Baumer

Quick Start Guide
HXG cameras with CMOS sensors (Release 2)

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www.baumer.com/vision/software

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Product Specification

**HXG cameras – Maximum Performance with CMOSIS sensors**

- Dual Gigabit Ethernet progressive scan CMOS camera
- Binning, subsampling, true partial scan function (ROI) for increased frame rates
- High Dynamic Range (HDR) image acquisition
- External synchronization via industrial compliant process interface (trigger / flash)
- Global shutter architecture for minimized motion blur
- Power over Ethernet support
- Standard RJ45 connectors
- GigE Vision™ standard compliant
- Excellent image quality
- Camera parameter programmable in real-time
- Frame rates up to 105 fps (HXG20 / Monochrome)

Camera Type	Sensor Size	Resolution	Full Frames [max. fps]	Burst Mode (buffered)
Monochrome				
HXG20	2/3"	2048 x 1088	105	337
HXG20NIR	2/3"	2048 x 1088	105	337
HXG40	1"	2048 x 2048	56	180
HXG40NIR	1"	2048 x 2048	56	180
Color				
HXG20	2/3"	2048 x 1088	105	337
HXG40	1"	2048 x 2048	56	180

GigE VISION

Dimensions

● HXG (C-Mount version)

UNC 1/4 - 20

16xM3 deph 5
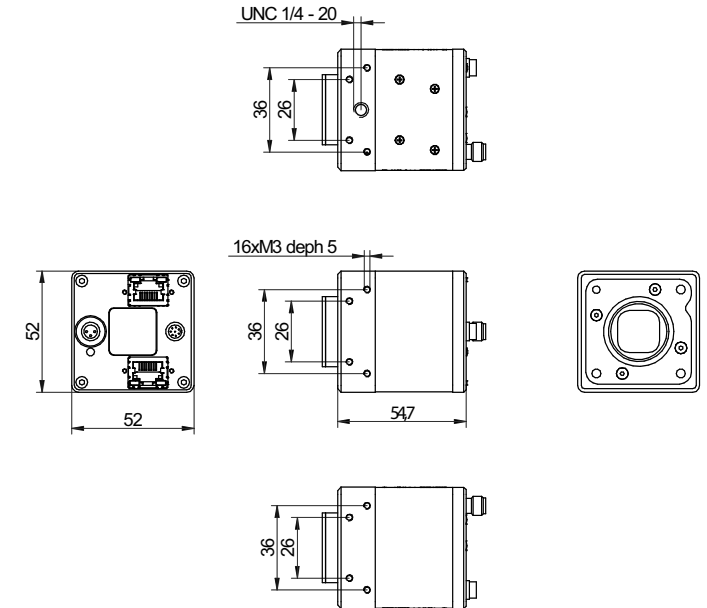
Safety

Conformity:
CE, FCC Part 15 Class A, RoHS

RoHS COMPLIANT 2002/95/EC

FCC – Class A device

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occure in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off an on, the user is encouraged to try to correct the interference by one or more of the following measures:
- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Safety instructions

Notice
See User´s Guide for the complete safety instructions!

- Protect the sensor from dirt and moisture.
- Never open the camera housing.
- Avoid camera contamination by foreign objects.

Environmental requirements:

Storage temp.	-10°C ... +70°C
Operating temp.	+5°C ... +50°C
Housing temp.	max. +50°C
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

Installation

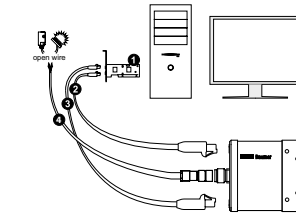**Installation sample without PoE**

1 - network interface card
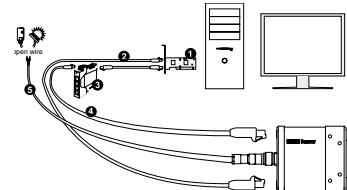2 - network cable
3 - Process interface cable
4 - Power cable
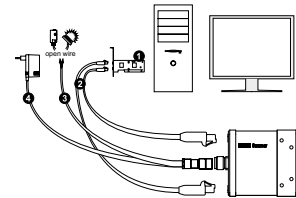
Installation sample with PoE via NIC

1 - PoE network interface card (NIC)
2 - network cable (PoE)
3 - network cable (without PoE)
4 - Process interface cable

