



## MEDIUM MBACK+ STANDARD 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

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	0	none
Blue 470 nm, IR 850 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 photo-biological risks, do not hesitate to contact us.

TPL Vision can provide guidance notes about the **nominal distance to minimize eye risks**.



**BEWARE to the infrared light**, invisible to the eyes.

To know if the light is on, please refer to the LED indicators.



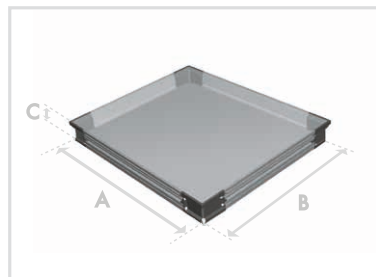
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## DIMENSIONS

Length x Width (mm)	Height (mm)
A x B	C
Min : 200x200 ; Max: 900x900 or 1900x400	45

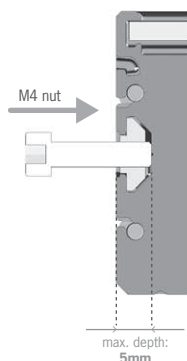
- **Useful surface:** A x B
- **Max. useful surface:** 0.88 m<sup>2</sup>
- **Max. useful perimeter:** 4.5 m
- **Total surface:** (A + (4mm x 2)) x (B + (4mm x 2))  
(connector excluded)



## FIXING

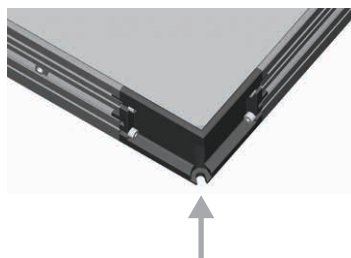
During the set up, the light has to be switched off and unplugged. Please use the fixing groove or holes designed for that purpose. We recommend the using of nuts (supplied) in the groove or M4 screws (not supplied) with a tightening torque from 0.5 to 1.5 Nm. We also recommend the use of a threadlocker (not supplied) to avoid any risk of loosening.

### FIXING ON THE LENGTH (groove)



(4 M4 nuts – supplied)

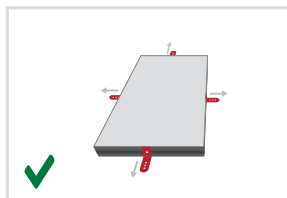
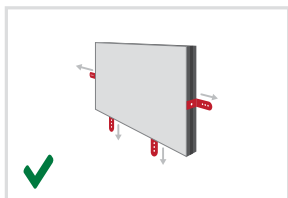
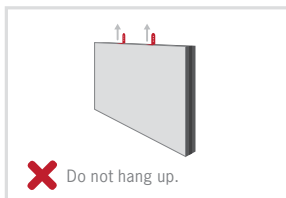
### FIXING ON THE CORNER



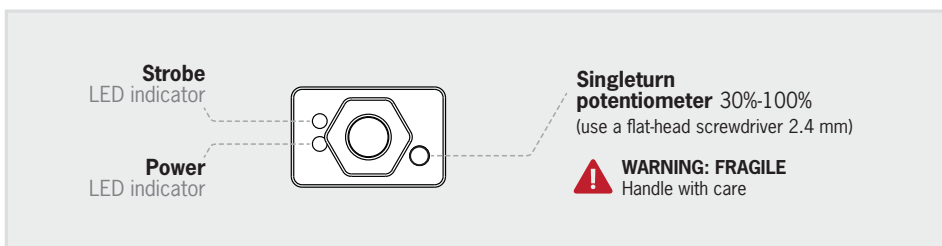
(CHC screw M4x20 – not supplied)



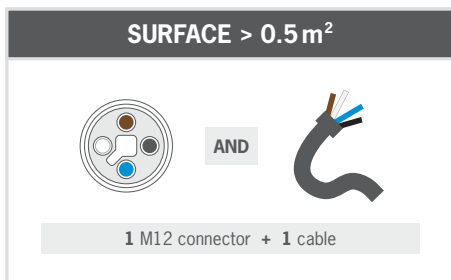
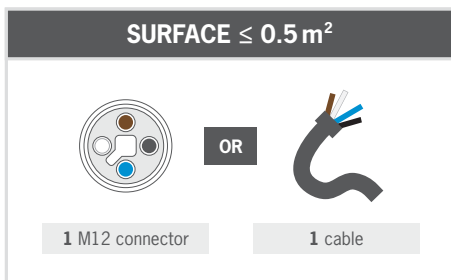
**⚠ BE CAREFUL WHEN USING ANGLE BRACKETS** (TPL Vision ref: TPL-MOUNT-HPB-SQUARE1).



