

▷ MACHINE VISION SYSTEM ▷ QUALITY CONTROL WITH CAMERA ▷ HIGH POWERFUL LED ▷ BACKLIGHT METHOD ▷ DIFFUSE AND HOMOGENEOUS

## FOR A POWERFUL & DIFFUSE LIGHT.



**SOLID BODY**  
BLACK ANODIZED  
ALUMINUM



- ✓ no LED light hot spot,
- ✓ rising time: 15  $\mu$ s,
- ✓ from 17 cm to 1 m 30.



### 4 VERSIONS AVAILABLE

Besides the **Standard** version, high power LED bar, easy to set and to use, there are 3 other BLBAR+ versions:

#### LINK VERSION

Connect it directly to the camera (no power limit).

#### OVERDRIVE VERSION

Power customisable by the user, overdrive up to **X4**

#### EXPERT VERSION

Light managed by a remote controller overdrive up to **X8**

The Backlight BLBAR+ is a very powerful lighting solution, equipped with an opaque diffuser, that offers a perfect diffusion of the light on the whole surface, included on the edges. No hot spot to be noticed! It's the best camera's partner for Web Inspection applications.

The Backlight BLBAR+ is usually used as a traditional backlight, to make the workpieces shapes appear thanks to shadow puppet effects, but it can also be used as a direct diffuse light.

Its black structure enables a good LED heat dissipation and is IP65. 2 LED indicators near the connector show if the product is powered.

As any other TPL Vision's bars, you will also appreciate its solid aluminum structure and its easy fixing.

## 4 VERSIONS AVAILABLE

Besides the **STANDARD version**, 3 other versions are available:



### DIRECT CONNECTION TO THE CAMERA (NO POWER LIMIT)

The LINK version has a specific wiring, compound of 3 M12 connectors. So, you can easily link the light directly to the camera, and if necessary, to supply the light with extra power. You can also connect several lights one to another, for a perfect signal synchronisation. The LINK version perfectly fits high speed production lines.



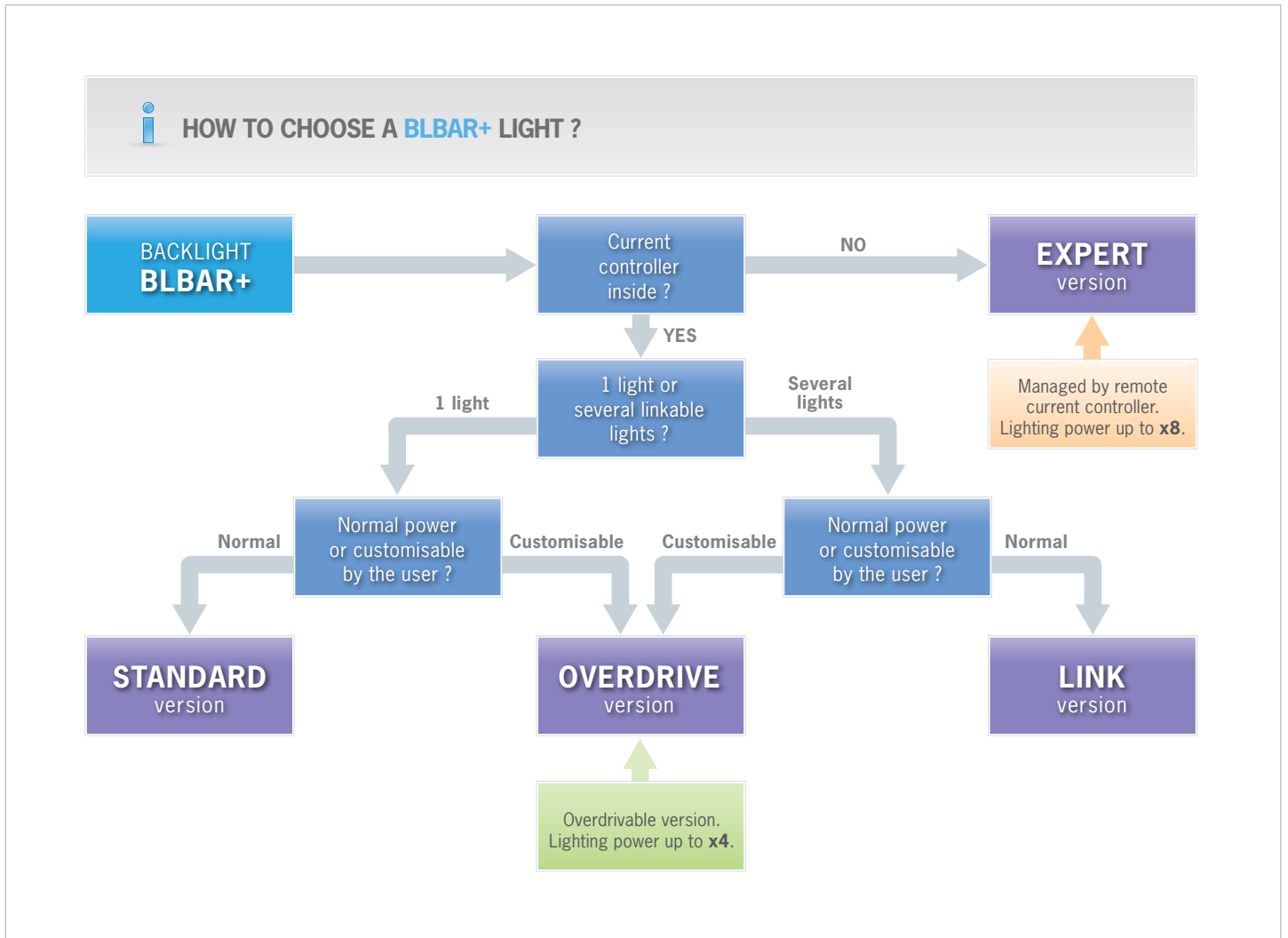
### OVERDRIVE UP TO x4 WITH CURRENT CONTROL INSIDE

