TPL VISION
Active LED solutions

BACKLIGHT BLBAR+ LINK
USER GUIDE

PREAMBLE

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

IP65 | +40°c -10°c | 24V ±10%

UNPACKING

Products are packed in our factory, using suitable materials for a safe transport through the usual means of transportation, in France and internationally. However, a damaged package must be reported to the carrier on delivery. Hand-written reservations must be indicated on the delivery order. Moreover, please send a letter or an email to TPL Vision as soon as possible (up to 24 hours after the delivery). If the transportation damage has not been stipulated on the delivery order and reported to TPL Vision in time, the package will not be taken back nor exchanged. 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).

RISK CLASS

The EN-62471 norm about lighting fluxes enables the classification of led lightings in 4 distinct groups, according to their hazardousness degree. Please find below an indicative table, recapitulating the classes of risk for our standard products.

Colour	Class	Risk
White WHI, Green 525 nm, Red 630 nm, IR 850 nm	0	none
Blue 470 nm	1	low

In all cases, TPL Vision recommends the use of **the protection glasses** that are listed in its catalog.

For more information about photobiological risks, do not hesitate to contact us.

TPL Vision can provide calculation notes about **the nominal distance of eye risks** (security distance).

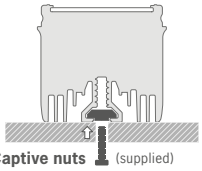
BEWARE to the infrared light, invisible to the eyes.
To know if the light is on, please refer to the LED indicators.

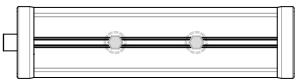
DIMENSIONS

	Length (mm)	Height (mm)	Width (mm)
	A	B	C
BLBAR+ 125	158	45	47.6
BLBAR+ 250	283	45	47.6
BLBAR+ 375	408	45	47.6
BLBAR+ 500	533	45	47.6
BLBAR+ 625	658	45	47.6
BLBAR+ 750	783	45	47.6
BLBAR+ 875	909	45	47.6
BLBAR+ 1000	1034	45	47.6
BLBAR+ 1125	1160	45	47.6
BLBAR+ 1250	1285	45	47.6

* Total length, without connector.

FIXING

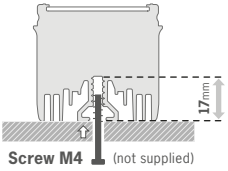




- Length (Lg) < 500 mm: **2** captive nuts M4
- 500 mm ≤ Lg < 1000 mm: **4** captive nuts M4
- 1000 mm ≤ Lg ≤ 1250 mm: **6** captive nuts M4

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.



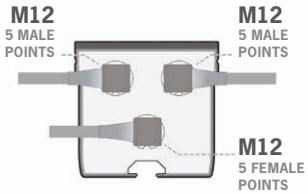
You can also use M4 screws (not supplied) fastened directly into Aluminium profile with a tightening torque from 0.5 to 1.5 Nm. We also recommend the use of a thread-locker (not supplied) to avoid any risk of loosening.

