



## **ZEISS Industrial Lenses**

Professional lenses for your machine vision applications







**Ensuring reliable  
results with high-  
performance optics.**

ZEISS Industrial Lenses

// PRECISION  
MADE BY ZEISS



# The company ZEISS

## Many years of optical expertise

ZEISS is a leading international technology group active in the optical and optoelectronic industry headquartered in Oberkochen, Germany. Founded in Jena, Germany in 1846, the ZEISS Group has about 30,500 employees and is active in almost 50 countries worldwide with around 60 own sales and service companies as well as 30 production and development sites.

With its solutions, ZEISS is driving advancement in the world of optics and helping shape technological progress. Impressive works of photographic and cinematographic art have been created using ZEISS lenses since 1890. “The Lord of the Rings”, “James Bond 007: Skyfall” and “The Revenant” are just a few examples.

### Industrial lenses from ZEISS for outstanding results

The experience gained in over 100 years of lens development is also reflected in ZEISS lenses for industrial use. ZEISS industrial lenses are used to monitor complex production processes and for quality assurance among other purposes.

### Full control through precision adjustments

ZEISS industrial lenses deliver excellent results due to their outstanding imaging performance and precise manual adjustment options. They particularly stand out in regard to durability due to their robust metal housing which withstands high shock and extreme temperatures. Due to their low distortion, objects can be detected with precision from varying distances. The ZEISS T\* anti-reflective coating reduces unwanted reflections to a minimum and increases contrast. ZEISS industrial lenses’ fixing screws are practical for use in rugged conditions. With these screws, both the aperture and the manual focus can be locked into place. As a result, the lenses still produce sharp images, even when exposed to vibrations from nearby production equipment.

All these technical features ensure our customers can achieve the best optical performance for their machine vision applications.



# ZEISS Dimension Lenses

## High precision lenses for greater efficiency



- Excellent image quality in compact housing
- Precise adjustable FFD and scales orientation
- High-value metal housing resists rough climatic conditions
- ZEISS T\* coating allows broad spectral transmission in VIS and NearIR wavelengths
- Shock and vibration resistant due to locking screws

**Mount:** C-mount  
**Sensor Format:** Line scan up to 21.6 mm or area scan up to 17.3x13.0 mm<sup>2</sup> (4/3" sensor)  
**Resolution:** Pixel size down to 2.0 µm (at 30% contrast)

ZEISS Dimension 2.8/8
ZEISS Dimension 2/12
ZEISS Dimension 2/18
ZEISS Dimension 2/25
ZEISS Dimension 2/35
ZEISS Dimension 2/50

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Dimension 2.8/8	8 mm	2.8 - 22	180.6 mm	1:14.3	102 mm	59.0 mm (∞ - MOD)	86.0 mm	376 g	M72 x 0.75
Dimension 2/12	12 mm	2 - 22	180.4 mm	1:10.0	101 mm	60.0 mm (∞ - MOD)	64.0 mm	264 g	M43 x 0.75
Dimension 2/18	18 mm	2 - 22	170.5 mm	1:5.6	91 mm	61.2 mm (∞ - MOD)	63.0 mm	291 g	M43 x 0.75
Dimension 2/25	25 mm	2 - 22	231.9 mm	1:6.3	153 mm	60.0 mm (∞ - MOD)	64.0 mm	283 g	M43 x 0.75
Dimension 2/35	35 mm	2 - 22	288.6 mm	1:5.6	209 mm	70.0 mm (∞ - MOD)	64.0 mm	323 g	M49 x 0.75
Dimension 2/50	50 mm	2 - 22	390.3 mm	1:5.5	311 mm	69.0 mm (∞) 81.0 mm (MOD)	64.0 mm	306 g	M49 x 0.75

\* imperial units can be found in the datasheets on our website [www.zeiss.com/automatedimaginglenses](http://www.zeiss.com/automatedimaginglenses)

ZEISS Interlock Lenses

Professional lenses with robust locking screws



- Excellent image quality
  - Full-metal housing and focus ring
  - Superior locking screws for focus and aperture
  - Future proof lenses for high-resolution cameras
  - High contrast through control of stray light
- Mount:** F-mount; M42x1-mount (for 45.5 mm FFD)
- Sensor Format:** Line scan up to 43 mm or area scan up to 24x36 mm<sup>2</sup>
- Resolution:** Pixel size down to 2.8 µm (at 30% contrast)

ZEISS Interlock 2.8/15
ZEISS Interlock 2.8/18
ZEISS Interlock 2.8/21
ZEISS Interlock 1.4/25
ZEISS Interlock 1.4/35
ZEISS Interlock 2/35
ZEISS Interlock 1.4/50
ZEISS Interlock 2/50
ZEISS Interlock 1.4/85
ZEISS Interlock 2/100
ZEISS Interlock 2/135

