TPL VISION
Active LED solutions

BACKLIGHT BLBAR+
HOMOGENEOUS & POWERFUL LED LIGHTING BAR

IP65 PROTECTION

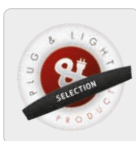▷ MACHINE VISION SYSTEM ▷ QUALITY CONTROL WITH CAMERA ▷ HIGH POWERFUL LED ▷ BACKLIGHT METHOD ▷ DIFFUSE AND HOMOGENEOUS

FOR A POWERFUL & DIFFUSE LIGHT.

LINK VERSION

SOLID BODY

BLACK ANODIZED ALUMINUM

3-YEAR WARRANTY

PLUG & LIGHT SELECTION PRODUCT

✔ no LED light hot spot,
✔ rising time: 15 µs,
✔ from 125 mm to 1250 mm.

M12 CONNECTOR

3 VERSIONS AVAILABLE

STANDARD VERSION
High power LED bar, easy to set and to use.

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

OVERDRIVE VERSION
Power customisable by the user, overdrive up to x4

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.

3 VERSIONS AVAILABLE

Besides the **STANDARD version**, 2 other versions are available:

LINK VERSION

OVERDRIVE VERSION

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.
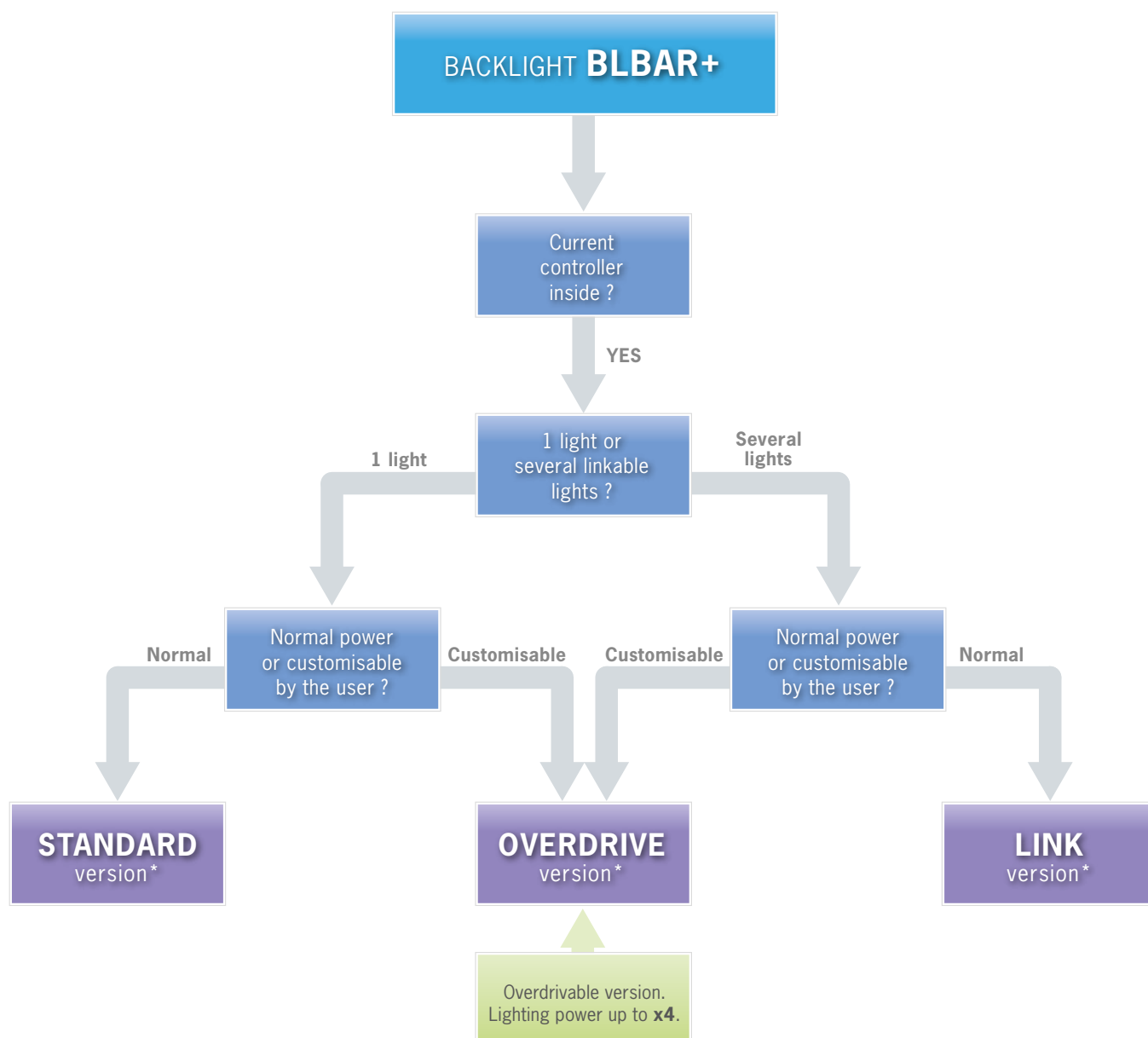
OVERDRIVE UP TO X4 WITH CURRENT CONTROL INSIDE

