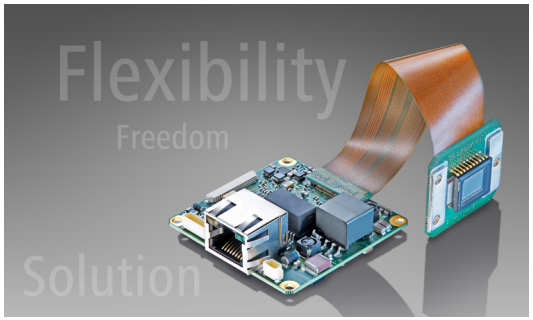
Baumer



Quick Start Guide
MXG Gigabit Ethernet cameras

Latest software version and technical documentation are available at:

www.baumer.com/vision/login

Safety

CE

The Baumer MXG Board level cameras are delivered without housing. The housing design is critical to the electromagnetic interference characteristics of a camera.

Therefore no CE certification tests regarding electromagnetic interference have been performed for MXG board level cameras.

Users who design MXG board level cameras into their systems should perform appropriate testing regarding electromagnetic interference.

Safety Precautions

Notice

See User´s Guide for the complete safety instructions!

Caution

Observe precautions for handling electrostatic sensitive devices!

- Protect the sensor from dirt and moisture.
- Avoid camera contamination by foreign objects.

Environmental Requirements

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

Further Information

For further information on our products visit www.baumer.com
For technical issues, please contact our technical support:
support.cameras@baumer.com · Phone +49 (0)3528 4386-0 · Fax +49 (0)3528 4386-86

Product Specification

MXG series – Innovative functionality / flexible installation

- Flexible assembly
- Small space is required
- RGB and YUV interpolation algorithms on board
- Bandwidth up to 1000 Mbit/sec for fast multi-camera operation
- Flexible system architecture due to cable length up to 100 m
- Baumer driver for reliable image transfer
- PoE (Power over Ethernet)

Camera Type	Sensor Size	Resolution	Full Frames [max. fps]
CCD Sensor (monochrome / color)			
MXG02 / MXG02c	1/4"	656 x 490	160
MXG12 / MXG12c	1/3"	1288 x 960	42
MXG20 / MXG20c	1/1.8"	1624 x 1228	27
CMOS Sensor (monochrome / color)			
MXGC20 / MXGC20c	2/3"	2044 x 1084	55
MXGC40 / MXGC40c	1"	2044 x 2044	29

System Requirements

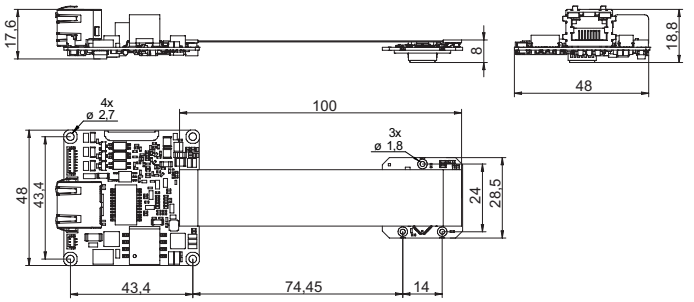
	Single-camera system Minimum	Single-camera system Recommended	Multi-camera system Minimum	Multi-camera system Recommended
CPU	Intel® Pentium®4 or comparable processor	Intel® Core™ Duo comparable processor		
Clock	2.5 GHz	> 2.5 GHz	2.5 GHz	3 GHz
RAM	1024 MB	2048 MB	2048 MB	> 2048 MB
Operating system (OS)	Microsoft® Windows® XP incl. Service Pack 2 or higher Microsoft® Windows® XP x64 incl. Service Pack 2 or higher Microsoft® Windows Vista™ 32 / 64 bit systems Microsoft® Windows 7 32 / 64 bit systems Linux® 32 / 64 bit systems from Kernel 2.6.xx			
Graphic	recommended resolution 1280 x 1024, color depth at least 16 bit			
Ethernet	Gigabit Ethernet compliant NIC (recommended Intel® chipset)			
Framework (optional)	Windows® OS: .NET™ Framework 2.0 or higher Linux® OS: Mono 1.2.4 or higher			

Notice

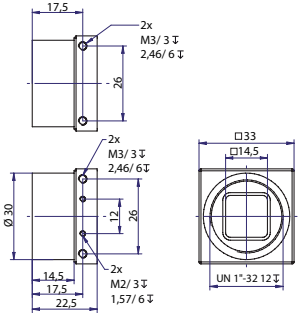
Further technical details (e.g. power supply) available in the respective data sheets.

GiGE VISION GENICAM

Dimensions



C-Mount adapter (optional)



Heat Transmission

Caution

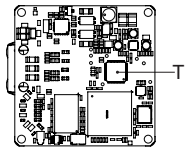
Heat can damage the camera. Provide adequate dissipation of heat, to ensure that the temperatures does not exceed the value in the table below.

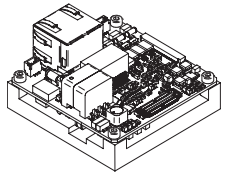
As there numerous possibilities for installation, Baumer do not specifiy a specific method for proper heat dissipation.

For applications with a corresponding free space, the use of the Baumer heat sink (No. 11098288) is recommended.

