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## vicolux® Telecentric Light - TZB48-IR850-HP-24V

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**Short description:** telecentric light, IR850, If diameter: 48 mm, P-LED, 24V, high power

**Order number:** 1-33-294



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### Characteristics

- telecentric LED lighting - parallel (collimated) beam path
  - for the detection of inclusions and defects in transparent materials such as gemstones  
also suitable for the targeted highlighting of edges and surface structures in incident light
  - ideal as backlight in combination with telecentric lenses
  - low divergence, high light output
  - lighting controller integrated in the housing - brightness pre-set
  - connection: M8 plug on the casing
  - diverse attachment options and extensive accessories
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## Technical data

|                        |                                             |
|------------------------|---------------------------------------------|
| Light-emitting surface | Durchmesser: 48 mm                          |
| Light design           | Telecentric                                 |
| Light colour (typ.)    | Infrared, 850 nm                            |
| Operating mode         | Continuous operation<br>Switching operation |
| Operation voltage      | 19V ... 29V                                 |
| Power consumption      | max. 3.56 W (146 mA at 24 VDC)              |

### Continuous operation

|                            |                                            |
|----------------------------|--------------------------------------------|
| • Irradiance <sup>1</sup>  | 22 W/m <sup>2</sup>                        |
| • Illuminance <sup>1</sup> | -                                          |
| • Radiance <sup>2</sup>    | 45.4 kW/m <sup>2</sup> sr                  |
| • luminance <sup>2</sup>   | -                                          |
| Housing material           | Aluminium, black anodised                  |
| Optical material           | Glass                                      |
| Filter thread              | -                                          |
| Weight                     | 510 g                                      |
| Degree of protection       | IP 50                                      |
| Safety class               | Class III, safety extra low voltage (SELV) |
| Risk group (DIN EN 62471)  | Exempt                                     |
| Ambient temperature        | 10 °C ... 60 °C                            |
| <sup>1</sup>               | bei 200 mm Arbeitsabstand                  |
| <sup>2</sup>               | bei 11 mrad                                |

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## Can be combined with

| Order number        | Title                 | Description                                                               |
|---------------------|-----------------------|---------------------------------------------------------------------------|
| <b>TO42 series</b>  |                       |                                                                           |
| 2-05-624            | TO42/16.0-120-V-BW    | Telecentric Lens, C-mount, Sensor opt. 1", aperture F8 - F22, blue        |
| 2-05-648            | TO42/16.4-232-V-LD    | Telecentric Lens, C-Mount, Sensor opt. 1", aperture F6 - F22, long distan |
| 2-05-626            | TO42/21.4-120-V-BW    | Telecentric Lens, C-Mount, Sensor opt. Typ 4/3, aperture F8 - F22, blue   |
| 2-05-627            | TO42/28.3-100-V-BW    | Telecentric Lens, M42, Sensor opt. "Type DX", aperture F10 - F22, blue    |
| <b>TO44 series</b>  |                       |                                                                           |
| 2-05-621            | TO44/6.2-150-V-BW     | Telecentric Lens, C-mount, Sensor opt. 1/3", aperture F6 - F22, blue      |
| 2-05-622            | TO44/8.8-110-V-BW     | Telecentric Lens, C-mount, Sensor opt. 1/1,8", aperture F6 - F22, blue    |
| 2-05-623            | TO44/11.0-110-V-BW    | Telecentric Lens, C-mount, Sensor opt. 2/3", aperture F8 - F22, blue      |
| <b>TOB42 series</b> |                       |                                                                           |
| 2-05-602            | TOB42/11.0-145-V-WN   | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F6 - F22, W/NIR  |
| 2-05-605            | TOB42/11.0-145-F16-WN | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F16, W/NIR       |
| 2-05-608            | TOB42/11.0-145-F10-WN | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F10, W/NIR       |
| 2-05-601            | TOB42/11.0-165-V-WN   | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F6 - F22, W/NIR  |
| 2-05-604            | TOB42/11.0-165-F16-WN | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F16, W/NIR       |
| 2-05-607            | TOB42/11.0-165-F10-WN | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F10, W/NIR       |
| 2-05-600            | TOB42/11.0-185-V-WN   | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F6 - F22, W/NIR  |
| 2-05-603            | TOB42/11.0-185-F16-WN | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F16, W/NIR       |

