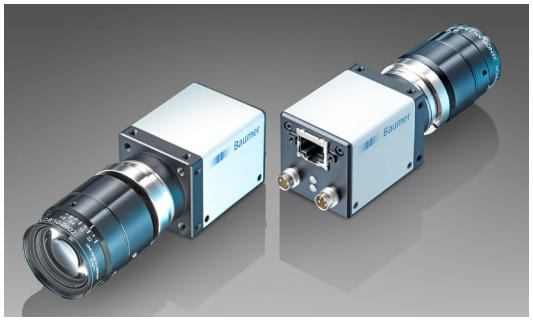
Baumer



Quick Start Guide
TXG Cameras (Gigabit Ethernet)

Latest software version and technical documentation are available at:

www.baumer.com/vision/login

Product Specification

TXG series – Innovative functionality in compact design

- Output of excellent 8 / 12 bit image data
- VGA up to 5 megapixel, monochrome and color
- 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

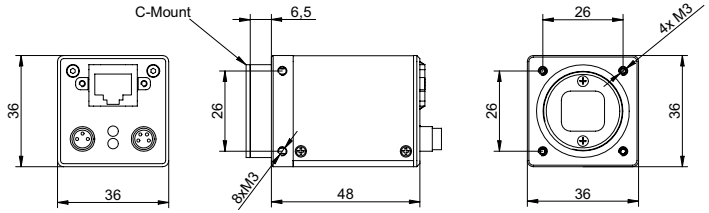
Camera Type	Sensor Size	Resolution	Full Frames [max. fps]
Monochrome / Color			
TXG02 / TXG02c	1/4“	656x494	140
TXG03 / TXG03c	1/3"	656 x 494 / 656 x 490	90
TXG04	1/2"	656 x 494	56
TXG06 / TXG06c	1/2"	776 x 582 / 776 x 578	64
TXG08 / TXG08c	1/3"	1032 x 776 / 1032 x 772	28
TXG12 / TXG12c	1/3“	1296x966	32
TXG13 / TXG13c	1/2"	1392 x 1040 / 1384 x 1036	20
TXG14 / TXG14c	2/3"	1392 x 1040 / 1384 x 1036	20
TXG14f	2/3"	1392 x 1040	30
TXG20 / TXG20c	1/1.8"	1624 x 1236 / 1624 x 1232	16
TXG50 / TXG50c	2/3"	2448 x 2050 / 2448 x 2050	15

GiGE VISION GENICAM

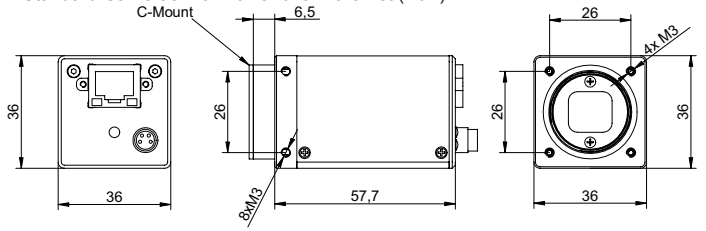
Tested according to standard EMVA 1288

Dimensions

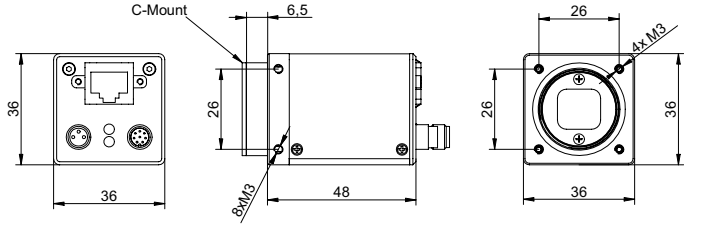
- Standard Cameras:



- Standard Cameras with Power over Ethernet (PoE):



- Standard Cameras with additional I/Os:



Safety

Conformity:
CE, FCC Part 15 Class B, UL (standard cameras only), RoHS

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.

