TPL VISION
Active LED solutions

MODULAR M-EBAR
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.

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 TPL Vision in writing of the damage within 24 hours of receipt of the package. If these instructions are not followed, TPL Vision 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.

Colour	Class	Risk
White WHI, Red 630 nm	0	none
IR 850 nm	1	low

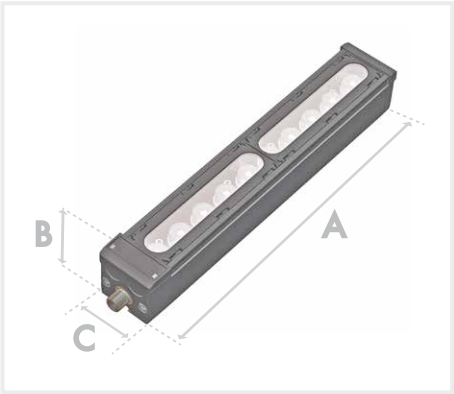
TPL Vision can provide **guidance notes to minimise photo-biological risks**, including the nominal minimum operating distance. Please contact TPL Vision through your **usual representative** for this information.

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

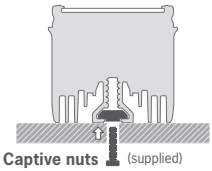
DIMENSIONS

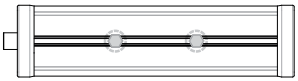
	Length (mm)	Height (mm)	Width (mm)
	A	B	C
M-EBAR 125	158	45	47.6
M-EBAR 250	283	45	47.6
M-EBAR 375	408	45	47.6
M-EBAR 500	533	45	47.6

* Total length, without connector.



FIXING

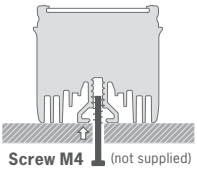




- Length (Lg) < 500 mm: **2** captive nuts M4
- 500 mm ≤ Lg < 1000 mm: **4** captive nuts M4
- 1000 mm ≤ Lg ≤ 1250 mm: **6** captive nuts M4

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.

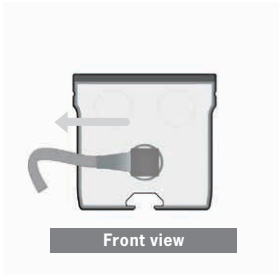
IP65 | +40°c -10°c | 24V ±10%

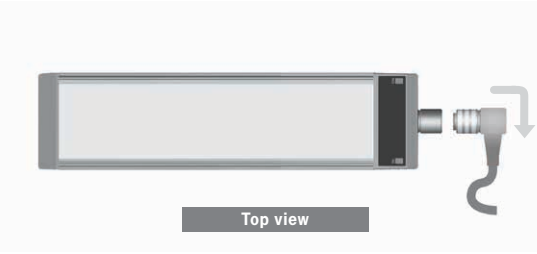
LED INDICATORS

ON : **Power** LED indicator

Str. : **Strobe** LED indicator

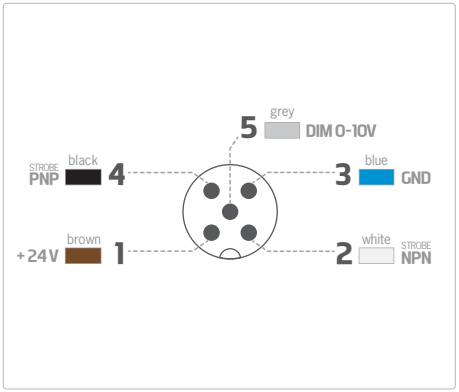
WIRING





CONNECTION

M12 Connector 5 male points



STROBE **PNP** :

1 +24V
2
3 Ground
4 PNP
5 Dim 0-10V

STROBE **NPN** :

1 +24V
2 NPN
3 Ground
4
5 Dim 0-10V

CONTINUOUS MODE :

1 +24V
2
3 Ground
4 PNP
5 Dim 0-10V

or

1 +24V
2 NPN
3 Ground
4
5 Dim 0-10V

VOLTAGE DROP

Dimensions	**125**	**250**	**375**	**500**
Max voltage drop in the bar (V)	0.01	0.03	0.06	0.12
Power supply cable : 4x1,5² max length for acceptable voltage drop (m)*	>150			

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

OPERATING CONDITIONS

-10° to +40°C (14° to +104°F) / 80% of humidity without condensation.
No thermal shock (max temperature variation: 10°C (18°F) in 24h).
Not for outdoor use.

