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## vicotar® Telecentric Lens - TO18/9.0-85-F10-BW-RF

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<b>Short description:</b>	Telecentric Lens, C-mount, sensor opt. 1/1.8", aperture F10, vibration-proof, blue
<b>Order number:</b>	2-05-541
<b>EAN:</b>	4251692620922



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### Characteristics

- telecentric measurement objective with object-sided telecentric beam path
  - color corrected for the visible spectral range and near infrared
  - color correction extended deep into the blue spectral range
  - very well suited for blue LEDs including "Deep Blue" LEDs
  - thus especially suitable for white LEDs, as these have a strong blue light component
  - high resolution, low lateral chromatic aberration, low distortion, low telecentric error
  - fixed aperture
  - robust industrial design
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## Technical data

Image scale	0.5
Spectral range	450 nm - 950 nm
Working distance	85.0 mm
Camera distance (object-camera flange)	160 mm
Object field diagonal (max.)	18 mm
Sensor format (opt.)	1/1.8"
Image field diagonal (max.)	9 mm
Suitable for camera resolution	9.6 MPixel
Recommended pixel size	2 $\mu$ m
Aperture	fixed (F10)
Lens mount	C-Mount
Filter thread, object-side	M27x0.5 (filter adapter)
Weight	85 g
Usable object field with:	
• 1/1.8" sensor (7.1 x 5.4 mm <sup>2</sup> )	14.2 mm x 10.8 mm
• 1/2" sensor (6.4 x 4.8 mm <sup>2</sup> )	12.8 mm x 9.6 mm
• 1/3" sensor (4.8 x 3.6 mm <sup>2</sup> )	9.6 mm x 7.2 mm

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## Notices

The lightings combination products shown are a selection. Depending on the application, other colors and light source types can also be used.

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## Can be combined with

Order number	Title	Description
<b><i>TZB28-P-SL series</i></b>		
1-33-230	TZB28-B450-P-SL	telecentric light, blue, lf diameter: 28 mm, smart light
1-33-231	TZB28-IR850-P-SL	telecentric light, IR850, lf diameter: 28 mm, smart light
<b><i>TZB28-P-24V series</i></b>		
1-33-240	TZB28-B450-P-24V	telecentric light, blue, lf diameter: 28 mm, 24V, switchable
1-33-284	TZB28-B450-HP-24V	telecentric light, blue, lf diameter: 28 mm, 24V, switchable, high power
1-33-241	TZB28-IR850-P-24V	telecentric light, IR850, lf diameter: 28 mm, 24V, switchable
1-33-285	TZB28-IR850-HP-24V	telecentric light, IR850, lf diameter: 28 mm, 24V, switchable, high power
<b><i>R-CLR-38-SL series</i></b>		
1-33-022	R-CLR-38x20-B470-SL	ring light, blue, coaxial, lf diameter: 20/38 mm, smart light technology
<b><i>RK1220-24V-BA series</i></b>		
1-10-243	RK1220-B470-24V/BA	ring light, blue, coaxial, lf diameter: 24/40 mm, static/switchable
<b><i>R-CLR-69-SL series</i></b>		
1-33-007	R-CLR-69x41-B470-SL	ring light, blue, coaxial, lf diameter: 41/69 mm, smart light technology
<b><i>RK2036-24V series</i></b>		
1-29-602	RK2036-B470-24V/C	ring light, blue, coaxial, lf diameter: 41/69 mm, controlled, pot.: 0-10V,

