# LBOxxxx
## OPERATING INSTRUCTIONS

wenglor TPL

## INTRODUCTION

This Technical User Guide contains warnings and guidance for correct and safe operation of the product. These instructions must be followed at all times. wenglorTPL will not be held responsible for problems caused by using the product contrary to these instructions and the Warranty will be deemed invalid.

## UNPACKING

This product is packed at the factory using suitable materials for safe transport. To open the package, do not use any cutting blade to avoid damaging the product(s). Please use the delivered accessories if needed. (Do not use any other products or equivalents to replace the delivered accessories).

In the event of damage occurring during shipping, it must be reported to the carrier at time of delivery (including noting the damage in writing on the delivery documents). It is also your responsibility to notify wenglorTPL in writing of the damage within 24 hours of receipt of the package. If these instructions are not followed, wenglorTPL reserves the right not to accept requests for return and exchange of damaged products.

## RISK CLASS

The applicable Standard EN-62471 classifies LED Lighting into 4 classes according to their degree of hazard severity. The table below summarises the risks associated with our standard products.

| Color | Class | Risk |
|---|---|---|
| Red 630 nm | 0 | none |
| White WHI, IR 850 nm | 1 | low |

In all cases, wenglorTPL recommends the use of **protection glasses**.

wenglorTPL can provide **guidance notes to minimise photo-biological risks**, including the nominal minimum operating distance. Please contact wenglorTPL through your **usual representative** for this information.

**BEWARE to the infrared light**, invisible to the eyes.
To know if the light is on, please refer to the LED indicators.

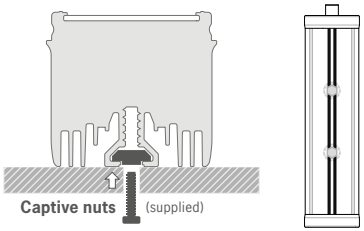
## DIMENSIONS


| | Length* (mm) | Height (mm) | Width (mm) | Useful length (mm) |
|---|---|---|---|---|
| | A | B | C | D |
| LBOx601 | 658 | 45 | 47.6 | 625 |
| LBOx701 | 783 | 45 | 47.6 | 750 |
| LBOx801 | 909 | 45 | 47.6 | 875 |
| LBOx901 | 1034 | 45 | 47.6 | 1000 |
| LBOx902 | 1160 | 45 | 47.6 | 1125 |
| LBOx903 | 1285 | 45 | 47.6 | 1250 |
| LBOx904 | 1411 | 45 | 47.6 | 1375 |
| LBOx905 | 1536 | 45 | 47.6 | 1500 |
| LBOx906 | 1661 | 45 | 47.6 | 1625 |
| LBOx907 | 1786 | 45 | 47.6 | 1750 |
| LBOx908 | 1911 | 45 | 47.6 | 1875 |
| LBOx909 | 2038 | 45 | 47.6 | 2000 |
| LBOx910 | 2163 | 45 | 47.6 | 2125 |
| LBOx911 | 2298 | 45 | 47.6 | 2250 |
| LBOx912 | 2422 | 45 | 47.6 | 2375 |
| LBOx913 | 2547 | 45 | 47.6 | 2500 |

* Total length, without connector.

For more **colors**, please speak to your sales representative.

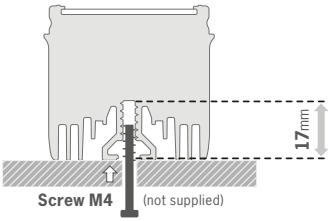
## FIXING




- Length (Lg) < 1000 mm: **4** captive nuts M4
- 1000 mm ≤ Lg < 1500 mm: **6** captive nuts M4
- 1500mm ≤ Lg < 2000mm: **8** captive nuts M4
- 2000mm ≤ Lg ≤ 2500mm: **10** captive nuts M4

Please use all the captive nuts.
**NEVER REMOVE THEM FROM THE BAR.**

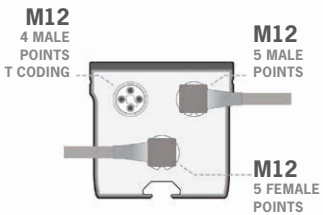
During the set up, the light has to be switched off and unplugged. Please use M4 screws and insert them in the captive nuts located in the back of the light. The light will be better fixed if you spread the attachment points symmetrically along the bar.