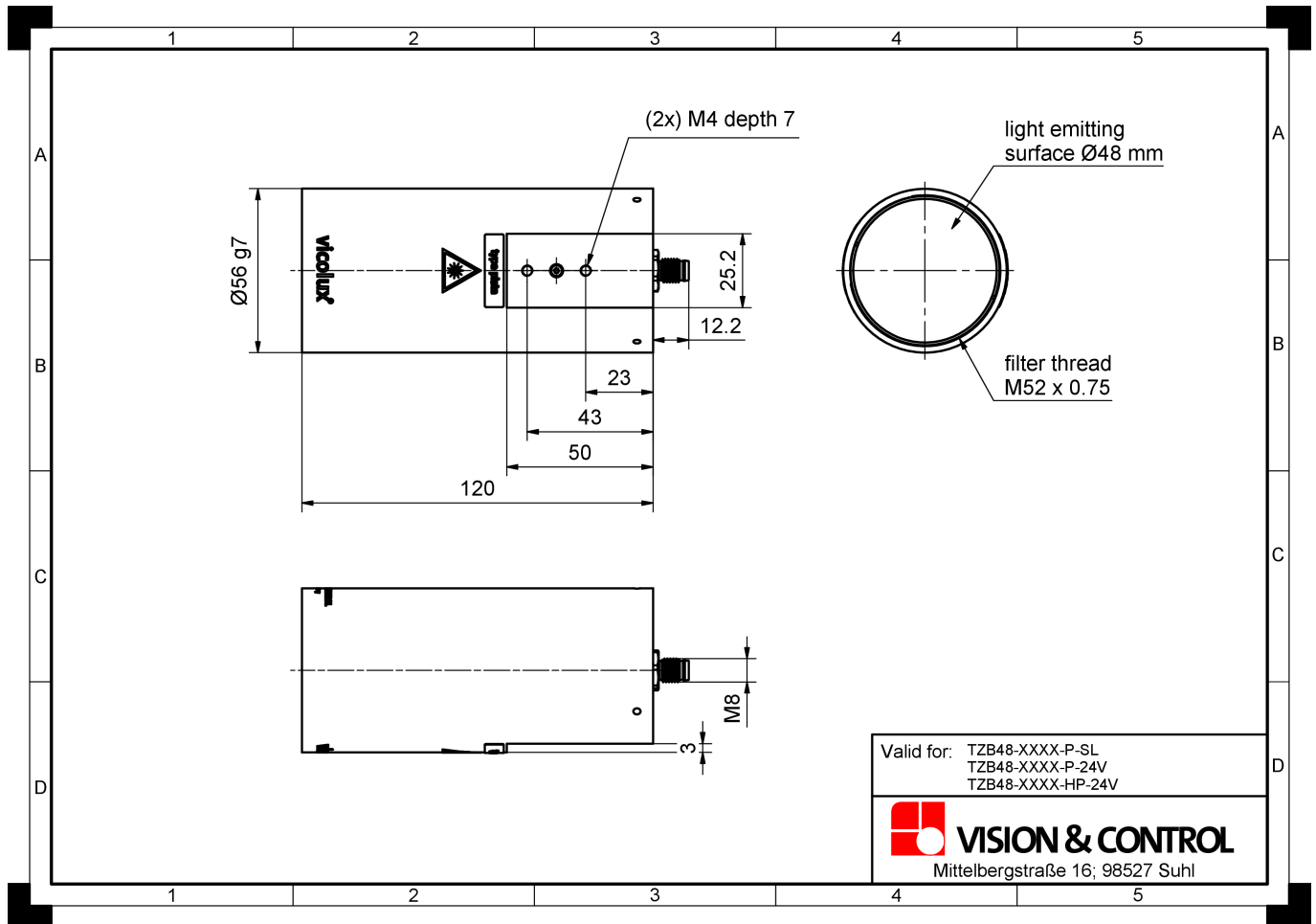
| Order number          | Title                 | Description                                                                           |
|-----------------------|-----------------------|---------------------------------------------------------------------------------------|
| 2-05-606              | TOB42/11.0-185-F10-WN | Bi-Telecentric Lens, C-mount, sensor opt. 2/3", aperture F10, W/NIR                   |
| <b>TO44-LD series</b> |                       |                                                                                       |
| 2-05-391              | TO44/7.5-287-V-LD     | Telecentric lens, c-mount, sensor opt. 1/2", variable aperture, VIS/NIR, LD           |
| 2-05-425              | TO44/8.1-302-V-WN-LD  | Telecentric measuring lens, c-mount, sensor opt. 1/2", variable aperture, VIS/NIR, LD |

