

Compact X-Ray Detector






Introducing Lumentum's compact, small area detector for X-ray applications, based on the latest noise-free, photon-counting technology. This new detector offers high resolution, high speed, and high efficiency in a compact form factor - suitable for a range of different techniques required by synchrotrons, research laboratories, analytical instrument companies, and more.

Key Features

- Medipix3RX* chips
- Pixel size: 55 μm
- Energy thresholds: 2
- Dynamic range: 12 or 24 bits
- Maximum frame rate: 2000 FPS
- Air cooled
- Sensors: Si or CdTe



RAD Product Line - Preliminary Specifications

	RAD 400K	RAD 500k	RAD 800K	RAD 1.5M	
					
Chips	1 x 6	2 x 4	2 x 6	4 x 6	2 x 12
Area	14 x 85 mm ²	28 x 85 mm ²	28 x 85 mm ²	84 x 56 mm ²	28 x 168 mm ²
Resolution	393 kP	524 kP	786 kP	1.5 MP	
Pixel Arrangement	1536 x 256	1024 x 512	1536 x 512	1024 x 1536	3072 x 512
Vertical Gap	-	< 5 pixels	< 5 pixels	< 3 mm	< 5 pixels
Dimensions (W x H x D)	105 x 80 x 235 mm ³	105 x 80 x 235 mm ³	105 x 80 x 235 mm ³	105 x 130 x 235 mm ³	210 x 100 x 235 mm ³
Weight	< 2 kg	< 2 kg	< 2 kg	< 4 kg	
Cooling	Air	Air	Air	Air	
Vacuum	No	No	No	No	
Max. Speed	2 kHz	2 kHz	2 kHz	2 kHz	
ASIC*	Medipix3RX	Medipix3RX	Medipix3RX	Medipix3RX	
Energy Thresholds	2 Hz	2 Hz	2 Hz	2 Hz	
Frame Rate @ 12 bits	2000 bits	2000 bits	2000 bits	2000 bits	
Dynamic Range	12 or 24 bits	12 or 24 bits	12 or 24 bits	12 or 24 bits	
Energy Range	Si: 2-25 ≥ 25% efficiency CdTe: 5-100 ≥ 60% efficiency	Si: 2-25 ≥ 25% efficiency CdTe: 5-100 ≥ 60% efficiency	Si: 2-25 ≥ 25% efficiency CdTe: 5-100 ≥ 60% efficiency	TBD	
Sensor Material	Si or CdTe	Si or CdTe	Si or CdTe	Si or CdTe	
Sensor Thickness	300, 675 or 1000 μm	300, 675 or 1000 μm	300, 675 or 1000 μm	300, 675 or 1000 μm	
Cooling	Air	Air	Air	Air	
Vacuum Compatibility	No	No	No	No	

*Medipix3RX ASIC made available by the European Organization for Nuclear Research (CERN) via PI-TECNOLOGIA LTDA (PITEC), a Lumentum Company.



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