

# TCBENCH056

Telecentric optical bench, magnification 0.157

## SPECIFICATIONS

### Object field of view

with 1/3" detector (4.8 x 3.6 mm)	(mm x mm)	30.6 x 22.9
with 1/2.5" detector (5.70 x 4.28 mm)	(mm x mm)	36.3 x 27.3
with 1/2" detector (6.4 x 4.8 mm)	(mm x mm)	40.7 x 30.6
with 1/1.8" detector (7.13 x 5.37 mm)	(mm x mm)	45.4 x 34.2
with 2/3" detector (8.8 x 6.6 mm)	(mm x mm)	53.8 x 45.0

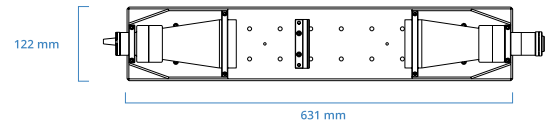
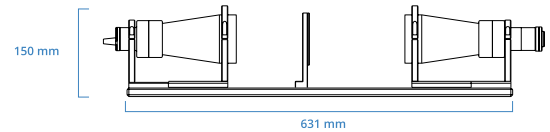
### Optical specifications

Magnification	(x)	0.157
Light color, peak wavelength		green, 520 nm
Working distance (1)		157,8
Working f/#		8
Optical Accuracy (2)	( $\mu$ m)	< 36
Optical Accuracy (3)	(%)	< 0.06%
Field depth (4)	(mm)	26.8
CTF @ 70 lp/mm	(%)	> 55

### Dimensions

Length	(mm)	715
Width	(mm)	122.0
Height	(mm)	150.0
Mass	(g)	7320
Mount		C

### Phase adjustment (5)



## NOTES

1. Working distance: distance between the front end of the lens mechanics and the object. Set this distance within +/-3% of the nominal value for maximum resolution
2. Maximum measurement error without software calibration; standard image correction libraries yield close to zero measurement error.
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4. 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  $\mu$ m.
5. Indicates the availability of an integrated camera phase adjustment feature. If missing, it can be supplied upon request (except for TCBENCH009).

## 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.



LTSCHP series

High-performance replacement LED modules

LTSCHP1W-G	Replacement LED module, green
LTSCHP1W-GZ	Replacement LED module with diffuser, green



PS series

Power supplies



## LTIC series

Light intensity controllers

LTICOBUL1000CH1-24VUSTB	24VDC analog lighting controller 1 channel, UK power cord, Illumination cable, side A 5M 3 way male connector, side B terminal blocks connector, 24V - 3m
LTICOBUL1000CH1-24VEUTB	24VDC analog lighting controller 1 channel, UK power cord, Illumination cable, side A 5M 3 way male connector, side B terminal blocks connector, 24V - 3m
LTICOBUL1000CH1-24VUKTB	24VDC analog lighting controller 1 channel, UK power cord, Illumination cable, side A 5M 3 way male connector, side B terminal blocks connector, 24V - 3m



## COE-G series

GeniCam® PoE cameras

COE-032-M-POE-040-IR-C	Area Scan camera IMX265, CMOS, Global shutter, 2048 x 1536, 3.1 MP, 3.45 pix, 1/1.8", Gray, 37.5 fps, GigE, POE, C - mount, Glass filter
COE-032-C-POE-040-IR-C	Area Scan camera IMX265, CMOS, Global shutter, 2048 x 1536, 3.1 MP, 3.45 pix, 1/1.8", Color, 37.5 fps, GigE, POE, C - mount, Infrared cut filter
COE-063-M-POE-040-IR-C-B	Area Scan camera IMX178, CMOS, Rolling shutter, 3072 x 2048, 6.3 MP, 2.4 pix, 1/1.8", Gray, 17 fps, GigE, POE, C - mount, Glass filter
COE-063-C-POE-040-IR-C	Area Scan camera IMX178, CMOS, Rolling shutter, 3072 x 2048, 6.3 MP, 2.4 pix, 1/1.8", Color, 17 fps, GigE, POE, C - mount, Infrared cut filter
COE-122-M-POE-041-IR-C	Area Scan camera IMX226, CMOS, Rolling shutter, 4024 x 3036, 12.2 MP, 1.85 pix, 1/1.7", Gray, 9.6 fps, GigE, POE, C - mount, Glass filter
COE-122-C-POE-041-IR-C	Area Scan camera IMX226, CMOS, Rolling shutter, 4024 x 3036, 12.2 MP, 1.85 pix, 1/1.7", Color, 9.6 fps, GigE, POE, C - mount, Infrared cut filter
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-063-M-USB-040-IR-C	Area Scan camera IMX178, CMOS, Rolling shutter, 3072 x 2048, 6.3 MP, 2.4 pix, 1/1.8", Gray, 42 fps, USB 3.0, C - mount, Glass filter
COE-063-C-USB-040-IR-C	Area Scan camera IMX178, CMOS, Rolling shutter, 3072 x 2048, 6.3 MP, 2.4 pix, 1/1.8", Color, 42 fps, USB 3.0, C - mount, Infrared cut filter
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



## mvBlueFOX3-2 series

USB3 vision camera with Sony Pregius CMOS sensors

RT-mvBF3-2032a	USB3 Vision camera with Sony Pregius CMOS sensor IMX265
RT-mvBF3-2032	USB3 Vision camera with Sony Pregius CMOS sensor IMX252
RT-mvBF3-2064	Usb3 vision camera with sony pregius cmos sensor imx178
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 &amp; Dual GigE Vision cameras

RT-mvBC-X104i	Camera with interface GigE (1GB/s), sensor size 1/1.8", mpixel 3.19, resolution 2064 x 1544, sensor name IMX265, sensor type CMOS
RT-mvBC-XD104h	Camera with interface Dual GigE (2GB/s), sensor size 1/1.8", mpixel 3.19, resolution 2064 x 1544, sensor name IMX252, sensor type CMOS

[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

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[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

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#### Accessories

Accessories and add-ons to make the most of Opto Engineering lenses.

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[RT-mvBC-X104iC](#) CMOS camera GIGE, 2064 x 1544 color, 1/1.8", 37 Hz, IR cut, C-mount, I/O

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[RT-mvBC-X105bC](#) CMOS camera GIGE, 2464 x 2056 Colour sensor, 2/3", 23.5 Hz, IR cut, C-mount, I/O

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