# **OPTO ENGINEERING**

# TCCRBENCH064

Telecentric CORE optical bench, magnification 0.138 x

#### **SPECIFICATIONS**

Object	field	of vi	ew
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with 1/3" detector (4.8 x 3.6 mm)	(mm × mm)	34.9 x 26.2
with 1/2.5" detector (5.70 x 4.28 mm)	(mm × mm)	41.5 x 31.1
with 1/2" detector (6.4 x 4.8 mm)	(mm × mm)	46.6 x 34.9
with 1/1.8" detector (7.13 x 5.37 mm)	(mm × mm)	51.9 x 39.1
with 2/3" - 5 MP detector (8.45 x 7.07 mm)	(mm × mm)	61.4 x 51.4

#### Optical specifications

Magnification	(x)	0.138
Image shape dimension (4)	(Ø, x mm)	Ø=11.5, x=9.5
Working distance	(mm)	181.8
Optical Accuracy (1)	(µm)	< 40
Field depth (2)	(mm)	43
CTF @ 70 lp/mm	(%)	> 65
Phase adjustment (3)		Yes

#### Dimensions

Length	(mm)	474
Width	(mm)	152
Height	(mm)	134
Mass	(g)	6260
Mount		С

Last update: 2018-04-17

#### 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 and minimum distortion.
- 2. 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  $5.5\,\mu m$
- 3. Indicates the availability of an integrated camera phase adjustment feature.
- 4. Indicates the dimensions and shape of image, where " $\emptyset$  =" stands for diameter and "x=" indicates the nominal image height and length (Tech Info for related drawing).

#### 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

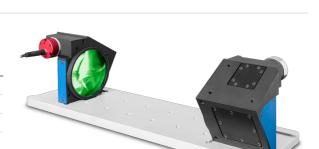
Power supplies

LTIC series

RT-SDR-120-24



24VDC DIN rail power supply



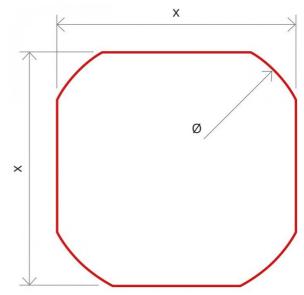


Image shape dimensions (Ø, x)

All product specifications and data are subject to change without notice to improve reliability, functionality, design or other. Photos and pictures  $% \left( 1\right) =\left( 1\right) \left( 1\right$ are for illustration purposes only.

#### Light intensity controllers

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



#### GenlCam® 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



#### USB 3.0 GenlCam® 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 & Dual GigE Vision cameras

RT-mvBC-X104i	Camera with interface GigE (1GB/s), sensor size 1/1.8", mpixel 3.19, resolution 2064 $\times$ 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 $\times$ 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
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



Accessories

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

RT-mvBC-X104iC

CMOS camera GIGE, 2064 x 1544 color, 1/1.8", 37 Hz, IR cut, C-mount, I/O

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