The OVERDRIVE version is just as easy to set and to use as the STANDARD version. Equipped with specific electronics, it gives the opportunity for users to overdrive on their own the lighting power. The OVERDRIVE version is dedicated to specialists who want to customize the luminous flux very precisely, so as to get the most reliable results.



### OVERDRIVE UP TO x8 WITH YOUR OWN CONTROLLER

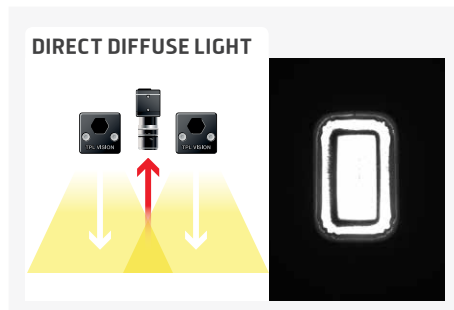
In the EXPERT version, the products do not have any current controller, which is very useful for users who want to work with their own controllers. In strobe mode, they can use the EXPERT lights in overdrive, so as to get a more intense light power. The EXPERT version definitely targets machine vision specialists, able to manage a whole vision system.



## LIGHTING POWER

BLBAR+	BLBAR+ Link	BLBAR+ Overdrive	BLBAR+ Expert
68500 Lux	68500 Lux	68500 Lux in continuous and 240000 Lux max. in strobe mode	300000 Lux max. in strobe mode

Power measured on the diffusing surface of a BLBAR+ 125 (white LED).



## TECHNICAL SPECIFICATIONS

	BLBAR+	BLBAR+ Link	BLBAR+ Overdrive	BLBAR+ Expert
<b>General information</b>				
Power supply	24 VDC +/-10%	24 VDC +/-10%	24 VDC +/-10%	External Control Current Drive
Max standard length (mm)	1250	1250	2500	3125
Functioning mode	CW + STR	CW + STR	CW + STR	CW + STR*
Overdrive	No	No	Yes	Yes
Strobe conditions (On time, duty cycle)	No restriction	No restriction	x3 : 2ms @ 5%	See user guide
Strobe input	24VDC PNP & NPN	24VDC PNP & NPN	24VDC PNP & NPN	N/A
Dimming	0-10V = 100%-20%	0-10V = 100%-20%	0-10V = 100%-20% (2A)	N/A
Maximum rising time	15µs	15µs	15µs	User's conditions
Maximum falling time	10µs	10µs	15µs	User's conditions
Wiring	1x male M12 5 poles	2x male M12 5 poles 1x female M12 5 poles	1x male M12 4 poles** 1x male M12 5 poles 1x female M12 5 poles	1x male M12 4 poles**
<b>Materials</b>				
Body materials	Aluminum			
Finish	Anodization			
Connector materials	Loaded ABS			
Diffuser option	Opaque PMMA diffuser			
<b>Environment</b>				
Operating temperature	-10° to +40°C / 80% of humidity without condensation No thermal shock (max temperature variation: 10°C in 24h)			
Storage temperature	-20° to +60°C / 80% of humidity without condensation No thermal shock (max temperature variation: 10°C in 24h)			
IP protection	IP 65***			
Labels	RoHS-CE-DEEE			

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.

\* According to conditions of use  
\*\* Use a special cable T-Power 4 poles  
\*\*\* Liable to the use of a TPL Vision IP65 cable

BLBAR+	Max standard length 1250mm - up to 2500 mm on demand									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A) through power supply	0,4	0,8	1,2	1,6	2	2,4	2,8	3,2	3,6	4
Max. Consumption (W)	9,6	19,2	28,8	38,4	48	57,6	67,2	76,8	86,4	96
Max voltage drop in the bar (V)	0,01	0,03	0,06	0,11	0,17	0,25	0,34	0,44	0,56	0,69
Power supply cable : max length 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) +/-10%	255	476	698	919	1140	1361	1583	1804	2025	2246
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts									






