PRODUCT DATASHEET

OPTO ENGINEERING

TCCR4M080-F

Telecentric CORE lens for 4/3" detectors, magnification 0.221 x, F-mount

SPECIFICATIONS

Part number		TCCR4M080-F
Magnification	(x)	0.221
Image shape dimension (8)	(Ø, x mm)	Ø=22.3, x=19.0
Phase adjustment (7)		Yes

Object field of view 7

with IMX174/IMX249 13.3 mm diag w x h 11.35 x 7.13	(mm x mm)	51.1 x 32.1
with KAI-2020 14.8 mm diagonal w x h 11.84 x 8.88	(mm x mm)	53.7 x 40.3
with IMX253/IMX304 17.6 mm diag w x h 14.16 x 10.37	(mm x mm)	64.3 x 47.1
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	(mm x mm)	68.8 x 68.8
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6	(mm x mm)	81.9 x 61.5

Optical specifications

Working distance (1)	(mm)	226.8
wF/# (2)		16
Telecentricity typical (max) (3)	(deg)	< 0.05 (0.10)
Distortion typical (max) (4)	(%)	< 0.04 (0.10)
Field depth (5)	(mm)	27.0
CTF@ 50 lp/mm	(%)	> 40

Mechanical specifications

Mount (6)		F
A	(mm)	119
B	(mm)	152
C	(mm)	199
Mass	(g)	3200

Compatibility

LTCLCR080-x, CMHOCR080, CMPTCR080, LTCLHP080-x

Last update: 2019-05-10

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 (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 milliradians, 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 perfectly sharp image, only half of the nominal field depth should be considered. Pixel size used for calculation is 5.5 μm.
6. In case the of vignetting, FOV dimensions are indicated with "Ø = , x= ", where "Ø =" stands for diameter and "x=" indicates the nominal FOV height and length (see Tech Info for related drawing).
7. Indicates the availability of an integrated camera phase adjustment feature.
8. Indicates the dimensions and shape of image, where "Ø =" stands for diameter and "x=" indicates the nominal image height and length (see Tech Info for related drawing).

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.
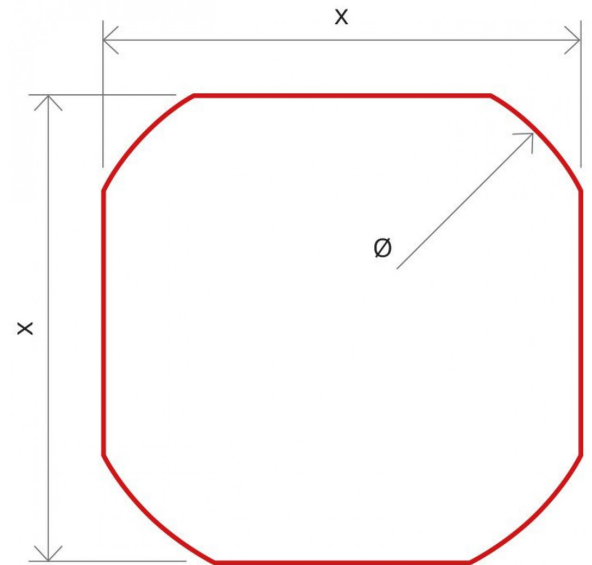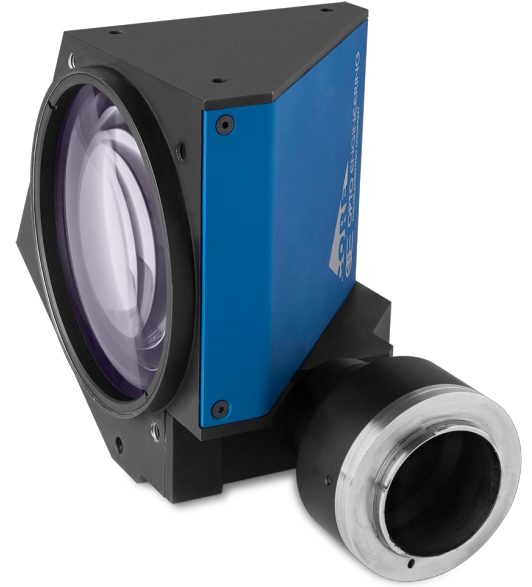

Image shape dimensions (Ø, x)

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.

