Baumer

Quick Start Guide
LXC cameras (Camera Link®)

Download latest camera software:
www.baumer.com/vision/software

Download latest technical documentation:
www.baumer.com/cameras/docs

Product Specification

LXC cameras – Extremely high resolution and speed
- Camera Link® progressive scan CMOS camera
- Excellent image quality
- Global shutter architecture for minimized motion blur
- Binning and true partial scan function (ROI) for increased frame rates
- High Dynamic Range (HDR) image acquisition
- External synchronization via industrial compliant process interface (trigger / flash)
- Power over Camera Link® (PoCL) support
- Two standard 26 pin Mini-Camera Link® connectors
- Support for Camera Link® Base, Medium, Full and EightyBit configurations
- Camera parameter programmable via GenCP protocol

Notice

Further technical details are available in the respective data sheet.

Lens Adapter for M58-Mount

- Adapter M58 / F-mount (Art. No.: 11117852)
- Adapter M58 / M42x1-mount (26.8mm) (Art. No.: 11127232)
- Adapter M58 / M42x1-mount (45.5 mm) (Art. No.: 11137781)

Notice

suitable for Zeiss (e.g. Distagon T* 2/25 Z-M42-I, Planar T* 1.4/50 Z-M42-I, Makro-Planar T* 2/50 Z-M42-I) and KOWA M42 lenses (e.g. LM28LF P-Mount, LM35LF P-Mount)

- Adapter M58 / C-mount (Art. No: 11115198)

Dimensions Camera with C-Mount
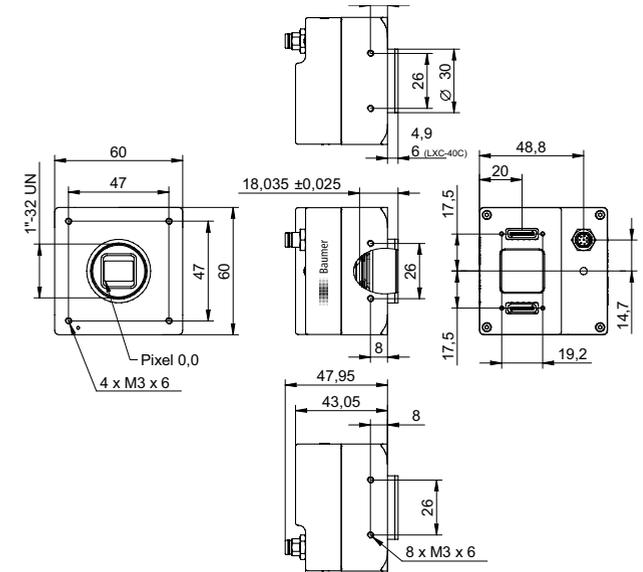
Conformity / Safety

Conformity

CE

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

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

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

Saety Precautions
- 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

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
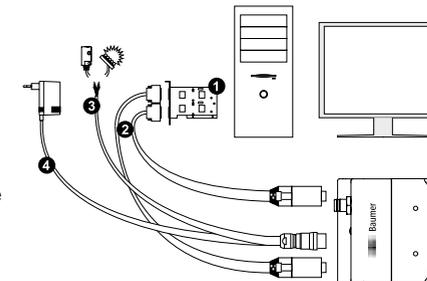- Connect the camera to power supply
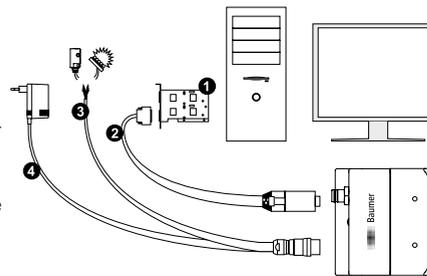
Installation sample
1 - Framegrabber board; 2 - CameraLink® cable;
3 - Process interface cable; 4 - Power cable

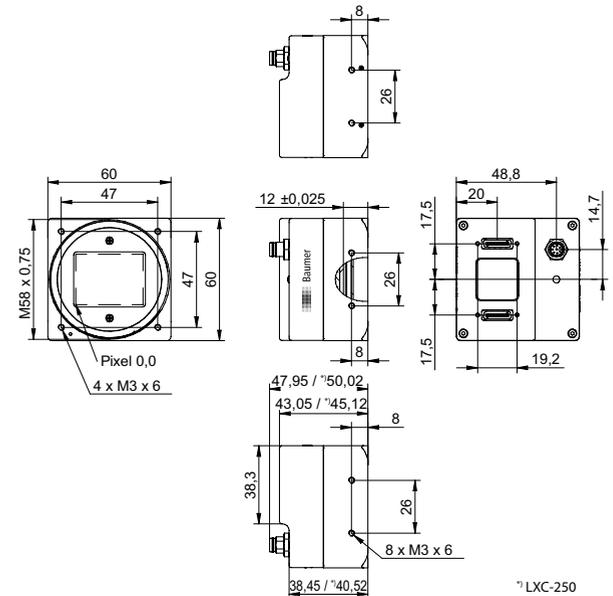### Installation using Camera Link® Medium / Full / EightyBit:
- Connect the camera using two appropriate cables to the framegrabber board on your PC.
- If required, connect a strobe to the connector
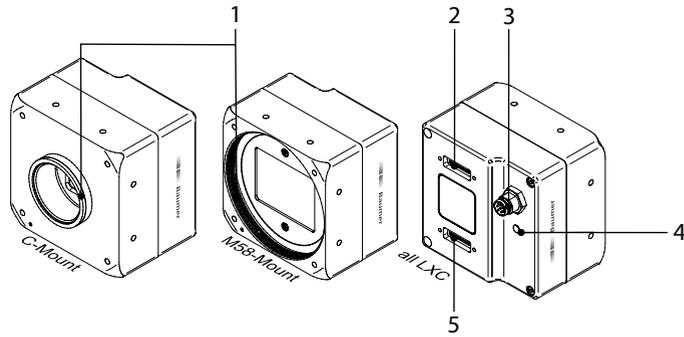- Connect the camera to power supply