CONTROL

The product is optimised for a lifespan >50kh in a 40°C (104°F) 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.

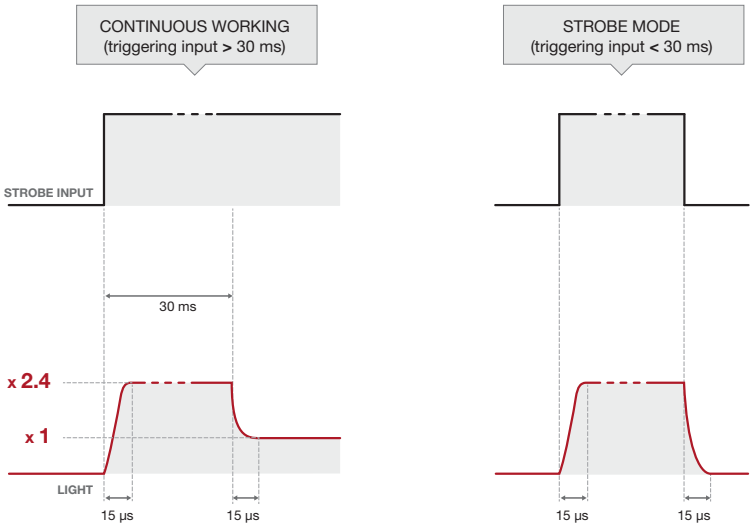
Strobe mode : LED are supplied with 100% maximum current.
Continuous mode : after 30ms at 100% , LED are supplied at a safe level for use.

Brightness	D max (%)	t max	f max
x 1	100%	CW	N/A
x 2.4	20%	30 ms	30Hz

D : Duty Cycle
t : pulse duration
f : frequency

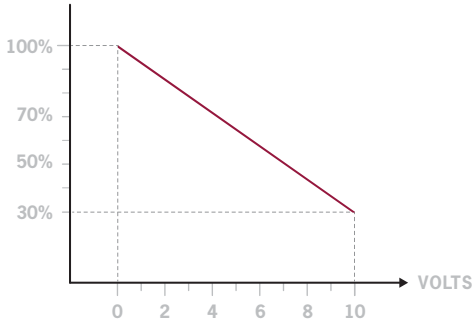
IP65 +40°c -10°c 24V ±10%

OPERATION



Continuous mode:
in order to protect the light, after 30ms, LED brightness decreases and reaches a safe power supply level.

DIMMING 0-10V



Potential dimming between 0 & 10 V.

At 0 Volts, the product reaches 100% of its lighting power. Only usable in the Overdrive mode.
Please consider a tolerance of ±5% when measuring the dimmed brightness levels.

POWER SUPPLY

	125	250	375	500
Consumption CW mode	0.3A	0.6A	0.9A	1.2A
Consumption Strobe mode*	1.2A	2.4A	3.6A	4.8A
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 signal	5mA			

*strobed with 20% duty cycle.

USER SAFETY

Do not modify or dismantle all or part of the product.

Respect the power supply voltages and the connection terminals.

Ensure power supply is switched off whilst connecting product and turn on only once product is fully connected. Failure to do this may damage the product and invalidate the Warranty

Do not stare at the lighting source directly.
Follow advice below for installation to minimise operator exposure to the light source.

INSTALLATION GUIDANCE:

- Forbid or limit the direct access to the lighting source (exposure into the radiation axis).
- Establish a security perimeter to prevent the operators from approaching the lighting source beyond the recommendations of the manufacturer.
- If the workstation permits it, introduce a filter that will stop the lighting radiation under a fixed or adjustable frame between the source and the operator. When these measures cannot be implemented, supply the operators with glasses (class 4) available from TPL Vision, or with a dedicated protective mask, that will stop the lighting radiation.

It is the responsibility of the persons installing this product to ensure that all means possible (such as those stated above) have been implemented to reduce exposure of the machine operators to the light emitted from this product.

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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