

TC13192

Bi-telecentric lens for 1/3" detectors, magnification 0.025 ×, C-mount

SPECIFICATIONS

Magnification	(×)	0.025
Image circle Ø	(mm)	6.0

Object field of view(8)

with 1/3" detector (4.8 x 3.6 mm)	(mm × mm)	192.00 x 144.00
with 1/2.5" detector (5.70 x 4.28 mm)	(mm × mm)	∅ = 171.2
with 1/2" detector (6.4 x 4.8 mm)	(mm × mm)	∅ = 192.0
with 1/1.8" detector (7.13 x 5.37 mm) (7)	(mm × mm)	∅ = 213.2
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm × mm)	∅ = 240.0

Optical specifications

Working distance (1)	(mm)	527
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	< 0.06 (0.08)
Distortion typical (max) (4)	(%)	< 0.04 (0.10)
Field depth (5)	(mm)	1050
CTF @ 70 lp/mm	(%)	> 45

Dimensions

Mount		C
Phase Adjustment (9)		Yes
Length (6)	(mm)	598.2
Diameter	(mm)	260
Mass	(g)	-

NOTES

1. 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.
2. Working F-number (higher wF/#): the real F-number of a lens when used as a macro. Lenses with smaller apertures can be supplied on request.
3. 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.
4. Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
5. 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.
6. Measured from the front end of the mechanics to the camera flange.
7. With 1/1.8" (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).
8. For the fields with the indication "∅ =", the image of a circular object of such diameter is fully inscribed into the detector.
9. Indicates the availability of an integrated camera phase adjustment feature. If missing, it can be supplied upon request (except for TC23004, TC23007, TC23009, TC23012).

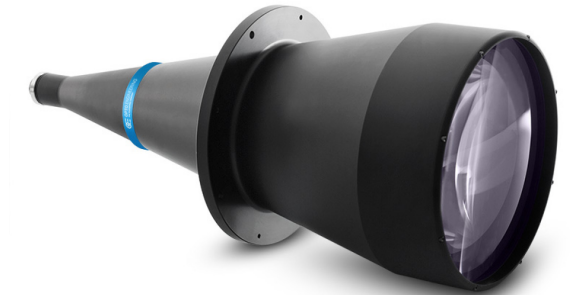
COMPATIBLE PRODUCTS

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



LTCLHP192-G	Telecentric HP illuminator, beam diameter 250 mm, green
LTCLHP192-W	Telecentric HP illuminator, beam diameter 250 mm, white



CMHO series
Clamping mechanics

CMHO192R Clamping mechanics for TCxx192 lenses and LTCLHP192-X illuminators rotation type



PTTC, PTCP series
Accurate calibration patterns for machine vision systems

PT120-240	Calibration pattern
PT192-240	Calibration pattern for telecentric lenses
PT120-144-C	Calibration pattern for telecentric lenses with a certificate of conformity
PT192-240-C	Calibration pattern for telecentric lenses with a certificate of conformity



LTPR series
LED patterns projectors

LTPRHP3W-W	LED pattern projector 3W, HP, white
LTPRHP3W-R	LED pattern projector 3W, HP, red
LTPRHP3W-G	LED pattern projector 3W, HP, green
LTPRHP3W-B	LED pattern projector 3W, HP, blue
LTPRUP-W	90W strobed LED pattern projector white
LTPRUP-R	90W strobed LED pattern projector red
LTPRUP-G	90W strobed LED pattern projector green
LTPRUP-B	90W strobed LED pattern projector blue



COE-G series
GenICam® PoE cameras

COE-003-M-POE-010-IR-C	Area Scan camera Python 300, CMOS, Global shutter, 640 x 480, 0.3 MP, 4.8 pix, 1/4", Gray, GigE, POE, 173 fps, C - mount, Glass filter
COE-004-M-POE-010-IR-C	Area Scan camera Python 300, CMOS, Global shutter, 640 x 480, 0.3 MP, 4.8 pix, 1/4", Gray, 300 fps, GigE, POE, C - mount, Glass filter
COE-003-C-POE-010-IR-C	Area Scan camera Python 300, CMOS, Global shutter, 640 x 480, 0.3 MP, 4.8 pix, 1/4", Color, 173 fps, GigE, POE, C - mount, Infrared cut filter
COE-004-C-POE-010-IR-C	Area Scan camera Python 300, CMOS, Global shutter, 640 x 480, 0.3 MP, 4.8 pix, 1/4", Color, 300 fps, GigE, POE, C - mount, Infrared cut filter
COE-003-M-POE-020-IR-C	Area Scan camera RJ33B4AD0DT, CCD, Global shutter, 640 x 480, 0.3 MP, 7.4 pix, 1/3", Gray, 200 fps, GigE, POE, C - mount, Glass filter
COE-003-C-POE-020-IR-C	Area Scan camera RJ33B4AD0DT, CCD, Global shutter, 640 x 480, 0.3 MP, 7.4 pix, 1/3", Color, 200 fps, GigE, POE, C - mount, Infrared cut filter
COE-012-M-POE-020-IR-C	Area Scan camera RJ33J4CA3DE, CCD, Global shutter, 1280 x 960, 1.2 MP, 3.75 pix, 1/3", Gray, 30 fps, GigE, POE, C - mount, Glass filter
COE-012-C-POE-020-IR-C	Area Scan camera RJ33J4CA3DE, CCD, Global shutter, 1280 x 960, 1.2 MP, 3.75 pix, 1/3", Color, 30 fps, GigE, POE, C - mount, Infrared cut filter



COE-U series
USB 3.0 GenICam® cameras

COE-003-M-USB-010-IR-C	Area Scan camera PYTHON 300, CMOS, Global shutter, 640 x 480, 0.3 MP, 4.8 pix, 1/4", Gray, 814 fps, USB 3.0, C - mount, Glass filter
COE-003-C-USB-010-IR-C	Area Scan camera PYTHON 300, CMOS, Global shutter, 640 x 480, 0.3 MP, 4.8 pix, 1/4", Color, 814 fps, USB 3.0, C - mount, Infrared cut filter



mvBlueCOUGAR series
GigE & Dual GigE Vision cameras

RT-mvBC-X100w Camera with interface GigE (1GB/s), sensor size 1/3", mpixel 0.36, resolution 752 x 480, sensor name MT9V034, sensor type CMOS



Accessories

Accessories and add-ons to make the most of Opto Engineering lenses.

[RT-mvBC-X104iC](#) CMOS camera GIGE, 2064 x 1544 color, 1/1.8", 37 Hz, IR cut, C-mount, I/O

[RT-mvBC-X105bC](#) CMOS camera GIGE, 2464 x 2056 Colour sensor, 2/3", 23.5 Hz, IR cut, C-mount, I/O
