

TC13048

Bi-telecentric lens for 1/3" detectors, magnification 0.098 x, C-mount

SPECIFICATIONS

Magnification	(x)	0.098
Image circle Ø	(mm)	6.0

Object field of view (8)

with 1/3" detector (4.8 x 3.6 mm)	(mm x mm)	48.8 x 36.6
with 1/2.5" detector (5.70 x 4.28 mm)	(mm x mm)	Ø = 43.5
with 1/2" detector (6.4 x 4.8 mm)	(mm x mm)	Ø = 48.8
with 1/1.8" detector (7.13 x 5.37 mm) (7)	(mm x mm)	Ø = 54.6
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm x mm)	-

Optical specifications

Working distance (1)	(mm)	133.4
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	< 0.08 (0.10)
Distortion typical (max) (4)	(%)	< 0.06 (0.10)
Field depth (5)	(mm)	65
CTF @ 70 lp/mm	(%)	> 40

Dimensions

Mount		C
Length (6)	(mm)	167.9
Diameter	(mm)	75
Mass	(g)	800

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 very 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 1/1.8" (9 mm diagonal) detectors, the FOV of TC12yyy lenses may show some vignetting at the image corners, as these lenses are optimized for 1/2" detectors (8 mm diagonal).
- For the fields with the indication "Ø =", the image of a circular object of such diameter is fully inscribed into the detector.

COMPATIBLE PRODUCTS

LTCLHP048-G	Telecentric HP illuminator, beam diameter 60 mm, green
CMH0048	Clamping mechanics for TCxx048 lenses and LTCLHP048-X illuminators
LTRN048NW	Ring LED illuminator, inner diameter 75 mm, straight type, white

