

TC12M036-F

High resolution telecentric lenses, magnification 0.838, WD 101.9

SPECIFICATIONS

Magnification	(x)	0.838
Image circle Ø	(mm)	33.5

Object field of view

with PYTHON 26.07 mm diagonal w x h 18.43 x 18.43	(mm x mm)	22.00 x 22.00
with APS-C CMV12000 28.16 mm diagonal w x h 22.53 x 16.90	(mm x mm)	26.88 x 20.16
with line - 4k detector 4k x 7 µm 28.67	(mm)	34.21
with APS-H PYTHON 32.58 mm diagonal w x h 23.4 x 23.4	(mm x mm)	27.49 x 27.49
with APS-H KAI-16050 32.4 mm diagonal w x h 26.93 x 17.95	(mm x mm)	32.13 x 21.42

Optical specifications

Working distance (1)	(mm)	101.9
wF/# (2)		12
Telecentricity typical (max) (3)	(deg)	<0.08 (0.10)
Distortion typical (max) (4)	(%)	<0.08 (0.10)
Field depth (5)	(mm)	1.4
CTF@ 50 lp/mm	(%)	> 40

Mechanical specifications

Mount (6)		F
Phase adjustment		Yes
Length (7)	(mm)	270.1
Diameter	(mm)	64.0
Mass	(g)	820

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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/#: the real F/# 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 milliradians, 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.
- FD stands for Flange Distance (in mm), defined as the distance from the mounting flange (the "metal ring" in rear part of the lens) to the camera detector plane.
- Measured from the front end of the mechanics to the camera flange.

COMPATIBLE PRODUCTS

Despite the efforts made to generate an error-free compatibility list, we always recommend to consult the Opto Engineering® technical support department before purchasing a compatible product. Opto Engineering® shall not be liable for any damage or malfunctioning caused by the incorrect selection of a compatible product.



LTCLHP series

High-performance telecentric illuminators

LTCLHP036-R	Telecentric HP illuminator, beam diameter 45 mm, red
LTCLHP036-G	Telecentric HP illuminator, beam diameter 45 mm, green
LTCLHP036-B	Telecentric HP illuminator, beam diameter 45 mm, blue



3D preview

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only.



LTLA series

High-power strobed LED low angle diffused ringlights

[LTLAB2-R](#) Diffusive strobed low angle ring light illuminator - medium size high power red

[LTLAB2-G](#) Diffusive strobed low angle ring light illuminator - medium size high power green

[LTLAB2-W](#) Diffusive strobed low angle ring light illuminator - medium size high power white

[LTLAC1-W](#) Diffusive strobed low angle ring light illuminator - large size medium power white

[LTLAC2-R](#) Diffusive strobed low angle ring light illuminator - large size high power red

[LTLAC2-G](#) Diffusive strobed low angle ring light illuminator - large size high power green

[LTLAC2-W](#) Diffusive strobed low angle ring light illuminator - large size high power white



LTRNST series

LED ring illuminators - straight type

[LTRN036RD](#) Ring LED illuminator, inner diameter 61 mm, straight type, red 630 nm

[LTRN036GR](#) Ring LED illuminator, inner diameter 61 mm, straight type, green 525 nm

[LTRN036BL](#) Ring LED illuminator, inner diameter 61 mm, straight type, blue 470 nm

[LTRN036NW](#) Ring LED illuminator, inner diameter 61 mm, straight type, white



LTBC series

Continuous LED backlight

[LTBC054054-W](#) Continuous LED backlight, 54x54 illumination area, white

[LTBC054054-G](#) Continuous LED backlight, 54x54 illumination area, green



WI series

Protective windows

[WI036](#) Protective window for 61 mm clamping diameter optics



CMHO series

Clamping mechanics

[CMHO036](#) Clamping mechanics for TCxx036 lenses and LTCLHP036-X illuminators