

TCCR12048

Bi-telecentric CORE lens for 1/2" detectors, magnification 0.134 x, C-mount

SPECIFICATIONS

Part number (8)		TCCR12048
Magnification	(x)	0.134
Image shape dimension (9)	(\varnothing , x mm)	$\varnothing=8.0$, x=7.1
Phase adjustment (7)		Yes

Object field of view (6)

with 1/3" detector (4.8 x 3.6 mm)	(mm x mm)	35.9 x 26.9
with 1/2.5" detector (5.70 x 4.28 mm)	(mm x mm)	42.5 x 31.9
with 1/2" detector (6.4 x 4.8 mm)	(mm x mm)	47.8 x 35.9
with 1/1.8" detector (7.13 x 5.37 mm)	(mm x mm)	53.0 x 40.1
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm x mm)	$\varnothing=60$, x=53

Optical specifications

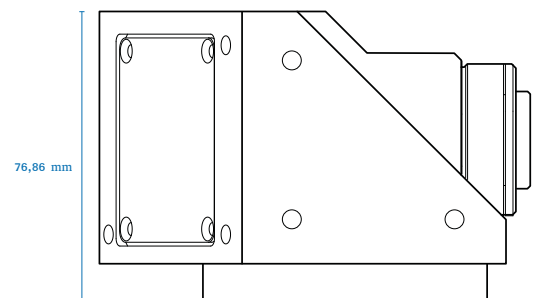
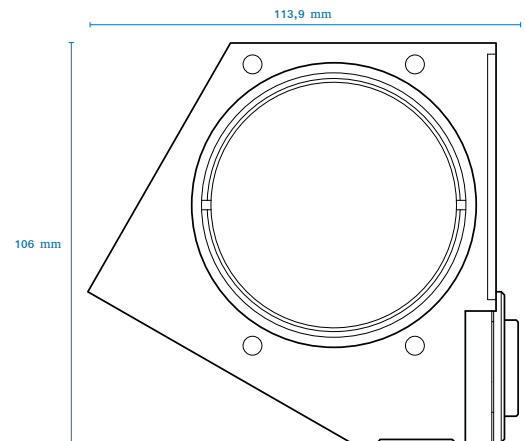
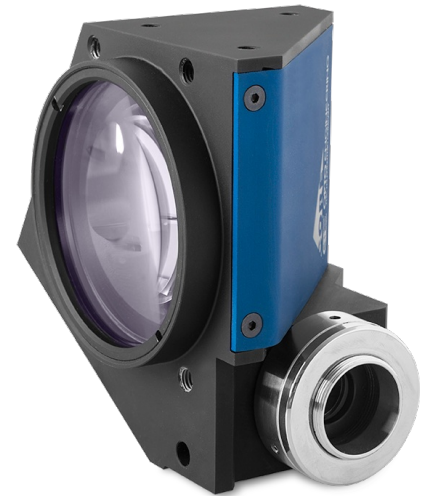
Working distance (1)	(mm)	132.9
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	< 0.07 (0.10)
Distortion typical (max) (4)	(%)	< 0.06 (0.10)
Field depth (5)	(mm)	37
CTF @ 70 lp/mm	(%)	> 40

Dimensions

Mount		C
A	(mm)	77
B	(mm)	106
C	(mm)	115
Mass	(g)	1083

Compatibility

LTCLCR048-x, CMHOCR048, CMPTR048, LTCLHP048-x



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 can be supplied on request.
- 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.
- 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 μ m.
- In case of vignetting, FOV dimensions are indicated with " $\varnothing =$, x =", where " $\varnothing =$ " stands for diameter and "x=" indicates the nominal FOV height and length (see [Tech Info](#) for related drawing).
- Indicates the availability of an integrated camera phase adjustment feature.
- Due to the special shape of TCCR120xx it might be necessary to check the mechanical compatibility with your camera.
- Indicates the dimensions and shape of image, where " $\varnothing =$ " stands for diameter and "x=" indicates the nominal image height and length ([Tech Info](#) for related drawing).

COMPATIBLE PRODUCTS



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



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



CMHOCR048	Clamping mechanics for CORE telecentric lenses and illuminators TCCRxx48 and LTCLCR048-x
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CMPTCR048	Mechanical components designed for CORE telecentric lenses and illuminators $\varnothing 48\text{mm}$
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