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Interlock 2.8/15	15 mm	2.8 - 22	250 mm	1:9.0	90 mm	90.0 mm (∞ - MOD)	102.8 mm	927 g	M95 x 1.0
Interlock 2.8/18	18 mm	2.8 - 22	250 mm	1:7.4	120 mm	82.7 mm (∞ - MOD)	90.2 mm	722 g	M77 x 0.75
Interlock 2.8/21	21 mm	2.8 - 22	220 mm	1:5.0	90 mm	84.8 mm (∞ - MOD)	95.2 mm	785 g	M82 x 0.75
Interlock 1.4/25	25 mm	1.4 - 16	252 mm	1:4.6	93 mm	113.4 mm (∞ - MOD)	95.2 mm	1.218 g	M82 x 0.75
Interlock 1.4/35	35 mm	1.4 - 16	300 mm	1:4.6	140 mm	116.8 mm (∞ - MOD)	84.8 mm	1.178 g	M72 x 0.75
Interlock 2/35	35 mm	2 - 22	300 mm	1:5.3	180 mm	72.7 mm (∞) 78.2 mm (MOD)	77.0 mm	716 g	M58 x 0.75
Interlock 1.4/50	50 mm	1.4 - 16	450 mm	1:6.7	340 mm	83.8 mm (∞) 86.0 mm (MOD)	82.8 mm	942 g	M67 x 0.75
Interlock 2/50	50 mm	2 - 22	240 mm	1:2.0	100 mm	64.2 mm (∞) 94.4 mm (MOD)	80.8 mm	720 g	M67 x 0.75
Interlock 1.4/85	85 mm	1.4 - 16	800 mm	1:8.3	650 mm	94.5 mm (∞) 102.8 mm (MOD)	90.0 mm	1.277 g	M77 x 0.75
Interlock 2/100	100 mm	2 - 22	440 mm	1:2.0	250 mm	94.0 mm (∞) 114.8 mm (MOD)	80.5 mm	875 g	M67 x 0.75
Interlock 2/135	135 mm	2 - 22	800 mm	1:4.0	620 mm	105.1 mm (∞) 113.8 (MOD)	90.0 mm	1.126 g	M77 x 0.75

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ZEISS Interlock Compact Lenses

Compact lenses for large sensors



- Compact and lightweight
  - High and unwavering image quality
  - Full-metal housing and focus ring
  - Superior locking screws for focus and aperture
  - Optical design developed for high-resolution cameras
- Mount:** E-mount, M42x1-mount (for 18 mm FFD)
- Sensor Format:** Line scan up to 43 mm or area scan up to 24x36 mm<sup>2</sup>
- Resolution:** Pixel size down to 2.5 µm (at 30% contrast)

ZEISS Interlock Compact 2.8/21
ZEISS Interlock Compact 2.4/25
ZEISS Interlock Compact 2/35
ZEISS Interlock Compact 2/50
ZEISS Interlock Compact 2.4/85

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Interlock Compact 2.8/21	21 mm	2.8 - 22	250 mm	1:7.8	160 mm	67.0 mm (∞) 68.8 mm (MOD)	74.4 mm	448 g	M52 x 0.75
Interlock Compact 2.4/25	25 mm	2.4 - 22	250 mm	1:6.4	163 mm	69.2 mm (∞) 72.0 mm (MOD)	74.4 mm	474 g	M52 x 0.75
Interlock Compact 2/35	35 mm	2.0 - 22	300 mm	1:5.8	230 mm	54.0 mm (∞) 62.4 mm (MOD)	74.4 mm	394 g	M52 x 0.75
Interlock Compact 2/50	50 mm	2.0 - 22	450 mm	1:6.9	370 mm	54.0 mm (∞) 62.1 mm (MOD)	74.4 mm	374 g	M52 x 0.75
Interlock Compact 2.4/85	85 mm	2.4 - 22	800 mm	1:7.2	685 mm	89.8 mm (∞) 104.1 mm (MOD)	74.4 mm	648 g	M52 x 0.75

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# ZEISS VENTUM Lens

Lightweight lens for new perspectives



- Excellent for aerial applications
- Lightweight alloy housing
- Outstanding image quality
- Fixed focus settings to reduce number of moving parts
- Splash-water and dust-resistant lens housing

**Mount:** E-mount  
**Sensor Format:** Line scan up to 43 mm or area scan up to 24x36 mm<sup>2</sup>  
**Resolution:** Pixel size down to 2.5 µm (at 30% contrast)

ZEISS Ventum 2.8/21

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Ventum 2.8/21	21 mm	2.8 - 22	fixed to 15 m	—	—	67.8 mm (∞ - MOD)	62.0 mm	227 g	M52 x 0.75

