# TCCX075-W

Coaxial telecentric lens for 2/3" detectors, WD 132.3 mm, magnification 0.75x, white

## SPECIFICATIONS

| | | |
|---|---|---|
| Magnification | (x) | 0.750 |
| Image circle Ø | (mm) | 11 |
| Phase adjustment | | Yes |

| Object field of view (8) | | |
|---|---|---|
| with 1/3" detector (4.8 x 3.6 mm) | (mm x mm) | 6.40 x 4.80 |
| with 1/2.5" detector (5.70 x 4.28 mm) | (mm x mm) | 7.60 x 5.71 |
| with 1/2" detector (6.4 x 4.8 mm) | (mm x mm) | 8.53 x 6.40 |
| with 1/1.8" detector (7.13 x 5.37 mm) (7) | (mm x mm) | 9.51 x 7.16 |
| with 2/3" - 5 MP detector (8.45 x 7.07 mm) | (mm x mm) | 11.33 x 9.45 |

| Optical specifications | | |
|---|---|---|
| Working distance (1) | (mm) | 132.3 |
| wF/# (2) | | 12 |
| Telecentricity typical (max) (3) | (deg) | 0.04 (0.06) |
| Distortion typical (max) (4) | (%) | 0.1 (0.20) |
| Field depth (5) | (mm) | 1.8 |
| CTF @ 35 lp/mm | (%) | > 55 |

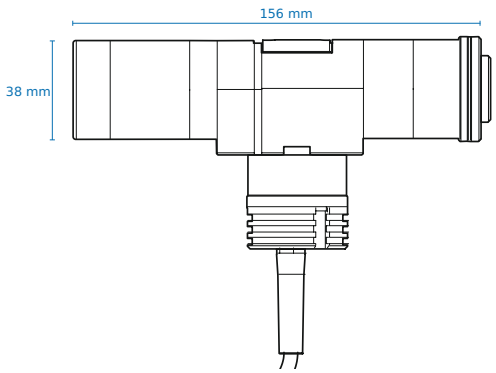
| Electrical specifications | | |
|---|---|---|
| Light color, peak wavelength | (mm) | white |

| Device power ratings | | |
|---|---|---|
| DC voltage minimum | (V) | 12 |
| DC voltage maximum | (V) | 24 |
| Power consumption | (W) | < 2.5 |
| Max LED forward current 7 | (mA) | 350 |

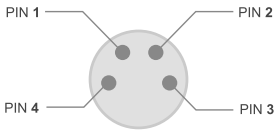
| LED power ratings | | |
|---|---|---|
| Forward voltage (typical) 8 | (V) | 2.78 |
| Forward voltage (max) 8 | (V) | - |
| Max pulse current 9 | (mA) | 2000 |

| Dimensions | | |
|---|---|---|
| Mount | | C |
| Length (6) | (mm) | 155.5 |
| Diameter | (mm) | 37.7 |
| Mass | (g) | 532 |

| Eye safety | |
|---|---|
| Risk group according to CEI EN 62471:2010 | Risk group 1 |




## CONNECTION




*Device side - male pins*
*Front view*

**Pinout reference**

| Pin | Function |
|---|---|
| 1 | Earth |
| 2 | GND |
| 3 | LED Anode |
| 4 | Power supply (+12÷24 V) |

## NOTES

1. 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.
2. Working F/#: the real F/# of a lens when used as a macro. Lenses with smaller apertures can be supplied on request.
3. Maximum slope of chief rays inside the lens: when converted to milliradians, it gives the maximum measurement error for any millimeter of object displacement. Typical (average production) values and maximum (guaranteed) values are listed.
4. Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
5. 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 µm.

6. Measured from the front end of the mechanics to the camera flange.
7. Used in continuous (not pulsed) mode.
8. At max forward current. Tolerance is ±0.06V on forward voltage measurements.
9. At pulse width <= 10 ms, duty cycle <= 10% condition. Built-in electronics board must be bypassed (see tech info).