## Accessories for Telecentric Lenses - TO18/9.0-85-F10-BW-RF

Order number	Title	Description
<b><i>Adjustment Aids</i></b>		

<b>Order number</b>	<b>Title</b>	<b>Description</b>
5-10-110	Adjustment aid 2.7	for easy adjustment to 2.7 mm depth of field, for image scale 1.2 - 0.7
5-10-111	Adjustment aid 5	for easy adjustment to 5 mm depth of field, for image scale 0.7 - 0.5
5-10-112	Adjustment aid 10	for easy adjustment to 10 mm depth of field, for image scale 0.5 - 0.2
5-10-114	Adjustment aid 20	for easy adjustment to 20 mm depth of field, for image scale 0.2 - 0.1
<b><i>Lens mount</i></b>		
2-90-138	Lens Holder d28	Holder for telecentric lenses and lightings with d = 28 mm
<b><i>Extension tubes</i></b>		
2-90-415	Extension ring 0.5 mm	26 x 31 x 0.5 reduces the minimum object distance (MOD)
2-90-416	Extension ring 1.0 mm	26 x 31 x 1.0 reduces the minimum object distance (MOD)
2-90-419	Extension ring 0.1 mm	25.5 x 29 x 0.1 reduces the minimum object distance (MOD)
2-90-420	Extension ring 0.2 mm	25.5 x 29 x 0.2 reduces the minimum object distance (MOD)
<b><i>Thread adapter c-mount</i></b>		
5-00-011	Thread adapter C-Mount-M42	Adapter for mounting of lenses with C-mount on cameras with M42x1 mount
2-90-414	CS to C-mount adapter 5.0 mm	for connecting C-mount lenses with CS-mount cameras, length: 5 mm
<b><i>Neutral density filter</i></b>		
2-91-256	ND filter 3.0 M27x0.5	optical density 3.0 - 0.1% transmission, f-stop reduction 10, filter thread M27x0.5
2-91-246	ND filter 1.2 M27x0.5	optical density 1.2 - 6.3% transmission, f-stop reduction 4, filter thread M27x0.5
2-91-236	ND filter 0.6 M27x0.5	optical density 0.6 - 25% transmission, f-stop reduction 2, filter thread M27x0.5
<b><i>Daylight blocking filter</i></b>		

