1595 nm
Peak IR sensitivity	1510 nm and 1540 nm
Converted wavelengths	950 nm - 1075 nm
Pixel Multiplication Factor	3.29
Minimum beam size	230 $\mu$ m
Maximum beam size	19 mm
Maximum resolution	12 lp/mm over active area 40 lp/mm at sensor focal plane
Distortion	-1.0% barrel distortion (inverted image)
Linearity	Non-Linear, IR converted output $\sim$ IR input intensity <sup>141</sup>
Spectral transmission	360 nm - 2000 nm at F30.8
Damage threshold	1 W/cm <sup>2</sup>
Dimensions	46 mm $\varnothing$ x 97 mm L
Operating temperature	-10°C to +40°C
Weight	210 g
Product page	

## EXCITATION SPECTRUM




# FILTERS

Wavelength management

## UV BANDPASS FILTER

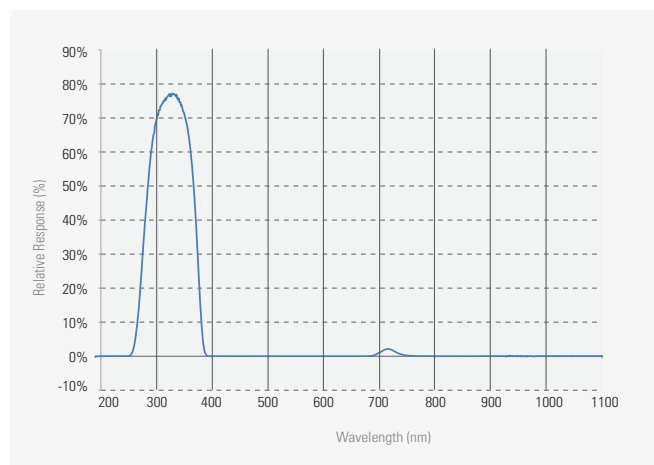
We also offer a color glass filter specially designed for the UV spectrum. Depending on the wavelength, the UG11-UV filter transmits 20% to 70% of the input beam power. It is particularly useful for applications with wavelengths contained between 250 nm and 370 nm. Other wavelengths are blocked by the filter. The UG11-UV is SM1 threaded and comes with a SM1 to C-mount adaptor.

### SPECIFICATIONS

MODEL	UG11-UV
Spectral range	250 nm - 370 nm
Diameter	25 mm $\phi$
Clear aperture	80% of area
Dimensional tolerance	+0.0 / -0.2 mm
Thickness	3 mm
Thickness tolerance	+0.0 / -0.2 mm
Parallelism	< 3 arcmin
Surface flatness	< $\lambda/4$
Maximum power	1 W
Surface quality	40 - 20 Scratch-Dig
Damage threshold	30 W/cm <sup>2</sup> (typical)
Product page	

\* Data specified at 633 nm


### SPECTRAL TRANSMISSION



## IR FILTER

The B3-IR-FILTER is a color glass filter specifically designed for IR applications. Acting as a longpass filter, the B3-IR-FILTER cuts all the wavelengths below 1250 nm and only lets the IR wavelengths pass. It transmits approximately 70% of the incident light. The B3-IR-FILTER is SM1 threaded and comes with a SM1 to C-mount adaptor so you can mount it on the Beamage camera.

### SPECIFICATIONS

MODEL	B3-IR-FILTER
Spectral range	1250 - 1350 nm
Diameter	25 mm $\phi$
Clear aperture	80% of area
Dimensional tolerance	+0.0/-0.2 mm
Thickness	6.3 mm max
Parallelism	< 3 arcmin
Surface flatness	< $\lambda/4$
Maximum power	1 W
Surface quality	80-50 Scratch-Dig
Damage threshold	30 W/cm <sup>2</sup> (Typical)
Product page	

### SPECTRAL TRANSMISSION

