

TC12036

Bi-telecentric lens for 1/2" detectors, magnification 0.177 x, C-mount

SPECIFICATIONS

Magnification	(x)	0.177
Image circle Ø	(mm)	8.0

Object field of view (8)

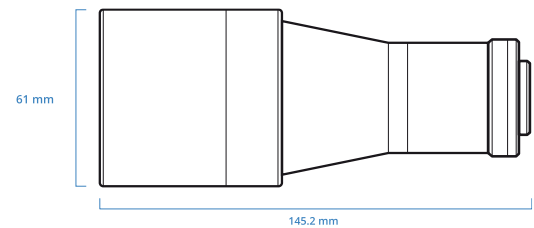
with 1/3" detector (4.8 x 3.6 mm)	(mm × mm)	27.1 x 20.3
with 1/2.5" detector (5.70 x 4.28 mm)	(mm × mm)	32.2 x 24.1
with 1/2" detector (6.4 x 4.8 mm)	(mm × mm)	36.1 x 27.1
with 1/1.8" detector (7.13 x 5.37 mm) (7)	(mm × mm)	40.2 x 30.3
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm × mm)	Ø = 39.9

Optical specifications

Working distance (1)	(mm)	102.5
wF/# (2)		8
Telecentricity typical (max) (3)	(deg)	< 0.03 (0.08)
Distortion typical (max) (4)	(%)	< 0.04 (0.10)
Field depth (5)	(mm)	21
CTF @ 70 lp/mm	(%)	> 40

Dimensions


Mount		C
Length (6)	(mm)	145.2
Diameter	(mm)	61
Mass	(g)	480




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







 LTCLHP series
High-performance telecentric illuminators

LTCLHP036-R	Telecentric HP illuminator, beam diameter 45 mm, red
LTCLHP036-G	Telecentric HP illuminator, beam diameter 45 mm, green
LTCLHP036-B	Telecentric HP illuminator, beam diameter 45 mm, blue
LTCLHP036-W	Telecentric HP illuminator, beam diameter 45 mm, white

 LTRN series
LED ring illuminators

LTRN036RD	Ring LED illuminator, inner diameter 61 mm, straight type, red 630 nm
LTRN036GR	Ring LED illuminator, inner diameter 61 mm, straight type, green 525 nm

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures are for illustration purposes only.

LTRN036BL	Ring LED illuminator, inner diameter 61 mm, straight type, blue 470 nm
LTRN036NW	Ring LED illuminator, inner diameter 61 mm, straight type, white
	CMBS series 45° beam splitters
CMBS036	45° beam splitter with mount for 61 mm clamping diameter optics
	CMMR series 45° first surface mirrors
CMMR036	45° first surface mirror for 61 mm clamping diameter optics
	WI series Protective windows
WI036	Protective window for 61 mm clamping diameter optics
	CMHO series Clamping mechanics
CMHO036	Clamping mechanics for TCxx036 lenses and LTCLHP036-X illuminators
	Calibration patterns Accurate calibration of machine vision systems
PT036-056	Calibration pattern
	Optical filters Lens filters and mounting accessory
TCFILTER	Filter mount for telecentric lenses
COBP470D17.5	Blue (470 nm) bandpass filter, 17.5 mm diameter
COBP525D17.5	Green (525 nm) Bandpass filter, 17.5 mm diameter
COBP635D17.5	Red (635 nm) Bandpass filter. 17.5 mm diameter
COBP850D17.5	IR (850 nm) Bandpass filter, 17.5 mm diameter
COBP880D17.5	IR (880 nm) bandpass filter, 17.5 mm diameter
COLP920D17.5	IR (920 nm) Long-pass filter, 17.5 mm diameter
COPRO32D17.5	Linear polarizer, 17.5 mm diameter