

MC4K025X-N

Macro lens for 4k line scan cameras, magnification 0.25x, mount M42X1 FD = 10.56

SPECIFICATIONS

Optical specifications

Focusing (1)		near	nominal	far
Magnification	(x)	0.295	0.25	0.205
Image circle Ø	(mm)	28.7		
Working distance (2)	(mm)	298.50	346.10	414.30
Focal length	(mm)	88.0		
f/# (wF/#) (3)		6.4 (8)		
Distortion typical (max) (4)	(%)	< 0.08 (0.10)		
Field depth (5)	(mm)	7.72	10.75	15.99
CTF @ 50 lp/mm	(%)	> 60		
Image side numerical aperture		0.063		
Object side numerical aperture		0.018		

Object field of view (mm x mm)

with IMX253/IMX304 17.6 mm diag w x h 14.16 x 10.37	{detector_1_1}		
with 2k x 10 µm detector 20.48	69.49	82.00	100.00
with IMX387 21.7 mm diag w x h 18.9 x 10.6	64.00 x 36.07	75.52 x 42.56	92.10 x 51.90
with APS-C IMX342 27.9 mm diagonal w x h 22.36 x 16.77	75.78 x 56.85	89.42 x 67.08	109.05 x 81.80
with 4k x 7 µm detector 28.67	97.29	114.80	140.00

Mechanical specifications

Length (6)	(mm)	115.9
Diameter	(mm)	52.0
Mass	(g)	485
Phase adjustment		Yes		
Mount		M42X1

Last update: 2021-06-22

NOTES

1. Maximum and minimum magnification changes when focusing.
2. 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.
3. Working F-number: the real F-number of a lens in operating conditions.
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 7 µm.
6. 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.



LTBC series

Continuous LED backlight

LTBC114114-W	Continuous LED backlight, 114x114 illumination area, white
LTBC114114-G	Continuous LED backlight, 114x114 illumination area, green



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.



LTDMC series (discontinued models)

Continuous LED domes

LT4WRG200-00-1-W-24V	LED dome light, 232 mm outer diameter, white, 24V
LT4WRG200-00-1-R-24V	LED dome light, 232 mm outer diameter, red, 24V
LT4WRG200-00-1-G-24V	LED dome light, 232 mm outer diameter, green, 24V
LT4WRG200-00-1-B-24V	LED dome light, 232 mm outer diameter, blue, 24V



LTLADC series

Continuous LED low angle direct ring lights

LTZZO170-75-3-W-24V	LED low angle ring light, 3 LED rows, outer diameter 175 mm, 75°, white, 24V
LTZZO170-75-3-R-24V	LED low angle ring light, 3 LED rows, outer diameter 175 mm, 75°, red, 24V
LTZZO170-75-3-G-24V	LED low angle ring light, 3 LED rows, outer diameter 175 mm, 75°, green, 24V
LTZZO170-75-3-B-24V	LED low angle ring light, 3 LED rows, outer diameter 175 mm, 75°, blue, 24V



LTDMC series

Continuous LED domes

LT5WRG200-00-1-R-24V	LED dome light, 232 mm outer diameter, red, 24V
LT5WRG200-00-1-G-24V	LED dome light, 232 mm outer diameter, green, 24V
LT5WRG200-00-1-B-24V	LED dome light, 232 mm outer diameter, blue, 24V
LT5WRG200-00-1-W-24V	LED dome light, 232 mm outer diameter, white, 24V



LTPRDC series

Continuous LED bar lights

LTZPFL160-00-6-R-24V	LED bar light, 6 LED rows, 160X26.3 illumination area, red, 24V
LTZPFL160-00-6-G-24V	LED bar light, 6 LED rows, 160X26.3 illumination area, green, 24V
LTZPFL160-00-6-B-24V	LED bar light, 6 LED rows, 160X26.3 illumination area, blue, 24V
LTZPFL160-00-6-W-24V	LED bar light, 6 LED rows, 160X26.3 illumination area, white, 24V



LTLNC series

Continuous LED line lights

LTLNC100-W	LED line light 100 mm, white
LTLNC100-R	LED line light 100 mm, red
LTLNC100-G	LED line light 100 mm, green
LTLNC100-B	LED line light 100 mm, blue
LTLNC100-IR850	LED line light 100 mm, IR 850 nm
LTLNC150-W	LED line light 150 mm, white
LTLNC150-R	LED line light 150 mm, red
LTLNC150-G	LED line light 150 mm, green
LTLNC150-B	LED line light 150 mm, blue
LTLNC150-IR850	LED line light 150 mm, IR 850 nm
LTLNC200-W	LED line light 200 mm, white
LTLNC200-R	LED line light 200 mm, red
LTLNC200-G	LED line light 200 mm, green
LTLNC200-B	LED line light 200 mm, blue
LTLNC200-IR850	LED line light 200 mm, IR 850 nm
LTLNC300-W	LED line light 300 mm, white
LTLNC300-R	LED line light 300 mm, red
LTLNC300-G	LED line light 300 mm, green
LTLNC300-B	LED line light 300 mm, white
LTLNC300-IR850	LED line light 300 mm, IR 850 nm



