

TC12M016-F

High resolution telecentric lenses, magnification 1.825, WD 42.3

SPECIFICATIONS

Magnification	(x)	1.825
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)	10.10 x 10.10
with APS-C CMV12000 28.16 mm diagonal w x h 22.53 x 16.90	(mm x mm)	12.34 x 9.26
with line - 4k detector 4k x 7 µm 28.67	(mm)	15.71
with APS-H PYTHON 32.58 mm diagonal w x h 23.4 x 23.4	(mm x mm)	12.62 x 12.62
with APS-H KAI-16050 32.4 mm diagonal w x h 26.93 x 17.95	(mm x mm)	14.76 x 9.84

Optical specifications

Working distance (1)	(mm)	42.3
wF/# (2)		16
Telecentricity typical (max) (3)	(deg)	<0.08 (0.10)
Distortion typical (max) (4)	(%)	<0.08 (0.10)
Field depth (5)	(mm)	0.4
CTF@ 50 lp/mm	(%)	> 30

Mechanical specifications

Mount (6)		F
Phase adjustment		Yes
Length (7)	(mm)	213.0
Diameter	(mm)	64.0
Mass	(g)	621

Last update: 2019-11-13

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

LTCLHP016-R	Telecentric HP illuminator, beam diameter 20 mm, red
LTCLHP016-G	Telecentric HP illuminator, beam diameter 20 mm, green
LTCLHP016-B	Telecentric HP illuminator, beam diameter 20 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.

LTCLHP016-W Telecentric HP illuminator, beam diameter 20 mm, white



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



LTBC series

Continuous LED backlight

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

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



CMHO series

Clamping mechanics

CMHO016 Clamping mechanics for TCxx016 lenses and LTCLHP016-X illuminators
