# Professional lighting systems for industrial imaging

# POWER-LINE series | Bar light

>> **very powerful universal or linear light**
>> **with cylindrical lens for line scan camera applications**
>> **3 standard lengths available:**
>> **2TE (160mm), 3TE (240mm) and 5TE (400mm)**
>> **newest LED and PCB technology**
>> **optimized thermal management**
>> **for continuous, switched and pulsed operation**
>> **(depending on type)**
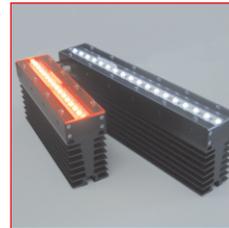


**POWER-LINE-2TE red and POWER-LINE-3TE white**
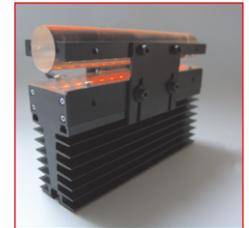


**POWER-LINE-2TE with adjustable cylindrical lens**

CE

## Technical specifications

| | |
|---|---|
| Housing | Aluminium, black or natural anodised |
| Front cover (within the scope of supply)* | Acrylic clear, antireflective coating 2mm |
| Total weight | without lens set: **2TE:** approx. 750g; **3TE:** approx. 1110g; **5TE:** approx. 1900g |
| | with lens set: **2TE:** approx. 950g; **3TE:** approx. 1450g; **5TE:** approx. 2300g |
| Operating / ambient temperature | max. 50°C recommended |
| IP protection class | depending on the version |
| Connector | M8 plug (4-pin)** |
| Supply voltage*** | **24VDC type or 12VDC type:** 24VDC resp. 12VDC |
| | **SC type:** For use in conjunction with a controller |
| Number of LEDs | **2TE:** 16 (red/IR) / 12 (white); **3TE:** 24 (red/IR) / 18 (white); **5TE:** 40 (red/IR) / 30 (white) |
| LED lifetime | The LED lifetime of our lights is very high, but depends on many different factors such as ambient temperature, current load, and so on. Further information is available in the **Technical information LED lifetime**. |

\* more information and further front covers see section Accessories
\*\* Cable not included in the scope of supply
\*\*\* more information see section Operating modes

## Characteristics

| | **LED characteristics** | | | **typical characteristics per light** | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Colour \*** | **Wavelength (approx.)** | **Viewing angle** | **Current demand** (24V type) ** / **constant current max.** (SC type) **[mA]** | | | **Pulse current max.** (SC type) *** **[mA]** | | | **Intensity ****** **[W/m²]** | | |
| | | | **2TE** | **3TE** | **5TE** | **2TE** | **3TE** | **5TE** | **2TE** | **3TE** | **5TE** |
| red | 617nm | 120° | 550 | 830 | 1320 | 3,4 | 5,1 | 8,5 | 26 | | 65 |
| white | 6500K | 120° | 540 | 840 | | 3,8 | 5,7 | 9,5 | | 40 | |
| IR | 850nm | 120° | 430 | 670 | | 4,8 | 7,2 | 12,0 | | 60 | |

\* other colours and types from UV to infrared on request
\*\* stated current values of the 24V types should be considered approximate values
\*\*\* depending on the strobe conditions, recommended maximum values for a flash time of 1ms
\*\*\*\* approximately data measured in DC mode; Measuring distance 150mm without lens set

⚠️ **Safety note!** LED light systems can produce very intense radiation, which may possibly damage the eyes on improper use. Do not look directly into the light beam with unprotected eyes! Use eye protection!

## Operating modes

**24VDC type / 12VDC type**
The lights are designed depending on the version for continuous operation at 24VDC or 12VDC.
The following operating modes are possible:

- DC operation at an appropriate power supply with 24VDC or 12VDC
- Switched operation with a matching power supply e.g. via PLC, opto-relay or controller (GS or SC series)
- Brightness-controlled operation via controller (GS or SC series) in conjunction with suitable power supply
- Pulsed mode via controller (GS or SC series) in conjunction with suitable power supply. The LED current can be increased in pulse mode up to a factor of 2 to 3.