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.

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i HOW TO CHOOSE A BLBAR+ LIGHT ?

BACKLIGHT **BLBAR+**

↓

Current controller inside ?

↓ **YES**

1 light or several linkable lights ?

1 light ←   → **Several lights**

Normal power or customisable by the user ?

Normal power or customisable by the user ?

Normal ↓   **Customisable** ↓   ↓ **Customisable**   **Normal** ↓

STANDARD version*

OVERDRIVE version*

LINK version*

↑

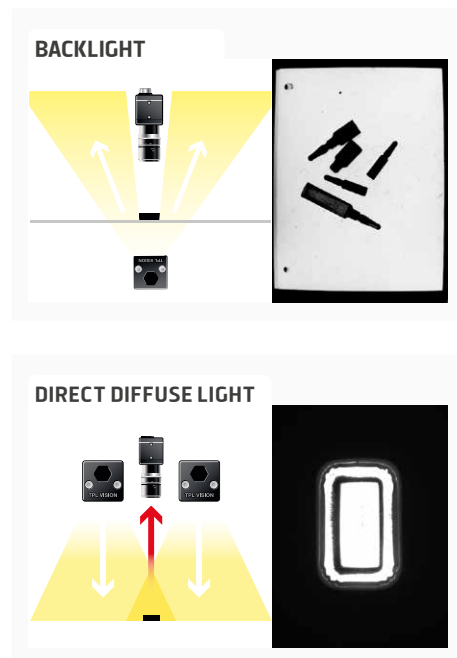Overdrivable version. Lighting power up to **x4**.

* BLBAR+ Overdrive available up to **2500**mm, BLBAR+ Standard & BLBAR+ Link up to **1250**mm.

LIGHTING POWER

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

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

BACKLIGHT

DIRECT DIFFUSE LIGHT

TECHNICAL SPECIFICATIONS

	BLBAR+	BLBAR+ Link	BLBAR+ Overdrive
General information			
Power supply	24 VDC ±10%	24 VDC ±10%	24 VDC ±10%
Max standard length (mm)	1250	1250	2500
Functioning mode	CW + STR	CW + STR	CW + STR
Overdrive	No	No	Yes
Strobe conditions (On time, duty cycle)	No restriction	No restriction	x3 : 2ms @ 5%
Strobe input	24VDC PNP & NPN	24VDC PNP & NPN	24VDC PNP & NPN
Dimming	0-10V = 100%-20%	0-10V = 100%-20%	0-10V = 100%-20% (2A)
Maximum rising time	15µs	15µs	15µs
Maximum falling time	10µs	10µs	15µs
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
Materials			
Body materials	Aluminum		
Finish	Anodization		
Connector materials	Loaded ABS		
Diffuser option	Opaque PMMA diffuser		
Environment			
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***		
Information			
Labels	RoHS / CE / UKCA / WEEE		
Country of Origin	Made in France		
Tariff Number	94054990		

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.

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

BLBAR+ Standard

BLBAR+ Standard	Max standard length 1250mm									
	125	**250**	**375**	**500**	**625**	**750**	**875**	**1000**	**1125**	**1250**
Electronics										
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 5x0,34² for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
Optics										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
Mechanics										
Total length (mm)	158	283	408	533	658	783	909	1034	1160	1285
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	877	1002	1128	1253
Useful width (mm)	31,5									
Weight (g) ±10%	255	476	698	919	1140	1361	1583	1804	2025	2246
Fixing	M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Length (Lg) < 500 mm: 2 nuts M4 | 500 mm ≤ Lg < 1000 mm: 4 nuts M4 | 1000 mm ≤ Lg ≤ 1250 mm: 6 nuts M4									

