

ZVZG30x

High-Resolution Lens



Operating Instructions

Original operating instructions
Subject to change without notice
Available as PDF file only
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www.wenglor.com

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1. General

1.1 Information Concerning these Instructions

- These instructions enable safe and efficient use of B60 Smart Cameras.
- These instructions are an integral part of the product and must be kept on hand for the entire duration of its service life.
- Local accident prevention regulations and national work safety regulations must be complied with as well.
- The product is subject to further technical development, and thus the information contained in these operating instructions may also be subject to change. The current version can be found at www.wenglor.com in the product's separate download area.



NOTE!

The operating instructions must be read carefully before using the product and must be kept on hand for later reference.

1.2 Explanations of Symbols

- Safety precautions and warnings are emphasized by means of symbols and attention-getting words.
- Safe use of the product is only possible if these safety precautions and warnings are adhered to.

The safety precautions and warnings are laid out in accordance with the following principle:



ATTENTION-GETTING WORD!

Type and Source of Danger!

Possible consequences in the event that the hazard is disregarded.

- Measures for averting the hazard.

The meanings of the attention-getting words, as well as the scope of the associated hazards, are listed below:



DANGER!

This word indicates a hazard with a high degree of risk which, if not avoided, results in death or severe injury.



WARNING!

This word indicates a hazard with a medium degree of risk which, if not avoided, may result in death or severe injury.



CAUTION!

This word indicates a hazard with a low degree of risk which, if not avoided, may result in minor or moderate injury.



ATTENTION!

This word draws attention to a potentially hazardous situation which, if not avoided, may result in property damage.



NOTE!

A note draws attention to useful tips and suggestions, as well as information regarding efficient, error-free use.

1.3 Limitation of Liability

- The product has been developed taking into account the state of the art as well as the applicable standards and guidelines.
- We reserve the right to make technical changes.
- A valid declaration of conformity can be found at www.wenglor.com in the download area of the product.
- wenglor sensoric elektronische Geräte GmbH (hereinafter „wenglor“) accepts no liability for:
 - » Failure to observe the operating manual,
 - » Unsuitable or improper use of the product,
 - » Excessive use, incorrect or negligent treatment of the product,
 - » Incorrect installation or commissioning,
 - » Use of untrained personnel,
 - » Use of unauthorized spare parts or
 - » Improper or unauthorized changes, modifications or repair work to the products.
- This operating manual does not contain any guarantees/warranties from wenglor with regard to the processes described or certain product properties.
- wenglor assumes no liability with regard to printing errors or other inaccuracies contained in this operating manual, unless it can be proven that wenglor was aware of the errors at the time the operating manual was created.

1.4 Copyrights

- The contents of these instructions are protected by copyright law.
- All rights are reserved by wenglor.
- Commercial reproduction or any other commercial use of the provided content and information, in particular graphics and images, is not permitted without previous written consent from wenglor.

2. For Your Safety

2.1 Use for Intended Purpose

High-resolution lenses are used in image processing applications. They can be mounted to digital cameras with C mount threaded connection in order to focus the camera to a certain working distance. The high-resolution lenses are especially well suited for image chips with small pixel sizes and are insensitive to vibrations and shocks. The lenses have a fixed focal distance, and aperture as well as focus can be adjusted as desired.

2.2 Use for Other than the Intended Purpose

- The product is not a safety component in accordance with the EC Machinery Directive.
- The product is not suitable for use in potentially explosive atmospheres.
- Protect the product against contamination and mechanical influences.
- The product may be used only with accessories supplied or approved by wenglor, or in combination with approved products. A list of approved accessories and combination products can be found at www.wenglor.com on the product detail page.



WARNING!

Risk of personal injury or property damage in case of use for other than the intended purpose!

Use for other than the intended purpose may lead to hazardous situations.

- Instructions regarding use for intended purpose must be observed.
-



WARNING!

Never look through the lens into a strong light source, such as the sun!

This can lead to serious injuries to the eyes.



WARNING!

Do not expose the lens to direct sunlight!

The lens can focus the light onto an object and cause a fire.

2.3 General Safety Precautions



NOTE!