Caution

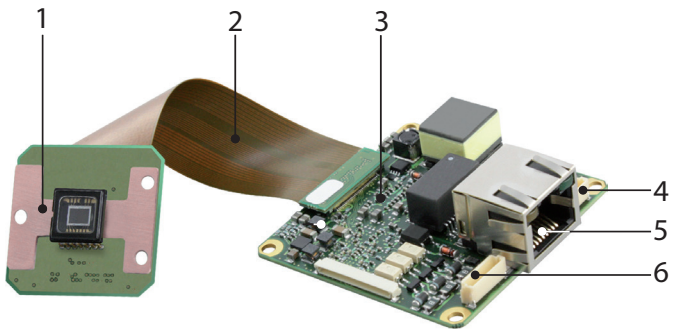
Device heats up during operation.
Irritation of skin possible.
Don't touch camera and/or heat sink during operation.





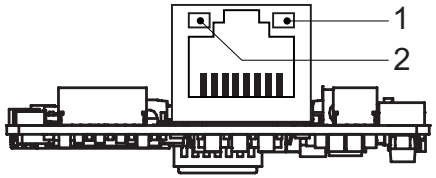
Measure Point	Maximal Temperature
T	70°C (158°F)

General Description



No.	Description	No.	Description
1	Sensor print	4	Power supply
2	Flexprint cable	5	Ethernet Port
3	System print	6	Digital IO

LED Signaling



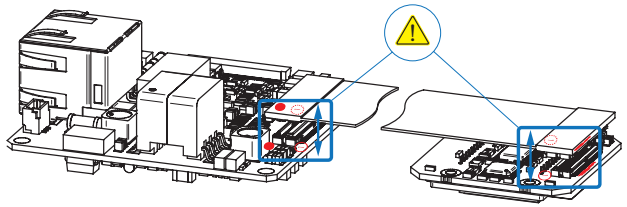
LED	Signal	Meaning
1	green	Link active
	green flash	Receiving
2	yellow	Transmitting

Installation

Connection of the Flexprint Cable

Notice

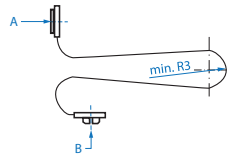
Pay attention on the marks by connecting the flexprint cable.



Mechanical Mounting

Caution

Incorrect bending radius of the flexprint cable.
An incorrect bending radius can damage the flexprint cable.
Bend the flexprint cable only up to a radius of 3 mm!



Length from A to B = 94 mm

Data Interface / Power Supply / Digital IOs

Notice

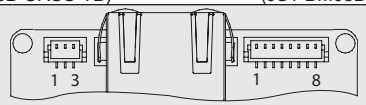
The MXG supports PoE (Power over Ethernet) IEEE 802.3af Clause 33, 48 V power supply.

8P8C mod jack with LEDs

1	(gn/wh)	MX1+	(negative / positive V_{port})
2	(gn)	MX1-	(negative / positive V_{port})
3	(og/wh)	MX2+	(positive / negative V_{port})
4	(bu)	MX3+	
5	(bu/wh)	MX3-	
6	(og)	MX2-	(positive / negative V_{port})
7	(bn/wh)	MX4+	
8	(bn)	MX4-	

Power supply (JST BM03B-SRSS-TB)

Digital IOs (JST BM08B-SRSS-TB)

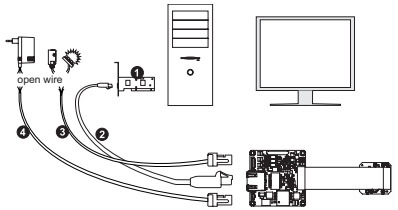


1	Shielding	1	Shielding
2	Power V_{cc}	2	IN 1
3	Power GND	3	GND IN
		4	OUT 1
		5	OUT 2
		6	OUT 3
		7	U_{ext} OUT
		8	Shielding

Installation

Installation of the camera:

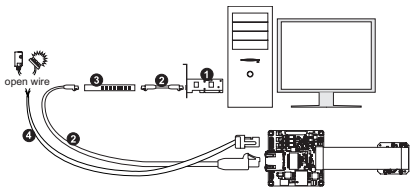
- Connect the camera using an appropriate cable (at least Cat-5e) to the GigE board on your PC.
- If required, connect a trigger and / or flash to process interface.
- Connect the camera to power supply.



Installation sample
1 - PCI board; 2 - GigE cable;
3 - Cable for trigger and flash; 4 - Power cable

Installation of cameras with PoE:

- Connect the camera using an appropriate cable (at least Cat-5e) to a free port of a PoE capable ethernet switch.
- Establish the connection between switch and GigE board on your PC.
- If required, connect a trigger and or flash to process interface.

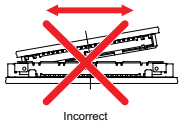


Installation sample
1 - PCI board;
2 - GigE cable;
3 - PoE capable ethernet switch or Baumer PoE components;
4 - Cable for trigger and flash

Installation

Handling Precautions when mating mounted connectors

Do **NOT** start mating of the mounted connectors at an angle. Correctly position the connectors over each other an assure that both boards are parallel to each other.



Caution

When the connectors are mounted on the FPC, care should taken to prevent the mated connectors from bending or twisting on the FPC.

The device case or cushioning material should be used to keep the connectors fully mated and supported.

Handling Precautions when un-mating

Do **NOT** start disconnection at the sides as the connector can be damaged, voiding the warranty and making the re-engagement impossible.