## Accessories for Telecentric lights - TZB48-IR850-HP-24V

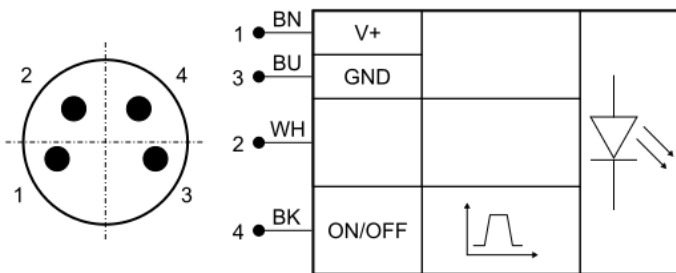
| Order number                        | Title                       | Description                                                                           |
|-------------------------------------|-----------------------------|---------------------------------------------------------------------------------------|
| <b>Polarising filters</b>           |                             |                                                                                       |
| 2-91-144                            | Pole filter M52x0.75        | linear polarizing filter, range 420 nm - 780 nm, filter thread M52x0.75               |
| <b>Deflection mirror 90° series</b> |                             |                                                                                       |
| 2-25-115                            | Deflection mirror 90-56     | 90° deflection, attachment for telecentric lenses and lightings with d = 56 mm        |
| <b>Connection cable M8-4pin</b>     |                             |                                                                                       |
| 1-11-611                            | Cable-M8-4p-5A-straight-1m  | 4x0.5mm <sup>2</sup> , 5A, 30V, PUR, IP67, M8-4pin straight socket to free cable end  |
| 1-11-612                            | Cable-M8-4p-5A-straight-2m  | 4x0.5mm <sup>2</sup> , 5A, 30V, PUR, IP67, M8-4pin straight socket to free cable end  |
| 1-11-613                            | Cable-M8-4p-5A-straight-3m  | 4x0.5mm <sup>2</sup> , 5A, 30V, PUR, IP67, M8-4pin straight socket to free cable end  |
| 1-11-614                            | Cable-M8-4p-5A-straight-5m  | 4x0.5mm <sup>2</sup> , 5A, 30V, PUR, IP67, M8-4pin straight socket to free cable end  |
| 1-11-609                            | Cable-M8-4p-4A-straight-5m  | 4x0.25mm <sup>2</sup> , 4A, 60V, PUR, IP67, M8-4pin straight socket to free cable end |
| 1-11-607                            | Cable-M8-4p-4A-straight-10m | 4x0.25mm <sup>2</sup> , 4A, 60V, PUR, IP67, M8-4pin straight socket to free cable end |
| 1-11-605                            | Cable-M8-4p-4A-angled-2m    | 4x0.25mm <sup>2</sup> , 4A, 60V, PUR, IP67, M8-4pin angled socket to free cable end   |

| Order number                          | Title                         | Description                                                                                 |
|---------------------------------------|-------------------------------|---------------------------------------------------------------------------------------------|
| 1-11-604                              | Cable-M8-4p-4A-angled-5m      | 4x0.25mm <sup>2</sup> , 4A, 60V, PUR, IP67, M8-4pin angled socket to free cable end         |
| 1-11-606                              | Cable-M8-4p-4A-angled-10m     | 4x0.25mm <sup>2</sup> , 4A, 60V, PUR, IP67, M8-4pin angled socket to free cable end         |
| <b><i>Extension cable M8-4pin</i></b> |                               |                                                                                             |
| 1-11-093                              | Extension cable-M8-4p-5A-0.6m | 4x0.5mm <sup>2</sup> , 5A, 30V, PUR, IP67, M8-4pin straight socket to M8-4pin straight plug |
| 1-11-094                              | Extension cable-M8-4p-5A-1.5m | 4x0.5mm <sup>2</sup> , 5A, 30V, PUR, IP67, M8-4pin straight socket to M8-4pin straight plug |
| 1-11-095                              | Extension cable-M8-4p-5A-3.0m | 4x0.5mm <sup>2</sup> , 5A, 30V, PUR, IP67, M8-4pin straight socket to M8-4pin straight plug |
| <b><i>Power supply</i></b>            |                               |                                                                                             |
| 4-40-218                              | Power supply 24V-120W-5A      | for DIN rail mounting, without connection cable, type: SDR-120-24                           |

## Drawings



Dimensional drawing in mm



| Pin | Core colour | Signal | Description       |
|-----|-------------|--------|-------------------|
| 1   | BN (brown)  | V+     | Operating voltage |
| 2   | WH (white)  | NC     | Do not use        |
| 3   | BU (blue)   | GND    | Ground            |
| 4   | BK (black)  | ON/OFF | Switch input      |

Pin assignment: M8 connector