



Direct Conversion

Empowered X-RAY Imaging

РЕНТГЕНОВСКИЕ ДЕТЕКТОРЫ

XC-Actaeon FX1, FX2, FX3, FX5

ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

По вопросам продаж и поддержки обращайтесь:

Архангельск (8182)63-90-72	Калининград (4012)72-03-81	Новосибирск (383)227-86-73	Сочи (862)225-72-31
Астана +7(7172)727-132	Калуга (4842)92-23-67	Омск (3812) 21-46-40	Ставрополь (8652)20-65-13
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Брянск (4832)59-03-52	Красноярск (391)204-63-61	Пермь (342)205-81-47	Тула (4872)74-02-29
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Волгоград (844)278-03-48	Липецк (4742)52-20-81	Рязань (4912)46-61-64	Ульяновск (8422)24-23-59
Вологда (8172)26-41-59	Магнитогорск (3519)55-03-13	Самара (846)206-03-16	Уфа (347)229-48-12
Воронеж (473)204-51-73	Москва (495)268-04-70	Санкт-Петербург (812)309-46-40	Хабаровск (4212) 92-98-04
Екатеринбург (343)384-55-89	Мурманск (8152)59-64-93	Саратов (845)249-38-78	Челябинск (351)202-03-61
Иваново (4932)77-34-06	Набережные Челны (8552)20-53-41	Севастополь (8692) 22-31-93	Череповец (8202)49-02-64
Ижевск (3412)26-03-58	Нижний Новгород (831)429-08-12	Симферополь (3652) 67-13-56	Ярославль (4852)69-52-93
Казань (843)206-01-48	Новокузнецк (3843)20-46-81	Смоленск (4812)29-41-54	

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XC-Actaeon series

The XC-Actaeon product line brings the high speed, photon counting direct conversion technology to small area detector applications. Powered by Direct Conversions powerful CdTe-CMOS hybrid sensor at its core, the XC-Actaeon delivers market leading levels of MTF and DQE across a broad range of X-ray applications.

Technology

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With four sizes of standard active area XC-Actaeon detectors can be used in standard energy applications when configured with 0.75 mm or 2 mm thick CdTe for high energy X-ray imaging.

Dual-energy acquisition with anti-coincidence technology is a key factor in the advanced capabilities of the XC-Actaeon. During dual-energy acquisition, the energy of the detected photon is compared to two independent thresholds that are read out separately. The two energy sets can be used for material differentiation, opening the door to new imaging techniques in both medical and industrial X-ray. As with other products in the XCounter range the XC-Actaeon detectors have the fastest commercially available anti-coincidence technology, which produces superior energy resolution by ensuring the attribution of each single photon signal to the correct pixel.

Application

XC-Actaeon detectors bring advantages to a wide range of applications ranging from Micro-CT to industrial process line inspection. The Actaeon also aid dual energy material decomposition investigation, particularly in small sample analysis, PCB investigation, and foreign object inspection.

High speed, high flux applications or single frame imaging at high sensitivity, can all be supported by the versatile XC-Actaeon which delivers market leading MTF and DQE across all requirements.



Integration

The XC-Actaeon is connected to the computer via a GigE interface. The detector comes with a fully flexible software development kit which runs on Windows 7 upwards. The detector is bundled with engineering software which exposes the various functionalities available.

- Unsurpassed levels of MTF and DQE
- Up to 2500fps imaging at 100 micron
- Dual energy for material differentiation

Technical Specification

Physical

Dimension l x w x h All sensor area types	276mm x 120mm x 66mm
Operating temperature range	+15 – +35 °C @ 30% – 85% humidity (non-condensing)
X-ray window	Carbon fiber, 1.4 mm thick
X-ray shielding	Depending on application

Sensor

Sensor type	Dual-Energy Photon Counting CdTe-CMOS
Sensor thickness options	0.75mm : Standard energy applications 2mm : High energy applications
Active area	
XC-Actaeon FX1	13mm x 26mm
XC-Actaeon FX2	26mm x 26mm
XC-Actaeon FX3	39mm x 26mm
XC-Actaeon FX5	52mm x 26mm
Tile gap	100µm
Pixel size	100µm

Performance

Imaging speed (Frame mode)	
XC-Actaeon FX1	800fps
XC-Actaeon FX2	400fps
XC-Actaeon FX3	250fps
XC-Actaeon FX5	200fps
Frame summing mode	10kHz fps
Binning	2×2, 4×4, 8×8
Sensor mode	Output summed to one pixel
Counter output range	16 bits (Frame mode) ; 32 bits (TDS mode)
Acquisition time	200ns to 1 s
Detective Quantum Efficiency DQE (0) typical	RQA5 spectra, 6µGy, SID 1m 0.75mm CdTe >80% 2.0mm CdTe >80%
Modulation Transfer Function	80% @ 2lp/mm
MTF	45% @ 5lp/mm
Lag	0% (after X-ray 6µGy)
Ghosting	0.1% 1 min after x-rays (6 µGy)
External trigger available	Opto-coupled 5V, 12-24V with external resistor



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