TCCR4M048-E

Telecentric CORE lens for 4/3" detectors, magnification 0.369 x, M42x1 FD=16

SPECIFICATIONS

Part number		TCCR4M048-E
Magnification	(x)	0.369
Image shape dimension (8)	(Ø, x mm)	Ø=22.1, x=18.8
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)	30.6 x 19.2
with KAI-2020 14.8 mm diagonal w x h 11.84 x 8.88	(mm x mm)	32.1 x 24.1
with IMX253/IMX304 17.6 mm diag w x h 14.16 x 10.37	(mm x mm)	38.5 x 28.2
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	(mm x mm)	41.2 x 41.2
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6	(mm x mm)	49.1 x 36.9

Optical specifications		
Working distance (1)	(mm)	133.4
wF/# (2)		16
Telecentricity typical (max) (3)	(deg)	< 0.08 (0.10)
Distortion typical (max) (4)	(%)	< 0.08 (0.10)
Field depth (5)	(mm)	9.7
CTF@ 50 lp/mm	(%)	> 40

Mechanical specifications		
Mount (6)		M42x1 FD16.00
A	(mm)	77
B	(mm)	112
C	(mm)	195
Mass	(g)	1329

Compatibility
LTCLCR048-x, CMHOCR048, CMPTCR048, LTCLHP048-x

Last update: 2019-06-17

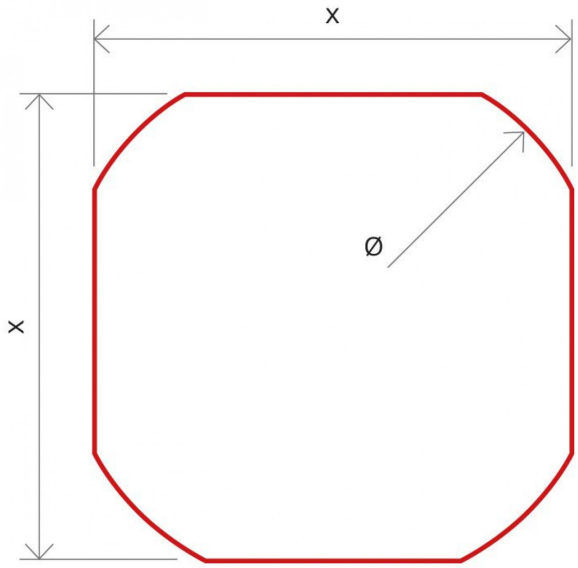

Image shape dimensions (Ø, x)

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.

LTCLHP series

High-performance telecentric illuminators

LTCLHP048-R	Telecentric HP illuminator, beam diameter 60 mm, red
LTCLHP048-G	Telecentric HP illuminator, beam diameter 60 mm, green
LTCLHP048-B	Telecentric HP illuminator, beam diameter 60 mm, blue
LTCLHP048-W	Telecentric HP illuminator, beam diameter 60 mm, white

LTCLHP CORE series

Ultra compact telecentric illuminators

LTCLCR048-R	Telecentric CORE illuminator, beam dimensions Ø = 56; x = 50, red
LTCLCR048-G	Telecentric CORE illuminator, beam dimensions Ø = 56; x = 50, green
LTCLCR048-W	Telecentric CORE illuminator, beam dimensions Ø = 56; x = 50, white

LTBC series

Continuos LED backlight

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

CMHO series

Clamping mechanics

CMHORBCR048	Clamping mechanics robotics

CMHOCR series

Clamping mechanics CORE series

CMHOCR048	Clamping mechanics for CORE telecentric lenses and illuminators TCCRxx48 and LTCLCR048-x

CMPTCR series

CORE series mounting plates

CMPTCR048	Mechanical components designed for CORE telecentric lenses and illuminators Ø 48mm

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