Baumer

Quick Start Guide
VisiLine Cameras (USB3 Vision™)

Latest software version and technical documentation available at:

www.baumer.com/vision/login

Product Specification

VisiLine series – Innovative functionality / flexible installation

- Flexible assembly
- RGB and YUV interpolation algorithms on board
- Reliable transmission at 5000 Mbit/sec according to USB 3.0 standard
- Single cable solution for data and power

Camera Type	Sensor Size	Resolution	Full Frames [max. fps]
CCD Sensor (monochrome / color)			
VLU-02M / VLU-02C	1/4"	656 x 490	160
VLU-12M / VLU12C	1/3"	1288 x 960	42
CMOS Sensor (monochrome / color)			
VLU-03M / VLU-03C	1/3"	640 x 480	376

Dimensions

Safety

CE

$C\!E$ RoHS COMPLIANT

CE

We declare, under our sole responsibility, that the previously described Baumer VLU cameras conform with the directives of the CE.

RoHS

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

Safety Precautions

Notice

See the User's Guide for the complete safety instructions!

⚠ Caution

Observe precautions for handling electrostatically sensitive devices!

- 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(R) Core(TM) i5-2520M CPU @ 2.50GHz, Cores: 4	Intel(R) Core(TM) i7-3770 CPU @ 3.40GHz, 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)	

Notice

Further technical details are available on the respective data sheets.
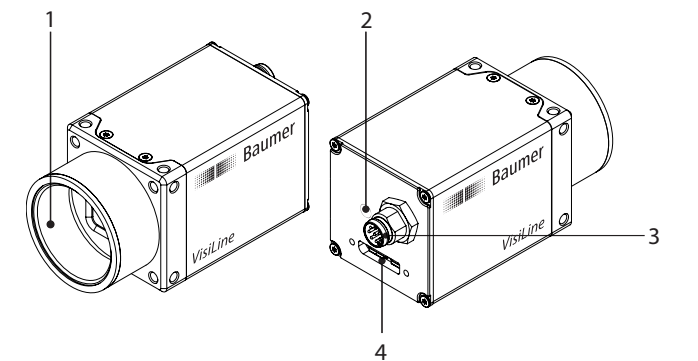
USB3 VISION   GEN<i>CAM

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 printer with the sensor downwards if the sensor is uncovered.
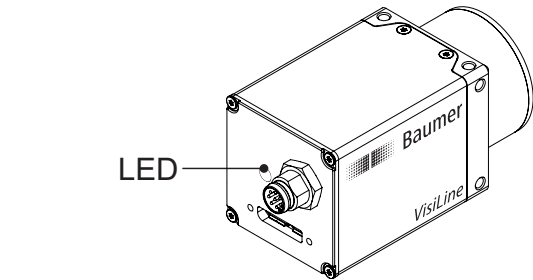- Avoid contact with any of the camera's optical surfaces!

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

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 (**M8 / 8 pins / wire colors of the connecting cable**)

1	OUT 3	white	5	IO Power VCC	grey
2	not connected	brown	6	OUT 1	pink
3	IN 1	green	7	not connected	blue
4	IO GND	yellow	8	OUT 2	red

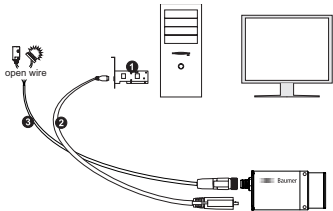|	Signal	Meaning
LED	green	USB 3.0 connection
	yellow	USB 2.0 connection (settings possible, no image)

Notice

Why can frames not be transferred over an USB 2.0 connection?

The camera needs to be supplied with more than 2.5W when transferring images. With an USB 2.0 connection maximally 2.5W are available. Therefore switching off of the frame transfer is necessary. However, adjustments are still possible.

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
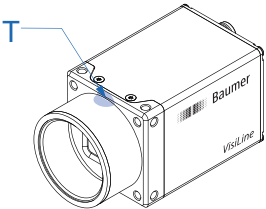2 - USB cable
3 - Cable for trigger and flash

⚠ Caution

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

As there numerous options for installation, Baumer does not specify a specific method for proper heat dissipation.
As there are numerous possibilities for installation, Baumer do not speci-fiy a 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
T	50°C (122°F)

1. Check camera operation using the LED signals.

→ If LED is yellow:
  • Camera is connected to USB 2.0 (settings possible, no image).

→ If LED is green:
  • Check if camera is being used by another application.
  • Otherwise reconnect camera / restart software.

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.