UL – Class III device

The power supply to operate the TXG series of cameras must be realized using a limited power supply in accordance to UL60950.

Safety 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

Further Information

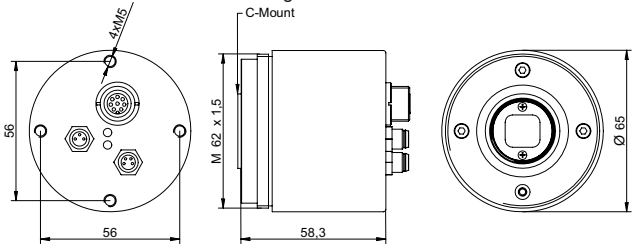
For further information on our products visit www.baumer.com
For technical issues, please contact our technical support:
support.cameras@baumer.com · Phone +49 (0)3528 4386-0 · Fax +49 (0)3528 4386-86

System Requirements

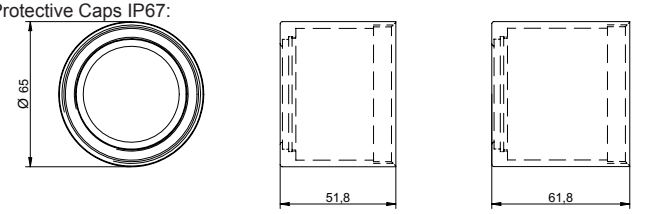
	Single-camera system		Multi-camera system	
	Minimum	Recommended	Minimum	Recommended
CPU	Intel® Pentium®4 or comparable processor	Intel® Core™ Duo comparable processor		
Clock	2.5 GHz	> 2.5 GHz	2.5 GHz	3 GHz
RAM	1024 MB	2048 MB	2048 MB	> 2048 MB
Operating system (OS)	Microsoft® Windows® XP incl. Service 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			

Dimensions

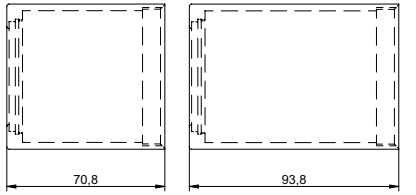
- Standard Cameras with IP67 housing:



- Protective Caps IP67:



Tube Length [mm]	Item No.
51,8	11008777
61,8	11008776
70,8	11008775
93,8	11008774



Process and Data Interfaces

Interfaces of camera types:

Camera Type	8P8C mod jack	8P8C mod jack LED	M12 8 pins	M8 3 pins	M8 4 pins	M8 8 pins
Standard	■	□	□	■	■	□
PoE	□	■	□	□	■	□
IP67	□	□	■	■	■	□
IO	■	□	□	■	□	■

Gigabit Ethernet Interfaces

8P8C mod jack			8P8C mod jack with LED				M12 8 pins		
									
1	(gn/wh)	MX1+	1 (gn/wh)	MX1+	(neg. / pos. V_{port})		1 (wh)	MX3-	
2	(gn)	MX1-	2 (gn)	MX1-	(neg. / pos. V_{port})		2 (bn)	MX4+	
3	(og/wh)	MX2+	3 (og/wh)	MX2+	(pos. / neg. V_{port})		3 (gn)	MX4-	
4	(bu)	MX3+	4 (bu)	MX3+			4 (ye)	MX1-	
5	(bu/wh)	MX3-	5 (bu/wh)	MX3-			5 (gr)	MX2+	
6	(og)	MX2-	6 (og)	MX2-	(pos. / neg. V_{port})		6 (pk)	MX1+	
7	(bn/wh)	MX4+	7 (bn/wh)	MX4+			7 (bu)	MX3+	
8	(bn)	MX4-	8 (bn)	MX4-			8 (rd)	MX2-	