LTLNM series

Flicker free high power focused modular LED line lights

LTLNM-0200-N-FC-W	Modular LED line light, 200mm length, near field focusing, fan cooling, white
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LTLNM-1800-N-D-FC-W	Modular LED line light, 1800mm length, near field focusing, diffuser, fan cooling, white
LTLNM-1800-F-FC-W	Modular LED line light, 1800mm length, far field focusing, fan cooling, white
LTLNM-1800-F-D-FC-W	Modular LED line light, 1800mm length, far field focusing, diffuser, fan cooling, white
LTLNM-1800-C-FC-W	Modular LED line light, 1800mm length, collimated, fan cooling, white
LTLNM-1800-C-D-FC-W	Modular LED line light, 1800mm length, collimated, diffuser, fan cooling, white
LTLNM-2000-N-FC-W	Modular LED line light, 2000mm length, near field focusing, fan cooling, white
LTLNM-2000-N-D-FC-W	Modular LED line light, 2000mm length, near field focusing, diffuser, fan cooling, white
LTLNM-2000-F-FC-W	Modular LED line light, 2000mm length, far field focusing, fan cooling, white
LTLNM-2000-F-D-FC-W	Modular LED line light, 2000mm length, far field focusing, diffuser, fan cooling, white
LTLNM-2000-C-FC-W	Modular LED line light, 2000mm length, collimated, fan cooling, white
LTLNM-2000-C-D-FC-W	Modular LED line light, 2000mm length, collimated, diffuser, fan cooling, white



LTLNE series

High power enhanced LED line lights

LTLNE-300-N-PC-W	LED line light, direct, 300mm length, near field focusing, passive cooling, white
LTLNE-300-N-FC-W	LED line light, direct, 300mm length, near field focusing, fan cooling, white
LTLNE-300-N-D-PC-W	LED line light, direct, 300mm length, near field focusing, diffuser, passive cooling, white
LTLNE-300-N-D-FC-W	LED line light, direct, 300mm length, near field focusing, diffuser, fan cooling, white
LTLNE-300-F-PC-W	LED line light, direct, 300mm length, far field focusing, passive cooling, white
LTLNE-300-F-FC-W	LED line light, direct, 300mm length, far field focusing, fan cooling, white
LTLNE-300-F-D-PC-W	LED line light, direct, 300mm length, far field focusing, diffuser, passive cooling, white
LTLNE-300-F-D-FC-W	LED line light, direct, 300mm length, far field focusing, diffuser, fan cooling, white
LTLNE-300-C-PC-W	LED line light, direct, 300mm length, collimated, passive cooling, white
LTLNE-300-C-FC-W	LED line light, direct, 300mm length, collimated, fan cooling, white
LTLNE-300-C-D-PC-W	LED line light, direct, 300mm length, collimated, diffuser, passive cooling, white
LTLNE-300-C-D-FC-W	LED line light, direct, 300mm length, collimated, diffuser, fan cooling, white
LTLNE-300-CX-N-PC-W	LED line light, coaxial, 300mm length, near field focusing, passive cooling, white
LTLNE-300-CX-N-FC-W	LED line light, coaxial, 300mm length, near field focusing, fan cooling, white
LTLNE-300-CX-N-D-PC-W	LED line light, coaxial, 300mm length, near field focusing, diffuser, passive cooling, white
LTLNE-300-CX-N-D-FC-W	LED line light, coaxial, 300mm length, near field focusing, diffuser, fan cooling, white
LTLNE-300-CX-F-PC-W	LED line light, coaxial, 300mm length, far field focusing, passive cooling, white
LTLNE-300-CX-F-FC-W	LED line light, coaxial, 300mm length, far field focusing, fan cooling, white
LTLNE-300-CX-F-D-PC-W	LED line light, coaxial, 300mm length, far field focusing, diffuser, passive cooling, white
LTLNE-300-CX-F-D-FC-W	LED line light, coaxial, 300mm length, far field focusing, diffuser, fan cooling, white
LTLNE-300-CX-C-PC-W	LED line light, coaxial, 300mm length, collimated, passive cooling, white
LTLNE-300-CX-C-FC-W	LED line light, coaxial, 300mm length, collimated, fan cooling, white
LTLNE-300-CX-C-D-PC-W	LED line light, coaxial, 300mm length, collimated, diffuser, passive cooling, white
LTLNE-300-CX-C-D-FC-W	LED line light, coaxial, 300mm length, collimated, diffuser, fan cooling, white
LTLNE-300-MR-N-PC-W	LED line light, 45° mirror, 300mm length, near field focusing, passive cooling, white
LTLNE-300-MR-N-FC-W	LED line light, 45° mirror, 300mm length, near field focusing, fan cooling, white
LTLNE-300-MR-N-D-PC-W	LED line light, 45° mirror, 300mm length, near field focusing, diffuser, passive cooling, white
LTLNE-300-MR-F-PC-W	LED line light, 45° mirror, 300mm length, far field focusing, passive cooling, white
LTLNE-300-MR-F-FC-W	LED line light, 45° mirror, 300mm length, far field focusing, fan cooling, white
LTLNE-300-MR-F-D-PC-W	LED line light, 45° mirror, 300mm length, far field focusing, diffuser, passive cooling, white

LTLNE-300-MR-F-D-FC-W	LED line light, 45° mirror, 300mm length, far field focusing, diffuser, fan cooling, white
LTLNE-300-MR-C-PC-W	LED line light, 45° mirror, 300mm length, collimated, passive cooling, white
LTLNE-300-MR-C-FC-W	LED line light, 45° mirror, 300mm length, collimated, fan cooling, white
LTLNE-300-MR-C-D-PC-W	LED line light, 45° mirror, 300mm length, collimated, diffuser, passive cooling, white
LTLNE-300-MR-C-D-FC-W	LED line light, 45° mirror, 300mm length, collimated, diffuser, fan cooling, white