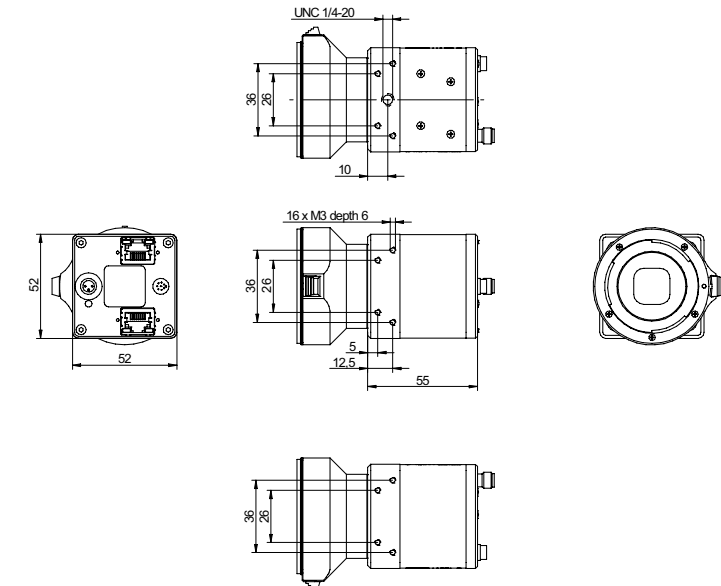**Installation sample with PoE via Injector**

1 - network interface card (NIC)
2 - network cable (without PoE)
3 - Injector
4 - network cable (with PoE)
5 - Process interface cable

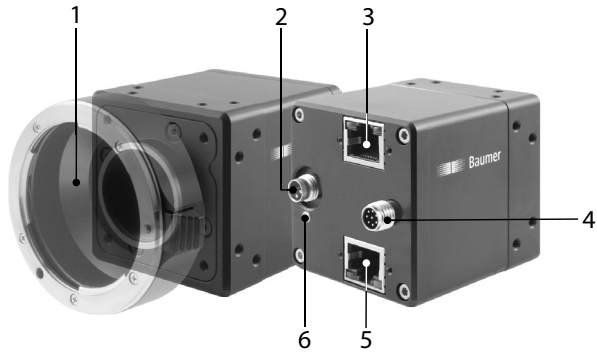## Dimensions

● HXG-F (F-Mount version)

UNC 1/4-20

16 x M3 depth 6

General Description

No.	Description	No.	Description
1	(respective) lens mount	4	Digial-IO
2	Power Supply	5	Data Port 2
3	Data Port 1	6	Signaling-LED

LED Signaling

LED	Signal	Meaning
1	green green flash	Link active Receiving
2	yellow	Transmitting
3	green yellow	Power On Readout active

Heat Transmission

> ⚠ **Caution**
>
> Provide adequate dissipation of heat, to ensure that the temperatures does not exceed +50°C (+122°F).
>
> The surface of the camera may be hot during operation and immediately after use. Be careful when handling the camera and avoid contact over a longer period.
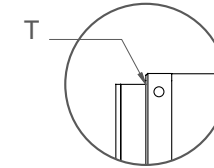
T: Housing temperature measurement point

It is very important to provide adequate dissipation of heat, to ensure that the housing temperature does not reach or exceed +50°C (+122°F). As there are numerous possibilities for installation, a specific method for proper heat dissipation is not defined, but the following principles are suggested:

- Operate the cameras only in mounted condition with a good heat conductor (e.g. aluminum)
- Mounting in combination with forced convection may provide proper heat dissipation

Data Interfaces

Data / Control 1000 Base-T (Port 1) wire colors of the connecting cable			Data / Control 1000 Base-T (Port 2) wire colors of the connecting cable		
1	green/white	MX1+	1	green/white	MX1+
2	green	MX1-	2	green	MX1-
3	orange/white	MX2+	3	orangeg/white	MX2+
4	blue	MX3+	4	blue	MX3+
5	blue/white	MX3-	5	blue/white	MX3-
6	orange	MX2-	6	orange	MX2-
7	brown/white	MX4+	7	brown/white	MX4+
8	brown	MX4-	8	brown	MX4-

> **Notice**
>
> Data port 1 supports Power over Ethernet (38 VDC .. 57 VDC).
>
> For the data transfer, the ports are equal. For Single GigE connect one port and for Dual GigE connect the second port additionally. The order does not matter.

Power Supply and Process Interface

Power Supply			Digital I/O M8 / 8 pins wire colors of the connecting cable		
1	brown	Power V_{CC}	1	white	Line 5
3	blue	GND	2	brown	Line 1
4	black	not used	3	green	Line 0
			4	yellow	GND
			5	grey	U_{ex}
			6	pink	Line 3
			7	blue	Line 4
			8	red	Line 2

Power Supply	
Power V_{CC}	20 VDC ... 30 VDC