

## INTENSIFIED SCIENTIFIC IMAGING SYSTEM



The Intensified Scientific Imaging System ISIS is an image intensifying camera system, designed for all kinds of industrial and scientific applications, where highest sensitivity up to single-photon-detection is necessary. The lens- or fiberoptic-coupled image-intensifier could be selected from the broad range of all intensifier manufactures according to the requested features. The fast asynchronous gating down to the sub-nanosecond range predestines the ISIS for ultra-fast process analysis. The diversified range of the scientific imaging system SIS1 with 14-bit dynamic is available as the deployed camera system. Image frequencies up to some kHz at full dynamic are incorporated because of the variable framing-features.

Features	
<b>Nanolux Sensitivity</b> ▶	The sensitivity is generally specified by the quantum efficiency of the image-intensifier's photo cathode.
<b>Single Photon Imaging</b> ▶	Single Photons (pulse heights >100 counts) which are detected by the camera system at high levels of photon intensification of the image-intensifier, are accumulated as single events after SPI-Software image analysis.
<b>Lens-Optic Coupling</b> ▶	The huge flexibility of the CCD sensor's coupling to the image-intensifier with objectives in tandem-formation results in a very high light transfer by minimized image errors. SIS1 camera systems can of course also be used as normal scientific imaging systems.
<b>Fiber-Optic Coupling</b> ▶	Compact camera system arrangements with lowest coupling-loss are possible due to fiber-optic coupling between CCD sensor and image-intensifier.
<b>High Spatial Resolution</b> ▶	Microchannelplates with super thin channels provide a very high spatial resolution. Special image processing techniques result in Single-Photo-Imaging with a sub-pixel resolution.
<b>Gateable to &lt; 1ns</b> ▶	Processes with high temporal resolution can be analyzed with the gating from ~ 50ns. For special applications gating times <1ns are optional.
<b>32-bit Image Processing</b> ▶	No accuracy loss with multiple arithmetic combinations of images. Reduction of statistical noise by accumulation of several images.
<b>High Full Well Capacity</b> ▶	Photon statistics $S/N=\sqrt{S}$ determines the signal to noise ratio SNR up from average intensities. High dynamic demands high electron capacity.
<b>WinSIS-Software</b> ▶	WinSIS6 for WinXP/2000/NT/9x controls all camera functions and integration timing. The concept of intuitive easy-to-use operation for all imaging and processing functions with integrated job creation and macro definition offers a fast realization of complex applications without long training periods. SDK for personal programming.