## ■ LED INDICATORS & POTENTIOMETER



## ■ WIRING





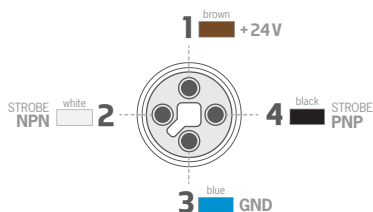
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## CONNECTION

### M12 Connector 4 male points

#### POWER CONNECTOR - T CODING



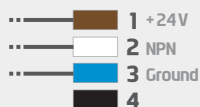
#### STROBE mode :

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.

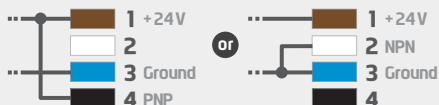
#### STROBE PNP :



#### STROBE NPN :



#### CONTINUOUS MODE :



Voltage drop for Connector M12 + wire 10 meters:  
(Minimum Voltage at the product input: 20VDC)

1.15V @ 5A

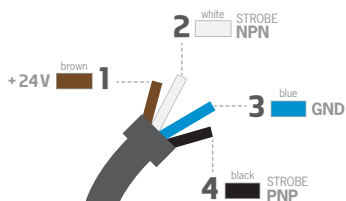
2.3V @ 10A

3.5V @ 15A

4.6V @ 20A

MAX 20A

### Cable 4 wires



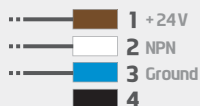
#### STROBE mode :

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.

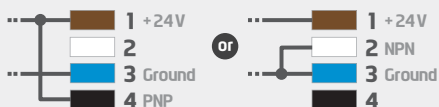
#### STROBE PNP :



#### STROBE NPN :



#### CONTINUOUS MODE :



Voltage drop for Cable 10 meters:  
(Minimum Voltage at the product input: 20VDC)

1.15V @ 5A

2.3V @ 10A

3.5V @ 15A

4.6V @ 20A

MAX 20A



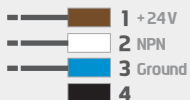
## Double Wiring Version Wiring recommendation

### CONTROL CONNECTION - WIRING 1 ONLY

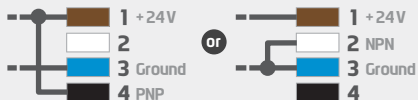
#### STROBE PNP :



#### STROBE NPN :

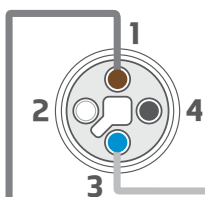


#### CONTINUOUS MODE :

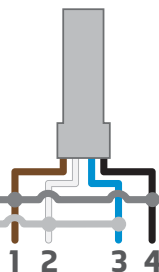


### POWER CONNECTION

#### WIRING 1 (control and power)



#### WIRING 2 (power)



24 V GND



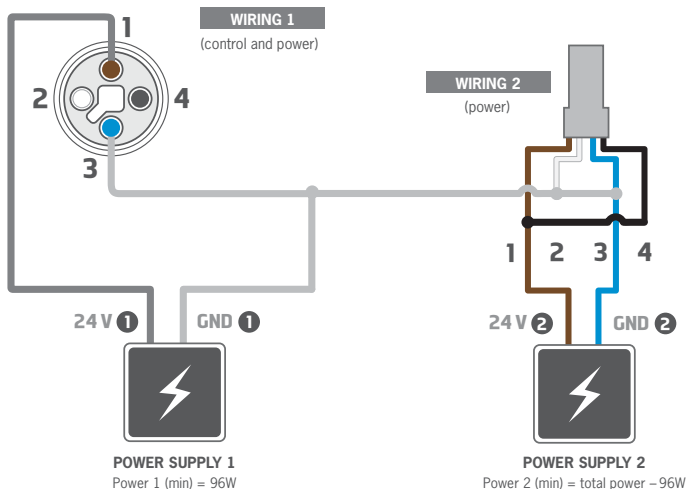
In the **DOUBLE WIRING** version,  
both wirings can be powered by  
**THE SAME POWER SUPPLY 24V.**



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### Double Wiring Version using 2 supplies **recommendation** (for >0.25m<sup>2</sup> products only)



## TECHNICAL INFORMATION

FEATURES	MBACK+ Standard
Consumption	1.32W per 25cm <sup>2</sup> in peak and on average
Min. functioning Voltage	20V in the light input
Normal functioning Voltage	24V in the light input ( $\pm 10\%$ )
Max. functioning Voltage	30V in the light input
Max. consumption Strobe signal	5mA
Operating temperature	-10° to +40°C / 80% of humidity without condensation No thermal shock (max temperature variation: 10°C in 24h)



## POTENTIOMETER SETTING

- Lowest level of the potentiometer: 30% of the power.
- Highest level of the potentiometer: 100% of the power.

## OPERATING CONDITIONS

Not for outdoor use.

## USER SECURITY

**Please 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, where eye irritation is concerned.
- Ensure that the chosen means properly reduce the exposure level (e.g. 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**  
IS AN **ISO 9001**  
CERTIFIED MANUFACTURER

[www.tpl-vision.com](http://www.tpl-vision.com)