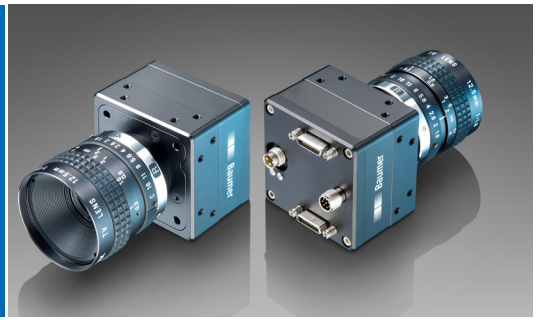
Baumer



Quick Start Guide
HXC cameras – Release 2 (Camera Link®)

Latest software version and technical documentation are available at:

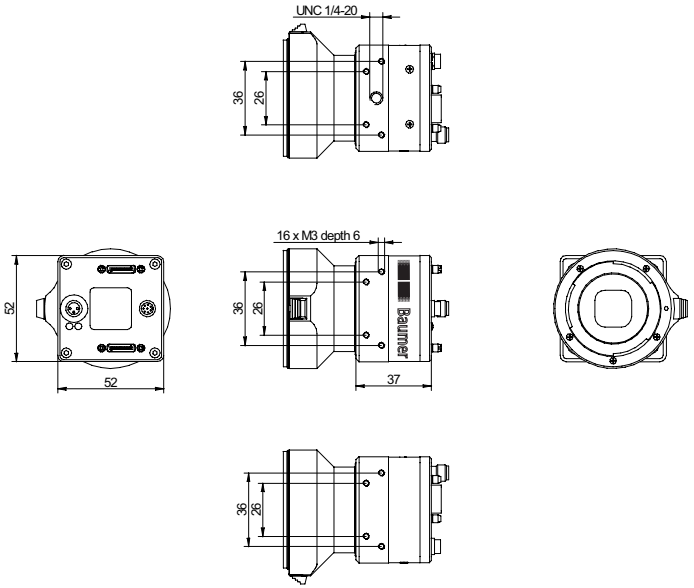
vt.baumer.com

Product Specification

HXC cameras - Maximum Performance with CMOSIS sensors

- Camera Link® Full progressive scan CMOS camera
- Excellent image quality
- Global shutter architecture for minimized motion blur
- Low noise due to correlated double sampling (CDS)
- HDR (High Dynamic Range)
- Enhanced NIR sensitivity model available
- Binning, subsampling and true partial scan function (ROI) for increased frame rates
- External synchronization via industrial compliant process interface (trigger / flash)
- Integrated supplementary function for flexible integration
- Integrated 256 MByte RAM for temporarily image data buffering
- Two standard 26 pin Mini-CameraLink® connectors
- Support for CameraLink® Base, Medium, Full and 10 tap configurations
- Baumer GAPI: Flexible, generic software interface for Windows

Dimensions with F-Mount



Conformity / Safety

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

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

KC Several of the described Baumer HXC cameras conform with the directives of the Korean Conformity.

Please refer for the User's guide or technical documentation.

FCC – Class B device

NOTE: This equipment has been tested and found to comply with the limits for a Class B 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 instructios, 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 (14 °F...158 °F)
Operating temp.	+5 °C ... +60 °C (41 °F...140 °F)
Housing temp.	max. +65 °C (max. 149 °F)
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

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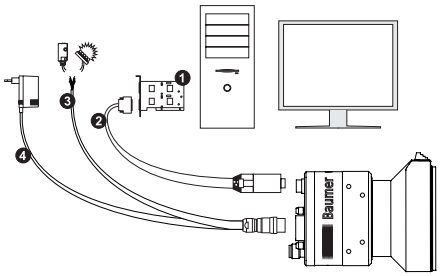
Installation

Installation using Camera Link® BASE:

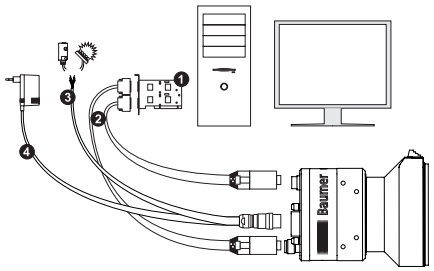
- Connect the camera using an appropriate cable to the framegrabber board on your PC using the lower sdr-26 jack on the camera side
- If required, connect a strobe to the connector
- Connect the camera to power supply



Installation sample
1 - Framegrabber board; 2 - CameraLink® cable;
3 - Process interface cable; 4 - Power cable

