



Quick Start Guide  
VCXU cameras (USB 3.0)

Latest software version and technical documentation available at:  
[www.baumer.com/vision/login](http://www.baumer.com/vision/login)

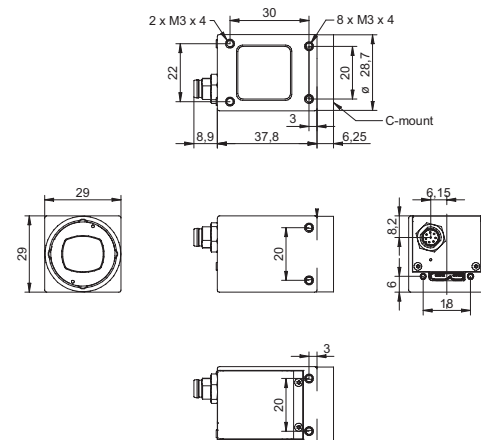
## Product specification

Camera type	Sensor size	Resolution	Full frames [max. fps]
<b>Monochrome</b>			
VCXU-23M	1/1.2"	1920 × 1200	165
VCXU-24M	1/1.2"	1920 × 1200	38
VCXU-31M	1/1.8"	2048 × 1536	120
VCXU-32M	1/1.8"	2048 × 1536	55
VCXU-50M	2/3"	2448 × 2048	76.9
VCXU-51M	2/3"	2448 × 2048	35
VCXU-123M	1.1"	4096 × 3000	31
<b>Color</b>			
VCXU-23C	1/1.2"	1920 × 1200	165
VCXU-24C	1/1.2"	1920 × 1200	38
VCXU-31C	1/1.8"	2048 × 1536	120
VCXU-32C	1/1.8"	2048 × 1536	55
VCXU-50C	2/3"	2448 × 2048	76.9
VCXU-51C	2/3"	2448 × 2048	35

### Notice

Further technical details are available in the respective data sheets.

## Dimensions



## Safety

### Safety precautions

<b>Notice</b>
See the User's Guide for the complete safety instructions!
<b>Caution</b>
Observe precautions for handling electrostatically sensitive devices!

Conformity:  
CE, RoHS



CE

We declare, under our sole responsibility, that the previously described Baumer VCXU camera conforms with the directives of the CE.

RoHS

All VCXU cameras comply with the recommendation of the European Union concerning RoHS Rules.

- Protect the sensor from dirt and moisture.
- Do not allow the camera to become contaminated with foreign objects.

### Environmental Requirements

Storage temp.	-10 °C ... +70 °C
Operating temp.	see Heat Transmission
Humidity	10 % ... 90 % Non-condensing

## System requirements

	Single-camera system Recommended	Multi-camera system Recommended
CPU	Intel® Core™ i5-2520M CPU @ 2.50 GHz, Cores: 4	Intel® Core™ i7-3770 CPU @ 3.40 GHz, Cores: 8
RAM	4 GB	8 GB
Operating system (OS)	Microsoft® Windows® 7 32 / 64 bit systems (required for USB 3.0)	Microsoft® Windows® 8 32 / 64 bit systems (required for USB 3.0) Microsoft® Windows® 10 32 / 64 bit systems (required for USB 3.0)

## Installation

### Lens mount

#### Notice

Ensure the sensor and lens are not contaminated with dust and airborne particles when mounting the support or the lens to the device!

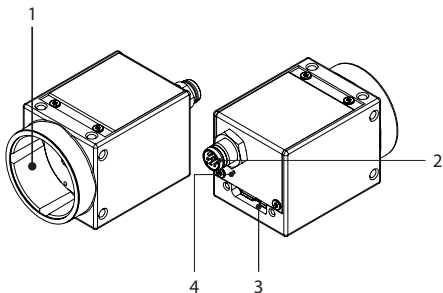
- The following points are very important:
- Install the camera in an environment that is as dust free as possible!
  - Keep the dust cover (bag) on the camera for as long as possible!
  - Hold the camera with the sensor downwards if the sensor is uncovered.
  - Avoid contact with any of the camera's optical surfaces!

