



TC23012

Bi-telecentric lens for 2/3" detectors, magnification 0.735 x, C-mount

SPECIFICATIONS

Magnification	(x)	0.735
Image circle Ø	(mm)	11.0

Object field of view (8)

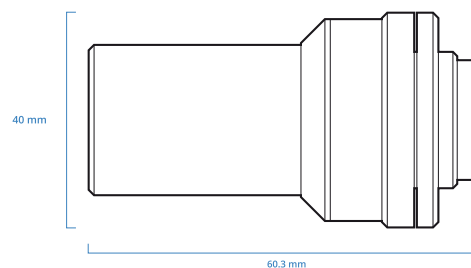
with 1/3" detector (4.8 x 3.6 mm)	(mm x mm)	6.54 x 4.90
with 1/2.5" detector (5.70 x 4.28 mm)	(mm x mm)	7.77 x 5.82
with 1/2" detector (6.4 x 4.8 mm)	(mm x mm)	8.72 x 6.54
with 1/1.8" detector (7.13 x 5.37 mm) (7)	(mm x mm)	9.71 x 7.31
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm x mm)	11.5 x 9.62

Optical specifications

Working distance (1)	(mm)	53.9
wF/# (2)		14
Telecentricity typical (max) (3)	(deg)	< 0.04 (0.10)
Distortion typical (max) (4)	(%)	< 0.04 (0.10)
Field depth (5)	(mm)	2.1
CTF @ 70 lp/mm	(%)	> 25

Dimensions

Mount		C
Phase Adjustment (9)		
Length (6)	(mm)	60.3
Diameter	(mm)	28
Mass	(g)	160



NOTES

- Working distance: distance between the front end of the mechanics and the object. Set this distance within +/- 3% of the nominal value for maximum resolution and minimum distortion.
- Working F-number (wF/#): the real F-number of a lens when used as a macro. Lenses with smaller apertures can be supplied on request.
- Maximum slope of chief rays inside the lens: when converted to millirad, it gives the maximum measurement error for any millimeter of object displacement. Typical (average production) values and maximum (guaranteed) values are listed.
- Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
- 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 5.5 µm.
- Measured from the front end of the mechanics to the camera flange.
- With 1/1.8" (9 mm diagonal) detectors, the FOV of TC12yyy lenses may show some vignetting at the image corners, as these lenses are optimized for 1/2" detectors (8 mm diagonal).
- For the fields with the indication "Ø =", the image of a circular object of such diameter is fully inscribed into the detector.
- Indicates the availability of an integrated camera phase adjustment feature. If missing, it can be supplied upon request (except for TC23004, TC23007, TC23009, TC23012).

COMPATIBLE PRODUCTS



LTCLHP series

High-performance telecentric illuminators

LTCLHP023-R	Telecentric HP illuminator, beam diameter 16 mm, red
LTCLHP023-G	Telecentric HP illuminator, beam diameter 16 mm, green
LTCLHP023-B	Telecentric HP illuminator, beam diameter 16 mm, blue
LTCLHP023-W	Telecentric HP illuminator, beam diameter 16 mm, white



LTLAIC series

Continuous LED low angle diffused ringlights

RT-DLR2-60-050-2-W-24V-FL	Continuous LED low angle diffused ringlight, inner diameter 18 mm, 60°, white, RT-EXT-24V-F-3M 3 meters cable included.
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RT-DLR2-60-050-2-R-24V-FL Continuous LED low angle diffused ringlight, inner diameter 18 mm, 60°, red, RT-EXT-24V-F-3M 3 meters cable included.

RT-DLR2-60-050-2-G-24V-FL Continuous LED low angle diffused ringlight, inner diameter 18 mm, 60°, green, RT-EXT-24V-F-3M 3 meters cable included.

RT-DLR2-60-050-2-B-24V-FL Continuous LED low angle diffused ringlight, inner diameter 18 mm, 60°, blue, RT-EXT-24V-F-3M 3 meters cable included.



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-EXT-24V-F-3M 3 meters cable included.

RT-LLA-75-130-3-R-24V-FL Continuous LED low angle direct ringlights, inner diameter 94 mm, 75°, red, RT-EXT-24V-F-3M 3 meters cable included.

RT-LLA-75-130-3-G-24V-FL Continuous LED low angle direct ringlights, inner diameter 94 mm, 75°, green, RT-EXT-24V-F-3M 3 meters cable included.

RT-LLA-75-130-3-B-24V-FL Continuous LED low angle direct ringlights, inner diameter 94 mm, 75°, blue, RT-EXT-24V-F-3M 3 meters cable included.



