

HAMAMATSU

DATA SHEET

Digital CCD Camera

C4880-91,-92

(Manufactured to order)



▲ Intensified head: C4880-91, -92

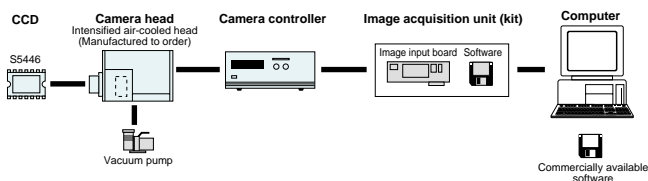
This camera system has an image intensifier (ϕ 18 mm dia.) coupled through a fiber optics to Hamamatsu's CCD S5466. This provides ultra-high sensitivity.

Under a low light level region that requires a long time exposure time, this camera can acquire equivalent S/N images within a shorter period of time. Furthermore, the ultra high speed gating function (shortest gate time: 5 ns) and gate repetition function (maximum rate: 10 kHz) have been implemented. Acquisition of images in synchronization with repetitive phenomenon enables image accumulation by the CCD. This provides images with a higher S/N ratio compared to accumulation using memory.

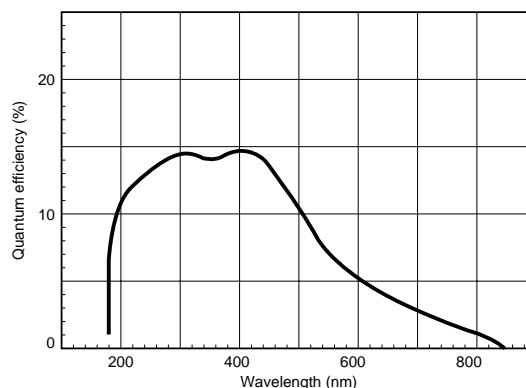
APPLICATIONS

- Analysis of engine combustion
- Analysis of flames
- Ozone layer measurements
- All-sky camera
- Repetitive phenomenon in extremely faint light regions

SYSTEM CONFIGURATION



SPECTRAL RESPONSE CHARACTERISTICS



* This is typical, not guaranteed.

FEATURES

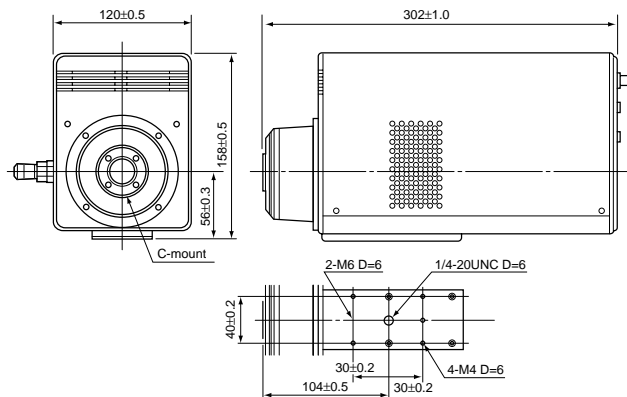
- Ultra fast gate time 5 ns
- Ultra high sensitivity
- Wide dynamic range
- On-chip integration
- Computer-controlled

SPECIFICATIONS

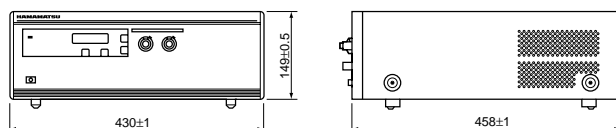
Model name		C4880-91	Manufactured to order	C4880-92	Manufactured to order
Camera head type		Intensified air-cooled head:			
Circulating water cooler (sold separately)		-			
Vacuum pump (sold separately)		Required			
Image intensifier type		Proximity type image intensifier			
Photocathode		S-20			
Photocathode size		ϕ 18mm			
MCP		1 stage			
Gate time		100 ns to DC		5 ns to DC	
Gate repetition rate		Max. 10 kHz			
Imaging device		S5466 Model 1 full-frame transfer CCD			
Effective no. of pixels		512 (H) × 512 (V)			
Cell size		24 (H) × 24 (V) μm			
Effective area		12.29 (H) × 12.29 (V) mm			
Frame rate	High-precision scan mode	0.5 frames/sec (156 kHz/pixel)			
	Fast scan mode	7 frames/sec (2.5 MHz/pixel)			
Cooling method		Peltier cooling / forced-air cooling			
Cooling temperature		-30 °C			
CCD cooling control		Cooling ON/OFF control, cooling temperature setting function			
		Front panel dial / software-controlled switching; Temperature displayed on front panel LCD			
A/D converter		12 bits			
Lens mount		C-mount			
Variable analog gain		Front panel dial / software-controlled switching, 1 - 6 times (high-speed scan)			
Variable offset		Front panel dial / software-controlled switching (fast scan)			
Amp gain		2 steps (fast scan), 3 steps (precision scan)			
Gate time control		Yes			
MCP gain control		Yes			
Trigger mode		INTERNAL TRIGGER MODE, EXTERNAL TRIGGER MODE, EXTERNAL TIME MODE			
Binning scan		Yes			
Sub-array scan		1/1, 1/2, 1/4, 1/8 (H) × any desired number (V)			
Super-pixel scan		2 × 2, 4 × 4, 8 × 8			
External trigger input		Yes			
Output signal (digital output)		Parallel digital output (conforms to RS-422)			
External control		RS-232C			
Ambient storage temperature		-10 to +50 °C			
Ambient operating temperature		0 °C to +40 °C			
Ambient operating/storage humidity		70% max. (with no condensation)			
Line voltage		100 / 117 / 220 / 240 VAC, 50/60 Hz			
Power consumption		Approx. 220 VA			

DIMENSIONAL OUTLINES (Unit: mm)

• Intensified head (approx. 4 kg)



• Camera controller (approx. 14 kg)



★ Product and software package names noted in this documentation are trademarks or registered trademarks of their respective manufacturers.

- Subject to local technical requirements and regulations, availability of products included in this promotional material may vary. Please consult with our sales office.
- Information furnished by HAMAMATSU is believed to be reliable. However, no responsibility is assumed for possible inaccuracies or omissions.

Specifications and external appearance are subject to change without notice.

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