

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

To complet the camera system CCD 2010 we offer a infra red line scan camera with/ or without thermoelectric cooling. Special InGaAs- Sensors from Hamamatsu are available for spectroscopy and measuring technology. The range of spectral sensitivity for standard lines cameras is between 0,9 to 1,6  $\mu\text{m}$  (Series G 92x1-4) or 0,9 to 2,5  $\mu\text{m}$  (Series G9205-8).

These cameras are connected to our PCI- interfaceboard. The software is compatible to the series 2000. The data rate is up to 2MHz, thats up to 6400/3200 spectra per seconds with a 256/512 pixel camera.



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  $-10^{\circ}\text{C}$  ( $-25^{\circ}\text{C}$  for G9205-8). It is mounted into a gas tight case with dried air to avoid condensation. Cooled sensors and series D have defective pixel! Sensors without defective pixel on demand.

**May 2009**

### Special price for uncooled IR- Cameras

Camera with G9204-512D: 512 Pixel a 25 x 500  $\mu\text{m}$  (0,9 bis 1,7  $\mu\text{m}$ ) € 4.400,-

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

Camera with G9211-256S: 256 Pixel a 50 x 250  $\mu\text{m}$  (0,9 bis 1,67  $\mu\text{m}$ ) € 8.300,-

Camera with G9213-256S: 256 Pixel a 50 x 500  $\mu\text{m}$  (0,9 bis 1,67  $\mu\text{m}$ ) € 9.000,-

Camera with G9212-512S: 512 Pixel a 25 x 250  $\mu\text{m}$  (0,9 bis 1,67  $\mu\text{m}$ ) € 9.000,-

Camera with G9214-512S: 512 Pixel a 25 x 500  $\mu\text{m}$  (0,9 bis 1,67  $\mu\text{m}$ ) € 9.600,-

Camera with G9208-256W: 256 Pixel a 50 x 250  $\mu\text{m}$  (0,9 bis 2,5 $\mu\text{m}$ ) € 13.600,-

### IR Control for Hamamatsu detector heads

IR Control for detector head C8060/61/62 € 5.500,-

Interfaceboard, software and accessory see pricelist series 2010.

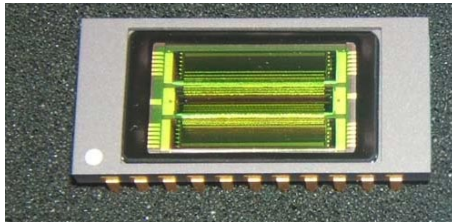
all prices exclusiv VAT; time for delivery Hamamatsu 8 weeks. Add € 10,- (EU € 40,-) for shipping and handling.

1 year warrenty, no warrenty for mechanical damage of the sensors without window (o.F.).

All gadgets have CE certificate. Prices and availability subject to change. Please ask for detailed offer.

Lenses, computer as well as special coated windows will be delivered on demand.

**uncooled sensor**

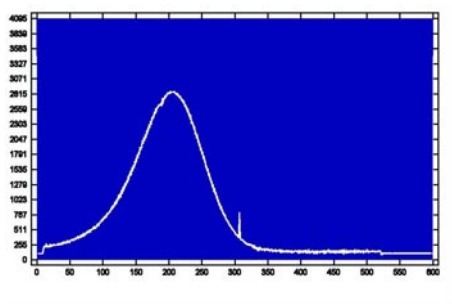


**G9211-256** with 256 Pixel, 50 x 250  $\mu\text{m}^2$   
 pitch 50  $\mu\text{m}$   
 dark current (25°C/-10°C)  $I_D = 2 \text{ pA} / 0,1 \text{ pA}$   
 Responsivity 0,98 A/W  
 $Q_{SAT}$  30pC  
 Spectral range: 0,9-1,7  $\mu\text{m}$   
 PRNU  $\pm 5\%$   
 $t_{max}^*$  (25°C) 50 s  
 max 1 % defective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

**cooled sensor**



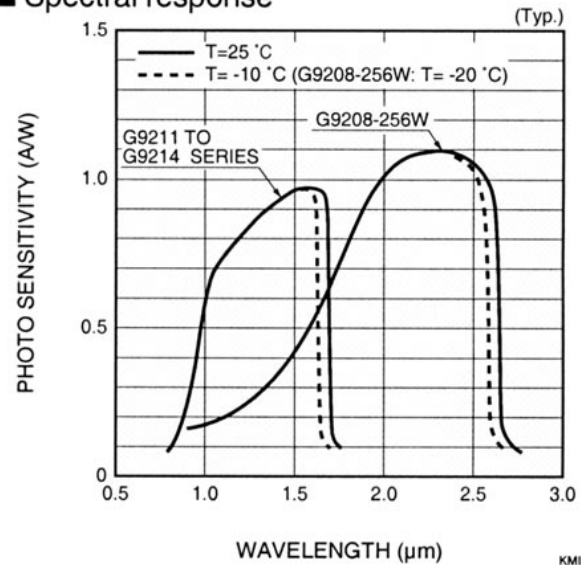
**G9208-256W** with 256 Pixel a 50 x 250  $\mu\text{m}^2$   
 pitch 50  $\mu\text{m}$   
 dark current (-20°C)  $I_D = 500 \text{ pA}$   
 Responsivity 1,1 A/W  
 Spectral range: 1,2-2,55  $\mu\text{m}$   
 PRNU  $\pm 10\%$   
 $t_{max}^*$  (-20°C) 50 ms  
 max 5% defective pixel



IR signal (1 defective pixel at 310)

$t_{max}^*$  : maximum exposure time.  
 Detailed data sheets on demand  
 The dark current doubles each 8 °C.

■ Spectral response



**IR Control**

Also available is a IR Control unit for the detector heads from Hamamatsu type C8060 / 61 / 62.

The Control is connected to our PCI- Interface and can handle up to 2 detector heads. The sensors are clocked parallel and can be read simultaneously.