BLBAR+ Link

BLBAR+ Link	Max standard length 1250mm									
	125	**250**	**375**	**500**	**625**	**750**	**875**	**1000**	**1125**	**1250**
Electronics										
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 5x0,34² for acceptable voltage drop (m)	180	90	60	43	34	27	23	20	17	15
Linking cable : Lg max 5x0,34² for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
Optics										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
Mechanics										
Total length (mm)	158	283	408	533	658	783	909	1034	1160	1285
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	877	1002	1128	1253
Useful width (mm)	31,5									
Weight (g) ±10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Length (Lg) < 500 mm: 2 nuts M4 | 500 mm ≤ Lg < 1000 mm: 4 nuts M4 | 1000 mm ≤ Lg ≤ 1250 mm: 6 nuts M4									

BLBAR+ Overdrive

BLBAR+ Overdrive	Max standard length 2500mm*									
	125	**250**	**375**	**500**	**625**	**750**	**875**	**1000**	**1125**	**1250**
Electronics										
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 4x1,5² for acceptable voltage drop (m)	>150	>150	>150	>150	138	112	94	80	68	59
Linking cable : Lg max 5x0,34² for acceptable voltage drop (m)	No restriction if each bar has its own power supply cable – please contact us for other configuration									
Optics										
Colour	White, Red, Green, Blue, Infrared									
Number of Leds	5	10	15	20	25	30	35	40	45	50
Mechanics										
Total length (mm)	158	283	408	533	658	783	909	1034	1160	1285
Width x Height (mm)	47,6 x 45									
Useful length (mm)	126	251	376	501	626	751	877	1002	1128	1253
Useful width (mm)	31,5									
Weight (g) ±10%	275	496	718	939	1160	1381	1603	1824	2045	2266
Fixing	M4 nuts to insert in the groove located on the back of the light or directly use M4 screws									
Included add-ons	Length (Lg) < 500 mm: 2 nuts M4 | 500 mm ≤ Lg < 1000 mm: 4 nuts M4 | 1000 mm ≤ Lg < 1500 mm: 6 nuts M4 1500mm ≤ Lg < 2000mm: 8 nuts M4 | 2000mm ≤ Lg ≤ 2500mm: 10 nuts M4									

* All information regarding sizes and power characteristics for sizes 1375mm to 2500mm can be found in the user guide.

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HOW TO BUILD YOUR REFERENCE

REQUIRED SETTINGS

BLBAR	VERSION	USEFUL DIMENSION	COLOUR
		125 (= 5 LEDS)	**WHI**
	STANDARD	**250** (= 10 LEDS)	**630**
O **OVERDRIVE**	**375** (= 15 LEDS)	**525**
L **LINK**	**500** (= 20 LEDS)	**470**
	625 (= 25 LEDS)	**850**
	750 (= 30 LEDS)	
	875 (= 35 LEDS)	
	1000 (= 40 LEDS)	
	1125 (= 45 LEDS)	
	1250 (= 50 LEDS)	
	1375 (= 55 LEDS)	
	1500 (= 60 LEDS)	
	1625 (= 65 LEDS)	
	1750 (= 70 LEDS)	OVERDRIVE ONLY
	1875 (= 75 LEDS)	
	2000 (= 80 LEDS)	
	2125 (= 85 LEDS)	
	2250 (= 90 LEDS)	
	2375 (= 95 LEDS)	
	2500 (= 100 LEDS)	

EXAMPLES :

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

BLBAR+ Overdrive 500 mm red LED IP65 rating:
➡ **BLBAR-O-500-630**

BLBAR+ Link 250 mm blue LED IP65 rating:
➡ **BLBAR-L-250-470**

DIFFUSERS

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

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

* EXCEPT FOR IR 850

DO : OPAQUE

POL : POLARISER

EXAMPLES :

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

CABLES

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 version (24V power supply)	
2 meters	Ref: C-M12-4P-T-2M
5 meters	Ref: C-M12-4P-T-5M
10 meters	Ref: C-M12-4P-T-10M

ACCESSORIES

Mounting accessory
Ref: BMOUNT

Mounting accessory
Ref: SWIVEL-MOUNT

Mounting accessory
Ref: TPL-MOUNT-BAR-SQUARE1

Safety glasses
Ref: EYE-PROTECT

Other available documents :
- PDF, DWG, DXF, IGS, STEP & X_Y DRAWINGS
- USER'S GUIDE

Backlight BLBAR+

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