

# TCZR072

Bi-telecentric zoom with motorized controls, magnification 0.125x to 1x, for detectors up to 2/3"

## SPECIFICATIONS

Magnification	(x)	0.125	0.250	0.500	1.000
Image circle Ø	(mm)	11.0	11.0	11.0	11.0
Object field of view		(mm x mm)			
with 1/3" detector (4.8 x 3.6 mm)		38.4 x 28.8	19.2 x 14.4	9.6 x 7.2	4.8 x 3.6
with 1/2.5" detector (5.70 x 4.28 mm)		45.6 x 34.2	22.8 x 17.1	11.4 x 8.5	5.7 x 4.2
with 1/2" detector (6.4 x 4.8 mm)		51.2 x 38.4	25.6 x 19.2	12.8 x 9.6	6.4 x 4.8
with 1/1.8" detector (7.13 x 5.37 mm)		57.0 x 42.9	28.5 x 21.48	14.2 x 10.7	7.1 x 5.3
with 2/3" - 5 MP detector (8.45 x 7.07 mm)		67.5 x 56.5	33.7 x 28.2	16.8 x 14.1	8.4 x 7.0

### Optical specifications

Working distance	(mm)	157.8	...	...	...
wF/# (1)		16	...	...	...
Telecentricity (2)	(deg)	< 0.05	...	...	...
Distortion	(%)	< 0.1	< 0.08	< 0.05	< 0.07
Field depth (3)	(mm)	45	11	2.8	0.7
CTF @ 70 lp/mm	(%)	> 35	> 40	> 40	> 35
Reference point repeatability at 1 $\sigma$ (4)	( $\mu$ m)	< 6	< 5	< 2	< 4
Max. image displacement between magnification changes (image side)	( $\mu$ m)	350			

### Mechanical specifications

Length	(mm)	279.7	...	...	...
Diameter	(mm)	99	...	...	...
Mass	(g)	2470	...	...	...
Mount		C	...	...	...
Min. time for magnification change (5)	(s)	2.5	...	...	...

### Electrical specifications

Input voltage (6)	(V)	24	...	...	...
Power consumption	(W)	10	...	...	...
Interface		USB 2.0	...	...	...

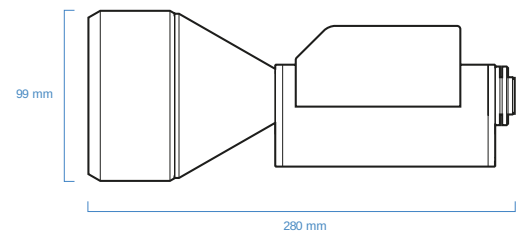
## NOTES

- Working F/#: the real F/# of a lens when used as a macro. Lenses with smaller apertures can be supplied on request
- Maximum slope of principal rays inside the lens: when converted to millirad, it gives the maximum measurement error for any millimeter of object displacement
- At the borders of the field depth the image can be still used for measurement but, to get a very sharp image, only half of the nominal field depth should be considered. Pixel size used for calculation is 3.9  $\mu$ m.
- Image side,  $\sigma$  = standard deviation.
- Refers to the time between subsequent changes of magnification. Set at factory to 2.75 s.
- $\pm 2$  %

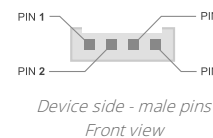
## COMPATIBLE PRODUCTS

LTLAIC series  
Continuous LED low angle diffused ringlights

RT-DLR2-60-120-2-W-24V-FL	Continuous LED low angle diffused ringlight, inner diameter 93 mm, 60°, white
RT-DLR2-60-120-2-R-24V-FL	Continuous LED low angle diffused ringlight, inner diameter 93 mm, 60°, red



### CONNECTION



### Pinout reference

PIN	FUNCTION
1	Not connected
2	GND
3	Power supply (+24 V)
4	Shielding pin



RT-DLR2-60-120-2-G-24V-FL Continuous LED low angle diffused ringlight, inner diameter 93 mm, 60°, green

RT-DLR2-60-120-2-B-24V-FL Continuous LED low angle diffused ringlight, inner diameter 93 mm, 60°, blue

#### LTLADC series

Continuous LED low angle direct ringlights

RT-LLA-75-130-3-W-24V-FL Continuous LED low angle direct ringlights, inner diameter 94 mm, 75°, white

RT-LLA-75-130-3-R-24V-FL Continuous LED low angle direct ringlights, inner diameter 94 mm, 75°, red

RT-LLA-75-130-3-G-24V-FL Continuous LED low angle direct ringlights, inner diameter 94 mm, 75°, green

RT-LLA-75-130-3-B-24V-FL Continuous LED low angle direct ringlights, inner diameter 94 mm, 75°, blue



#### LTRNST series

LED ring illuminators - straight type

LTRN064RD Ring LED illuminator, inner diameter 100 mm, straight type, red 630 nm

LTRN064GR Ring LED illuminator, inner diameter 100 mm, straight type, green 525 nm

LTRN064BL Ring LED illuminator, inner diameter 100 mm, straight type, blue 470 nm

LTRN064NW Ring LED illuminator, inner diameter 100 mm, straight type, white



#### LTBC series

Continuous LED backlight

LTBC114114-W Continuous LED backlight, 114x114 illumination area, white

LTBC114114-G Continuous LED backlight, 114x114 illumination area, green

#### LTBFC series

Continuous flat side-emitting LED backlights

RT-BHD-00-100-1-W-24V-FL Continuous flat side-emitting LED backlight, 100X100 illumination area, white

RT-BHD-00-100-1-R-24V-FL Continuous flat side-emitting LED backlight, 100X100 illumination area, red

RT-BHD-00-100-1-G-24V-FL Continuous flat side-emitting LED backlight, 100X100 illumination area, green

RT-BHD-00-100-1-B-24V-FL Continuous flat side-emitting LED backlight, 100X100 illumination area, blue

#### LTBRDC series

Continuous LED bar lights

RT-LBRX-00-120-6-W-24V-FL Continuous LED bar light, 120X26.3 illumination area, white

RT-LBRX-00-120-6-R-24V-FL Continuous LED bar light, 120X26.3 illumination area, red

RT-LBRX-00-120-6-G-24V-FL Continuous LED bar light, 120X26.3 illumination area, green

RT-LBRX-00-120-6-B-24V-FL Continuous LED bar light, 120X26.3 illumination area, blue



#### CMHO series

Clamping mechanics

CMHOTCZR Clamping mechanics for TCZR



#### CB series

Cables

COCB243P0600 Electric cable for TCZR and MCZR products

COCBUSB20 USB cable for TCZR and MCZR products