

3.3.4.1 190-1100nm Cameras

3.3.4.1.1 USB Silicon CMOS Camera

SP932U high resolution

Features

- Specially optimized for NIR and Nd:YAG regions via “Blooming Correction” algorithm
- 1/1.8” format CMOS global shutter imager
- Interface: USB3
- High Resolution 3.45µm pixel size
- 72dB true dynamic resolution, high bitrate
- No Smearing

SP932U



Model	SP932U	
Format	1/1.8”	
Wavelengths ⁽¹⁾	190-1100nm	
Active area	7.06mm x 5.3mm	
Beam sizes ⁽²⁾	34.5µm - 5.3mm	
Pixel spacing	3.45µm x 3.45µm	
Number of effective pixels	2048 x 1536	
Dynamic range	72 dB	
Linearity with power	<1%	
Accuracy of beam width	±2%	
Frame rates in 12 bit mode ⁽³⁾	24 fps at full resolution	
Exposure	25µs to 400ms	
Gain control	1.46 dB to 256 dB	
Trigger	Hardware/Software Trigger & Strobe Out	
Photodiode trigger (Optional) ⁽⁴⁾	Si response: SP90408	
Saturation intensity ⁽⁵⁾	32µW/cm ² at 633nm, 500µW/cm ² at 1064nm	
Lowest measurable signal ⁽⁵⁾	0.2nW/cm ²	
Damage threshold ⁽⁶⁾	50W/cm ² / 1J/cm ² for < 100ns pulse width	
Ambient operating temperature	0 - 50° C	
Dimensions	45 mm x 45 mm x 22.5 mm	
Imager recess	4.5±0.11mm	
Image quality at 1064nm	Pulsed with trigger sync - excellent Pulsed with video trigger - good CW - excellent	
Operation mode	CMOS, Global shutter	
PC interface	USB 3.0	
OS supported	Windows 10 (64), BeamGage 6.17 required	
Compliance	CE, UKCA, China RoHS	
Ordering Information		
Supported software	Item	P/N
BeamGage Professional	BGP-USB3-SP932U	SP90607 ⁽⁷⁾
BeamGage Standard	BGS-USB3-SP932U	SP90606 ⁽⁷⁾

Notes: (1) The camera's natural response is from 300nm through 1100nm. At wavelengths above 1000 nm and BeamGage “Blooming correction” function needs to be activated. To measure effectively below 300nm, please make use of Ophir UV converter, otherwise the sensitivity is too low and the measurement accuracy may degrade. Without UV converter, long term intensive irradiation at UV wavelengths, may cause permanent damage to the imager due to UV ablation.
 (2) The maximal beam size refers to “Flat-top” laser beams. For Gaussian beams, reduce maximum beam size by 1/3.
 (3) Dependent on PC processor and graphics card performance. Frame rate is reduced when the Blooming Correction algorithm is active and can be increased using smaller aperture or the binning option.
 (4) For more information please see “Optical Camera Trigger” catalog page
 (5) Camera set to full resolution at maximum frame rate at 633nm and 1064nm wavelength. Camera set to minimum gain and 1ms exposure time for saturation test and 35ms exposure time for the lowest signal test.
 (6) This is the damage threshold of the filter glass. Assuming all filters are mounted with ND1 (red housing) filter in the front. Distortion of the beam may occur with average power densities of 5W/cm² for beam size 5mm, 10W/cm² for 2mm beam, and >30W/cm² for 1mm beam.
 (7) Comes with USB 3.0 cable, Trigger cable and 3 ND filters.

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