- These instructions are an integral part of the product and must be kept on hand for the entire duration of its service life.
- In the event of possible changes, the respectively current version of the operating instructions can be accessed at www.wenglor.com in the product's separate download area.
- Read the operating instructions carefully before using the product.
- The lens must be protected against contamination and mechanical influences.

2.4 Approvals

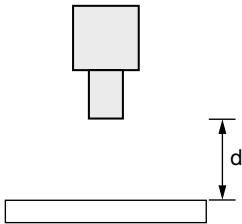


RoHS

3. Technical Data

Technical Data	Order No.	ZVZG301	ZVZG302	ZVZG303	ZVZG304
	Optical Data				
Focal distance	16 mm	25 mm	35 mm	50 mm	
Maximum sensor size	1,2"				
Minimum pixel size	2,74 μm				
Wavelength spectrum	Visible light				
Mechanical Data					
Lens thread	C-Mount				
Aperture	Arrestable; ajustable				
Setting range aperture	F 2,4...16				
Temperature range	-10...50 °C				
Minimum object distance *	100 mm	150 mm	150 mm	250 mm	
Filter screw size	M40 x 0,5 mm	M37 x 0,5 mm	M40 x 0,5 mm	M40 x 0,5 mm	
Weight	185 g	165 g	175 g	180 g	
Packaging unit	1 piece				

* The distance (d) is defined as the distance between the front edge of the lens and the inspection object.



3.1 Visual Field Table

Machine Vision Cameras with image chip 1/1,1'' (e.g. BBVK005, BBVK006):

Distance in mm	Visual field in mm (width x height)			
	ZVZG301	ZVZG302	ZVZG303	ZVZG304
100	59 x 43	34 x 25	21 x 15	11 x 8
200	129 x 95	79 x 58	53 x 39	34 x 25
400	269 x 197	168 x 123	117 x 86	79 x 58
600	410 x 300	258 x 189	181 x 133	123 x 90
800	550 x 403	348 x 255	245 x 180	168 x 123
1000	690 x 506	438 x 321	309 x 227	213 x 156

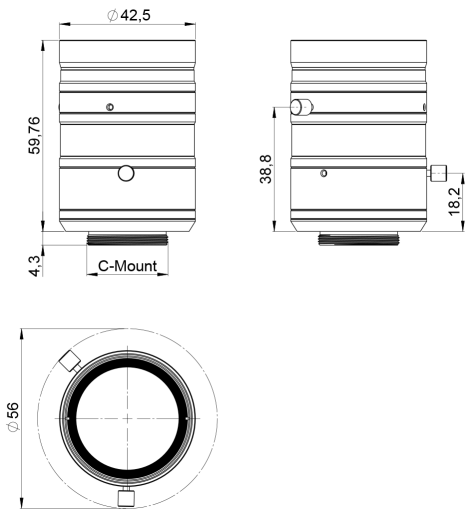
Machine Vision Cameras with image chip 1/2'' (e.g. BBVK007, BBVK008):

Distance in mm	Visual field in mm (width x height)			
	ZVZG301	ZVZG302	ZVZG303	ZVZG304
100	77 x 66	44 x 38	27 x 23	15 x 13
200	168 x 145	102 x 88	69 x 59	44 x 38
400	350 x 303	219 x 189	152 x 131	102 x 88
600	532 x 460	335 x 290	235 x 203	160 x 139
800	714 x 618	452 x 391	319 x 275	219 x 189
1000	896 x 775	569 x 492	402 x 348	277 x 239

3.2 Dimensional Drawing

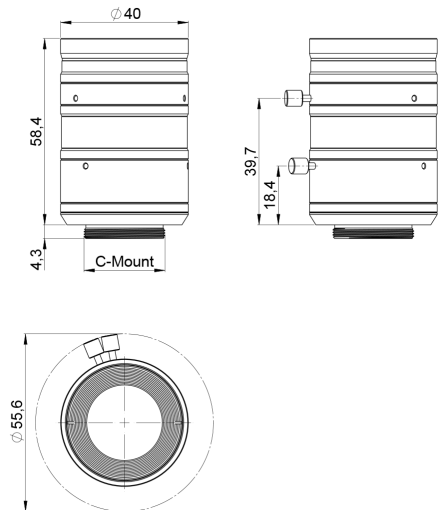
ZVZG301:

