

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



| Model | SP932U | |
|--|--|-------------------------------|
| Format | 1/1.8" | |
| Wavelengths ⁽¹⁾ | 190-1100nm | |
| Active area | 7.06mm x 5.3mm | |
| Beam sizes | 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 ⁽²⁾ | 24 fps at full resolution | |
| Exposure | 25µs to 2000ms | |
| Gain control | 1.46 dB to 256 dB | |
| Trigger | Hardware/Software Trigger & Strobe Out | |
| Photodiode trigger (Optional) ⁽³⁾ | Si response: SP90408 | |
| Saturation intensity ⁽⁴⁾ | 32µW/cm² at 633nm, 500µW/cm² at 1064nm | |
| Lowest measurable signal ⁽⁴⁾ | 0.2nW/cm² | |
| Damage threshold ⁽⁵⁾ | 50W/cm² / 1J/cm² 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 ⁽⁶⁾ |
| BeamGage Standard | BGS-USB3-SP932U | SP90606 ⁽⁶⁾ |

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) 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.

(3) For more information please see "Optical Camera Trigger" catalog page

(4) 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.

(5) 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.

(6) Comes with USB 3.0 cable, Trigger cable and 3 ND filters.

