Baumer

Quick Start Guide
PXU cameras (USB3 Vision™)

Latest software version and technical documentation available at:

www.baumer.com/vision/login

Product Specification
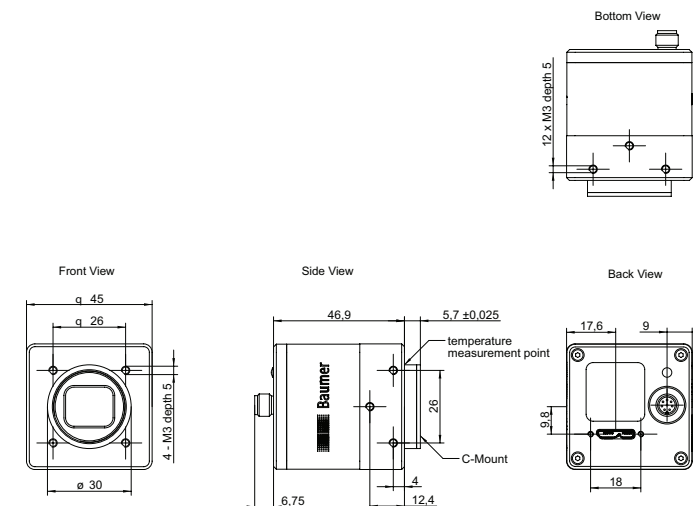
PX series – Brilliant image quality

- Up to 12 megapixel and 25 fps
- Quad-tap CCD sensors
- Very high dynamic range
- Simplified integration with USB 3 Vision

Camera Type	Sensor Size	Resolution	Full Frames [max. fps]
Monochrome			
PXU-60M.Q	1"	2752 x 2200	25
PXU-120M.Q	1"	4248 x 2832	13

> **Notice**
> You can operate the camera to USB 2.0 port. However, the frame rate will be less than on a USB 3.0 port.

Dimensions

Bottom View

Front View   Side View   Back View

temperature measurement point

C-Mount

Safety

$\mathsf{C}\,\mathsf{E}$ RoHS COMPLIANT

CE

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

RoHS

All PXU 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!

- 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)	

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!

> **Notice**
> Further technical details are available on the respective data sheets.

USB3 VISION   GEN<i>CAM
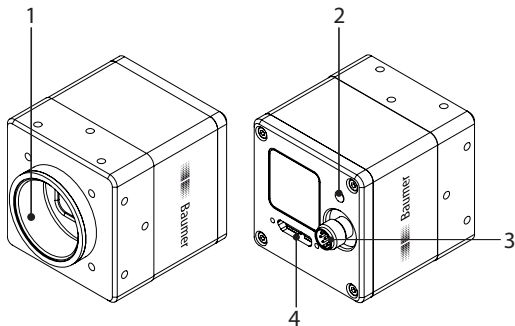
No.	Description	No.	Description
1	Lens mount (C-Mount)	4	USB 3.0 port
2	LED		
3	Power supply / Digial IO		

Notice

The USB 3.0 port is only used for data transfer. The power is supplied via the Power / Digital IO port.

You can operate the camera to USB 2.0 port. However, the frame rate will be less than on a 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+

Power / Digital IOs (M8 / 8 pins / wire colors of the connecting cable)

1	OUT 3	white	5	IO Power VCC	grey
2	Power VCC+	brown	6	OUT 1	pink
3	IN 1	green	7	Power GND	blue
4	IO GND	yellow	8	OUT 2	red

Power Supply

Power VCC	12 V DC ... 24 V DC ± 20%
I	210 mA ... 420 mA
Power consumption	approx. 5 W (25 fps)

LED signals
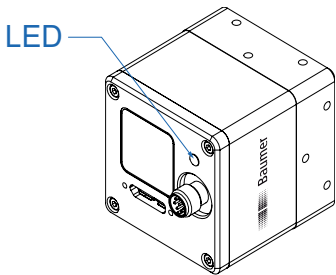
	Signal	Meaning
LED	green flash	Power on
	green	USB 3.0 connection
	red	USB 2.0 connection
	yellow	Data transfer
	red flash	Update

Installation

Installing the camera:

▪ Connect the camera to the USB connection on your PC using an appropriate cable.

▪ Connect the camera to power supply

▪ If required, connect a trigger and / or flash to the digital IOs.
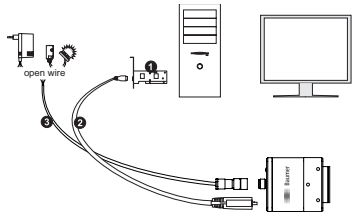
Installation example
1 - PCI USB board
2 - USB cable
3 - Cable for trigger, flash and power

Heat Transmission

> ⚠ **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 specifiy 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
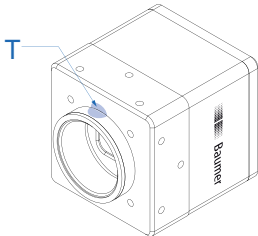
Measurement Point	Maximum Temperature
T	70°C (122°F)

Troubleshooting

1. Check camera operation using the LED signals.

→ If LED is red:
  • Camera is connected to USB 2.0.

→ 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.