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

Dimensions Camera with M58-Mount

General Description

No.	Description	No.	Description
1	**C-Mount** C-mount only **M58-Mount** lens mount (M58), adapter for other lens mounts available	4	Signaling-LED
2	Camera Link® socket (Base)	5	Camera Link® socket (Medium / Full / EightyBit)
3	Power Supply / Digital-IO		

LED Signaling

LED

	Signal	Meaning
LED	green on	Power on, link good
	green blinking	Power on, no link
	red on	Error / Overtemperature
	red blinking	Boot process or Warning (update in progress, don't switch off)
	yellow	Readout active

Heat Transmission

> ⚠ **Caution**
>
> Provide adequate dissipation of heat, to ensure that the temperature 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.
>
> 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

Measure Point	Maximal Temperature
T	+50 °C (122 °F)

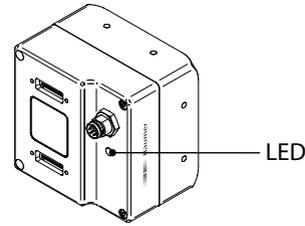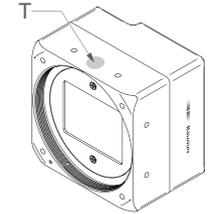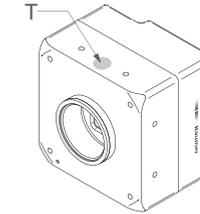## Camera Link® sockets

> **Notice**
>
> The camera has two Camera Link® sockets. To differentiate bet-ween Camera Link® socket, please look at the label. You can not use the CL Medium / Full / EightyBit socket alone!

> **Notice**
>
> To use Power over Camera Link® (PoCL, 12V DC ± 20%), both Camera Link® sockets must be used.

Camera Link® (Base)				Camera Link® (Medium / Full / EightyBit)			
Pin	Signal	Pin	Signal	Pin	Signal	Pin	Signal
1	GND	14	GND	1	GND	14	GND
2	X0-	15	X0+	2	Y0-	15	Y0+
3	X1-	16	X1+	3	Y1-	16	Y1+
4	X2-	17	X2+	4	Y2-	17	Y2+
5	XCLK-	18	XCLK+	5	YCLK-	18	YCLK+
6	X3-	19	X3+	6	Y3-	19	Y3+
7	SERTC+	20	SERTC-	7	100 Ω term.	20	100 Ω term.
8	SERTFG-	21	SERTFG+	8	Z0-	21	Z0+
9	CC1-	22	CC1+	9	Z1-	22	Z1+
10	CC2+	23	CC2-	10	Z2-	23	Z2+
11	CC3-	24	CC3+	11	ZCLK-	24	ZCLK+
12	CC4+	25	CC4-	12	Z3-	25	Z3+
13	GND	26	GND	13	GND	26	GND

Power Supply and Process Interface

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

Power Supply / Digital-IO

M8 / 8 pins wire colors of the connecting cable

Pin	Color	Function
1	white	not in use
2	brown	Power VCC+
3	green	IN 1 (line 0)
4	yellow	IO GND
5	grey	IO Power VCC
6	pink	OUT 1 (line 1)
7	blue	Power GND
8	red	not in use

Power Supply

Power VCC	12 VDC ... 24 VDC ± 20%

General notes for electrical Installation

> ⚠ **Caution**
>
> Follow the instructions in the chapter „Hardware installation Procedure" of the User´s Guide.
>
> Failure to follow the instructions may result in problems during operation and defects in the camera!

ESD precautions:
- Wear ESD appropriate clothing and shoes.
- Perform the installation in an ESD-compliant working environment (conductive floors, grounding strap, ...).
- Never handle the Camera Link connectors without ESD discharge!
- Control the humidity in your environment. Low humidity can cause ESD problems.

Notes on cable routing and avoiding ground loops:
- To avoid ground loops, the power supply cable and the Camera Link cables should be routed in parallel if possible.
- All electrical connections must be brought together at a ground point.
- The ground point should be as close as possible to the frame grabber of the PC. The PC must be included in the grounding.
- Avoid laying power supply cables of devices with high current peaks, e.g. motors or inverters, parallel to the camera cables.