### Further Information

For further information about our products, please visit [www.baumer.com](http://www.baumer.com).  
For technical issues, please contact our technical support:  
[support.cameras@baumer.com](mailto:support.cameras@baumer.com) · Phone +49 (0)3528 4386-845 · Fax +49 (0)3528 4386-86  
© Baumer Optronic GmbH · Badstrasse 30 · DE-01454 Radeberg, Germany  
Technical data has been fully checked, but accuracy of printed matter is not guaranteed.  
Subject to change without notice. Printed in Germany 07/16. v1.2 11164112



## General description



No.	Description	No.	Description
1	Lens mount (C-mount)	4	LED
2	Digital IO		
3	USB 3.0 port		

## Data interface / Digital IOs

### USB 3.0 (Micro B)



1	VBUS	6	MicB_SSTX-
2	D-	7	MicB_SSTX+
3	D+	8	GND_DRAIN
4	ID	9	MicB_SSRX-
5	GND	10	MicB_SSRX+

### Digital IOs (on camera side) wire colors of the connecting cable (ordered separately)



1	GPIO (Line2)	white	5	Power VCC OUT1	grey
2	not connected	brown	6	OUT1 (Line3)	pink
3	IN1 (Line0)	green	7	GND GPIO	blue
4	GND IN1	yellow	8	GPIO (Line1)	red

## Images with USB 2.0 / LED signals

### ⚠ Caution

If the camera is connected to an USB2.0 port image transmission is disabled by default. The camera consumes more than 2.5W which is the maximum allowed by the USB2.0 specification. But there is a possibility to activate the image transmission at your own risk!

This activation could damage your computer's hardware!



### Procedure

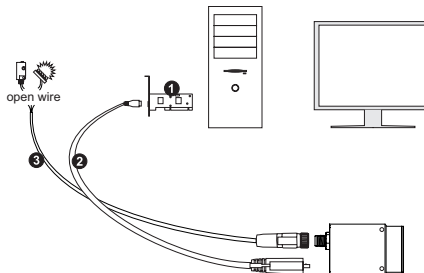
1. Open the camera in the *Camera Explorer*.
2. Select the Profile *GenlCam Guru*.
3. Activate the Feature *USB2 Support Enable* in the category *Device Control*.
4. Disconnect the data connection of the camera to the USB 2.0 port.
5. Connect the data connection of the camera to the USB 2.0 port.
6. Images will be transmitted via the USB 2.0 port.

	Signal	Meaning
LED	green flash	Power on
	green	USB 3.0 connection
	red	USB 2.0 connection
	yellow	Readout active
	red flash	Update

## Installation

### Installing the camera:

- Connect the camera to the USB connection on your PC using an appropriate cable.
- If required, connect a trigger and / or flash to the digital IOs.



### Installation example

- 1 - PCI USB board
- 2 - USB cable
- 3 - Cable for trigger and flash

## Heat transmission

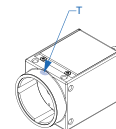
### ⚠ Caution

Heat can damage the camera. Heat must be dissipated adequately to ensure that the temperature does not exceed the values in the table below.



As there are numerous possibilities for installation, Baumer recommends no specific method for proper heat dissipation, but suggest the following principles:

- operate the cameras only in mounted condition
- mounting in combination with forced convection may provide proper heat dissipation



Measurement point	Maximum temperature
Measurement point (T)	65 °C (149 °F)

## Troubleshooting

1. Check camera operation using the LED signals.

→ If LED is red:

- Camera is connected to USB 2.0 (settings possible).

2. Check connection using Windows Device Manager:

→ If device is not listed:

- Check the host controller power supply.
- Check USB 3.0 cable and connection.

→ If device is regularly not listed

- Check USB 3.0 driver installation.