

Do not dream of it -
upgrade your beamline!

DECTRIS
detecting the future



EIGER S 500K

Upgrade your PILATUS 100K with the EIGER S 500K detector



The EIGER S 500K Hybrid Photon Counting (HPC) detector provides frame rates of up to 3000 Hz. Combined with a compact housing, a dead time of only 3 μ s, and optional vacuum compatibility the EIGER S 500K is the universal beamline tool for basically any X-ray measurement.

The system offers noise-free single-photon counting with a sensitive area of 37 mm x 77 mm, a pixel size of 75 μ m and attractive pricing. The well established control interface allows for an easy and fast integration with beamline software.

Key Advantages

- Frame rate up to 3000 Hz
- No readout noise or dark current
- High spatial resolution with 75 μ m pixel size
- Excellent point-spread function
- Optional vacuum compatibility
- Compact housing
- Continuous readout with 3 μ s dead time
- Room temperature operation

Applications

- XPCS
- Ptychography
- Time-resolved experiments
- Reflectometry
- X-ray Powder Diffraction
- Surface Diffraction
- SAXS/WAXS
- X-ray Imaging

Technical specifications EIGER2 R 500K

Sensitive area, width x height [mm²]	77.2 x 38.6
Pixel size [μm²]	75 x 75
Total number of pixels	1030 x 514 = 529,420
Defective pixels [%]	<0.03
Maximum frame rate [Hz]	3000 (continuous)
Readout time [μs]	3 (continuous readout)
Point-spread function [pixel]	1
Silicon sensor thickness [μm]	450
Threshold energy [keV]	2.7 - 18
Maximum count rate [phts/s/mm²]	5*10 ⁸
Counter bit depth [bit]	12
Image bit depth [bit]	16 or 32
Data format	HDF5 / NeXus
Dimensions (WHD) [mm³]	114 x 92 x 242
Weight [kg]	3.3
Power Consumption [W]	70

All specifications are subject to change without notice.