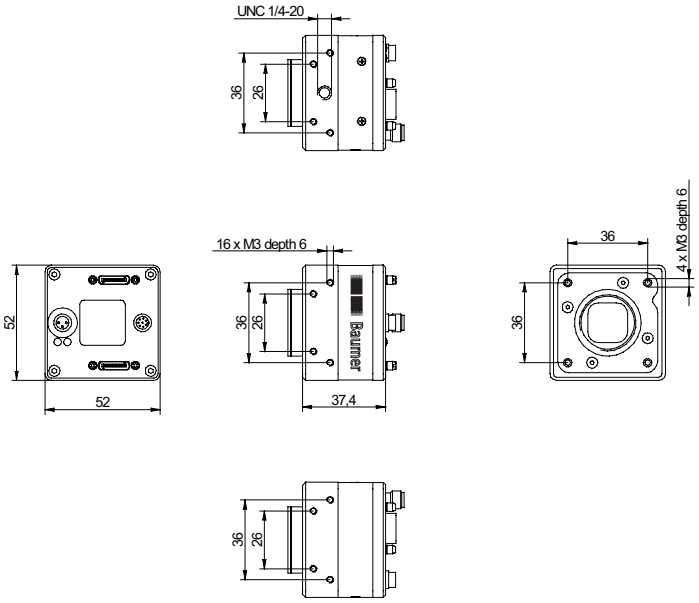
Installation using Camera Link® MEDIUM / FULL:

- Connect the camera using two appropriate cables to the framegrabber board on your PC (this configuration requires the BASE and the FULL Camera Link® line)
- If required, connect a strobe to the connector
- Connect the camera to power supply

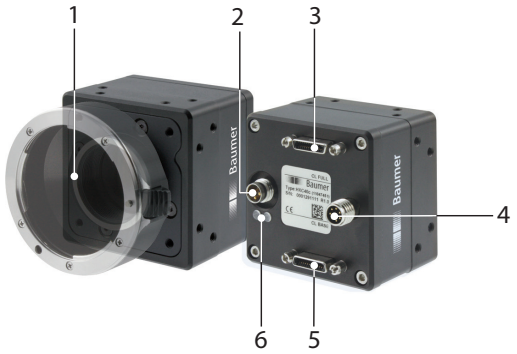


Installation sample
1 - Framegrabber board; 2 - CameraLink® cable;
3 - Process interface cable; 4 - Power cable

Dimensions Cameras with C-Mount

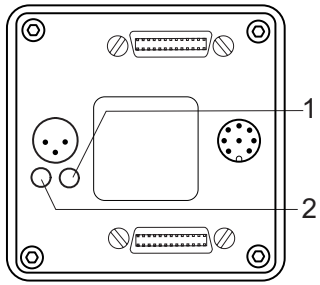


General Description



No.	Description	No.	Description
1	(respective) lens mount	4	Digital-IO supply
2	Power supply	5	CameraLink® Base socket
3	Camera Link® Full socket	6	Signaling-LED

LED Signaling



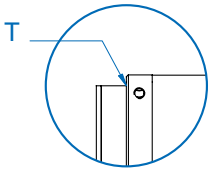
LED	Signal	Meaning
1	green	Power on
	yellow	Readout active
2	green	Transmitting
	red (yellow in both)	Configuration comman processing

Heat Transmission

Caution

Provide adequate dissipation of heat, to ensure that the temperature does not exceed the spedified temperature.

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.



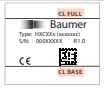
T: Housing temperature measurement point

It is very important to provide adequate dissipation of heat, to ensure that the housing temperature does not reach or exceed +65 °C (+149°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

Camera Link® Interfaces

Notice



The camera has two Camera Link® sockets. To differentiate between Camera Link® Base and Camera Link® Full socket, please look at the label. You can not use the CL Full socket alone!

Caution

When fixing the Camera Link® cable with too much force the screws might get damaged.

The maximum torque is 2.5 inch lbf [0.3 Nm].

Base Camera Link®

Pin	Signal	Pin	Signal
1	GND	14	GND
2	X0-	15	X0+
3	X1-	16	X1+
4	X2-	17	X2+
5	XCLK-	18	XCLK+
6	X3-	19	X3+
7	SERTC+	20	SERTC-
8	SERTFG-	21	SERTFG+
9	CC1-	22	CC1+
10	CC2+	23	CC2-
11	CC3-	24	CC3+
12	CC4+	25	CC4-
13	GND	26	GND

Full Camera Link®

Pin	Signal	Pin	Signal
1	GND	14	GND
2	Y0-	15	Y0+
3	Y1-	16	Y1+
4	Y2-	17	Y2+
5	YCLK-	18	YCLK+
6	Y3-	19	Y3+
7	100 Ω term.	20	100 Ω term.
8	Z0-	21	Z0+
9	Z1-	22	Z1+
10	Z2-	23	Z2+
11	ZCLK-	24	ZCLK+
12	Z3-	25	Z3+
13	GND	26	GND

Power Supply / IO Pin Assignment (on camera side)

Caution

A power supply with electrical isolation is required for proper operation of the camera. Otherwise the device may be damaged!

M8 / 3 pins **M8 / 8 pins**

wire colors of the connecting cable (ordered separately)

1	(brown)	Power V_{CC}	1	(white)	Line 9
3	(blue)	GND	2	(brown)	Line 1
4	(black)	NC	3	(green)	Line 0
			4	(yellow)	GND
			5	(grey)	U_{ext}
			6	(pink)	Line 7
			7	(blue)	Line 8
			8	(red)	Line 2

Power Supply	
Power VCC	9,6 VDC .. 30 VDC
I	200 mA .. 625 mA