

LTCLHP144-R | DATASHEET

Telecentric HP illuminator, beam diameter 180 mm, red



SPECIFICATIONS

Lighting specifications

| | | |
|-------------------------------------------|------|-------------|
| Beam diameter | (mm) | 180 |
| Working distance | (mm) | 270 - 540 |
| Light color, peak wavelength ¹ | | red, 625 nm |
| Spectral FWHM | (nm) | 20 |

Electrical specifications

| | | |
|------------------------------------------------|------|------------|
| Supply voltage ² | (V) | 12-24 |
| Max power consumption | (W) | 2.5 |
| Led forward voltage typical (max) ³ | (V) | 2.4 (3) |
| Max led forward current ⁴ | (mA) | 350 |
| Max pulse current ⁵ | (mA) | 2000 |
| Connector | | M8 |
| Included cable | | CB244P1500 |

Mechanical specifications

| | | |
|---------------------|------|-------|
| Front Diameter | (mm) | 200.0 |
| Length ⁶ | (mm) | 467.9 |
| Mass | (g) | 5728 |

KEY ADVANTAGES

Complete light coupling

All the light emitted by a LTCLHP source is collected by a telecentric lens and transferred to the camera detector, ensuring very high signal-to-noise ratios.

Border effects removal

Diffused back-illuminators often make objects seem smaller than their actual size because of light reflections on the object sides, while collimated rays are typically much less reflected.

Field depth and telecentricity improvement

Collimated illumination geometry increases a telecentric lens natural field depth and telecentricity far beyond its nominal specs.

Homogeneity test report with measured values

LTCLHP series are high-performance telecentric illuminators specifically designed to back illuminate objects imaged by telecentric lenses.

Environment

| | | |
|-----------------------------|------|-----------------------|
| Operating temperature | (°C) | 0-40 |
| Storage temperature | (°C) | 0-50 |
| Operating relative humidity | (%) | 20-85, non condensing |
| Installation | | Indoor use only |

Eye safety

| | |
|--------------------------------|--------|
| Risk group (CEI EN 62471:2010) | Exempt |
|--------------------------------|--------|

¹ Opto Engineering recommends green light for high precision measurements application

² Tolerance $\pm 10\%$

³ At max forward current. Tolerance is $\pm 0.06V$ on forward voltage measurements

⁴ In continuous mode (not pulsed)

⁵ At pulse with $\leq 10ms$ and duty cycle $\leq 10\%$. Built in electronics board must be bypassed (see tech info)

⁶ Nominal value, with no spacers in place

COMPATIBLE PRODUCTS

Full list of compatible products available [here](#).



A wide selection of innovative machine vision components.

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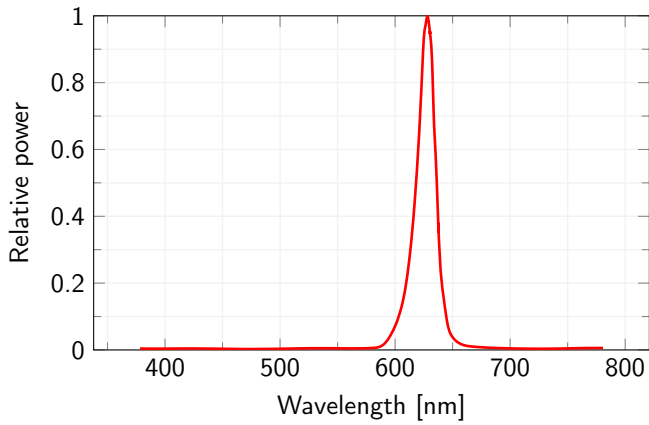
CONNECTOR PINOUT



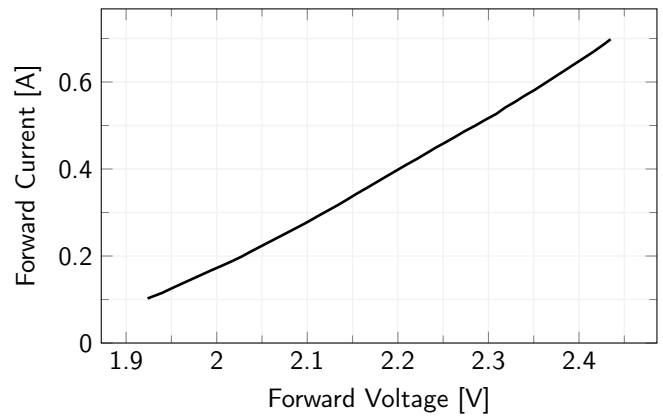
Device side

| Pin | Function | Cable color |
|-----|-------------------------|--------------|
| 1 | Earth | Yellow/Green |
| 2 | Ground | Black |
| 3 | Anode | Blue |
| 4 | Power supply (+12/24 V) | Brown |

LED color spectrum



Forward Current Characteristics



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