LTRNST series

LED ring illuminators - straight type

LTRN023RD Ring LED illuminator, inner diameter 28 mm, straight type, red 630 nm

LTRN023GR Ring LED illuminator, inner diameter 28 mm, straight type, green 525 nm

LTRN023BL Ring LED illuminator, inner diameter 28 mm, straight type, blue 470 nm

LTRN023NW Ring LED illuminator, inner diameter 28 mm, straight type, white



LTRNOB series

LED ring illuminators - oblique type

LTRN075R45 Ring LED illuminator, inner diameter 28 mm, oblique type, red 630 nm

LTRN075G45 Ring LED illuminator, inner diameter 28 mm, oblique type, green 525 nm

LTRN075B45 Ring LED illuminator, inner diameter 28 mm, oblique type, blue 470 nm

LTRN075W45 Ring LED illuminator, inner diameter 28 mm, oblique type, white



LTRNDC series

Continuous LED direct ringlights

RT-LSW-15-050-2-W-24V-FL Continuous LED direct ringlight, inner diameter 28 mm, 15°, white, RT-EXT-24V-F-3M 3 meters cable included.

RT-LSW-15-050-2-R-24V-FL Continuous LED direct ringlight, inner diameter 28 mm, 15°, red, RT-EXT-24V-F-3M 3 meters cable included.

RT-LSW-15-050-2-G-24V-FL Continuous LED direct ringlight, inner diameter 28 mm, 15°, green, RT-EXT-24V-F-3M 3 meters cable included.

RT-LSW-15-050-2-B-24V-FL Continuous LED direct ringlight, inner diameter 28 mm, 15°, blue, RT-EXT-24V-F-3M 3 meters cable included.

RT-LSW-45-070-3-W-24V-FL Continuous LED direct ringlight, inner diameter 35 mm, 45°, white, RT-EXT-24V-F-3M 3 meters cable included.

RT-LSW-45-070-3-R-24V-FL Continuous LED direct ringlight, inner diameter 35 mm, 45°, red, RT-EXT-24V-F-3M 3 meters cable included.

RT-LSW-45-070-3-G-24V-FL Continuous LED direct ringlight, inner diameter 35 mm, 45°, green, RT-EXT-24V-F-3M 3 meters cable included.

RT-LSW-45-070-3-B-24V-FL Continuous LED direct ringlight, inner diameter 35 mm, 45°, blue, RT-EXT-24V-F-3M 3 meters cable included.



LTBC series

Continuous LED backlight

LTBC054054-W Continuous LED backlight, 54x54 illumination area, white

LTBC054054-G Continuous LED backlight, 54x54 illumination area, green



LTFBFC series

Continuous flat side-emitting LED backlights

RT-BHDS-25X36-1-W-24V-FL Continuous flat side-emitting LED backlight, one side edge to edge type, 36X25 illumination area, white, RT-EXT-24V-F-3M 3 meters cable included.

RT-BHDS-25X36-1-R-24V-FL Continuous flat side-emitting LED backlight, one side edge to edge type, 36X25 illumination area, red, RT-EXT-24V-F-3M 3 meters cable included.

RT-BHDS-25X36-1-G-24V-FL Continuous flat side-emitting LED backlight, one side edge to edge type, 36X25 illumination area, green, RT-EXT-24V-F-3M 3 meters cable included.

RT-BHDS-25X36-1-B-24V-FL Continuous flat side-emitting LED backlight, one side edge to edge type, 36X25 illumination area, blue, RT-EXT-24V-F-3M 3 meters cable included.



LTBRDC series

Continuous LED bar lights

RT-LBRX-00-040-6-W-24V-FL Continuous LED bar light, 40X26.3 illumination area, white, RT-EXT-24V-F-3M 3 meters cable included.

RT-LBRX-00-040-6-R-24V-FL	Continuous LED bar light, 40X26.3 illumination area, red, RT-EXT-24V-F-3M 3 meters cable included.
RT-LBRX-00-040-6-G-24V-FL	Continuous LED bar light, 40X26.3 illumination area, green, RT-EXT-24V-F-3M 3 meters cable included.
RT-LBRX-00-040-6-B-24V-FL	Continuous LED bar light, 40X26.3 illumination area, blue, RT-EXT-24V-F-3M 3 meters cable included.



LTCXC series

Continuous LED coaxial lights

RT-CAS2-00-025-X-W-24V-FL	Continuous LED coaxial light, 27x27 active area, white, RT-EXT-24V-F-3M 3 meters cable included.
RT-CAS2-00-025-X-R-24V-FL	Continuous LED coaxial light, 27x27 active area, red, RT-EXT-24V-F-3M 3 meters cable included.
RT-CAS2-00-025-X-G-24V-FL	Continuous LED coaxial light, 27x27 active area, green, RT-EXT-24V-F-3M 3 meters cable included.
RT-CAS2-00-025-X-B-24V-FL	Continuous LED coaxial light, 27x27 active area, blue, RT-EXT-24V-F-3M 3 meters cable included.



CMHO series

Clamping mechanics

CMHO023	Clamping mechanics for TCxx004, 007, 009, 012 and LTCLHP023-X
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