Baumer

Quick Start Guide
VCXG.I / .XT cameras (Gigabit Ethernet)

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

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

Product Specification

VCXG.I / VCXG.I.XT cameras – Extremely functionality and high frame rates

- Up to 12 megapixel and 145 fps
- Vibration 10 g, shock 100 g
- Power supply: 12 – 24 V externally or PoE
- GigE Vision standard compliant
- Optional: Protection classes IP65 / IP67 (with installed tube)
- Optional: Modular tube system
- M12 industry connectors
- PWM on Outputs for direct controlled illuminations
- 4 outputs with maximum 1.5 A (2.5 A with 40% periode time)
- Surface hard anodized

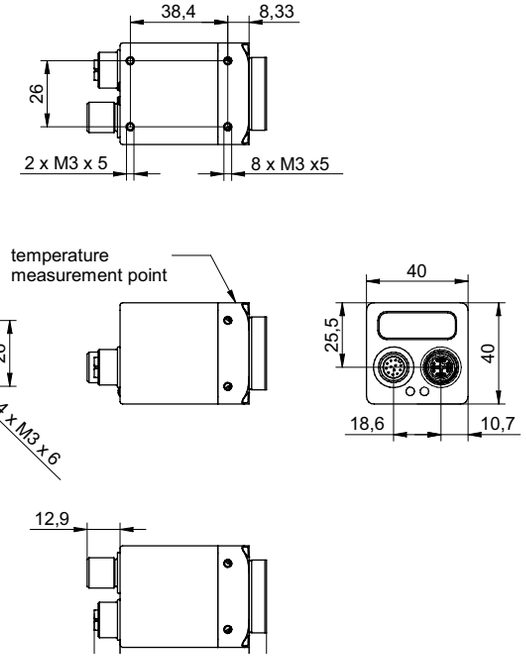
Notice

Further technical details are available in the respective data sheets.

GiGE VISION

GEN<i>CAM

Dimensions



Conformity / Safety

Conformity

CE

We declare, under our sole responsibility, that the previously described Baumer VCXG.I / .XT cameras conform with the directives of the CE.

RoHS COMPLIANT

All VCXG.I /.XT cameras comply with the recommendation of the European Union concerning RoHS Rules.

Several of the described Baumer VCXG.I /.XT cameras conform with the directives of the Korean Conformity.

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

Safety Precautions

Notice

See the User's Guide for the complete safety instructions!

Caution

Observe precautions for handling electrostatically sensitive devices!

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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Technical data has been fully checked, but accuracy of printed matter not guaranteed.

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System Requirements

	Single-camera system Recommended	Multi-camera system Recommended
CPU	Intel® Core™ i5-2520M CPU @ 2.50 GHz, Cores: 4	Intel® Core™ i7-3770 CPU @ 3.40 GHz, Cores: 8
RAM	4 GB	8 GB
Operating system (OS)	Microsoft® Windows® 7 (32 / 64 bit systems) Microsoft® Windows® 8 (32 / 64 bit systems) Microsoft® Windows® 10 (32 / 64 bit systems)	

Environmental Requirements

Storage temperature	VCXG.I	-10 °C (+14 °F) ... +70 °C (+158 °F)
	VCXG.I.PTP	-10 °C (+14 °F) ... +70 °C (+158 °F)
	VCXG.I.XT	-40 °C (-40 °F) / -30 °C [1] (-22 °F) ... +70 °C (+158 °F)
Operating temperature	VCXG.I	0 °C (32 °F) ... 65 °C (149 °F)*/***
	VCXG.I.PTP	0 °C (32 °F) ... 65 °C (149 °F)*/***
	VCXG.I.XT	-40 °C (-40 °F) / -30 °C [1] (-22 °F) ... 70 °C (158 °F)*/***
Humidity		10 % ... 90 % non condensing

[1] VCXG-201M.R.I.XT / VCXG-201C.R.I.XT
The sensor specification ensures unrestricted use from an operating temperature greater than -10 °C (14 °F). Use at temperatures lower than -10 °C (14 °F) may result in disturbed image acquisition or poorer image quality.
*/ at T (Measurement Point)
/** Ambient temperature in the range above 28 °C (82.4 °F) / 34 °C (93.2 °F) (depending on camera model) requires heat dissipation measures.
/*** Ambient temperature above 45 °C (113 °F) requires heat dissipation measures.

