PRODUCT DATASHEET

TCCP23192

Ultra compact bi-telecentric lens for matrix detectors up to 2/3", magnification 0.046x

OPTO ENGINEERING

SPECIFICATIONS

Magnification	(×)	0.044
Image rectangle (1)	(mm)	8.93 x 7.45

Object field of view

with 1/3" detector (4.8 x 3.6 mm)	(mm × mm)	109.6 x 82.2
with 1/2.5" detector (5.70 x 4.28 mm)	(mm × mm)	130.1 x 97.7
with 1/2" detector (6.4 x 4.8 mm)	(mm × mm)	146.1 x 109.6
with 1/1.8" detector (7.13 x 5.37 mm)	(mm × mm)	162.8 x 121.7
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm × mm)	194.1 x 161.9

Optical specifications

Working distance (2)	(mm)	328.0
wF/# (3)		8
Telecentricity typical (max) (4)	(deg)	< 0.12 (0.18)
Distortion typical (max) (5)	(%)	< 0.8
Residual distortion (6)		< 0.01
Field depth (7)	(mm)	216
CTF @ 70 lp/mm	(%)	> 45

Mechanical specifications

Mount		C
Phase Adjustment (8)		Yes

Dimensions

A (9)	(mm)	410.4
B	(mm)	344.1
C (10)	(mm)	353.3
Mass	(g)	8700

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NOTES

1. Since the square shape of the front window the lens forms a rectangular image.

2. Working distance: distance between the front end of the mechanics and the object. Set this distance within +/- 5% of the nominal value for maximum resolution and minimum distortion.

3. 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.

4. Maximum slope of chief rays inside the lens: when converted to milliradians, it gives the maximum measurement error for any millimeter of object displacement. Maximum (guaranteed) values are listed.

5. Percent deviation of the real image compared to an ideal, undistorted image: maximum (guaranteed) values of the uncorrected image are listed.

6. Residual distortion after calibration with TCLIB Suite software library, using a PTCP calibrations pattern and a fully GenICam compliant camera. For setup information see related table

7. 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 3.45 µm.

8. Indicates the availability of an integrated camera phase adjustment feature.

9. Maximum dimension of the clamping flange.

10. Measured from the front end of the mechanics to the camera flange.

COMPATIBLE PRODUCTS

Despite the efforts made to generate an error-free compatibility list, we always recommend to consult the Opto Engineering® technical support department before purchasing a compatible product. Opto Engineering® shall not be liable for any damage or malfunctioning caused by the incorrect selection of a compatible product.

LTBP series

High-power strobed LED backlights

LTBP240180-R	High power strobed LED backlight, 240 x 180 mm lighting area, red
LTBP240180-G	High power strobed LED backlight, 240 x 180 mm lighting area, green
LTBP240180-B	High power strobed LED backlight, 240 x 180 mm lighting area, blue
LTBP240180-W	High power strobed LED backlight, 240 x 180 mm lighting area, white

LTBC series

Continuos LED backlight

LTBC234234-W	Continuos LED backlight, 234x234 illumination area, white
LTBC234234-G	Continuos LED backlight, 234x234 illumination area, green

LT2BC series

High uniformity continuous LED backlights

LT2BC240180-R	High uniformity continuous LED backlights, 240 x 180 mm x mm, red, 625 nm
LT2BC240180-G	High uniformity continuous LED backlights, 240 x 180 mm x mm, green, 525 nm
LT2BC240180-B	High uniformity continuous LED backlights, 240 x 180 mm x mm, blue, 475 nm
LT2BC240180-W	High uniformity continuous LED backlights, 240 x 180 mm x mm, white, 6200 k

COE-G series

GenICam® PoE cameras

COE-023-M-POE-050-IR-C	Area Scan camera PYTHON 2000, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 4.8 pix, 2/3", Gray, 51 fps, GigE, POE, C - mount, Glass filter
COE-023-C-POE-050-IR-C	Area Scan camera PYTHON 2000, CMOS, Global shutter, 1920 x 1200, 2.3 MP, 4.8 pix, 2/3", Color, 51 fps, GigE, POE, C - mount, Infrared cut filter
COE-050-M-POE-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Gray, 23.5 fps, GigE, POE, C - mount, Glass filter
COE-050-C-POE-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Color, 23.5 fps, GigE, POE, C - mount, Infrared cut filter

COE-U series

USB 3.0 GenICam® cameras

COE-050-M-USB-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Gray, 35 fps, USB 3.0, C - mount, Glass filter
COE-050-C-USB-050-IR-C	Area Scan camera IMX264, CMOS, Global shutter, 2448 x 2048, 5 MP, 3.45 pix, 2/3", Color, 35 fps, USB 3.0, C - mount, Infrared cut filter

mvBlueFOX3-2 series

USB3 vision camera with Sony Pregius CMOS sensors

RT-mvBF3-2051a	USB3 Vision camera with Sony Pregius CMOS sensor IMX264
RT-mvBF3-2051	USB3 Vision camera with Sony Pregius CMOS sensor IMX250

mvBlueCOUGAR series

GigE & Dual GigE Vision cameras

RT-mvBC-X105b	Camera with interface GigE (1GB/s), sensor size 2/3", mpixel 5.07, resolution 2464 x 2056, sensor name IMX264, sensor type CMOS
RT-mvBC-XD105a	Camera with interface Dual GigE (2GB/s), sensor size 2/3", mpixel 5.01, resolution 2448 x 2048, sensor name IMX250, sensor type CMOS

TCLIB Suite

Software library & stand-alone tools for the optimization of telecentric setups

TCLIB-01	Software library & stand-alone tools for the optimization of telecentric setups