

TC1MHR192-C

High resolution telecentric lens for 1/1.2" detectors, magnification 0.056x, C-mount

SPECIFICATIONS

Magnification	(x)	0.056
Image circle Ø	(mm)	13.3

Object field of view ⁸	(mm x mm or Ø)
with IMX174/IMX249 13.3 mm diag w x h 11.35 x 7.13	202.59 x 127.25
with IMX255/IMX267 16.1 mm diag w x h 14.19 x 7.51	Ø = 134.11
with IMX253/IMX304 17.6 mm diag w x h 14.16 x 10.37	Ø = 185.20
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	Ø = 237.50
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6 ⁽⁷⁾	Ø = 237.50

Optical specifications

Working distance ⁽¹⁾	(mm)	527.6
wF/# ⁽²⁾		8
Telecentricity typical (max) ⁽³⁾	(deg)	<0.08 (0.10)
Distortion typical (max) ⁽⁴⁾	(%)	<0.08 (0.10)
Field depth ⁽⁵⁾	(mm)	191.3
CTF@ 50 lp/mm	(%)	> 50

Mechanical specifications

Mount		C
Phase adjustment ⁽⁹⁾		Yes
Length ⁽⁶⁾	(mm)	628.2
Diameter	(mm)	260
Mass	(g)	9885

Last update: 2018-06-12

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 (higher wF/#) 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 perfectly 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 KAI-08050 (22.6 mm diagonal) detectors, the FOV of TC4MHRyyy-x lenses may show some vignetting at the image corners.
- 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

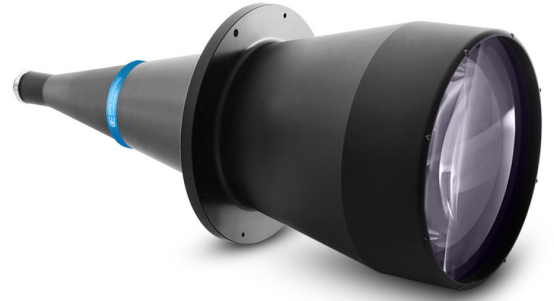
COMPATIBLE PRODUCTS

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



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.

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



COE-G series

GenICam® PoE cameras

COE-023-M-POE-050-IR-C	Area Scan camera PYTHON 2000, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 4.8 pix, 2/3", Gray, 51 fps, GigE, POE, C - mount, Glass filter
COE-023-C-POE-050-IR-C	Area Scan camera PYTHON 2000, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 4.8 pix, 2/3", Color, 51 fps, GigE, POE, C - mount, Infrared cut filter
COE-050-M-POE-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Gray, 23.5 fps, GigE, POE, C - mount, Glass filter
COE-050-C-POE-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Color, 23.5 fps, GigE, POE, C - mount, Infrared cut filter
COE-023-M-POE-060-IR-C	Area Scan camera IMX249, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 5.86 pix, 1/1.2", Gray, 41 fps, GigE, POE, C - mount, Glass filter
COE-023-C-POE-060-IR-C	Area Scan camera IMX249, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 5.86 pix, 1/1.2", Color, 41 fps, GigE, POE, C - mount, Infrared cut filter



COE-U series

USB 3.0 GenICam® cameras

COE-050-M-USB-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Gray, 35 fps, USB 3.0, C - mount, Glass filter
COE-050-C-USB-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Color, 35 fps, USB 3.0, C - mount, Infrared cut filter
COE-023-M-USB-060-IR-C	Area Scan camera IMX249, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 5.86 pix, 1/1.2", Gray, 41 fps, USB 3.0, C - mount, Glass filter
COE-023-C-USB-060-IR-C	Area Scan camera IMX249, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 5.86 pix, 1/1.2", Color, 40 fps, USB 3.0, C - mount, Infrared cut filter



mvBlueFOX3-2 series

USB3 vision camera with Sony Pregius CMOS sensors

RT-mvBF3-2051a	USB3 Vision camera with Sony Pregius CMOS sensor IMX264
RT-mvBF3-2051	USB3 Vision camera with Sony Pregius CMOS sensor IMX250
RT-mvBF3-2024a	USB3 Vision camera with Sony Pregius CMOS sensor IMX249
RT-mvBF3-2024	USB3 Vision camera with Sony Pregius CMOS sensor IMX174



mvBlueCOUGAR series

GigE & Dual GigE Vision cameras

RT-mvBC-X105b	Camera with interface GigE (1GB/s), sensor size 2/3", mpixel 5.07, resolution 2464 x 2056, sensor name IMX264, sensor type CMOS
RT-mvBC-XD105a	Camera with interface Dual GigE (2GB/s), sensor size 2/3", mpixel 5.01, resolution 2448 x 2048, sensor name IMX250, sensor type CMOS
RT-mvBC-X104f	Camera with interface GigE (1GB/s), sensor size 1/1.2", mpixel 2.35, resolution 1936 x 1216, sensor name IMX249, sensor type CMOS
RT-mvBC-XD104d	Camera with interface Dual GigE (2GB/s), sensor size 1/1.2", mpixel 2.35, resolution 1936 x 1214, sensor name IMX174, sensor type CMOS