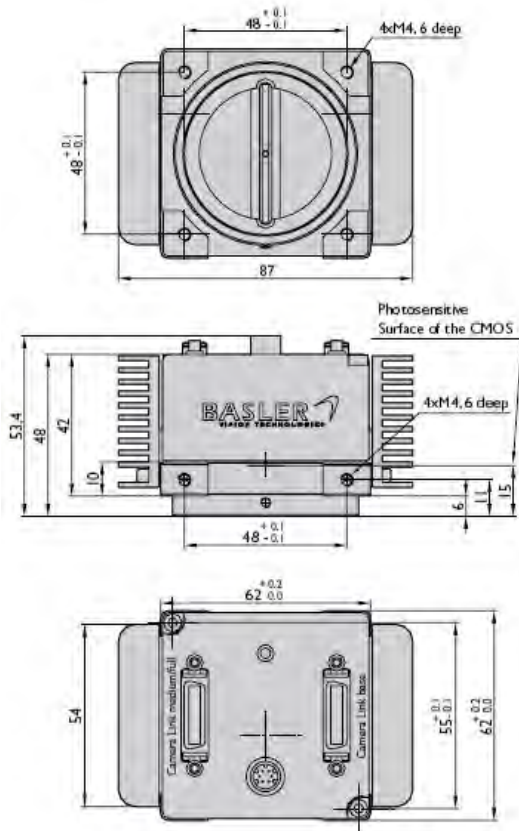


Dimensional Drawing



Made in Germany



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CMOS Dual Line Scan Cameras Camera Link



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Basler sprint	spL2048 -39kc	spL2048 -70km	spL2048 -70kc	spL2048 -140km
Camera				
Sensor Size (pixels per line)	2048	2048	2048	2048
Sensor Type	Dual Line CMOS			
Mono / Color	Color	Mono	Color	Mono
Pixel Size	10.0 μm x 10.0 μm			
Camera Link Pixel Clock**	40/80 MHz	40/80 MHz	40/80 MHz*	40/80 MHz
Max. Data Speed	160 MHz	160 MHz	320 MHz	320 MHz
Max. Line Rate	38.6 kHz	70 kHz	70 kHz	140 kHz
Pixel Depths	Selectable 8 bit, 10 bit, or 12 bit			
Video Output Format (taps)**	2/3	2	2/3/4/6/8	2/4/8
Synchronization	Via external signal or free run			
Exposure Control	Edge-controlled, level-controlled, or programmable			
Mechanical / Electrical				
Power Requirements	12 VDC ($\pm 10\%$), max 8.0 W @ 12 VDC			
Lens Mounts	F-mount, M42			
Housing Size (L x W x H)	53.4 mm x 87.0 mm x 62.0 mm			
Weight	360 g (without F-Mount adapter)			
Conformity	CE, FCC			
Housing Temperature	Up to 50°C			

Specifications are subject to change without prior notice.

* 80 MHz available Q1/2010 ** can be changed via CCT+

For detailed technical information, please see the camera manual that can be found on our website: www.baslerweb.com/manuals

Features

The dual line sensor offers high flexibility so that the sprint can meet a wide variety of application requirements and can be easily integrated. Some of the main unique properties and features of the Basler sprint are:

- **AOI (area of interest) with linear speed increase**

The AOI feature lets you focus precisely on the area of an object that is important to you. This means that the amount of data transmitted by the camera will be reduced and that the image processing application in your host PC will not be overloaded with unnecessary data. In addition, you may see a linear increase in the camera's speed by reducing the AOI.

- **Time delayed line sum**

This feature uses the dual line sensor to scan each object line twice in a time delayed fashion. The double information is combined in the sprint's internal memory and this technique doubles the sprint's sensitivity. It also significantly reduces noise and results in a 3 dB increase in the SNR.

- **Time delayed line averaging**

With this feature, time delayed line summing is performed and then the doubled information is averaged. The advantages are an increase of 3 dB in the SNR and an increase of 3 dB in the dynamic range.

- **Binning**

Both horizontal and vertical binning are available. Either two pixels or four pixels can be binned together (see the graphics illustrating binning).

- **Shading correction (flat field correction)**

DSNU (dark signal non-uniformity) and PRNU (photo response non-uniformity) can be performed to correct for the non-homogeneous behavior of lighting, optics, and the sensor that can be present in real world applications.

- **Color**

A Bayer pattern filter is used to create the color version of the sprint. One line in the sensor reports red and green information and the second line reports green and blue information. Image data in a raw format is transferred to the frame grabber where color processing happens in a fast, reliable way similar to common color area scan cameras. Several color creation schemes can be implemented. Depending on the application needs, the active color concept can focus on speed and reducing the amount of data, or it can focus on higher color fidelity. For higher color fidelity, each object line is scanned twice, thus two times color information is available for each image point. This approach has a big advantage because standard lenses and frame grabbers can be used. Because there is no gap between the sensor's two active lines, adapting the camera to your application/object is easy and no spatial correction is needed (see the Bayer pattern graphic).