

## 1024 x 1024 Imaging Array

## 13 $\mu\text{m}$ Pixel Size

The PL4720 UV uses a back-illuminated frame transfer sensor from e2v technologies. Half of the sensor is covered with a metal mask; half is exposed to light. The exposed side of the sensor is centered in the camera aperture. The image is moved from the exposed side to the masked side in about 10 milliseconds, then read out from the masked side while a new exposure is integrating on the exposed side. (Therefore, frame-to-frame timing depends in great part on the digitization speed.) The default configuration for the camera is two channel readout with software-selectable digitization speeds of 500 kHz and 2 MHz per channel. (Single channel readout is available on request, as are different digitization speeds.)

The UV version of this sensor cannot operate in MPP mode: dark current is much higher than the



### Features

### Benefits

500 kHz and 2 MHz per channel digitization

Fast Image capture with full 16-bit resolution

1024 x 1024 Array with 13  $\mu\text{m}$  pixels

Resolves fine detail

Flexible binning and readout

Increases frame rate

Thermoelectric Cooling to 55°C Below Ambient

Excellent low-noise imaging

Excellent quantum efficiency

High sensitivity for fast image acquisition

Optional F-mount or Canon EOS mount

Wide variety of optical choices

Acquisition software included

Ease of integration with open source SDK

USB 2.0 interface

Industry standard connectivity; fast data transfer



## Engineering Excellence

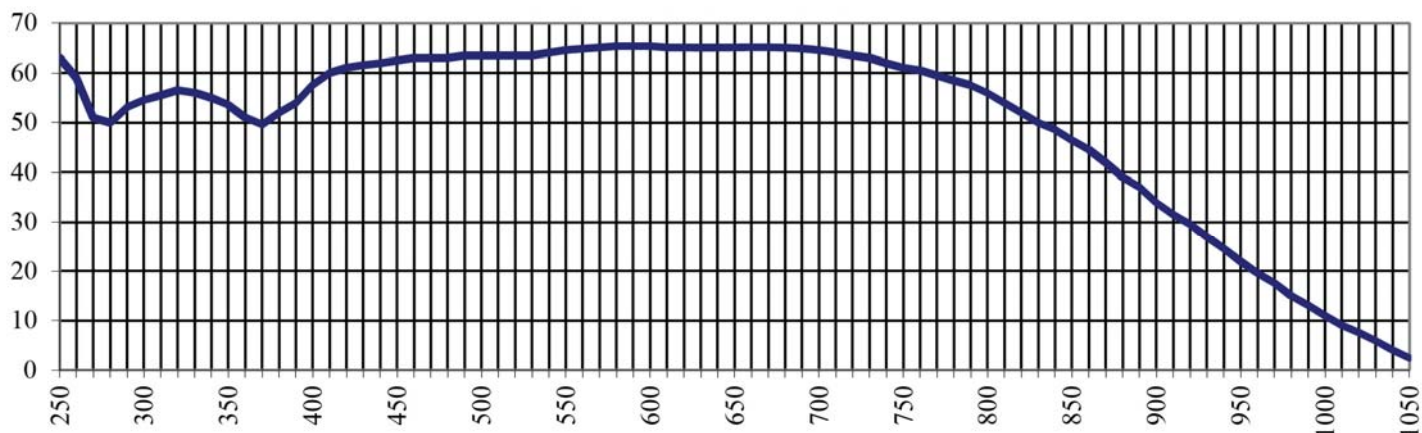
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## Sensor Specifications (from manufacturer)

<b>Sensor</b>	e2v CCD47-20-1-170 (UV)				
<b>Pixels</b>	1024 x 1024	<b>Sensor Size</b>	13.3 X 13.3 mm	<b>Megapixels</b>	1.0
<b>Pixel Size</b>	13 $\mu$ m	<b>Sensor Diagonal</b>	18.8 mm	<b>Video Size (inch)</b>	1.2
<b>Full Well Capacity</b>	100000 electrons	<b>CCD Variants</b>	UV (MB and BB on separate datasheet)		
<b>Color Options</b>	Monochrome only	<b>CCD Grades</b>	1		
<b>CCD Type</b>	Frame transfer	<b>Anti-Blooming</b>	NA		

## Sensor Quantum Efficiency (Absolute)



## Camera Performance

<b>Typical Maximum Cooling</b>	55°C below ambient	<b>Dark Current (typical)</b>	20 electrons/pixel/sec at -30°C
<b>Temperature Stability</b>	0.1°C	<b>Cooling Method</b>	Air (Optional liquid)
<b>Digitization Speed</b>	500 kHz and 2 MHz per channel digitization (optional single channel)		
<b>Typical System Noise</b>	10e- at 500 kHz; 13e- at 2 MHz	<b>Non-Linearity</b>	<1%
<b>Housing Dimensions</b>	6.2 X 6.2 X 3.8 inches (15.7 X 15.7 X 9.6 cm)	<b>Weight</b>	5.35 lbs (2.4 kg)
<b>Focal Plane to Face Plate</b>	21 mm		
<b>Lens Mounts</b>	Optional Nikon F-mount or Canon EOS mount		
<b>Interface</b>	USB 2.0	<b>Camera Channels</b>	2 (optional 1)
<b>Available Shutters</b>	Optional 65 mm	<b>Shutter MTBF</b>	NA
<b>External Triggering</b>	Standard		
<b>Environment</b>	-30°C to 45°C   10% - 90% Relative Humidity		
<b>Power</b>	12V (100-240V AC to 12V DC power supply included). With TEC off: <1A. TEC at 100%: 4.6A. Shutter open: 4A pulse for 100msec. Shutter held open, add 0.22A.		



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