You can also use M4 screws (not supplied) fastened directly into Aluminium profile with a tightening torque from 0.5 to 1.5 Nm. We also recommend the use of a threadlocker (not supplied) to avoid any risk of loosening.

Additionally, there is the mounting accessory **ZBAZ001**, which can connect the bar light to surfaces and give 180° secure rotational adjustments.

## WIRING

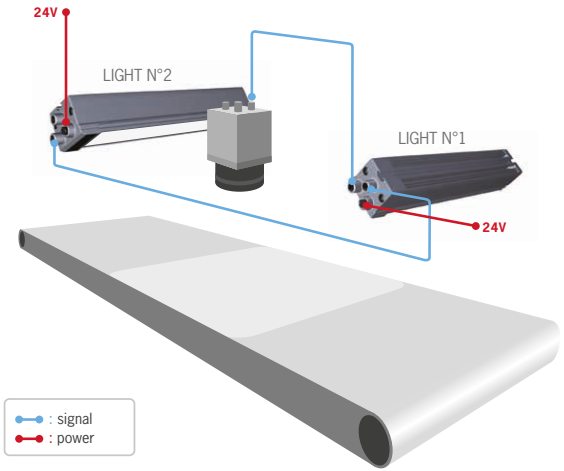


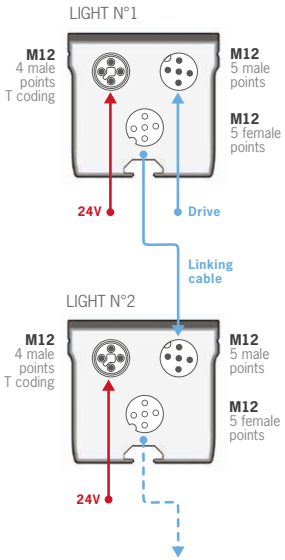

Front view

Top view

**If one of the connectors is not used, please keep the cap to maintain the IP protection.**

## DAISY CHAIN

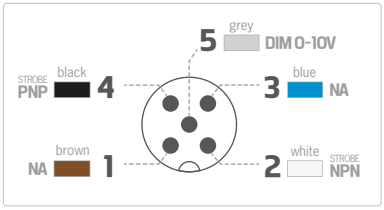


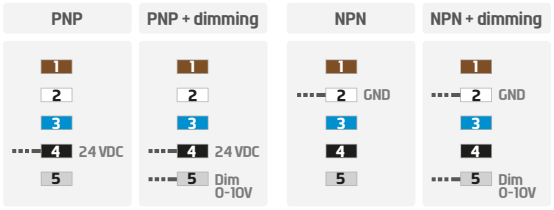




Use an extension cable male-female M12-M12 5 x 0,34²

## CONNECTION

### M12 Connector 5 male points - DRIVE

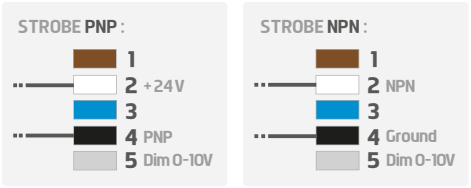


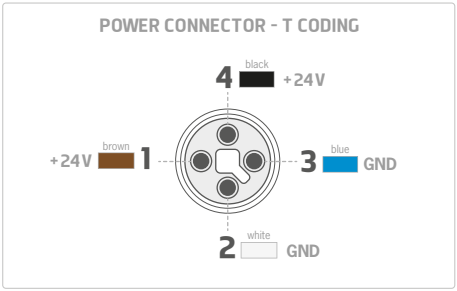

Light will be in continuous mode by leaving signal on strobe input active.

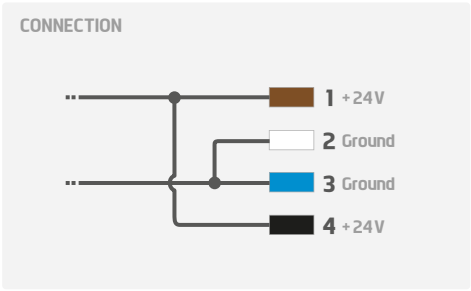
The **M12 male connector 5 points** is **COMPLIANT** with the M12 female connector 4 points.
In that case, the dimming option is not available.

