

Infra-red-line-scan-cameras Series 2000CV2

To complete the camera system CCD 2010 we offer several infra red line scan camera with/ or without thermoelectric cooling. Special InGaAs- Sensors from Hamamatsu, Goodrich and Andanta are available for spectroscopy and measuring technology. The range of spectral sensitivity for standard lines cameras is between 0,9 to 1,6 μm (Series G 92x1-4) or 1 to 2,5 μm (Series G9205-8) or 1.2 to 1.7/2.2 μm (Goodrich and Andanta)

These cameras are connected to our PCI- interfaceboard. The software is compatible to the series 2000. The data rate is up to 8MHz.



uncooled camera Series 2000



cooled Camera Series 2000CV2

The systems consists of camera control, temperature regulation and case for the detector head. The regulated cooling lowers the dark noise to a minimum by temperatures down to $-10^{\circ}\text{C}/20^{\circ}\text{C}$. Cooled sensors have a gas tight sealed case with dried air to avoid condensation. Cooled sensors and series D have defective pixel! Sensors without defective pixel on demand. All systems with 16bit A/D.

Oct. 2016

Special price for uncooled IR- Cameras with 1 defective pixel

with G9204-512D: 512 Pixel a 25 x 500 μm (0.9 to 1.7 μm) lr = 0.8kHz € 5.500,-

Complete cooled cameras, sensors with 1%/5% defective pixel

with G9213-256S: 256 Pixel a 50 x 500 μm (0.9 to 1.67 μm) lr = 1.6kHz € 10.450,-

with G9214-512S: 512 Pixel a 25 x 500 μm (0.9 to 1.67 μm) lr = 0.8kHz € 11.000,-

with G9208-256W: 256 Pixel a 50 x 250 μm (0.9 to 2.5 μm) lr = 1.6kHz € 15.950,-

with G9208-512W: 512 Pixel a 50 x 250 μm (0.9 to 2.5 μm) lr = 0.8kHz € 18.700,-

Complete cooled cameras, sensors with 0%/2% defective pixel

with SU256LSB-1.7: 256 Pixel a 50 x 500 μm (0.9 to 1.7 μm) lr = 13kHz € 11.000,-

with SU512LDB-1.7: 512 Pixel a 25 x 500 μm (0.9 to 1.7 μm) lr = 6kHz € 13.200,-

with SU256LSB-2.2: 256 Pixel a 50 x 500 μm (1 to 2.2 μm) lr = 13kHz € 17.600,-

with SU512LSE-2.2: 512 Pixel a 50 x 500 μm (1 to 2.2 μm) lr = 6kHz € 28.600,-

Complete cooled area cameras

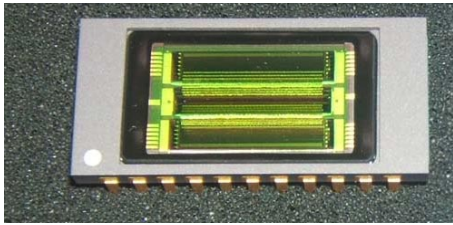
with FPA320x256-1.7: 320x256 Pixel a 30 x 30 μm (1 to 1.7 μm) fr = 86Hz € 19.800,-

with FPA640x512-1.7: 640x512 Pixel a 25 x 25 μm (1 to 1.7 μm) fr = 20Hz € 28.600,-

with FPA320x256-2.2: 320x256 Pixel a 30 x 30 μm (1 to 2.2 μm) fr = 86Hz € 33.000,-

with HA G11097-1.7: 64x64 Pixel a 25 x 25 μm (1 to 1.7 μm) fr = 1kHz € 11.000,-

interfaceboard, software and accessory see pricelist series 2010; lr: max. linerate / fr: max. frame rate
 all prices subject to change, please ask for concrete offer, detailed data sheets on demand.



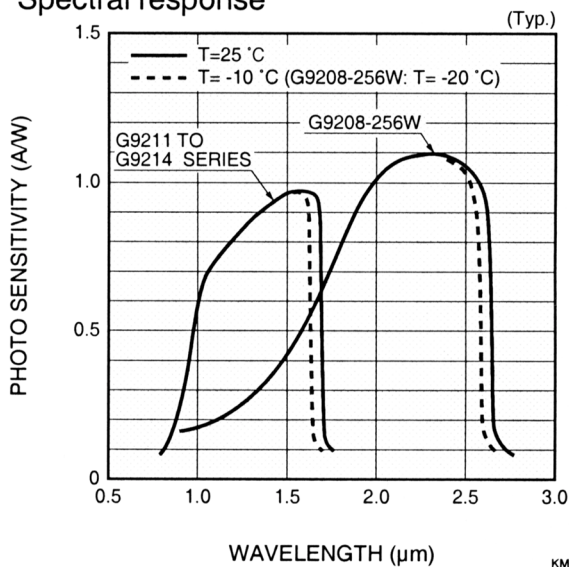
cooled sensor



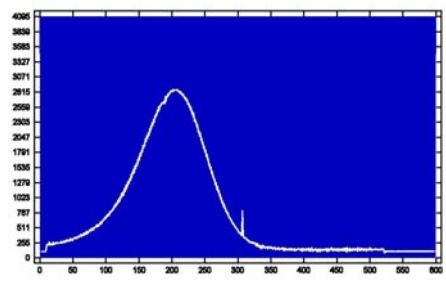
G9211-256 with 256 Pixel, $50 \times 250 \mu\text{m}^2$
pitch $50 \mu\text{m}$
dark current ($25^\circ\text{C}/-10^\circ\text{C}$) $I_D = 2 \text{ pA} / 0,1 \text{ pA}$
Responsivity $0,98 \text{ A/W}$
 Q_{SAT} 30pC
Spectral range: $0,9-1,7 \mu\text{m}$
PRNU $\pm 5\%$
 t_{max^*} (25°C) 50 s
max 1 % defective pixel

G9208-256W with 256 Pixel a $50 \times 250 \mu\text{m}^2$
pitch $50 \mu\text{m}$
dark current (-20°C) $I_D = 500 \text{ pA}$
Responsivity $1,1 \text{ A/W}$
Spectral range: $1,2-2,55 \mu\text{m}$
PRNU $\pm 10\%$
 t_{max^*} (-20°C) 50 ms
max 5% defective pixel

from Hamamatsu data sheet:
Spectral response



t_{max^*} : maximum exposure time when noise has reached 0.4 of full scale.
The dark current doubles each 8°C .
-> extended type must be cooled.



IR Laser signal (1 defective pixel at 310)



cooled IR- System with Spectrometer and power supply.