

# LTCLHP016-R | DATASHEET

## Telecentric HP illuminator, beam diameter 20 mm, red



### SPECIFICATIONS

#### Lighting specifications

|   |      |             |
|---|------|-------------|
| Beam diameter                             | (mm) | 20          |
| Working distance                          | (mm) | 35 - 70     |
| Light color, peak wavelength <sup>1</sup> |      | red, 625 nm |
| Spectral FWHM                             | (nm) | 20          |

#### Electrical specifications

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

#### Mechanical specifications

|                     |      |      |
|---------------------|------|------|
| Front Diameter      | (mm) | 37.7 |
| Length <sup>6</sup> | (mm) | 99.9 |
| Mass                | (g)  | 191  |

### 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 |
|--------------------------------|--------|

<sup>1</sup> Opto Engineering recommends green light for high precision measurements application

<sup>2</sup> Tolerance  $\pm 10\%$

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

<sup>4</sup> In continuous mode (not pulsed)

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

<sup>6</sup> Nominal value, with no spacers in place

### COMPATIBLE PRODUCTS

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



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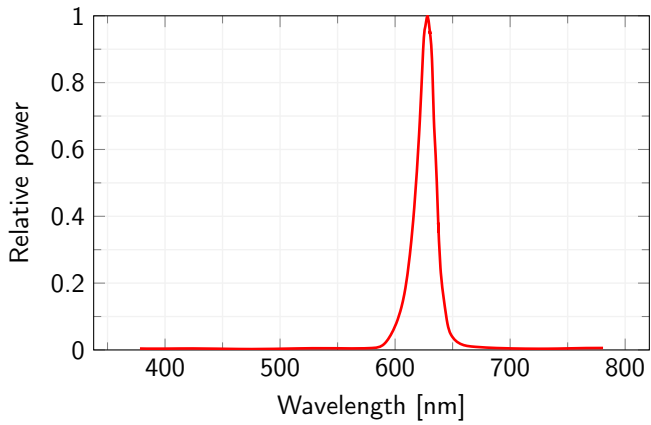
**CONNECTOR PINOUT**



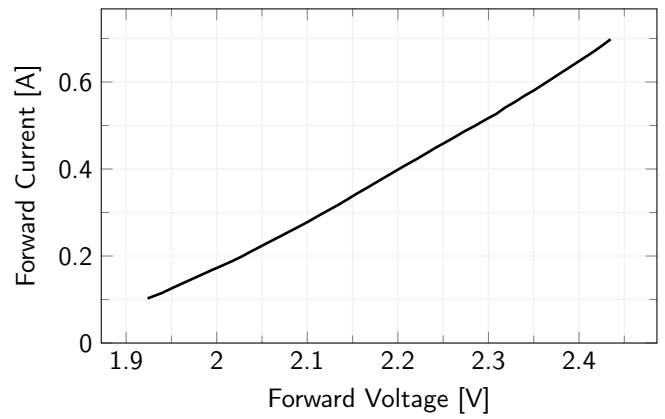
Device side

| 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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