

## PHOTON COUNTING I-CCD VIDEO CAMERA C2741-32A, -35A



▲ Left: C2741-32A, Right: C2741-35A

The C2741-32A, -35A cameras are designed specifically for imaging at ultra-low light levels. Each camera consists of an image intensifier including a 1 stage MCP and CCD camera coupled with a relay lens.

Single photon counting is possible due to superior performance as compared to conventional ICCD Cameras, for example:

1. Higher gain ..... about 10 times higher
2. Lower dark noise ..... about 1/10 lower : using bi-alkali photocathode

### APPLICATIONS

The cameras can be used for luminescence and fluorescence applications in a macroscopic or microscopic imaging system set up.

- Gene expression experiments
- Colony screening
- Detection of gels and blots
- Enzyme Immunoassay
- Phagocytosis
- DNA hybridization

### FEATURES

- **High spatial resolution**  
(Typical horizontal center resolution)  
450 TV lines (C2741-32A)  
370 TV lines (C2741-35A)
- **Low geometric distortion**  
Max 2% within inscribed circle
- **High sensitivity**  
Single photon counting is possible
- **Wide effective scanning area**  
approx. 19.0 mm (H) × 14.2 mm (V) (C2741-32A)  
approx. 12.7 mm (H) × 9.5 mm (V) (C2741-35A)

# SPECIFICATIONS

## • Configuration

	Relay lens	CCD camera
C2741-32A	A6110	C5405-50/-51
C2741-35A	A2098	C5405-50/-51

## • Image Intensifier

Photocathode Bi-alkali  
 Wave length 360-650 [nm] / peak 430 [nm]  
 Effective area of photocathode  $\phi$  25mm

## • Relay Lens

Type number	A6110	A2098
Name of relay lens	3 : 1	2 : 1
Reduction rate	3.09 : 1	2.00 : 1
F-number (front $\times$ rear)	3.09 $\times$ 1.01	2.46 $\times$ 1.23
Objective distance [mm]	23.9	25.0
Shading [%]	25	20
Transmittance at 530nm [%]	88	88

## • CCD Camera

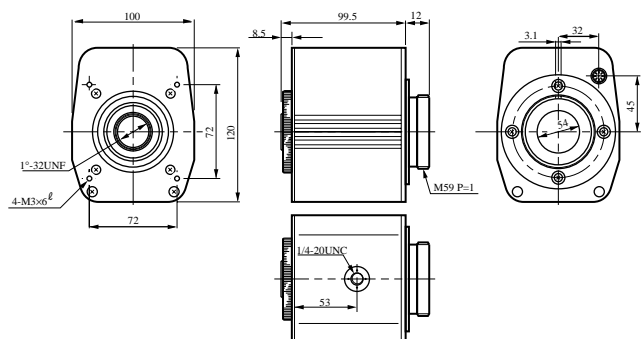
Type number	C5405-50	C5405-51
SYNC method	EIA (USA)	CCIR (Europe)
Pickup device	1/2-inch Interline transfer CCD	
Number of pixels	768(H) $\times$ 494(V)	752(H) $\times$ 582(V)
Cell size	8.4 $\mu$ m(H) $\times$ 9.8 $\mu$ m(V)	8.6 $\mu$ m(H) $\times$ 8.3 $\mu$ m(V)
Effective no. of pixels	752(H) $\times$ 485 (V)	736(H) $\times$ 575 (V)
Sync system	525 lines 59.94Hz	625 lines 50Hz

## • Others

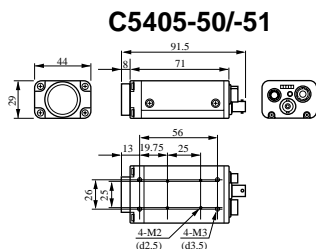
Resolution 450 [TV lines] (C2741-32A)  
 370 [TV lines] (C2741-35A)  
 Geometric distortion 2 [%] / max.  
 Shading 50 [%] / typ.  
 Gamma 1.0 / typ.  
 Lens mount C-mount  
 External control Possible (RS-232C)

# DIMENSIONAL OUTLINE (Unit: mm)

## • Image Intensifier

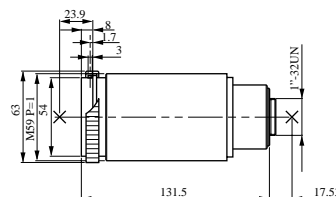


## • CCD Camera

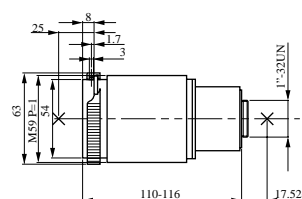


## • Relay Lens

### A6110



### A2098



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