## 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.

LTDMC series

Continuous LED domes

| | |
|---|---|
| LT4WRG150-00-1-W-24V | LED dome light, 185 mm outer diameter, white, 24V |
| LT4WRG150-00-1-R-24V | LED dome light, 185 mm outer diameter, red, 24V |
| LT4WRG150-00-1-G-24V | LED dome light, 185 mm outer diameter, green, 24V |
| LT4WRG150-00-1-B-24V | LED dome light, 185 mm outer diameter, blue, 24V |

LTLAIC series (discontinued models)

Continuous LED low angle diffused ringlights

| | |
|---|---|
| LT2RZF070-60-2-W-24V | LED ringlight, 2 LED rows, 76.2 mm outer diameter, 60°, white, 24V |
| LT2RZF070-60-2-R-24V | LED ringlight, 2 LED rows, 76.2 mm outer diameter, 60°, red, 24V |
| LT2RZF070-60-2-G-24V | LED ringlight, 2 LED rows, 76.2 mm outer diameter, 60°, green, 24V |
| LT2RZF070-60-2-B-24V | LED ringlight, 2 LED rows, 76.2 mm outer diameter, 60°, blue, 24V |

LTLAIC series

Continuous LED low angle diffused ringlights

| | |
|---|---|
| LT3RZF080-60-1-W-24V | LED ringlight, 1 LED row, 81 mm outer diameter, 60°, white, 24V |
| LT3RZF080-60-1-R-24V | LED ringlight, 1 LED row, 81 mm outer diameter, 60°, red, 24V |
| LT3RZF080-60-1-G-24V | LED ringlight, 1 LED row, 81 mm outer diameter, 60°, green, 24V |
| LT3RZF080-60-1-B-24V | LED ringlight, 1 LED row, 81 mm outer diameter, 60°, blue, 24V |

LTLADC series

Continuous LED low angle direct ringlights

| | |
|---|---|
| LTZZO130-75-3-W-24V | LED low angle ringlight, 3 LED rows, outer diameter 131 mm, 75°, white, 24V |
| LTZZO130-75-3-R-24V | LED low angle ringlight, 3 LED rows, outer diameter 131 mm, 75°, red, 24V |
| LTZZO130-75-3-G-24V | LED low angle ringlight, 3 LED rows, outer diameter 131 mm, 75°, green, 24V |
| LTZZO130-75-3-B-24V | LED low angle ringlight, 3 LED rows, outer diameter 131 mm, 75°, blue, 24V |

LTRNDC series

Continuous LED direct ringlights

| | |
|---|---|
| LTZGK050-15-2-W-24V | LED ringlight, 2 LED rows, outer diameter 50 mm, 15°, white, 24V |
| LTZGK050-15-2-R-24V | LED ringlight, 2 LED rows, outer diameter 50 mm, 15°, red, 24V |
| LTZGK050-15-2-G-24V | LED ringlight, 2 LED rows, outer diameter 50 mm, 15°, green, 24V |
| LTZGK050-15-2-B-24V | LED ringlight, 2 LED rows, outer diameter 50 mm, 15°, blue, 24V |

LTDV series

Strobe controllers

| | |
|---|---|
| LTDV1CH-17V | Strobe controller 1 channel variable current 5 mA - 17A |

LTBFC series

Continuous flat side-emitting LED backlights

| | |
|---|---|
| LTPVRG25X36-00-1-W-24V | Flat side-emitting LED backlight, thin borders, 25X36 mm illumination area, white, 24V |
| LTPVRG25X36-00-1-R-24V | Flat side-emitting LED backlight, thin borders, 25X36 mm illumination area, red, 24V |
| LTPVRG25X36-00-1-G-24V | Flat side-emitting LED backlight, thin borders, 25X36 mm illumination area, green, 24V |
| LTPVRG25X36-00-1-B-24V | Flat side-emitting LED backlight, thin borders, 25X36 mm illumination area, blue, 24V |

LTBRDC series

Continuous LED bar lights

| | |
|---|---|
| LTZPFL040-00-6-W-24V | LED bar light, 6 LED rows, 40X26.3 illumination area, white, 24V |
| LTZPFL040-00-6-R-24V | LED bar light, 6 LED rows, 40X26.3 illumination area, red, 24V |
| LTZPFL040-00-6-G-24V | LED bar light, 6 LED rows, 40X26.3 illumination area, green, 24V |
| LTZPFL040-00-6-B-24V | LED bar light, 6 LED rows, 40X26.3 illumination area, blue, 24V |

LTSCHP series

High-performance replacement LED modules

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|---|---|
| LTSCHP1W-W | Replacement LED module, white |

CB series

Cables

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|---|---|
| CB244P1500 | Power cable, side 1 M8 connector straight, side 2 cable end - 2 m - type 1 labels |
| CB244P1500L | Power cable, side 1 M8 connector angled, side 2 cable end - 2 m - type 1 labels |

PS series

Power supplies

| | |
|---|---|
| RT-SDR-120-24 | 24VDC DIN rail power supply |

LTIC series

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 |

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 & 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 |
| 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 |

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 |