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# ZEISS Classic Lenses

Proven optical design in a sturdy metal housing



- High image quality
- Locking screws for focus and aperture
- Full-metal housing and focus ring
- Precise manual focus

**Mount:** F-mount; M42x1-mount (for 45.5 mm FFD)  
**Sensor Format:** Line scan up to 43 mm or area scan up to 24x36 mm<sup>2</sup>  
**Resolution:** Pixel size down to 3.4 µm (at 30% contrast)

ZEISS Distagon T\* 2.8/25  
ZEISS Distagon T\* 2/28  
ZEISS Distagon T\* 2/35  
ZEISS Planar T\* 1.4/50  
ZEISS Planar T\* 1.4/85

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Distagon T* 2.8/25	25 mm	2.8 - 22	170 mm	1:2.3	60 mm	66.2 mm (∞) 77.6 mm (MOD)	64.4 mm	460 g	M58 x 0.75
Distagon T* 2/28	28 mm	2 - 22	240 mm	1:4.7	120 mm	68.2 mm (∞) 72.8 mm (MOD)	64.4 mm	500 g	M58 x 0.75
Distagon T* 2/35	35 mm	2 - 22	300 mm	1:5.3	180 mm	68.6 mm (∞) 77.8 mm (MOD)	64.4 mm	530 g	M58 x 0.75
Planar T* 1.4/50	50 mm	1.4 - 16	450 mm	1:6.7	351 mm	44.7 mm (∞) 51.9 mm (MOD)	66.0 mm	330 g	M58 x 0.75
Planar T* 1.4/85	85 mm	1.4 - 16	1000 mm	1:10.0	883 mm	62.1 mm (∞) 70.6 mm (MOD)	77.2 mm	600 g	M72 x 0.75

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# ZEISS ZM-I Lenses

Reliable quality for safe results



- Precise manual focus
- Excellent image quality
- Compact and lightweight
- Robust full-metal housing

**Mount:** M42x1-mount (for 26.8 mm FFD)  
**Sensor Format:** Line scan up to 43 mm or area scan up to 24x36 mm<sup>2</sup>  
**Resolution:** Pixel size down to 3.4 µm (at 30% contrast)

ZEISS Biogon T* 2.8/21
ZEISS Biogon T* 2/35
ZEISS C Sonnar T* 1.5/50

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Biogon T* 2.8/21	21 mm	2.8 - 22	500 mm	1:21.0	420 mm	51.8 mm (∞) 52.9 mm (MOD)	67 mm	300 g	M46 x 0.75
Biogon T* 2/35	35 mm	2 - 22	700 mm	1:18.0	630 mm	44.3 mm (∞) 46.3 mm (MOD)	65 mm	240 g	M43 x 0.75
C Sonnar T* 1.5/50	50 mm	1.5 - 16	900 mm	1:15.0	830 mm	39.0 mm (∞) 42.3 mm (MOD)	68 mm	250 g	M46 x 0.75

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# ZEISS Otus Lenses

Uncompromising image quality



- Exceptionally high contrast
- Practically no color fringes for short inspection times in high-speed applications
- Virtually no distortion
- Extremely smooth rotation angle for the very best usability

**Mount:** EF-mount, F-mount  
**Sensor Format:** Line scan up to 43 mm or area scan up to 24x36 mm<sup>2</sup>  
**Resolution:** Pixel size down to 2.0 µm (at 30% contrast)

ZEISS Otus 1.4/28
ZEISS Otus 1.4/55
ZEISS Otus 1.4/85
ZEISS Otus 1.4/100

Product	Focal length	Aperture	Min. object distance*	Max. magnification ratio	Min. working distance*	Length*	Diameter*	Weight*	Filter thread
Otus 1.4/28	28 mm	1.4 - 16	300 mm	1:5.5	150 mm	ZF.2: 128.1 mm (∞ - MOD) ZE: 129.8 mm (∞ - MOD)	108.9 mm	ZF.2: 1350 g ZE: 1390 g	M95 x 1.00
Otus 1.4/55	55 mm	1.4 - 16	500 mm	1:6.8	330 mm	ZF.2: 116.7 mm (∞ - MOD) ZE: 118.9 mm (∞ - MOD)	92.4 mm	ZF.2: 970 g ZE: 1030 g	M77 x 0.75
Otus 1.4/85	85 mm	1.4 - 16	800 mm	1:7.7	650 mm	ZF.2: 112.5 mm (∞ - MOD) ZE: 115.0 mm (∞ - MOD)	101.0 mm	ZF.2: 1140 g ZE: 1200 g	M86 x 1.00
Otus 1.4/100	100 mm	1.4 - 16	1000 mm	1:8.6	830 mm	ZF.2: 126.5 mm (∞ - MOD) ZE: 128.8 mm (∞ - MOD)	101.0 mm	ZF.2: 1336 g ZE: 1405 g	M87 x 0.75

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