

TC4K120-N

Telecentric lens for 4k linescan cameras, magnification 0.240x, mount M42X1 FD=10.56

SPECIFICATIONS

| | | |
|----------------------------------|-------|---------------|
| Magnification | (x) | 0.240 |
| Image width | (mm) | 28.7 |
| Object field of view | | |
| with 2k x 10 µm detector 20.48 | (mm) | 85.4 |
| with 4k x 7 µm detector 28.67 | (mm) | 119.6 |
| Optical specifications | | |
| Working distance (1) | (mm) | 174.0 |
| wF/# (2) | | 16 |
| Telecentricity typical (max) (3) | (deg) | 0.10 (0.12) |
| Distortion typical (max) (4) | (%) | 0.08 (0.10) |
| Field depth (5) | (mm) | 29.2 |
| CTF @ 50 lp/mm | (%) | >25 |
| Mechanical specifications | | |
| Mount | | M42x1 FD10.56 |
| Flange distance | | 10.6 |
| Length (6) | (mm) | 373.2 |
| Width | (mm) | 144 |
| Height | (mm) | 52 |
| Mass | (g) | 2056 |

Last update: 2019-06-17

NOTES

- 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.
- 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.
- 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.
- Percent deviation of the real image compared to an ideal, undistorted image: typical (average production) values and maximum (guaranteed) values are listed.
- 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.
- Indicates the availability of an integrated camera phase adjustment feature.
- 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.



LTCL4K series

Flat telecentric illuminators for linescan cameras

LTCL4K120-G Telecentric illuminator for linescan cameras, line width 120 mm, green

LTCL4K120-W Telecentric illuminator for linescan cameras, line width 120 mm, white



LTBRDC series

Continuous LED bar lights



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.

| | |
|--------------------------------------|---|
| LTZPFL160-00-6-W-24V | LED bar light, 6 LED rows, 160X26.3 illumination area, white, 24V |
| 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 |



LTLNC series

Continuous LED line lights

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|--------------------------------|----------------------------------|
| 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 |



LTCXC series

Continuous LED coaxial lights

| | |
|--------------------------------------|---|
| LT2QOG100-00-X-W-24V | LED coaxial light, 100x100 mm light emitting area, white, 24V |
| LT2QOG100-00-X-R-24V | LED coaxial light, 100x100 mm light emitting area, red, 24V |
| LT2QOG100-00-X-G-24V | LED coaxial light, 100x100 mm light emitting area, green, 24V |
| LT2QOG100-00-X-B-24V | LED coaxial light, 100x100 mm light emitting area, blue, 24V |



LTLNM series

Flicker free high power focused modular LED line lights

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|-------------------------------------|---|
| LTLNM-0200-N-FC-W | Modular LED line light, 200mm length, near field focusing, fan cooling, white |
| LTLNM-0200-N-D-FC-W | Modular LED line light, 200mm length, near field focusing, diffuser, fan cooling, white |
| LTLNM-0200-F-FC-W | Modular LED line light, 200mm length, far field focusing, fan cooling, white |
| LTLNM-0200-F-D-FC-W | Modular LED line light, 200mm length, far field focusing, diffuser, fan cooling, white |
| LTLNM-0200-C-FC-W | Modular LED line light, 200mm length, collimated, fan cooling, white |
| LTLNM-0200-C-D-FC-W | Modular LED line light, 200mm length, collimated, diffuser, fan cooling, white |
| LTLNM-0400-N-FC-W | Modular LED line light, 400mm length, near field focusing, fan cooling, white |
| LTLNM-0400-N-D-FC-W | Modular LED line light, 400mm length, near field focusing, diffuser, fan cooling, white |
| LTLNM-0400-F-FC-W | Modular LED line light, 400mm length, far field focusing, fan cooling, white |
| LTLNM-0400-F-D-FC-W | Modular LED line light, 400mm length, far field focusing, diffuser, fan cooling, white |
| LTLNM-0400-C-FC-W | Modular LED line light, 400mm length, collimated, fan cooling, white |
| LTLNM-0400-C-D-FC-W | Modular LED line light, 400mm length, collimated, diffuser, fan cooling, white |
| LTLNM-0600-N-FC-W | Modular LED line light, 600mm length, near field focusing, fan cooling, white |
| LTLNM-0600-N-D-FC-W | Modular LED line light, 600mm length, near field focusing, diffuser, fan cooling, white |
| LTLNM-0600-F-FC-W | Modular LED line light, 600mm length, far field focusing, fan cooling, white |
| LTLNM-0600-F-D-FC-W | Modular LED line light, 600mm length, far field focusing, diffuser, fan cooling, white |

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|-----------------------|---|
| 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 |



CMMR series

45° first surface mirrors

CMMR4K120-V 45° adjustable first surface mirror, clamping size 144x38.5 mm, right angle vertical bend

CMMR4K120-L 45° adjustable first surface mirror, clamping size 144x38.5 mm, right angle lateral bend