**EMC IMMUNITY CONNECTIONS:** for greater EMC immunity when using the light under Strobe operation, configure the signal connections as illustrated here. For Dimming, the Pin (5) should be connected to a voltage between 0V and 10V to ensure light output is correctly configured.




### M12 Connector 4 male points - POWER



## VOLTAGE DROP

| REFERENCES: | LB0x601 | LB0x701 | LB0x801 | LB0x901 | LB0x902 | LB0x903 | LB0x904 | LB0x905 | LB0x906 | LB0x907 | LB0x908 | LB0x909 | LB0x910 | LB0x911 | LB0x912 | LB0x913 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Max voltage drop in the bar (V) | 0.18 | 0.26 | 0.35 | 0.46 | 0.58 | 0.72 | 0.88 | 0.98 | 1.13 | 1.28 | 1.45 | 1.63 | 1.8 | 1.95 | 2.15 | 2.3 |
| Power supply cable : 5x1.5² max length for acceptable voltage drop (m)* | 138 | 112 | 94 | 80 | 68 | 59 | 50 | 42 | 36 | 30 | 26 | 22 | 18 | 16 | 13 | 11 |
| Linking cable: 5x0.34² (m)** | No restriction if each bar has its own power supply cable. Please contact us for other configuration | | | | | | | | | | | | | | | |

* Max length for acceptable voltage drop (m). For longer power supply cable, increase the section of the copper wire.
** Max length for acceptable voltage drop (m).

## LED INDICATORS


ON : **Power** LED indicator

Str. : **Strobe** LED indicator

## CONTROL

The product is optimised for a lifespan >50kh in a 40°C atmosphere.
In strobe mode, the strobing time is directly equivalent to the time during which the strobe entry is activated.

### STROBE PNP & NPN

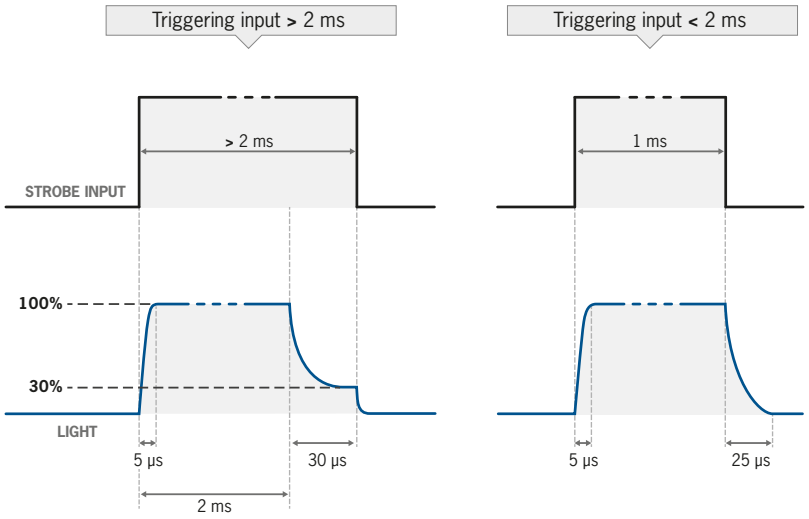
**PNP :** from 5 to 24V for 100% ON. From 0 to 1V for 100% OFF.
**NPN :** less than 1V for 100% ON. Above 2V for 100% OFF. Max 20V.

**Strobe mode :** LED are supplied in Overdrive.
**Continuous mode :** after 2ms in Overdrive, LED are supplied at a safe level for use in continuous mode.

| | D max (%) | t max | f max |
|---|---|---|---|
| **CW** | 100% | CW | N/A |
| **Strobe** | 5% | 2 ms | 750 Hz |

