



# Bigeye P-629 Solar

**GigE** VISION **Camera Link**

## Description

### Solar cell inspection camera, 6 Megapixel Cooled Full Frame CCD

The Bigeye P-629B Solar Cool is optimized for solar cell inspection. It includes a sensitive Full Frame sensor. The camera is distinguished by a high quantum efficiency both in the visible and in the NIR spectrum up to 1  $\mu\text{m}$  wavelength. The sensor temperature is stabilized to +5°C, this ensures low noise and a constant dark current for high-precision image acquisition. The camera can operate with its internal long-live electromechanical shutter, or with external impulse light sources and constantly opened shutter.

- 6 Megapixel Kodak Full Frame CCD sensor
- Cooled to +5°C (stabilized)
- High QE (quantum efficiency) in the visible and NIR range
- Built-in electromechanical long-live shutter
- Fast readout time, 1.35 seconds at full resolution
- 14-bit signal processing and output
- Options:
  - GigE (standard) or Camera Link interface

#### Models:

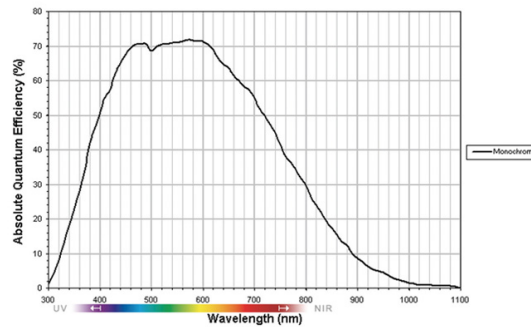
Bigeye P-629B Solar Cool (GigE)

Bigeye CL-629B Solar Cool (Camera Link)

## Specifications

<b>Bigeye</b>		<b>P-629 Solar</b>	
<b>Interface</b>		IEEE 802.3 1000baseT	
<b>Resolution</b>		3072 x 2048	
<b>Sensor</b>		Kodak KAF-6303E	
<b>Sensor type</b>		CCD Progressive	
<b>Sensor size</b>		Type 35 mm	
<b>Cell size</b>		9.0 x 9.0 µm	
<b>Lens mount</b>		F-Mount	
<b>Max frame rate at full resolution</b>		1 fps	
<b>A/D</b>		14 bit	
		<b>Output</b>	
<b>Bit depth</b>		14 bit	
		<b>Operating conditions/Dimensions</b>	
<b>Operating temperature</b>		0 °C ... 35 °C	
<b>Power requirements (DC)</b>		12 V	
<b>Power consumption (12 V)</b>		33.6 W	
<b>Mass</b>		1480 g	
<b>Body Dimensions (L x W x H in mm)</b>		141.75 x 90 x 109 incl. connectors, w/o lens	
<b>Regulations</b>		CE, RoHS (2002/95/EC)	

[Download technical drawing \(click here\)](#)



## Smart features

- Binning (2 x 2)
- Manual Gain, 6 dB
- Exposure time 50 ms to 30 minutes
- Continuous mode (image acquisition with maximum frame rate)
- Image On Demand mode (triggered image acquisition)

In combination with AVT's AcquireControl software, extensive image analysis functions are available:

- BCG LUT (brightness, contrast, gamma)
- Auto contrast
- Auto brightness
- Analyze multiple regions (rectangular, circle) within the image
- Real-time statistics and histogram display
- ... and more

## Applications

The Bigeye P-629B Solar Cool is a dedicated solar cell inspection camera. The spectral range of its sensor is optimized for image acquisition both in the visible and in the NIR spectral range of solar cells. For this reason, the complete solar cell inspection can be realized with just one camera.

### **Solar cell/wafer inspection, visible and NIR:**

- Glass inspection
- Assembling inspection
- Electroluminescence
- Micro cracks detection
- Defects
- Efficiency