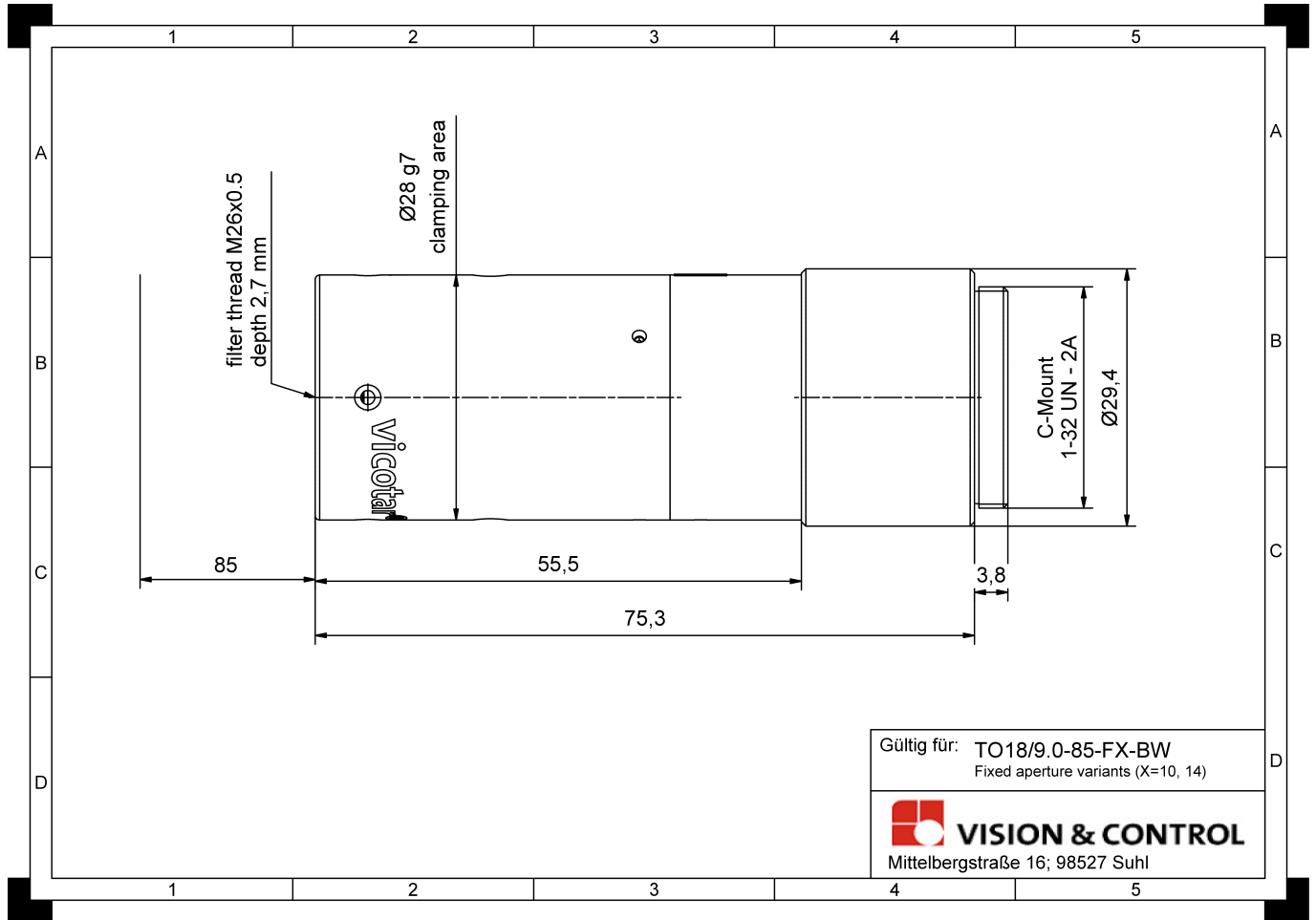
<b>Order number</b>	<b>Title</b>	<b>Description</b>
2-91-133	IR filter M26x0.5	long-pass filter from 830 nm, daylight absorbing filter, filter thread M26x0.5
<b><i>Polarising filters</i></b>		
2-91-226	Pole filter M27x0.5	linear polarizing filter, range 420 nm - 780 nm, filter thread M27x0.5
<b><i>Colour filter blue</i></b>		
2-91-283	Colour filter blue M27x0.5	band-pass filter, range 350 nm - 600 nm, filter thread M27x0.5
<b><i>UV Cut-Off Filter</i></b>		
2-91-123	UV blocking filter M26x0.5	long-pass filter from 350 nm, usable as protective glass, filter thread M26x0.5
<b><i>Colour filter red</i></b>		
2-91-265	Colour filter red M27x0.5	long-pass filter from 630 nm, red, filter thread M27x0.5
<b><i>Colour filter green</i></b>		
2-91-296	Colour filter green M27x0.5	band-pass filter, range 430 nm - 620 nm, filter thread M27x0.5
<b><i>Colour filter yellow</i></b>		
2-91-270	Colour filter yellow M27x0.5	long-pass filter from 530 nm, yellow, filter thread M27x0.5
<b><i>Filter adapter</i></b>		
2-91-112	Filter adapter M26-M27	step-up ring for use of a M27x0.5 filter on a M26x0.5 filter thread
<b><i>Deflection mirror 90° series</i></b>		
2-25-126	Deflection mirror 90-28	90° deflection, attachment for telecentric lenses and lightings with d = 28 mm
<b><i>Adapters for attaching lights to lenses</i></b>		
1-33-026	Adapter ring d20.4 - M26x0.5	for R-CLR-38x20, for attachment to lenses with filter thread M26x0.5
1-10-007	Adapter ring d27 - M26x0.5	for RK1220, for attachment to lenses with filter thread M26x0.5

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Order number	Title	Description
1-29-673	Adapter ring d41 - M26x0.5	for R-CLR-69x41 and RK2036, for attachment to lenses with filter thread M26x0.5
<b>Beam splitter STE30x30</b>		
1-18-050	STE30x30-VIS	Beam splitter unit for coaxial light system, optimized for 450-700 nm
1-18-026	Adapter STE30x30 - TZ028	Attachment of the STE30x30 to telecentric lenses and lightings with $d = 28$ mm

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**Drawings**



Dimensional drawing in mm