



# TC1MHR144-C

High resolution telecentric lens for 1/1.2" detectors, magnification 0.074x, C-mount

## SPECIFICATIONS

Magnification	(x)	0.074
Image circle Ø	(mm)	13.3

Object field of view <b>8</b>	(mm x mm or Ø)
with IMX174/IMX249 13.3 mm diag w x h 11.35 x 7.13	153.31 x 96.30
with IMX255/IMX267 16.1 mm diag w x h 14.19 x 7.51	Ø = 101.49
with IMX253/IMX304 17.6 mm diag w x h 14.16 x 10.37	Ø = 140.15
with KAI-4022/4021 21.5 mm diagonal w x h 15.2 x 15.2	Ø = 179.73
with KAI-08050 22.6 mm diagonal w x h 18.1 x 13.6 <b>(7)</b>	Ø = 179.73

## Optical specifications

Working distance <b>(1)</b>	(mm)	396.0
wF/# <b>(2)</b>		8
Telecentricity typical (max) <b>(3)</b>	(deg)	<0.08 (0.10)
Distortion typical (max) <b>(4)</b>	(%)	<0.08 (0.10)
Field depth <b>(5)</b>	(mm)	109.6
CTF@ 50 lp/mm	(%)	> 55

## Mechanical specifications

Mount		C
Phase adjustment <b>(9)</b>		Yes
Length <b>(6)</b>	(mm)	487.8
Diameter	(mm)	200
Mass	(g)	5839

## 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