LTCLHP series

High-performance telecentric illuminators

LTCLHP080-R	Telecentric HP illuminator, beam diameter 100 mm, red
LTCLHP080-G	Telecentric HP illuminator, beam diameter 100 mm, green
LTCLHP080-B	Telecentric HP illuminator, beam diameter 100 mm, blue
LTCLHP080-W	Telecentric HP illuminator, beam diameter 100 mm, white

LTCLHP CORE series

Ultra compact telecentric illuminators

LTCLCR080-R	Telecentric CORE illuminator, beam dimensions Ø = 98; x = 90, red
LTCLCR080-G	Telecentric CORE illuminator, beam dimensions Ø = 98; x = 90, green
LTCLCR080-W	Telecentric CORE illuminator, beam dimensions Ø = 98; x = 90, white

LTBC series

Continuos LED backlight

LTBC114114-W	Continuos LED backlight, 114x114 illumination area, white
LTBC114114-G	Continuos LED backlight, 114x114 illumination area, green

CMHOCR series

Clamping mechanics CORE series

CMHOCR080	Clamping mechanics for CORE telecentric lenses and illuminators TCCRxx80 and LTCLCR080-x

CMPTCR series

CORE series mounting plates

CMPTCR080	Mechanical components designed for CORE telecentric lenses and illuminators Ø 80mm

CMT series

Precision alignment mechanics

CMTHCR080	Precision alignment mechanics for CORE telecentric optics 080;

mvBlueFOX3-2 series

USB3 vision camera with Sony Pregius CMOS sensors

RT-mvBF3-2089a	USB3 Vision camera with Sony Pregius CMOS sensor IMX267
RT-mvBF3-2089	USB3 Vision camera with Sony Pregius CMOS sensor IMX255
RT-mvBF3-2124a	USB3 Vision camera with Sony Pregius CMOS sensor IMX304
RT-mvBF3-2124	USB3 Vision camera with Sony Pregius CMOS sensor IMX253

mvBlueCOUGAR series

GigE & Dual GigE Vision cameras

RT-mvBC-X109b	Camera with interface GigE (1GB/s), sensor size 1", mpixel 8.95, resolution 4112 x 2176, sensor name IMX267, sensor type CMOS
RT-mvBC-XD109b	Camera with interface Dual GigE (2GB/s), sensor size 1", mpixel 8.95, resolution 4112 X 2176, sensor name IMX267, sensor type CMOS
RT-mvBC-X1012b	Camera with interface GigE (1GB/s), sensor size 1.1", mpixel 12.37, resolution 4112 x 3008, sensor name IMX304, sensor type CMOS
RT-mvBC-XD107	Camera with interface Dual GigE (2GB/s), sensor size 1.1", mpixel 7.1, resolution 3216 x 2208, sensor name IMX420, sensor type CMOS
RT-mvBC-XD1012b	Camera with interface Dual GigE (2GB/s), sensor size 1.1", mpixel 12.37, resolution 4112 x 3008, sensor name IMX304, sensor type CMOS

TCLIB Suite

Software library & stand-alone tools for the optimization of telecentric setups

TCLIB-01	Software library & stand-alone tools for the optimization of telecentric setups

COE HR AS-X series

20MP, 26MP and 29MP area scan cameras for high-speed applications

COE-200-M-POE-070-IR-C	HR Area Scan camera IMX183, CMOS, Rolling shutter, 5472 × 3648, 20.4 MP, 2.4 pix, 1", Gray, GigE, 6 fps, POE, C - mount, Glass filter
COE-200-C-POE-070-IR-C	HR Area Scan camera IMX183, CMOS, Rolling shutter, 5472 × 3648, 20.4 MP, 2.4 pix, 1", Color, GigE, 6 fps, POE, C - mount, Infrared cut filter
COE-200-M-USB-070-IR-C	HR Area Scan camera IMX183, CMOS, Rolling shutter, 5472 × 3648, 20.4 MP, 2.4 pix, 1", Gray, 14 fps, C - mount, Glass filter
COE-200-C-USB-070-IR-C	HR Area Scan camera IMX183, CMOS, Rolling shutter, 5472 × 3648, 20.4 MP, 2.4 pix, 1", Color, 14 fps, C - mount, Infrared cut filter

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