LED INDICATORS

ON : **Power** LED indicator

Str. : **Strobe** LED indicator

WIRING



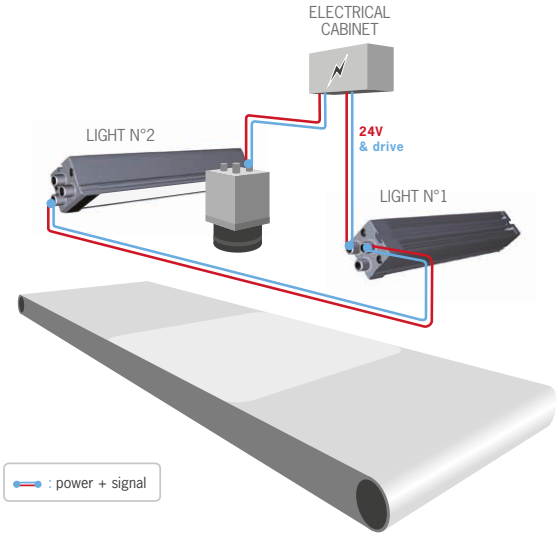
Front view

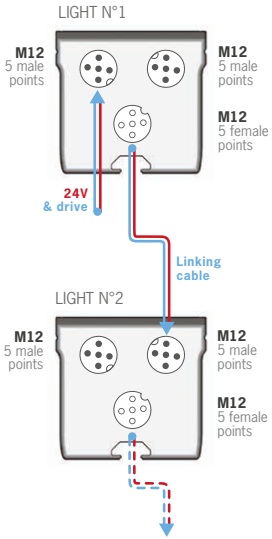
Top view

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

LINKABLE SYSTEM

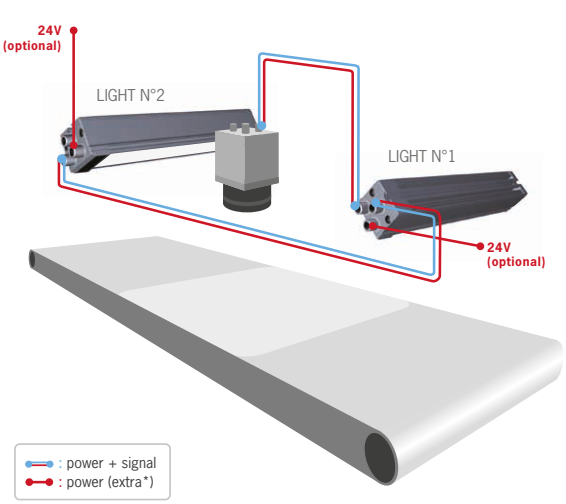
CONNECTION THROUGH ELECTRICAL CABINET

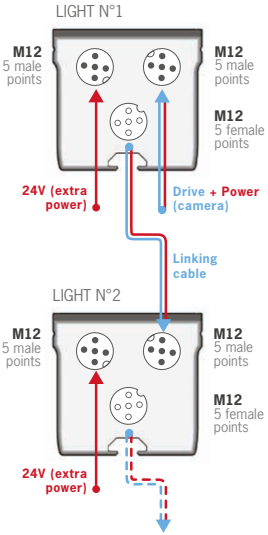




LINKABLE SYSTEM

CONNECTION WITHOUT ELECTRICAL CABINET





* If the ouput of the camera is not able to provide the power required by the bar, please add extra power by using the 2nd M12 male connector.

POWER SUPPLY

	125	250	375	500	625	750	875	1000	1125	1250
Max. consumption **White**/**Red**/**IR** (W)	8	15	23	31	39	46	54	62	69	77
Max. consumption **Blue**/**Green** (W)	12	24	36	48	61	73	85	97	109	121
Max. consumption **UV** (W)	10	19	29	39	47	57	66	76	86	95
Min. functioning Voltage	20V in the light input									
Normal functioning Voltage	24V in the light input (±10%)									
Max. functioning Voltage	30V in the light input									
Max. consumption Strobe and Dimming signal	10mA									

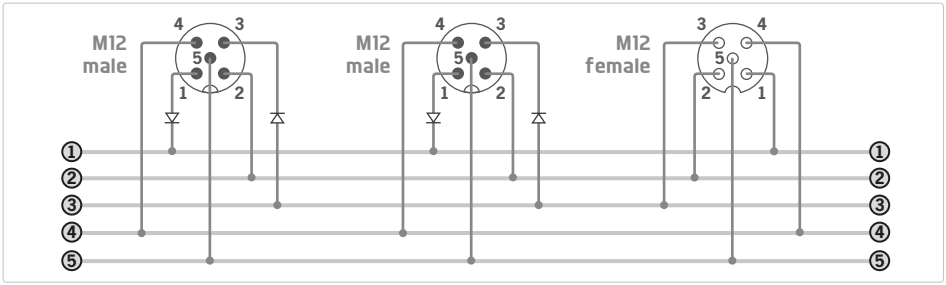
IP65 +40°c -10°c 24V ±10%

MAX. LENGTH FOR LINKING CABLE (EXAMPLES)

