



# Bonito

## CL-400

- High speed camera
- Compact Design
- Robust, lightweight housing
- Very low power consumption

## Description

High Speed camera, 4 Megapixels with 386 fps, Camera Link

The Bonito CL-400B/C is a high speed camera with excellent image quality and a robust metal housing. It comes with a very sensitive CMOS sensor with global shutter. This high speed camera runs 386 fps at 4 Megapixel resolution. Considerably higher frame rates can be reached with a smaller ROI (region of interest).

Benefits and features:

- High speed camera, 386 fps at 2320 x 1726 pixels
- Global shutter CMOS sensor (excellent sensitivity due to microlenses)
- Robust and lightweight aluminum housing
- High data rates, 2 x 10-tap Camera Link Full+
- Very low power consumption, 4.2 W

Options:

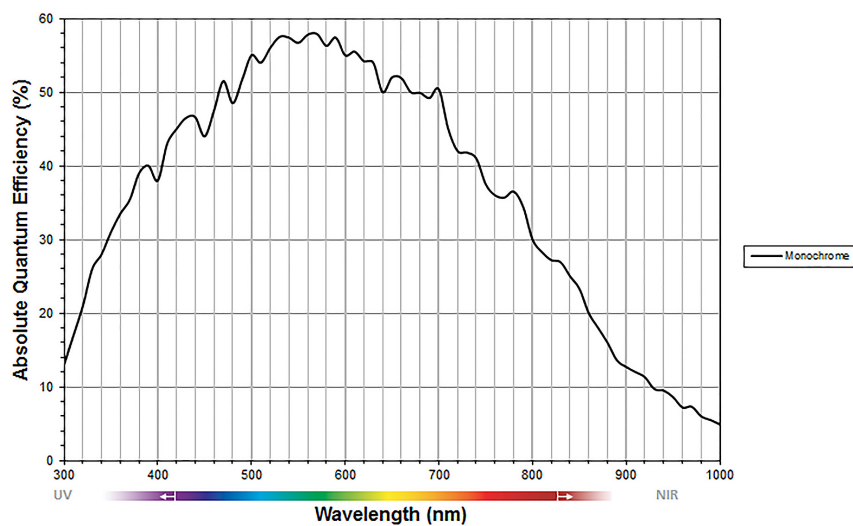
- Available with C- / F- / EF-Mount

## Specifications

Bonito	CL-400
Interface	2 x 10-tap Camera Link Full+
Resolution	2320 (H) × 1726 (V)
Sensor	CMOS Sensor 4 MPixel
Sensor type	CMOS
Sensor size	Type 4/3

<b>Bonito</b>	<b>CL-400</b>
Pixel size	7 $\mu\text{m}$ $\times$ 7 $\mu\text{m}$
Lens mount (default)	C-Mount, EF-Mount, F-Mount
Max. frame rate at full resolution	386 fps
ADC	10 bit
Image buffer (RAM)	
<b>Output</b>	
Bit depth	8 bit
Monochrome pixel formats	Mono8
<b>General purpose inputs/outputs (GPIOs)</b>	
Opto-isolated I/Os	1 in, 1 out
<b>Operating conditions/dimensions</b>	
Operating temperature	0°C to +45 °C
Power requirements (DC)	12 V
Power consumption	4.2 W @ 12 VDC
Mass	360 g (C-Mount)
Body dimensions (L $\times$ W $\times$ H in mm)	44.2 $\times$ 80 $\times$ 70 (including connectors)
Regulations	CE: 2014/30/EU (EMC), 2011/65/EU (RoHS)

**Spectral sensitivity**



## Features

- Region of interest (ROI)
- Fixed pattern noise (FPN) correction
- Digital gain (selects 8 of 10 bits for output)



- Offset (brightness)
- Exposure time: 1.5  $\mu$ s, up to 1 s (recommended), > 1s also possible
- Two readout modes:
  - 386 fps with two 10-tap Camera Link outputs
  - 193 fps with one 10-tap Camera Link output
- Continuous mode (image acquisition with maximum frame rate)
- Image on demand mode (triggered image acquisition)



## Applications

The Bonito CL-400B/C high speed camera is the perfect choice for applications which require a very fast frame rate and excellent image quality. Its global shutter CMOS sensor is ideally suited for high-resolution motion capture. The camera transmits the images to the frame grabber in real-time. Another benefit is the robust, lightweight, and very compact housing.

Typical applications:

- Applications with high demands on image quality and very fast frame rates
- Motion capture with high resolution
- 3D recordings of still and moving objects
- Science and research
- Medical imaging
- High speed imaging in general