BLBAR+ Link	Max standard length 1250mm - up to 2500 mm on demand									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A) through power supply	0,4	0,8	1,2	1,6	2	2,4	2,8	3,2	3,6	4
Max. Consumption (W)	9,6	19,2	28,8	38,4	48	57,6	67,2	76,8	86,4	96
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 : max length 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
Linking cable : Lg max 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) +/-10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts									

BLBAR+ Overdrive	Max standard length 2500mm									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A) through power supply	2	4	6	8	10	12	14	16	18	20
Average current (A) through power supply	0.46	0.92	1.38	1.84	2.3	2.76	3.22	3.68	4.14	4.6
Max. Consumption (W)	48	96	144	192	240	288	336	384	432	480
Average consumption (W)	11.1	22.2	33.3	44.4	55.5	66.6	77.7	88.8	99.9	111
Max voltage drop in the bar (V)	0.01	0.03	0.06	0.12	0.18	0.26	0.35	0.46	0.58	0.72
Power supply cable : max length 4x1,5 <sup>2</sup> for acceptable voltage drop (m)	>150	>150	>150	>150	138	112	94	80	68	59
Linking cable : Lg max 5x0,34 <sup>2</sup> for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) +/-10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts / 1250<Lg<2500 : 4 nuts									

BLBAR+ Expert	Max standard length 3125mm									
	125	250	375	500	625	750	875	1000	1125	1250
<b>Electronics</b>										
Max current (A)	Up to 1125mm : 2,5A/125mm except for IR: 2A/125mm. Above 1125mm : 24A max									
Max voltage drop in the bar (V) under max current	0,01	0,04	0,09	0,17	0,26	0,38	0,51	0,67	0,84	0,92
Power supply cable : max length 4x1,5 <sup>2</sup> for acceptable voltage drop (m)	52	25	16	12	9	7	5	4	3	2
<b>Optics</b>										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
<b>Mechanics</b>										
Total length (mm)	158	283	408	533	658	783	908	1033	1158	1283
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	876	1001	1126	1251
Useful width (mm)	31,5									
Weight (g) +/-10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	2 M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Lg 600mm : 2 nuts / 600<Lg<1250 : 3 nuts / 1250<Lg<2500 : 4 nuts / 2500<Lg<3125 : 5 nuts									

# HOW TO BUILD YOUR REFERENCE

## REQUIRED SETTINGS

BLBAR	VERSION	USEFUL DIMENSION	COLOUR
	STANDARD	125 (= 5 LED)	WHI 
O	OVERDRIVE	250 (= 10 LED)	630 
L	LINK	375 (= 15 LED)	525 
E	EXPERT	500 (= 20 LED)	470 
		625 (= 25 LED)	850 
		750 (= 30 LED)	
		875 (= 35 LED)	
		1000 (= 40 LED)	
		1125 (= 45 LED)	
		1250 (= 50 LED)	

### EXAMPLES :

BLBAR+ Standard 125 mm white LED IP65 rating:  
 → **BLBAR-125-WHI**

BLBAR+ Overdrive 250 mm red LED IP65 rating:  
 → **BLBAR-O-250-630**

BLBAR+ Expert 500 mm blue LED IP65 rating:  
 → **BLBAR-E-500-470**

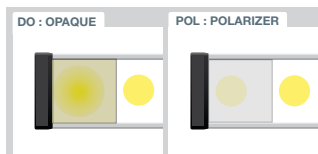
## DIFFUSERS

By default, the BLBAR+ is delivered with an opaque diffuser. To order more diffusers (or polarizers), please use the following reference builder :

DIFFUSER	BAR	DIMENSION
DO OPAQUE		125
POL POLARIZER		250
		375
		500
		625
		750
		875
		1000
		1125
		1250

### EXAMPLES :

Opaque diffuser for bar 250 mm :  
 → **DO-BAR-250**



## RELATED PRODUCTS

### M12 female 5 pins cable

Compatible : Standard, LINK & OVERDRIVE versions



2 meters	Ref: C-M12-5P-2M
5 meters	Ref: C-M12-5P-5M
10 meters	Ref: C-M12-5P-10M

### M12 female/M12 male 5 pins extension cable

Compatible : LINK & OVERDRIVE versions (daisy chain)



5 meters	Ref: RA-M12-FM-5P-5M
10 meters	Ref: RA-M12-FM-5P-10M

### M12 female T-Power 4 pins cable

Compatible : OVERDRIVE (24V power supply) & EXPERT versions



2 meters	Ref: C-M12-4P-T-2M
5 meters	Ref: C-M12-4P-T-5M
10 meters	Ref: C-M12-4P-T-10M

### Safety glasses



Ref: EYE-PROTECT

### Accessory : Bar BMount



Ref: BMount

### Accessory : Swivel Mount



Ref: SWIVEL-MOUNT

Features and presentations liable to modifications without prior notice. Documentation valid from June 2017 until further notice. C-2 version, 2017/07 Edition

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### Other available documents :

- PDF, DWG, DXF, IGS, STEP & X\_Y DRAWINGS
- USER'S GUIDE

## Backlight BLBAR+

