greateyes

Discover what the eye can't see.

High Performance CCD Cameras for

Imaging

Spectroscopy

Compact Full-Frame Camera Architectures for Industry and Research.

www.greateyes.de / info@greateyes.de / phone: +49 30 6392 6237

Full Frame cooled CCD Cameras

General Specifications

Full-Frame CCD Sensor Features			
Pixel Format	1024 × 1024	1024 × 256	2048 × 512
Image Area	13.3mm × 13.3mm	26.6mm × 6.7mm	27.6mm × 6.9mm
Pixel Size	13µm × 13µm	26µm × 26µm	13.5µm × 13.5µm
Full Well Capacity	100ke$^-$(AIMO)	500ke$^-$(AIMO)	100ke$^-$(AIMO)
Max. Dynamic Range	50000:1	125000:1	33333:1
CCD Sensor Type	Front- or Back-illuminated, Enhanced Back-illuminated, Deep Depletion		
CCD Sensor Coating	UV, Broadband, Midband or NIR Coating		
Camera Features			
Pixel Readout frequency	1.0 MHz, 2.0 MHz		
AD Converter resolution	16 bit		
Window material	CaF2, MgF2, UVFS, BK7, Beryllium, Aluminium, no Window		
Flange	greateyes Flange or ISO-F DN63 Vacuum Flange		
Distance flange - focal plane	10.6mm		
Sensor Housing	Hermetically Sealed Vacuum Chamber with Single Window Design		
CCD-Sensor Cooling	-20°C to 20°C, forced air, water cooling optional		
Data Link	USB 2.0 or Gigabit-Ethernet		
Software Library:	DLL for Windows XP / Vista / 7, LabVIEW Driver		
External Power Supply	5V / max. 3A		
Interfaces	1 × Trigger IN, 2 × Trigger OUT		
Dimensions Camera Body (W : H : D)	45mm × 87mm × 123mm for USB2.0 Camera 45mm x 87mm x 145mm for Gig-E Camera		
Weight:	700g		

Available Models

Cameras with 1024 × 1024 pixels (13µm pixel size)

Models with **high sensitivity for X-ray radiation** (20keV-0.12keV)	
GE 1024 1024 BI	Basic Process Back-illuminated CCD, Range: 12keV-0.12keV
Models with high sensitivity in XUV, VUV and UV range (1nm-380nm)	
GE 1024 1024 BI	Basic Process Back-illuminated CCD for XUV and VUV Range
GE 1024 1024 BI UV3	Enhanced Process Back-illuminated CCD, UV AR Coating, for VUV and UV Range
Models with **high sensitivity in VIS range** (380nm-780nm)	
GE 1024 1024 FI	Front-illuminated CCD
GE 1024 1024 BI	Basic Process Back-illuminated CCD
GE 1024 1024 BI BR	Basic Process Back-illuminated CCD, Broadband AR Coating
GE 1024 1024 BI MID	Basic Process Back-illuminated CCD, Midband AR Coating
Models with **high sensitivity in NIR range** (780nm-1100nm)	
GE 1024 1024 BI BR	Basic Process Back-illuminated CCD, Broadband AR Coating
GE 1024 1024 BI MID	Basic Process Back-illuminated CCD, Midband AR Coating
GE 1024 1024 DD	Back-illuminated Deep Depletion CCD, NIMO
GE 1024 1024 DD NIR	Back-illuminated Deep Depletion CCD, NIR AR Coating, NIMO

Cameras with 1024 × 256 pixels (25µm pixel size)

Models with **high sensitivity for X-ray radiation** (20keV-0.12keV)	
GE 1024 256 FI DD	Front-illuminated Deep Depletion CCD, NIMO, Sensitive from 20keV to 12keV
GE 1024 256 BI UV1	Enhanced Process Back-illuminated CCD, Range: 12keV-0.12keV
Models with **high sensitivity in XUV, VUV and UV range** (1nm-380nm)	
GE 1024 256 OE UV	Open-Electrode CCD, for UV Range
GE 1024 256 BI UV1	Enhanced Process Back-illuminated CCD, for VUV and UV Range
GE 1024 256 BI UV2	Enhanced Process Back-illuminated CCD, Broadband AR Coating, for VUV and UV Range
GE 1024 256 BI UV3	Enhanced Process Back-illuminated CCD, UV AR Coating, for VUV and UV Range
Models with **high sensitivity in VIS range** (380nm-780nm)	
GE 1024 256 FI	Front-illuminated CCD
GE 1024 256 BI BR	Basic Process Back-illuminated CCD, Broadband AR Coating
GE 1024 256 BI MID	Basic Process Back-illuminated CCD, Midband AR Coating
Models with **high sensitivity in NIR range** (780nm-1100nm)	
GE 1024 256 BI BR	Basic Process Back-illuminated CCD, Broadband AR Coating
GE 1024 256 BI MID	Basic Process Back-illuminated CCD, Midband AR Coating
GE 1024 256 FI DD	Front-illuminated Deep Depletion CCD, NIMO
GE 1024 256 DD	Back-illuminated Deep Depletion CCD, NIMO
GE 1024 256 DD NIR	Back-illuminated Deep Depletion CCD, NIR AR Coating, NIMO

