

# CSB 4000F

**4.0 Mega Pixel CMOS B/W Video Camera  
with IEEE 1394 Interface**



- **IEEE1394 output**
- **Ultra-high resolution 2008 (H) x 2047 (V)**
- **Various shutter modes including**
  - Global shutter - all pixels simultaneously exposed
  - Random Trigger Shutter (RTS)
  - Rolling Shutter exposures line by line
- **WOI-function**  
Up to 16 arbitrary rectangular areas (region of interest) can be read out with increase frame rate
- **Sub-sampling**  
Allows the output of an image with an increase frame rate at a lower resolution
- **High dynamic range**  
By adjustable sensitivity characteristic
- **Application**
  - High end machine vision
  - Factory automation
  - Microscopy
  - Quality control



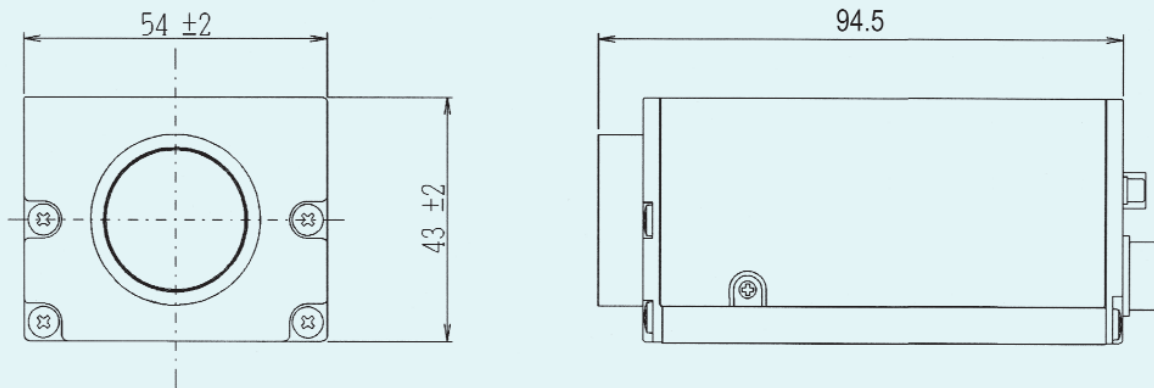
# Technical Data

## Type

**CSB 4000F**

<b>Image sensor</b>	CMOS Image sensor
<b>Total pixel</b>	2048 (H) x 2048 (V)
<b>Active pixel</b>	2008 (H) x 2047 (V)
<b>Pixel size</b>	6.0 $\mu\text{m}$ (H) x 6.0 $\mu\text{m}$ (V)
<b>Image Area</b>	12.228 mm x 12.228 mm
<b>Driving frequency</b>	33MHz
<b>Scanning line</b>	2047 lines Progressive Scan
<b>Frame rate</b>	7.29fps (full resolution) 83 fps (640x480)
<b>Sync system</b>	Internal / External automatic switch-over
<b>Digital output</b>	IEEE1394 Std. 1394a - 2000, transfer rate 400 Mbps
<b>Protocol</b>	IIDC 1394 Version 1.3
<b>WOI-function</b>	Output of up to 16 WOI with increased frame rate
<b>Signal / Noise ratio</b>	>50dB
<b>Input signal</b>	Trigger, CLOCK, COMMAND, Exposure control
<b>Output signal</b>	CLOCK 33.00000MHz +/-100ppm (Internal-sync)
<b>Sensitivity setting</b>	FIX (FIX GAIN) by external signal PGC (PROGRAMABLE GAIN CONTROL)
<b>Gamma</b>	1.0
<b>Shutter modes</b>	Random trigger shutter, Synchronized global shutter, Rolling shutter
<b>Power source</b>	8 VDC - 30 VDC via IEEE connector
<b>Ambient condition</b>	Temperature: 10°C~50°C Humidity: 20%~80%
<b>Lens mount</b>	C-mount (optional TFL-mount)
<b>External dimension</b>	54 (W) x 43 (H) x 94.5 (D)mm
<b>Weight</b>	Approx. 220 g
<b>Accessories</b>	<ul style="list-style-type: none"><li>• Data Cable with double-terminated connector (3m)</li><li>• Tripod mounting kit</li><li>• IR cut filter</li></ul>

## Dimension



### NEW ELECTRONIC TECHNOLOGY Vertriebs-GmbH

Lerchenberg 7 • D 86923 Finning, Germany • Phone: +49(0)88 06 - 92 34-0 • Fax: +49(0)88 06 - 92 34-77

E-mail: [info@net-gmbh.com](mailto:info@net-gmbh.com)

### NET USA, Inc.

3037-45th Street #8 • Highland, IN 46322 • Phone: (219) 934-9042 • Fax: (219) 934-9047

E-mail: [netusa@bellsouth.net](mailto:netusa@bellsouth.net)

[www.net-gmbh.com](http://www.net-gmbh.com)