PHOTONIC SCIENCE

X-ray sCMOS FDS Detector



High resolution, high speed sCMOS X-ray imaging

The detector offers a range of sCMOS sensors from 1.77MP up to 7.1MP and with active areas between 8.75mm x 6.6mm and 14.5mm x 9.9mm. This can be increased by the use of customised fibre optics taper when needed.

A custom scintillator is deposited within the camera in order to allow 3keV up to 300keV.

Full resolution frame rates of between 10 and 37 fps offer significant benefit over the CCD equivalent cameras, for those customers in need of higher speed data.

A device server driver control allows remote acquisition through existing GUI interface.

The detectors have a native 12-bit acquisition mode and 16-bit extended dynamic range mode.

Key Features

- Input sizes:
  8.758 x 6.6mm up to 14.5 x 9.9mm
- Scintillator
  Gadox:Tb for operation from 3-100 keV,
  Structured CsI scintillator from 20-300 keV
- Simultaneous integration / readout
  enabling 100% duty cycle acquisition
- Window SDK and Viewer software provided
  allowing both image corrected acquisition and control of the hardware. Correction functions include bright pixel, flat fielding and dark current removal. Robust basic camera control is also available using GEV commands.
- OEM versions available on request

Applications

X-ray microtomography

X-ray PCB testing

Phase contrast imaging

X-ray source qualification

X-ray radiography

X-ray mirror and optics alignment

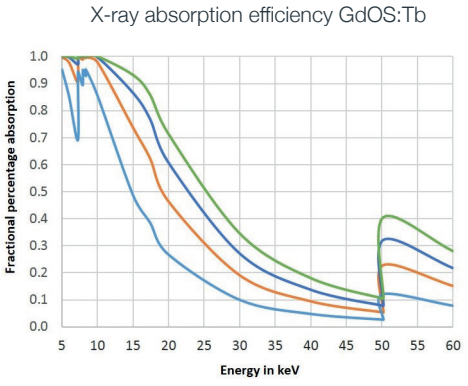
Specialist Camera Solutions Industrial | Surveillance | Scientific

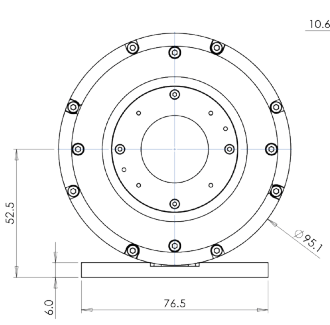
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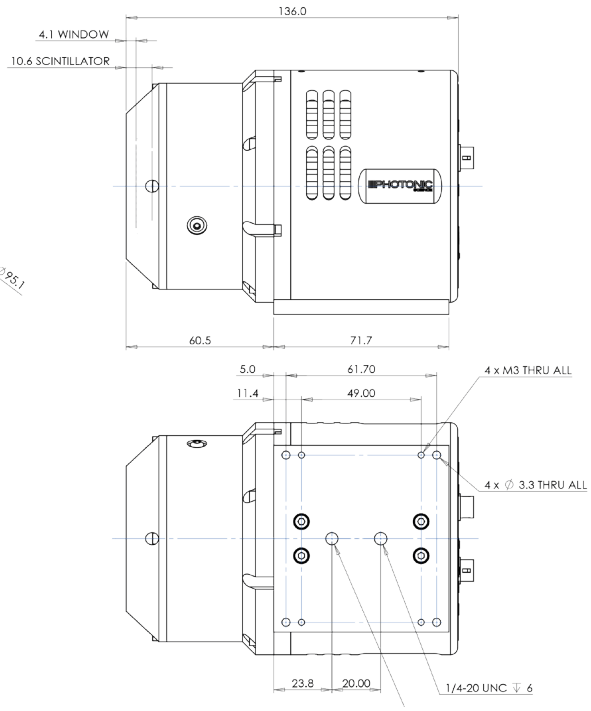
X-ray sCMOS FDS Detector

Characteristics	FDS 1.77MP_17_S	FDS 2.86MP_11_S	FDS 7.01MP_17_S
Resolution	1608 x 1104	1944 x 1472	3216 x 2208
Input Size (mm)	14.5 x 9.9	8.75 x 6.6	14.5 x 9.9
Pixel Size (µm)	9	4.54	
Frame Rate	37 fps	24 fps	10 fps
Full Well Capacity	17,000 electrons	10,000 electrons	
Full Well Capacity (HDR mode)	74,000 electrons	25,000 electrons	
Read Out Noise	5 electrons	3.5 electrons	
Dark Current	0.7 electrons/pixel/second		
Line Spread Function (FWHM)	32 µm	18 µm	
Sensor Temperature (°C)	Typically, operating at -16°C		
Digitization	12/16-bit		
Exposure	50 microseconds up to 60 minutes		
Extended Dynamic Range	16-bit digitization		

X-ray absorption efficiency GdOS:Tb







Please Note: All specifications in this document are typical and subject to change without notice.

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Product selection, configuration & integration support

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