Interfaces for Power Supply and Digital IOs

M8 3 pins			M8 4 pins			M8 8 pins		
								
1	(brown)	Power V_{CC}	1 (brown)	TrigIN+		1 (white)	Out 3	
3	(blue)	GND	2 (white)	TrigIN-		2 (brown)	In 2	
4	(black)	NC	3 (blue)	$Flash_{out}$		3 (green)	In 1	
			4 (black)	U_{ext}		4 (yellow)	IO GND	
						5 (grey)	IO Power V_{CC}	
						6 (pink)	Out 1	
						7 (blue)	Out 2	
						8 (red)	In 3	

Power Supply	
Power V_{CC}	8 V DC ... 30 V DC
I	620 mA ... 120 mA
Power consumption P	approx. 3.5 ... 6 W

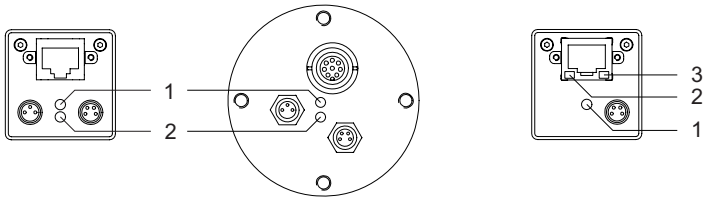
Notice

Further technical details available in the respective data sheets.

LED Signaling

LEDs of camera types:

Camera Type	2 LEDs	3 LEDs
Standard	■	□
PoE	□	■
IP	■	□
I/O	■	□



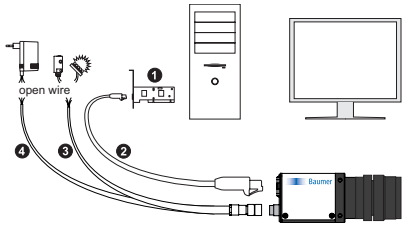
2 LEDs	Signal	Meaning
1	green	Power on
	yellow	Readout active
2	green	Link active
	green flash	Receiving
	yellow	Transmitting
	yellow / red flash	Receiving and Transmitting

3 LEDs	Signal	Meaning
1	green	Power on
	yellow	Readout active
2	green	Link active
	green flash	Receiving
3	red	Transmitting

Installation

Installation of standard cameras:

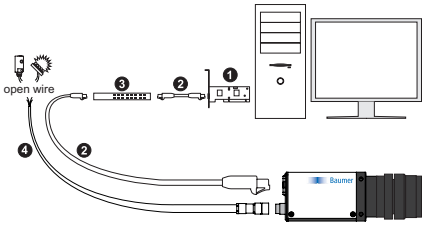
- Connect the camera using an appropriate cable (at least Cat-5e) to the GigE board on your PC (8P8C mod jack)
- If required, connect a trigger and / or flash to the 4-pin M8 male connector
- Connect the camera to power supply



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

Installation of cameras with PoE:

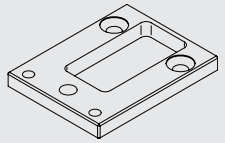
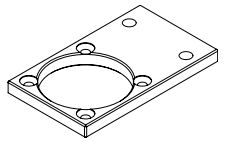
- Connect the camera using an appropriate cable (at least Cat-5e) to a free port of a PoE capable ethernet switch
- Establish the connection between switch and GigE board on your PC
- If required, connect a trigger and / or flash to the 4-pin M8 male connector



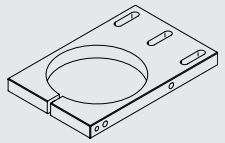
Installation sample
1 - PCI board;
2 - GigE cable;
3 - PoE capable ethernet switch or Baumer PoE components;
4 - Cable for trigger and flash

Mounting Adapters

For Standard Cameras:

	Name	Item-No.
	Tripod mounting adapter	11003060
	Front mounting adapter	11002638

For Cameras with IP67 housing:

	Name	Item-No.
	IP mounting Adapter	11003947