Cameras with 2048 × 512 pixels (13.5µm pixel size)

Models with **high sensitivity for X-ray radiation** (20keV-0.12keV)	
GE 2048 512 BI	Basic Process Back-illuminated CCD, Sensitive from 12keV-0.12keV
Models with **high sensitivity in XUV, VUV and UV range** (1nm-380nm)	
GE 2048 512 FI UV	Front-illuminated CCD with Lumogen Coating for UV range
GE 2048 512 BI	Basic Process Back-illuminated CCD, for XUV and VUV Range
GE 2048 512 BI UV1	Enhanced Process Back-illuminated CCD, for VUV and UV Range
GE 2048 512 BI UV2	Enhanced Process Back-illuminated CCD, Broadband AR Coating, for VUV and UV Range
GE 2048 512 BI UV3	Enhanced Process Back-illuminated CCD, UV AR Coating, for VUV and UV Range
Models with **high sensitivity in VIS range** (380nm-780nm)	
GE 2048 512 FI	Front-illuminated CCD
GE 2048 512 BI	Basic Process Back-illuminated CCD
GE 2048 512 BI MID	Basic Process Back-illuminated CCD, Midband AR Coating
Models with **high sensitivity in NIR range** (780nm-1100nm)	
GE 2048 512 BI MID	Basic Process Back-illuminated CCD, Midband AR Coating

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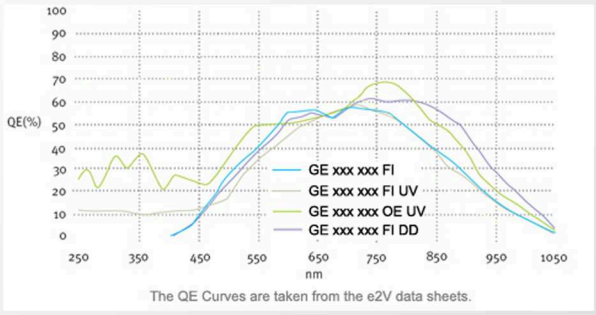
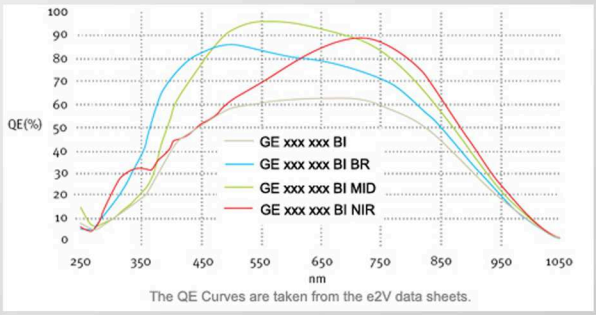
Quantum Efficiencies in the UV/VIS/NIR range:

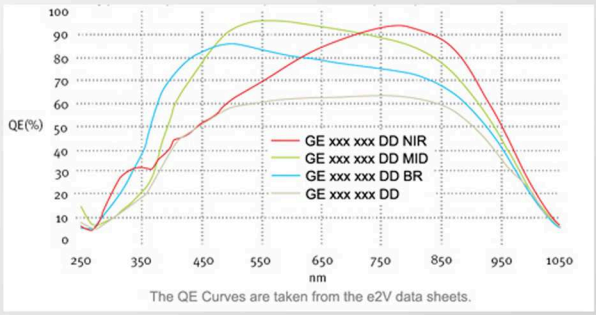
Front-illuminated CCDs



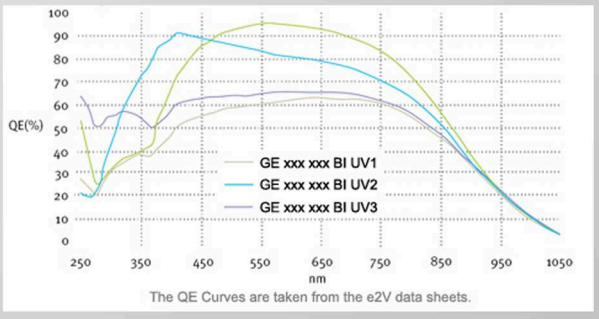
Back-illuminated CCDs



Deep-depletion CCDs



Back-illuminated Enhanced CCDs



X-Ray, XUV, VUV, UV, VIS and NIR sensitive CCD Cameras available.

Key Features:

- Compact Design
- Full Frame Scientific CCD Sensors
- 16-bit dynamic range
- Different Binning / Trigger Modes
- Peltier Cooling downto -20°C
- USB2.0 or Gigabit-Ethernet Interface
- DLL / Labview Drivers
- Custom Specific Solutions available

Applications:

- Electro-, Photoluminescence Imaging
- Bioluminescence, Chemiluminescence
- Fluorescence Imaging and Spectroscopy
- Raman Spectroscopy
- Absorption and Emission Spectroscopy
- Laser Induced Plasma Spectroscopy
- X-Ray Imaging and Spectroscopy
- VUV / XUV Imaging and Spectroscopy