Ø 42.5 × 59.8 mm

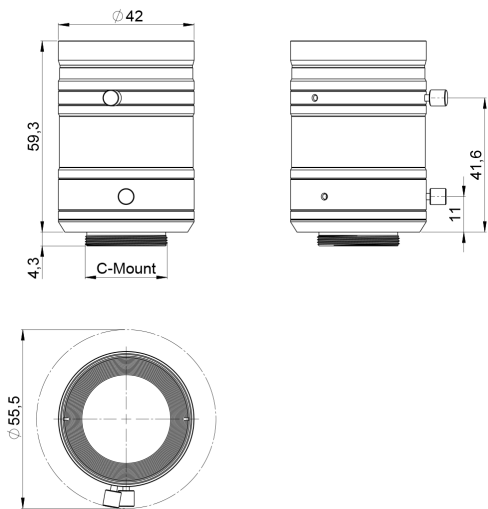


ZVZG302:

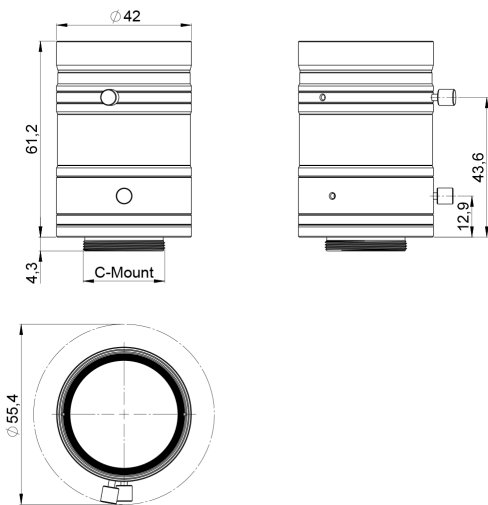
Ø 40 × 58.4 mm



ZVZG303:
Ø 42 × 59.3 mm



ZVZG304:
Ø 42 × 61.2 mm



4. Transport and Storage

4.1 Transport

Upon receipt of shipment, the goods must be inspected for damage in transit. The manufacturer must be informed without delay concerning damage to the package. When returning the package, clear indication of transport damage must be attached.

4.2 Lieferumfang

- 1 x Lens ZVZG
- 2 x grub screw for locking the aperture and focus

4.3 Storage

The following points must be taken into consideration with regard to storage:

- Do not store the product outdoors.
- Store the product in a dry, dust-free place.
- Protect the product against mechanical impacts.
- Protect the product against exposure to direct sunlight.
- Observe storage temperature.



ATTENTION!

Risk of material damage if not stored properly!

Damage to the product possible.

- Observe storage regulations.
-

5. Montage

- Observe all applicable mechanical regulations, standards, and safety rules.
- Make sure that the product is mounted in a mechanically secure fashion.
- Mount the lens to the digital camera using the C mount threaded connection.



ATTENTION!

Risk of property damage in case of improper installation!

The product may be damaged.

- Comply with installation instructions.
-



CAUTION!

Risk of personal injury or property damage during installation!

Personal injury and damage to the product may occur.

- Ensure a safe installation environment.
-

6. Settings

6.1 Aperture Setting

- Loosen the aperture locking screw
- Turn the lens aperture ring to the desired position
- Tighten the aperture locking screw

6.2 Focus Setting

- Loosen the focus locking screw
- Rotate the focus ring of the lens to the desired position so that the camera image is sharp
- Tighten the focus locking screw



NOTE!

it is advisable to establish a connection to the camera first via uniVision software in order to view the current camera image. Aperture and focus settings can then be adjusted accordingly.

7. Complementary Products

Order number	Product description
Z0070	Allen key with threaded pins

8. Maintenance



NOTE!

- This wenglor product is maintenance-free.
- It's advisable to clean the lens at regular intervals.
- Do not clean the product with solvents or cleansers which could damage the product.

9. Proper Disposal

wenglor sensoric GmbH does not accept the return of unusable or irreparable products. Respectively valid national waste disposal regulations apply to product disposal.