Installation

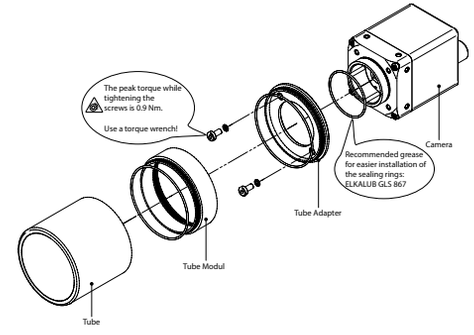
Lens mount

Notice

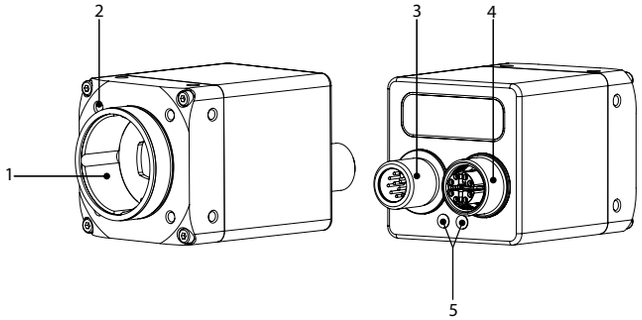
Ensure the sensor and lens are not contaminated with dust and airborne particles when mounting the support or the lens to the device!

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 camera with the sensor downwards if the sensor is uncovered.
- Avoid contact with any of the camera's optical surfaces!

Modular tube system (ordered separately)

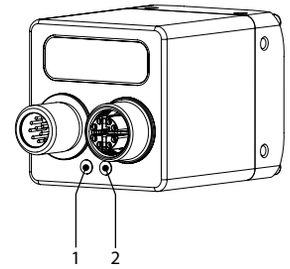


General Description



No.	Description	No.	Description
1	Lens mount (C-mount)	**4**	Ethernet port (PoE)
2	4 x Tube Adapter /front mounting threads	**5**	Signaling LED's
3	Power Supply/ Digital IO		

LED Signaling



LED	Signal	Meaning
1	yellow static	error
	yellow flash	transmitting
2	green	link active
	green flash	receiving

Heat Transmission

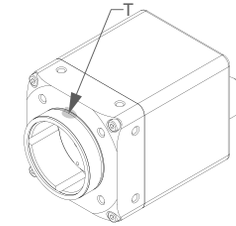
Caution

Provide adequate dissipation of heat, to ensure that the temperature does not exceed the values in the table below.

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 specifiy a specific method for proper heat dissipation, but suggest the following principles:

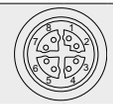
- operate the cameras only in mounted condition
- mounting in combination with forced convection may provide proper heat dissipation



Measurement Point (T) Maximum Temperature	
VCXG.I	**VCXG.I.XT**
65 °C (149 °F)	70 °C (158 °F)

Data Interface / Digital IOs

Ethernet
(SACC-CI-M12FS-8CON-L180-10G)



1	MX1+	**5**	MX4+
2	MX1-	**6**	MX4-
3	MX2+	**7**	MX3-
4	MX2-	**8**	MX3+

Power supply / Digital IOs (on camera side)
(SACC-CI-M12MS-12CON-L180)

M12 / 12 pins / wire colors of the connecting cable (ordered separately)

1	Power V_{CC}	brown	**7**	OUT3 (Line6)	black
2	GND (Power)	blue	**8**	IN3 (Line2)	grey
3	IN1 (Line0)	white	**9**	OUT4 (Line7	red
4	OUT1 (Line4)	green	**10**	IN4(Line3)	violet
5	IN2 (Line1)	pink	**11**	GND (IO)	grey-pink
6	OUT2 (Line5)	yellow	**12**	Power (IO)	red-blue

Power Supply

Power Supply	
Power V_{CC}	12 VDC ... 24 VDC ± 20 %

Notice

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

If the camera is simultaneously powered by the Power supply / Digital-IO port and the Ethernet port (PoE), then the power supply via the Power supply / Digital-IO port is prioritized.

Caution

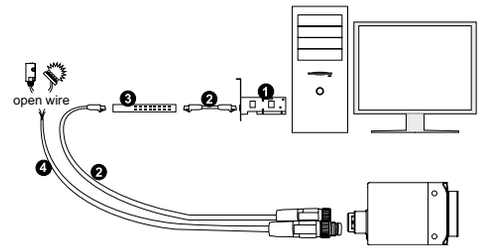
In order to achieve the mentioned IP protection level, the M12 connectors need to be tightened with a torque value of 0.4 Nm.

For that Baumer suggests the use of a torque driver (such as Wiha TorqueVario®-S ESD) in combination with a wrench for assembling sensor/ actuator cables with M12 connector (such as Phoenix Contact SAC BIT M12-D15).

Installation

Installation of the camera:

- **without PoE:** Connect the camera using an appropriate cable (at least Cat-5e) to the GigE board on your PC.
- **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.
- Connect the camera to power supply.



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