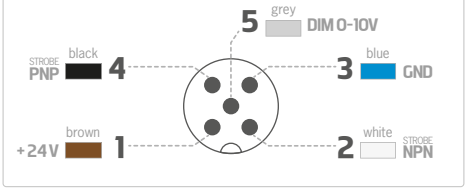
Power supply cable	Bar n°1	Bar n°2	Max. length for linking cable
10 meters	250	250	50 meters
	500	500	20 meters
	750+	750+	1 power supply cable per bar = no restriction for the linking cable length
20 meters	250	250	40 meters
	500	500	10 meters
	750+	750+	1 power supply cable per bar = no restriction for the linking cable length

Other configurations : please contact us.

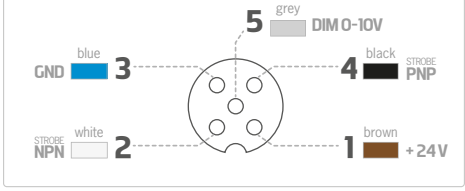
INTERNAL CONNECTION



M12 male (x2)

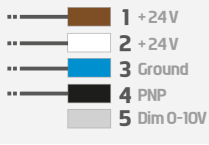


M12 female

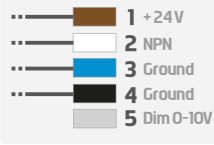


EMC IMMUNITY CONNECTIONS: for greater EMC immunity when using the light under Strobe operation, configure the signal connections as illustrated here. For Dimming, the Pin (5) should be connected to a voltage between 0V and 10V to ensure light output is correctly configured.

STROBE **PNP** :



STROBE **NPN** :



VOLTAGE DROP

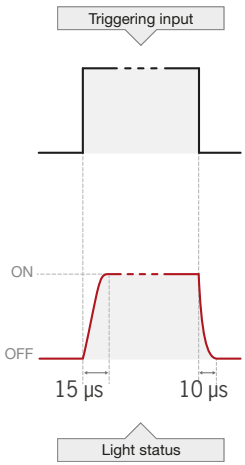
Dimensions	125	250	375	500	625	750	875	1000	1125	1250
Max voltage drop in the bar (V)	0.07	0.14	0.21	0.28	0.35	0.42	0.49	0.56	0.63	0.70
Power supply cable : 5x0,34² max length for acceptable voltage drop (m)*	180	90	60	43	34	27	23	20	17	15
Linking cable : 5x0,34² max length for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable please contact us for other configuration									

* For longer power supply cable, increase the section of the copper wire.

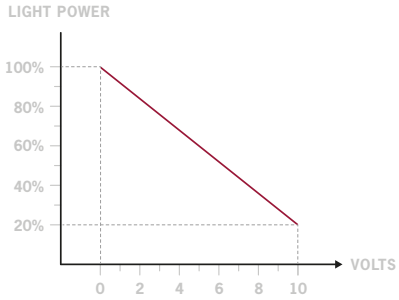
The **M12 male connector 5 points** is **COMPLIANT** with the M12 female connector 4 points.
In that case, the dimming option is not available.

CONTROL

STROBE MODE



DIMMING 0-10V



Potential dimming between 0 & 10 V.

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

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.

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.

OPERATING CONDITIONS

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

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) available for sale at TPL Vision.
- 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.
TPL Vision recommends to use isopropyl alcohol.

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TPL VISION
Active LED solutions

Brenchley House, School Road
Charing, Kent TN27 0JW
United Kingdom

+44 (0)1738 310 392

contact@tpl-vision.co.uk