D : Duty Cycle
t : pulse duration
f : frequency

## STROBE MODE



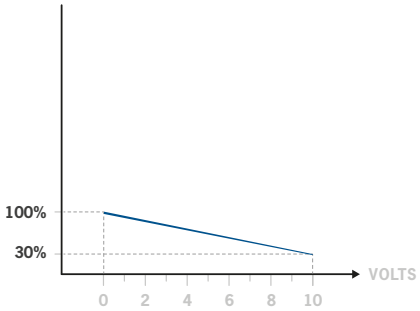

## POWER SUPPLY

| REFERENCES: | LB0x601 | LB0x701 | LB0x801 | LB0x901 | LB0x902 | LB0x903 | LB0x904 | LB0x905 | LB0x906 | LB0x907 | LB0x908 | LB0x909 | LB0x910 | LB0x911 | LB0x912 | LB0x913 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Power** needed in Strobe (W) | 240 | 288 | 336 | 384 | 432 | 480 | 528 | 576 | 624 | 672 | 720 | 768 | 816 | 864 | 912 | 960 |
| **Power** needed in Continuous mode (W) | 55.5 | 66.6 | 77.7 | 88.8 | 99.9 | 111 | 122.1 | 133.2 | 144.3 | 155.4 | 166.5 | 177.6 | 188.7 | 199.8 | 210.9 | 222 |
| Minimum functioning Voltage | 20V in the light input | | | | | | | | | | | | | | | |
| Normal functioning Voltage | 24V in the light input (±10%) | | | | | | | | | | | | | | | |
| Maximum functioning Voltage | 30V in the light input | | | | | | | | | | | | | | | |

IP65 +40°C 0°C 24V ±10%

## DIMMING

### DIMMING 0-10V - CONTINUOUS WORKING

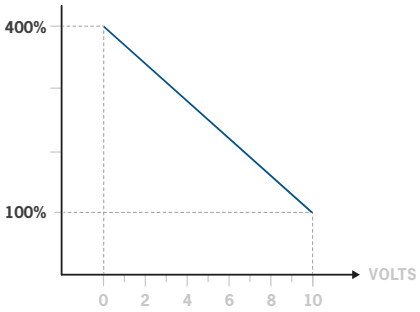



**Potential dimming between 0 & 10 V.**

At 0 Volts, the product reaches **100%** of its lighting power.

Please consider a tolerance of ±5% when measuring the dimmed brightness levels.

### DIMMING 0-10V - STROBE OPERATION




**Potential dimming between 0 & 10 V.**

At 0 Volts, the product reaches **400%** of its lighting power.

Please consider a tolerance of ±5% when measuring the dimmed brightness levels.

## OPERATING CONDITIONS

-10° to +40°C / 80% of humidity without condensation. No thermal shock (max temperature variation: 10°C in 24h).
If one of the connectors is not used, please keep the cap to maintain the IP protection.
Not for outdoor use.

## PRODUCT LIFETIME

LED lifetime can typically be increased using strobe mode where possible. Strobing the light or turning the illumination on and off (using PNP or NPN lines) allows less temperature build up at the LED junction. The junction temperature of the LED is directly correlated with the lifetime of the LED chip. Maximum ambient air temperature = maximum 40°C/104°F.

LEDs naturally lose some intensity over time because of heat. Using the dimming and setting a reference brightness is a method for keeping the brightness level constant over a very long time, especially on brightness critical applications. wenglorTPL products have been integrated in factories since 2006, many of which are still in operation today. LED lifetime and heat management are at the forefront of our design considerations.

## USER SECURITY

**Do respect the power supply voltages and the connection terminals.**
**Do not modify or dismantle all or part of the product.**
**Do not connect or clean when power is on.**
**Do not watch the lighting source directly, and follow the advice below :**

- If the workstation enables it, interpose a filter that will stop the lighting radiation under fixed or adjustable frame between the source and the operator.
- When these measures cannot be implemented, supply the operators with glasses (class 4).
- Forbid or limit the direct access to the lighting source (exposure into the radiation axis).
- Establish a security perimeter so as to prevent the operators from approaching the lighting source beyond the recommendations of the manufacturer, as for eye irritation is concerned.
- In any case, ensure that the chosen means properly reduce the exposition quantities (features of screens or glasses to be chosen, according to the wavelengths that the operators are exposed to).

## EQUIPMENT MAINTENANCE

**CLEANING (when the product is switched off)**

Please use a soft and dry cloth. Do not use any abrasive material. Do not use any cleaning solvent or aggressive chemical product. wenglorTPL recommends to use isopropyl alcohol.

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