**SC type**
For pulsed, switched or brightness-controlled operation, the lights are also available as optimized SC versions. They can be used in combination with our controllers of the GS and SC series and provide optimized and maximum current flow, especially in pulsed operation. We will assist you in selecting the right components.

●○● IMAGING ● LIGHT ●● TECHNOLOGY
**BÜCHNER**

technical changes reserved

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## Dimensions

Cylindrical lens    Holder for cylindrical lens

D25

adjustable

M8 plug

106 - 129

55

79

*The length specification TE describes the single unit of 80mm of the active LED-PCB.

Consequently following lengths result for L:

**2TE** = 160mm
**3TE** = 240mm
**5TE** = 400mm

**M6 sliding nuts**
for mounting the light by using the groove in the heatsink. Two to four nuts per light within the scope of supply.

6

6,5
10,5
40,6

Heatsink

L*

Heatsink

groove for mounting with M6 sliding nuts

8
2
40,6
6,5
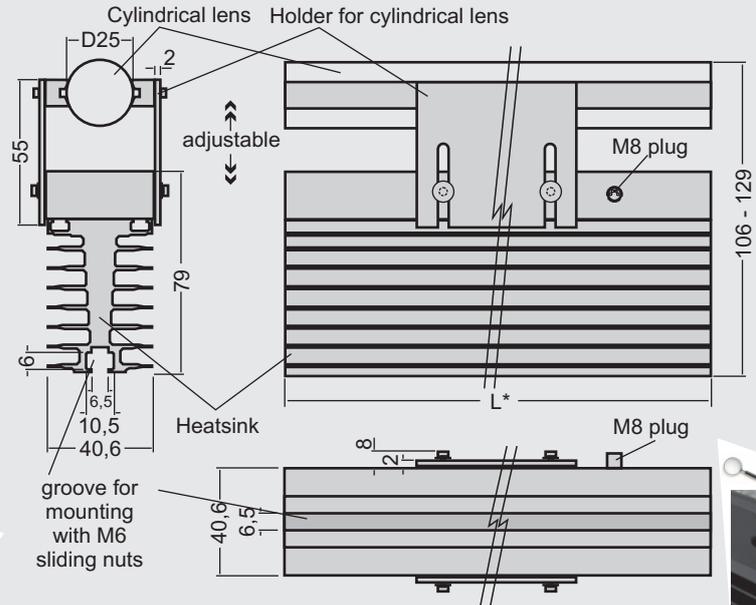
M8 plug

## PIN assignment connector

**M8 plug 4-pin**
**(Front view on housing)**

2  4
1  3

### 24VDC type

| PIN | Colour | Function |
|-----|--------|----------|
| 1 | brown | + 24V |
| 3 | blue | - |

### 12VDC type

| PIN | Colour | Function |
|-----|--------|----------|
| 2 | white | + 12V |
| 3 | blue | - |

### SC type

| PIN | Colour | Function |
|-----|--------|----------|
| 4 | black | + |
| 3 | blue | - |

## Application notes

**Linear lighting**

Camera

Light
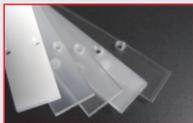
Line scan camera
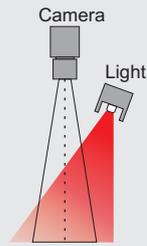
Light

Lens

By using the optional available lens the light can be focused to a narrow line with increased intensity.
The lens is mechanically adjustable and allows an adaption to different requirements.
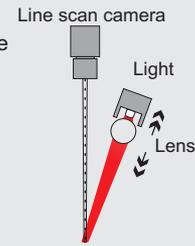
## Accessories

**Front covers / diffusers**
Through the use of different diffuse front covers, the optical characteristics of the illumination can be changed.
More information can be found in the **Technical information Front materials**.

**Cylindrical lens set D25mm**
consisting of cylindrical lens incl. holder and mounting screws