



# TCCR4M120-C

Telecentric CORE lens for 1" detectors, magnification 0.143 x, C

OPTO ENGINEERING

## SPECIFICATIONS

Part number	TCCR4M120-C	
Magnification	(x)	0.143
Image shape dimension (8)	( $\varnothing$ , x mm)	$\varnothing=22.3$ , x=18.2
Phase adjustment (7)	Yes	

### Object field of view 7

with KAI-2020 14.8 mm diagonal w x h 11.84 x 8.88	(mm x mm)	82.6 x 62.0
with KAI-04050 16 mm diagonal w x h 12.8 x 9.6	(mm x mm)	89.3 x 67.0
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	(mm x mm)	106.1 x 106.1
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6	(mm x mm)	126.3 x 94.9

### Optical specifications

Working distance (1)	(mm)	334.6
wF/# (2)	16	
Telecentricity typical (max) (3)	(deg)	< 0.06 (0.10)
Distortion typical (max) (4)	(%)	< 0.08 (0.10)
Field depth (5)	(mm)	57.8
CTF@ 50 lp/mm	(%)	> 30

### Mechanical specifications

Mount (6)	C	
A	(mm)	182
B	(mm)	220
C	(mm)	278
Mass	(g)	9293

### Compatibility

LTCLCR120-x, LTCLHP120-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 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  $\mu$ m.
- In case the 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.
- Indicates the dimensions and shape of image, where " $\varnothing =$ " stands for diameter and "x=" indicates the nominal image height and length (see [Tech Info](#) for related drawing)

## COMPATIBLE PRODUCTS



<a href="#">LTCLHP120-R</a>	Telecentric HP illuminator, beam diameter 150 mm, red
<a href="#">LTCLHP120-G</a>	Telecentric HP illuminator, beam diameter 150 mm, green
<a href="#">LTCLHP120-W</a>	Telecentric HP illuminator, beam diameter 150 mm, white





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<b>LTCLR120-R</b>	Telecentric CORE illuminator, beam dimensions $\varnothing = 156$ , $x = 130$ , red, 630 nm
<b>LTCLR120-G</b>	Telecentric CORE illuminator, beam dimensions $\varnothing = 156$ , $x = 130$ , green, 520 nm
<b>LTCLR120-W</b>	Telecentric CORE illuminator, beam dimensions $\varnothing = 156$ , $x = 130$ , white

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